



ENVIRONMENTAL COMMUNITY GROUP AND ORGANISATION MANUAL

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Environmental Community Group and Organisation Manual

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City of Canning

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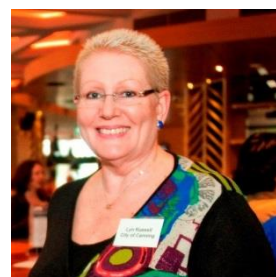
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FOREWORD

For many years the City has been fortunate to work in partnership with Environmental Community Groups and Organisations in the management of natural areas, including conservation, restoration and enhancement of bushland, wetlands and riverine areas and the protection of precious native flora and wildlife. This work has also contributed to social and recreational benefits for our community.



With less than 7% of pre-European vegetation remaining in the City, the conservation of natural areas is an urgent priority.

The City appreciates and values the hard work undertaken by volunteers in natural areas and to support this commitment, I am pleased to present you with this Environmental Community Group and Organisation Manual.

This guidance document has been prepared for volunteers, in consultation with volunteers, and provides practical advice for establishing and coordinating groups, information on natural area management techniques, the roles and responsibilities of the City and groups, occupational safety and health requirements, insurance and liability, work planning, evaluation and reporting, funding opportunities and training and professional development.

I recognise that many long term volunteers and established groups are very experienced in conservation activities and have a good understanding of the City's role and requirements for working partnerships. This knowledge has been built up gradually as the partnerships have developed. One key purpose of the manual is to document this information and to ensure that there is consistent understanding across all groups.

Through this Manual and the ongoing support of volunteers, the City hopes to further enhance our working relationships with Environmental Community Groups and Organisations, to foster stewardship and continue to effectively manage our natural areas now and into the future.



Lyn Russell PSM
Chief Executive Officer

1.0 INTRODUCTION

1.1 BACKGROUND

Residents and visitors of the City of Canning are fortunate to have a diverse range of natural environments to enjoy for recreational and social activities. These natural areas and the flora and fauna within them hold significant conservation and community value. The City works in partnership with active and committed community volunteer groups and organisations (“groups”) to manage these precious natural areas, which include wetland, river and bushland sites within the City’s boundaries. The contributions made by these groups form an integral part of the conservation and enhancement of these natural areas. Through effective communication, the sharing of resources and training and support, the partnerships between groups and the City can continue to be an effective strategy in the management of natural areas.

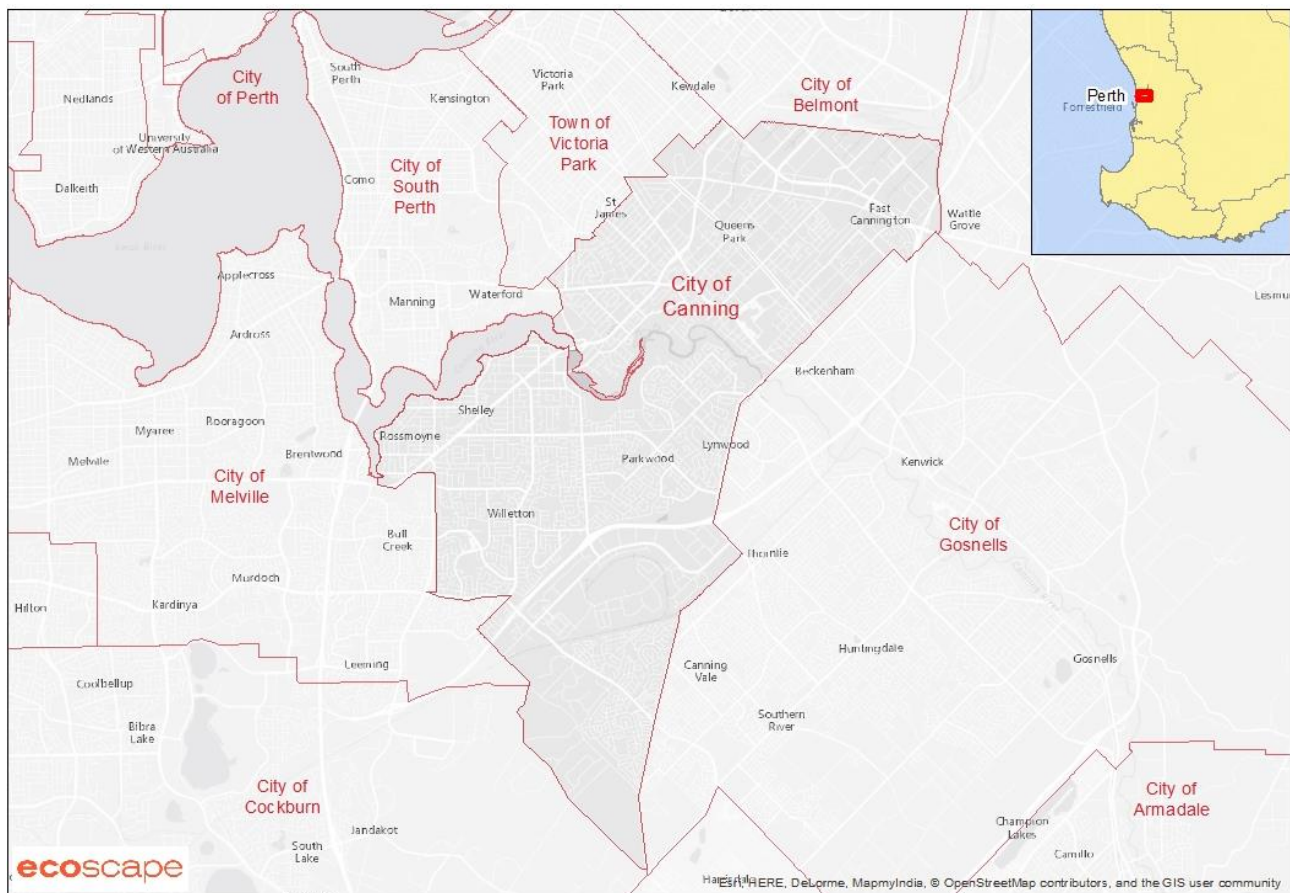


Figure 1: City of Canning

1.2 PURPOSE AND OBJECTIVES

This Environmental Community Group and Organisation Manual (“Manual”) has been developed as an informative resource for new and existing environmental community groups and organisations that coordinate volunteers and training in relation to conservation activities undertaken in the City’s natural areas.

The objectives of this Manual are to:

- provide guidance on techniques used for site assessment, weed control, revegetation, wildlife protection and compliance issues;
- outline the roles and responsibilities of the City and the support and resources that the City can provide to groups;
- describe existing Groups;
- outline insurance and public liability requirements for groups operating within the City’s reserves;
- provide information on creating a safe working environment;
- provide templates and instructions for preparing annual reports and work plans;
- provide guidance in potential funding and partnership opportunities; and
- outline training and professional development opportunities.

1.3 LEGISLATION AND GUIDELINES

1.3.1 Federal and State Policies, Plans and Strategies

There are a number of Federal and State policies, plans and strategies that guide environmental management in the City of Canning. The most relevant of these are listed below.

- *Environment Protection and Biodiversity Conservation Act* (1999)
- Department of Agriculture and Food (2013) *Biosecurity and Agriculture Management Act (BAM)*
- The Western Australian *Environmental Protection Act* (1986)
- *The Wildlife Conservation Act* (1950)
- Government of Western Australia *Bushfires Act* (1954)
- Government of Western Australia *Aboriginal Heritage Act* (1972)
- Swan Natural Resource Management (2008) DEC Swan Region – *Environmental Weed List: Environmental Weed Census and Prioritisation* (EWCP)
- Western Australian Local Government Association (2004) *Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region*
- *Western Australian Planning Commission (2004) Biodiversity Planning Guidelines.*
- *Weeds of National Significance (WONS)* (Weeds Australia 2012)
- Swan River Trust (SRT) *River Protection Strategy*
- Swan and Canning Rivers *Foreshore Assessment and Management Strategy 2008*
- *Best Management Practices for Foreshore Stabilisation*
- *Swan Canning Water Quality Improvement Plan* and relevant local water quality improvement plans in the City of Canning
- SRT (2010) *Canning Plain local Water Quality Improvement Plan*
- SRT (2011) *Bannister Creek Local Water Quality Improvement Plan*
- SRT (2012) *Bull Creek Local Water Quality Improvement Plan*
- *State Planning Policy No. 2.8: Bushland Policy for the Perth Metropolitan Region*

For further information, refer to the City’s Environment Management Strategy or contact the relevant Federal or State department. To view a copy of legislation, visit the State Law Publisher website at <https://www.slp.wa.gov.au/>.

1.3.2 Bush Forever

State Planning Policy No. 2.8: Bushland Policy for the Perth Metropolitan Region (2010) identifies areas of regionally significant bushland along with Threatened Ecological Communities (TECs) and Declared Rare (Threatened) and Priority flora for protection. Bush Forever aims to protect at least 10% of each of the 26 original vegetation complexes within the Swan Coastal Plain section of metropolitan Perth, and to conserve TECs. There are six Bush Forever sites in the City of Canning, as outlined in Table 3. With the exception of Bush Forever site 388 and a small part of site 224 (which are reserved for Local Parks and Recreation), all Bush Forever Sites are reserved for Regional Parks and Recreation in the Scheme. The other Bush Forever sites are reserves or local parks.

Table 1: Bush Forever sites in the City of Canning

BUSH FOREVER SITE	CITY MANAGED AREA NAME
224 - Canning River Regional Park and Bushland, Riverton to Langford	Canning River Regional Park, Bannister Creek Park
424 and 283- Queens Park Bushland	Queens Park Regional Open Space and McDowell Street Bushplan
338 (part only) – Yagan Wetland and Bushland	Yagan Park
389 (part only) – Acourt Road Bushland	Clifton Buffer
388 (Part only) – Jandakot Airport	Ranford Bushland
333 (part only) – Canning River Foreshore, Salter Point to Wilson	Centenary Avenue Foreshore

1.3.3 City Focused Policies, Plans and Strategies

There are a number of locally focused policies, plans and strategies that guide environmental management in the City of Canning. The most relevant of these are outlined below. Reserve Work Plans have also been developed for priority conservation sites. For more information on Work Plans, refer to Section 3.1.5 of this manual.

Environment Management Strategy

The City adopted an Environmental Management Strategy in 2014. This document provides detailed information on the priority issues, strategies and recommended actions to be taken for environmental management across the City.

The Environment Management Strategy will help to inform the development of the Local Planning Strategy. The Local Environmental Management Strategy provides a framework for the achievement of better environmental management outcomes in line with the Strategic Community Plan's community goals of:

- Protect, preserve and promote our natural places, flora and fauna
- Sustainable management of resources
- A sustainable and environmentally aware community

There are a number of significant environmental assets and issues that will be addressed by the land use planning system. The key land use planning considerations that could impact on the environmental values within the City of Canning are climate change, natural areas, water, heritage and built environment.

A copy of the Environment Management Strategy is available on the City website:

www.canning.wa.gov.au/E/environment-management-strategy.html

Local Reserve Management Plans

The following reserve management plans provide guidance in the management of some of the natural areas within the City:

- *Bannister Creek Reserve Management Plan*, 1999, Prepared by Judith Fisher for City of Canning, currently under review by SERCUL, funded by the Swan River Trust
- *Caladenia Grove Management Plan*, December 2004, ATA Environmental
- *Canning River Regional Park Management Plan*, 1997, Jointly prepared by Department of Conservation and Land Management, National Parks and Nature Conservation Authority and City of Canning
- *Liege St Visitor Management Plan*, September 2006, Canning River Regional Park, Department of Conservation and Land Management, Swan River Trust and City of Canning
- *Shelley Rossmoyne Foreshore Management Plan*, 2000
- *Watercourse Reserves Management Strategies*, 2006, City of Canning
- *Yagan Wetland Reserve Management Plan*, 1996, prepared by Jenna Brooker for the City of Canning
- *Prendwick Botanical Park Management Plan*, 2006, City of Canning

If groups are planning to undertake conservation works in any of the above reserves, it is recommended that volunteers familiarise themselves with the contents of the plans. The City can provide a copy of the relevant reserve management plan, upon request.

Local Policies

The local policies which provide guidance for environmental management in the City include:

- ET520 *Conservation of Flora and Fauna* (2009)
- ET521 *Subdivision and development – Environment* (2009)
- ET526 *Subdivision – Landscaping* (2009)
- ET527 *Urban Revegetation and Greening* (2009)
- SRS221 *Town planning schemes – Landscape Plan* (2009)

A copy of these policies can be provided upon request.

Local Biodiversity Strategy

The Western Australian Local Government Association (WALGA) *Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region* provide guidance for Local Government authorities to better protect natural areas via the preparation of Local Biodiversity Strategies. The guidelines recommend that Local Government Local Planning Schemes include appropriate zonings and scheme text to allow formal recognition and protection of locally significant natural areas.

The City has developed a draft *Local Biodiversity Strategy 2015* and hopes to have it endorsed in the near future. Further information on the City's Biodiversity Strategy can be provided upon request. Contact the City's Coordinator Conservation and Environment.

2.0 CITY OF CANNING

2.1 SUPPORT

2.1.1 Roles and Responsibilities of the City

The City is committed to supporting Groups undertaking conservation activities.

The City's roles and responsibilities include:

- to provide information and advice on conservation activities;
- to assist groups in conservation work plans, project plans and grant applications;
- to encourage groups to adhere to safety and insurance responsibilities;
- to provide material support such as plant nursery facilities, equipment and removal of green waste materials; and
- to assist groups in promoting their activities.

2.1.2 Land Access Permissions

Natural areas within the City fall under the management of the City of Canning (as local government reserves or freehold land), state government agencies, non-government organisations and private landholders. In some situations, permission must be sought in order to gain access to particular areas for conservation activities. The City can provide groups with information on land ownership and management (e.g. the vested authorities).

In some cases, natural areas are fenced with locked gates. If the site is managed by the City of Canning, a Master Key can be borrowed from the City to unlock the gate by contacting the Parks Conservation Officer.

2.1.3 Accessing City Depot

At times, groups may need to access the City Depot, including the plant nursery. If a group has not been issued with a security tag to access the Depot, a group representative will need to park in a visitor bay and sign the visitor book at the front counter of the Depot. A City staff member will then allow them into the Depot. Once inside the Depot visitors must follow all traffic/speed/directional signs and depot safety requirements, including emergency management procedures. Contact the City of Canning Occupational Safety and Health Officer for further information on the Traffic Management and Emergency Management procedures.

2.1.4 City Plant Nursery

Groups are able to utilise the nursery facility for accepting native plant deliveries from suppliers, temporarily storing plants for revegetation projects, re-potting and propagating seeds. The City is able to provide some resources, including pots and potting mix, as long as the potting activity is undertaken at the nursery facility and not off site. Guidelines for nursery use are provided in Appendix One.

2.1.5 Provision of Plants

Each year, the City is able to purchase and provide some plants to community groups for revegetation purposes. Group requirements should be discussed with the Parks Conservation Officer prior to the end of the calendar year and presented in Work Plans (discussed in Section 5.1).

2.1.6 Tools, Equipment and Consumables

Community groups are able to borrow a limited range of tools and equipment for revegetation and weeding events (e.g. trowels, gloves, watering cans, portable toilet etc.). Consumables such as soil improver are no longer provided by the City. However, mulch and reusable bamboo stakes can be provided upon request. Please contact the Parks Conservation Officer for details and bookings.

2.1.7 Labour

The City's Natural Areas Team may be able to assist in providing maintenance labour to groups, particularly as part of a grant funded project. Labour may include assistance with weeding and planting activities on City managed land. Requests for labour assistance must be put forward to the Parks Conservation Officer at least one month in advance of the scheduled date, or earlier if possible. This will allow the Natural Areas Team to accommodate the request in the existing Natural Areas Maintenance Schedule.



Photo 1: Members of the City's Natural Areas Team

2.1.8 Letters of Support

The City is often requested for Letters of Support by groups intending to submit grant applications for conservation works on land vested with the City or by groups nominating for Awards. Such requests sometimes also seek in-kind or financial contributions from the City. Requests for Letters of Support are to be put forward to the Parks Conservation Officer **at least one week prior** to when the letter is needed. If financial contributions are being sought from the City, such requests should be submitted prior to the end of the calendar year (for the following financial year) to better align with the City's budgeting processes. Approval of the City's financial budget occurs after the 1st of July through Council endorsement.

2.1.9 Training and Development

The City is committed to supporting training aimed at improving the skills and capabilities of environmental community group members. Any training needs identified by community groups should be discussed with the City.

The City will seek and support training and professional development opportunities for community groups by providing a venue and facilities and by engaging local experts, where possible. At times, this may be dependent on available funding. Groups will be notified of any workshops and courses that may be of interest to them.



Photo 2: Canning River Residents Environmental Protection Association members potting plants at City nursery

2.1.10 GIS, Spatial Data and Mapping

The Environmental Planning Tool (EPT) is a geographic information system (GIS), specially designed to assist Local Government strategic, statutory and environmental land use planning and decision making. It is also available for the public to use and can be a useful tool for environmental community groups. It can be used as a standalone product, or to support any existing GIS software.

Local Governments use the EPT for a range of purposes including:

- Assessing and reporting on environmental implications of development proposals;
- Mapping, planning and communicating Local Government works;
- Strategic planning for local biodiversity plans;
- Identifying regionally and locally significant bushland, vegetation type and status;
- Generating maps and sourcing information to support grant applications; and
- Supporting local community / friends groups in managing bushland areas.

The EPT is more than just a data viewer as users can also:

- create map layers;
- generate and print maps;
- share map files;
- upload information from devices such as GPS and smart-phones; and most importantly
- interpret data and legislation relevant to project areas through the environmental considerations report.

To access the Environmental Planning Tool (public version), visit the following website:

http://lbp.asn.au/index_public.html

For guidance on using the Environmental Planning Tool system, contact the WA Local Government Association (WALGA) or the City of Canning Coordinator Conservation and Environment.

2.1.11 Reward and Recognition

In 2013, the City installed an Environmental Volunteer Honour Board at the Canning River Eco Education Centre to recognise the significant efforts made by long standing local community volunteers in the conservation of natural areas throughout the City. Nominations are sought annually for outstanding efforts by members of environmental community groups and organisations.



Photo 3: City of Canning Environmental Volunteer Honour Board. Made by the Men's Shed organisation out of wooden heritage weir boards from the Kent St Weir.

2.1.12 Meetings

Where the City is involved in a partnership arrangement with a group or committee for a particular task or project and a meeting or workshop is to be arranged, the City can book the meeting room at the City's Administration Centre or the Canning River Eco Education Centre and waive the booking fees.

The City can also arrange and cover the cost of food catering for certain meetings (e.g. AGM meetings) held at the City's facilities. Tea and coffee is also available.

3.0 MANAGEMENT OF ENVIRONMENTAL COMMUNITY GROUPS AND ORGANISATIONS

3.1 GETTING STARTED

Environmental community groups are usually established when individuals, with a passion or interest for a particular natural area or issue, come together in an attempt to have a positive impact in a particular area. Groups can range from a large incorporated group with a broad range of interests to a small informal group of friends with a single area of interest. For individuals who are considering establishing a new group, it is beneficial to work collaboratively with existing groups in the region to achieve effective outcomes for natural areas.

Groups work in their own time, at their own pace and can choose the activities undertaken based on needs, expertise, abilities, time, resources and the conservation objectives relating to the reserve. It is recommended that groups develop a simple Work Plan to help guide outcomes. An example of a Work Plan can be found in Appendix Four.

Anyone considering establishing a new group or with an interest in joining an existing local group can contact the City for advice.

The known environmental community groups and organisations currently operating in the City of Canning are listed in Table 2.

Table 2: Environmental community groups and organisations in the City of Canning

GROUP	AREA OF INVOLVEMENT
Bannister Creek Catchment Group	Bannister Creek and Perth's South East Region
Canning River Regional Park Volunteers	Canning River Regional Park, mostly between Nicholson Road Bridge in the east and Adenia Lagoon near the western end of the park.
Canning River Residents Environment Protection Association Inc.	Canning River, in particular the Yagan Wetland Reserve and the Rossmoyne/Shelley Foreshore
Friends of Queens Park Bushland	Queens Park Regional Open Space
Friends of Rossmoyne Park	Rossmoyne Park
South East Regional Centre for Urban Landcare	Perth's South East Region
Water Bird Conservation Group	Southern Suburbs wetlands, particularly in the Canning River Regional Park
Wilson Wetlands Action Group	Wilson Wetlands
Canning River Regional Park Advisory Committee	Canning River Regional Park, strategic advice and advocacy Note: This is a Committee and not a community group, operating in accordance with terms of reference with the Department of Parks and Wildlife

More information and the contact details for these groups is provided in Section 7.0 of this manual and on the City's website:

<http://www.canning.wa.gov.au/Conservation-Environment/community-groups.html>

3.1.1 Objectives, Roles and Responsibilities

For effective direction and management of groups, it is important to establish objectives. An excellent way to do this is by preparing a mission statement document or a constitution. This can also be a legal requirement for groups wanting to become incorporated.

The roles and responsibilities of a group vary widely depending on the interests, skills, size and history of the group.

Some responsibilities that are common to all groups are:

- to ensure that the group is registered with the City of Canning (refer to the Form in Appendix Two);
- to undertake work in a way that is safe for volunteers and the wider community;
- to report any safety incidents to City;
- to advise the City of any upcoming works and activities on City managed land in an effort to minimise double-up of activities (e.g. weed spraying) and to minimise any safety risks. This can be done in the form of a Work Plan (refer to Section 3.1.5 in this manual);
- to maintain up-to-date records of conservation activities for insurance and reporting purposes;
- to provide basic Annual Reports to the City (refer to Section 3.4 and Appendix Seven);
- to maintain up-to-date records of all community group members and registers of event and work day participants (refer to Appendix Three); and
- to communicate the City's requirements to all members of the group.

3.1.2 Knowing Your Site

Natural areas within the City of Canning fall under the tenure of a number of organisations such as the City of Canning, Department of Parks and Wildlife and private stakeholders.

The City has mapped the locations of key natural areas within the City of Canning and can provide information on individual sites upon request, including tenure/owner/management details, zoning classifications, maps and other facts relating to flora and fauna on the site.

3.1.3 Attracting and Retaining Group Members

For existing groups or new groups that are setting themselves up for the first time, it will be necessary to recruit new members.

Attracting Volunteers

Encouraging members of the community to become involved in bush-care activities can provide many environmental, recreational and social benefits.

Some ways in which you can attract new members:

- Discuss with the Coordinator of Conservation and Environment or Parks Conservation Officer.
- Develop a website and use social media (e.g. Facebook, Twitter, Instagram).
- Promote your group on other websites.
- Contact local schools, universities and other educational establishments.
- List your group on the Volunteering WA website: www.volunteeringwa.org.au
- Set up promotional stalls at festivals, fairs and other events.
- Get involved in high profile events, such as National Tree Planting Day and Clean Up Australia Day, and invite local residents along.
- Outline the personal benefits to people, (e.g. resume improvement, meeting new people, new skills, personal satisfaction in doing something they believe in, regular get-togethers or events).

- Consider opportunities such as the Green Army (Department of Environment) and Work for the Dole (Department of Employment) schemes.

Retaining Volunteers

- Show appreciation, reward and recognition.
- Make it easy for people.
- Be flexible so that people can fit volunteering in with their other commitments.
- Provide opportunities for shorter commitment (e.g. one off work days or project based work).
- Make the jobs sound exciting (e.g. “Enjoy the Beautiful Outdoors!” not “Weeding Day”).
- Involve people in decision –making, planning and leadership to give them a sense of ownership over tasks.
- Give feedback and listen to feedback.
- Provide adequate training and guidance.
- Support people’s particular interests.
- Provide opportunities for volunteers to network and interact with each other, help them to develop relationships, help foster a team ethos.
- Treat mistakes as learning exercises, support your volunteers, do not undermine their confidence.
- Be organised, clear and concise.
- Regularly communicate with group members (e.g. newsletters, emails).



Photo 4: Planting day at Bannister Primary School

3.1.4 Registration of Group and Volunteers

Registration of Environmental Community Groups and Organisations with the City of Canning

Environmental Community groups and organisations undertaking conservation activities on City managed land are considered “volunteers” and as such a group is required to register with the City of Canning. The Environmental Community Group and Organisation Registration Form is provided in Appendix Two.

Registration of Volunteers

Registration of individual “volunteers” within the group should be undertaken by the group. The membership register should be updated on a regular basis (e.g. annually). An example of a Member Registration Form is provided in Appendix Three.

Community groups should make themselves aware if volunteers have any allergies (e.g. bees) or medical conditions (e.g. diabetes, heart conditions, asthma etc.).

The list of current group members should be available for the City to view, upon request.

Working with Children Checks

The Working with Children Check is a comprehensive criminal record check for certain people in child-related work in Western Australia. This is a legal requirement, including for community groups and organisations working with children for conservation events. The Working with Children Check aims to increase the safety of children in our community by helping to prevent people who have a criminal history that indicates they may harm children from working with children.

For further information, visit the WA Government Working with Children website:

<http://www.checkwwc.wa.gov.au/checkwwc>

Police Checks

A National Police Certificate, (NPC) lists an individual’s criminal and WA traffic court outcomes and pending charges that are deemed disclosable at the time of application. The certificate is used by many employers and licensing bodies for their screening process. It is recommended that community groups and organisations undertake police checks on their volunteers as part of their volunteer screening and appointment process.

For further information, visit the WA Police website:

<http://www.police.wa.gov.au/OurServices/InformationAccess/NationalPoliceCertificates/tabid/1339/Default.aspx>

The Department of Local Government and Communities and WA Police have established a program enabling eligible West Australian volunteering organisations to provide their volunteers with a National Police Check for a reduced fee. Volunteers who already have a Working with Children Check can obtain their National Police Check at no cost. The program is open to any organisation that has volunteers, including Federal Government, State Government, local government and private and community sector organisations.

For further information, visit the WA Government Department of Local Government and Communities website:

<http://www.communities.wa.gov.au/communities-in-focus/volunteers/Pages/National-Police-Check-for-Volunteers-Program.aspx>

3.1.5 Work Plans

Scheduled planning of activities can enhance the work carried out by community groups on City reserves. It is recommended that community groups develop a Work Plan prior to the commencement of activities each financial year (e.g. 1 July 2015 – 30 June 2016).

There is no set template for the format of a Work Plan, however it would generally be 1-5 pages in length and address issues such as a map of the area in which you are undertaking activities, weeding plans, revegetation plans and other bushcare activities. A Work Plan can also include information on flora and fauna species on site, priority weed species and photographic records.

City Officers can assist your community group in the development of a Work Plan. Please contact the City's Parks Conservation Officer if you would like assistance.

For an example of the types of Work Plans being developed by the City for natural area site management, refer to Appendix Four. However, please note that the Work Plans developed by the City are comprehensive. Groups may wish to consider developing more simplified Work Plans.

3.1.6 Insurance and Public Liability

Insurance Cover for Unincorporated Groups

For insurance purposes, unincorporated environmental community groups and organisations (volunteers) undertaking conservation activities on City managed land come under the direction and control of the City of Canning and as such are covered by the City's insurance policy for:

1. Personal Accident & Travel - following accident or injury or travel accident whilst engaged in activities authorised by the City.
2. Public Liability (but with restrictions) - covers Council's legal liability to pay compensation to third parties for bodily injury and/or property damage arising from negligence by a volunteer group engaged in authorised activity.

Unincorporated groups will need to adhere to the safety requirements of the City of Canning.

Unincorporated group coordinators are to ensure all conservation events/activities receive prior approval from the City. Events which have not received written approval from the City are not covered under the City's insurance policy. The City must receive a written request detailing the nature of the events/activities, site locations and dates that the events/activities are to take place.

This written request may be in the form of a site specific Work Plan (refer to Section 3.1.5). These insurance requirements are mandatory and volunteers cannot be involved in active conservation events without adhering to these requirements.

Insurance Cover for Incorporated Groups

Incorporated environmental community groups and organisations (volunteers) undertaking conservation activities on City managed land are NOT covered by the City's insurance policy. Under legislation, incorporated groups are considered separate legal entities and therefore are required to have their own insurances for Public Liability and Personal Accident Cover. Registered volunteer members of such groups are therefore covered under their group insurances rather than that of the City.

Many groups elect to become incorporated groups for the following benefits:

- Simplifies and clarifies the management and ownership of the money and other assets of the body. The association can enter into contracts.
- Provides some legal and financial protection.
- Clarifies and formalises the objectives of the association (also known as the constitution).
- Sets out regulations about how the association shall operate, providing protection against dishonesty and other matters such as conflict of interest.

- Allows organisations to apply for a much wider range of public and private funding. Many government and philanthropic organisations make it a basic requirement that applicants for funding are incorporated.
- Allows some incorporated bodies to enjoy tax advantages.

Once incorporated, there are some regular compliance tasks required such as the keeping of records, holding of elections and submitting of returns.

The City recommends that incorporated groups have secure certificates of currency for Public Liability to a minimum value of \$10,000,000. Additionally, the City recommends that incorporated conservation volunteer groups consider Personal Accident Cover for Death and Capital to the sum of \$50,000.

A copy of the group's insurance details must be provided to the City on an annual basis.

Incorporated groups will need to adhere to both the safety requirements of the City of Canning and the safety guidelines set out by their insurer.

Insurance Cover at Events

It is recommended that all groups provide adequate insurance cover when they hold conservation events, such as planting and weeding days.

For example, when the City conducts a conservation event (or an unincorporated group conducts a conservation event under the direction of the City), any volunteers between the ages of 5 and 90 years of age who engage in City-approved conservation events are covered under the City's personal accident policy and public liability policy.

There are a number of requirements that should be adhered to ensure adequate cover is provided in the event of an accident or insurance claim. These include the following requirements:

- Complete and sign a Volunteer Registration Form. This is a one off form which needs to be completed before engaging in any conservation event tasks and ensures that the volunteer's personal details are recorded on the City's conservation volunteer database (or the incorporated group's volunteer database). An example of this form can be found in Appendix Three.
- Sign in and out of the conservation event using the Work Day Registration Form. A Work Day Registration Form should be completed for each event. An example of this form can be found in Appendix Five.
- Children between the ages of 5 and 15 years of age may only participate in conservation events when they are under the direct supervision of their parent or guardian.



Photo 5: Children from Friends of Rossmoyne Park helping to water seedlings

3.2 HEALTH AND SAFETY

3.2.1 Duty of Care

Groups have a duty of care to provide safe working conditions for volunteers. The safety of volunteers whilst working in the natural areas must be considered and appropriate steps taken by groups and individual volunteers to create and maintain a safe working environment. The City can provide advice on safe working methods.

In the event of an incident or accident on City Managed land a report to the City should be completed as soon as is reasonably practicable. Contact the City immediately following an incident or accident for guidance on the reporting process.

3.2.2 Worksafe

The Department of Commerce provides a wide range of safety and health practices and guidelines for the workplace, including:

- occupational safety and health law standards;
- forms and applications;
- safety and health topics; and
- toolbox information items.

For further information, visit the Worksafe website: <https://www.commerce.wa.gov.au/worksafe>

3.2.3 Personal Protective Equipment

To protect from sun, insects and sharp objects volunteers should wear:

- long pants
- long sleeved shirts
- closed in footwear (and steel cap boots where appropriate)
- gloves (when doing manual work)
- hats (wide brim or legionnaires cap) and sunscreen (SPF15+)
- sun or safety glasses
- insect repellent (particularly when working near mosquito habitats)

3.2.4 Risk Assessments and JSEAs

Prior to work commencing, group organisers should assess potential risks that exist in the work areas and communicate these to volunteers. If significant risks exist and cannot be avoided or controlled, work should not commence. Site specific safety equipment and procedures may be required for some tasks as identified by the risk assessment.

It is recommended that a Job Safety and Environmental Analysis (JSEA) form be completed prior to commencing activities on site and that this information be discussed with volunteers prior to them engaging in any tasks on site. A JSEA is a written procedure developed to review work steps and their associated hazards in order to put in place correct solutions to eliminate or minimise the risk of those hazards.

A JSEA would generally be developed once a year and in the case of community groups, signed off by those group members who would normally supervise conservation activities on site. JSEAs should be reviewed on an annual basis, and amended as the need arises.

Refer to Appendix Six for an example of a JSEA developed by the City.

Some of the JSEAs that the City has developed for conservation activities undertaken by the City's Natural Areas Team include:

- Brush cutting
- Dieback treatment
- Green waste collection and disposal
- Hand weeding
- Herbicide/chemical preparation and application
- Fence repair
- Planting
- Vegetation monitoring
- Plant handling and transportation
- Rubbish collection
- Tree pruning
- Foreshore restoration
- Smoking
- Fauna rescue

Community groups may wish to review and consider adopting the same, or slightly modified, JSEAs as those listed above.

For a copy of the above JSEAs and for assistance in developing JSEAs please contact the City's Parks Conservation Officer.

Further information on JSEAs can also be found on the Worksafe WA website:

<https://www.commerce.wa.gov.au/publications/job-safety-analysis-jsa>



Photo 6: Australasian Grebe (*Tachybaptus novaehollandiae*) swimming in the Canning River

3.2.5 First Aid

First aid kits should be present at all work days and events. The kits should be checked before each event to ensure they are fully stocked and that any items have not expired. The first aid kit should provide basic equipment for administering first aid for injuries including:

- cuts, scratches, punctures, grazes and splinters
- muscular sprains and strains
- minor burns
- amputations and/or major bleeding wounds
- broken bones
- eye injuries
- shock

For further advice on First Aid kits and training, contact Worksafe WA.

3.2.6 Herbicides/Pesticides

The City discourages the use of herbicides/pesticides by groups on City managed land.

Only Roundup Biactive is to be used for weed spraying on City reserves, with written approval from the City. Roundup Biactive differs from Roundup in that it does not have as damaging a surfactant in it, which minimises the risk to frogs. Community groups should read the (Material) Safety Data Sheet [(M)SDS] applicable to the product. All herbicides should be used in accordance with the label or off-label permits. Training in the use of herbicides is recommended.

Pesticides may be used to manage feral pests, such as European Honey Bees, with written approval from the City.

The City should be notified of the intended use of herbicides/pesticides by groups on City reserves as part of the annual Work Planning process (refer to Section 3.1.5), or prior to the application of chemicals if no Work Plan exists. Chemical use records should be provided to the City on an annual basis, as part of the Annual Reporting process (refer to Section 3.3).

3.2.7 Manual Tasks

The management of natural areas usually involves physical tasks such as weeding, carrying, pushing, lifting and pulling.

A high level of care must be taken to avoid injury from incorrect manual handling. To minimise the risk of injury, volunteers should:

- Know their limits and ask for assistance, as required.
- Warm up cold muscles with gentle stretches before engaging in any manual work.
- Lift and carry heavy loads correctly by keeping the load close to the body.
- Never attempt to lift or carry loads if you think they are too heavy. Use mechanical aids or get help to lift or carry a heavy load whenever possible
- Pushing a load (using your body weight to assist) will be less stressful on your body than pulling a load.
- Organise the work area to reduce the amount of bending, twisting and stretching required.
- Take frequent breaks.
- Cool down after heavy work with gentle, sustained stretches.
- Exercise regularly to strengthen muscles and ligaments.

The City's Natural Areas Team may be able to assist in manual tasks, particularly where mechanical aids and equipment would be required (e.g. a bobcat for relocating logs). Contact the Parks Conservation Officer for assistance.

For further tips on the correct manual handling techniques, contact Worksafe WA or refer to the Code of Practice for Manual Tasks issued by the Commission for Occupational Safety and Health under the *Occupational Safety and Health Act 1984*.

3.2.8 Children

To ensure the safety of children present during works it is essential that they have adult supervision at all times. The bushland, especially in areas around wetlands and the river can present an increased risk to children and adequate care must be taken.

3.2.9 Weather Conditions

Assessing weather conditions prior to undertaking activities is an important aspect of the site risk assessment that community groups should undertake prior to activities.

When working in hot weather there should be:

- regular breaks and water provided;
- activities undertaken in shaded areas where possible;
- work carried out in the cooler parts of the day; and
- activities ceased if conditions are too extreme or volunteers are showing signs of fatigue or distress.

In cold conditions, there should be:

- regular breaks and warm drinks (tea/coffee) provided;
- warm up stretches before carrying out physical tasks;
- rotation of tasks to limit exposure of volunteers to cold and wet conditions;
- identification of nearby sheltered areas;

- work carried out in the warmest parts of the day, where possible; and
- layered warm or wet weather gear worn by volunteers.

With the impacts of Climate Change increasing, there is more risk of volunteers being exposed to extreme weather conditions and events. Adequate precautions should be taken at all times.

3.2.10 Working Alone

Volunteers should not work alone on site, if possible. Volunteers may expose themselves to risks when working alone on site. Some of the risks may include physical injury and limited ability to seek help, snake bites, allergic reactions, asthma attacks and other medical emergencies, as well as limited phone coverage in natural areas.

In cases where working alone is the only option, the following precautions are recommended:

- Adhere to all occupational safety and health requirements.
- Bring a first aid kit and water.
- Do not use power tools, such as chainsaws.
- Do not operate or carry out work on an Elevated Work Platform.
- Do not work alone if you have a pre-existing medical condition.
- Bring a mobile phone, keep it on you at all times and test the coverage prior to going out on site.
- Program emergency and contact numbers into your mobile phone, including your ICE (in case of emergency) phone number in case emergency personnel need to contact your family or main contact in case of emergencies.

In your risk assessment of the site, check the surrounding area for houses and people you could obtain assistance from in case of emergency.



Photo 7: A Bannister Creek Catchment Group member admiring the Kangaroo Paw flowers

3.2.11 Mechanical Equipment

Chainsaws

Chainsaws should not be used without the operator having accredited training with a certified provider. Volunteers should be able to provide evidence of this training to the City upon request and prior to undertaking activities that involve a chainsaw.

According to WorkSafe:

- A chainsaw in untrained hands is a lethal weapon. Most injuries are deep gashes to the hands, knees, feet and head. In logging operations, chainsaw injuries are as common to the head, shoulders and upper arms as to the hands, legs and feet.
- The first line of defence against injury is instruction and training, under the supervision of a trained and experienced person.
- The sharper the chain, the safer the job. A blunt chain requires more effort and increases fatigue, both of which can lead to kickback accidents.
- The major injury risk is from kick-back, the violent reaction triggered when the upper quadrant of the chain bar tip meets resistance.
- Even modern safety features, such as the chain brake and inertia brake, cannot be guaranteed to prevent kickback injury, which can happen faster than human reflexes. The safest way is to avoid kickback situations.
- More than 50 people are injured by chainsaws at work in WA each year.

Contact Worksafe WA for further information.

Elevated Work Platforms

According to Worksafe WA, the *Occupational Safety and Health Regulations 1996* define a Boom-Type Elevated Work Platform as:

‘A telescoping device, hinged device, or articulated device or any combination of these used to support a platform on which personnel, equipment and materials may be elevated to perform work. Excluded from this definition are elevating work platforms of less than 11 metre boom length.’

A High Risk Work Licence is required for work undertaken on Elevated Work Platforms with booms of 11 metres or more. Whilst a High Risk Work Licence is not required to operate Elevating Work Platforms with booms less than 11 metres, employers have a Duty of Care responsibility, under Section 19(1)(b) of the *Occupational Safety and Health Act 1984*, to provide systems of work and information, instruction and training to their employees who operate them. Employers have this Duty of Care responsibility irrespective as to whether or not their Elevated Work Platform requires licenced operation.

Brush-cutters

Brush-cutters with metal blades should be used with caution. It is recommended that any volunteers operating small plant equipment, such as brush-cutters, undertake training prior to using such equipment.

Manufacturer’s instructions should be adhered to in the operation of mechanical equipment, equipment should be serviced regularly and personal protective equipment such as eye protection, hearing protection, steel cap boots and gloves should be used.

3.2.12 Signs

It is recommended that temporary signs be erected during conservation works to inform passers-by or other people working in the area of the presence of volunteers or contractors in bushland. The signage can also advise the public of potential trip hazards posed by hoses or equipment, the current usage of chemicals or herbicides in the area and the increased presence of volunteers on paths and roads. Signs are also a useful way of promoting the conservation activities of your community group.

More permanent signs, such as snake warning signs, do not feed the birds signs, vegetation damage signs and interpretive signs, must not be installed in the City’s reserves without the written approval of the City.

3.2.13 Events

Events can present an excellent opportunity to promote the conservation activities of your group and conduct weeding and planting work days. They are also an opportunity to educate the wider public in environmental matters, conduct guided tours (e.g. bird surveys and bushwalking tours) and introduce new people to your group.

Some of key environmental events are summarised in Table 3.

Table 3: Environmental Event Dates

EVENTS	DATES
World Wetlands Day	Feb 2
Clean Up Australia Day	First Sunday of March
World Wildlife Day	March 3
World Environment Day	June 5
Schools Tree Day	Last Friday of July
National Tree Day	Last Sunday of July
Keep Australia Beautiful Week	last full week of August
Bushcare Major Day Out	September
Bird Week	last full week of October
National Water Week	
Blessing of the River	November
Business Clean Up Day ,Schools Clean Up Day	Any day of the year



Photo 8: World Environment Day Landcare Corporate Day Woodside 2007



Photo 9: Clean Up Day Australia 2013, Canning River Regional Park

A comprehensive list of environmental days and events can be found on the Department of the Environment's website: <http://www.environment.gov.au/about-us/media-centre/events>

In addition, community groups should consider regular scheduled work days to carry out conservation activities that would be of benefit to the chosen site. Such activities may include:

- Weeding
- Planting
- Watering
- Rubbish collection

Other considerations may include:

- Promotion of event
- Site risk assessments prior to commencing the work
- Portable toilets (a portable toilet can be borrowed from the City)
- Food and drinks, especially water
- Shade (e.g. trees, marquee)
- Tools and equipment (the City's Natural Areas Team can assist in the loan of trowels and gloves)
- Personal protective equipment
- Volunteer Registration Forms (refer to Appendix Three)
- Work Day Registration Forms (refer to Appendix Five). Sign in and out of the conservation event. A Work Day or Event is an organised event where volunteers are invited to participate in conservation activities, under the instruction and supervision of the group or the City of Canning.
- Watering in new plants (the City's Natural Areas Team can assist)
- Bamboo stakes for new seedlings (the City's Natural Areas Team can assist)
- Weed/rubbish bags – provision, collection and disposal (the City's Natural Areas Team can assist)
- Children between the ages of 5 and 15 years of age may only participate in conservation events when they are under the direct supervision of their parent or guardian.

The City's Natural Areas Team may be able to assist your community group in conservation events (i.e. set up and participation), with prior arrangement.

3.3 ANNUAL REPORTING

The City requests that all active groups complete an Annual Report form and submit this to the City by 30th June each year (refer to Appendix Seven).

The Annual Report form will contain the following information, relevant to the financial year:

- Confirmation that your group still exists and is active in the City.
- Map of area in which your group is still operating. This may reduce or expand over time.
- Number of members.
- Total number of volunteer hours worked in the year.
- Number of plants installed.
- Details of any seed collection or propagation undertaken.
- Details of any grant funding.
- Number of work days/conservation events.
- Overall comments on the conservation activities and achievements undertaken by the group at the site and the impact this had made.
- Any data collected (e.g. flora and fauna surveys).
- Any attachments that the group would like to include in support of the Annual Report.
- Other comments (e.g. Is there any further support you would like from the City?)

If the group already prepares its own Annual Report that contains the above information, then the group's Annual Report can be submitted in place of the Annual Report form provided in Appendix Seven.

The Annual Report will assist in:

- providing a record of activities undertaken on the City's reserves;
- allowing the City to continue to provide effective support to the community group;
- the City planning for future budget and resource allocation for the reserve; and
- demonstrating the valuable contribution made by volunteers in conservation and environmental management of sites throughout the year.

3.4 FUNDING

There are a number of external sources of funding available to community groups in the form of grants and employment and training programs (e.g. State NRM, Riverbank Funding, SGIO, Lotterywest, Green Army, Work-for-the-Dole scheme). Any applications for funding for conservation activities that will be carried out on the City's reserves will require approval from the City. Notification of works to be carried out on non-City-managed land that is within boundaries of the City of Canning is also desirable. Normally, a letter of support from the City will suffice as an attachment to most grant applications.

Intentions to seek funding should be included in the community group's annual Work Plans and discussed with the City's Parks Conservation Officer to ensure that the proposed activities/projects are consistent with current management strategies for the site. Ensuring that the City has reviewed your grant application will also allow the City to consider any resourcing implications.

Funding that has been secured for works carried out on City reserves should be included in the group's Annual Report at the end of the financial year.

For information on how the City can support grant projects, providing in-kind contributions and letters of support, refer to Section 2.1.8 in this manual. The City can also assist groups in preparing grant applications. Contact the Parks Conservation Officer for assistance.

City of Canning Community Partnership Fund

The City of Canning has a vision for a future where economic development, environmental management and social wellbeing are considered in decisions and plans. The City is committed to protecting our unique natural environment and working in partnerships with groups and the community to enhance the health, wellbeing and sustainability of our community. To achieve this, the City's Community Partnership Fund grant

program provides financial (cash) and in-kind assistance to groups, individuals and organisations that plan to provide programs and services which enrich the diversity of cultural, social, environmental and economic development opportunities available to Canning ratepayers. The Community Partnership Fund is aligned with the City of Canning Strategic Community Plan 2013-2022 to ensure key priorities are achieved. Grants range in value from \$100 to \$5,000.

The Community Partnership Fund Guidelines provide further information on the grants available from the City of Canning. For further information on the Community Partnership Grant, contact the City's Grants / Sponsorship Officer on 1300 422 664 or by emailing customer@canning.wa.gov.au.

3.5 COMMUNITY GROUP CHECK LIST

Have you registered your community group with the City of Canning? (Refer to Appendix Two)	<input type="checkbox"/>
Have you registered your individual volunteers? (Refer to Appendix Three)	<input type="checkbox"/>
Is the individual volunteer information available to the City upon request? (Refer to Section 3.1.4)	<input type="checkbox"/>
Have you prepared an annual Work Plan and discussed this with the City, including the intended use of herbicides on City reserves? (Example presented in Appendix Four)	<input type="checkbox"/>
Have you set up a Work Day Registration Form for conservation events (e.g. planting days) (Refer to Appendix Five)	<input type="checkbox"/>
Are the Work Day Registration forms available to the City upon request? (Refer to Appendix Five)	<input type="checkbox"/>
Have you addressed your group's insurance cover? (Refer to Section 3.1.6)	<input type="checkbox"/>
Are your volunteers trained in occupational safety and health requirements? (Refer to Section 3.2)	<input type="checkbox"/>
Have you prepared JSEAs for the conservation activities that your group are undertaking on site? (Refer to Section 3.2.4)	<input type="checkbox"/>
Do you have first aid kits available for your volunteers? (Refer to Section 3.2.5)	<input type="checkbox"/>
Have you set up a risk assessment process for the activities you carry out on City reserves? (Refer to Appendix Six)	<input type="checkbox"/>
Are you able to submit an Annual Report to the City on your community group's activities? (Refer to Appendix Seven)	<input type="checkbox"/>

4.0 EXISTING ENVIRONMENT

The existing natural environment areas in the City contain a diverse range of ecosystems and communities, including riverine and wetland systems, pockets of remnant vegetation and Bush Forever sites. Some of the key features of these natural areas are presented below.

4.1 RIVERS AND WETLANDS

4.1.1 Canning River and Canning River Regional Park

The Canning River and foreshore contain significant areas for conservation, recreation and community connection. The river represents one of the key attractions in the City and is managed by the Department of Parks and Wildlife (Rivers and Estuaries Division).

A significant portion of the river and associated tributaries and wetlands are contained within the Canning River Regional Park which extends from Nicholson Road Bridge to Shelley Bridge. The Park is located nine kilometres South East of Perth and extends for approximately six kilometres along both sides of the Canning River. The Park covers an area of 266 hectares and contains some of the best estuarine vegetation and fauna habitats in the Swan Canning Riverpark system.

4.1.2 Wetlands

The wetlands in the City are areas of high biodiversity and environmental value. Historically, the wetlands have been impacted on by a range of factors, including urbanisation, agricultural activities and pollution. This has reduced the quality and function of these essential ecosystems. These wetlands are now actively managed and conserved by the City and groups and stakeholders. Some of the key wetlands in the region are located in Yagan Wetland Reserve, Bannister Creek, Wilson Wetlands, Queens Park, Wharf Street, Liege Street and Anvil Way Living Stream.

4.2 VEGETATION TYPES

Vegetation types in the City of Canning can be grouped into vegetation complexes on the basis of patterns in soil and geomorphology. Groups should be aware which vegetation complexes their areas of interest fall within, as revegetation works should attempt to mimic what was previously present in an area. Particular species that should be promoted are those that are dominant and provide most of the vegetation structure (e.g. tree canopy, understorey shrubs).

Hedde, Loneragan and Havel (1980) mapped and described the vegetation of the Darling System in Western Australia, based on shared distinctive characteristics such as flora species composition, soil types and landform. The complexes identified as occurring within the City are listed in Table 4 and their distributions in the City illustrated in Figure 2. Groups should refer to this figure to determine which vegetation complex their site or sites fall within.

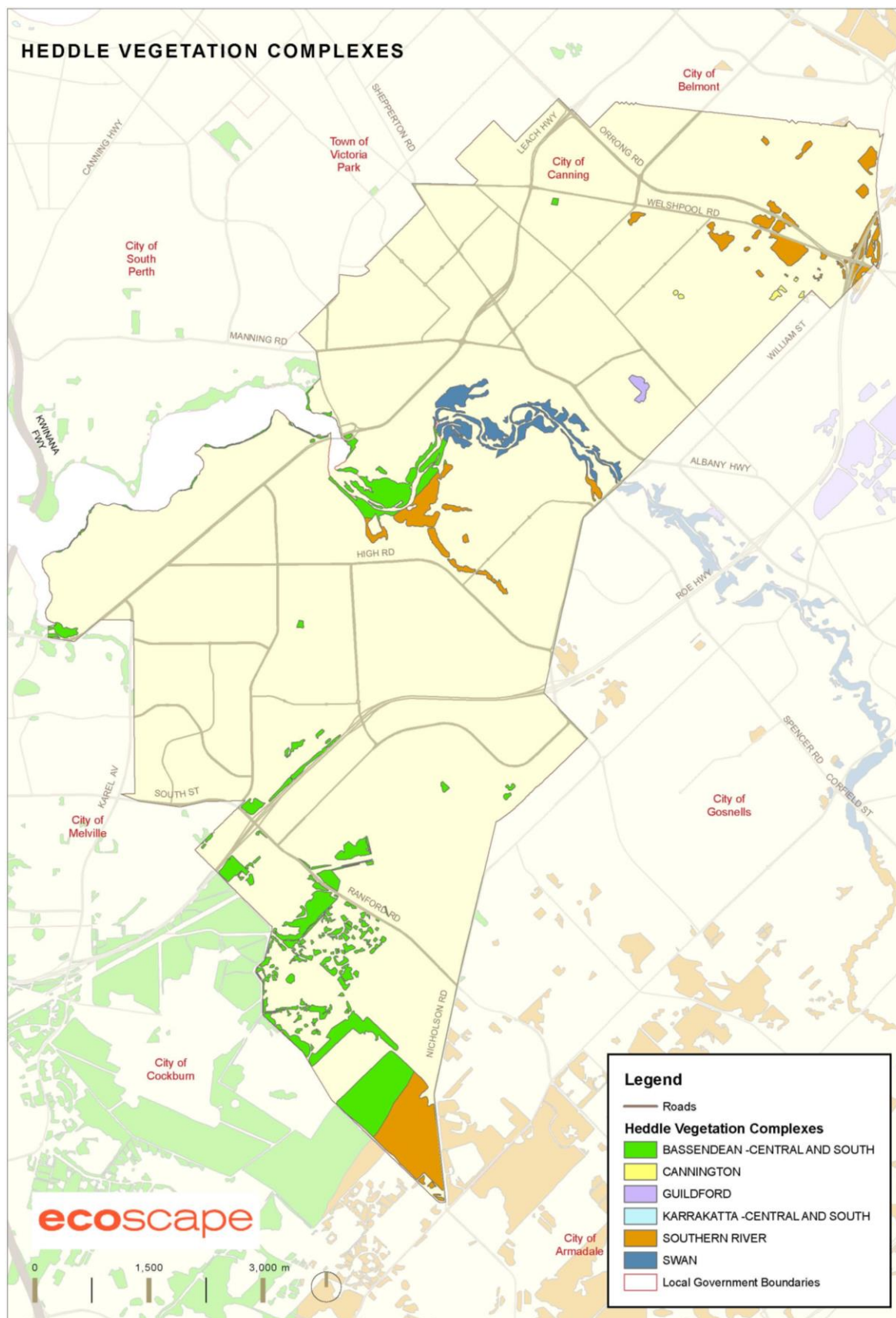


Figure 2: Heddle Vegetation Complexes in the City of Canning

Table 4: Heddle Vegetation Complexes in the City of Canning

NAME	DESCRIPTION
BASSENDAN - CENTRAL AND SOUTH	Vegetation ranges from woodland of <i>E. marginata</i> - <i>C. fraseriana</i> - <i>Banksia</i> spp. to low woodland of <i>Melaleuca</i> spp. and sedgelands on the moister sites. This area includes the transition of <i>E. marginata</i> to <i>E. todtiana</i> in the vicinity of Perth.
CANNINGTON	Mosaic of vegetation from adjacent vegetation complexes of Bassendean, Karrakatta, Southern River and Vasse.
GUILDFORD	A mixture of open forest to tall open forest of <i>E. calophylla</i> - <i>E. wandoo</i> - <i>E. marginata</i> and woodland of <i>E. wandoo</i> (with rare occurrences of <i>E. lane-poole</i>). Minor components include <i>E. rudis</i> - <i>M. raphiophylla</i> .
SWAN	Fringing woodland of <i>E. rudis</i> - <i>M. raphiophylla</i> with localised occurrence of low open forest of <i>C. obesa</i> and <i>M. cuticularis</i> .
SOUTHERN RIVER	Open woodland of <i>E. calophylla</i> - <i>E. marginata</i> - <i>Banksia</i> spp. with fringing woodland of <i>E. rudis</i> - <i>M. raphiophylla</i> along the creek beds.

4.3 NATIVE FLORA AND FAUNA

4.3.1 Common Local Native Flora and Fauna

For information on local native plant species and tips for growing local plants, refer to the Grow Local Plants (Central Soils) brochure. A copy of this brochure can be obtained from the City upon request. Alternatively, visit the following website to download a copy:

<http://issuu.com/swanrivertrust/docs/poster-grow-local-plants-central/1>

Information on some of the common trees and vegetation in the City can be found on the City's website:

<http://www.canning.wa.gov.au/Conservation-Environment/flora-in-our-city.html>

A brochure on native fauna in the City can be obtained from the City upon request.

Information on common fauna in the City is also provided on the City's website:

<http://www.canning.wa.gov.au/Conservation-Environment/fauna-in-our-city.html>



Photo 10: Three and a half month old Black Swans (*Cygnus atratus*)



Photo 11: Native Wisteria (*Hardenbergia comptoniana*)

4.3.2 Protected Flora, Fauna and Ecological Communities

Some flora, fauna and ecological communities in the City are protected under the *Environment Protection Biodiversity Conservation Act 1999* and the *Wildlife Conservation Act 1950*.

For detailed information on threatened and priority flora and fauna in the City of Canning, refer to the City's Environment Management Strategy. A copy of this document can be obtained from the City upon request. Alternatively, visit the following website: <http://www.canning.wa.gov.au/E/environment-management-strategy.html>

The City manages two Threatened and one Priority flora species, as listed by the Department of Parks and Wildlife. These species are:

- *Caladenia huegelii* (Grand Spider Orchid)
- *Macarthuria keigheryi*

Fauna species of focus in the City include:

- *Calyptorhynchus banksia* (Red-Tailed Black Cockatoo)
- *Calyptorhynchus baudinii* (Baudin's Black Cockatoo)
- *Calyptorhynchus latirostris* (Carnaby's Black Cockatoo)
- *Merops ornatus* (Rainbow Bee-Eater)
- *Hydromys chrysogaster* (Water Rat)
- *Isoodon obesulus* subsp. *fusciventer* (Quenda)

Information on some of the significant flora is also provided on the City's Conservation and Environment section of the website:

<http://www.canning.wa.gov.au/Conservation-Environment/conservation-of-significant-flora.html>

Information on some of the significant fauna is provided on the City's website:

<http://www.canning.wa.gov.au/Conservation-Environment/conservation-of-significant-fauna.html>



Photo 12: The rare Grand Spider Orchid (*Caladenia huegeli*)



Photo 13: Quenda (*Isodon obesulus* subsp. *fusciventer*)

5.0 ASSESSMENT AND PLANNING

5.1 WORK PLANS

It is recommended that community groups prepare a Work Plan prior to the commencement of conservation activities each financial year, to help guide the conservation works carried out on site. A Work Plan can be useful in ensuring that objectives are met and activities are consistent with management strategies. For more information on Work Plans, refer to Section 3.1.5 of this manual.

An example of a Work Plan is provided in Appendix Four. A more simplified Work Plan can be developed by community groups. Assistance from the City is available, contact the Parks Conservation Officer.

5.2 MONITORING AND MAPPING

It is valuable for community groups to undertake monitoring programs to gauge the impact that conservation works are having on the site. The City has, in the past, undertaken assessments of vegetation condition and weed density. The City can provide these reports upon request, subject to copyright.

Photo points taken from a fixed location over time can be particularly useful and allow a group to share stories of their success.

5.2.1 Monitoring of Vegetation

Vegetation condition is usually assessed using the Keighery (1994) scale which assesses how intact or degraded an area has become. The scale is described below in Table 5. Groups can consider conducting their own mapping of vegetation condition if they determine that it would be valuable. Guidelines for doing so are provided in Bushland Plant Survey - A guide to plant community survey for the community by Bronwyn Keighery.

Table 5: The Keighery (1994) bushland condition scale

CONDITION	DESCRIPTION
Pristine	No obvious signs of disturbance
Excellent	Vegetation structure intact, disturbance only affecting individual species and weeds are non-aggressive species
Very Good	Vegetation structure altered, obvious signs of disturbance (e.g. repeated fires, aggressive weeds, dieback, logging and grazing).
Good	Vegetation structure altered, obvious signs of disturbance. Retains basic vegetation structure or ability to regenerate it. The presence of very aggressive weeds at high density, partial clearing, dieback, logging and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Requires intensive management. The presence of very aggressive weeds at high density, partial clearing, dieback, logging and grazing.
Completely Degraded	Vegetation structure is no longer intact and the area is completely or almost completely without native flora. (i.e. 'Parkland Cleared').

5.2.2 Mapping Weeds

Weeds may impact on native vegetation communities by:

- preventing native seedlings from establishing;
- altering the species composition of the area;
- altering the nutrient cycling;
- possibly changing the soil pH (e.g. lupins);
- reducing nesting and food resources for native fauna; and
- increasing the fire risk hazard (e.g. grass weeds increasing the amount of ignitable material) (Hussey & Wallace 2003).

It is important for these reasons that the weed condition of natural areas is regularly assessed and that appropriate control strategies are put in place to minimise the impact of the weeds on the environment.

Existing weed maps for priority natural areas can be provided by the City upon request, subject to copyright. Groups may also wish to conduct their own weed surveys to get a more recent or accurate picture of the situation. Useful instruction for doing so can be found in the below publications:

- Brown and Brooks (Brown & Brooks 2002) *Bushland Weeds: A practical guide to their management*
www.environmentalweedsactionnetwork.org.au/projects
- Department of Environment and Conservation (2011) *Standard Operating Procedure No 22.1: Techniques for mapping weed distribution and cover in bushlands and wetlands*
http://www.dpaw.wa.gov.au/images/documents/plantsanimals/monitoring/sop/sop221_weed_mapping.pdf

5.3 IDENTIFYING CULTURAL SIGNIFICANCE

5.3.1 Aboriginal Heritage

The Canning River is named “Djarlgarra” (place of abundance) by the local Aboriginal people (Noongar). The river is of spiritual significance to the Noongar people, having been made by the Rainbow Serpent (Waugal). A website has been created which shares experiences and feelings relating to the Canning River.
www.riversofemotion.org.au

The Department of Aboriginal Affairs maintain a register of known Aboriginal Sites throughout Western Australia. A significant number of registered sites occur within the City of Canning, and more may exist which have not been registered.

The presence of an Aboriginal site may restrict the activities that can be undertaken on site (e.g. ground disturbance, choice of plants to be revegetated). Community groups should contact the City for guidance and advice in relation to Aboriginal heritage assessment protocols.

Areas can be searched for potentially significant Aboriginal Heritage Sites using the online Department of Aboriginal Affairs search tool available at: www.daa.wa.gov.au/en/Place-Search

5.3.2 European Heritage

The City's (1995) *Municipal Inventory: Heritage Sites Assessment* contains a list of 42 sites with recognition post-European heritage values. The Inventory provides specific recommendations for the management of these sites, under the provisions of the Town Planning Scheme No. 40. Groups should contact the City to access this document and determine whether any of the natural areas in which they are undertaking conservation works is impacted on by a heritage issue.

For further information in the City's heritage and a copy of the City's Heritage Strategy, contact the City's Heritage Officer on 9231 0627.



Photo 14: Canning River Convict Posts

5.4 DESIGNING WALK TRAILS

Walk trails provide bushwalkers and the community with the opportunity to appreciate the environment whilst minimising the risk of soil compaction and the spread of weed seeds and diseases such as dieback. Research suggests that exposure to natural areas provides the community with a greater appreciation of nature which in turn helps to protect the environment. A successful trail should be challenging for the user group and memorable, capitalising on the cultural and natural assets of the site.

5.4.1 Designing Trails

Some key aspects to consider when designing a trail are to:

- Locate it in unvegetated areas, as clearing native vegetation goes against the principles of conservation;
- provide for wheelchair access;
- locate paths to capitalise on key views;
- identify areas of exposed geology which could be incorporated into the design;
- understand cultural and heritage aspects of the site;
- capitalise on key views by providing bench seats and lookout sites;
- reduce maintenance with considered material selection and controlled stormwater run-off;
- represent and expose the geology of the site in an artful way; and
- consider enhancing the trail with interpretive signs.

If a community group is considering establishing a trail in a City reserve, contact the City for advice, support and approval. For further information on trails and a copy of the WA Trails Strategy, contact the Department of Sports and Recreation.



Photo 15: Bannister Creek Catchment Group members building a trail boardwalk

5.5 PLANNING FOR EXTREME WEATHER

When restoring river foreshore areas, it is important to be aware that local weather conditions may be exacerbated by climate change. Two major climate events in the Perth region are the El Niño and 1 in 100 Year Flood Event.

The El Niño refers to the extensive warming of the central and eastern tropical Pacific region that leads to a major shift in weather patterns across the entire Pacific Ocean. El Niño events are often accompanied by cooler than normal sea surface temperatures in the western Pacific, and to the north of Australia. Over much of Australia, but particularly eastern Australia, El Niño events are associated with an increased probability of drier conditions and greater tidal movements (Bureau of Meteorology 2015). On a local scale, The El Niño affect the Swan and Canning rivers by significantly increasing the high tidal levels (Swan River Trust 2010).

The 1 in 100 year Flood Event refers to the possibilities of a significantly large and sudden rainfall event occurring within the Perth region. The sudden large deposit of rainwater is quickly discharged into the Swan and Canning Rivers, flooding the river banks. Low lying areas near riverways that are typically unaffected by normal rainfall events can be quickly inundated (Western Australian Planning Commission 2002).

When planning for restoring river banks, it is important to factor in the possibility of higher tidal levels and significant flooding that may occur from either of these events, otherwise the banks and their vegetation may erode, conservation works, such as planted seedlings, may wash away and dryland flora may drown.

Techniques to consider include:

- stronger foreshore stability measures (e.g. rock armouring over brush matting); and
- promote plants with large root systems that are better at stabilising the soil and that can handle flood conditions (e.g. Flooded Gum, Swamp Sheoak, Paperbarks, Flooded Juncus).

For information on foreshore restoration techniques, including brush mattressing, gabions, log walling, rock revetments and geotextile, refer to the Swan River Trust's manual on Best Management Practices for Foreshore Stabilisation.

For more information on El Nino or 1 in 100 year flood events, refer to the following websites:

<http://www.bom.gov.au/climate/glossary/elnino.shtml>

<http://www.bom.gov.au/water/designRainfalls/rainfallEvents/why100years.shtml>



Photo 16: Canning River Residents Environmental Protection Association volunteers restoring Halophila Bay foreshore

5.6 PLANNING FOR CLIMATE CHANGE

Climate patterns in the Perth region have increasingly differed from the long term averages. Over the last five years the mean minimum and maximum temperature have increased by 0.3 °C and 0.6 °C respectively while mean annual rainfall has decreased by 59.0 mm. In general, winter months have become slightly drier, summer months slightly wetter and the overall annual rainfall amount has declined (Bureau of Meteorology 2014).

If these weather patterns continue, native vegetation will be affected. It will be most noticeable in wetlands and waterways, where the water levels will decline and saline water may travel into areas that traditionally have been predominantly fresh water based. It is important to factor this into planning for revegetation activities as consideration needs to be given as to whether it is more beneficial to attempt to plant historically (i.e. restoration of water dependant flora) or to plan for an expected dry future (plant less water dependant flora).

Also, the shift in rainfall patterns into warmer months may result in in the change in weed species composition. Those weed species that prefer wet spring weather may flourish, while those that respond to wetter winters may decline. It is important to monitor for any changes in weed species and adapt control works accordingly.

Climate change has also caused an increase in the frequency of extreme weather events, such as storm surges, tidal influxes and salt water intrusion which may impact on the conservation works undertaken by groups.

More information on what the City is doing to address climate change is provided on the City's website:

<http://www.canning.wa.gov.au/Conservation-Environment/climate-change.html>

6.0 GROUND WORKS

6.1 WEEDS AND EXOTIC PLANTS

Information on environmental weeds within the City is provided on the City's website:

<http://www.canning.wa.gov.au/Conservation-Environment/environmental-weeds.html>

Online guides that are recommended for identification purposes include:

- Flora Base: Swan Weeds (www.florabase.dpaw.wa.gov.au)
- Weeds Australia (www.weeds.org.au)

Printed guides which are commonly employed include:

- Brown and Brooks (2002) Bushland Weeds
- Hussey et al. (2007) Western Weeds
- Moore and Wheeler (2008) Southern Weeds and their control

6.2 WEED CONTROL

The removal of weeds is an essential component of environmental conservation.

The City undertakes an annual weed management program throughout the natural areas, targeting priority environmental weeds according to the Commonwealth listed 'Weeds of National Significance', the *Swan Coastal Plain Weed Strategy* priority weeds, weeds listed under the *Biosecurity and Agriculture Management Act 2007* and local priorities.

A widely accepted model for weed control in natural areas is described in the Bradley (1971) *Bush Regeneration* method. The aim the Bradley Method is the systematic removal of weeds to allow native plants to re-establish or if required allow plantings to succeed. A key idea in this method is that areas in better condition should be improved first before moving on to areas in more degraded condition, this idea should be considered when groups are preparing work plans. It is recognised that some groups will be operating in sites which are largely in a highly weed invaded condition. In these situations it is still considered that weed control can be valuable in a longer term view of preparing the site for future revegetation works. For further information on the Bradley method, refer to the website below.

<http://www.landcareillawarra.org.au/wp-content/uploads/BushRegenerationManual.pdf>

A brochure on common weeds in the City can be obtained from the City upon request.

Information on environmental weeds within the City is also provided on the City's website:

<http://www.canning.wa.gov.au/Conservation-Environment/environmental-weeds.html>

Online guides that are recommended for identification purposes include:

- Flora Base (www.florabase.dpaw.wa.gov.au)
- Weeds Australia (www.weeds.org.au)

6.2.1 Prioritising Species for Control

Prior to beginning controlling weeds at a site groups should undertake a prioritisation process to decide which species of weed should be targeted first. This process should consider if the species is listed as a state declared plant or a Weed of National Significance (WONS), how important the impact of that species is to the site and how effective control options available to the group will be on the species.

The governmental rating of species can be obtained through the following websites:

- Weeds of National Significance (WONS)

<http://www.weeds.org.au/WoNS/>

- Biosecurity and Agriculture Management Act (BAM Act)

<https://www.agric.wa.gov.au/organisms>

- Environmental Weed Census and Prioritisation (EWCP)

<http://www.dpaw.wa.gov.au/management/off-reserve-conservation/urban-nature/98-reports>

6.2.2 Methods of Weed Control

Several methods of controlling weeds are described below.

Manual Control (hand weeding)

Hand weeding is the preferred option of weeding for all community groups. Plants should be completely removed including any roots, seeds and bulbs to reduce reoccurrence. Plant material should be bagged for disposal.

The City can supply reusable bags to community groups and can also arrange for the full bags to be removed and disposed of at the City Depot.



Photo 17: A Canning River Residents Environmental Protection Association member manually removing weeds

Natural Suppression

Another option may be to encourage native plant cover to suppress weed species. Some native species may be more competitive for resources such as light, moisture and nutrients. Vigorous growing plants may build layers of leaf litter on the ground, effectively smothering weed seedlings. Dense shrubs and ground cover plants may also smother the ground, preventing future weeds from entering the site (Hussey & Wallace 2003).

Herbicides

Herbicides are not a preferred method of controlling weeds but in some situations there is little other choice. Groups must consult with the City and obtain approval prior to applying any herbicide on City reserves.

When planning for using herbicides groups should consider:

- what time is most effective to control particular weeds;
- what application method is most effective;
- if there are selective herbicides that can reduce the risk of off target impact; and
- if there are areas that some herbicides should not be used.

6.2.3 Types of Weeds

It is important to understand the biology of each identified weed species in order to determine which method is the best way to control them. Weed species can be separated into five types, according to their biology and the type of control methods (Figure 3).

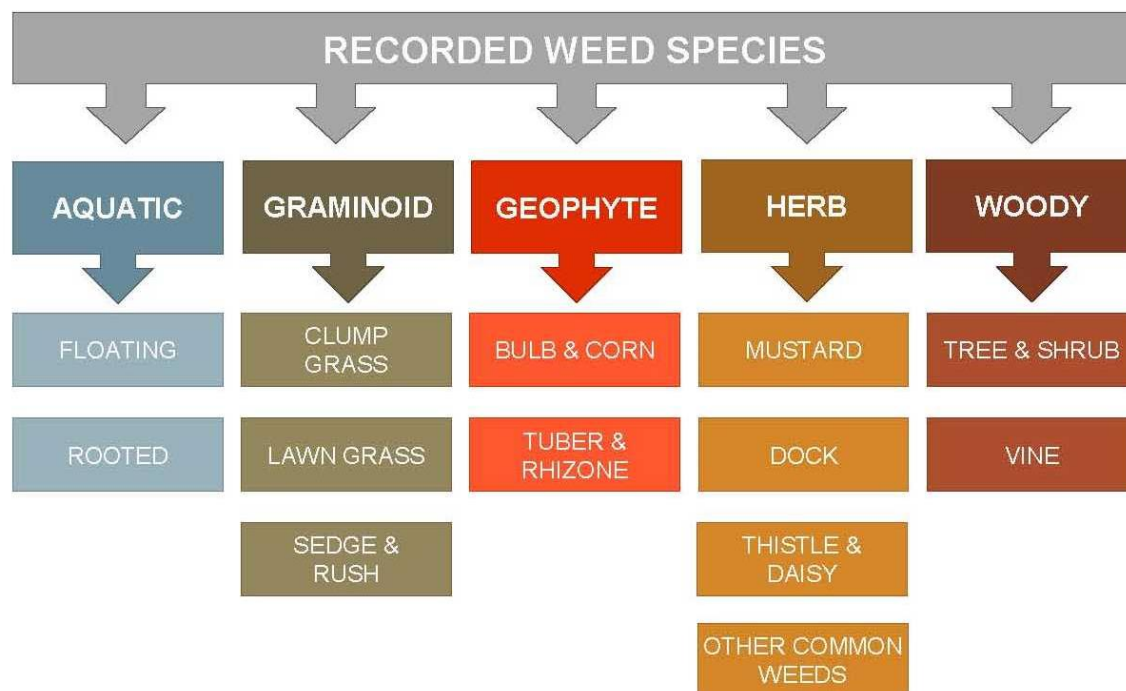


Figure 3: Growth forms of weed species

6.2.4 Weed Control Sources

Information on weed control can be obtained from the following sources:

- Department of Agriculture and Food (2015) *Control Methods*
<https://www.agric.wa.gov.au/pests-weeds-diseases/control-methods>
- Department of Parks and Wildlife (2015b) *Swan Weeds Database*
<http://florabase.dpaw.wa.gov.au/weeds/swanweeds/>
- Department of Parks and Wildlife (2015c) *Weed Control*
<http://www.dpaw.wa.gov.au/plants-and-animals/plants/weeds/155-how-to-control-weeds>
- Brown and Brooks (2002) *Bushland Weeds*
<http://www.environmentalweedsactionnetwork.org.au/projects.html>
- Corporate Research Centre for Australian Weed Management (2015) *Online publications*
<http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/publications/weeds-crc-pubs>
- Moore and Moore (2015) *Herbicide Online*
<http://www.herbicide.com.au/>
- Environmental Weeds Action Network (2015) *Weed Species*
<http://www.environmentalweedsactionnetwork.org.au/>
- Water and Rivers Commission (1999) *Revegetation: Revegetating riparian zones in South-west Western Australia (Section 3)*
<http://www.water.wa.gov.au/PublicationStore/first/11173.pdf>
- Gould League (2002)(2002) *Weedbusters*
<http://www.weeds.org.au/docs/weedbst.pdf>

Hardcopy, CD and online sources available to the public are presented below:

- Brown and Brooks (2002) *Bushland Weeds*
- Buchanan (1989) *Bush Regeneration: Recovering Australian Landscapes*
- Department of Agriculture (1993) *Management of Agricultural Weeds in Western Australia*
- Hussey and Wallace (2003) *Managing your Bushland*
- Moore and Wheeler (2008) *Southern Weeds and their Control*
- Moore and Moore (2015) *Herbicide* (cd)
- Romanowski (2011) *Wetland Weeds: Causes, Cures and Compromises*



Photo 18: Canning River Regional Park members hand weeding Perennial Veldt Grass

6.3 NATIVE PLANT REVEGETATION

The reintroduction of native plants through the use of tubestock or from collected seed should be used sparingly and in highly targeted areas. The expense is high and the mortality rate of seedlings is extreme. The selection of plants must be accurate to ensure the success of plantings.

6.3.1 Selecting Appropriate Flora

Ideal species to be selected should be those that:

- demonstrate promise in establishment and survival in disturbed conditions;
- are observed to grow in habitats that match the soil and drainage conditions of the study area;
- produce sufficient viable seed to harvest economically; and
- have fauna habitat value; and
- take into consideration future climate change impacts (e.g., drought resilient plants).

Species to be used in the revegetation process need to be local (indigenous) to the area. Provenance (coming from the immediate local area) is paramount to preserving local genetics of plants. Seeds and tubestock used in revegetating natural areas should ideally have been sourced from the local region.

Not all local plants may be included in the revegetation plan. Many species cannot be obtained as seeds or tubestock. Other species are known to be extremely poor in either seed germination or establishment. Groups should focus their efforts with plants that are known to have a high rate of success.

In some situations groups may be unable to source provenance species. In such cases, it may be necessary to include native species that are not immediately local to the immediate area. The selection criteria should focus on species:

- that occur in the Perth region;
- are of similar appearance to local species;
- are capable on growing well on the site conditions; and
- that do not pose a weed threat to adjacent areas of remnant vegetation (i.e. will not become invasive or dominant).

For example, the increasing salinity levels within the Canning River may make the river foreshore no longer ideal for the local Freshwater Paperbark (*Melaleuca preissiana*). It may be more practical to replace this species with the Saltwater Paperbark (*Melaleuca cuticularis*), which also occurs in the Perth region and is superficially similar in appearance.

Other issues to consider in species selection includes grazing resistance (e.g. where rabbits or kangaroos are a problem), weed suppressing plants, fire risks and susceptibility to disease, such as dieback.

6.3.2 Preparation of Site

In some disturbed sites the physical environment may be disturbed to an extent that it is hostile, preventing revegetation efforts from succeeding. For example, the site may:

- not contain any topsoil;
- be compacted preventing water infiltration;
- have too much phosphorous in the soil;
- have become acidic; or
- contain pathogens or diseases.

To address or minimise the above issues, the following techniques should be considered:

- Ripping compacted soil
- Covering materials, (e.g. matting, brush material, mulch)
- Relocate planting site

6.3.3 Tubestock

Ensure to place orders with nurseries as soon as possible to help ensure enough plants are grown and are of a decent size. Ideally orders should be placed before Christmas so the tubestock can grow for around 6 months before the winter plantings.

Tubestock should be planted after any seeds are broadcast. Upland plants should be planted in late autumn - early winter. It is preferable for planting to occur as early after the break of season as practicable, when the soil is thoroughly moist and follow-up rain expected. The longer the plants have to establish an adequate root system in the ground before the first summer the higher the success rate that can be expected. Tubestock planted in areas prone to inundation should be planted in spring as water recedes.

Care must be taken to ensure the tubestock is planted properly into the ground, fully covering the roots. To maximise survival rates, the tubestock must be disease-free, sun-hardened, have well-developed roots; not be root bound, and be planted to the correct depth.

Fertiliser tablets, water crystals and tree guards may be installed for each tubestock planted. The type of fertiliser tablets should be slow releasing and appropriate for native plants. Tree guards should be utilised to deter rabbits and birds from feeding on the seedlings. The tree guards should be then removed at a later date once the tubestock have full established.



Photo 19: Canning River Residents Environmental Protection Association volunteers planting tubestock for Bushcare Day 2001

6.3.4 Seeding

Seed Collection

A specific Scientific or Other Prescribed Purposes (SOPP) licence is required for any collection of native seeds on Crown lands. A single licence may be adequate for a group, provided all members of the group are listed and the group leader is responsible for all pickers. Information and application details for obtaining such a licence is available on the DPaW (2015a) website link below:

<http://www.dpaw.wa.gov.au/plants-and-animals/licences-and-permits/135-flora-licences>

Guides on how to collect native seeds is provided in the website links below:

- Florabank (2015) *Guideline 6 – Native Seed Collection Methods*

<http://www.florabank.org.au/files/documents/Guideline%20No.%206%20%20Native%20seed%20collection%20methods.pdf>

- Cochrane (2002) *Seed Notes for Western Australia No 2: Seed Collection*

http://www.dpaw.wa.gov.au/images/documents/about/science/pubs/seednotes/sn02_seedcollection.pdf

In addition, the City has developed a Native Seed Collection and Storage Process. It is recommended that if groups intend to collect native seeds, the same process is followed and/or the City's Natural Areas Team may be able to assist in seed collection tasks on site. For a copy of the City's Native Seed Collection and Storage Process and further assistance, please contact the Parks Conservation Officer.



Photo 20: A Canning River Regional Park member collecting seeds of *Hakea varia*

Broadcasting Seeds

The rate for seeding is highly variable as it is dependent on many factors such as:

- quality of the topsoil;
- viability, availability and costs of seeds;
- whether tubestock is also being planted; and
- whether the site contains any remnant vegetation.

A common industry rule of thumb for large scale native seeding is to sow:

- 3-4 kg seed/ ha for areas with some topsoil/ remnant revegetation/ tubestock planting
- 6-8 kg seed/ ha for completely cleared and degraded areas.

The seed mix should be combined with inert material, such as sand, in a portable container. Walking across the site, take a handful of sand/seed mix and fling out in a wide angle, ensuring a wide spread. It is recommended that the area be covered at least twice and from different approaches, to help maximise an even spread of seed. Do not broadcast seed on days with high winds, the lighter seed may be blown off the site.

6.3.5 Monitoring Revegetation

Monitoring is essential to verify the success of the revegetation program. Reworking may be necessary in areas where revegetation is not performing adequately. Revegetation should be assessed for threats such as disease, disturbances, rubbish, chemical contamination, salinity, pest fauna and weeds. Any populations of significant flora identified in the area should also be regularly monitored to ensure they are protected from outside threats.

6.4 MANAGING PESTS, FERAL AND OVERABUNDANT FAUNA

6.4.1 Impacts and Objectives

Feral animals and pests can have a negative impact on the natural environment. They may be introduced fauna which are not part of the ecology, or local species that have increased in numbers, affecting the environment and/or nearby residents. The City's most problematic pest animals include feral animals such as foxes, cats, rabbits and honey bees.

Overabundant species is a term used to describe native species such as kangaroos, flying foxes, dingoes and corellas that have increased in numbers to a point where they exceed the usual or environmentally sustainable population levels.

Feral/overabundant animals are often significant pests to agriculture and the ecological values of the areas that they inhabit. Some feral animals prey on native species, others compete for food and shelter or destroy habitat, and can spread diseases. In Australia, feral animals have few natural predators or fatal diseases and some have high reproductive rates. As a result, their populations are not naturally limited and they can multiply rapidly if conditions are favourable.

The objectives of controlling pest, feral and overabundant fauna known or thought to occur in remnant vegetation is to minimise:

- predation pressure on native animals;
- grazing pressure on native plants and seedlings; and
- introduction of weeds through:
 - seeds being caught in their fur;
 - seeds inside their droppings; and
 - movement of soil.

6.4.2 Feral Pest Control

Poisoning

Poisons baits are a common option for controlling pest fauna, however extreme care must be taken not to harm humans or pets. The use of poisons is controlled by the Government of Western Australia *Health Act 1911* and also covered under the Department of Agriculture and Food *Agricultural and Related Resources Protection Act 1976*. Poisons should not be used in the City's reserves without approval from the City. Contact the Parks Conservation Officer.

Sodium monofluoroacetate, better known as 1080, is one of the most lethal poisons known. The chemical naturally occurs in many native plants, particularly in Poison Peas (*Gastrolobium* species). Native animals have over time developed some tolerance to the poison, however introduced animals have not. As such poison baits can be developed that can kill introduced animals but not native fauna. Even sub-lethal doses may temporarily or permanently sterilise animals, reducing reproduction. Secondary poisoning can also occur from dogs, foxes, cats and pigs eating animals killed by 1080. This poison is lethal to humans and pets and there is no currently known cure for 1080 poison, so must be used with extreme care (Hussey & Wallace 2003). The use of 1080 is not generally supported in the City.

Exclusive Fencing

Fencing may act as a barrier and prevent pest fauna from entering the site. The enclosed area may then:

- allow the vegetation to regenerate faster, having no grazing or burrowing pressure
- help protect local fauna from being predated upon (Hussey & Wallace 2003).

This option is safer than the use of poison, however it can be more expensive. Fencing may also trap the pest fauna inside the site, which will increase their impact rather than minimising it.

6.4.3 Cats

Background

Cats can have significant impacts on native fauna. Domestic cats may predate native wildlife, such as birds, amphibians and lizards.

Feral cats maintain stable home ranges, the size of which depends upon the availability of suitable den sites and food availability, but can range from 4 to 8 square kilometres (NRME 2003).

Control

Groups can consider promoting a continuous canopy and a thick understorey of shrubs. The natural screening may be the most effective method of reducing the cat impact of predation upon native animals.

The City conducts a regular cat trapping program in priority natural areas, particularly those which are classified as cat prohibited areas. For information on responsible cat ownership, contact the City for a copy of the brochure on 'Being a Responsible Cat Owner' and the new cat control laws.

Community groups who witness any cats in the area are requested to report the incident to the City's Community and Wellbeing (Security and Patrol) Services on 1300 422 664 (all hours). The City's Natural Areas Team can assist in trapping cats.

6.4.4 Dogs

Background

Dogs can be wonderful companions and loyal pets. However some dog owners disregard or are ignorant of dog owner responsibilities and let their dogs run freely into bushlands, lakes and waterways.

Out of control dogs and irresponsible dog owners can have a harmful impact on the natural environment as they may harm wildlife, contribute to the spread of weeds and cause vegetation damage.

Control

Community groups are encouraged not to take their dogs with them when doing site works or visiting the site, unless their pets can be kept under control and not freely enter areas of vegetation where native fauna may be inhabiting.

Groups who witness out of control dogs and irresponsible dog owners are requested to report the incident to the City's Community Wellbeing (Security and Patrol) Services on 1300 422 664 (all hours).

6.4.5 Foxes

Background

European Red Foxes pose a significant threat to native fauna species. Foxes tend to occupy distinct areas, called home ranges, from which they exclude other foxes entering (although home ranges can overlap). Fox numbers are therefore relatively stable, except when animals are removed and there is an influx of new individuals. The size of a home range is determined by food and resources but can typically range from 280 to 1600 ha (Western Australian Department of Agriculture 2004).

Control

Groups who observe foxes or their dens are requested to report the findings to the City's Parks Conservation Officer. The City will then investigate and arrange for a qualified pest exterminator to trap and eradicate the foxes.



Photo 21: European Red Fox with a native mammal as prey

6.4.6 Rabbits

Background

Rabbits are a common problem throughout the South-West of WA. Rabbits are a threat to the natural environment as they graze heavily on vegetation, particularly new seedlings that have been planted or regenerated after fires, and can establish large warrens.

Control

To minimise the impact of rabbits on revegetated areas temporary measures such as tree guards, temporary fencing and brushing can be implemented to minimise the impact on vegetation.

Groups who observe rabbits or their warrens are requested to report these findings to the City's Parks Conservation Officer. The City will then investigate and arrange for a qualified pest exterminator to eradicate the rabbits and destroy the warrens. The City has employed contractors in the past to fumigate and poison rabbits.

6.4.7 Feral Fish

Background

Carp and goldfish compete with native species for food and space and may prey directly on young native fishes and other native animals. They also create problems associated with their digging around the bed of wetlands for food which can lead to:

- increased turbidity (amount of material suspended in the water)
- aquatic plants being uprooted and new plants being unable to establish themselves
- the release of nutrients as a result of disturbance which can lead to algal blooms
- eventually reducing the amount of food and cover available in a water body (Department of Fisheries 2006)

Gambusia (Mosquito Fish) were introduced into Australia from America in the 1920's to control mosquitoes. However, there is evidence that native fish are more effective at controlling mosquitoes than Gambusia, and that Gambusia have contributed to a reduction in the number of some native fish and frog species (Streamwatch 2009).

Gambusia are aggressive predators, and they impact on the environment through:

- attacking, killing and eating small native fish, water bugs, frog eggs and tadpoles;
- competing for food with native fish, eating their eggs and attacking and killing the baby fish (fry); and
- displacing many of the native fish (Streamwatch 2009).

Control

The presence of any introduced fish species in wetlands and waterways of remnant vegetation should be reported to the Department of Fisheries. Reports can be made to Fishwatch on 1800 815 507.

6.4.8 Honey Bees

Background

The honeybee was introduced to Australia in 1826 for producing commercial honey and beeswax, however colonies often escape and have established feral communities throughout Australia. Honeybees can have a negative impact on the environment by:

- competing for nesting places such as tree hollows and nesting boxes, with native species such as black cockatoos, owls and small mammals;

- competing with native bees and honeyeaters for food; and
- being less efficient in cross-pollinating native plants, thereby reducing plant reproduction (Burgman & Lindenmayer 1998).

Control

Groups who observe active beehives in natural areas are requested to report the findings to the City's Parks Conservation Officer. The City's Pest Control Team will then investigate and eradicate the bees.

6.4.9 Midges and Mosquitos

Background

The City of Canning has a unique and diverse ecosystem within Canning River Regional Park. This unique ecosystem supports a wide range of habitats that host a diverse number and species of plants and animals, including mosquitoes. Salt marsh mosquitoes have ideal breeding conditions and habitats which are very close to residential areas (City of Canning 2015).

Mosquito larvae often increase dramatically in abundance in disturbed or nutrient-enriched wetlands, where their natural competitors and predators, such as other aquatic invertebrates and fish, have been reduced in number. Mosquito populations are a health concern as the insects are known to be transmitters or vectors of pathogenic arboviruses such as Ross River Virus and Barmah Forest Virus. While these diseases are not fatal, they can cause debilitating health effects to humans (Environmental Protection Authority 2015).

Midges often get confused with mosquitoes; however, they are not blood-feeders. The adults only feed on nectar or similar substances. Midge larvae can be found in aquatic or sub-aquatic habitats and form a very important component in fresh water ecosystems. They are the most abundant and diverse and therefore the largest group of primary consumers in these systems. Midge numbers can increase and become a nuisance to residents living near wetlands. This increase in numbers is often a sign of a more significant problem such as degradation of the wetland ecosystem (Wetlandcare Australia 2015). Therefore, ongoing maintenance and preservation of wetlands are important as they provide essential habitats for all organisms.

Control

The City of Canning conducts an extensive mosquito control program throughout the Canning River Regional Park (and other areas). The main focus of this program is on mosquito larvae monitoring, larvicide treatment and adult trapping. This program is undertaken in partnership with the Department of Health WA.

If a group observes significantly large populations of mosquitos or midges, it should report this to the City's Environmental Health Officers on 9231 0503, or customer@canning.wa.gov.au.

More information on controlling mosquitos and midges in wetlands is provided on the City's website: <http://www.canning.wa.gov.au/M/mosquitoes.html>

6.4.10 Termites

Background

Termites are natural to the Perth region and have an ecological role. They assist in decomposition processes by breaking down woody material such as logs. Termites are also a valuable food source for local native animals including echidnas, skinks, blind snakes and birds.

However, termites can also be a problem as they can cause damage to structures that contain wood, such as housing, fences, walkways and bridges. Some control measures may be required for termite populations that exist near such infrastructure.

Control

Groups should report any termite infestations or damage observed in any of City's wooden infrastructure to the City's Parks Conservation Officer. The City will then investigate and determine if treatment is required to prevent further damage and/or if the structure needs to be repaired or replaced. The City's Pest Control Team can also treat live trees on the verge or in parks that are infested with termites, in an effort to improve the health of the tree.

6.5 PLANT DISEASE AWARENESS AND HYGIENE

6.5.1 Dieback and other *Phytophthora*

Description

There are 15 *Phytophthora* species known to exist in Western Australia. These are soil-borne water moulds that kill a wide selection of plant species of the south west of Western Australia. As *Phytophthora* is a parasite, it requires a living host on which to feed and extracts its food by a mass of thread-like mycelium, which forms the body of the organism. *Phytophthora* kills its host by girdling the base of the stem, destroying the roots and depriving the plant access to nutrients and water. These most significant *Phytophthora* species is *Phytophthora cinnamomi*. The life cycle of this *Phytophthora* requires moist, non-alkaline conditions that favour survival, sporulation and dispersal (Murray 1997).

Many native plant species are known to be vulnerable to dieback, particularly those of the family Proteaceae (e.g. *Adenanthos*, *Banksia*, *Grevillea*, *Hakea*, *Isopogon*, *Petrophile*), and also in several other families: Dilleniaceae (e.g. *Hibbertia*), Papilionaceae (e.g. *Daviesia*, *Jacksonia*), Epacridaceae (e.g. *Leucopogon*) and Xanthorrhoeaceae (Grasstrees) (Groves, Hardy & McComb 2007). It is thought that up to 41% of the 6000 species in South West Botanical province is susceptible to this disease (Dunstan et al. 2008).

Control

Human activity is the most significant factor contributing to the spread of the disease. Infected soil can be moved around by vehicles or bikes, footwear, animal movements, road construction and earth moving equipment.

As dieback cannot be cured, the best control is to prevent further spread of infection. Hygiene measures should be practiced to prevent the transfer of any infected soil or water into dieback free sites. Such activities include:

- only working in dry conditions;
- ensuring all machinery, vehicles, equipment and footwear entering disease free remnant vegetation is free of soil and mud;
- minimising movement of vehicles, machinery, equipment and footwear between disease free and disease infected sites;
- not removing road making materials (e.g. gravel) from infected sites; and
- working in mini catchments and not moving material from one catchment to another (Hussey & Wallace 2003).

In addition, any materials or plants being used in revegetation (e.g. mulch, tubestock) should be only sourced from certified suppliers that ensure their products are dieback free.

For more information, contact the Dieback Working Group:

<https://www.dwg.org.au/>

6.5.2 Aerial Cankers (Marri, Proteaceous, Eucalypt)

Description

Aerial Cankers are diseases caused by a group of largely air-dispersed fungi (including *Cryptodiaporthe melanocraespida* and *Zythiostroma* and *Diplodena* species) that affect the State's flora in the south-west. Occurrence of the disease is dependent on a combination of a susceptible host, infective pathogen, infection site (e.g. pre-existing wounds) and favourable environmental conditions. Under suitable conditions the disease can cause the death of plants within 2 years (Murray 1997).

Aerial canker kills twigs in the lower crown and causes lesions called cankers in the bark of the main stem and roots. Severe cankers can cause death in parts of the plants above the canker. The fungus usually enters the plant through an existing wound (insect attack or wind damage). Healthy trees not subject to stress are unlikely to be severely affected (Bailey 1995).

Control

Many plants can combat canker infection. However, the infection can spread if the plants are highly stressed. The disease can be minimised through mitigating factors that impact on general vegetation health, such as minimising site disturbance, watering and preventing fires. Canker can also be spread during the pruning of trees. Care must be taken to clean equipment, knives and secateurs so as not to infect open plant wounds.



Photo 22: Weeping sap caused by Marri canker (Murdoch University)

6.6 WILDLIFE CONSERVATION

6.6.1 Injured wildlife and rehabilitation

If a group comes across injured or sick animals and birds, they should immediately call:

- WILDCARE HELPLINE (Department of Parks & Wildlife - DPAW) on 9474 9055.

The WILDCARE helpline operates 24 hours a day, seven days a week and diverts to after hour numbers at nights and weekends to provide immediate assistance to all incoming calls.

The City's Natural Areas Team may also be able to assist, contact:

- Parks Conservation Officer on 9231 0826.

It is important to not touch or move the animal unless instructed or to move the animal from danger, as this may further stress or harm the animal.

The Parks Conservation Officer or WILDCARE volunteer will then arrange for the injured fauna to be rescued and treated by qualified carers that are approved by DPaW. Once recovered, DPaW will decide whether the animal may be released back into the original area or should be released into a more suitable location.

More information on wildlife protection is available on the City's website:

<http://www.canning.wa.gov.au/Conservation-Environment/wildlife-protection.html>

6.6.2 Wildlife Conservation Programs

The City can assist in wildlife conservation programs in a number of ways, such as by participating in surveys (e.g. cockatoo counts) or helping to install habitat features (e.g. bird or bat breeding boxes).

If you require the City's assistance in a wildlife conservation program, contact the City's Parks Conservation Officer.



Photo 23: Western Heath Dragon (*Ctenophorus adalaidensis*)

6.7 RUBBISH REMOVAL

6.7.1 Collection and Disposal

Contact the City's Parks Conservation Officer for assistance in the removal of rubbish from the City's natural areas.



Photo 24: Canning River Residents Environmental Protection Association RAC Corporation Day 2011

6.8 FIRE MANAGEMENT

6.8.1 Bushfire Risk Management Guidelines

Fire is an ever present risk in Perth's remnant vegetation. Bushlands are fuel loads, and grassy understories are potential fire ignition sources. While revegetation plays a crucial role in restoring lost remnant vegetation, it can also increase the bushfire risk to the vegetation, surrounding infrastructure and human life.

The City has adopted Fire Management Plans for the following natural areas:

- Bannister Creek Park
- McDowell Reserve
- Caladenia Reserve
- Queens Park Regional Open Space
- Yagan Reserve
- Randford Road Bushland

For a copy of the Fire Management Plan for the Canning River Regional Park, contact the Department of Parks & Wildlife.

The Planning Western Australia (2014) *Draft Planning for Bushfire Risk Management Guidelines* is proposing to bring strict conditions on local governments and land owners to maintain firebreaks and fuel levels near infrastructure, including residential housing. This will result in the clearing of any vegetation for firebreaks and reducing vegetation to comply with acceptable bushfire attack level ratings within 20m wide Building Protection Zones and 100m Hazard Separation Zones. More information on the guidelines is available by contacting the Department of Planning Bushfire Policy Officer via email (bushfire@planning.wa.gov.au) or by phone (6551 9000) or on the website below:

<http://www.planning.wa.gov.au/publications/7183.asp>

Restoration practices need to ensure that the amount of revegetation established within any zones are not deemed excessive under the new Guidelines, otherwise it may need to be reduced again. Similarly, revegetation works should not occur in any areas planned to be firebreaks, else they will be cleared. In both cases, it will be a loss of time and effort for the groups. Groups should contact the City to discuss and determine the locations of any firebreaks, Building Protection Zones or Hazard Separation Zones before undertaking revegetation works.

More information on the City's role in Fire Management is provided on the website below:

<http://www.canning.wa.gov.au/Conservation-Environment/fire-management.html>

6.8.2 Fire Strategies

Groups can help assist in the prevention, impact of and recovery from fires by planning the following strategies into their site works:

- To prevent or minimise a fire outbreak
 - reduce the amount of weedy weeds (fuel load) and grassy weeds (potential ignition source)
 - do not plant in firebreaks
 - do not plant high amounts of vegetation in Building Protection Zones or Hazard Separation Zones
 - remove flammable rubbish materials (e.g. couches, dumped garden clippings)
- After a fire:
 - conduct weed control works to prevent weed invasion in burnt areas
 - consider possible revegetation works if the burn area is too damaged to recover
 - discuss with the City whether the site should be fenced off for the public safety reasons and/or assist the environment in recovering.

6.8.3 Reporting Fires

If any volunteer witnesses a fire outbreak, they should immediately contact the Department of Fire and Emergency Services (DFES) and the City's Community Wellbeing (Security and Patrol) Services.

6.9 FENCES

Contact the City's Parks Conservation Officer for any repairs required on fencing or gates adjoining the City's natural areas.



Photo 25: Fire damage in Canning River Regional Park 2011

7.0 CONTACTS

A summary of all the contact details mentioned in the report is presented in Table 6 below.

Table 6: Summary of Contact Details

CONTACT	PHONE	EMAIL
City of Canning		customer@canning.wa.gov.au
Parks Conservation Officer	9231 0826	Some of the issues that the City deals with are described throughout this manual and include conservation activities, rubbish disposal, graffiti, water pollution incidents, water disposal, parking, removal of weed bags, reports of damaged signs and fences, seed collection, environmental projects and firebreaks.
Coordinator Conservation & Environment	9231 0826	
Community Wellbeing (Security & Patrol Services) (Rangers)	1300 422 664	
Environmental Health Services	9231 0503	
Canning River Eco Education Centre	9461 7160	
Goodbye Graffiti	1800 442 255	
City of Canning – Main Switchboard - Customer Contact Centre	(08) 9231 0606	
Organisations and State Government		
Department of Parks & Wildlife (Rivers and Estuaries Division) (Nature Protection)	9219 9000	info@dpaw.wa.gov.au
Department of Parks and Wildlife Canning River Regional Park Operations Officer	0439 973 955	
Department of Environment Regulation	6467 5000	info@der.wa.gov.au
Department of Planning (Bushfire Planning)	6551 9000	bushfire@planning.wa.gov.au
Birds Australia	9383 7749	bawa@birdsaustralia.com.au
Dieback Working Group	9360 2605	info@dwg.org.au
Wildcare Helpline	9474 9055	
Pollution Response Unit – Department of Environment Regulation	Call DER 24 hour Pollution Watch hotline 1300 784 782	Online reporting: http://www.der.wa.gov.au/your-environment/reporting-pollution
Fire & Emergency Services (FESA)	Triple zero (000) for fire or life threatening emergencies 132 500 for SES emergency assistance 13 DFES (13 3337) for emergency information	
Department of Marine Operations (Department of Transport)	Main reception: (08) 6551 6000	Visit this website for marine phone numbers: http://www.transport.wa.gov.au/imate/contact-marine-and-coastal.asp

CONTACT	PHONE	EMAIL
Main Roads	138 138	
Water Corporation	13 13 75	
Department of Water	6364 7600	
Herbarium of West Australia	(08) 9219 8000	
Department of Aboriginal Affairs	1300 651 077	
Landgate	9273 7373	
National Trust of Western Australia	9321 6088	
Perth Region NRM	9374 3333	
South West Aboriginal Land & Sea Council	9358 7400	
Local Environmental Community Groups and Organisations		
Bannister Creek Catchment Group	9458 5664	amywarner@sercul.org.au
Canning River Regional Park Volunteers	94572292	admin@canningriver.org.au
Canning River Residents Environmental Protection Association	-	crrepa@gmail.com
Friends of Queens Park Bushland	-	fqpbushland@gmail.com
Friends of Rossmoyne Park	94572812	bill.young1@bigpond.com
South East Regional Centre for Urban Landcare (SERCUL)	9458 5664	julierobert@sercul.org.au
Waterbird Conservation Group	-	kevin.goldfingers@gmail.com
Wilson Wetland Action Group	-	wilsonwetland@gmail.com

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APPENDIX ONE: GUIDELINES FOR USE OF CITY NURSERY

GUIDELINES FOR THE USE OF THE CITY OF CANNING PLANT NURSERY FACILITY

The City allows local environmental community groups to use the plant propagation facilities at the City's depot for the purpose of revegetation projects that are of benefit to the City. The following guidelines have been developed to enhance the City's support of local community groups whilst ensuring that occupational health and safety requirements are satisfied and the efficient operation of the City's depot is maintained.

1. ACCESS HOURS

Following the completion of a safety induction, volunteers will be able to access the depot nursery from 8.30am to 2.30pm Monday to Friday. Safety inductions will be held on a regular basis. The nursery cannot be accessed during public holidays, weekends and Christmas shutdown periods, unless prior authorisation has been arranged with the Parks Conservation Officer.

Please note that there is a visitor sign in procedure for entry into the depot.

Visitor must only walk between the blue marked lines and must wear a fluoro vest whilst in the depot area.

2. PARKING

Parking will be permitted in the staff parking area off the main entrance from Fleming Avenue, indicated by the red box in the map below.



3. NURSERY AREA

The nursery has 8 to 10 benches that can be made available to volunteers for undertaking propagation activities. Each volunteer group will be allocated at least one nursery bench. Remaining benches will be allocated according to the number of volunteer groups interested in utilising this facility. Volunteers may be asked to relocate their plants for four months from the beginning of May to the end of August to make room for the influx of plants received for the City's parks, streetscape and natural areas.

For safety reasons, volunteers must perform all nursery activities in the designated area bordered by the red boundary in the box below.



4. SEED AND EQUIPMENT STORAGE

The City may be able to temporarily store small amounts of seed or equipment in a dry area of the nursery. Requests for dry storage space will need to be discussed with the Parks Conservation Officer and Natural Areas Team Leader.

5. PLANT AND EQUIPMENT PICK-UP AND DROP-OFF

Vehicles dropping off or picking up plants and equipment are temporarily permitted to park in the off-loading area, indicated by the yellow box above.

6. DISEASE AND DIEBACK CONTROL

To maintain hygiene, propagation benches must be cleaned daily with a 5% bleach solution following completion of work. Secateurs and other propagation tools should also be disinfected regularly. Cutting material and seeds brought into the nursery should be dry and not contaminated with soil.

A spray bottle containing methylated spirits will also be provided for disinfection of footwear prior to entering the nursery. Any vehicles dropping off or picking up plants and equipment should be inspected for mud and cleaned if necessary.

7. CITY SUPPORT

A designated number of pots (tubes and 140 mm pots), potting mix and fertiliser will be provided by the City to support the volunteer's propagation activities. Bulk potting mix will be sourced from an accredited dieback-free supplier. Diluted bleach solution and methylated spirits will also be provided for hygiene purposes. Requests for additional pots, potting mix and fertiliser can be directed to the City's Parks Conservation Officer for consideration.

8. WATERING

Water for plant propagation activities can be accessed from the southwest corner of the shed, indicated by the blue circle on the map above. Watering cans can be made available if required. Automatic sprinklers operate daily in specific areas of the nursery from 12.00pm to 1.00pm.

9. OCCUPATIONAL HEALTH AND SAFETY

Volunteers must wear suitable protective clothing and closed in shoes. The City encourages the use of hats and skin protective clothing. Gloves can be made available upon request.

A short safety induction must be completed prior to the commencement of nursery work to ensure that each volunteer is aware of the City's emergency procedures, location of first aid kits, location of toilet and kitchen facilities, location of drinking water, safe manual handling techniques and storage of nursery supplies.

Volunteers will also be required to sign in and out of the *Volunteer Nursery Register* each time the nursery is visited.

10. GENERAL BUSINESS

The City will review these arrangements annually or as required and reserves the right to amend or withdraw the above arrangements at any time. The City also reserves the right to reconsider the approval if for any reason the City's current depot arrangements are altered. The City will provide adequate notice of any changes to these arrangements to community groups. The City welcomes written or verbal feedback of this initiative from volunteers.

The City will not be responsible for any plant losses due to interruptions to the water supply, insect attack, disease outbreak, vandalism, adverse weather events or other unforeseen circumstances.

11. CONTACT DETAILS

If volunteers require assistance on site or have any queries, they can contact the following City representatives:

Parks Conservation Officer	9231 0826, 0438 915 992
Natural Areas Team Leader	0428 270 003
Coordinator Conservation & Environment	9231 0628/514
Community Wellbeing (Patrol and Security) Services	9231 0699


APPENDIX TWO: ENVIRONMENTAL COMMUNITY GROUP AND ORGANISATION REGISTRATION FORM

ENVIRONMENTAL COMMUNITY GROUP & ORGANISATION REGISTRATION FORM			
Application Date:		Expiry date:	
I (Name of Group Coordinator):			
of (Address):			
Phone:		Mobile:	
Email address:			
Represent the group of:			
at (reserve name and address):			
<p>I acknowledge that I have read and understood the following and that I:</p> <ol style="list-style-type: none"> 1. Acknowledge that health and safety are the responsibility of all those involved in the group's activities and workplace; 2. Will wear appropriate protective clothing at all times; 3. Will ensure that children under my care are supervised at all times; 4. Will maintain an accurate register of all group members and people attending workdays for examination by the City upon request and by an Insurance Company in the case of an accident; 5. Will maintain adequate insurance cover for the group; 6. Will only undertake bush care activities during day light hours, unless otherwise approved; and 7. Will have an appropriate sharps container and first aid kit on site at all times during conservation activities. 			
Signature of Coordinator:		Date:	
<p>Please return as soon as possible to Parks Conservation Officer City of Canning 1317 Albany Highway, Cannington WA 6107</p>			

APPENDIX THREE: VOLUNTEER REGISTRATION FORM (ONE OFF)

VOLUNTEER REGISTRATION FORM			
Application date:		Expiry date:	
I (name of group member):			
of (address)			
Phone:		Mobile:	
Email address:			
Member of the group (name):			
at (reserve location):			
I will be acting as a delegated coordinator:		YES / NO	
I have a pre-existing medical condition/ allergy/ disability that could affect my ability to carry out on-ground activities:		YES / NO	
<ul style="list-style-type: none"> All Volunteers with pre-existing medical conditions are required to notify a group member, preferably a Coordinator at all work days. Volunteers are responsible for management of their own medical conditions. Medical claims for pre-existing conditions are excluded under City's insurance. 			
Age:			
Date of birth:			
Expected duties:			
<p>I acknowledge that I have read and understood the following and that I:</p> <ol style="list-style-type: none"> acknowledge that health and safety are the responsibility of all those involved in the group's activities and workplace; will not operate chainsaws without written approval from the City; will wear appropriate protective clothing at all times; will ensure that children under my care are supervised at all times; will maintain an accurate record of the time I spend on bushcare activities for examination by the City and Insurance Company in the case of an accident; will ensure that I will only undertake bushcare activities during day light hours, unless otherwise approved by the City; and will adhere to the directions given by the group coordinator/supervisor. 			
Signature of Volunteer:		Date:	
Please return as soon as possible to:			
Environmental Community Group (if volunteering for a group)			
Parks Conservation Officer (if volunteering for the City of Canning)			
City of Canning			
1317 Albany Highway, Cannington WA 6107			

APPENDIX FOUR: WORK PLAN EXAMPLE



CONSERVATION WORK PLAN FOR

Caladenia Grove

Allocated Budget for 2014/15: 34424

Site priority: high

Maintenance account no: 48388

Target sites:

CONSERVATION GOALS FOR NATURAL AREA:

Allocated hours: 156 hours annually, 12 hours every 4 weeks

Goals (Up to 5 Years):

Maintain and enhance natural area through controlling priority weeds and pests; monitoring, protecting and searching for new populations of the Threatened orchid *Caladenia huegelii*; and undertaking maintenance activities (e.g. fencing, pruning).

5 YEAR PLAN TO ACHIEVE GOALS:

2014/15	2015/16	2016/17	2017/18	2018/19
Caladenia huegelii orchid monitoring, annual weed and pest control, winter revegetation project in degraded area	Caladenia huegelii orchid monitoring, annual weed and pest control	Caladenia huegelii orchid monitoring; Dieback treatment, annual weed and pest control		

NATURAL AREA CHARACTERISTICS:

Size (km²): 5.1 ha **Condition:** Degraded to very good

Environment type (bushland, wetland, riverine etc.): Bushland and seasonal wetland

Bushforever number (if applicable): Not assessed; ecological corridor to 388 (Ranford Rd Bushland)

Dominant vegetation community:
Low Banksia attenuata, Banksia ilicifolia, Banksia menziesii Woodland over Xanthorrhoea preissii, Acacia pulchella, sp Shrubland over Dasypogon bromeliifolius, Very open Burchardia congesta sp Herbland over Lyginia sp Very Open Sedgeland. Regelia inops, Tall open shrubland Melaleuca thymoides over Xanthorrhoea preissii, Open

Threatened Ecological Community description (if applicable):
Not determined

COMMUNITY GROUPS/STAKEHOLDERS INVOLVED WITH NATURAL AREA:

Community group name	Contact person	Email address	Contact number
n/a			

FIRE MANAGEMENT WITHIN NATURAL AREA (outline annual activities required): Fire Management Plan Available?: ☒

Activity	Brief description	Time of year (month/s)
Firebreak maintenance	n/a	
Gate maintenance	2 gates to be maintained	If required
Fuel load reduction	Routine weed control	Ongoing
Other:	Refer to fire management plan	

Fire History:

CURRENT/ONGOING PROJECTS FOR NATURAL AREA (tick projects already completed):

Project name	Brief project description (or indicate if attached)	Expected completion
Caladenia huegelii orchid monitoring	Two weekly orchid monitoring from mid June following leaf emergence to flower senescence (mid-September)	On-going <input type="checkbox"/>
Vegetation monitoring	Flora assessment of permanent monitoring quadrats	On-going each spring <input type="checkbox"/>
Ranford Bushland Environmental Survey and Rehabilitation	Flora and fauna study, preparation of a management plan, weed control, feral pest control, fire management, corporate tree planting day. See GS.P5.1 for more information.	December 2015 <input type="checkbox"/>
2015 revegetation project	150 dieback resistant plants scheduled to be planted in degraded area of Caladenia Grove during Winter 2015	Winter 2015 <input type="checkbox"/>

FUTURE PROJECTS FOR NATURAL AREA (include potential projects subject to grant funding etc.; tick projects as started/organised):

Project name	Brief project description (or indicate if attached)	Expected start
Investigation towards herbivores predated on <i>Caladenia huegelii</i>	Install night vision camera in attempt to identify herbivore eating leaves and flowers of <i>Caladenia huegelii</i> to improve conservation management of the species	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>

PRIORITY INVASIVE SPECIES:

Scientific name	Common name	Notes	Scientific name	Common name	Notes
PRIORITY WEEDS:					
1 <i>Centranthus macrosiphon</i>	Pretty betsy		11		
2 <i>Ehrharta calycina</i>	Perennial Veldt Grass		12		
3 <i>Ehrharta longiflora</i>	Annual Veldt Grass		13		
4 <i>Eragrostis curvula</i>	African Lovegrass		14		
5 <i>Euphorbia terracina</i>	Geraldton carnation weed		PRIORITY PESTS:		
6 <i>Gladiolus caryophyllaceus</i>	Wild gladiolus		1 <i>Felis catus</i>	Feral and domestic cats	
7 <i>Pelargonium capitatum</i>	Rose Pelargonium		2 <i>Apis mellifera</i>	European honey bee	
8 <i>Solanum nigrum</i>	Blackberry <i>Ninthecharde</i>		3 <i>Vulpes vulpes</i>	Fox	
9 <i>Trachyantha divaricata</i>	Dune Onion Weed		4 <i>Oryctolagus cuniculus</i>	European Rabbit	
10			5		

THREATENED or PRIORITY FLORA (if applicable):

Scientific name	Common name	Scientific name	Common name
1 <i>Caladenia huegelii</i> (T)	Grand Spider Orchid	1 <i>Isodon obesulus</i> subsp. <i>fusciventer</i> (P5)	Southern Brown
2		2 <i>Merops ornatus</i> (1A)	Rainbow Bee-eater
3		3	
4		4	
5		5	

THREATENED or PRIORITY FAUNA (if applicable):

CHARACTERISTIC INDIGENOUS FLORA:

Scientific name	Common name	Scientific name	Common name
1 <i>Acacia pulchella</i>	Prickly Moses	1	
2 <i>Dampiera linearis</i>		2	
3 <i>Dasypogon bromeliifolius</i>	Pineapple Bush	3	
4 <i>Hibbertia subvaginata</i>		4	
5 <i>Hypocalymma angustifolium</i>	White Myrtle	5	
6 <i>Melaleuca preissiana</i>	Moonah	6	
7 <i>Melaleuca thymoides</i>		7	
8 <i>Pericalymma ellipticum</i>	Swamp Teatree	8	
9 <i>Regelia inops</i>		9	
10 <i>Scholtzia involucre</i>		10	

CHARACTERISTIC INDIGENOUS FAUNA:

MAIN MANAGEMENT ISSUES:**CONSERVATION ACTIONS FOR NATURAL AREA:**

Required actions	Description for area
<i>Contract supervision</i>	Dieback Contractors. Water Corporation assess bore within reserve periodically, assess damage to tracks and vegetation and report to Parks Conservation Officer if observed
<i>Community consultation</i>	Gauge interest of a Friends Group with nearby residents once area has become more populated? Mail merge and media release to community newspaper on release of RHD virus etc.
<i>Dieback Management</i>	Dieback re-treatment undertaken on a 3 yearly cycle. Refer to Dieback Treatment Schedule. Next due 16/17. Practice Phytophthora Dieback hygiene.
<i>Fauna management</i>	Rescue sick or injured animals and transport to the appropriate wildlife organisation. Advise Parks Conservation Officer of feral animals sightings so that appropriate management actions can be organised. Record fauna observations. Undertake rabbit control as required (RHD)
<i>Fencing repairs/construction</i>	Undertake fencing repairs and 'fence off' new orchids if found
<i>Nursery work</i>	Maintain plants allocated for bushland revegetation projects at the depot nursery
<i>Revegetation/restoration</i>	Undertake various revegetation and restoration projects as required
<i>Rubbish and waste removal</i>	Remove rubbish periodically as per the work schedule. Remove and report illegal dumpings.
<i>Seed collection</i>	Collect seeds from where appropriate for restoration projects
<i>Sign installation</i>	Report graffiti, advise on sign placement, assist property services with sign installation
<i>Tree pruning and removal</i>	Prune and remove trees within the conservation area as required (e.g. for firebreaks)
<i>Vegetation monitoring</i>	Monitor the health of vegetation on a regular basis and report signs of decline, monitor Threatened orchid population fortnightly between mid June to September, search area for new orchids
<i>Weed control</i>	Control priority weeds by spraying and handweeding where appropriate within the bushland (winter: reduce grass populations by hand-weeding around orchids and spraying with fusilade in other areas; spring: control Onion Weed, Carnation Weed and Gladiolus by
<i>Plant and Equipment</i>	n/a
<i>Other</i>	

ADDITIONAL COMMENTS:

Supporting documentation (i.e. management plans, Fire management plans, Policies, Flora + Fauna studies, grant applications, information on projects to be carried forward):

Policy ET520 Conservation of Flora & Fauna (D13/27563)
 Flora and Fauna Study (Dxxxx)
 Dieback Treatment Schedule (D14/221729)
 Annual Vegetation Monitoring Information (EM.A1.1; D14/329220 and D14/329206)
 Fox Trapping Schedule (D14/266865)
 Bushfire Management Plan (D14/328245)
 Cat trapping program (EM.E3.1 or EM.A1.5)

APPENDIX FIVE: WORKDAY/EVENT REGISTRATION FORM

[illegible]

APPENDIX SIX: CITY OF CANNING JSEA EXAMPLE



City of Canning	JSEA Name: Hand weeding	JSEA No:
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Job and Safety & Environment Analysis

Job Step	Hazards Identified	Controls	Responsible Person
Hand Weeding	<ul style="list-style-type: none"> Sunburn Heatstroke Poisonous/irritating plant substances Unpredictable toxic/hazardous object amongst weeds Repetitive injuries Manual handling injuries Slips/trips/falls 	<ul style="list-style-type: none"> Wear appropriate PPE and apply 'sun-smart' principles. Take regular food/drink breaks. Change positions regularly and bend knees. Use correct manual handling techniques. Weed from base rather than snapping the stem. Empty bag before it gets too heavy. Keep bag away from face. Watch wear you are putting your hands. Watch footing placement and avoid walking on wet rocks and over logs. 	All
Weed disposal	<ul style="list-style-type: none"> Push/pulling injuries Manual handling injuries Slips/trips/falls Puncture wound/cuts and abrasions 	<ul style="list-style-type: none"> Wear appropriate PPE. Use correct manual handling techniques. Stand clear of others. 	All

Work Team sign-off: I have received a copy of this document, had the contents explained to me & understand the requirements of the JSEA

Name:	Signed:	Date: / /
Name:	Signed:	Date: / /
Name:	Signed:	Date: / /
Name:	Signed:	Date: / /

Supervisor sign-off: I certify that the above workers have demonstrated themselves competent in this JSEA

Name:	Signed:	Date: / /
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APPENDIX SEVEN: ANNUAL REPORT FORM

ENVIRONMENTAL COMMUNITY GROUP & ORGANISATION ANNUAL REPORT FORM

Annual reporting of groups' activities helps the City to deliver a high standard of support to groups, as well as providing a record of activities that have occurred on the City's reserves. Please complete this form and return it to the City of Canning at the end of each financial year (by 30th of June). Your assistance is appreciated. (Attachments are welcomed.)

Group/Organisation Name: Incorporated/ Not incorporated

Number of members:

Number of hours worked for year:

Location of conservation activities:
(Please attach a current map of the group's operating area)

Number of seedlings planted:

Have you direct seeded? YES / NO

Amount of funding granted from other sources:

Number of work days/conservation events for the year:

Have your activities increased? ☐ decreased? ☐ same as last year? ☐

Have the City Officers been of assistance to you during the year? YES / NO
If no, how can the City improve its support?

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

Any other comments on group's conservation activities and achievements

Other comments:

Thank you for completing this survey.

Name:

Title:

Signature:

Date:

Please return as soon as possible to:
Parks Conservation Officer
City of Canning
1317 Albany Highway, Cannington WA 6107

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- Matthew Box, Parks Conservation Officer (comments)
- David Ford, Senior Parks Service Officer (comments)

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- Sandy Wainwright

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- Amy Warner

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- Grecian Sandwell
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- Sallie Bryant

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- George Agar
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- Dulcie Barber
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