



SHIRE OF MUNDARING
FRIENDS GROUP MANUAL

**For Volunteers Involved in Bushland
Management Activities
on Shire Vested Reserves.**

March 2003



Prepared by the Shire of Mundaring, in association with the
Eastern Metropolitan Regional Council (EMRC) Environmental
Service

TABLE OF CONTENTS

1.0 INTRODUCTION	4
2.0 GETTING STARTED	4
2.0 GETTING STARTED	5
2.1 FORMING A FRIENDS GROUP	5
2.2 SAFETY	5
2.3 INSURANCE AND PUBLIC LIABILITY	6
3.0 BUSHCARE ACTIVITIES	7
3.1 BASIC BUSHCARE ACTIVITIES	7
3.2 INTERMEDIATE BUSHCARE ACTIVITIES	8
3.3 ADVANCED BUSHCARE ACTIVITIES	9
4.0 FUNDING	11
4.1 TIMETABLES FOR FUNDING REQUESTS	11
4.2 APPLICATIONS FOR FUNDING FROM OTHER SOURCES	14
5.0 TRAINING	11
6.0 SHIRE CONTACTS	12



FORMS

FORM 1 – FRIENDS OF RESERVES – ACKNOWLEDGEMENT FORM	14
FORM 2 – FRIENDS OF RESERVES – LIST OF MEMBERS	15
FORM 3 – FRIENDS OF RESERVES - REQUEST FOR SHIRE OF MUNDARING FUNDING	17
FORM 4 - FRIENDS OF RESERVES - WORKDAY REGISTRATION FORM	18
FORM 5 – FRIENDS OF RESERVES – ANNUAL REPORT/SURVEY FORM	19

APPENDICES

APPENDIX 1 - A GUIDE TO MANAGEMENT PLANNING FOR BUSHLAND RESERVES	20
APPENDIX 2 – GUIDE TO WEED MANAGEMENT	43
APPENDIX 3 – INFORMATION CHECKLIST	48
APPENDIX 4 - SPECIAL MANAGEMENT CONSIDERATIONS	49



1.0 INTRODUCTION

The Shire of Mundaring's Friends Group Manual seeks to establish mutually beneficially working relationships between volunteers undertaking bushcare activities, Friends Groups, and Council. Earlier editions of the manual (June 1998 and December 1999) have been revised to incorporate further work relating to guidelines for Friends Groups on insurance and weed management.

The objectives of the manual (December 2002) are to:

- Ensure that bushland reserves are managed to maintain and/or enhance their conservation and community values.
- Provide a safe working environment for volunteers undertaking bushcare activities on Shire reserves.
- Determine an appropriate framework and process for Shire support of bushcare volunteers.
- Provide a guide to preparing Workplans, Action Plans and Management Plans for Shire reserves.

The manual provides guidelines for volunteers involved in bushland management and addresses a range of relevant issues associated with the community and Council partnership arrangement. The implementation of the manual is the primary responsibility of the Shire's Bushcare Coordinator who currently works under a part-time arrangement. The Shire's Bushcare Coordinator is the appropriate contact person responsible for supporting and coordinating Friends Groups.

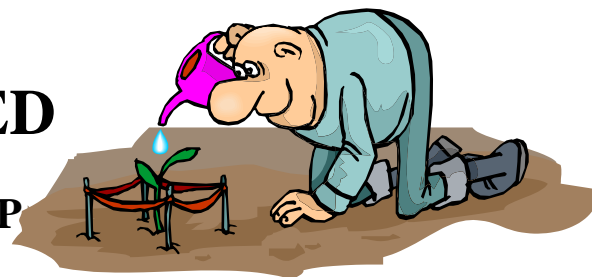
The level of involvement and activities undertaken by volunteers will largely depend upon the management needs of particular bushland reserves and the intentions (and capabilities) of the group or individual.

Appendix 1 provides a guide to writing Workplans, Action Plans and Management Plans associated with the three levels of Bushcare activity outlined in Figure 1. Appendix 2 provides guidelines for weed management for Friends of Reserves Groups. Appendix 3 offers a guide to further information sources, with Appendix 4 providing a checklist of reserve information required from the Shire to assist Friends Groups in the preparation of the various plans. Finally Appendix 5 provides an outline of special management considerations relating to reserves in the Darling Range and foothills area.



2.0 GETTING STARTED

2.1 FORMING A FRIENDS GROUP



A Friends Group usually consists of a few people working together informally to conserve and protect a reserve controlled and managed by the Shire of Mundaring. Friends Groups work in their own time at their own pace and are eligible for assistance from the Shire of Mundaring. To register your group complete **Forms 1 and 2** with the members of your group. Your group is officially registered once these forms are lodged with the Shire of Mundaring. Discuss the reserve you wish to care for with the Bushcare Co-ordinator to check that the reserve is under the care and management of, or owned by the Shire of Mundaring. You choose the activities most suited to the needs and objectives of your reserve based on your abilities and the time you have available. It is usually best to start at a basic level with a simple work plan and upgrade as the need requires.

The Shire can provide advice on activities proposed by the group, as well as assist in the provision of seedlings, rubbish removal and fire management. The Shire will also keep a file of correspondence from the group, which will include the group's acceptance of the conditions the Shire has developed for Friends Groups activities.

It will be the responsibility of the group to keep a diary of bushcare activities and a register of participants at bushcare events (refer to **INSURANCE AND PUBLIC LIABILITY** section and Form 4).

2.2 SAFETY

The main safety requirements necessary for the protection of all volunteers engaged in bushcare activities on Shire vested reserves are related to the use of herbicide, chainsaws, mechanical equipment and the supervision of children.

▪ **Herbicides**

Only Roundup Biactive is to be used for weed spraying (See Appendix 2 for a guide to weed management) and it is important that group members read the material safety data sheet provided with the product and spray strictly according to the manufacturer's directions. Warning signs need to be erected advising any members of the public that weed spraying is being undertaken. There is a limited number of **WEED SPRAYING IN PROGRESS** signs available for loan from the Shire Depot. If signs are not available it is appropriate for a group member to be visually posted to inform the public that spraying is being undertaken. The Bushcare Coordinator must be notified when signs are not available from the depot.

▪ **Chainsaws**

Chainsaws are not to be used by volunteers without written approval from the Shire. Approvals will only be given after documentary proof is provided which demonstrates that the chainsaw operator has basic chainsaw operator accreditation training and it is confirmed the personal protective equipment recommended by the manufacturer will be worn. . Training for chainsaw and slasher usage can be provided by CALM who conduct courses covering safety and operational aspects for this machinery.

▪ **Mechanical Equipment**

When using other mechanical equipment, the manufacturer's recommendations for the operation of the equipment and recommendations for personal protective equipment must be adhered to. For whipper snipers, as a minimum, safety goggles and safe footwear are to be worn.

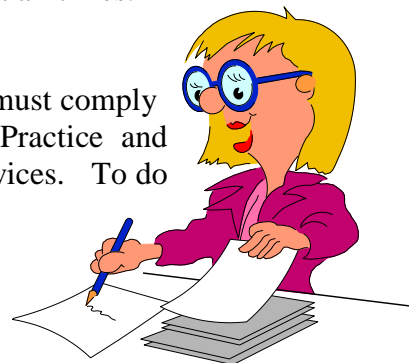
▪ **Children**

To ensure the safety of all concerned whilst undertaking bushcare activities, it is essential that children accompanying volunteers must have **Adult Supervision** at all times.

▪ **Road Reserves**

Because of the risks involved in working on roads and verges we must comply with MRWA Traffic Management for Road Works Code of Practice and Australian Standard AS1742 Manual of uniform traffic control devices. To do this you will need

- Traffic management plans
- Sign placement approved on site by an accredited person
- Reflective vests
- To be part of a registered Friends Group (for insurance cover)
- To notify the Shire where and when you intend to work along roadsides.



The Shire can assist you in your project by providing a generic traffic management plan and assistance with the placement of signs. If you sign the forms to register as a Friends Group then you will be covered for insurance under the Shire Volunteer Policy. This will be required before you commence work.

You will need to provide the Shire with details of where and when you intend to work. The most accurate way of doing this is to mark locations on a map and provide details of date and time. You will also need to wear reflective vests when working.

2.3 INSURANCE AND PUBLIC LIABILITY

Volunteers must be covered by the Shire's insurance for personal accident and public liability. This requires all Friends Groups to confirm in writing on an annual basis their acceptance of the conditions developed by the Shire in accordance with this manual. (Form 4 is a sample registration form.)

▪ **Volunteer Register**

This involves the establishment of an accurate "Volunteer Register" for each group, which must record all volunteers attending workdays or undertaking bushcare activities. The "Volunteer Register" will need to be examined by the insurance company in the case of an accident or related claim. It will also be necessary to advise the Shire in writing of a list of volunteers, one of whom will always be on-site to direct activities as a "Delegated Coordinator"(See Forms 1 & 2). The "Delegated Coordinator" must ensure all volunteer details are recorded accurately in the "Volunteer Register". For insurance purposes, Friends Groups are comprised of volunteers of the Shire of Mundaring and come under the direction and control of Council. Members of a group, which is an incorporated body, are specifically

excluded from cover under the Shire Insurances. Incorporated groups (eg Catchment Groups) will be required to provide their own insurance before undertaking bushcare activities on shire managed reserves

▪ **Insurance cover**

It should be noted and advice given to all members of Friends Groups that the insurance provided is for personal accident. This type of policy covers only specific identified events such as –

- 1) Death or total and permanent disablement
- 2) The loss of a limb
- 3) Loss of sight etc.

And for these occurrences a set lump sum payment is made. This policy totally excludes reimbursement of any expense which would, under normal circumstances, be fully or partly (including the gap) recoverable from Medicare.

Please note that Medicare recoverable expenses are totally the responsibility of the volunteer and neither the Shire nor its insurer will consider reimbursement of this nature.

Insurance cover is not available on reserves not vested in the Shire of Mundaring and Friends Groups need to understand the Shire accepts no responsibility for activities, which may be undertaken on other reserves. If the reserve to be managed is not vested with the Shire of Mundaring contact must be made with the appropriate controlling body to determine their requirements for bushland activities and insurance coverage.

3.0 BUSHCARE ACTIVITIES

The following provides a brief explanation of the various types of activities commonly undertaken on Shire reserves. Groups need to ensure their activities are supported by appropriate training and are undertaken in a safe manner. The management needs for each reserve should also be reviewed to ensure that they are consistent with the conservation objectives.

3.1 BASIC BUSHCARE ACTIVITIES

These activities require minimal training and can usually be funded through the Shire of Mundaring budget process. Activities include:

▪ **Rubbish collection**

The Shire of Mundaring can organise the removal of collected prunings/rubbish from Shire reserves. Application is required at the commencement of each year if you think you may need this service. Use the funding request **Form 3**.

▪ **Physical weed removal**

Prior to undertaking physical weed removal groups need to be sure that the species they are targeting is in fact an environmental weed. A field herbarium (ie. a collection of pressed



plants) of weed species should be established and verified to ensure that the correct plants are removed from a reserve. Once the species to be removed have been established an annual workplan will help to determine your schedule and requirements for Shire assistance. The Bushcare Co-ordinator can help you with this planning and the establishment of the herbarium. The workplan may simply be a 1 page letter noting activities, dates and requests for Shire assistance.

- **Native tree and shrub planting**

Seedlings are available free from the Shire through the annual Tree Canopy and Understorey Programme. An application form (available in March each year) needs to be completed and lodged by the 1st May on behalf of your group. Plants are available for collection in June/July. Mulch can be requested on your annual workplan (Form 3) if you consider that it would assist seedling survival and weed suppression.

- **Signage and fencing**

Standard Shire of Mundaring signage can be funded by the Shire, once confirmation of the reserve name is approved by the Geographic naming committee and the Shire Council. Groups will need to get support and agreement from local residents for any name selected. Preference will be given to names already in the area, such as the nearest street name. Other signs, for dieback, revegetation etc. can be requested through annual requests for Shire of Mundaring assistance.

3.2 INTERMEDIATE BUSHCARE ACTIVITIES

These activities require training to ensure members of the group use equipment and undertake tasks in accordance with safety and environmental standards. APACE (a bushland management training organisation based in Fremantle) provide training for volunteers and groups undertaking bushcare activities at this level. Training sessions organised by the Shire and other organisations are undertaken periodically and the Bushcare Coordinator can assist in determining your training needs. External funding may also be needed for more complex reserve projects.

Intermediate bushcare activities include basic bushcare activities as well as more specialist activities such as:

- **Action Plans**

An action plan is recommended if your Friends Group intends to work at this level as scheduled planning is often essential to the success of more complex projects. See the Bushcare Co-ordinator and/or Ecologist for assistance.

It is envisaged that the Action Plan would be 4 or 5 pages in length and address issues such as priority areas, weed plans, revegetation plans, and the focus of bushcare activities. A generic guide to writing Action Plans is provided in Appendix 1 (Part 2). The Action Plan should include a list of plant species and separate field herbarium for native species and weed species that occur in the reserve.

- **Seed collection**

In addition to training (usually available free from APACE, Fremantle), groups and individuals wanting to collect seed from bushland reserves will need to obtain a Seed Collection Licence from the Department of Conservation and Land Management (CALM).



- **Weed control using herbicides**

Roundup Biactive and Fusilade are the only herbicides registered for Friends Groups to use on Shire reserves. In addition, there are specific requirements for their use around rivers, streams and wetlands. See the Weed Management Guidelines in Appendix 2 for this specific information. All herbicides are to be used in the concentration and manner specified in the manufacturers specifications. Training in the use of herbicides is periodically on the training calendar.

- **Revegetation and bushland regeneration based on recognised methods**

APACE provides accredited training in this area, as does the AABR (Australian Association of Bush Regenerators). Courses for the more specific hills environment are often held through the Shire of Mundaring.

- **Fire management**

The details of integrated fire management form part of an Action/Management Plan. Consult the Volunteer Fire Brigade in your locality and the Shire Fire Management Officer at the Shire of Mundaring for advice in compiling a workable fire management plan. Fire-breaks are the responsibility of the Shire of Mundaring, so please notify the Shire's Ranger Services if your reserves firebreaks need clearing.

3.3 ADVANCED BUSHCARE ACTIVITIES

Advanced bushcare activities may include the use of slashers, chainsaws, dieback control using stem injection, construction works (walk trails, shelters, erosion control) as well as the intermediate bushcare activities mentioned above.

Approval for this level of activities will require the submission of a Management Plan to the Shire for Council approval, which includes timetables for activities and resources and budgets for Management Plan implementation. Volunteers wishing to undertake advanced bushcare activities will be required to undergo training through an appropriate course.

Issues related to advanced bushcare activities are outlined below.

- **Dieback control**

The Shire of Mundaring has adopted dieback management guidelines for bushland management. Workshops on dieback control are held annually through the Dieback Working Group and provide detailed training on the most effective methods. The two methods used for active dieback control within Shire of Mundaring reserves include spraying phosphite over understorey plants and injecting phosphite into dieback susceptible trees. Equipment is available on loan from the Dieback Working Group ph 9257 9999 or contact the Shire of Mundaring Bushcare Co-ordinator for more information.

- **Chainsaw use**

Chainsaws are not to be used by volunteers without written approval from the Shire. Approvals will only be given after documentary proof is provided which demonstrates that the chainsaw operator has basic chainsaw operator accreditation training and it is confirmed the personal protective equipment recommended by the manufacturer will be worn. A management or action plan will be required to delineate weeds to be removed in this way.

- **Slashing (with brushcutter or similar)**

The Shire of Mundaring requires notification of any large-scale removal of vegetation before commencement of work. It is preferable that these actions will be included in a Management/Action Plan approved by Council.

- **Erosion control**

Any changes to current drainage patterns need to be approved by the Engineering Department at the Shire of Mundaring. These should be addressed in a Management/Action Plan as above.



- **Walk trails**

Rationalisation of walk trails is often required after the completion of a dieback study. This ensures that the dieback is not transferred from infected areas to dieback-free areas. This information will be included in a Management/Action Plan approved by Council.

- **Management Plans**

The Management Plan should follow guidelines and include information on natural resources (landforms, landscape values, flora, fauna) and recreational values such as bushwalking and nature study. Appendix 1, (Part 3) provides a generic guide to writing Management Plans. The Shire's Bushcare Coordinator and Ecologist are available to assist groups with Management Plan preparation. Funding applications may also provide for the hiring of specialists where required (ie Flora Surveys, Dieback mapping).

The Friends Group responsibilities would include submission of a Management Plan, gaining written authorisation for the loan of safety equipment, recording herbicide collection and usage, keeping a diary of events, registering participants involved in bushcare activities and annual reporting of activities to the Shire based on a diary of events.



As Friends Groups become more organised and seek external funding to undertake bushcare activities, it is likely that the rate of Management Plan preparation will increase. Management Plans will need to take into consideration the timetables for funding approvals and the time required to gain Council endorsement of the plan. It is also likely that some Management Plans will be subject to public review and adequate time to respond to public submissions will also need to be built into the Management Planning process.

Friends Groups preparing Management Plans should therefore aim to have draft plans completed by the end of August in each year in order to gain relevant approvals by the end of October. This would enable the group to submit a request for Shire assistance by the end of January or early February for budgeting consideration for the following financial year as indicated in Table 1.

Table 1: Schedule for Management Plan Approvals

August	October	November	January	February
Submit draft Management Plan	Receive Council approval	Public consultation period	Make necessary changes from the consultation process	Submit requests for financial assistance.

4.0 FUNDING

4.1 TIMETABLES FOR FUNDING REQUESTS



In order for the Shire to assess Friends Groups requests and include budgets as appropriate, it is essential that sufficient lead time is provided by the Friends Groups. Accordingly, Friends Groups will need to submit their requests for assistance by late January or early February of each year. (See Form 3.) These requests can also be accompanied by a Workplan, Action Plan or Management Plan and are for activities to be undertaken by the group for the upcoming financial year. Friends Group requests will be assessed and considered during the budget process. Following adoption of the budget, Friends Groups will be advised by letter on the outcomes of their request.

4.2 APPLICATIONS FOR FUNDING FROM OTHER SOURCES

As Friends Groups become involved in larger, more complex projects it is likely that higher levels of funding will be required. External funds are available from a number of different sources. Some, such as the Lotteries Commission and State Minister for the Environment Grants are available each year. Others change annually. Different funding bodies supply funding for different items. Contact the Bushcare Co-ordinator for advice on the most suitable grant for your particular project. The Bushcare Co-ordinator can also provide maps and support letters as well assist you in completing your grant application.

5.0 TRAINING

Training courses recommended for Friends Groups are based on the types of bushcare activities they are involved in. The more involved and complex the activity, the greater the level of training required.

The training requirements identified for intermediate and advanced bushcare activities are based on existing training programs available through external organisations and government agencies.

The Bushcare Coordinator will inform Friends Groups of upcoming training programs relevant to bushland management through regular newsletters. The Shire will be seeking on going opportunities to co-ordinate bushcare training programs specific to the hills environment using local knowledge and recognised experts from



this field. This may require external funding through organisations such as the Gordon Reid Foundation and Community Conservation Grants.

6.0 SHIRE CONTACTS

▪ Bushland Management

Issues relating to the management of bushland reserves vested in the Shire of Mundaring are dealt with by a variety of Shire staff such as the Bushcare Coordinator, Services Depot Personnel, Catchment Landcare Officer and Ecologist. Table 2 below identifies the area of assistance provided by the respective officers.

Table 2: Contact Personnel for Bushcare Activities

Officer	Area of Assistance
Bushcare Coordinator	<ul style="list-style-type: none"> • Coordinator of bushcare activities. • Environmental/technical advice. • Training arrangements, education and the encouragement of community involvement in bushcare activities. • Provision of herbicides, signage and other agreed services. • Maintenance of the Friends Group Register. • Assistance with funding applications. • Assistance with the preparation of Workplans and Action Plans.
Ranger Services	<ul style="list-style-type: none"> • Advice on firebreaks and fire management.
Depot Personnel	<ul style="list-style-type: none"> • Provision of available safety gear. <ul style="list-style-type: none"> ie -orange vests -gloves -safety glasses -first aid kits -signs for herbicide spraying
Catchment Landcare Officer	<ul style="list-style-type: none"> • Assistance with funding applications relating to catchment management (Natural Heritage Trust). • Advice on involvement with, or formation of, catchment groups. • Environmental/technical advice (limited).
Ecologist	<ul style="list-style-type: none"> • Assistance with the preparation of Management Plans. • Environmental/Technical advice (limited).

▪ **The Environmental Advisory Committee (EAC)**

The Shire of Mundaring's Environmental Advisory Committee is a community based advisory committee that provides advice and guidance to Council on environmental matters. In this capacity, the EAC has been responsible for initiating and overseeing a range of environmental initiatives with long-term benefits for the Shire and its community.

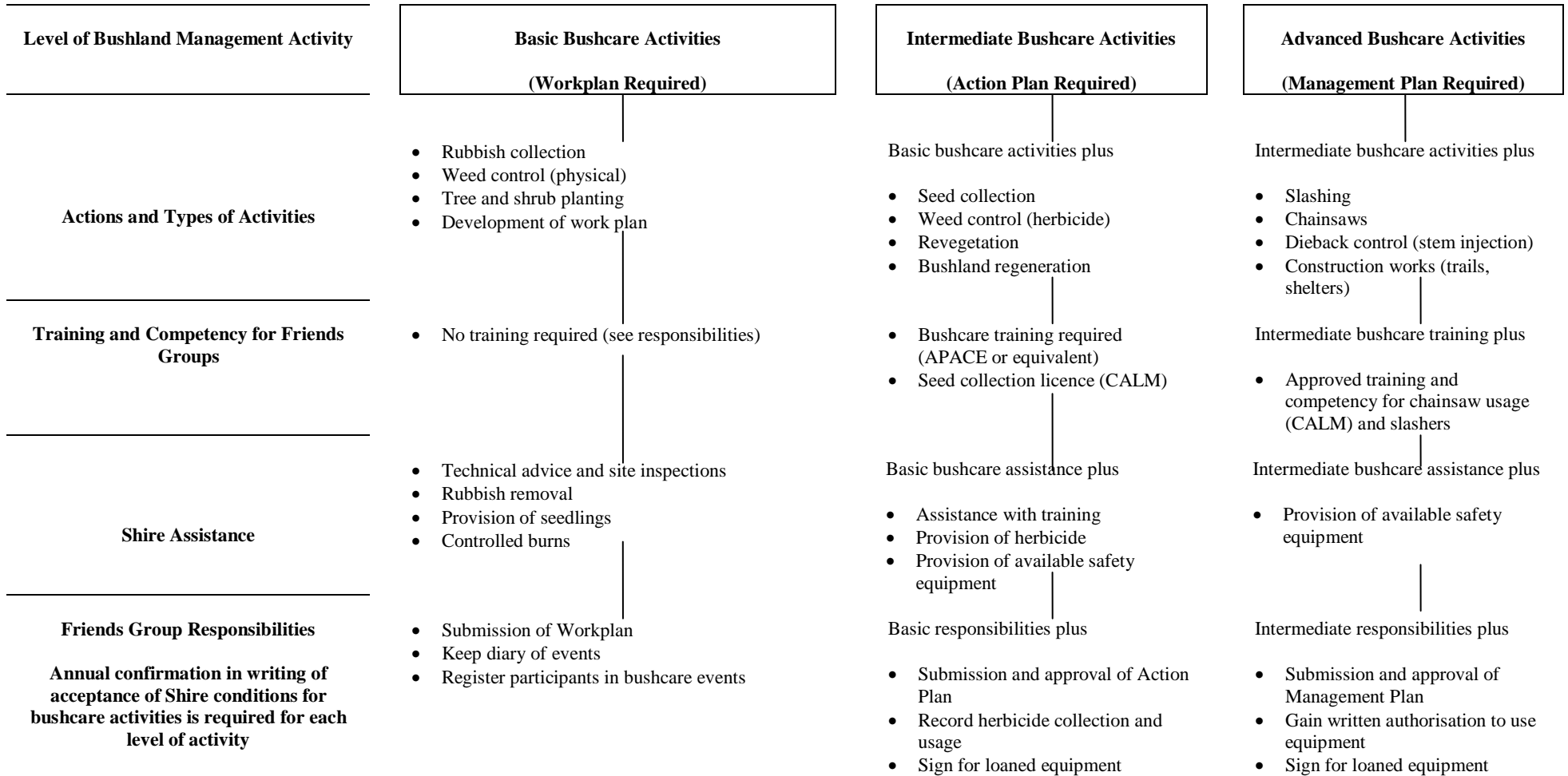
The Shire's Environmental Management Strategy (EMS) represents the primary focus of environmental achievements through projects such as the Integrated Catchment Management (ICM), Urban Drainage Strategy, Community Education Strategy, Wildlife Strategy, Watercourse Protection Code and the Friends Group Project and manual.

The EAC recognises the importance of gaining community input into future environmental management activities for the Shire of Mundaring.



Figure 1:

**SHIRE OF MUNDARING - FRIENDS GROUP STRATEGY
“Framework for Bushland Management Activities”**





**FRIENDS OF RESERVES FORM 1
ACKNOWLEDGEMENT FORM**

I.....
(NAME OF CONVENOR)

OF.....

**(ADDRESS)
AND PHONE NUMBER.....**

**REPRESENT THE FRIENDS OF
(NAME OF RESERVE)**

**AT.....
(RESERVE ADDRESS)**

AND RESERVE CODE NO. RES.....

Acknowledge that I have read and understood the requirements of the Shire of Mundaring Friends Group Manual.

I also acknowledge that our group _

1. When required, will only use Roundup Biactive on the reserve and when spraying will erect appropriate signage or provide a volunteer guard to advise members of the public to stay clear.
2. Will not operate chainsaws without written approval from the Shire.
3. When operating any mechanical equipment will wear appropriate protective clothing.
4. Will ensure that all children accompanying volunteers will be supervised at all times.
5. Will maintain an accurate Volunteer Register of all people-attending workday for examination by the Shire and Insurance Company in the case of an accident.
6. Recognises that for insurance purposes are acting in our own right and not linked to any incorporated group.
7. Recognises that insurance cover will not be available on reserves not vested in the Shire of Mundaring and that the Shire will not accept responsibility for any activities undertaken on other reserves.

Signature of Convenor.....Date.....

Please return as soon as possible to :
Shire of Mundaring, 7000 Great Eastern Hwy, Mundaring 6073



FRIENDS OF RESERVES

FORM 2

LIST OF MEMBERS

Reserve Name.....

Reserve Code No.
RES.....

FRIENDS GROUP NAME.....

List of Delegated Co-ordinators

Names	Addresses – Phone and/or email	Signatures

List of Volunteers

Names	Addresses – Phone and/or email	Signatures

For definitions – please see the reverse of this form.

Signature
Convenor.....**Date**.....

Please return as soon as possible to:
 Shire of Mundaring, 7000 Great Eastern Hwy, Mundaring 6073

Definitions

Delegated Co-ordinator:

A member of a Friends Group who takes responsibility for supervision of activities and operations during any working day on the specified reserve.

Supervision:

It is a requirement that at least one delegated co-ordinator be on site at all times to supervise any Friends Groups activities on a Shire reserve.

Volunteer Members:

A person who has registered interest and actively supports Friends Groups operations for a specified reserve.

Friends Group Register of Attendance on Working Days:

Delegated co-ordinators are expected to maintain a register of volunteers in attendance on any particular working day on a reserve. This information does not need to be relayed to the Shire on each occasion and can be retained by the conveyor of a Friends of Reserves Group. This register also caters for additional volunteers who are not listed as recognised volunteer members.



FRIENDS OF RESERVES

FORM 3

REQUEST FOR SHIRE OF MUNDARING FUNDING

.....
 (NAME OF FRIENDS GROUP)

RESERVE CODE NO. RES.....

AT.....
 (RESERVE ADDRESS)

WORK PLANNED FOR FINANCIAL YEAR/.....
 (LISTED IN PRIORITY ORDER)

DATE	FRIENDS GROUP ACTIVITY /RESPONSIBILITY (EG WEEDING, PLANTING ETC)	SHIRE ASSISTANCE REQUESTED (EG ROUNDUP, SIGN ETC)

COMMENTS.....

All funds will be held by the Shire of Mundaring until invoiced by suppliers of goods and services. Quotes for works are to be submitted to the Bushcare Co-ordinator prior to commencement of work.

***Please return as soon as possible to :
 Shire of Mundaring, 7000 Great Eastern Hwy, Mundaring 6073***



FRIENDS OF RESERVES FORM 4

WORKDAY REGISTRATION FORM

THE FRIENDS OF
 (NAME OF RESERVE)

AT
 (RESERVE ADDRESS)

AND RESERVE CODE NO. RES.

DATE.....

I acknowledge that I have read and understood the requirements of the Shire of Mundaring Friends Group Manual.

<i>NAME OF PARTICIPANT</i>	<i>ACTIVITIES UNDERTAKEN AND TIME WORKED</i>	<i>SIGNATURE</i>

***Please retain for your records or return to:
 Shire of Mundaring, 7000 Great Eastern Hwy, Mundaring 6073***



FRIENDS OF RESERVES FORM 5
ANNUAL REPORT/SURVEY FORM

Annual reporting of Friends Group activities is vital to ensure the quality of the services provided to Friends of Reserves Groups. The Environmental Advisory Committee (EAC) is also particularly interested in where the budgetted funds are going. If you could complete following and return it to the Shire of Mundaring office it would be greatly appreciated.

The Friends of _____

Number of members: _____

Number of hours worked for 2002 _____

Number of seedlings planted: _____

Have you direct seeded? YES/NO

Amount of funding granted from other sources SCULP etc.: _____

Have your activities increased decreased or are the same as last year?

Has the Bushcare Co-ordinator been of assistance to you during the year? YES/NO

Have you received assistance from your local catchment group? YES/NO

Has the condition of your bushland/creek improved compared to last year? YES/NO In what way?

Any comments? _____

Thank you for completing this survey.

Signature of
Convenor.....**Date**.....

***Please return as soon as possible to :
 Shire of Mundaring, 7000 Great Eastern Hwy, Mundaring 6073***

APPENDIX 1

A GUIDE TO MANAGEMENT PLANNING FOR BUSHLAND RESERVES

This framework provides the basis for the formulation of more detailed bushland management strategies aimed at protecting and enhancing the natural values of bushland. There are three types of plans identified for the Shire of Mundaring, based on the level of bushcare activities being undertaken or proposed for a reserve or group of reserves. To successfully assist Shire registered groups with their bushcare activities, the Shire requires documentation of what assistance is required when, where and why.

This appendix provides a set of templates for the development of Workplans, Action Plans and Management Plans according to the level of bushcare activity being undertaken by Friends Groups. This bushland management planning framework describes the requirements for the respective plans as follows.

- **Part 1:-** Workplan: a generic guide to writing Workplans.
- **Part 2:-** Action Plan: a generic guide to writing Action Plans.
- **Part 3:-** Management Plan: a generic guide to writing Management Plans.

The level of bushcare activity and associated plan development will depend upon the needs and capabilities of the group. Friends groups need to decide the level of plan they are going to prepare and implement based on their bushcare abilities and interest. Groups may utilise the following table to determine the appropriate template they require for the level of bushcare activity proposed.

Level of Bushcare Activity	Activities involved	Assessment of Group Capability	Shire Requirements	Refer
Basic Bushcare Activities	Any activities not requiring formal training, such as rubbish and weed removal.	Within the capabilities of all groups.	Workplan	Part 1
Intermediate Activities	Activities requiring minor training to ensure accordance with safety and environmental standards, such as seed collection or herbicide use	Within the abilities of most groups but will require the involvement of members with moderate training and skill or some technical assistance from Shire Officers.	Action Plan	Part 2
Advanced Activities	Activities requiring detailed training or experience, such as stem injection, and chainsaw/slasher usage.	Limited to groups with highly skilled or professional members. Likely to require assistance from professional specialists in areas such as Dieback management, flora surveys, heritage matters etc.	Management Plan	Part 3

As the level of bushcare activity increases and becomes more complex, more detailed plans are required to ensure that documentation matches activities aimed at this enhanced level of bushland management. Groups may begin with the preparation and implementation of Workplans and progress to Action Plans and Management Plans as their ability or funding opportunities broaden.

The development of Workplans and Actions Plans will be achievable by most groups with minimal training and the assistance of the Shire Bushcare Coordinator. The more complex preparation of Management Plans may be limited to groups with members of relevant experience or qualifications or may require engaging the services of specialist consultants to provide the required level of advice. This is particularly relevant in areas such as botanical surveys, fauna surveys, Dieback mapping, complex recreational matters and historical aspects. The Ecologist may be able to assist with some specialist tasks, depending on workload, or refer the group onto appropriate consultants if required. The Shire's Bushcare Coordinator can assist with funding applications for the employment of specialist contractors in the preparation of Management Plans.

The following planning framework is designed to help Friends Groups in preparing Workplans, Action Plans and Management Plans by providing direction on information requirements, information presentation and available information sources. This section should only be used as a guide as variations may evolve depending on the environmental and social values of the reserve being managed. The utilisation of locally produced Management Plans, such as the Strettle Road Reserve Management Plan and the Glen Forrest Superblock Management Plan, may be useful as a guide for those contemplating the preparation of a Management Plan. These documents are available at the Shire Administration Office and local libraries. There are also Management Plans produced by the Department of Conservation and Land Management (CALM) that may be of assistance. Further information on available sources of reference material and literature are listed in Appendix 2 under their appropriate headings.

PART 1

WORKPLAN

When undertaking basic bushcare activities, the Shire requires the submission of an annual Workplan. This may be a concise letter outlining the activities the group intends to undertake over the coming financial year. The letter needs to detail activities to be undertaken, associated dates and any Shire assistance that may be required. An example of a Workplan format is detailed below.

If the reserve to be managed is not vested with the Shire of Mundaring, then the following requirements may not be applicable. For reserves not currently vested with the Shire of Mundaring the group should contact the appropriate controlling body to determine their requirements for basic bushcare activities. Consent from the authority responsible for the reserve must be gained prior to any bushcare activities being undertaken.

The standard Workplan format is set out in plain text with instructions or appropriate explanations in *Italics*.

EXAMPLE ONLY: *Completed plan should be 1-2 pages.*

Letter Template:

Jane Doe (President)
Eagle Reserve Action Group
12 Eagle Rd
MUNDARING WA 6073

Bushcare Coordinator
Mundaring Shire
7000 Gt. Eastern Highway
MUNDARING WA 6073



Dear Sir/Madam,

RE: WORKPLAN FOR EAGLE STREET RESERVE

The following correspondence is to outline the proposed activities of the Eagle Reserve Action Group for the coming financial year. Any advice or comments would be appreciated.

Organisation: detail the groups name i.e. Eagle Reserve Action Group. (If you are a registered “Friends Group” please state the group’s Shire file number for administration purposes. *Any group seeking Shire assistance will need to be registered with the Shire as a Friends Group and be undertaking activities on reserves vested with the Shire.*

Reserve/s of interest: *detail the reserves number and name where appropriate.*

Property No: 111032

Address: Eagle Street, Mundaring. *Include lot numbers where appropriate.*

Description: *Note any further detail you feel is necessary for reserve location (i.e. adjacent to Mundaring football oval). Additionally a brief description of the reserve characteristics may prove relevant.*

Funds Secured: *Detail any external funding secured by the group. Make sure you note the amount of funds received, the purpose for the grant and time period it covers. (eg. Funding grant of \$2,000 received from Trails West in January 1999 for path establishment along the reserve eastern border in February/March 2000).*

Members: *List all members of the group and their position where relevant.*

i.e. President: Jane Doe 12 Eagle St, Mundaring, Ph: 92906666
Secretary: John Doe 12 Eagle St, Mundaring, Ph: 92906666
General members:
Jason Bush 7005 Gt. Eastern Hwy, Mundaring, Ph: 92906574
Mildred Dane 24 Stoneville St, Mundaring, Ph: 92906334

All members no matter what their level of involvement need to be listed for insurance purposes.

Activity Schedule (Annual)

Detail all activities to be undertaken by the group over the following financial year.

DATE	ACTIVITY
10/8/1999	Public meeting to generate interest and gain understanding of communities interests and knowledge concerning the reserve
12/10/1999	Busy Bee
15/2/2000	Rubbish removal
24/4/2000	Physical removal of woody weeds within reserve
30/5/2000	Establishment of field herbarium
15/6/2000	Physical removal of weed regrowth
20/6/2000	Planting of native species (i.e. <i>Eucalyptus marginata</i>) in degraded sites
	<i>Continue for all activities within the financial year.</i>

Shire Assistance: *State the level of assistance you anticipate the group will need to successfully complete required tasks. These may be set out as follows.*

- **Financial-** *detail any financial assistance requests, such as contributions to training course costs. i.e. request a contribution of \$50.00 per attending member for APACE course fees. Total request \$100.00.*
- **Technical-** *i.e. request technical advice from the Bushcare Coordinator, Environmental Officer or Ecologist concerning management strategies for erosion.*

- **Physical-** *i.e.* request rubbish pick up from Shire following rubbish removal activities on 15/2/00

List all assistance whether significant or small. Note, registered Friends Groups are required to submit requests for Shire Assistance by early February each year to enable assessment and budget allocation for the following financial year.

Complete letter in standard format.

I hope the above details and request for shire assistance meets with your approval. I look forward to hearing from you soon regarding this correspondence.

Yours Faithfully

Jane Doe



PART 2

ACTION PLAN

When undertaking intermediate and basic bushcare activities, the Mundaring Shire requires the submission of an Action Plan. The Action Plan should be a short report (approximately four to five pages in length) covering all activities to be undertaken within the next two to three financial years. A short explanatory letter should accompany the plan including copies of any training certificates required to support the use of power equipment or specialist activities (ie. weed spraying).

If the reserve to be managed is not vested with the Shire of Mundaring, then the following requirements may not be applicable. For reserves not currently vested with the Shire of Mundaring, contact the appropriate controlling body to determine their requirements for basic and intermediate bushcare activities. Consent from the authority responsible for the reserve must be gained prior to any bushcare activities being undertaken.

The standard Action Plan format is set out in plain text with instructions or appropriate explanations in *Italics*.

EXAMPLE ONLY: *Completed Action Plan should be 4-5 pages.*

The following format is a general guide and outlines the type of information that should be included in the plan.

Organisation: *detail the group's name i.e. Eagle Reserve Action Group. (If you are a registered "Friends Group" please state the groups Shire file number for administration purposes. Any group seeking Shire assistance will need to be registered with the Shire as a Friends Group and be undertaking activities on reserves vested with the Shire.*



Reserve/s of interest: *detail the reserves number and name where appropriate.*

Property no: 111032

Address: Eagle St., Mundaring *Include lot numbers where appropriate.*

Description: *Note any further detail you feel is necessary for reserve location (i.e. adjacent to Mundaring football oval). Additionally a brief description of the reserve characteristics may prove relevant.*

Funds Secured: *Detail any external funding secured by the group. Make sure you note the amount of funds received, the purpose for the grant and time period it covers (eg. Funding Grant of \$2,000/yr for the next 3 years (1999-2002) from the Gordon Reid Foundation for nursery construction and maintenance.*

Members: *List all members of the group and their position where relevant*

i.e. President: Jane Doe 12 Eagle St. Mundaring, Ph: 92906666
Secretary: John Doe 12 Eagle St. Mundaring, Ph: 92906666

General members:

Jason Bush 7005 Gt. Eastern Hwy, Mundaring, Ph: 92906574
Lisa Mann 22 Stevens St, Mundaring, Ph: 92902345

All members no matter what their level of involvement need to be listed.

Activity Schedule: (Annually for three years)

Due to the duration of the activity schedule you may not need to be specific to the day but simply detail the month in which certain activities are to be undertaken. The most effective format for your group should be decided and continued throughout communications with the Shire.

DATE	ACTIVITY 1999-2001
10/8/1999	Public meeting to generate interest and gain understanding of communities interests and knowledge concerning the reserve
12/10/1999	Busy Bee
12/2/2000	Group meeting to clarify management issues and responsibilities. Progress reports etc.
15/3/2000	Rubbish removal
24/4/2000	Physical removal of woody weeds within reserve
30/4/2000	Fencing of granite outcrops and disturbed areas to limit access for rehabilitation. Identify tracks to be rationalised.
15/6/2000	Planting of native species within degraded sites that are cleared from weeds
17/6/2000	Training in the use of herbicides for the removal of Watsonia
10/8/2000	Herbicide spray on large sections of Watsonia growth
25/10/2000	Flora, survey to complete reserve inventory
13/1/2001	Busy Bee
	<i>Continue for all activities within the financial year. Ensure that the chosen time for weather dependent activities is appropriate for the season (i.e. planting, weed control) and limit activities causing disturbance to the soil to the drier months wherever possible to minimise the potential spread of dieback.</i>

Knowledge & Skills: *Detail the knowledge base and level of experience available within the group.*

1. Jane Doe: experienced in basic and intermediate community bushcare activities.
2. John Doe: qualified in the usage of a chainsaw (include a copy of certificate).
3. John Bush: experienced in fence construction and maintenance.

Continue this process for all possible relevant skills.



Training: Detail the type of equipment/activity and organisational body of any training programs to be undertaken by group members. Don't forget to include copies of certificates following completion of courses.

For example:

- **Training Organisation:** APACE, 1 Johanna St, North Fremantle 6159, Ph: 93361262.
- **Course:** Seed Collection of WA Native Plants, December 1,2,3rd.
- **Course Coverage:** theory and practice in the correct care, maintenance and use of tools, seed collection, best practice, hygiene, legal requirements and obligations, as well as a discussion of the operating guidelines for seedbanks.
- **Cost:** \$150.00/person.
- **Members attending:** Sarah Blogg, Mary Jones.

Repeat the process for all training courses held including in-house instruction.

Safety Gear: Detail all safety equipment that will be required for activities listed. Identify equipment the group already has and that which it needs to request, including proposed dates for loan of equipment.

- Face Mask for Chainsaw - owned by John Doe.
- Protective gear for herbicide use - request to Shire Depot for loan on 10/8/2000 and 17/8/2000 (Give exact dates and times when known).

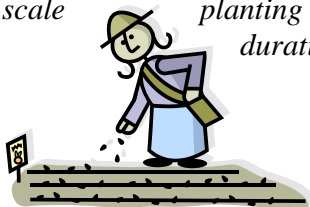
Continue listing for all equipment required.

Shire Assistance: State the level of assistance you anticipate the group will need to successfully complete required bushcare tasks.

- **Financial-** i.e. request financial assistance for contribution to APACE training course costs of \$50.00 per attending member totaling \$100.00.
- **Technical-** i.e. request technical advice from the Bushcare Coordinator and/or Environmental Officer concerning management strategies.
- **Physical-** i.e. request the provision of small quantities of herbicide (Roundup) and the loan of herbicide spraying equipment for 10/8/2000 and 17/8/2000.

List all assistance whether significant or small. Note, registered Friends Groups are required to submit requests for Shire assistance by early February each year to enable assessment and budget allocations for the following year.

Long term Proposals: Detail any long term proposals for the reserve that the Shire and local community would need to be aware of such as extensive fencing, major weed control and large scale planting projects. Note the expected time of implementation and the anticipated duration of the operation/construction.



NB: *In addition to qualifications and training certificates, copies of all required licenses (i.e. seed collection from CALM) must be submitted to the Shire.*

PART 3

MANAGEMENT PLAN

A Management Plan considers advanced, intermediate and basic bushcare activities over a longer timeframe (i.e. five to ten year period), and provides details on bushland management actions to be undertaken to achieve the goals and objectives outlined in the Management Plan. This level of management requires a more structured and methodical assessment of the bushland management needs of the reserve. Friends Groups may need to apply for funding for specialist services required with the development of Management Plans (eg. Flora & Fauna Surveys, Dieback Mapping). Additionally the assistance of the Shire Ecologist and Bushcare Coordinator can be sought for the preparation of Management Plans for Shire vested reserves.



The following outline is a generic guide to writing a Management Plan. The framework considers standard issues needing to be addressed within a Management Plan and is intended as a guide recognising that not all issues may be applicable to the reserve being managed. The reserve may contain site specific or unique features (eg. Declared Rare Flora, Granite Outcrops, threatened plant communities) that need to be addressed in more detail depending upon their significance.

In general a Management Plan should include:

- The reserves natural and cultural values;
- Goals and objectives for management;
- A description of the issues affecting the reserve and their relative importance in terms of reserve management;
- A list of actions to address issues identified;
- A clear set of recommendations which include strategies and actions;
- A description of how the Management Plan and recommendations will be implemented including estimated costs and a time frame of activities; and
- Monitoring programs that will effectively measure any changes in the condition of the reserve and the effectiveness of the management strategies.

(Adapted from EPA, 1996)

All Management Plans should incorporate public consultation throughout the development of the plan. Early involvement with the public, particularly people living near the reserve, is recommended and public comment should be sought at all times during the preparation of the draft Management Plan. Once the draft has been completed, the plan should be lodged with the Shire in order to seek Council approval for releasing the draft plan for public comment. This allows the Shire to assess the plan and consider the budget and resource implications associated with Management Plan implementation. The public comment period for Management Plans usually range from a minimum of 4 weeks to a maximum of 8 weeks.

The Management Plan table of contents is recommended as follows and a description of the information requirements and methods is provided. The length of the Management Plan will vary

according to the size and diversity of the reserve and the complexity of management issues affecting it. Appendix 4 provides a checklist of information required from the Shire and Appendix 5 provides further guidance for the management of specific environmental factors.

To exemplify the type of detail and information required within a management plan, the environmental management issue example of erosion (in italics) will be carried through the major sections of this template.

Suggested Table of Contents

EXECUTIVE SUMMARY

1. INTRODUCTION
 - 1.1 Background
 - 1.2 Management Goals and Objectives
 - 1.3 Location of Reserve
 - 1.4 Vesting and Purpose
 - 1.5 Catchment and Landcare Conditions
 - 1.6 History
2. DESCRIPTION OF THE NATURAL ENVIRONMENT
 - 2.1 Topography, Landform and Soils
 - 2.2 Vegetation and Flora
 - 2.3 Fauna
 - 2.4 Fire History
3. CULTURAL ENVIRONMENT
 - 3.1 Passive Recreation
 - 3.2 Educational Uses
 - 3.3 Significant Heritage Sites
 - 3.4 Other Uses
4. MANAGEMENT ISSUES AND ACTIONS
(Key management issues need to be detailed within this section in order of significance. Listed below are examples of likely issues needing to be addressed within the Management Plan but will differ according to the requirements of the individual reserve).
 - 4.1 Erosion
 - 4.2 Dieback Disease
 - 4.3 Vegetation Management
 - 4.4 Weed Control
 - 4.5 Fauna
 - 4.6 Access
 - 4.7 Raw Materials Extraction
 - 4.8 Public Usage
 - 4.9 Pathways and Trails
 - 4.10 Fire Risk and Management
 - 4.11 Signage



- 4.12 Refuse Dumping
 - 4.13 Education
 - 4.14 Monitoring
 - 5. PROPOSED FUNDING/ RESOURCE REQUIREMENTS
 - 5.1 Community Involvement - Friends Group
 - 5.2 Shire Assistance
 - 5.3 External Funding Opportunities
 - 6. IMPLEMENTATION
 - 6.1 Action Framework and Timetable
 - 6.2 Reporting and reviewing
 - 7. CONCLUSION
-

EXECUTIVE SUMMARY

The purpose of the Executive Summary is to provide interested parties with an overview of your Management Plan, and its major findings. A list of recommendations for management strategies and actions should also be included, with reference to the relevant sections for further information. In general the Executive Summary should be limited to 2-3 pages in length.

1. INTRODUCTION

This section provides an introduction to the Management Plan. The reader needs to be able to gain an overview view of the Management Plan, supported by background information and Management Plan objectives from reading this section. The aims of the Management Plan should be stated. The introduction needs to be concise and include information regarding the format of the report.

1.1 Background

The background provides details of reserve activities to date as these aspects may affect future management. The background provides an overview of the reserve's history, past landuse and a brief outline of the environment. Any components of the reserve deemed significant such as heritage sites need to be identified. The reserve's inclusion and/or ranking within the Reserve Study Stage 2 (Ecoscape, 1996) should be highlighted with a brief description of the previous studies findings.

1.2 Management Plan Goals & Objectives

The management plan goals and objectives provides direction for the Management Plan and a base from which management actions can be developed. A clear goal or objective should be developed, and may comprise a simple one sentence statement or detailed listing of objectives pertaining to particular aspects of management such as conservation or recreation. (eg. *That the reserve be managed as an important natural resource where sustainable habitats and ecosystems are protected* (CALM et al, 1997b)).

1.3 Location of Reserve

The reserve location description allows the reader to understand the reserves of interest covered by the plan. The location needs to provide a detailed account of the reserve in both geographical and

social terms. Location description should incorporate identifiable landmarks (ie opposite Mundaring Recreation Centre) together with bounding roads. Providing a map of the reserve showing its location in a regional and local context is useful. A street map for example, including street names and local landmarks, would provide an easy to follow map reference. If necessary the Shire can be contacted to determine the availability of more specific mapping information relevant to the reserve.

Methods

Contact the Shire to obtain aerial photographs and any appropriate maps that will be useful for future management tasks.

1.4 Vesting and Purpose

Vesting details the body or individual that controls the reserve while purpose highlights the intended use of the reserve. It is important to be aware of the vesting and purpose of a reserve when preparing Management Plans as it confirms ownership and landuse activities that may affect management objectives and tasks. Additionally the vesting and purpose of adjacent land needs to be considered as this may impinge upon Management Plan actions. The location of the reserve in relation to high conservation areas (i.e. System 6, Perth Bushplan sites and the Darling Range Regional Park) should be clarified as this may present opportunities for jointly funding the preparation of the Management Plan and gaining external funding to assist in reserve management.

Methods

Obtain information from the Shire of Mundaring reserves database including reserve number, property number, vesting, designated purpose, zoning, class and proposals (System 6, Perth Bushplan or the Darling Range Regional Park). For reserves vested in the Shire of Mundaring, Management Plans need to be referred to the Shire. For reserves vested in other government agencies, Management Plans need to be referred to the appropriate body.

1.5 Catchment and Landuse Conditions

The health of the catchment and landuse around the reserve has implications for management. Note all watercourses present and determine whether the property is within a gazetted water supply catchment. A brief description of the surrounding catchment landuse and condition should be included. The Shire's Integrated Catchment Management Plan (ICM) indicates the relative contribution of the reserve to the health of the catchment.

Methods

Utilise aerial photographs from the Shire or DOLA for the identification of catchment features. To acquire a copy of aerial photographs from the Shire or DOLA, all you require is street references for the reserve. Consult the Shires Town Planning Scheme (TPS) and ICM plans to identify subcatchments and associated catchment objectives. Discuss the reserve and its role in the catchment with the Shire's Catchment Landcare Officer or Environmental Officer. Consult the Shire in reference to the location and management of gazetted catchments. Relevant texts are listed in Appendix 2.

1.6 History



A description of the site's history provides a record of past landuse within and adjacent to the reserve that may have implications for management (eg. past rubbish tip or clay quarry). Any physical or social factors that seem significant such as past logging or Aboriginal sacred sites and their location should be identified. Include some recent history, along with factors that lead to the writing of a Management Plan (Tizard, 1994).

Methods

Consult the Mundaring Shire's municipal inventory, long term residents and local community members, past Town Planning Schemes, Aboriginal Affairs Department (Aboriginal Sites Register – Perth City) and other reference material from the Shires library.

2. DESCRIPTION OF THE ENVIRONMENT

This section provides the description of the environment you are trying to manage and allows for the identification of management issues.

2.1 Topography, Landforms and Soils

A description of topography, landforms and soils provides a guide for management units within your plan. The topographical description should include the direction of slope, highest and lowest points within the reserve (provided by a contour map) and any roads, trails or pipelines dissecting the site. Detail and map the landforms and soils of the reserve, incorporating the presence of wetland features (i.e. streams, swamps, granite outcrops). Soil types within the reserve need to be noted and may be considered as separate management units. Also detail the annual rainfall and temperature for the area.



Methods

Consult with Shire of Mundaring, in particular the Shire's GIS and ICM maps and Reserves Studies (Stage 1 & 2). Where appropriate use King & Wells (1992) *Darling Range Rural Land Capability Study* to determine soil units walking around the site and mapping the soil and land form types by comparing their physical appearance with the broad descriptions may prove worthwhile. The *Atlas of Natural Resources Darling System* (Department of Conservation and Environment, 1983) is also a useful reference document for determining soil types within your reserve. Contact the Bureau of Meteorology for annual rainfall and temperature readings (Mundaring does not currently have a weather station so you may be required to quote Kalamunda as your nearest reference point). If possible produce a topographical map (1:50,000) of your site. Consult the Shire for assistance. Additional references are provided in Appendix 2.

Example: (Erosion)

The soils within the reserve belong to the Murray soil-landform. They contain a mixture of weathered granite, dolerite and lateritic materials in association (Churchwood & MacArthur 1980). This association is affiliated with high erosion risk which is evidenced by several areas subject to varying degrees of erosion requiring management.

2.3 Vegetation and Flora

Vegetation and flora information assists in determining appropriate forms of management. Vegetation refers to plant communities and their structure, while flora refers to plant species present (CALM *et al*, 1997b). When possible map the vegetation complexes within the study site. Describe the vegetation’s health and structure, regional significance and any threats facing the complex (ie Dieback). List all species present in an appendix making special note of declared rare and priority listed flora species in the text of the Management Plan. Also highlight those species that are weeds.

Methods

Consult relevant reference material at the Shire such as the Reserves Studies and vegetation cover maps from the GIS system. Contact the Wildflower Society to determine



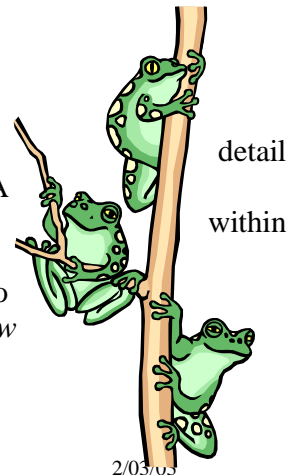
if there are any previous site surveys. The *Atlas of Natural Resources Darling System Western Australia* (Department of Conservation and Environment, 1983) is a useful reference detailing vegetation associations and species found within your locality. Guides on plant identification are provided by texts listed in Appendix 2. Collect specimens and refer to the WA Herbarium for species identification. For the mapping of vegetation communities and their health the publication *Bushland Plant Survey* (Keighery, 1994) available from the Wildflower Society is an excellent step by step guide. However if you feel flora surveys and vegetation mapping is beyond your experience, consult the Shire Bushcare Coordinator for direction on specialist consultants able to assist.

Fauna

The use of the reserve by native and introduced fauna may impact upon the type of management actions required for bushland areas. Descriptions can be based on species sited within the reserve or those assumed to inhabit the area due to the presence of particular habitats or signs of use (i.e. diggings, droppings). The presence of gazetted Rare Fauna and pest species should be highlighted for special management consideration.

Methods

Talk to community members or local experts. Contact CALM (Senior Zoologist) for Declared Rare Fauna presence if the Shire is unable to this information Consult the Shire of Mundaring, WA Museum and WA Naturalist Club to confirm if any detailed fauna surveys have been done the reserve. If not, conduct a preliminary survey of the site or manage according to the presence of diverse habitat types. A good guide to conducting fauna surveys is the CALM, Land for Wildlife publication, *How to Conduct a Community Fauna Survey* by Sanders (1999).



2.7 Fire History

A detailed listing on fire history and damage within the reserve caused by fire is important to determine the needs for fire management. Detail when and where fires occurred if possible, their intensity, factors that led to the fire (e.g. controlled burn, arson, wildfire) and the current fire management practices for the reserve (if documented).

Methods

Consult the Local Volunteer Fire Brigade and Shire Fire Control Officer for assistance on fire history and fire management strategies.

3. CULTURAL ENVIRONMENT

This section highlights the cultural uses (existing and potential) of the reserve being managed. This section provides you with the opportunity to determine any aspects of the cultural environment that may need discussion in the management issues section of your plan.

3.1 Passive Recreation



This section should highlight the value of the reserve to the community as a passive recreation area. Determining areas of recreational significance and their associated impacts can alter management requirements. Detail the attributes the reserve offers for passive recreation. Where possible place physical attributes on maps of the reserve for management consideration (eg. picnic tables, walk trails, access roads).

Methods

Consult the Mundaring Shire and public through surveys and workshops.

3.2 Educational Uses

The significance of your reserve as an educational resource to the community may have implications for management. Detail the educational significance of the reserve and any schools or organisations known to utilise the reserve for education purposes or scientific interest.

Methods

Consult the Mundaring Shire and Local Schools to determine if any education programs are associated with your reserve.

3.3 Significant Heritage Sites

The recognition of significant heritage sites is important as legislation may govern the type of management needed or allowed. State the presence of any significant heritage sites within the reserve. These include known Aboriginal sites and built or natural heritage features listed by the National Trust or the State Heritage Register. Wetlands are of considerable importance to Aboriginal people and special consideration of their significance should be noted.

Methods

Consult with the local community, Mundaring Shire (Municipal Heritage Inventory), Department of Aboriginal Affairs (Aboriginal Sites Register - Perth City Branch) and WA Museum for any significant sites within your reserve.

3.4 Other Uses

Detail any components not previously mentioned that are considered important to the community and may have management implications (i.e. active recreation, such as trail bike, horse and 4WD usage). These components will then form management issue subheadings for further consideration in Section 4 of your plan (see above).



Methodology

Dependent upon the information required. Likely to involve public consultation processes and discussions with the Shire.

4. MANAGEMENT ISSUES AND ACTIONS

Identify the key issues and threats facing the reserve. Major issues identified will provide the focus (subheadings) for management actions in the following section.

Identification of the management issue, need for action and recommended action will provide you with the guideline for implementing the Management Plan. The following generic subheadings (management issues) are a suggested guide to management, but may change according to the requirements of the reserve.

Management comprises of three major steps:

- **Management Issue** (subheading): State management issue identified within Sections 2 and 3.
- **Threat (or Need for Action)**: Give a brief description of the management issue you identified and its significance in terms of your plans goals and objectives.
- **Action**: provide a general description of the action required to address the issue. This will then be extended upon in Section 6 where specific actions and their associated costs will be detailed.

The individual management issues will differ according to the reserve characteristics, however the three step format should be followed for consistency.

Methods

Consult community members/organisations in conjunction with the Shire and relevant technical advisers to establish the management issues of importance within your reserve and there appropriate management action required.

Example: (Erosion)

An issue requiring management identified within the Topography, Landforms and Soils section was Erosion. The following example expresses the way in which this issue may be covered within this section.

4.1 Erosion

Need for Action: Erosion is occurring adjacent to the east-west track (refer to figure x) with large wash outs encroaching on healthy vegetation.

Action: Control erosion and stabilise wash out using physical structures (log barriers, brush vegetation, rocks). Need to investigate source of water flows.

4.1 Erosion

Detail the presence and extent of erosion within the reserve, any resulting threat it provides and actions you intend to undertake. Management should concentrate on controlling current erosion problems, preventing future problems and rehabilitating any damaged sites.

Methods

Walk through the reserve and detail the location and severity of erosion problems on a contoured map to determine what remedial actions are required. Consult with the Shire and refer to literature in Appendix 2.

4.2 Dieback Disease

The control and prevention of dieback spread through effective management actions is essential for maintaining the ecological health of the reserve. Determine if Dieback is a management issue within your reserve then detail the threat and decide upon the appropriate management action. The development of a Dieback map is considered essential in Dieback management and monitoring. Management needs to be oriented towards containment, control and prevention of the disease.

Methods

Group members are not likely to be experienced in Dieback assessment and therefore it will be necessary to enlist the assistance of professionals to determine the presence and extent of Dieback in the reserve. Consult with the Mundaring Shire and CALM Dieback Coordinator on Dieback presence and appropriate management actions. Refer to literature listed in Appendix 2.

Detail any vegetation management issues such as degradation and rehabilitation. The detailing of management issues relating to vegetation health and structure provides the information required for the development of appropriate actions for maintaining vegetation health. Where possible place vegetation associations (communities) into separate management units. The plan should include management actions and recommendations for maintaining or improving vegetation condition and protecting Declared Rare Flora or threatened plant communities.



Methods

You may need to acquire trained assistance for flora surveys, vegetation mapping and management strategy development through the Shire or professional consultation through the acquisition of funding grants. Consult the Shire of Mundaring, Herbarium of WA, CALM Principal Botanist (for DRF) and refer to literature in Appendix 1.

4.4

Weed Control

Weed management provides guidelines for the removal and control of exotic species. Detail the conservation threats and actions concerning weed management. Detail the damage and extent of weed infestation within the reserve and include a list of the species in order of priority within an appendix. Major and priority weed species need special management consideration as they present the greatest threat to native bushland. Management should concentrate on the removal of existing weed species and the prevention of future weed invasion. A field herbarium of weeds should be established and verified to ensure that the correct plants are removed from the reserve.

Methods

For the identification of weed species, their priority listing and instructions for herbarium construction refer to literature listed in Appendix 2 (especially *Managing Perth's Bushlands* by Scheltima and Harris (1995)) and the WA Herbarium. For action advice consult the Mundaring Shire Environmental Officer and Bushcare Coordinator. Consult the Shire and Department of Environmental Protection prior to herbicide use where wetland features are involved.

4.5

Fauna



Documenting native fauna threats and management actions provides guidance for the protection of these species from feral animal predators within the reserve. Management should also consider the protection of native fauna habitats, while reducing the presence and impact of introduced animal and plant species.

Remember to note the proximity of your reserve in relation to housing, as this is likely to be a factor for domestic fauna impacts (i.e. cats and dogs). Education of local residents on appropriate pet care within conservation areas may prove worthwhile. Due to the difficulty and time associated with fauna surveys, often the efficient management approach is to ensure the protection and rehabilitation of diverse habitats (vegetation types) within the reserve.

Methods

Advice for management actions can be gained through the Mundaring Shire and literature in Appendix 2.

4.6

Access

Defining the management threats associated with access (ie car, trailbike or horse access) provides an outline on the extent of issues associated with unauthorised access and the likely success of actions to control access. Briefly detail the adverse effects of unmanaged access within the reserve. Management needs to consider restricting access, the rehabilitation of degraded sites, and the control and prevention of disease and weed spread.



Methods

Walk through the reserve making note of any access related damage on a map. Consult with the local community, animal and recreation associations and Shire Ranger to determine the extent and demand for access to the reserve. Consult the Shire for management advice.

4.7

Raw Materials Extraction

By detailing the conservation threats and actions associated with raw material extraction, you develop a guideline for preventing the exploitation of the reserves natural resources. In most cases, the removal of materials will be an illegal activity as only a few reserves in the Shire include resource extraction in their purpose. Detail the extraction of raw materials within the bushland reserve and outline their implications to your management goals and objectives. Management should consider the rehabilitation of degraded sites (refer Appendix 5) and protection from future extraction. Within certain reserves vesting and landuse purpose may need to be changed to ensure future protection.

Methods

Make note of the degree and seriousness of extraction and consult the local community and Shire to determine demand. Seek advice from the Shire and Australian Society for Bush Regenerators for rehabilitation procedures. Refer to literature in Appendix 2 for further information.

4.8

Public Usage

Where applicable public usage management actions may consider maintaining bushland conservation, landscape and cultural values dependent upon your Management Plan goals and objectives outlined in Section 1.2. Identify acceptable recreational uses that are compatible with your objectives for reserve management (ie recreational capabilities versus demand).

Methods

Survey and consult with the public and Shire to determine public demand and reserve capability to handle level of usage.

4.9

Pathways and Trails

On a map of the reserve, identify the number and location of both designated and non-designated pathways and trails. List pathway and trail management actions (retention, rehabilitation, closure)

aimed at meeting Management Plan objectives. Management should consider protecting the bushland from weed invasion, erosion and disease, as well as limiting access and usage to appropriate levels.

Methods

Survey and consult with the public and Shire to determine public demand for usage of the reserves. Inspect the site to determine the location and extent of trails present, their condition and the rationale of their positioning. Consult with the Local Volunteer Bush Fire Brigade and Shire Rangers before recommending the closure of any pathways or firebreaks to assure compliance with the fire management requirements.

4.10 Fire Risk and Management

By detailing any fire threats and their associated management actions, in consultation with the Shire’s Fire Control Officer you will develop a clear plan to follow and monitor. Identify factors pertaining to fire risk within the site (eg. access, powerlines). Management should consider the protection of life, property and ecological integrity. Special considerations should be given to the prevention of burning granite outcrops and the entire reserve at once. On reserves of appropriate size, mosaic burning patterns may be considered as an appropriate management action.



Methods

Consult with the Local Volunteer Fire Brigade, Mundaring Shire Fire Control Officer and Environmental Officer. Refer to literature detailed in Appendix 2 and management issues in Appendix 4.

4.11 Signage



Determine the need for signage within your reserve in order to achieve your management goals and objectives. Actions need to concentrate on the rationalisation of sign types and locations within the reserve.

Methods

Determine the location of signs in accordance with the desired outcome (ie place no trial bike signs at access points - in conjunction with gates where possible). Consult with the Shire Bushcare Coordinator to ensure your signs meet Shire standards.

4.12 Refuse dumping

Detail the type, amount and location of any refuse dumping within your reserve. Highlight the need for action as a result of detrimental impacts on the reserve and develop actions to combat impacts. Management needs to concentrate on the prevention of future dumping, the removal of current waste and the rehabilitation of degraded areas.

Methods

Consult with local residents and the Shire.

4.13 Education

Detail the education uses of the reserve and any implications this may have on your management goals and objectives. Management needs to concentrate on encouraging the use of the reserve as an education resource while ensuring its conservation value. If no organisations utilise the reserve for education purposes you may consider involving a school or organisation as a management action.

Methods

Consult with the Shire and local education centres/schools.

4.14 Monitoring

Monitoring is important for assessing the progress and success of the Management Plan strategies being implemented. The results of the monitoring program can be collected by the Friends Group. Specify monitoring requirements and periods in the plan and those responsible for their implementation. Monitoring of your management practices should take place annually and consult appropriate experts to ensure your results are indicative of effective management strategies.

Methods

Seek technical advice from the Shire to determine effective indicators to monitor the success of your management plan.

5. PROPOSED FUNDING/ RESOURCE REQUIREMENTS

5.1 Community Involvement – “Friends of Group”

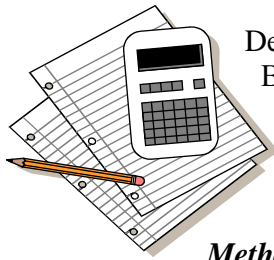
The information and opinions derived from community involvement are very important as these are the people most closely involved in reserve management and usage. Management should encourage and maintain community involvement throughout the management process. Outline the level of public involvement achieved during the preparation of the management plan including meetings, workshops and site inspections. Community involvement throughout the development of the plan should be a high priority. The presence of a Friends Group and their involvement in the development of the Management Plan needs to be noted. If you are not a member of an active

Friends Group and the reserve does not have an affiliated group, then recommend the establishment of one.

Methods

Consult with community groups, the general public and Mundaring Shire. Check with the Shire Bushcare Coordinator regarding the presence of any associated groups or interested bodies who may wish to become involved in the management process. If no other community groups are concerned with the reserve, make public involvement a high priority of the Management Plan. Consult your local paper and ask if they would be willing to include a community notice in the next edition.

5.2 Shire Assistance



Detail the requirements for Shire based assistance within the Management Plan. By developing a set of actions, the Shire and “managers” have a clear understanding of the process and level of assistance required. Management should concentrate on developing effective communication channels with the Shire or appropriate government body for technical and financial support.

Methods

Consult with the Shire Bushcare Coordinator, Ecologist or Environmental Officer.

5.3 External Funding Opportunities

Identify potential funding resources to be used for the preparation and implementation of the management plan. Allocation of funding resources will be determined by your actions detailed in Sections 4 and 6.1. A detailed account of funding processes is essential to ensure that the most effective recommendations from Section 4 and 6.1 are implemented within budget constraints.

Methods

Consult the Shire Bushcare Co-ordinator and organisations providing funding for bushcare activities (listed in Appendix 1).

6. IMPLEMENTATION

6.1 Action Framework & Timetable

A detailed Action Plan provides a clear time frame in which recommendations are to be implemented. The Action Plan will also assist with budgeting allocations and requests. Detail the management actions to be undertaken, associated costs, those responsible for implementation and the timeframe in which actions are to be completed.

Example: (Erosion)

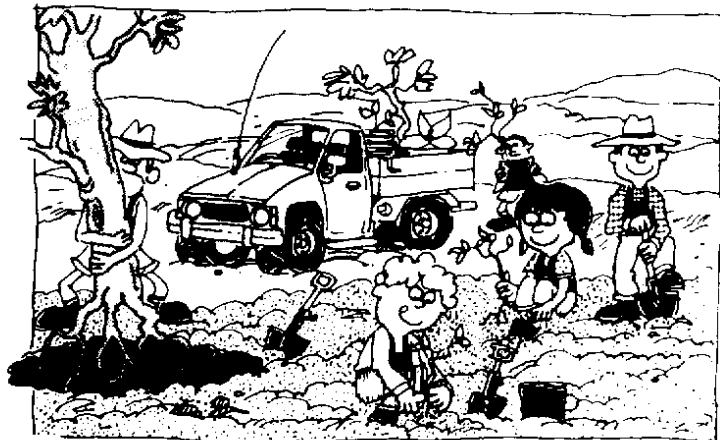
<i>Issue</i>	<i>Action</i>	<i>Timing</i>	<i>Responsibility</i>	<i>Estimated Cost</i>
<i>Erosion</i>	<i>6.1.1 Investigate drainage along adjacent road reserve.</i>	<i>1999/2000</i>	<i>Shire</i>	<i>\$150.00 Officer Time</i>
	<i>6.1.2 Consult the Shire staff to determine remedial action for erosion.</i>	<i>2000/2001</i>	<i>Shire/Group</i>	<i>Core activities</i>
	<i>6.1.3 Fill and stabilise wash out.</i>	<i>200/2001</i>	<i>Group</i>	<i>\$500.00</i>

6.2 Reporting and Reviewing

Reporting and reviewing provides the ability to alter actions within the plan when monitoring results indicate that changes may be beneficial. Include a defined term for the plan to run, which could be between five and ten years. After this period the plan's management measures, their effectiveness and implementation should be reviewed. The program to revise the Management Plan needs to take account of changing circumstances (e.g. responsible authorities, zoning) and should be conducted in the light of the monitoring results and comprehensive public consultation. Alterations to the Management Plan need to be submitted to the Shire for Council approval.

7. CONCLUSION

The conclusion provides an overview of the plans findings to date and highlights the recommendations for future management. This section should be concise and not exceed a few paragraphs.



APPENDIX 2:

A GUIDE TO WEED MANAGEMENT

WEED MANAGEMENT GUIDELINES

These weed Management Guidelines have been prepared to assist Friends Groups whilst undertaking chemical weed control using herbicides on Shire vested bushland reserves and road verges. The guidelines draw from previous resolutions of the Shire of Mundaring Council and best practices for the application of herbicides (in accordance with manufacturer's instructions) based on the precautionary principle. It is recommended that these guidelines be inserted into the Shire of Mundaring's Friend's Group Manual (Latest version December 1999).

Alternatives to Herbicides

Wherever practical, alternatives to chemical control of weeds such as physical methods should be used providing this will not result in other impacts (erosion, damage to native vegetation). Hand removal is ideal if the weeds are not too invasive or if the infested area is small. Biological control can be effective if the correct agent can be identified and safely introduced. The Bridal creeper leaf-hopper is an example of a current biological control method available.

Herbicides

The use of herbicides is recommended when:

- The weeds are thick and little native vegetation is present
- Removal of plant roots will cause erosion
- A steep slope will erode with the removal of weed roots
- The area to be weeded is a distance of 5 metres or more from a watercourse or drain containing water

Permitted Chemicals

Roundup Biactive and Fusilade are the only herbicides to be used on Shire reserves.

1. Roundup Biactive

- A glyphosate formulation registered by Monsanto Australia
- A non-selective systemic herbicide which kills most plants on contact
- The surfactant in this formulation has lower aquatic toxicity
- Only to be used in dry conditions (3 non-rain days following spraying)
- Not to be used within 5 metres of a flowing creek
- Shire of Mundaring Policy is that spraying in dry creeklines can only occur if dry weather is expected over the following 3 days.

2. Fusilade

- Trade names, Fluazifop –P-Butyl
- A selective herbicide used to control weed grasses growing in amongst ornamental or broad leaved species
- Is post emergent so is not residual in the soil
- It is Shire of Mundaring Policy that Fusilade can not be used within 5 metres of a creekline.
- Can be sprayed over bushland where no native grasses are present
- Will not affect winter grass (*Poa annua*), silver grass (*Vulpia bromoides*), nutsedge (*Cyperus* spp.) and broadleaf weeds.

Procedures

1. Read herbicide data sheet before using
2. Weeds are best treated when actively growing and healthy
3. Don't use herbicides when
 - The weeds are stressed and unhealthy (drought, heat, frost, flooding) as the herbicide will not be absorbed well
 - The weeds are flowering because the herbicide will not be as effective.
 - Wet weather is forecast in the next 3 days as the herbicide will wash off
 - Windy weather (12kph) as may increase herbicide drift
4. Spraying within 5 metres of a creekline should only take place when the creek is dry. This may not be the optimal time to spray the weed, but it is the least environmentally damaging.
5. Use low drift nozzles and a large drop size to minimise overspray
6. A colour additive is recommended as it indicates where herbicide has been sprayed
7. Wiping or using a wand is another method of applying herbicide to minimise the effects to surrounding vegetation
8. To protect a lone plant amongst weeds, place a bucket over the plant and spray around it. Do not remove the bucket until the spray has dried on the weeds.
9. Warning signs are to be placed at each end of the spraying operations to notify anyone who may enter the area.
10. If signage is not available a person can be posted at these locations.

Safety and Insurance

1. All instructions on the chemical container for decanting, use and cleaning equipment afterwards are to be complied with.
2. Suitable clothing should be worn when using chemicals
 - Enclosed footwear with socks
 - Long trousers
 - Long sleeved shirts
 - Rubber gloves
3. Warning signs are available from the Shire of Mundaring Depot.
4. A responsible person (a delegated co-ordinator) is to ensure that herbicide users know what they are doing.

5. If anyone approaches within 10 metres of the person spraying then spraying should cease immediately.
6. Spraying activities will only be covered by insurance if the appropriate records are kept in accordance with the Friends Group Manual.
7. If extensive areas are to be sprayed then notification to the Bushcare Co-ordinator is required. The public can then be advised that the volunteers are working with the permission of the Shire of Mundaring.

Training

The Shire of Mundaring provides periodic training courses in the use of Herbicides and it is a preferred pre-requisite for the use of herbicides. Other agencies (The Swan Catchment Centre and Midland TAFE, among others) also run training courses through the year. Friends Groups in the Shire of Mundaring will be notified when these courses become available.

Friends Group Application for Herbicides

1. The Shire will provide herbicide to groups which submit applications for funding by the end of February each year as per the Friends Group Manual.
2. This request will be presented in the annual budget, which is finalised in August each year.
3. After this date the Friends Group will be notified of the success of their request by mail.

Assistance with Herbicide Use

If the Friends Group does not feel qualified or capable of using herbicides there are alternatives.

1. In their annual funding application to the Shire of Mundaring a Friend's Group can place a request for a professional contractor to be engaged to undertake spraying activities. If the funding is available and the application is reasonable it is likely that the request will be accepted.
2. Other funding becomes available throughout the year from other agencies. Many of these agencies will fund weed spraying/wiping contractors. Contact the Bushcare Co-ordinator to help you apply for these funds.

Spraying on Road Verges

Members of registered Friends Groups who wish to spray verges in their local areas need to register with the Shire. Registered sprayers then need to:

- Determine the street verges to be sprayed over the next 12 months and inform the Shire
- Notify the residents on these streets, via a standard letter provided by the Shire, of the intention to spray weeds
- Residents can reply to this letter to the Shire if they do not want spraying to occur on their verge. The Shire will advise the registered sprayer of areas not to be sprayed and will confirm with residents that spraying will not occur.
- Cease spraying if requested by a local resident. Some people are allergic and may react badly.

APPENDIX 3:

INFORMATION CHECKLIST

General literature and Management Plan Examples

Department of Conservation and Land Management, City of Canning, Nature Conservation Authority, 1997, *John Forrest National Parks Management Plan 1997-2007*, CALM, Perth.

Department of Conservation and Land Management, National Parks and Nature Conservation Authority, Lands and Forest Commission, 1997, *Serpentine National Park Draft Management Plan 1997*, CALM, Perth.

Ecoscape, 1996, *Mundaring Reserves Study Stage II : Vol. I & II*, Ecoscape, Perth.

Environmental Protection Authority, 1996, *Guidelines for a Bushland/Wetland Management Plan*, EPA, Perth.

Environmental Protection Agency, 1998, Perth's Bushplan, Department of Environmental Protection, Perth, W.A.

Kings Park and Botanic Garden, 1993, *Bushland Draft Management Plan 1993-2003*, Kings Park Botanic Garden, Perth.

Payne, K & Burns M, 1993, *Reserve Study Stage 1*, Mundaring Shire, WA.

Tizard, B. 1994, Reality, Dreams and Pathways: A Manual for Preparing and Implementing Management Plans, Armadale Settler's Common Field Study Centre & System 6 EcoPlan, WA.

Urban Bushland Council, 1997, *The 1997 Urban Bushland and Community Group Directory*, Urban Bushland Council, Perth.

Excellent Broad Bushcare Literature

Buchanan, R.A. 1996, *Bush Regeneration: Recovering Australian Landscapes*, The Open Training and Education Network, NSW.

Hussey, B. & Wallace, K. 1993, *Managing your Bushland*, CALM, Perth.

Scheltema, M. & Harris, J. (eds.) 1995, *Managing Perth's Bushlands: Perth's bushlands and how to manage them*, Greening Western Australia, Perth.

Landforms and Soil

Churchwood, H.M. & McArthur, W.M. 1980, 'Landforms and Soils of the Darling System', in *Atlas of Natural Resources Darling System Western Australia: Explanatory Text*, pp.25-36, Department of Conservation and Environment, Perth.

McArthur, W.M. 1980, 'Land use in the Darling System, Western Australia', in *Atlas of Natural Resources Darling System Western Australia: Explanatory Text*, pp.77-85, Department of Conservation and Environment, Perth.

Vegetation

Bennett, E.M. 1988, *The Bushland Plants of Kings Park Western Australia*, Kings Park Botanic Gardens, Perth.

Hedde, E.M, Loneragan, O.W. & Havel, J.J. 1980, 'Vegetation Complexes of the Darling System, Western Australia', in *Atlas of Natural Resources Darling System Western Australia: Explanatory Text*, pp.37-76, Department of Conservation and Environment, Perth.

Keighery, B. 1994, *Bushland Plant Survey: A guide to plant community survey for the community*, Wildflower Society of WA (Inc), Perth



Pieroni, M. *Discovering the Wildflowers of Western Australia*, QPA - Quality Publishing Australia, Australia.

Powell, R. 1990, *Leaf and Branch – trees and small shrubs of Perth*. Department of Conservation and Land Management, Perth.

Semeniuk, C.A. 1987, 'Wetlands of the Darling System- a geomorphic approach to habitat classification', *Journal of The Royal Society of Western Australia*, pp. 95-112, no. 69.

Wildflower Society Western Australia : Darling Range Branch, 1990. *Field Guide to Wildflowers: West Coast Hills*, Quality Publishing Australia.

Regeneration - Rehabilitation

Bradley, J. 1968, *Bringing back the bush: The Bradley Method of Bush Regeneration*, Lansdowne Press, Sydney.

Dalton, G. 1993, *Direct Seeding of Trees and Shrubs*, Primary Industries (SA), Adelaide.

Department of Conservation and Land Management, *Information Sheet Series 87 – 88*, CALM, Perth.

Weeds

Ecoscope, 1994, *Environmental Weeds in Perth's Urban Bushland*, prepared for the Environmental Protection Authority.

Hussey, B.M.J. Keighery, G.J. Cousens, R.D. Dodd, J. Lloyd, S.G. 1997, *Western Weeds: A guide to the weeds of Western Australia*, The Plant Protection Society of Western Australia, Victoria Park, WA.

Wildflower Society of WA, *Invasive Weeds & Regenerating Ecosystems in Western Australia*, Conference Proceedings, July 1994, Murdoch University, Perth.

Dieback

Anon, 1992, *Dieback - what is the future?*, Northern Sands Dieback Working Party, WA.

Roleystone Dieback Action Group, *Dieback in the Perth Hills*, Roleystone Dieback Action Group, Perth.

Wetlands

Chambers, M. Fletcher, N.L. McComb, A.J. 1995, *A Guide to Emergent Wetland Plants of South Western Australia*, The Marine and Freshwater Research Laboratory, Murdoch University, Perth.

Department of Conservation and Environment, Bulletins 59-63, *Wetlands of the Darling System*, Perth.



Semeniuk, 1987, *Environmental Significance of Wetlands in the Perth to Bunbury Region*, Western Australian Water Resources Council, Perth.

Water Authority of WA, 1992. *Perth - a city of Wetlands. Wetlands of the Perth to Bunbury region*. Broadsheet, Water Authority of WA, Perth.

Fauna

Sanders, A. 1999, *How to conduct a Community Fauna Survey*, CALM Land for Wildlife, Perth, WA.



Organisations

Department	Address	Type of Information/Assistance
Aboriginal Affairs Department Ph: 08 92358000	197 St. Georges Tce Perth 600	<ul style="list-style-type: none"> • advice on aboriginal significant sites
Agricultural Protection Board Ph: 08 93683333	Baron Hay Court South Perth 6151	<ul style="list-style-type: none"> • advice on controlling noxious weeds • advice on controlling feral animals
Agriculture Western Australia (AWA) Ph: 08 93683333	Baron Hay Court South Perth 6151	<ul style="list-style-type: none"> • advice on soil conservation • advice on use of herbicides
ALCOA Australia Ph: 08 93165111	Marmion St. Booragoon 6153	<ul style="list-style-type: none"> • funding opportunities • advice on rehabilitation
Appropriate Technology Development Group (APACE) Ph: 08 93361262	Winter House 1 Johanna St. North Fremantle 6159	<ul style="list-style-type: none"> • courses in bush regeneration • plant propagation • nursery specialising in native plants
Australian Association of Bush Regenerators (AABR) Ph: 08 93361262	c- APACE 1 Johanna St. North Fremantle 6159	<ul style="list-style-type: none"> • network of groups/ individuals interested in urban bushland management
Bureau of Meteorology Ph: 08 92632222	1100 Hay St. West Perth 6005	<ul style="list-style-type: none"> • history of climatic conditions
Bush Fires Board Ph: 08 93239300	Emergency Fire & Rescue 480 Hay St Perth WA 6000	<ul style="list-style-type: none"> • advice on preventing and controlling fires
Conservation Council of Western Australia Ph: 08 92200652	Lotteries House 2 Delhi Street. West Perth 6004	<ul style="list-style-type: none"> • contacts with bushland groups • access to West Australian Species Network coordinator
Conservation and Land Management (CALM) Ph: 08 93340333	50 Haymen Rd Como WA 6152	<ul style="list-style-type: none"> • listing of priority species • assistance with the development of Management Plans • advice on management techniques • fauna and flora surveys • library
Department of Aboriginal Sites Ph: 08 93227144	35 Havelock St. West Perth 6005	<ul style="list-style-type: none"> • detail on aboriginal significant sites
Department of Environmental Protection (DEP) Ph: 08 92227000	8 th Floor Westralia Square 141 St. Georges Tce Perth 6000	<ul style="list-style-type: none"> • environmental issues • system 6 recommendations • library • information on setting up friends groups • information on bushland and wetland management
Department of Land Administration Ph: 08 92737373	Midland Square Morrison Rd Midland	<ul style="list-style-type: none"> • aerial photographs • information on site history
Gordon Reid Foundation Ph: 93405270	Lotteries Commission 74 Walters Drv Osborne Park	<ul style="list-style-type: none"> • funding opportunities
Greening Western Australia (GWA) Ph: 08 94812144	1118 Hay ST. West Perth 6005	<ul style="list-style-type: none"> • information on sources of funding • advice on planning projects • information on management techniques

Department	Address	Type of Information/Assistance
Herbarium of Western Australia Ph: 08 93340335	George St. South Perth 6151	<ul style="list-style-type: none"> identifying plants public reference herbarium library
Kings Park Board Ph: 08 94803600	Kings Park and Botanic Gardens West Perth 6005	<ul style="list-style-type: none"> identifying plants advice on management techniques information on weed control library
Ministry for Planning Ph: 08 92647777	Albert Facey House 469 Wellington St. Perth 6000	<ul style="list-style-type: none"> inventory of urban bushland future landuse
Mundaring Shire Ph: 08 92906666	7000 Great Eastern Highway Mundaring	<ul style="list-style-type: none"> technical advice provision of equipment funding
Museum of Western Australia Ph: 08 93294411	Francis St. Perth 6000	<ul style="list-style-type: none"> identifying fauna fauna surveys identifying sites of aboriginal significance
National Trust of Australia Ph: 08 93216088	4 Havelock St. West Perth 6005	<ul style="list-style-type: none"> assessment of areas for heritage value
Naturalist Club WA Ph: 08 94272788	63 Meriwa St. Nedlands 6009	<ul style="list-style-type: none"> flora/fauna surveys lecture program
Roleystone Dieback Action Group Ph: 08 93976813 Ian Colquhoun	c/- Roleystone Family Centre Wygonda Rd Roleystone 6111	<ul style="list-style-type: none"> advice for dieback control
Royal Australian Ornithologists Union (RAOU) Ph: 08 93375673	PO Box 19 Jolimont 6111	<ul style="list-style-type: none"> bird surveys lecture program
Royal Western Australian Historical Society Ph: 08 93863841	49 Broadway Nedlands 6009	<ul style="list-style-type: none"> information on the history of the site
Urban Bushland Council Ph: 08 92715707	Lotteries House 2 Delhi Street. West Perth 6004	<ul style="list-style-type: none"> directory of community groups advice on protection and management off urban bushland
Water Corporation Ph: 08 94202420	629 Newcastle St. Leederville 6007	<ul style="list-style-type: none"> management of wetlands
Water and Rivers Commission Ph: 08 92780300	Hyatt Centre 3 Plain St. Perth 6000	<ul style="list-style-type: none"> wetland management
Wildflower Society of WA Ph: 08 93877979	PO Box 64 Nedlands 6009	<ul style="list-style-type: none"> identifying plants flora surveys management techniques lecture program library
Wetlands Conservation Society (Private Residence) Ph: 08 93377113	14 Stone Court Kardinya 6163	<ul style="list-style-type: none"> management of wetlands lecture program

(Adapted from Scheltema & Harris, 1995).

Information to be collected from the Shire:

- Property number.
- Reserve number and name.
- Official address of the reserve.
- Vesting and zoning of the reserve from the TPS.
- Designated purpose, class, ward and proposals in place for the reserve from the Shires Geographical Information System (GIS).
- Details of any previous vegetation and fauna studies on the reserve i.e. *Reserves Study Stage 1*.
- Detail of any Declared Rare Flora and Fauna presence within the reserve (GIS).
- Aerial photograph of the reserve.
- Collect existing maps: Location within the metro area and shire
 Location relevant to other remnants and reserves
 Copy of soil, topography and vegetation maps/plans
 Copy of water catchment plans
- Copy of the integrated catchment management objectives for the reserve locality.
- Copy of the Friends Group Manual (1998).
- Dates for the submission of your Management Plan and funding requests.
- Name and contact of any other community groups concerned with the reserve.



APPENDIX 4: SPECIAL MANAGEMENT CONSIDERATIONS

SPECIAL FEATURE	COMMENTS
Wetland Features	<ul style="list-style-type: none"> • Take special consideration of adjacent landuse as this may impinge on wetland buffers. • Classify in terms of their size, permanence, shape and whether water is flowing or stagnate. • Include an assessment of surface and groundwater hydrology. • If artificial drains are present, nutrient stripping techniques should be employed and drains redirected where appropriate. • Management of wetland vegetation should consider: <ul style="list-style-type: none"> <input type="checkbox"/> Protection and rehabilitation of fringing vegetation; <input type="checkbox"/> Protecting the core area of the wetland; <input type="checkbox"/> Maintaining water quality; <input type="checkbox"/> Developing programs to control stormwater flow; <input type="checkbox"/> The maintenance of varied habitats for wetland fauna; and <input type="checkbox"/> The maintenance of natural hydrological patterns & continue to monitor for change.
Water Supply Region	<ul style="list-style-type: none"> • Ensure that all activities and management proposals adhere to water quality objectives set by the Water Corporation.
Granite/Laterite Outcrops	<ul style="list-style-type: none"> • Management needs to restrict and control access. • Minimise and confine disturbance. • Monitor and control weed outbreaks. • Encourage regeneration in degraded sites. • Monitor and control feral animals. • Protect from fire.
Rehabilitation	<ul style="list-style-type: none"> • Management of degraded sites for rehabilitation should consider: <ul style="list-style-type: none"> <input type="checkbox"/> Restoring the original topography; <input type="checkbox"/> Mapping plants likely to have occurred on the site; <input type="checkbox"/> Controlling access; <input type="checkbox"/> The choice between direct seeding and/or planting of local native species; <input type="checkbox"/> Development of a watering regime and responsibility; and <input type="checkbox"/> Monitoring of results. • Rehabilitation techniques should be detailed within the plan.
Raw Material Extraction	<ul style="list-style-type: none"> • Management should be considered in terms of rehabilitation. • Establish signs highlighting the inappropriateness of these activities and the detail of appropriate methods and localities for them.
Established picnic Sites	<ul style="list-style-type: none"> • Protect bushland from activities that encourage the spread of weeds and disease. • Maintain safe and appropriate public facilities and provide educational material. • Maintain designated pathways and seal remaining pathways. • Develop storm water management programs for sealed and gravel parking areas.
Slope	<ul style="list-style-type: none"> • In regions of extreme slope special management consideration should be given to erosion prevention and control and stormwater management.
Fire	<ul style="list-style-type: none"> • Reduce the incidence and impact of unplanned fires. • Protect the more vulnerable plant and animal communities i.e. wetlands. • Ensure that a significant portion of the reserve remains unburned. • Minimise the spread of weeds and disease when establishing firebreaks and during firefighting operations (EPA, 1996).