

# Roadside Vegetation and Conservation Values in the Shire of Tambellup



Photo by P. Guazelli

August 2005

Roadside Conservation Committee



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## Executive Summary

This report provides an overview of the conservation status of roadside remnant vegetation in the Shire of Tambellup. Primarily providing detailed results of the roadside survey, and accompanying management recommendations, it also briefly describes the natural environment in Tambellup, legislative considerations and threats to conservation values.

Aware of the need to conserve roadside remnants, the Shire of Tambellup, local community members and Tambellup Landcare liaised with the Roadside Conservation Committee (RCC) in 2004 to survey roadsides in their Shire. Surveys to assess the conservation values of roadside remnants were conducted throughout October 2004. The majority, 84%, of the Shire's 521 km of roadsides were assessed by the RCC for their conservation status and maps produced via a Geographic Information System (GIS). Roadside locations of six nominated weeds and habitat trees in roadsides were also recorded and mapped onto separate clear overlays.

The survey indicated that high conservation value roadsides covered 54% of the roadsides surveyed in the Shire, with medium-high conservation value roadsides accounting for 27%. Medium-low and low conservation value roadsides occupied 10% and 9%, respectively. A more detailed analysis of results is presented in Part C of this report.

It is envisaged that the primary purpose of the roadside survey data and roadside conservation value (RCV) map will be for use by Shire and community groups as a management and planning tool. Applications may range from prioritising work programs to formulating management strategies. Past experience has shown that this document and the accompanying maps are valuable in assisting with;

- identifying degraded areas for strategic rehabilitation or in need of specific management techniques and weed control programs;
- prioritising roadside vegetation protection and/or rehabilitation programs;
- re-establishing habitat linkages throughout the Shire's overall conservation network;
- developing regional or district fire management plans;
- identifying potential tourist routes, i.e. roads with high conservation value would provide visitors with an insight into the remnant vegetation of the district; and
- incorporating into Landcare or similar projects for 'whole of' landscape projects.

Progressive surveys of some Shires have revealed an alarming decline in the conservation status of many roadside reserves. In some cases the conservation value has declined at a rate of approximately 10% in 9 years. This trend indicates that without appropriate protection and management, roadside reserves will become veritable biological wastelands within the near future. However, proactive and innovative management of roadside vegetation has the potential to abate and reverse this general decline. Opportunities exist for the Shire of Tambellup to utilise the roadside conservation value map into many facets of its Landcare, tourism, road maintenance operations and Natural Resource Management (NRM) strategy documents. In addition, the RCC is available to provide assistance with the development of roadside vegetation management plans and associated documents.

# **PART A**

# **OVERVIEW OF**

# **ROADSIDE**

# **CONSERVATION**

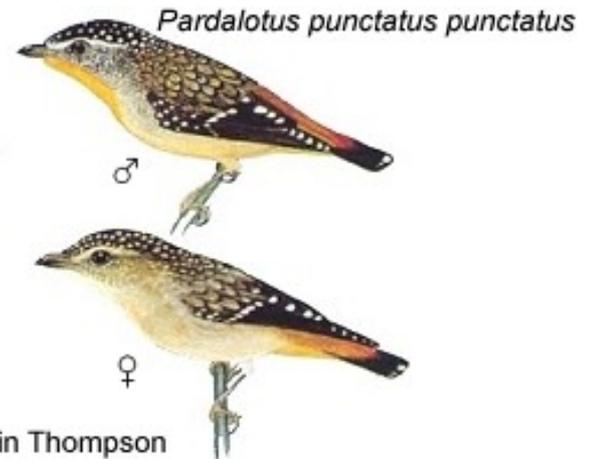
## 1.0 Why is Roadside Vegetation Important?

Since the settlement of Western Australia by Europeans, large areas of native vegetation in the south west of the state have been cleared for agriculture, roads, settlements, and other development. The fragmentation of the more or less continuous expanse of native vegetation communities by clearing has resulted in the isolation of plant and animal populations. This results in a mosaic of man-made biogeographical islands of small native vegetation remnants.

The flora and fauna in these areas are severely disadvantaged and these habitats are typically unreliable for sustaining wildlife due to limited and scarce food resources, increased disease risk and the reduced genetic diversity caused by a diminishing gene pool. Some habitat fragments may be too small to provide the requirements for even a small population; therefore, it is essential to their survival that they have a means of dispersing throughout the landscape. The presence of native vegetation along roadsides often fulfils an important role in alleviating this isolation effect by providing connectivity between bush remnants. While many roadside reserves are inadequate in size to support many plant and animal communities, they are integral in providing connections between larger areas of potentially more suitable remnant patches. It is therefore important that all native vegetation is protected regardless of the apparent conservation value it contains. It is important to acknowledge that even degraded roadsides have the ability to act as corridors for the dispersal of a variety of fauna.

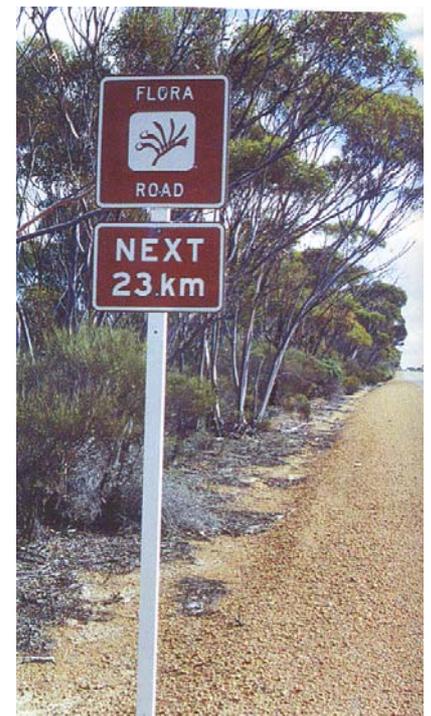
Other important values of transport corridor remnants are that they:

- are often the only remaining example of original vegetation within extensively cleared areas;
- often contain rare and endangered plants and animals. Currently, roadside plants represent more than 80 per cent of the known populations of DRF and three species are known only to exist in roadside populations;
- provide the basis for our important wildflower tourism industry. The aesthetic appeal of well-maintained roadsides should not be overlooked, and they have the potential to improve local tourism and provide a sense of place;
- often contain sites of Aboriginal /European historic or cultural significance;
- provide windbreaks and stock shelter areas for adjoining farmland by helping to stabilise temperature and reduce evaporation.



**The Spotted Pardalote (*Pardalotus punctatus punctatus*) has been recorded in the Shire of Tambellup.**

Photo by M. Thompson, Photo used with the permission of the WA Museum, FaunaBase (<http://www.museum.wa.gov.au/faunabase.htm>).



**Flora Roads are high conservation value roadside remnants.**

Photo D. Lamont.

- assist with erosion and salinity control, and not only in the land adjoining the road reserve; and
- provide a valuable source of seed for regeneration projects. This is especially pertinent to shrub species, as clearing and grazing beneath farm trees often removes this layer. Approval of the local shire and a CALM permit are required prior to collection. Guidelines for seed and timber harvesting can be found in Appendix 6.

## **2.0 What are the Threats?**

### 2.1 Lack of Awareness

The general decline of the roadside environment can, in many instances, be attributed to the lack of awareness of the functional and conservation value of the roadside remnants, both by the general community and those who work in the road reserve environment. As a consequence, there is a lack of knowledge of threatening processes (such as road maintenance and inappropriate use of fire) on the sustainability of the roadside reserve as a fauna corridor and habitat area. This situation can therefore act as a catalyst for decline in environmental quality.

### 2.2 Roadside Clearing

Western Australia's agricultural region, also known as the Intensive Land-use Zone (ILZ), covers an area of approximately 25,091,622 ha, of which only 29.8% is covered by the original native vegetation. Of the 87 rural Local Government Authorities in this zone, 21 carry less than 10% of the original remnant vegetation, and a further 30 have less than 30% (Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. 2001).

Inappropriate road management practices, particularly the systematic and indiscriminate clearing of roadside vegetation in some areas has caused irreversible damage and impacted enormously upon the conservation value of roadsides in Western Australia. Clearing roadside vegetation reduces the viability of the roadside to act as a biological corridor, the diminished habitat width impeding the movement of wildlife throughout the surrounding landscape matrix. Roadside clearing activities have the potential to introduce and spread weeds, due to the movement and disturbance of soil, thus competing with native vegetation residing in the roadside. When coupled with poor site planning and preparation, road construction and maintenance projects can often introduce and spread weeds into previously undisturbed, weed-free roadsides. Roadsides are, in many cases, the only remaining example of remnant vegetation in agricultural areas, yet they are also at great risk due to ongoing inappropriate clearing.

Amendments to the *Environmental Protection Act* 1986 have put in place a permit application process designed to assess vegetation clearing based upon a number of clearing principles which ensure ecological, conservation and land degradation issues are considered. Under the Act clearing native vegetation requires a permit unless it is for exempt purposes. These amendments are design to provide improved protection for native vegetation, maintain biodiversity and allow for some incidental clearing activities to continue, such as day-to-day farming practices, without the need for a permit.

### 2.3 Fire

Although Western Australia's flora and fauna have evolved with a tolerance to pre-European fire regimes these are generally not present today. Fire in transport corridors will inevitably alter the native vegetation, but the extent of changes is dependent on a number of factors such as:

- species present;
- intensity of fire;
- frequency of fire; and
- seasonality of the fire.

The RCC's policies on fire management are:

1. Roadside Burning should not take place without the consent of the managing authority;
2. Local Government Authorities should adopt by-laws to control roadside burning;
3. Roadside burning should be planned as part of a total Shire/area Fire Management Plan;
4. Only one side of a road should be burnt in any one year;
5. When designing a Fire Management Plan, the two principles which must be kept in mind are the ecological management of vegetation and the abatement of fire hazard;
6. No firebreaks should be permitted unless the width of the roadside vegetation strip is greater than 20m;
7. A firebreak on any road reserve should be permitted only when, in the opinion of the road manager, one is necessary for the protection of the roadside vegetation. The road manager shall specify the maximum width to which the break may be constructed;
8. In the case of any dispute concerning roadside fire management, the Bush Fires Board should be called in to arbitrate.

If a decision is made to use fire, only one side of a road should be burnt at a time, as this will ensure retention of some of the scenic values associated with the road and also provide habitat for associated fauna.

Fire can be particularly destructive to heritage sites, whether they are of Aboriginal or European origin. Before any decision is made to burn a road verge, particularly if threatened flora is present, the proponent should be aware of all values present and the impact the fire will have. It is illegal to burn roadsides where Declared Rare Flora (DRF) is present, without written permission from the Minister for the Environment.



**Before a decision is made to burn a road verge, the impact on natural, cultural and landscape values should be carefully considered.**

Photo D. Lamont

## 2.4 Weeds

Weeds are generally disturbance opportunists and as such the road verge often provides a vacant niche easily colonised. Their establishment can impinge on the survival of existing native plants, increase flammability of the vegetation and interfere with the engineering structure of the road. The effect of weed infestations on native plant populations can be severe, often with flow on effects for native fauna such as diminished habitat or food resources. Once weeds become established in an area, they become a long-term management issue, costing considerable resources to control or eradicate.

The WA Herbarium records 83 weed species in the Shire of Tambellup, see Appendix 4. The roadside survey recorded populations of six significant weeds, and their locations were mapped by the RCC onto clear overlays. The six nominated weeds were:

- Chinchinchee (*Ornithogalum thyrsoides*);
- Soursob (*Oxalis pes-caprae*);
- Wild Radish (*Raphanus raphanistrum*);
- Bridal Creeper (*Asparagus asparagoides*);
- African Lovegrass (*Eragrostis curvula*); and
- Four O’Clock (*Oxalis purpurea*).

Roadside populations of these weeds can be observed on the weed overlays provided with the Tambellup Roadside Conservation Value map (2005). The Roadside Conservation Value map and weed overlays will assist the Shire and community in planning, budgeting and coordinating strategic weed control projects. Further information on the presence of these nominated weeds is presented in Part C of this report.



**Wild Radish is a major agricultural weed that spreads by seed, making roadside populations a priority for control.**

Photo by K. Jackson RCC



**African Lovegrass is a perennial grass commonly seen growing on road shoulders and drains and can undermine the road structure.**

Photo by K. Jackson



*Oxalis pes-caprae*

Photos: R. Knox & Anon

**Soursob is spread via bulbils and is common in disturbed areas.**

Photography by R. Knox and Anon.

Photo used with the permission of the WA Herbarium, CALM  
<http://florabase.calm.wa.gov.au/help/photos#reuse>.

## 2.5 Salinity

Salinity is one of the greatest environmental threats facing Western Australia's agricultural areas, with approximately 1.8 million hectares in the south-west agricultural region already affected to some degree. Dryland salinity has occurred as a consequence of the heavy clearing undertaken in the past, namely, the removal of perennial deep-rooted native vegetation and replacement by shallow rooted annual crop vegetation, and the subsequent rising of the water table. The large amount of salt stored within the soil column in these areas of Western Australia is dissolved by the rising water and carried to the surface. Once at the surface, the water evaporates, leaving a white film of salt over the landscape, making it unproductive for current agricultural practices, and severely impacting upon the remaining native vegetation. Without significant changes to the current land use, it has been estimated that approximately 3 million hectares will be affected by salinity by 2010-2015, and 6 million hectares, or 30% of the region, affected by the time a new groundwater equilibrium is reached (Department of Agriculture WA, 2004).

The effect of salinity has not only been restricted to agriculture, but is also having a serious effect on rural townsites and the road network. The National Land and Resources Audit (2002) warned that, across Australia, some 19,800km of roads, 1,600km of railways and 306 towns are all at a high risk from dryland salinity (Department of Environment and Heritage and the Department of Agriculture, Fisheries and Forestry Australia, 2003). It has also been estimated that more than 4,000km (or 5%) of roads in the south west land division of Western Australia are at threat of being degraded by the effects of rising water tables and salinity.

Based on figures supplied by the Department of Agriculture WA for the *Salinity Investment Framework Interim Report* (2003), Table 1 shows that approximately 7.52%, or 39.23 km of roads in the Shire of Tambellup are potentially under threat from salinity.

Shire	Total road length assessed (km)	Roads potentially affected by salinity - length in km					
		Highways	Local roads	Main roads	Other roads	Total affected	% of total potentially affected
Broomehill	505.73		6.13	0.83	3.93	10.88	2.15
Cranbrook	1,071.25	1.43	32.68	2.03	18.78	54.90	5.12
Gnowangerup	1,230.93		30.55	2.98	19.70	53.23	4.32
Katanning	726.37		31.43	5.08	7.03	43.53	5.99
Kojonup	1,239.49	0.83	22.13	0.33	10.03	33.30	2.69
Tambellup	521.49	0.25	18.75	1.98	18.25	39.23	7.52

**Table 1. Road lengths potentially affected by salinity in the Shire of Tambellup and surrounding Shires.**

Adapted from material produced by the Department of Agriculture WA for Department of Environment 2003, *Salinity Investment Framework Interim Report - Phase 1*, 2003, Department of Environment, Salinity and Land Use Impacts Series No. SLUI 32

### 3.0 Legislative Requirements

Uncertainty often exists in the minds of many with regard to the 'ownership', control and management of 'the roadside'. This problem is also exacerbated by the multitude of legislative reference to activities within a transport corridor.

The Department of Conservation and Land Management (CALM) has the legislative responsibility to manage and protect all native flora and fauna in Western Australia. It is important to note that all native flora and fauna is protected under provisions of the *Wildlife Conservation Act 1950*, and cannot be taken unless it is taken in a lawful manner. In addition to the general provisions relating to protected flora under the *Wildlife Conservation Act*, special protection is afforded to flora that is declared as rare or threatened under section 23F of the *Wildlife Conservation Act*.

The legislation pertaining to the management of road reserves is complex and includes those listed below.

#### State legislation:

- *Aboriginal Heritage Act 1972*
- *Agriculture and Related Resources Protection Act 1976*
- *Bush Fires Act 1954*
- *Conservation and Land Management Act 1984*
- *Environmental Protection Act 1986*
- *Heritage of WA Act 1990*
- *Land Act 1933*
- *Local Government Act 1995*
- *Main Roads Act 1930*
- *Mining Act 1978*
- *Soil and Land Conservation Act 1945*
- *State Energy Commission Supply Act 1979*
- *Water Authority Act 1987*
- *Wildlife Conservation Act 1950-1979*

#### Commonwealth legislation:

- *Environment Protection and Biodiversity Conservation Act 1999*

New legislation has been introduced under the *Environmental Protection Act 1986* which specifies that all clearing of native vegetation requires a permit, unless it is for an exempt purpose. The Environmental Protection (Clearing of Native Vegetation) Regulations 2004 provide an outline of these exemptions. Clearing applications are assessed against twelve clearing principles, which look at values such as the;

- biological value of the remnant vegetation,
- potential impact on wetlands and drainage,
- existence of rare flora and threatened ecological communities, and
- likely land degradation impacts.

This assessment process is designed to provide a more comprehensive and stringent land clearing control system. There are two land clearing permits available, an area permit and a purpose permit. Where clearing is for a once-off clearing event such as pasture clearing or an agricultural development for example, an area permit is required. Where ongoing clearing is necessary as part of a maintenance program for road or railway reserves for example, a purpose permit is needed. In the case of Shire road construction and maintenance activities, clearing is allowed to occur if it is to the width and height previously cleared for that purpose. Contact the Department of Environment's Native Vegetation Protection Team for information.

It is recommended that a cautionary approach be taken when working within roadsides, and that the relevant authority be contacted if there is any doubt about the management or protection of heritage or conservation values present in the roadsides.

#### 4.0 Special Environment Areas

A Special Environmental Area is a section of roadside that requires special protection for the following reasons:

- protection of rare or threatened species of native plants;
- protection of sites that have other high conservation, scientific or aesthetic values;
- protection of Aboriginal or European cultural sites.

Special Environmental Areas can be delineated by the use of site markers. See the RCC publication *Guidelines for Managing Special Environmental Areas in Transport Corridors* for design and placement of SEA markers. Workers who come across a 'Special Environmental Area' marker in the field should not disturb the area between the markers unless specifically instructed. If in doubt, the Works Supervisor, Shire Engineer or CEO should be contacted. Western Power and West Net rail also have systems for marking sites near power or rail lines.

To ensure that knowledge of rare flora and other sites does not get lost due, perhaps, to staff changes, the Local Authority should establish a *Special Environmental Area Register*. This should outline any special treatment, which the site should receive, and be consulted prior to any work being initiated in the area.

The Special Environmental Area Register should be consulted by the appropriate person prior to work commencing on any particular road. This will ensure that inadvertent damage does not occur.



**Roadside SEA markers are highly visible.**  
Photo by K. Jackson

Local Government is encouraged to permanently mark Special Environmental Areas to prevent inadvertent or inappropriate damage to the rare flora or other values being protected. Markers of a uniform shape and colour will make recognition easier for other authorities using road reserves.

## 5.0 Flora Roads

A flora road is one which has special conservation value because of the vegetation contained within the road reserve. The managing authority may decide to declare a Flora Road based on the results of the survey of roadside conservation value. The Roadside Conservation Committee has prepared *Guidelines for the Nomination and Management of Flora Roads*, refer to Appendix 7. The Flora Road signs (provided by the RCC) draw the attention of both the tourist and anyone working in the road reserve, to the roadside flora, indicating that it's special and worthy of protection. The program seeks to raise the profile of roadsides within both the community and road management authorities.



**Roadsides are one of the most accessible places for tourists to view wildflowers.**  
Photo by CALM

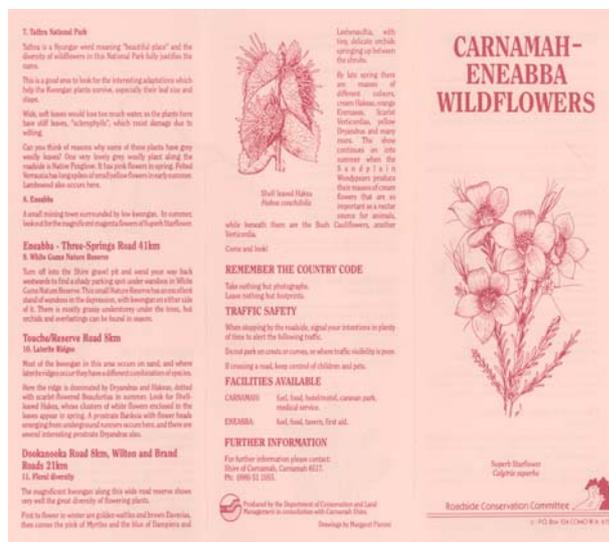
Although presently there are no Flora Roads designated within the Shire of Tambellup, the roadside survey and the roadside conservation value (RCV) map highlighted a number of roadsides that have the potential to be declared as Flora Roads. These, and other roads may be investigated further to see if they warrant a declaration as a Flora Road, see Part C of this report.

In order to plan roadworks so that important areas of roadside vegetation are not disturbed, road managers should know of these areas. It is important to the sustainability of the designated flora roads, that all road managers are aware of the location of flora roads under their control. It is suggested that the Shire establish a *Special Environmental Area Register* important for conservation.

Attractive roadside drives are an important focus in Western Australia, the "Wildflower State". Declared Flora Roads will, by their very nature, be attractive to tourists and would often be suitable as part of a tourist drive network. Consideration should be given to:

- promoting the road by means of a small brochure or booklet,
- showing all Flora Roads on a map of the region or State,
- using specially designed signs to delineate the Flora Road section (contact the RCC).

**Right: The RCC has assisted local communities to produce wildflower drive pamphlets.**



# **PART B**

## **The Natural Environment in Tambellup**

## 1.0 Flora

On a global scale, Western Australia has almost ten times the amount of vascular plant varieties than countries such as Great Britain. In fact Western Australia has some 4.8% of the 250,000 known vascular flora present on Earth. The Western Australian flora is also unique, with the majority of species being endemic, that is, found nowhere else in the world. Up to 75% of the 6,000 species in the southwest, are endemic.

The WA Herbarium has recorded over 1500 species of native plants from the Shire of Tambellup. The most prolific genus are Acacia 69 spp, Calandenia 51 spp, Dryandra 37 spp, Eucalyptus 68 spp, and Verticordia 22 spp. The complete list of recorded flora can be seen in Appendix 4 of this report.

## 2.0 Declared Rare Flora (DRF)

Declared Rare Flora (DRF) species, or populations, are of great conservation significance and should therefore be treated with special care when road and utility service, construction or maintenance is undertaken. Populations of DRF along roadsides are designated Special Environmental Areas (SEA's) and are delineated by yellow stakes with an identification plate welded on. It is suggested that the RCC publication *Guidelines for Managing SEA's in Transport Corridors* is used as a guideline for managing these sites. It is the responsibility of the road manager to ensure these markers are installed, and guides for this are available from the Roadside Conservation Committee. For information regarding DRF, contact the CALM Flora Officer for the Katanning District. If roadworks are to be carried out near DRF sites, it is advisable to contact CALM at least six weeks in advance.

Currently (as at July 2005), three locations of declared rare and priority flora are known to occur within roadsides in the Shire of Tambellup. Two of these sites are road verges vested in Main Roads WA and the remaining site being vested in the Shire of Tambellup. In total, there are three species of declared rare and priority flora on roadsides in the Shire, these being:

- Adenanthos pungens subsp. effusus
- Melaleuca ordinifolia
- Chordifex ornatus



**Declared Rare Flora (DRF) sites should be clearly marked with these yellow posts.**

Photo K. Jackson.

*Note that this information may have changed since the time of this report's release; therefore it is important to contact the relevant CALM District office or Wildlife Branch in Kensington for the most recent information.*

## 3.0 Fauna

The Western Australian Museum records approximately 289 species of fauna from the Tambellup area; these are listed in Appendix 5. WA Museum fauna records comprise specimen records, museum collections and observations from 1850 to present; therefore it is intended to act only as a general representation of the fauna

in the area. Of the fauna species recorded in the Tambellup area, there were 150 bird, 16 amphibia, 54 mammal, 20 fish and 49 reptile species.

A number of the fauna species recorded from Tambellup are classified as endemic to the wheatbelt region of Western Australia, or smaller regions within the State. For example, the Glossy Swamp Skink is confined to Western Australia and distributed throughout the southwestern zone north to Perth, east to Cheyne Beach and inland to Dwellingup and Pemberton.



**Glossy Swamp Skink.**

Photo by Ron.E.Johnstone, Photo used with the permission of the WA Museum, FaunaBase (<http://www.museum.wa.gov.au/faunabase.htm>).

The *Wildlife Conservation Act* 1950 provides for native fauna (and flora) to be specially protected where they are under identifiable threat of extinction, and as such, are considered to be "threatened". Based on distributional data from the Department of CALM, five species of threatened and priority fauna have been recorded or sighted throughout the Shire of Tambellup, and these are listed below.

- **Chuditch (*Dasyurus geoffroii*)**

This carnivorous marsupial occupies large home ranges, is highly mobile and appears able to utilise bush remnants and corridors.

- **Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*)**

This species moves around seasonally in flocks to feeding areas in proteaceous scrubs and heaths and eucalypt woodlands as well as pine plantations. Breeding occurs in winter/spring, mainly in the eastern forests and wheatbelt where they can find mature hollow-bearing trees to nest in.

- **Southern Brush-tailed Phascogale (*Phascogale tapoatafa tapoatafa*)**

This arboreal marsupial occurs in forest and woodland where suitable tree hollows are available. Populations fluctuate dramatically in response to invertebrate prey abundance.

- **Western Mouse (*Pseudomys occidentalis*)**

This species occurs most frequently in areas of long-unburnt vegetation on sandy clay or loam with a matrix of gravel. It is known to feed on the seeds of quandong (*Santalum acuminatum*) and various sedge species.

- **Tammar Wallaby (*Macropus eugenii derbianus*)**

This species prefers thickets of Melaleuca, Sheoak or other large shrubs associated with grassland.

Many fauna species, particularly small birds need continuous corridors of dense vegetation to move throughout the landscape. Roadsides therefore are of particular importance to this avifauna because they usually contain the only continuous linear vegetation connection in some areas.

#### 4.0 Remnant Vegetation Cover

Only 12.0 per cent of the original native vegetation remains in the Shire of Tambellup, and this is located in a variety of tenures from nature reserves to privately owned land. National Objectives and Targets for Biodiversity Conservation 2001-2005 (Environment Australia, 2001) stated that vegetation types represented by less than 30% are considered ecologically endangered and in need of protection and restoration wherever they are located. With only 12% remaining in Tambellup, this is considerably low, and even these remaining remnants can be depleted if proactive measures are not taken to manage this priceless resource.

Shire	Total Area (ha)	Area inside Clearing Line (ha)	Vegetation Cover Remaining (inside clearing line)	
			(ha)	(%)
Tambellup	141,288	141,288	16,966	12.0
Katanning	153,272	153,272	17,149	11.2
Gnowangerup	454,958	454,958	83,957	18.5
Broomehill	119,170	119,170	11,265	9.5
Cranbrook	326,719	326,719	123,063	37.7
Kojonup	292,938	292,938	44,482	15.2

**Table 2. Remnant vegetation remaining in agricultural areas of Tambellup and surrounding Shires (Shepherd, Beeston and Hopkins, 2001).**

The continued presence of the flora and fauna living in these fragmented remnants is dependant on the connectivity throughout the landscape. This enables access to habitat and food resources essential for the survival of species and the overall biodiversity of the region. In many situations remnant native vegetation in transport corridors is of vital importance as it provides the only continuous link throughout the landscape.



**Roadside vegetation links the landscape.**  
Photo by Main Roads WA.



**Tree hollows are of vital importance to breeding birds.**  
Photo by L. McMahon, Birds Australia

**PART C**

**ROADSIDE  
SURVEYS IN THE  
SHIRE OF  
TAMBELLUP**

## 1.0 Introduction

The roadside survey and mapping program was developed to provide a method of readily determining the conservation status of roadsides. Using this method, community volunteers are able to participate in a 'snapshot' survey of roadside vegetation to identify a range of attributes that, when combined, give an overall indication of the conservation status of the vegetation.

The majority (435.6 km, or 83.6%) of the Shire of Tambellup's 521 km of roads were surveyed and then assessed to determine the conservation status of the road reserves. Fieldwork was carried out throughout the month of October 2004. The enthusiastic efforts of the volunteer roadside surveyors and the support provided by Tambellup Shire Council and Landcare Coordinator Anthony Witham ensured that this project was successfully completed. The roadside surveyors were:

- Garry Sheridan
- Anthony Witham
- Laurie Hall
- Len King
- Rod King
- Shannon Hall

## 1.1 Methods

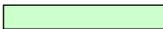
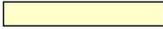
Roadside surveys were undertaken in a vehicle, with two or three people per vehicle. The passenger recorded all the roadside survey data using the RCC's hand-held computers (known as Ipaq's). At the end of the survey, the Ipaq's were sent to the RCC, where the survey information was analysed and mapped.

The methods to assess and calculate the conservation value of the roadside reserves are described in *Assessing Roadsides: A guide for Rating Conservation Value* (Jackson, 2002). The process involves scoring a set of pre-selected attributes, which, when combined, represent a roadside's conservation status. A list of these attributes is presented on a standard survey sheet in Appendix 1. This provides both a convenient and uniform method of scoring.

The following 6 attributes were used to produce a quantitative measure of conservation value:

- structure of native vegetation on roadside;
- level of weed infestation;
- extent of native vegetation along roadside;
- value as a biological corridor; and
- number of native species;
- predominant adjoining land use.

Each of these 6 attributes was given a score ranging from 0 to 2 points. Their combined scores provided a conservation value score ranging from 0 to 12. The conservation values, in the form of conservation status categories, are represented on the roadside conservation value map by the following colour codes.

<u>Conservation Value</u>	<u>Conservation Status</u>	<u>Colour Code</u>
9 – 12	High	Dark Green 
7 – 8	Medium High	Light Green 
5 – 6	Medium Low	Dark Yellow 
0 – 4	Low	Light Yellow 

The following attributes were also noted but did not contribute to the conservation value score:

- width of road reserve;
- width of vegetated roadside;
- presence of utilities/disturbances;
- general comments;
- presence of 6 nominated weeds; and
- presence of habitat trees.

It is felt that the recording of these attributes will provide a dataset capable of being used by a broad range of community land management interests.

## 1.2 Mapping Roadside Conservation Values

The RCC produced a computer-generated map (using a Geographic Information System, or GIS), at a scale of 1:100,000 for the Shire of Tambellup. Known as the Roadside Conservation Value (RCV) map, it depicts the conservation status of the roadside vegetation and the width of the road reserves within the Shire of Tambellup. The data used to produce both the map and the following figures and tables are presented in Appendix 2. Road names and length information can be found in Appendix 3.

Digital information was obtained from the Department of CALM, Main Roads WA and the Department of Agriculture WA and used in the map, depicting the location of remnant vegetation on both the Crown estate and privately owned land. Watercourses are also depicted on the RCV map.

## 1.3 Roadside Conservation Value Categories

High conservation value roadsides are those with a score between 9-12, and generally display the following characteristics:

- intact natural structure consisting of a number of layers, i.e. ground, shrub, tree layers;
- extent of native vegetation greater than 80%, i.e. little or no disturbance;
- high diversity of native flora, i.e. greater than 20 different species,
- few weeds, i.e. less than 20% of the total plants; and
- high value as a biological corridor, i.e. may connect uncleared areas, contain flowering shrubs, tree hollows and/or hollow logs for habitat.



**This high conservation value roadside in Wongan-Ballidu contains relatively intact, undisturbed and diverse remnant vegetation.**

Photo K. Jackson.

Medium-high conservation value roadsides are those with a score between 7-8, and generally have the following characteristics:

- generally intact natural structure, with one layer disturbed or absent;
- extent of native vegetation between 20-80%;
- medium to high diversity of native flora, i.e. between 6-19 species;
- few to half weeds i.e. between 20-80% of the total plants;
- medium to high value as a biological corridor.



**Medium-high conservation value roadsides contains a moderate number of native species, some disturbance and weed invasion, but have relatively intact natural structure.**

Photo RCC.

Medium-low conservation value roadsides are those with a score between 5-6, and generally have the following characteristics:

- natural structure disturbed, i.e. one or more vegetation layers absent;
- extent of native vegetation between 20-80%;
- medium to low diversity of native flora, i.e. between 0-5 species;
- half to mostly weeds, i.e. between 20-80% of total plants;
- medium to low value as a biological corridor.



**Medium-low conservation value roadsides may contain Declared Rare Flora (DRF).**

Photo by RCC

Low Conservation Value roadsides are those with a score between 0-4, and generally have the following characteristics:

- no natural structure i.e. two or more vegetation layers absent;
- low extent of native vegetation, i.e. less than 20%;
- low diversity of native flora, i.e. between 0-5 different species;
- mostly weeds, i.e. more than 80% of total plants, or ground layer totally weeds;
- low value as a biological corridor.



**Low conservation value roadsides are typically dominated by weeds and have little or no native vegetation.**

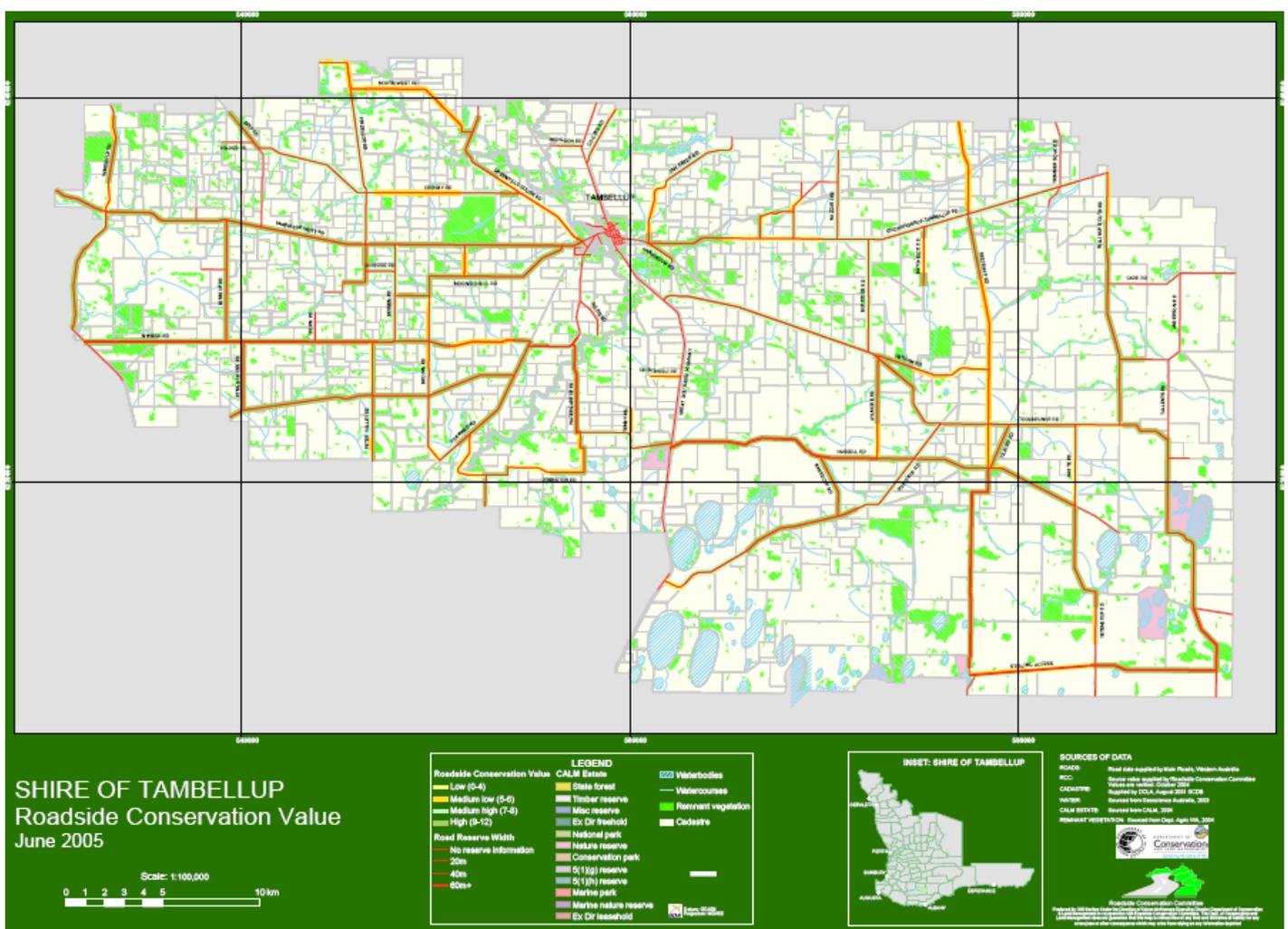
Photo by K. Jackson.

## 2.0 USING THE RCV MAP

The RCV map initially provides an inventory of the condition of the roadside vegetation. This is important as the quality of roadside vegetation has far reaching implications for sustaining biodiversity, tourism and Landcare values.

Moreover, the data and map can be incorporated as a management and planning tool for managing the roadsides, as it enables the condition of roadside vegetation to be easily assessed. This information can then be used to identify environmentally sensitive areas, high conservation roadsides or strategically important areas, and thus ensure their conservation. Conversely, it enables degraded areas to be identified as areas important for strategic rehabilitation or in need of specific management techniques and weed control programs.

The map can also be used as a reference to overlay transparencies of other information relevant to roadside conservation. This enables the roadside vegetation to be assessed in the context of its importance to the shire's overall conservation network. Other overlays, such as the degree of weed infestation, or the location of environmentally sensitive areas or future planned developments, could also be produced as an aid to roadside management.



The RCV map depicts roadside conservation values in the Shire of Tambellup.

As well as providing a road reserve planning and management tool, the roadside conservation value map can also be used for developing:

- regional or district fire management plans;
- Landcare and/or Bushcare projects that would be able to incorporate the information from this survey into 'whole of' landscape projects; and
- tourist routes, i.e. roads depicted as high conservation value would provide visitors to the district with an insight to the flora of the district.



**Weed control along a roadside.**  
Photo MRWA



**Catchment recovery projects, such as revegetation programs can utilise the information conveyed on roadside conservation value maps.**

Photo by RCC



**The road manager can declare high conservation value roads as Flora Roads.**

Photo by D. Lamont.



**The survey data and map can be used in developing regional or district fire management plans.**

Photo by CALM

### 3.0 RESULTS

Using the information collected by the roadside survey, totals of the attributes used to calculate roadside conservation values in the Shire of Tambellup is presented in Table 3. The survey data has been combined to provide the total kilometres and percentages of roadside occupied by each of the conservation status categories, and the attributes used to calculate the conservation values. As roadsides occur on both sides of the road, roadside distances (km) are equal to *twice* the actual distance of road travelled.

<b>Summary Roadside Information: Shire of Tambellup</b>					
Length of roadside surveyed: 871.1km (or 435.55km of road)					
<b><u>Roadside Conservation Status</u></b>			<b><u>Native Vegetation on Roadside</u></b>		
	Total (km)	(%)		Total (km)	(%)
Low (0-4)	78.7	9.0	0 vegetation layers	34.0	3.9
Medium-low (5-6)	88.9	10.2	1 vegetation layer	151.1	17.4
Medium-high (7-8)	234.2	26.9	2-3 vegetation layers	685.9	78.7
High (9-12)	469.4	53.9	Total	871.1	100.0
Total	871.1	100.0			
<b><u>Roadside Conservation Values</u></b>			<b><u>Extent of Native Vegetation</u></b>		
	Total (km)	(%)		Total (km)	(%)
0	0.3	0.0	Low, <20%	183.8	21.1
1	0.3	0.0	Medium, 20-80%	595.2	68.3
2	31.5	3.6	Good, >80%	92.0	10.6
3	13.7	1.6	Total	871.1	100.0
4	32.9	3.8			
5	29.0	3.3	<b><u>Number of Native Plant Species</u></b>		
6	59.8	6.9		Total (km)	(%)
7	106.5	12.2	0 - 5 native species	153.2	17.6
8	127.6	14.7	6 - 19 native species	388.9	44.6
9	248.1	28.5	Over 20 native species	328.9	37.8
10	124.1	14.2	Total	871.1	100.0
11	57.7	6.6			
12	39.5	4.5	<b><u>Weed Infestation</u></b>		
Total	871.1	100.0		Total (km)	(%)
			Heavy	248.9	28.6
			Medium	481.2	55.2
			Light	140.9	16.2
			Total	871.1	100.0
<b><u>Predominant Adjoining Landuse</u></b>			<b><u>Value as a Biological Corridor</u></b>		
	Total (km)	(%)		Total (km)	(%)
Agricultural: Completely cleared	773.0	88.7	Low	91.3	10.5
Agricultural: Scattered vegetation	12.6	1.4	Medium	124.9	14.3
Other	0.0	0.0	High	654.9	75.2
Non-native Plantation	0.0	0.0	Total	871.1	100.0
Railway Reserve	4.3	0.5			
Uncleared native vegetation	81.3	9.3			
Total	871.1	100.0			

Roadside surveys were carried out throughout October 2004

**Table 3. Summary of results from the roadside survey in the Shire of Tambellup.**

### Width of Road Reserve

The width of road reserves in the Shire of Tambellup was recorded in increments of 20 metres, as shown in Table 4. The majority of road reserves were 20 metres in width, with 303.6 km, or 69.7% of roads falling into this category. Of the remaining roads, 71.0 km, or 16.3%, were 40 metres in width and 60.9 km, or 14.0% were 60m wide.

Width of Road Reserves		
	Total (km)	%
20 m	303.6	69.7
40 m	71.0	16.3
60 m	60.9	14.0
80 m	0.0	0.0
Total	435.5	100.0

**Table 4. Width of road reserves in the Shire of Tambellup.**

### Width of Vegetated Road Reserve

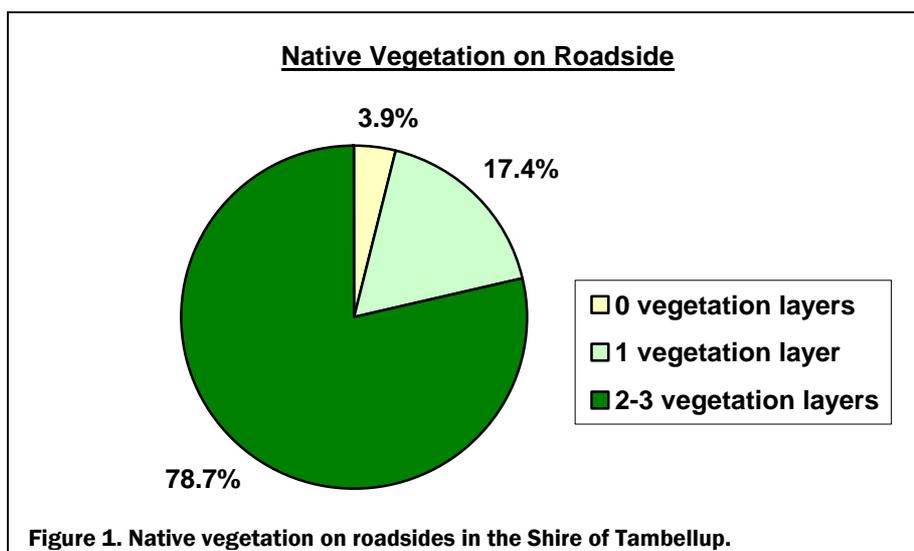
The width of vegetated roadside was recorded by selecting one of three categories, 1-5 metres, 5-20 metres or over 20 metres in width. The left and right hand sides were recorded independently, and then combined to establish the total figures shown in Table 5. The majority of roadside vegetation (661.0 km or 75.9%) was between 1 to 5 metres in width, followed by 182.8 km (21.0%) of roadsides where the vegetation fell between 5 to 20 metres in width. Roadside vegetation over 20 metres in width spanned 4.9 km, or 0.6% of the roadsides surveyed, whilst the width was unknown for 22.4 km or 2.6% of the roadsides surveyed.

Width of Vegetated Roadside		
	Total km	%
1-5 metres	661.0	75.9
5-20 metres	182.8	21.0
Over 20 metres	4.9	0.6
Unknown	22.4	2.6
Total	871.1	100.0

**Table 5. Width of vegetation on roadsides in the Shire of Tambellup.**

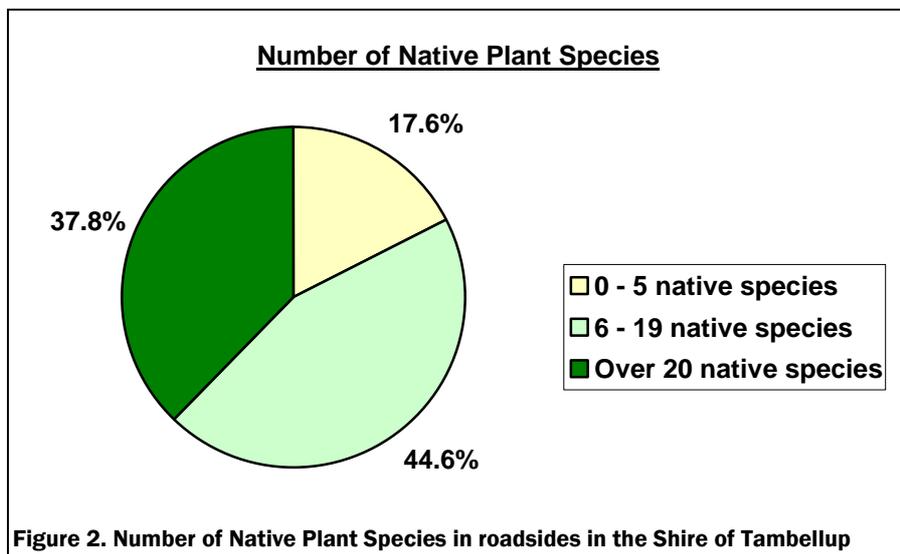
### Native Vegetation on Roadsides

The number of native vegetation layers present, i.e. tree, shrub and/or ground layers determined the 'native vegetation on roadside' value. Sections with two to three layers of native vegetation covered 78.7% of roadsides (685.9 km), 17.4% had only one layer (151.1 km) and 3.9% had no layers of native vegetation (34.0 km), refer to Table 3 and Figure 1.



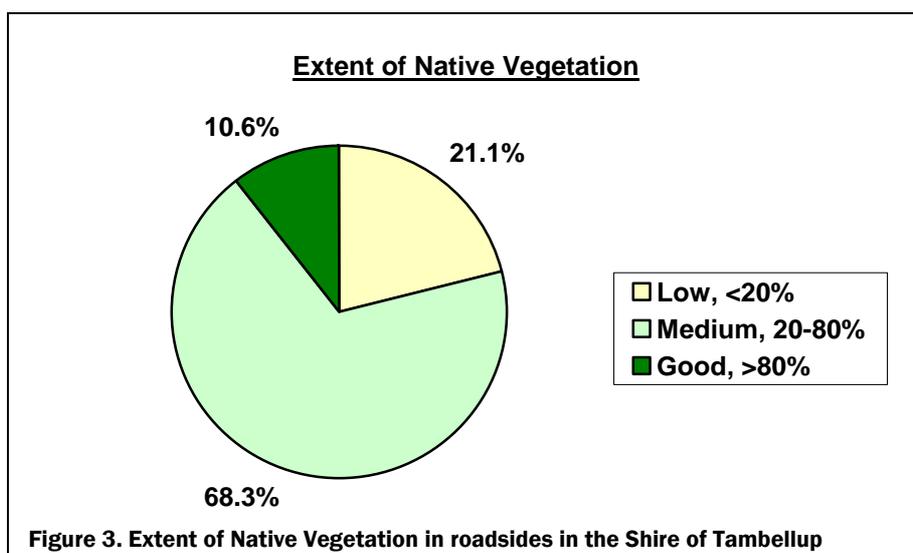
### Number of Native Plant Species

The 'number of native plant species' score provided a measure of the diversity of the roadside vegetation. Survey sections with over 20 plant species spanned 37.8% (328.9 km) of the roadsides surveyed. Roadside sections with 6 to 19 plant species accounted for 44.6% (388.9 km) of the roadside. The remaining 17.6% (153.2 km) contained less than 5 plant species, refer to Table 3 and Figure 2.



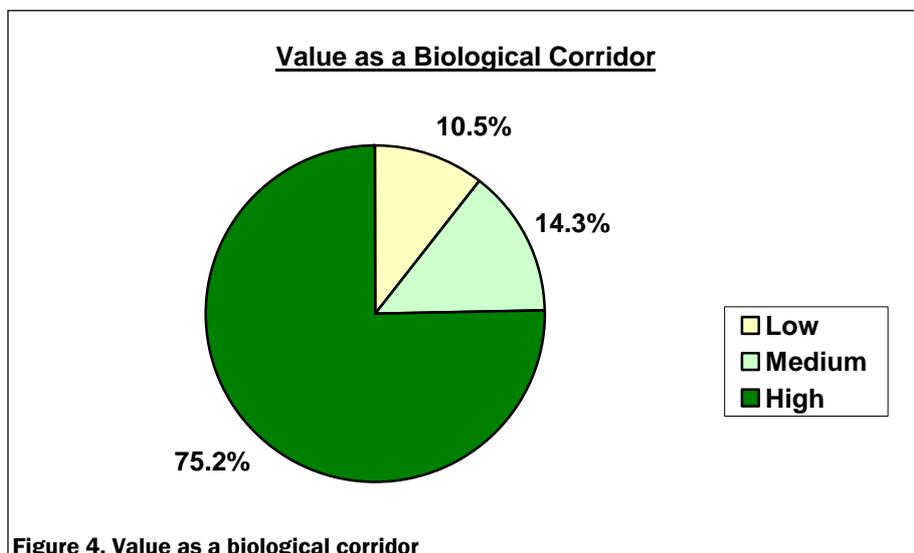
### Extent of Native Vegetation

The 'extent of native vegetation' cover refers to the continuity of the roadside vegetation and takes into account the presence of disturbances such as weeds. Roadsides with extensive vegetation cover, i.e. greater than 80%, occurred along 10.6% of the roadsides surveyed (92.0 km). Survey sections with medium, i.e. 20% to 80% vegetation cover accounted for 68.3% of the roadsides (595.2 km). The remaining 21.1% had less than 20% native vegetation (183.8 km), and therefore, a low 'extent of native vegetation' value, refer to Table 3 and Figure 3.



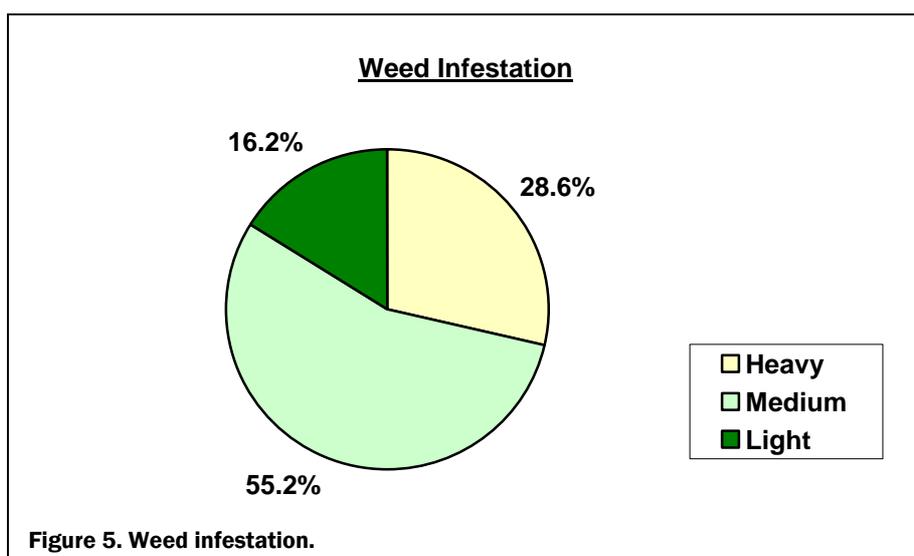
### Value as a Biological Corridor

This characteristic considered the presence of four attributes- connection to uncleared areas; presence of flowering shrubs; large trees with hollows and hollow logs. Roadsides determined to have high value as a biological corridor were present along 75.2% (654.9 km) of the roadsides surveyed. Roadsides with medium value as biological corridors made up 14.3% (124.9 km), and roadsides with low value as a biological corridor occurred along 10.5% (91.3 km) of the roadsides surveyed, refer to Table 3 and Figure 4.



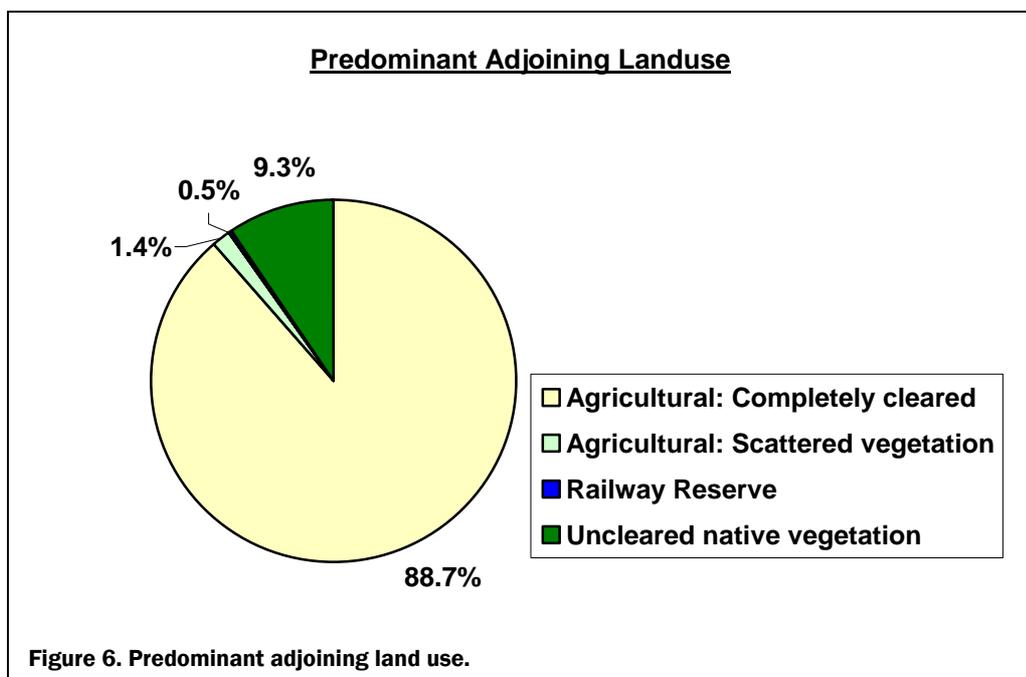
### Weed Infestation

Light levels of weed infestation (weeds less than 20% of total plants), were recorded on 16.2% (140.9 km) of the roadsides surveyed, medium level weed infestation (weeds 20-80% of the total plants) occurred on 55.2% (481.2 km) of the roadsides and 28.6% of roadsides (248.9 km) were heavily infested with weeds (weeds more than 80% of the total plants), refer to Table 3 and Figure 5.



### Predominant Adjoining Land Use

Uncleared native vegetation was present on 9.3% (81.3 km) of the land adjoining roadsides, whilst 88.7% (773.0 km) of roadsides adjoined land that had been completely cleared for agriculture. 1.4% (12.6 km) of the roadsides bordered land cleared for agriculture, but containing a scattered distribution of native vegetation. Railway reserves adjoined 0.5% (4.3 km) of the roadsides; see Table 3 and Figure 6.



### Nominated Weeds

The following weeds are depicted on clear overlays accompanying the 2005 Roadside Conservation Value map:

- Chinchinchee (*Ornithogalum thyrsoides*);
- Soursob (*Oxalis pes-caprae*);
- Wild Radish (*Raphanus raphanistrum*);
- Bridal Creeper (*Asparagus asparagoides*);
- African Lovegrass (*Eragrostis curvula*); and
- Four O'clock (*Oxalis purpurea*).

Note: Roadside populations of nominated weeds were recorded as being present in the road reserve, and were not recorded specifically for the left and/or right hand sides. Therefore, the occurrence of each weed (in kilometres) indicates the presence of the weed within the road reserve generally, and may need to be doubled where present on both sides of the road.

Of the nominated weeds species, Bridal Creeper was the most prevalent, and was recorded along 156.1 km of the roads surveyed. Wild Radish was also highly dominant, and was recorded along 151.4 km of roads. African Lovegrass was the next most commonly recorded weed, occurring along 148.0 km of roads, followed

by Four O'clock, which was recorded along 36.6 km. Chinchinchee was recorded along 28.3 km of roads, and Soursob was recorded along 23.5 km. Refer to Figure 7.

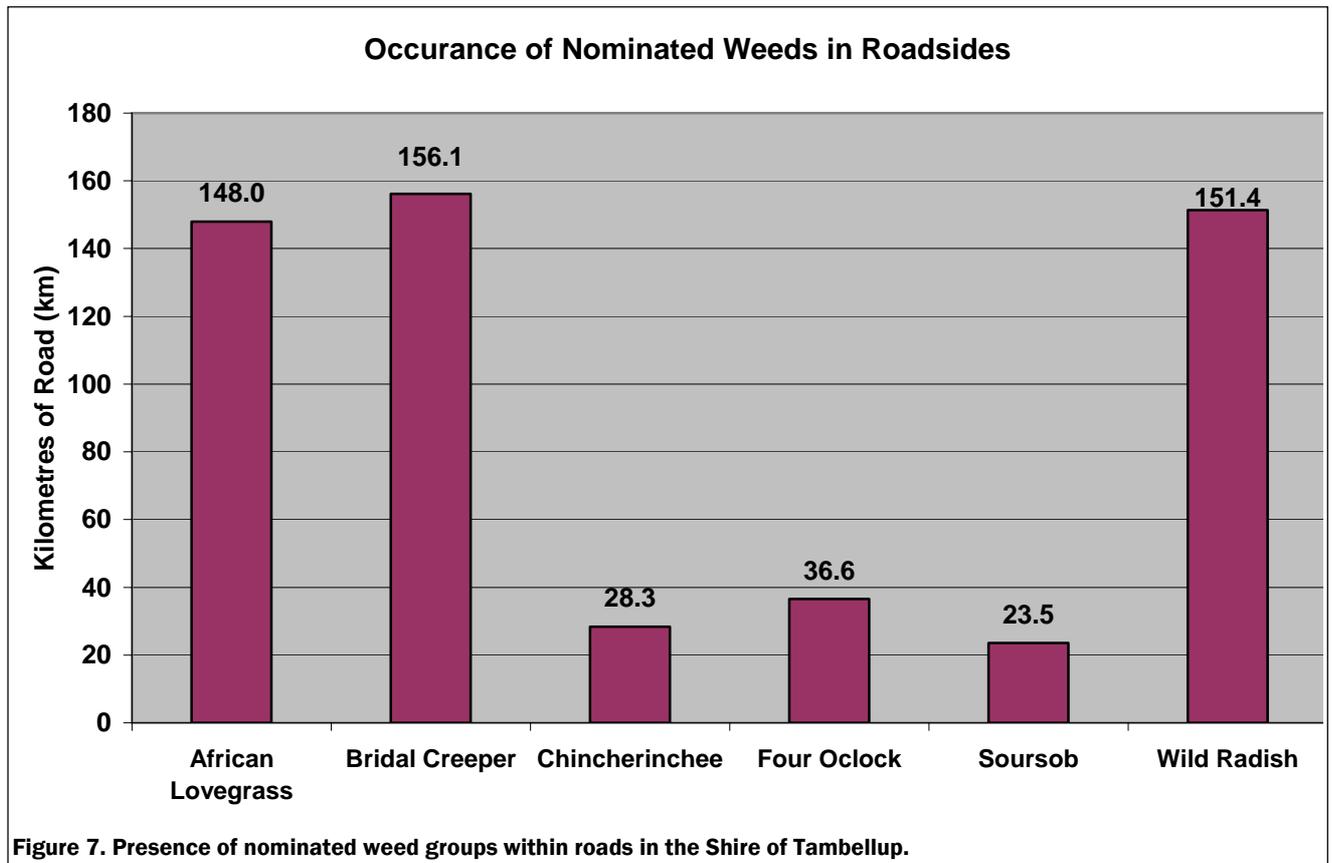


Figure 7. Presence of nominated weed groups within roads in the Shire of Tambellup.

Habitat Trees

The presence of significant habitat trees in roadsides was recorded throughout the survey and these locations are depicted on a separate clear overlay accompanying the 2005 RCV map. The roadside surveyors recorded the presence (or absence) of habitat trees within sections of roads as they recorded the other roadside attributes. There were 38.1%, or 332.0 km of roadsides that contained significant habitat trees; see Figure 8.

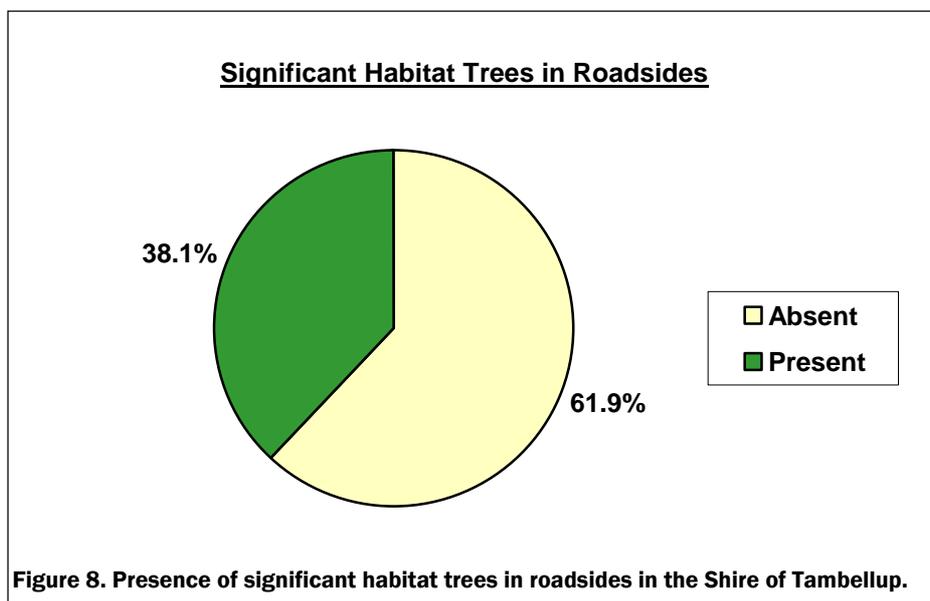


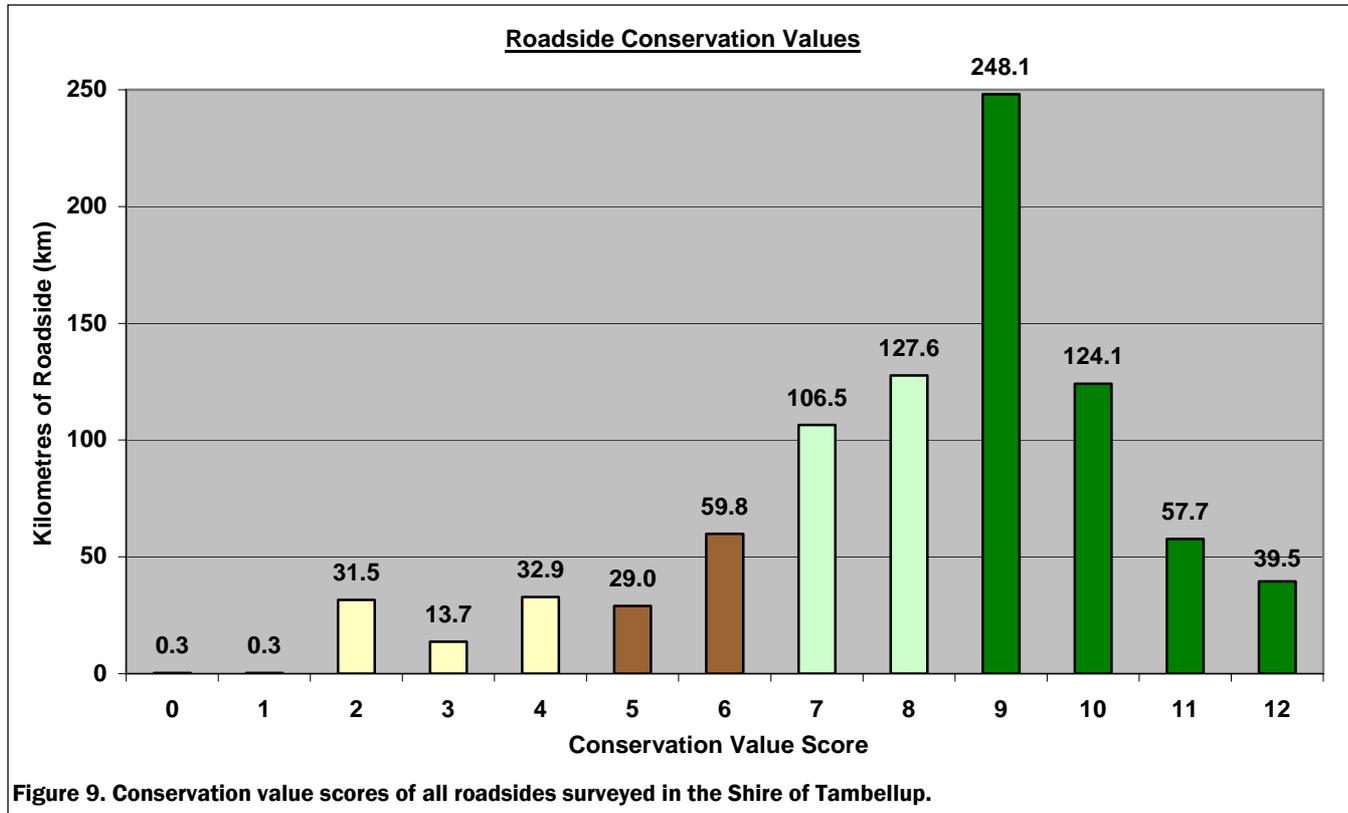
Figure 8. Presence of significant habitat trees in roadsides in the Shire of Tambellup.

The roads containing habitat trees were:

- Paul Valley Road
- Hassell Road
- Toolbrunup Road
- Nymbup Road
- Crosby Road
- Beejenup Road
- Pindellup Road
- North West Road
- Tilbury Road
- Johnston Road
- Jam Creek Road
- Watergarrup Road
- Brown Road
- Warrenup Road
- Binniup Road
- Aylmore Road
- Kings Cross Road
- Sprigg Simpson Road
- Nazzari Road
- Birt Road
- Dartnall Road
- Greenhills South Road
- Hodgson Road
- Pindellup South Road
- Gnowangerup-Tambellup Road
- Tambellup West Road.

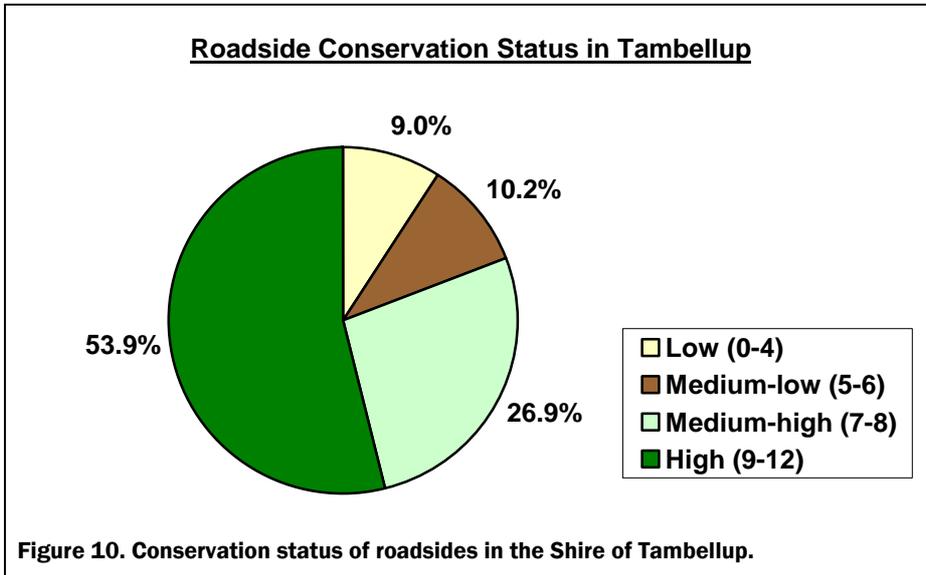
Conservation Value Scores

Conservation value scores were calculated for each section of roadside surveyed. Scores range from 0 to 12, from lowest to highest conservation value respectively, these are shown in Figure 9. The most occurring roadside conservation value score was 9, with 248.1km of roadsides achieving this score. Following this, 127.6 km of roadsides scored 8, 124.1 km scored 10 and 106.5 km scored 7. Roadsides with a conservation value score of 6 covered 59.8 km of roadsides, scores of 11 covered 57.7 km, and roadsides with a score of 12 spanned 39.5 km. Roadsides with a conservation value score of 4 spanned 32.9 km, scores of 2 equalled 31.5 km, roadsides scoring 5 covered 29.0 km, scores of 3 included 13.7 km and scores of 0 and 1 spanned 0.3 km each.



### Conservation Status

The conservation status category indicates the combined conservation value of roadsides surveyed in the Shire of Tambellup. Roadside sections of high conservation value covered 53.9% (469.4 km) of the roadsides surveyed. Medium-high conservation value roadsides accounted for 26.9% of the total surveyed (234.2 km), medium-low conservation roadside covered 10.2% (88.9 km) of the total surveyed. Roadsides of low conservation value occupied 9.0% (78.7 km) of the roadsides surveyed; refer to Table 3 and Figure 10.



### Flora Roads

A flora road is one which has special conservation value because of the vegetation contained within the road reserve. The Roadside Conservation Committee has prepared *Guidelines for the Nomination and Management of Flora Roads*, refer to Appendix 7.

Although presently there are no Flora Roads designated within the Shire of Tambellup, the roadside survey and the roadside conservation value (RCV) map highlighted a number of roadsides that have the potential to be declared as Flora Roads. Roadsides, or large sections of roadsides, determined as having high conservation value in the Shire of Tambellup include:

- Paul Valley Road
- Hassell Road
- Toolbrunup Road
- Nymbup Road
- Crosby Road
- Pallinup South Road
- Beejenup Road
- Pootenup Road
- Tilbury Road
- White Road
- Johnston Road
- Moonies Hill Road
- Peter Valley Road
- Warrenup Road
- Binnup Road
- Aylmore Road
- Barrecup Road
- Kings Cross Road
- Witham Road
- Batchelor Road
- Birt Road
- Greenhills South Road
- Pindellup South Road
- Gnowangerup-Tambellup Road
- Tambellup West Road.

**PART D**

**ROADSIDE**

**MANAGEMENT**

**RECOMMENDATIONS**

## **1.0 Management Recommendations**

The primary aim of road management is the creation and maintenance of a safe, efficient road system. However, the following management procedures are recommended. The following section provides general management recommendations that will assist in retaining and enhancing roadside conservation values.

The Executive Officer of the Roadside Conservation Committee is also available to provide assistance on all roadside conservation matters, and can be contacted on (08) 9334 0423. The following RCC publications provide guidelines and management recommendations that will assist Local Government Authorities:

- *RCC Roadside Manual,*
- *The Roadside Handbook,*
- *Guidelines for Managing Special Environmental Areas in Transport Corridors,* and
- *Handbook of Environmental Practice for Road Construction and Maintenance Works.*

### **1.1 Protect high conservation value roadsides by maintaining and enhancing the native plant communities.**

This can be achieved by:

- retaining remnant vegetation,
- minimising disturbance to existing roadside vegetation,
- minimising disturbance to soil, and
- preventing or controlling the introduction of weeds.

### **1.2. Promote and raise awareness of the conservation value associated with roadside vegetation by:**

- establishing a register of Shire roads important for conservation,
- declaring suitable roadsides as Flora Roads,
- incorporating into tourist, wildflower and/or scenic drives.

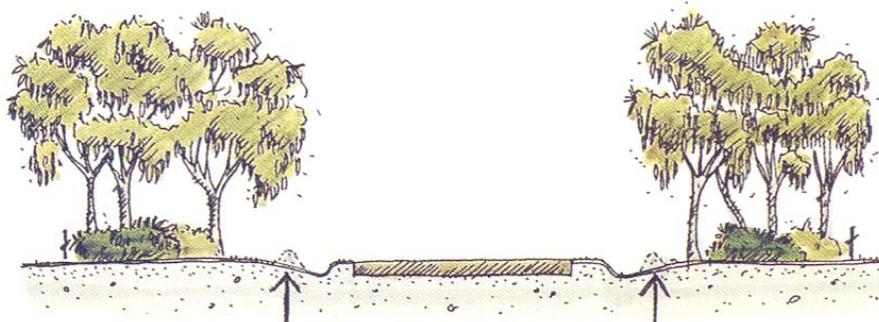
### **1.3 Improve roadside sections of medium to low conservation value by:**

- minimising disturbance caused by machinery, adjoining land practices and incidences of fire,
- carrying out a targeted weed control program,
- retaining remnant trees and shrubs,
- allowing natural regeneration,
- spreading local native seed to encourage regeneration, and
- encourage revegetation projects by adjacent landholders.

## 2.0 Minimising Disturbance

Minimal disturbance can be achieved by:

- 2.1 Adopting a road design that occupies the minimum space;
- 2.2 Diverting the line of a table drain to avoid disturbing valuable flora;
- 2.3 Pruning branches, rather than removing the whole tree or shrub;
- 2.4 Not dumping spoil on areas of native flora;
- 2.5 Applying the *Fire Threat Assessment* (see RCC Roadside Manual) before burning roadside vegetation, use methods other than fuel reduction burns to reduce fire threat; if roadside burning must be undertaken, incorporate it into a district fire management program;
- 2.6 Encouraging adjacent landholders to set back fences to allow roadside vegetation to proliferate;
- 2.7 Encouraging adjacent landholders to plant windbreaks or farm tree lots adjacent to roadside vegetation to create a denser windbreak or shelterbelt;
- 2.8 Encouraging revegetation projects by adjacent landholders.

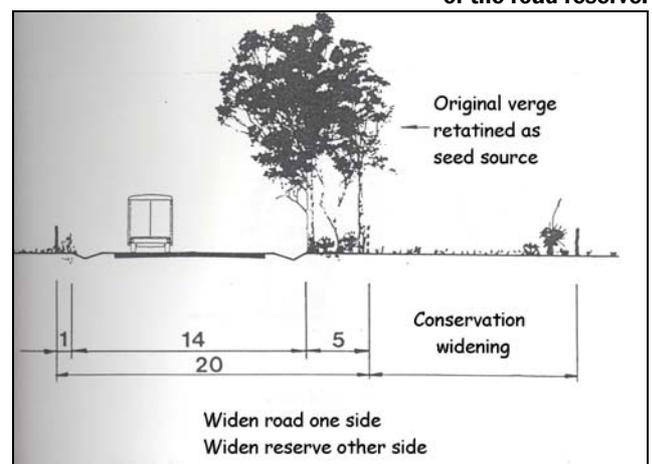


Avoid windrowing drain material into vegetation

**Below right: Widening a road to one side only so that a wider section of roadside vegetation is retained on the other side of the road reserve.**



**Above: a high value road reserve in Tammin. The road was built on adjoining farmland in order to retain the important remnant bushland existing in the undeveloped road reserve.**



### 3.0 Planning for Roadsides

The RCC is able to provide comprehensive models of Roadside Management Plans and encourages all Shires to adopt this practice of planning for roadside conservation.

The following actions greatly enhance likelihood of a plan that changes behaviour and results in on-ground actions:

- Community support- encourage ongoing community involvement and commitment by establishing a local Roadside Advisory Committee or working group within the Shire Environmental Committee;
- Contract specifications- maintain roadside values by developing environmental specifications for inclusion in all tender documents or work practices;
- Community education- use of innovative and pertinent material can increase community understanding of roadside values;
- Training- promote local roadside planning initiatives and gain acceptance and understanding by involving shire staff, contractors, utility provider staff and the community in workshops, seminars or training days. The Roadside Conservation Committee can provide this training.

Training develops recognition and understanding of roadside values and highlights best work practices. Workshops are developed to ensure that local issues and environments are dealt with and they include site visits to high conservation remnants, current projects and works.

### 4.0 Setting Objectives

The objective of all roadside management should be to:

- **Protect**
  - native vegetation
  - rare or threatened flora or fauna
  - cultural and heritage values
  - community assets from fire
- **Maintain**
  - safe function of the road
  - native vegetation communities
  - fauna habitats and corridors
  - visual amenity and landscape qualities
  - water quality
- **Minimise**
  - land degradation
  - spread of weeds and vermin
  - spread of soil borne pathogens
  - risk and impact of fire
  - disturbance during installation and maintenance of service assets
- **Enhance**
  - indigenous vegetation communities
  - fauna habitats and corridors

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# Appendix

# 1



# Appendix

## 2

ROAD#	Sect#	OD Start	OD Finish	Sect length (km)	Road length (km)	Road Name	Direction	Date	Observer	Width Rd Res (m)	Native Veg		Extent of Veg		# Native Plant Spp		Weeds		Value as Biol Corridor		Adj Landuse		Conservation Value Score (0-12)		Presence of Weeds and Habitat Trees	
											Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right		Left
3130003	1	4.36	6.06	1.70		PAUL VALLEY RD	West	06-Oct-04	HULLY	60	2	2	0	0	1	1	1	1	1	1	1	2	2	7	7	FOUR_O_CLOCK AFRICAN_LOVEGRASS SOURSOB
3130003	2	6.06	6.86	0.80		PAUL VALLEY RD	West	06-Oct-04	HULLY	60	2	2	1	1	2	2	1	1	2	2	0	2	8	10	FOUR_O_CLOCK AFRICAN_LOVEGRASS SOURSOB	
3130003	3	6.86	8.56	1.70		PAUL VALLEY RD	South	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	BRIDAL_CREEPER HABITAT_TREES	
3130003	4	8.56	17.76	9.20		PAUL VALLEY RD	West	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	FOUR_O_CLOCK BRIDAL_CREEPER HABITAT_TREES	
3130003	5	17.76	18.66	0.90		PAUL VALLEY RD	West	06-Oct-04	HULLY	20	2	2	2	2	2	2	2	2	2	2	2	2	12	12	HABITAT_TREES	
3130003	6	18.66	23.66	5.00	23.66	PAUL VALLEY RD	West	06-Oct-04	HULLY	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	HABITAT_TREES	
3130004	1	0.00	11.13	11.13		HASSELL RD	East	01-Oct-04	HULLY	60	2	2	1	1	2	2	2	2	2	2	2	2	11	11	BRIDAL_CREEPER AFRICAN_LOVEGRASS HABITAT_TREES	
3130004	2	11.13	16.93	5.80		HASSELL RD	East	01-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	BRIDAL_CREEPER WILD_RADISH AFRICAN_LOVEGRASS HABITAT_TREES	
3130004	3	16.93	17.69	0.76		HASSELL RD	East	11-Oct-04	Ant	40	2	2	1	2	1	2	1	1	1	2	0	0	6	9	HABITAT_TREES	
3130004	4	17.69	19.38	1.69		HASSELL RD	East	11-Oct-04	Ant	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	HABITAT_TREES	
3130004	5	19.38	20.59	1.21		HASSELL RD	East	11-Oct-04	Ant	20	2	2	2	1	2	2	2	1	1	1	0	2	9	9		
3130004	6	20.59	21.90	1.31	24.60	HASSELL RD	East	11-Oct-04	Ant	20	2	2	1	2	2	2	1	2	1	1	2	2	9	11		
3130005	1	0.00	11.50	11.50		TOOLBRUNUP RD	East	01-Oct-04	hully	40	2	2	0	0	1	1	1	1	2	2	2	2	8	8	WILD_RADISH BRIDAL_CREEPER AFRICAN_LOVEGRASS	
3130005	2	11.50	13.07	1.57		TOOLBRUNUP RD	East	01-Oct-04	hully	40	2	2	2	2	2	2	2	2	2	2	1	2	11	12	AFRICAN_LOVEGRASS	
3130005	3	13.07	14.23	1.17		TOOLBRUNUP RD	East	01-Oct-04	hully	20	2	2	2	2	2	2	2	2	2	2	0	2	10	12	AFRICAN_LOVEGRASS HABITAT_TREES	
3130005	4	14.23	24.00	9.77		TOOLBRUNUP RD	East	01-Oct-04	hully	20	2	2	0	1	1	1	1	1	2	2	2	2	8	9	WILD_RADISH AFRICAN_LOVEGRASS	
3130005	5	24.00	26.20	2.20		TOOLBRUNUP RD	East	01-Oct-04	hully	20	2	0	1	0	1	0	1	0	0	0	2	2	7	2	WILD_RADISH AFRICAN_LOVEGRASS	
3130005	6	26.20	31.60	5.40		TOOLBRUNUP RD	East	01-Oct-04	hully	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_RADISH AFRICAN_LOVEGRASS	
3130005	7	31.60	35.70	4.10		TOOLBRUNUP RD	East	01-Oct-04	hully	20	2	2	2	2	2	2	2	2	2	2	0	2	10	12	WILD_RADISH AFRICAN_LOVEGRASS	
3130005	8	35.70	38.60	2.90	38.60	TOOLBRUNUP RD	East	01-Oct-04	hully	40	2	2	2	2	2	2	2	2	2	2	2	2	12	12		
3130006	1	0.00	1.40	1.40		NYMBUP RD	East	06-Oct-04	HULLY	60	2	2	1	1	2	2	1	1	2	2	2	2	10	10	HABITAT_TREES	
3130006	2	1.40	3.20	1.80		NYMBUP RD	East	06-Oct-04	HULLY	60	2	2	2	2	2	2	2	2	2	2	0	0	10	10	HABITAT_TREES	
3130006	3	3.20	3.70	0.50		NYMBUP RD	East	06-Oct-04	HULLY	60	2	2	1	2	2	2	2	2	2	2	1	0	10	10	HABITAT_TREES	
3130006	4	3.70	15.10	11.40		NYMBUP RD	East	06-Oct-04	HULLY	60	2	2	1	1	2	2	1	1	2	2	2	2	10	10	BRIDAL_CREEPER CHINCHERINCHEE HABITAT_TREES	
3130006	5	15.10	19.00	3.90		NYMBUP RD	East	06-Oct-04	HULLY	40	2	2	1	1	1	1	1	1	2	2	2	2	9	9	BRIDAL_CREEPER SOURSOB HABITAT_TREES	
3130006	6	19.00	22.50	3.50		NYMBUP RD	East	06-Oct-04	HULLY	40	1	1	1	1	0	0	0	0	2	2	2	2	6	6	BRIDAL_CREEPER SOURSOB HABITAT_TREES	

ROAD#	Sect#	OD Start	OD Finish	Sect length (km)	Road length (km)	Road Name	Direction	Date	Observer	Width Rd Res (m)	Native Veg		Extent of Veg		# Native Plant Spp		Weeds		Value as Biol Corridor		Adj Landuse		Conservation Value Score (0-12)		Presence of Weeds and Habitat Trees	
											Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right		Left
3130006	7	22.50	23.70	1.20	23.70	NYMBUP RD	East	06-Oct-04	HULLY	40	2	2	2	2	2	2	2	2	2	2	2	2	2	12	12	BRIDAL_CREEPER HABITAT_TREES
3130007	1	0.00	0.95	0.95		CROSBY RD	West	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9		
3130007	2	0.95	3.05	2.10		CROSBY RD	West	06-Oct-04	HULLY	20	2	2	1	0	1	1	1	1	2	2	0	2	7	8	HABITAT_TREES	
3130007	3	3.05	7.55	4.50		CROSBY RD	West	06-Oct-04	HULLY	20	1	1	0	0	0	0	1	1	2	2	2	2	6	6	HABITAT_TREES	
3130007	4	7.55	9.35	1.80		CROSBY RD	West	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	HABITAT_TREES	
3130007	5	9.35	14.25	4.90	14.25	CROSBY RD	West	06-Oct-04	HULLY	20	2	2	1	1	0	0	0	0	2	2	2	2	7	7	FOUR_O_CLOCK SOURSOB HABITAT_TREES	
3130008	1	0.00	9.36	9.36		PALLINUP SOUTH RD	North	07-Oct-04	len and anthony	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	WILD_RADISH	
3130008	2	9.36	10.92	1.56		PALLINUP SOUTH RD	North	07-Oct-04	len and anthony	20	2	2	1	1	2	2	1	1	2	2	2	0	10	8	WILD_RADISH	
3130008	3	10.92	13.40	2.48	13.40	PALLINUP SOUTH RD	North	07-Oct-04	len and anthony	20	2	2	0	0	1	1	0	0	2	1	2	2	7	6	WILD_RADISH	
3130009	1	0.00	4.78	4.78		BEEJENUP RD	South	11-Oct-04	Ant	20	1	1	1	1	1	1	0	0	0	0	2	2	5	5		
3130009	2	4.78	8.48	3.70		BEEJENUP RD	South	01-Oct-04	HULLY	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	WILD_RADISH	
3130009	3	8.48	18.48	10.00		BEEJENUP RD	South	01-Oct-04	HULLY	20	1	1	0	0	0	0	1	1	2	2	2	2	6	6	WILD_RADISH	
3130009	4	18.48	28.68	10.20		BEEJENUP RD	South	01-Oct-04	hully	60	2	2	1	1	2	2	2	2	2	2	2	2	11	9	WILD_RADISH HABITAT_TREES	
3130009	5	28.68	29.78	1.10	30.20	BEEJENUP RD	South	01-Oct-04	hully	60	2	2	1	1	2	2	2	2	2	2	2	0	11	9	WILD_RADISH	
3130010	1	0.00	2.75	2.75		PINDELLUP RD	North	06-Oct-04	HULLY	20	1	1	1	1	0	0	1	1	2	2	2	2	7	7	BRIDAL_CREEPER HABITAT_TREES	
3130010	2	2.75	7.55	4.80		PINDELLUP RD	North	06-Oct-04	HULLY	20	1	1	1	1	0	0	1	1	2	2	2	2	7	7	FOUR_O_CLOCK WILD_RADISH CHINCHERINCHEE BRIDAL_CREEPER HABITAT_TREES	
3130010	3	7.55	8.05	0.50		PINDELLUP RD	North	06-Oct-04	HULLY	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	FOUR_O_CLOCK CHINCHERINCHEE BRIDAL_CREEPER HABITAT_TREES	
3130010	4	8.05	9.65	1.60	9.65	PINDELLUP RD	North	06-Oct-04	HULLY	20	1	1	0	0	0	0	1	1	2	2	2	2	6	6	FOUR_O_CLOCK CHINCHERINCHEE BRIDAL_CREEPER HABITAT_TREES	
3130011	1	0.00	0.73	0.73		NORTH WEST RD	West	06-Oct-04	HULLY	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	HABITAT_TREES	
3130011	2	0.73	4.56	3.83		NORTH WEST RD	West	06-Oct-04	HULLY	20	1	1	0	0	0	0	0	0	2	2	2	2	5	5	WILD_RADISH HABITAT_TREES	
3130011	3	4.56	6.59	2.03		NORTH WEST RD	West	06-Oct-04	HULLY	20	1	1	1	1	0	0	0	0	2	2	2	2	6	6	BRIDAL_CREEPER CHINCHERINCHEE	
3130011	4	6.59	7.35	0.76	7.35	NORTH WEST RD	West	06-Oct-04	HULLY	20	2	1	0	0	0	0	1	1	2	0	0	2	5	4	FOUR_O_CLOCK HABITAT_TREES	
3130012	1	0.00	6.33	6.33		POOTENUP RD	South	11-Oct-04	Ant	20	1	1	1	1	1	1	0	0	2	2	2	2	7	7	BRIDAL_CREEPER WILD_RADISH AFRICAN_LOVEGRASS	
3130012	2	6.33	11.02	4.69		POOTENUP RD	West	11-Oct-04	Ant	40	2	2	1	1	2	2	1	0	2	2	2	2	10	9		
3130012	3	11.02	12.67	1.65		POOTENUP RD	West	11-Oct-04	Ant	40	2	2	1	1	2	2	1	0	2	2	2	2	10	9		
3130012	4	12.67	15.50	2.83		POOTENUP RD	West	11-Oct-04	Ant	40	2	2	1	1	1	1	0	0	2	1	2	2	8	7		
3130012	5	15.50	16.01	0.51		POOTENUP RD	West	11-Oct-04	Ant	40	0	2	0	1	0	1	0	1	0	0	2	2	2	7	7	

Survey of Roadside Conservation Values in the Shire of Tambellup

ROAD#	Sect#	OD Start	OD Finish	Sect length (km)	Road length (km)	Road Name	Direction	Date	Observer	Width Rd Res (m)	Native Veg		Extent of Veg		# Native Plant Spp		Weeds		Value as Biol Corridor		Adj Landuse		Conservation Value Score (0-12)		Presence of Weeds and Habitat Trees	
											Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right		Left
								04																		
3130012	6	16.01	16.46	0.45		POOTENUP RD	West	11-Oct-04	Ant	40	2	2	1	1	1	1	0	0	1	1	2	2	7	7	AFRICAN_LOVEGRASS	
3130012	7	16.46	17.67	1.21	17.66	POOTENUP RD	West	11-Oct-04	Ant	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	AFRICAN_LOVEGRASS	
3130013	1	0.00	2.50	2.50	2.50	TILBURY RD	South	01-Oct-04	HULLY	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	BRIDAL_CREEPER HABITAT_TREES	
3130014	1	0.00	5.40	5.40	5.40	BESSEN RD	South	08-Oct-04	Ant	20	2	2	1	1	1	1	0	0	1	2	2	2	7	8		
3130015	1	0.00	5.90	5.90	5.90	BURRIDGE RD	North	07-Oct-04	len ant	20	2	2	0	0	2	2	0	0	1	1	2	2	7	7		
3130016	1	0.00	4.36	4.36		WHITE RD	South	11-Oct-04	Anthony	20	2	1	1	0	2	1	0	0	1	0	2	2	8	4		
3130016	2	4.36	11.06	6.70		WHITE RD	South	11-Oct-04	Anthony	20	2	2	2	2	2	2	2	2	1	1	2	2	11	11		
3130016	3	11.06	13.28	2.22	14.55	WHITE RD	South	11-Oct-04	Anthony	20	1	1	1	0	2	2	1	0	1	0	2	2	8	5		
3130017	1	0.00	4.10	4.10		JOHNSTON RD	South	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	BRIDAL_CREEPER HABITAT_TREES	
3130017	2	4.10	7.70	3.60		JOHNSTON RD	South	06-Oct-04	HULLY	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2		
3130017	3	7.70	9.40	1.70		JOHNSTON RD	East	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	1	2	2	9	8		
3130017	4	9.40	10.20	0.80		JOHNSTON RD	East	06-Oct-04	HULLY	20	0	2	0	1	0	1	0	1	0	1	2	2	2	2	8	
3130017	5	10.20	11.50	1.30		JOHNSTON RD	East	06-Oct-04	HULLY	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_RADISH FOUR_O_CLOCK	
3130017	6	11.50	15.40	3.90	15.40	JOHNSTON RD	East	06-Oct-04	HULLY	20	2	2	1	1	0	1	0	1	1	2	2	2	6	9	WILD_RADISH FOUR_O_CLOCK AFRICAN_LOVEGRASS HABITAT_TREES	
3130018	1	0.00	0.56	0.56		JAM CREEK RD	North	11-Oct-04	Ant	20	2	2	1	1	2	2	1	1	2	1	1	2	9	9	BRIDAL_CREEPER HABITAT_TREES	
3130018	2	0.56	1.06	0.50		JAM CREEK RD	North	11-Oct-04	Ant	20	1	1	1	1	1	1	0	0	0	0	0	2	3	5		
3130018	3	1.06	1.36	0.30		JAM CREEK RD	North	11-Oct-04	Ant	20	1	1	2	2	0	0	2	2	0	0	2	2	7	7		
3130018	4	1.36	3.06	1.70		JAM CREEK RD	North	11-Oct-04	Ant	20	1	1	1	1	0	0	0	0	0	1	2	2	4	5	HABITAT_TREES	
3130018	5	3.06	3.66	0.60		JAM CREEK RD	North	11-Oct-04	Ant	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3		
3130018	6	3.66	7.86	4.20	8.30	JAM CREEK RD	North	11-Oct-04	Ant	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8		
3130019	1	0.00	1.15	1.15		WANSBROUGH WEST RD	West	12-Oct-04	Len and Ant	20	2	2	2	2	2	2	2	2	1	1	0	0	9	9		
3130019	2	1.15	1.81	0.66		WANSBROUGH WEST RD	West	12-Oct-04	Len and Ant	20	2	2	1	1	2	1	1	0	1	1	0	2	7	7		
3130019	3	1.81	5.81	4.00	5.80	WANSBROUGH WEST RD	West	12-Oct-04	Len and Ant	20	2	2	1	1	1	1	0	0	1	2	2	2	7	8		
3130021	1	0.00	9.93	9.93		STIRLING ACCESS RD	South	01-Oct-04	hully	60	2	2	2	2	2	2	2	2	2	2	2	2	12	12	WILD_RADISH	
3130021	2	9.93	13.26	3.33		STIRLING ACCESS RD	West	01-Oct-04	hully	60	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_RADISH AFRICAN_LOVEGRASS	
3130021	3	13.26	16.12	2.86	16.20	STIRLING ACCESS RD	West	01-Oct-04	hully	60	2	1	0	0	0	0	1	1	2	2	2	2	7	6	WILD_RADISH	

ROAD#	Sect#	OD Start	OD Finish	Sect length (km)	Road length (km)	Road Name	Direction	Date	Observer	Width Rd Res (m)	Native Veg		Extent of Veg		# Native Plant Spp		Weeds		Value as Biol Corridor		Adj Landuse		Conservation Value Score (0-12)		Presence of Weeds and Habitat Trees	
											Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right		
3130022	1	0.00	4.70	4.70	4.70	WATERGARRUP RD	South	06-Oct-04	HULLY	60	2	2	1	1	2	2	1	1	2	2	2	2	10	10	FOUR_O_CLOCK BRIDAL_CREEPER SOURSOB HABITAT_TREES	
3130023	1	0.00	10.30	10.30	10.30	MOONIES HILL RD	West	12-Oct-04	Len and Ant	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	BRIDAL_CREEPER	
3130024	1	0.00	0.33	0.33		BROWN RD	South	12-Oct-04	Len and Ant	20	0	0	0	0	0	0	0	0	0	0	1	0	1	0		
3130024	2	0.33	3.75	3.42		BROWN RD	South	12-Oct-04	Len and Ant	20	2	2	1	1	1	1	0	0	2	2	1	0	7	6		
3130024	3	3.75	4.18	0.43		BROWN RD	South	12-Oct-04	Len and Ant	20	2	2	1	1	1	1	1	1	2	2	1	0	8	7	HABITAT_TREES	
3130024	4	4.18	8.04	3.86		BROWN RD	South	12-Oct-04	Len and Ant	20	1	1	1	1	1	1	0	0	2	2	2	2	7	7		
3130024	5	8.04	9.00	0.96	9.00	BROWN RD	South	12-Oct-04	Len and Ant	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	
3130025	1	0.00	0.59	0.59		PETER VALLEY RD	South	08-Oct-04	Ant	20	2	1	1	0	2	0	1	0	2	1	2	2	10	4		
3130025	2	0.59	2.30	1.71		PETER VALLEY RD	South	08-Oct-04	Ant	20	2	0	2	0	2	0	1	0	2	0	2	2	11	2		
3130025	3	2.30	5.07	2.77		PETER VALLEY RD	South	08-Oct-04	Ant	20	2	2	1	1	2	2	1	0	2	1	2	2	10	8		
3130025	4	5.07	5.65	0.58		PETER VALLEY RD	South	08-Oct-04	Ant	20	2	2	2	0	2	1	2	0	2	1	0	2	10	6	HABITAT_TREES	
3130025	5	5.65	6.20	0.55	6.20	PETER VALLEY RD	South	08-Oct-04	Ant	20	2	2	1	1	2	2	1	0	2	1	2	2	10	8	WILD_RADISH	
3130027	1	0.00	3.60	3.60		WARRENUP RD	North	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	AFRICAN_LOVEGRASS HABITAT_TREES	
3130027	2	3.60	4.40	0.80		WARRENUP RD	North	06-Oct-04	HULLY	20	2	2	2	2	2	2	2	2	2	2	0	2	10	12	HABITAT_TREES	
3130027	3	4.40	4.70	0.30		WARRENUP RD	North	06-Oct-04	HULLY	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	HABITAT_TREES	
3130027	4	4.70	6.60	1.90		WARRENUP RD	North	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	1	2	2	2	8	9	HABITAT_TREES	
3130027	5	6.60	8.30	1.70		WARRENUP RD	North	06-Oct-04	HULLY	20	1	2	0	0	0	0	0	0	0	0	2	2	3	4	BRIDAL_CREEPER HABITAT_TREES	
3130027	6	8.30	8.60	0.30		WARRENUP RD	North	06-Oct-04	HULLY	20	2	2	2	2	2	2	2	2	2	2	2	2	12	12	BRIDAL_CREEPER HABITAT_TREES	
3130027	7	8.60	9.90	1.30		WARRENUP RD	North	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	BRIDAL_CREEPER HABITAT_TREES	
3130027	8	9.90	10.70	0.80		WARRENUP RD	North	06-Oct-04	HULLY	20	2	2	2	1	2	2	2	1	2	2	0	2	10	10	BRIDAL_CREEPER HABITAT_TREES	
3130027	9	10.70	11.90	1.20		WARRENUP RD	North	06-Oct-04	HULLY	20	2	2	0	1	1	1	0	2	0	2	2	2	5	10	BRIDAL_CREEPER	
3130027	10	11.90	12.30	0.40	12.55	WARRENUP RD	North	06-Oct-04	HULLY	20	2	2	1	1	0	1	1	2	2	2	2	0	8	8	BRIDAL_CREEPER HABITAT_TREES	
3130028	1	0.00	6.35	6.35	6.35	BINNIUP RD	South	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	BRIDAL_CREEPER BRIDAL_CREEPER HABITAT_TREES	
3130029	1	0.00	3.47	3.47		AYLMORE RD	South	11-Oct-04	Ant	20	2	2	1	1	2	2	1	1	1	1	2	2	9	9	AFRICAN_LOVEGRASS HABITAT_TREES	
3130029	2	3.47	5.30	1.84	5.30	AYLMORE RD	South	11-Oct-04	Ant	20	1	1	1	0	1	1	0	0	0	0	2	2	5	4		
3130030	1	0.00	3.30	3.30	3.30	BARRECUP RD	North	11-Oct-04	Ant	20	2	2	1	1	2	2	1	1	1	1	2	2	9	9	BRIDAL_CREEPER	
3130032	1	0.00	3.60	3.60	3.60	KINGS CROSS RD	North	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	HABITAT_TREES	
3130033	1	0.00	3.19	3.19		COLLINS RD	North	08-Oct-04	Ant	20	2	2	1	1	1	2	0	0	2	2	2	1	8	8	AFRICAN_LOVEGRASS	

Survey of Roadside Conservation Values in the Shire of Tambellup

ROAD#	Sect#	OD Start	OD Finish	Sect length (km)	Road length (km)	Road Name	Direction	Date	Observer	Width Rd Res (m)	Native Veg		Extent of Veg		# Native Plant Spp		Weeds		Value as Biol Corridor		Adj Landuse		Conservation Value Score (0-12)		Presence of Weeds and Habitat Trees
											Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	
								04																	
3130033	2	3.19	3.40	0.21	3.40	COLLINS RD	North	08-Oct-04	Ant	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	AFRICAN_LOVEGRASS
3130034	1	0.00	0.50	0.50		WITHAM RD	East	07-Oct-04	len anthony	20	2	2	1	1	2	2	1	1	1	0	2	2	9	8	
3130034	2	0.50	1.50	1.00		WITHAM RD	East	07-Oct-04	len anthony	20	2	2	2	2	2	2	2	2	2	2	0	2	10	12	
3130034	3	1.50	2.10	0.60		WITHAM RD	East	07-Oct-04	len anthony	20	2	2	1	2	2	2	1	1	1	2	2	0	9	9	
3130034	4	2.10	3.90	1.80		WITHAM RD	East	07-Oct-04	len anthony	20	2	2	1	0	1	0	1	0	1	2	2	2	8	6	
3130034	5	3.90	6.20	2.30	6.20	WITHAM RD	East	07-Oct-04	len anthony	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	
3130035	1	4.80	7.30	2.50	7.30	ANDERSON RD	West	07-Oct-04	len anthony	20	2	2	2	2	2	2	2	2	1	1	2	2	11	11	WILD_RADISH
3130037	1	0.00	1.62	1.62		SPRIGG SIMPSON RD	North	11-Oct-04	Ant	20	2	2	1	1	1	1	0	0	1	2	2	2	7	8	AFRICAN_LOVEGRASS SOURSOB BRIDAL_CREEPER
3130037	2	1.62	2.21	0.59	3.11	SPRIGG SIMPSON RD	North	11-Oct-04	Ant	20	1	1	0	0	0	0	0	0	1	0	2	2	4	3	AFRICAN_LOVEGRASS HABITAT_TREES
3130038	1	0.00	4.60	4.60	4.60	NAZZARI RD	North	11-Oct-04	Ant	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	HABITAT_TREES
3130039	1	0.00	1.60	1.60	1.60	HANKINSON RD	South	12-Oct-04	Len and Ant	20	2	2	1	1	1	1	1	1	2	2	2	1	9	8	AFRICAN_LOVEGRASS
3130041	1	0.00	1.60	1.60	1.60	CRISTINELLI RD	West	12-Oct-04	Len and Antn	20	1	1	0	0	0	0	0	0	0	2	2	3	3	AFRICAN_LOVEGRASS	
3130042	1	0.00	0.58	0.58		BATCHELOR RD	South	11-Oct-04	Ant	20	2	2	1	1	2	2	1	1	1	1	2	2	9	9	AFRICAN_LOVEGRASS
3130042	2	0.58	2.39	1.80		BATCHELOR RD	South	11-Oct-04	Ant	20	1	1	0	0	0	0	0	0	0	2	2	3	3	AFRICAN_LOVEGRASS	
3130042	3	2.39	3.05	0.66	3.05	BATCHELOR RD	South	11-Oct-04	Ant	20	2	2	1	1	2	2	1	1	1	1	2	2	9	9	
3130043	1	4.17	6.57	2.40	6.57	BIRT RD	North	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	FOUR_O_CLOCK SOURSOB HABITAT_TREES
3130044	1	0.00	0.72	0.72		DARTNALL RD	North	11-Oct-04	Ant	20	2	1	1	1	2	2	1	0	1	1	2	2	9	7	HABITAT_TREES
3130044	2	0.72	1.18	0.47		DARTNALL RD	North	11-Oct-04	Ant	20	2	0	1	0	2	0	1	0	2	0	2	2	10	2	HABITAT_TREES
3130044	3	1.18	1.76	0.58		DARTNALL RD	North	11-Oct-04	Ant	20	2	0	1	0	2	0	1	2	1	0	1	2	8	4	
3130044	4	1.76	2.25	0.49		DARTNALL RD	North	11-Oct-04	Ant	20	2	2	1	1	2	2	1	1	2	2	1	0	9	8	
3130044	5	2.25	2.61	0.37		DARTNALL RD	East	11-Oct-04	Ant	20	2	2	1	1	1	2	0	1	1	2	2	0	7	8	
3130044	6	2.61	2.90	0.29	2.90	DARTNALL RD	East	11-Oct-04	Ant	20	1	2	1	1	1	1	0	1	1	2	2	0	6	7	HABITAT_TREES
3130045	1	0.00	0.37	0.37		GITTENS RD	South	12-Oct-04	Len and Ant	20	2	2	2	2	1	1	2	2	0	0	0	0	7	7	BRIDAL_CREEPER
3130045	2	0.37	1.60	1.23	1.60	GITTENS RD	South	12-Oct-04	Len and Ant	20	1	1	1	1	1	1	0	0	0	0	2	2	5	5	BRIDAL_CREEPER
3130046	1	0.00	0.40	0.40		GREENHILLS SOUTH RD	North	06-Oct-04	HULLY	40	2	2	2	2	2	2	2	2	2	2	0	12	10	AFRICAN_LOVEGRASS	
3130046	2	0.40	5.80	5.40		GREENHILLS SOUTH RD	North	06-Oct-04	HULLY	40	1	1	0	0	0	0	1	1	0	0	2	2	4	4	AFRICAN_LOVEGRASS BRIDAL_CREEPER WILD_RADISH

ROAD#	Sect#	OD Start	OD Finish	Sect length (km)	Road length (km)	Road Name	Direction	Date	Observer	Width Rd Res (m)	Native Veg		Extent of Veg		# Native Plant Spp		Weeds		Value as Biol Corridor		Adj Landuse		Conservation Value Score (0-12)		Presence of Weeds and Habitat Trees	
											Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right		Left
3130046	3	5.80	7.70	1.90		GREENHILLS SOUTH RD	West	06-Oct-04	HULLY	40	2	2	1	1	1	1	1	1	1	2	2	0	2	7	9	AFRICAN_LOVEGRASS BRIDAL_CREEPER WILD_RADISH HABITAT_TREES
3130046	4	7.70	10.10	2.40	10.62	GREENHILLS SOUTH RD	East	06-Oct-04	HULLY	20	2	2	1	1	1	1	1	1	1	2	2	2	2	9	9	HABITAT_TREES
3130047	1	0.00	1.60	1.60	1.60	NEWTON RD	South	12-Oct-04	Len and Ant	20	2	2	1	1	1	1	1	1	0	2	2	2	7	9		
3130069	1	0.00	1.31	1.31	1.77	HODGSON RD	West	12-Oct-04	Len and Ant	20	1	1	1	1	1	1	0	0	2	2	2	2	7	7	AFRICAN_LOVEGRASS BRIDAL_CREEPER HABITAT_TREES	
3130072	1	0.00	1.35	1.35		PINDELLUP SOUTH RD	South	08-Oct-04	Ant	20	2	2	1	1	2	2	1	1	1	1	2	2	9	9	BRIDAL_CREEPER	
3130072	2	1.35	3.95	2.60	5.87	PINDELLUP SOUTH RD	South	08-Oct-04	Ant	20	2	2	1	1	2	2	0	0	2	2	2	2	9	9	BRIDAL_CREEPER HABITAT_TREES	
3130073	1	0.00	1.61	1.61	1.61	DIPROSE RD	East	12-Oct-04	Len and Ant	20	1	1	1	1	1	1	0	0	2	2	2	2	7	7	BRIDAL_CREEPER	
3130080	1	0.00	0.28	0.28		FORWARD RD	South	12-Oct-04	Len and Ant	20	2	2	2	2	2	2	2	2	1	1	0	0	9	9		
3130080	2	0.28	0.87	0.59		FORWARD RD	South	12-Oct-04	Len and Ant	20	2	2	2	2	2	2	2	2	1	1	2	2	11	11		
3130080	3	0.87	1.43	0.56		FORWARD RD	South	12-Oct-04	Len and Ant	20	2	2	1	1	2	2	1	1	1	1	1	0	8	7		
3130080	4	1.43	2.50	1.07	2.10	FORWARD RD	South	12-Oct-04	Len and Ant	20	2	2	1	1	1	1	0	0	1	2	2	2	7	8		
3130085	1	0.00	1.30	1.30	1.30	TEMBY RD	North	12-Oct-04	Len and Ant	20	0	1	0	0	0	0	0	0	1	0	2	2	3	3	WILD_RADISH	
3130089	1	0.00	0.26	0.26		SORRENTO RD	West	08-Oct-04	ant	20	1	1	0	1	0	0	0	0	0	1	2	2	3	5		
3130089	2	0.26	0.70	0.44		SORRENTO RD	West	08-Oct-04	ant	20	2	2	1	1	1	1	0	0	0	1	0	2	4	7		
3130089	3	0.70	0.97	0.27		SORRENTO RD	West	08-Oct-04	ant	20	2	2	0	0	1	1	0	0	2	0	2	2	7	5		
3130089	4	0.97	1.21	0.24		SORRENTO RD	West	08-Oct-04	ant	20	1	1	1	1	1	1	0	0	2	0	0	2	5	5		
3130089	5	1.21	1.40	0.19		SORRENTO RD	West	08-Oct-04	ant	20	2	2	1	1	1	1	1	1	0	1	2	2	7	8		
3130089	6	1.40	1.50	0.10	1.50	SORRENTO RD	West	08-Oct-04	ant	20	1	1	0	0	0	0	0	0	1	2	2	2	4	5		
3130094	1	1.70	11.20	9.50		GNOWANGERUP-TAMBELLUP RD	West	07-Oct-04	ant len	20	2	2	1	1	2	2	1	1	2	2	0	0	8	8	AFRICAN_LOVEGRASS WILD_RADISH	
3130094	2	11.20	11.80	0.60		GNOWANGERUP-TAMBELLUP RD	West	07-Oct-04	ant len	20	2	2	2	1	2	2	1	1	1	1	0	0	8	7	WILD_RADISH AFRICAN_LOVEGRASS	
3130094	3	11.80	15.00	3.20		GNOWANGERUP-TAMBELLUP RD	West	07-Oct-04	ant len	20	2	2	1	1	2	2	1	1	2	2	0	0	8	8	WILD_RADISH AFRICAN_LOVEGRASS HABITAT_TREES	
3130094	4	15.00	15.30	0.30		GNOWANGERUP-TAMBELLUP RD	West	07-Oct-04	ant len	20	2	2	2	2	1	1	1	1	2	1	0	0	8	7	WILD_RADISH HABITAT_TREES	
3130094	5	15.30	20.00	4.70		GNOWANGERUP-TAMBELLUP RD	West	07-Oct-04	ant len	20	2	2	0	0	1	1	0	0	1	1	0	0	4	4	AFRICAN_LOVEGRASS WILD_RADISH HABITAT_TREES	
3130094	6	20.00	20.50	0.50		GNOWANGERUP-TAMBELLUP RD	West	07-Oct-04	ant len	20	2	2	1	1	2	2	0	1	1	1	0	0	6	7	AFRICAN_LOVEGRASS	
3130094	7	20.50	24.50	4.00	25.68	GNOWANGERUP-TAMBELLUP RD	West	07-Oct-04	ant len	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	AFRICAN_LOVEGRASS BRIDAL_CREEPER	
3130097	1	0.00	5.50	5.50		TAMBELLUP WEST RD	West	06-Oct-04	HULLY	40	2	2	1	1	1	1	1	1	2	2	2	2	9	9	AFRICAN_LOVEGRASS CHINCHERINCHEE WILD_RADISH	

ROAD#	Sect#	OD Start	OD Finish	Sect length (km)	Road length (km)	Road Name	Direction	Date	Observer	Width Rd Res (m)	Native Veg		Extent of Veg		# Native Plant Spp		Weeds		Value as Biol Corridor		Adj Landuse		Conservation Value Score (0-12)		Presence of Weeds and Habitat Trees
											Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	
3130097	2	5.50	8.00	2.50		TAMBELLUP WEST RD	West	06-Oct-04	HULLY	40	2	2	2	2	2	2	2	2	2	2	0	0	10	10	AFRICAN_LOVEGRASS CHINCHERINCHEE WILD_RADISH HABITAT_TREES
3130097	3	8.00	27.88	19.88	27.88	TAMBELLUP WEST RD	West	06-Oct-04	HULLY	40	2	2	1	1	1	1	1	1	2	2	2	2	9	9	BRIDAL_CREEPER AFRICAN_LOVEGRASS HABITAT_TREES

# Appendix

## 3

## APPENDIX 3

Road names and lengths: Shire of Tambellup

(Source- Main Roads WA 2004)

Road #	Road Name	Road length (km)
3130001	BIRT ST	0.12
3130002	COUSINS ST	0.24
3130003	PAUL VALLEY RD	23.66
3130004	HASELL RD	24.60
3130005	TOOLBRUNUP RD	38.60
3130006	NYMBUP RD	23.70
3130007	CROSBY RD	14.25
3130008	PALLINUP SOUTH RD	13.40
3130009	BEEJENUP RD	30.20
3130010	PINDELLUP RD	9.65
3130011	NORTH WEST RD	7.35
3130012	POOTENUP RD	17.66
3130013	TILBURY RD	2.50
3130014	BESSEN RD	5.40
3130015	BURRIDGE RD	5.90
3130016	WHITE RD	14.55
3130017	JOHNSTON RD	15.40
3130018	JAM CREEK RD	8.30
3130019	WANSBROUGH WEST RD	5.80
3130021	STIRLING ACCESS	16.20
3130022	WATERGARRUP RD	4.70
3130023	MOONIES HILL RD	10.30
3130024	BROWN RD	9.00
3130025	PETER VALLEY RD	6.20
3130027	WARRENUP RD	12.55
3130028	BINNIUP RD	6.35
3130029	AYLMORE RD	5.30
3130030	BARRECUP RD	3.30
3130031	YETEMERUP RD	1.90
3130032	KINGS CROSS RD	3.60
3130033	COLLINS RD	3.40
3130034	WITHAM RD	6.20
3130035	ANDERSON RD	7.30
3130036	CARR RD	6.75
3130037	SPRIGG SIMPSON RD	3.11
3130038	NAZZARI RD	4.60
3130039	HANKINSON RD	1.60
3130040	ALLEN RD	2.17
3130041	CRISTINELLI RD	1.60
3130042	BATCHELOR RD	3.05
3130043	BIRT RD	6.57
3130044	DARTNALL RD	2.90
3130045	GITTENS RD	1.60
3130046	GREENHILLS SOUTH RD	10.62
3130047	NEWTON RD	1.60
3130048	HILDER RD	1.77
3130049	BOWMAN RD	1.45
3130050	NORRISH ST	1.21
3130051	CROWDEN ST	0.32
3130052	TAYLOR ST	0.96
3130053	HENRY ST	0.63
3130054	OWEN ST	0.64
3130055	HOWARD ST	0.14

<b>Road #</b>	<b>Road Name</b>	<b>Road length (km)</b>
3130056	EAST TCE	0.40
3130057	GEORGE ST	0.13
3130058	PARNELL ST	0.40
3130059	SAGGERS ST	1.29
3130060	BRIDGE ST	0.21
3130061	PARKER ST	0.16
3130062	ROURKE ST	0.90
3130063	CRAWFORD ST	0.48
3130064	GORDON ST	0.14
3130065	DONALD ST	0.32
3130066	LOVEGROVE ST	0.55
3130067	BROWN ST	0.45
3130068	TRIMMER SOAK RD	4.75
3130069	HODGSON RD	1.77
3130070	HAMILLA RD	1.61
3130071	WINKELANUP RD	1.13
3130072	PINDELLUP SOUTH RD	5.87
3130073	DIPROSE RD	1.61
3130074	THORN RD	1.53
3130075	INDIGO DR	0.11
3130076	JENECK PL	0.16
3130077	STIRLING NORTH RD	2.00
3130079	TALLENTS RD	4.20
3130080	FORWARD RD	2.10
3130081	UN-NAMED	2.20
3130082	KORENG PL	0.10
3130083	STIRLING ACCESS SOUTH RD	1.65
3130084	JOHNSTON ST	1.12
3130085	TEMBY RD	1.30
3130086	CEMETERY RD	0.19
3130087	GRAVEL PIT RD	1.05
3130088	RAILWAY ACCESS RD	0.18
3130089	SORRENTO RD	1.50
3130090	DAWSON RD	0.70
3130091	DIPROSE AVE	0.36
3130092	TEMBY ST	0.40
3130093	LEHMANN RD	1.00
3130094	GNOWANGERUP-TAMBELLUP RD	25.68
3130095	NORTH TCE	0.67
3130096	GRAHAM ST	1.08
3130097	TAMBELLUP WEST RD	27.88

# Appendix

## 4

## APPENDIX 4

### Flora species in the Shire of Tambellup (Source- W.A Herbarium)

**Note:** not a comprehensive list and may not be the most up to date information available.

\* = Weed species

P = Priority species

R = Rare species

*Acacia chrysocephala* (typical variant)  
*Acacia chrysocephala* Typical Variant  
*Acacia chrysocephala* typical variant  
*Acacia lasiocarpa* var. *sedifolia*  
*Acacia* Sect. *Phyllod.* (*bidentata* sens. lat.)  
*Acacia bidentata*  
*Acacia willdenowiana*  
*Acacia* aff. *willdenowiana*  
*Acacia drummondii* subsp. *elegans*  
*Acacia leptospermoides* subsp. *leptospermoides*  
*Acacia browniana* var. *endlicheri*  
*Acacia lasiocarpa* var. *bracteolata*  
*Acacia moirii* subsp. *moirii*  
*Acacia browniana* var. *intermedia*  
*Acacia declinata* P3  
*Acacia cupularis*  
*Acacia veronica* P3  
*Acacia sulcata* var. *planoconvexa*  
*Acacia sulcata* var. *platyphylla*  
*Acacia mutabilis* subsp. *rhynchophylla* ms P3  
*Acacia trulliformis* ms P1  
*Acacia lullfitziorum* ms P3  
*Acacia aemula* subsp. *aemula* P4  
*Acacia imparilis* ms P2  
*Acacia ataxiphylla* subsp. *ataxiphylla* ms P3  
*Acacia applanata*  
*Acacia pulchella* var. *goadbyi*  
*Acacia pulchella* var. *pulchella*  
*Acacia varia* var. *parviflora*  
*Acacia varia* var. *crassinervis*  
*Acacia lasiocarpa* var. *sedifolia*  
*Acacia aemula* subsp. *muricata*  
*Acacia laricina* var. *laricina*  
*Acacia mutabilis* subsp. *mutabilis* ms  
*Acacia acellerata*  
*Acacia acuminata*  
*Acacia baxteri*  
*Acacia bidentata*  
*Acacia biflora*  
*Acacia chrysocephala*  
*Acacia cochlearis*  
*Acacia crassistipula*  
*Acacia crispula*  
*Acacia cyclops*  
*Acacia divergens*  
*Acacia erinacea*  
*Acacia ferocior*  
*Acacia glaucoptera*  
*Acacia hastulata*  
*Acacia huegelii*  
*Acacia littorea*  
*Acacia luteola*  
*Acacia microneura* P1  
*Acacia multispicata*  
*Acacia myrtifolia*  
*Acacia nervosa*  
*Acacia prismifolia* X  
*Acacia pulchella*  
*Acacia pulviniformis*  
*Acacia pycnantha*  
*Acacia pycnocephala*  
*Acacia saligna*  
*Acacia squamata*  
*Acacia stenoptera*  
*Acacia subcaerulea*  
*Acacia tetanophylla*  
*Acacia tetragonocarpa*  
*Acacia triptycha*  
*Acacia willdenowiana*  
\* *Acaena agnipila* var. *tenuispica*  
\* *Acaena echinata*  
\* *Acetosella vulgaris*  
*Actinodium calocephalum* ms  
*Actinostrobilus pyramidalis*  
*Actinotus glomeratus*  
*Actinotus humilis*  
*Actinotus leucocephalus*  
*Adenanthos cuneatus* x *pungens* subsp. *pungens*  
*Adenanthos pungens* subsp. *effusus* R  
*Adenanthos pungens* subsp. *pungens* R  
*Adenanthos apiculatus*  
*Adenanthos cuneatus*  
*Adenanthos filifolius* P3  
*Adenanthos flavidiflorus*  
*Adenanthos linearis* P2  
*Adenanthos meisneri*  
*Adenanthos velutinus* R  
*Agonis flexuosa* var. *latifolia*  
*Agonis floribunda*  
*Agonis hypericifolia*  
*Agonis linearifolia*  
*Agonis parviceps*  
*Agonis spathulata*  
*Agrostocrinum scabrum*  
\* *Aira caryophyllea*  
\* *Allium ampeloprasum*

*Allocasuarina aff. thuyoides*  
*Allocasuarina lehmanniana subsp. lehmanniana*  
*Allocasuarina acuaria*  
*Allocasuarina decussata*  
*Allocasuarina huegeliana*  
*Allocasuarina humilis*  
*Allocasuarina lehmanniana*  
*Allocasuarina microstachya*  
*Allocasuarina thuyoides*  
*Allocasuarina trichodon*  
*Alyogyne huegelii var. wrayae ms*  
*Alyogyne huegelii var. grossulariifolia ms*  
*Alyxia buxifolia*  
*Amperea conferta*  
*Amphibromus nervosus*  
*Amphipogon strictus*  
*Amphipogon turbinatus*  
*Anarthria gracilis*  
*Anarthria humilis*  
*Anarthria laevis*  
*Anarthria prolifera*  
*Andersonia aff. caerulea*  
*Andersonia aff. simplex*  
*Andersonia aff. barbata*  
*Andersonia caerulea*  
*Andersonia echinocephala P3*  
*Andersonia grandiflora P3*  
*Andersonia parvifolia*  
*Andersonia simplex*  
*Andersonia sprengelioides*  
*Angianthus tomentosus*  
*Anigozanthos bicolor x humilis*  
*Anigozanthos gabrielae x humilis*  
*Anigozanthos gabrielae x rufus*  
*Anigozanthos humilis (backcross)*  
*Anigozanthos aff. humilis*  
*Anigozanthos humilis subsp. humilis*  
*Anigozanthos bicolor subsp. decrescens*  
*Anigozanthos humilis subsp. chrysanthus R*  
*Anigozanthos bicolor*  
*Anigozanthos gabrielae*  
*Anigozanthos humilis*  
*Anigozanthos onycis*  
*Anigozanthos rufus*  
*Anthocercis viscosa subsp. viscosa*  
*Anthotium humile*  
*Aotus genistoides*  
*Aotus intermedia*  
*Aphelia cyperoides*  
*Apium prostratum var. prostratum*  
*Argentipallium niveum*  
*Arthropodium curvipes*  
*Asplenium flabellifolium*  
*Astartea aff. fascicularis*  
*Astartea ambigua*  
*Astartea fascicularis*

*Asteridea asteroides*  
*Asteridea nivea*  
*Asteridea pulverulenta*  
*Astroloma cataphractum ms*  
*Astroloma baxteri*  
*Astroloma ciliatum*  
*Astroloma compactum*  
*Astroloma drummondii*  
*Astroloma epacridis*  
*Astroloma aff. epacridis*  
*Astroloma pallidum*  
*Astroloma prostratum*  
*Astroloma tectum*  
*Austrodanthonia sp.*  
*Austrodanthonia caespitosa*  
*Austrostipa juncifolia*  
*Austrostipa macalpinei*  
*Austrostipa pycnostachya*  
*Austrostipa trichophylla*  
*Austrostipa variabilis*  
*Avena barbata*

*Baeckea astarteoides*  
*Baeckea camphorosmae*  
*Baeckea crispiflora*  
*Baeckea preissiana*  
*Banksia gardneri var. gardneri*  
*Banksia gardneri var. brevidentata*  
*Banksia nutans var. cernuella*  
*Banksia sphaerocarpa var. sphaerocarpa*  
*Banksia meisneri subsp. meisneri*  
*Banksia aculeata*  
*Banksia attenuata*  
*Banksia baxteri*  
*Banksia brownii R*  
*Banksia caleyi*  
*Banksia coccinea*  
*Banksia dryandroides*  
*Banksia gardneri*  
*Banksia meisneri*  
*Banksia oreophila*  
*Banksia quercifolia*  
*Banksia repens*  
*Banksia solandri P4*  
*Barbula calycina*  
*Bartramia pseudostricta*  
*\* Bartsia trixago*  
*Baumea arthropophylla*  
*Baumea articulata*  
*Baumea juncea*  
*Beaufortia anisandra*  
*Beaufortia bracteosa*  
*Beaufortia cyrtodonta*  
*Beaufortia decussata*  
*Beaufortia empetrifolia*  
*Beaufortia macrostemon*

*Beaufortia schaueri*  
*Billardiera drummondiana* var. *drummondiana*  
*Billardiera drummondiana*  
*Billardiera erubescens*  
*Billardiera lehmanniana*  
*Billardiera sericea*  
*Billardiera variifolia*  
*Blennospora drummondii*  
*Bolboschoenus caldwellii*  
*Boletellus ananas*  
*Boronia ramosa* subsp. *anethifolia*  
*Boronia crenulata* var. *crenulata*  
*Boronia scabra* subsp. *scabra*  
*Boronia crenulata* var. *angustifolia* P4  
*Boronia albiflora*  
*Boronia busselliana*  
*Boronia crassifolia*  
*Boronia crenulata*  
*Boronia denticulata*  
*Boronia heterophylla*  
*Boronia nematophylla*  
*Boronia pulchella*  
*Boronia ramosa*  
*Boronia spathulata*  
*Boronia stricta*  
*Boronia subsessilis*  
*Borya sphaerocephala*  
*Bossiaea praetermissa*  
*Bossiaea eriocarpa*  
*Bossiaea linophylla*  
*Bossiaea ornata*  
*Bossiaea peduncularis*  
*Bossiaea preissii*  
*Brachymenium preissianum*  
\* *Brachypodium distachyon*  
*Brachyscome ciliaris*  
*Brachyscome glandulosa*  
*Brachyscome iberidifolia*  
*Brachyscome perpusilla*  
*Brachysema minor*  
*Brachysema bracteolosum*  
*Brachysema celsianum*  
*Brachysema latifolium*  
*Brachysema praemorsum*  
*Brachysema sericeum*  
\* *Bracteantha bracteata*  
\* *Brassica* sp.  
\* *Briza maxima*  
\* *Briza minor*  
\* *Bromus diandrus*  
*Bryum billardieri*  
*Bryum torquescens*  
*Buellia stellulata*  
*Bulbine semibarbata*  
*Burchardia monantha*  
*Burchardia multiflora*  
*Caesia micrantha*  
*Caesia occidentalis*  
*Caladenia dilatata* var. *falcata*  
*Caladenia ericksonae*  
*Caladenia filamentosa* NULL ? *caesia*  
*Caladenia filamentosa* var. *denticulata*  
*Caladenia filamentosa* x *dilatata*  
*Caladenia longicauda* NULL ? *eminens* / *redacta*  
*Caladenia triangularis*  
*Caladenia* x *suffusa*  
*Caladenia longicauda* subsp. *redacta*  
*Caladenia* aff. *polychroma*  
*Caladenia dorrienii* R  
*Caladenia filifera*  
*Caladenia falcata*  
*Caladenia christineae* ms R  
*Caladenia caesarea* subsp. *caesarea* ms  
*Caladenia flava* subsp. *flava* ms  
*Caladenia heberleana* ms  
*Caladenia hirta* subsp. *hirta* ms  
*Caladenia hirta* subsp. *rosea* ms  
*Caladenia longicauda* subsp. *eminens* ms  
*Caladenia longicauda* subsp. *longicauda* ms  
*Caladenia longicauda* subsp. *redacta* ms  
*Caladenia nana* subsp. *nana* ms  
*Caladenia polychroma* ms  
*Caladenia reptans* subsp. *reptans* ms  
*Caladenia xantha* ms  
*Caladenia footeana* ms  
*Caladenia chapmanii* ms  
*Caladenia cairnsiana*  
*Caladenia dilatata*  
*Caladenia discoidea*  
*Caladenia douthiae*  
*Caladenia* x *ericksoniae*  
*Caladenia ferruginea*  
*Caladenia filamentosa*  
*Caladenia flava*  
*Caladenia hirta*  
*Caladenia huegelii* R  
*Caladenia integra* P4  
*Caladenia latifolia*  
*Caladenia lobata*  
*Caladenia longiclavata*  
*Caladenia macrostylis*  
*Caladenia marginata*  
*Caladenia pectinata*  
*Caladenia plicata* P4  
*Caladenia radiata*  
*Caladenia reptans*  
*Caladenia* x *cala* ms  
*Caladenia vulgata* ms  
*Caladenia ultima* ms  
*Calandrinia calyptrata*  
*Calandrinia uniflora*

*Calectasia cyanea*  
*Calectasia grandiflora*  
*Calectasia gracilis* ms  
*Callistemon phoeniceus*  
*Callitris roei*  
*Caloplaca flavorubescens*  
*Caloplaca* sp.  
*Calothamnus affinis* P3  
*Calothamnus crassus* P2  
*Calothamnus gracilis*  
*Calothamnus huegelii*  
*Calothamnus lateralis*  
*Calothamnus lehmannii*  
*Calothamnus microcarpus* P2  
*Calothamnus preissii*  
*Calothamnus quadrifidus*  
*Calothamnus sanguineus*  
*Calothamnus villosus*  
*Calytrix tetragona*  
*Calytrix acutifolia*  
*Calytrix asperula*  
*Calytrix flavescens*  
*Calytrix leschenaultii*  
*Calytrix pulchella* P3  
*Calytrix tetragona*  
*Campylopus bicolor*  
*Campylopus introflexus*  
*Candelariella* sp.  
 \* *Cardaria draba*  
 \* *Carduus pycnocephalus*  
 \* *Carduus tenuiflorus*  
*Carpobrotus modestus*  
*Carpobrotus rossii*  
*Carthamus leucocaulos*  
*Cassytha glabella* forma *dispar*  
*Cassytha racemosa* forma *pilosa*  
*Cassytha capillaris*  
*Cassytha flava*  
*Cassytha glabella*  
*Cassytha micrantha*  
*Cassytha pomiformis*  
*Cassytha racemosa*  
*Catillaria* sp.  
*Caustis pentandra* (Western form)  
*Caustis dioica*  
 \* *Centaurium erythraea*  
*Centrolepis aristata*  
*Centrolepis drummondiana*  
*Centrolepis glabra*  
*Centrolepis pilosa*  
*Cephaloziella arctica* subsp. *subantarctica*  
*Cephaloziella exiliflora*  
 \* *Cerastium glomeratum*  
*Ceratodon purpureus*  
*Chaetanthus aristatus*  
*Chamaescilla corymbosa*  
*Chamaescilla spiralis*  
*Chamaexeros serra*  
*Chamelaucium pauciflorum* subsp. *pauciflorum* ms  
*Chamelaucium ciliatum*  
*Chamelaucium confertiflorum*  
*Chamelaucium megalopetalum*  
*Chara* sp.  
*Cheilanthes austrotenuifolia*  
*Chiloscyphus semiteres*  
*Chloanthes coccinea*  
*Chordifex laxus*  
*Chordifex serialis* ms  
*Chordifex ornatus* P2  
*Chordifex leucoblepharus* P1  
*Chordifex sphaecelatus*  
*Choretum glomeratum* var. *glomeratum*  
*Chorizandra cymbaria*  
*Chorizema obtusifolium*  
*Chorizema aciculare* subsp. *aciculare*  
*Chorizema carinatum* P3  
*Chorizema spathulatum*  
*Chorizema aciculare*  
*Chorizema cytisoides*  
*Chorizema diversifolium*  
*Chorizema glycinifolium*  
*Chorizema reticulatum* P3  
*Chorizema rhombeum*  
*Chorizema trigonum* P3  
*Chorizema ? trigonum* P3  
*Chorizema uncinatum*  
*Chrysocephalum apiculatum*  
*Chrysocephalum semipapposum*  
*Chrysocephalum* sp.  
*Chrysocoryne drummondii*  
*Cladia aggregata*  
*Cladia schizopora*  
*Cladonia* aff. *enantia*  
*Comesperma* sp.  
*Comesperma calymega*  
*Comesperma ciliatum*  
*Comesperma flavum*  
*Comesperma virgatum*  
*Comesperma volubile*  
*Conospermum spectabile* P2  
*Conospermum cinereum*  
*Conospermum filifolium* subsp. *filifolium*  
*Conospermum filifolium* subsp. *australe*  
*Conospermum coerulescens* subsp. *dorrienii*  
*Conospermum amoenum*  
*Conospermum bracteosum*  
*Conospermum floribundum*  
*Conospermum teretifolium*  
*Conospermum triplinervium*  
*Conostephium preissii*  
*Conostylis setigera* subsp. *setigera*  
*Conostylis aculeata* subsp. *aculeata*

*Conostylis seorsiflora* subsp. *seorsiflora*  
*Conostylis seorsiflora* subsp. *Nyabing*(A.Coates s.n. P2  
*Conostylis aculeata*  
*Conostylis misera* R  
*Conostylis petrophiloides*  
*Conostylis pusilla*  
*Conostylis serrulata*  
*Conostylis vaginata*  
*Conothamnus aureus*  
*Conothamnus neglectus*  
\* *Conyza parva*  
*Cooperhooia polygalacea*  
*Corymbia calophylla*  
*Corynotheca micrantha*  
*Cotula cotuloides*  
\* *Cotula turbinata*  
*Craspedia* sp.  
*Crassula decumbens* var. *decumbens*  
*Crassula colorata* var. *colorata*  
*Crassula decumbens*  
*Crassula pedicellosa*  
*Crepidotus* sp.  
*Crowea angustifolia* var. *platyphylla*  
*Crowea angustifolia*  
*Cryptandra arbutiflora* var. *arbutiflora*  
*Cryptandra leucopogon*  
*Cryptandra nutans*  
*Cryptandra pungens*  
*Cryptandra myriantha*  
*Cryptodiaporthe melanocraspeda*  
*Cryptostylis ovata*  
*Cyanicula* ? *deformis*  
*Cyanicula gemmata* ms  
*Cyanicula caerulea* subsp. *apertala* ms  
*Cyanicula sericea* ms  
*Cyanicula* x *Elythranthera sericea* x *brunonis*  
\* *Cynosurus echinatus*  
\* *Cyperus rotundus*  
\* *Cyperus tenuiflorus*  
*Cypselocarpus haloragoides*  
*Cyrtostylis robusta*  
*Cytogonidium leptocarpoides*

*Dampiera loranthifolia*  
*Dampiera* aff. *linearis*  
*Dampiera angulata* subsp. *angulata*  
*Dampiera alata*  
*Dampiera diversifolia*  
*Dampiera eriocephala*  
*Dampiera juncea*  
*Dampiera lavandulacea*  
*Dampiera leptoclada*  
*Dampiera linearis*  
*Dampiera parvifolia*  
*Dampiera pedunculata*  
*Dampiera sacculata*

*Dampiera sericantha* P1  
*Darwinia oxylepis*  
*Darwinia vestita*  
*Darwinia drummondii*  
*Darwinia halophila* ms  
*Darwinia carnea* R  
*Darwinia citriodora*  
*Darwinia collina* R  
*Darwinia diosmoides*  
*Darwinia hypericifolia* P4  
*Darwinia lejustyla* P4  
*Darwinia macrostegia* R  
*Darwinia meeboldii* R  
*Darwinia oederoides*  
*Darwinia oxylepis* R  
*Darwinia squarrosa* R  
*Darwinia vestita*  
*Darwinia wittwerorum* R  
*Dasypogon bromeliifolius*  
*Daucus glochidiatus*  
*Daviesia hakeoides* subsp. *subnuda*  
*Daviesia pseudaphylla* R  
*Daviesia incrassata* subsp. *incrassata*  
*Daviesia emarginata*  
*Daviesia alternifolia*  
*Daviesia crenulata*  
*Daviesia decurrens*  
*Daviesia flexuosa*  
*Daviesia gracilis*  
*Daviesia horrida*  
*Daviesia incrassata*  
*Daviesia lancifolia*  
*Daviesia longifolia*  
*Daviesia mesophylla* P2  
*Daviesia oppositifolia*  
*Daviesia preissii*  
*Daviesia trigonophylla*  
*Desmazeria rigida*  
*Desmocladius* aff. *fasciculatus*  
*Desmocladius flexuosus*  
*Desmocladius asper*  
*Desmocladius tenuis* ms  
*Desmocladius parthenicus* ms  
*Dianella revoluta* var. *revoluta*  
*Dianella brevicaulis*  
*Diaspasis filifolia*  
*Dichelachne crinita*  
*Dichopogon fimbriatus*  
*Dicranoloma billardieri*  
*Dillwynia* sp.A Perth Flora(R.Coveny 8036)  
*Diplodina melanocraspeda*  
*Diplolaena microcephala*  
*Diploschistes euganeus*  
*Ditrichum difficile*  
*Diuris* aff. *amplissima*  
*Diuris* aff. *corymbosa*

*Diuris aff. laxiflora*  
*Diuris drummondii* R  
*Diuris corymbosa*  
*Diuris amplissima*  
*Diuris laxiflora*  
*Diuris longifolia*  
*Diuris setacea*  
*Dodonaea caespitosa*  
*Dodonaea humifusa*  
*Dodonaea pinifolia*  
*Drakaea confluens x thynniphila*  
*Drakaea confluens ms R*  
*Drakaea gracilis ms*  
*Drakaea glyptodon*  
*Drakaea thynniphila*  
*Drakonorchis barbarossa ms*  
*Drosera aff. menziesii*  
*Drosera menziesii subsp. thysanosepala*  
*Drosera stolonifera subsp. compacta*  
*Drosera neesii subsp. borealis*  
*Drosera subhirtella subsp. subhirtella*  
*Drosera menziesii subsp. menziesii*  
*Drosera menziesii subsp. penicillaris*  
*Drosera erythrorhiza subsp. erythrorhiza*  
*Drosera erythrogyne*  
*Drosera bulbosa subsp. bulbosa*  
*Drosera macrantha subsp. macrantha*  
*Drosera gigantea subsp. gigantea*  
*Drosera androsacea*  
*Drosera gigantea*  
*Drosera glanduligera*  
*Drosera huegelii*  
*Drosera leucoblata*  
*Drosera macrantha*  
*Drosera menziesii*  
*Drosera modesta*  
*Drosera neesii*  
*Drosera pallida*  
*Drosera platypoda*  
*Drosera platystigma*  
*Drosera pycnoblata*  
*Drosera ramellosa*  
*Drosera scorpioides*  
*Drosera stolonifera*  
*Drosera subhirtella*  
*Drosera rosulata*  
*Drummondita hassellii*  
*Dryandra tenuifolia NULL ? reptans*  
*Dryandra armata*  
*Dryandra hirsuta P3*  
*Dryandra conferta var. parva P2*  
*Dryandra anatona R*  
*Dryandra ferruginea subsp. pumila P2*  
*Dryandra nivea subsp. nivea*  
*Dryandra blechnifolia*  
*Dryandra nervosa*  
*Dryandra drummondii subsp. drummondii*  
*Dryandra mucronulata subsp. retrorsa P1*  
*Dryandra mucronulata subsp. mucronulata*  
*Dryandra fraseri var. fraseri*  
*Dryandra armata var. armata*  
*Dryandra sessilis var. sessilis*  
*Dryandra lindleyana var. mellicula*  
*Dryandra pseudoplumosa P2*  
*Dryandra porrecta*  
*Dryandra brownii*  
*Dryandra tenuifolia var. tenuifolia*  
*Dryandra tenuifolia var. reptans*  
*Dryandra arctotidis*  
*Dryandra armata*  
*Dryandra calophylla P3*  
*Dryandra cirsioides*  
*Dryandra concinna P4*  
*Dryandra cuneata*  
*Dryandra drummondii*  
*Dryandra falcata*  
*Dryandra foliolata P4*  
*Dryandra formosa*  
*Dryandra mucronulata*  
*Dryandra nivea*  
*Dryandra preissii P4*  
*Dryandra seneciifolia P3*  
*Dryandra sessilis*  
*Dryandra tenuifolia*  
  
*\* Ehrharta calycina*  
*\* Ehrharta longiflora*  
*Elatine gratioloides*  
*Eleocharis acuta*  
*Elymus scaber*  
*Elythranthera brunonis*  
*Elythranthera emarginata*  
*Epilobium sp.*  
*Eragrostis brownii*  
*Eremaea pauciflora var. pauciflora*  
*Eremaea pauciflora*  
*Eremophila glabra subsp. albicans*  
*Eremophila subfloccosa*  
*Eriochilus dilatatus subsp. dilatatus ms*  
*Eriochilus dilatatus subsp. multiflorus ms*  
*Eriochilus dilatatus subsp. undulatus ms*  
*Eriochilus scaber subsp. scaber ms*  
*Eryngium pinnatifidum subsp. Inland Swamp (G.J.Keighery 6686)*  
*Eryngium pinnatifidum*  
*Eucalyptus buprestium x pachyloma*  
*Eucalyptus incrassata x*  
*Eucalyptus marginata x*  
*Eucalyptus pachyloma x staeri*  
*Eucalyptus phaenophylla x vegrandis subsp. phaenophylla*  
*Eucalyptus preissiana x*

*Eucalyptus ser. Foecundae (Nyabing form)*  
*Eucalyptus vegrandis x phaenophylla subsp. phaenophylla*  
*Eucalyptus vegrandis x phaenopylla subsp. phaenophylla*  
*Eucalyptus wandoo x xanthonema*  
*Eucalyptus goniantha subsp. goniantha P4*  
*Eucalyptus pluricaulis subsp. pluricaulis*  
*Eucalyptus gardneri subsp. gardneri*  
*Eucalyptus medialis*  
*Eucalyptus xanthonema subsp. apposita*  
*Eucalyptus xanthonema subsp. xanthonema*  
*Eucalyptus phaenophylla subsp. phaenophylla*  
*Eucalyptus phaenophylla*  
*Eucalyptus wandoo subsp. wandoo*  
*Eucalyptus vegrandis*  
*Eucalyptus goniantha subsp. notactites*  
*Eucalyptus decipiens subsp. chalara*  
*Eucalyptus marginata subsp. marginata*  
*Eucalyptus marginata subsp. elegantella P2*  
*Eucalyptus preissiana subsp. preissiana*  
*Eucalyptus redacta ms*  
*Eucalyptus redacta subsp. thamnoides ms*  
*Eucalyptus calycogona var. calycogona*  
*Eucalyptus pleurocarpa*  
*Eucalyptus oligocorma ms*  
*Eucalyptus buprestium x staeri P4*  
*Eucalyptus marginata x pachyloma P4*  
*Eucalyptus astringens subsp. astringens*  
*Eucalyptus apratilis ms*  
*Eucalyptus astringens subsp. oligocorma ms*  
*Eucalyptus dissimulata subsp. dissimulata*  
*Eucalyptus x kalganensis P4*  
*Eucalyptus recondita ms*  
*Eucalyptus angulosa*  
*Eucalyptus annulata*  
*Eucalyptus buprestium*  
*Eucalyptus conglobata*  
*Eucalyptus cornuta*  
*Eucalyptus cylindriflora*  
*Eucalyptus decipiens*  
*Eucalyptus decurva*  
*Eucalyptus doratoxylon*  
*Eucalyptus erectifolia P4*  
*Eucalyptus falcata*  
*Eucalyptus foecunda*  
*Eucalyptus incrassata*  
*Eucalyptus lehmannii*  
*Eucalyptus ligulata P4*  
*Eucalyptus macrandra*  
*Eucalyptus marginata*  
*Eucalyptus megacarpa*  
*Eucalyptus occidentalis*  
*Eucalyptus pachyloma*  
*Eucalyptus pileata*  
*Eucalyptus platypus*

*Eucalyptus preissiana*  
*Eucalyptus rudis*  
*Eucalyptus spathulata*  
*Eucalyptus staeri*  
*Eucalyptus talyuberlup*  
*Eucalyptus tetragona*  
*Eucalyptus uncinata*  
 \* *Euphorbia peplus*  
*Euphrasia scabra P2*  
*Eutaxia densifolia*  
*Eutaxia epacridoides*  
*Eutaxia microphylla*  
*Eutaxia parvifolia*  
*Eutaxia virgata*  
*Exocarpos sparteus*

*Flavoparmelia rutidota*  
*Fossombronina pusilla*  
*Franklandia fucifolia*  
*Frullania probosciphora*  
*Fusarium avenaceum*  
*Fusarium graminearum*  
*Fusarium moniliforme var. subglutinans*

*Gaeumannomyces graminis var. avenae*  
*Gahnia trifida*  
 \* *Galium divaricatum*  
*Gastrolobium humile*  
*Gastrolobium sp.*  
*Gastrolobium tetragonophyllum*  
*Gastrolobium parviflorum*  
*Gastrolobium spinosum var. spinosum*  
*Gastrolobium pusillum*  
*Gastrolobium bilobum*  
*Gastrolobium calycinum*  
*Gastrolobium crassifolium*  
*Gastrolobium forrestii*  
*Gastrolobium spinosum*  
*Gastrolobium velutinum*  
 \* *Genista linifolia*  
 \* *Gladiolus carneus*  
*Glischrocaryon sp.*  
*Glischrocaryon aureum var. angustifolium*  
*Glischrocaryon aureum*  
*Glischrocaryon roei*  
*Gnephosis sp.*  
*Gompholobium confertum*  
*Gompholobium scabrum*  
*Gompholobium villosum*  
*Gompholobium aristatum*  
*Gompholobium aff. aristatum*  
*Gompholobium burtonioides*  
*Gompholobium capitatum*  
*Gompholobium knightianum*  
*Gompholobium marginatum*  
*Gompholobium polymorphum*

*Gompholobium preissii*  
*Gompholobium tomentosum*  
*Gompholobium venustum*  
*Gonocarpus paniculatus*  
*Gonocarpus rudis* P2  
*Goodenia scapigera* subsp. *scapigera*  
*Goodenia caerulea*  
*Goodenia incana*  
*Gratiola pubescens*  
*Grevillea coccinea*  
*Grevillea flexuosa*  
*Grevillea vestita* subsp. *vestita*  
*Grevillea diversifolia* subsp. *subtersericata*  
*Grevillea anethifolia*  
*Grevillea uncinulata* subsp. *uncinulata*  
*Grevillea umbellulata* subsp. *umbellulata*  
*Grevillea patentiloba* subsp. *platypoda*  
*Grevillea pulchella* subsp. *ascendens*  
*Grevillea pulchella* subsp. *pulchella*  
*Grevillea cirsiifolia* P4  
*Grevillea depauperata*  
*Grevillea disjuncta*  
*Grevillea fasciculata*  
*Grevillea huegelii*  
*Grevillea leptobotrys*  
*Grevillea muelleri*  
*Grevillea occidentalis*  
*Grevillea aff. occidentalis*  
*Grevillea pilulifera*  
*Grevillea pulchella*  
*Grevillea synapheae*  
*Grevillea trifida*  
*Grevillea uncinulata*  
*Grevillea vestita*  
*Grimmia laevigata*

*Haemodorum* sp.  
*Haemodorum paniculatum*  
*Haemodorum discolor*  
*Haemodorum simplex*  
*Haemodorum sparsiflorum*  
*Hakea cuncullata*  
*Hakea obliqua parviflora*  
*Hakea pritzelii*  
*Hakea tuberculata*  
*Hakea aff. brachyptera*  
*Hakea denticulata*  
*Hakea obliqua* subsp. *parviflora*  
*Hakea pandanicarpa* subsp. *crassifolia* ms  
*Hakea ambigua*  
*Hakea baxteri*  
*Hakea corymbosa*  
*Hakea cucullata*  
*Hakea falcata*  
*Hakea florida*  
*Hakea laurina*

*Hakea lehmanniana*  
*Hakea lissocarpha*  
*Hakea marginata*  
*Hakea pandanicarpa*  
*Hakea prostrata*  
*Hakea trifurcata*  
*Hakea undulata*  
*Hakea varia*  
*Halosarcia indica* subsp. *bidens*  
*Halosarcia halocnemoides*  
*Halosarcia lepidosperma*  
*Halosarcia syncarpa*  
*Hedwigia ciliata*  
*Hedwigidium integrifolium*  
*Helichrysum leucopsidium*  
*Heliotropium europaeum*  
*Hemiandra pungens*  
*Hemigenia* sp. Albany (G.J. Keighery 8712)  
*Hemigenia incana*  
*Hemigenia platyphylla* P4  
*Hibbertia* aff. *gracilipes* (glabrous carpels)  
*Hibbertia* sp. Stirlings (J.R. Wheeler 2453)  
*Hibbertia acerosa*  
*Hibbertia amplexicaulis*  
*Hibbertia argentea* P3  
*Hibbertia commutata*  
*Hibbertia crassifolia*  
*Hibbertia cunninghamii*  
*Hibbertia depressa*  
*Hibbertia enervia*  
*Hibbertia gracilipes*  
*Hibbertia* aff. *gracilipes*  
*Hibbertia helianthemoides*  
*Hibbertia inclusa*  
*Hibbertia inconspicua*  
*Hibbertia lineata*  
*Hibbertia microphylla*  
*Hibbertia pulchra*  
*Hibbertia recurvifolia*  
*Hibbertia rhadinopoda*  
*Hibbertia selkii*  
*Hibbertia stellaris*  
*Hibbertia subvaginata*  
\* *Holcus lanatus*  
\* *Holcus setiger*  
*Homalosciadium homalocarpum*  
\* *Hordeum distichon*  
\* *Hordeum marinum*  
*Hovea chorizemifolia*  
*Hovea elliptica*  
*Hovea pungens*  
*Hovea trisperma*  
*Hyalosperma pusillum*  
*Hyalosperma cotula*  
*Hyalosperma demissum*  
*Hybanthus floribundus* subsp. *floribundus*

*Hybanthus floribundus*  
*Hydrocotyle* sp.  
*Hydrocotyle alata*  
*Hydrocotyle callicarpa*  
*Hydrocotyle diantha*  
*Hydrocotyle medicaginoides*  
*Hydrocotyle rugulosa*  
*Hypericum gramineum*  
*Hypocalymma asperum*  
*Hypocalymma* sp. Scott River (A.S. George 11773 P4)  
*Hypocalymma angustifolium*  
*Hypocalymma* aff. *angustifolium*  
*Hypocalymma myrtifolium*  
*Hypocalymma phillipsii* P3  
*Hypocalymma puniceum*  
*Hypocalymma speciosum*  
*Hypocalymma strictum*  
 \* *Hypochaeris radicata*  
*Hypolaena exsulca*  
*Hypolaena fastigiata*  
*Hypoxis glabella* var. *glabella*

*Isolepis congrua*  
*Isolepis cyperoides*  
*Isolepis fluitans*  
*Isolepis marginata*  
*Isolepis nodosa*  
*Isolepis producta*  
*Isolepis setiformis*  
*Isopogon* ? *divergens*  
*Isopogon buxifolius* var. *linearis*  
*Isopogon teretifolius* subsp. *petrophiloides*  
*Isopogon teretifolius* subsp. *teretifolius* ms  
*Isopogon buxifolius* var. *spathulatus*  
*Isopogon formosus* subsp. *formosus*  
*Isopogon attenuatus*  
*Isopogon baxteri*  
*Isopogon buxifolius*  
*Isopogon cuneatus*  
*Isopogon formosus*  
*Isopogon latifolius* P3  
*Isopogon longifolius*  
*Isopogon trilobus*  
*Isopogon villosus*  
*Isopogon heterophyllus*  
*Isotoma scapigera*  
*Isotropis cuneifolia*  
*Isotropis drummondii*

*Jacksonia alata*  
*Jacksonia calycina* P4  
*Jacksonia capitata*  
*Jacksonia condensata*  
*Jacksonia furcellata*  
*Jacksonia grevilleoides*  
*Jacksonia racemosa*

*Jacksonia spinosa*  
*Jamesoniella colorata*  
*Johnsonia acaulis*  
*Johnsonia teretifolia*  
 \* *Juncus holoschoenus*  
 \* *Juncus oxycarpus*  
*Juncus pallidus*  
*Juncus pauciflorus*  
*Juncus kraussii* subsp. *australiensis*  
*Juncus subsecundus*

*Kennedia coccinea*  
*Kennedia eximia*  
*Kennedia microphylla*  
*Kennedia prostrata*  
*Kunzea micrantha*  
*Kunzea micromera*  
*Kunzea montana*  
*Kunzea preissiana*  
*Kunzea recurva*

*Lachnostachys verbascifolia* var. *verbascifolia*  
*Lachnostachys eriobotrya*  
*Lagenophora huegelii*  
*Lambertia echinata* subsp. *citrina*  
*Lambertia inermis* var. *drummondii*  
*Lambertia inermis* var. *inermis*  
*Lambertia ericifolia*  
*Lambertia fairallii* R  
*Lambertia inermis*  
*Lambertia uniflora*  
*Lasiopetalum monticola* P3  
*Lasiopetalum membraniflorum* P2  
*Lasiopetalum cordifolium* subsp. *cordifolium*  
*Lasiopetalum floribundum*  
*Lasiopetalum parvuliflorum* P3  
*Latrobea* sp. South Coast (A.M. Ashby 1949)  
*Latrobea hirtella*  
*Latrobea* aff. *hirtella*  
*Latrobea tenella*  
*Lawrencella rosea*  
*Laxmannia sessiliflora* subsp. *australis*  
*Laxmannia grandiflora* subsp. *stirlingensis* P3  
*Laxmannia ramosa* subsp. *deflexa*  
*Laxmannia brachyphylla*  
*Laxmannia minor*  
*Laxmannia omnifertilis*  
*Laxmannia paleacea*  
*Laxmannia sessiliflora*  
*Laxmannia squarrosa*  
*Lechenaultia expansa*  
*Lechenaultia formosa*  
*Lechenaultia tubiflora*  
 \* *Lepidium africanum*  
*Lepidobolus chaetocephalus*  
*Lepidosperma* cf. *angustatum*

*Lepidosperma angustatum*  
*Lepidosperma costale*  
*Lepidosperma leptostachyum*  
*Lepidosperma squamatum*  
*Lepidosperma tenue*  
*Lepidosperma tetraquetrum*  
*Lepidosperma ustulatum*  
*Leporella fimbriata*  
*Lepraria incana*  
*Leptoceras menziesii*  
*Leptomeria empetriformis*  
*Leptomeria ericoides*  
*Leptomeria lehmannii*  
*Leptomeria pauciflora*  
*Leptomeria scrobiculata*  
*Leptomeria squarrulosa*  
*Leptospermum erubescens*  
*Leptospermum spinescens*  
*Leptospermum ellipticum*  
*Lepyrodia drummondiana*  
*Lepyrodia hermaphrodita*  
*Leucopogon atherolepis var. densiflorus*  
*Leucopogon aff. cucullatus*  
*Leucopogon australis subsp. acutifolius ms*  
*Leucopogon distans subsp. contractus ms*  
*Leucopogon acicularis*  
*Leucopogon assimilis*  
*Leucopogon atherolepis*  
*Leucopogon australis*  
*Leucopogon blepharolepis P1*  
*Leucopogon bracteolaris P2*  
*Leucopogon ? brevicuspis P3*  
*Leucopogon concinnus*  
*Leucopogon conostephioides*  
*Leucopogon corynocarpus*  
*Leucopogon cucullatus*  
*Leucopogon cymbiformis*  
*Leucopogon distans*  
*Leucopogon elatior*  
*Leucopogon elegans*  
*Leucopogon fimbriatus*  
*Leucopogon flavescens*  
*Leucopogon gibbosus*  
*Leucopogon glabellus*  
*Leucopogon glaucifolius P2*  
*Leucopogon gnaphalioides R*  
*Leucopogon hirsutus*  
*Leucopogon lasiophyllus P2*  
*Leucopogon lasiostachyus*  
*Leucopogon minutifolius*  
*Leucopogon mollis*  
*Leucopogon obtusatus*  
*Leucopogon oppositifolius*  
*Leucopogon oxycedrus*  
*Leucopogon parviflorus*  
*Leucopogon pendulus*

*Leucopogon aff. pendulus*  
*Leucopogon propinquus*  
*Leucopogon reflexus*  
*Leucopogon sprengelioides*  
*Leucopogon strictus*  
*Leucopogon tamariscinus P2*  
*Leucopogon tenuis*  
*Leucopogon unilateralis*  
*Leucopogon verticillatus*  
*Leucopogon woodsii*  
*Leucopogon revolutus*  
*Levenhookia sp.*  
*Levenhookia dubia*  
*Levenhookia pauciflora*  
*Levenhookia preissii*  
*Levenhookia pusilla*  
*Levenhookia stipitata*  
*Linum marginale*  
*Lobelia alata*  
*Lobelia gibbosa*  
*Lobelia heterophylla*  
*Lobelia rarifolia*  
*Lobelia rhombifolia*  
*Lobelia tenuior*  
*Logania serpyllifolia subsp. angustifolia*  
*Logania serpyllifolia subsp. serpyllifolia*  
*Logania campanulata*  
*Logania micrantha*  
*Logania vaginalis*  
*\* Lolium perenne*  
*\* Lolium rigidum*  
*Lomandra caespitosa*  
*Lomandra collina*  
*Lomandra hastilis*  
*Lomandra micrantha*  
*Lomandra nigricans*  
*Lomandra nutans*  
*Lomandra preissii*  
*Lomandra purpurea*  
*Lomandra sericea*  
*Lomandra suaveolens*  
*Lomandra micrantha subsp. micrantha*  
*\* Lotus suaveolens*  
*Loxocarya sp.*  
*Lyginia barbata*  
*Lyginia imberbis*  
*Lyperanthus serratus*  
*Lysinema ciliatum Microflora(G.J. Keighery5775*  
*Lysinema sp.*  
*Lysinema aff. ciliatum*  
*Lysinema ciliatum forma Mt Barren(E. & S.Pignatti 1409*  
*Lysinema ciliatum*  
*Lysinema conspicuum*  
*Lysinema fimbriatum*  
*Lysiosepalum involucreatum*

*Macrozamia riedlei*  
*Marianthus erubescens*  
*Marianthus candidus*  
 \* *Medicago polymorpha*  
*Meeboldina kraussii* ms  
*Melaleuca cuticularis* / *haplantha*  
*Melaleuca* sp.  
*Melaleuca viminea* subsp. *viminea* (*hirsute hypanthium* biotype)  
*Melaleuca* cf. *viminea*  
*Melaleuca camptoclada*  
*Melaleuca ordinifolia* P2  
*Melaleuca pritzelii* P2  
*Melaleuca viminea* subsp. *viminea*  
*Melaleuca acuminata* subsp. *acuminata* ms  
*Melaleuca apodocephala* subsp. *apodocephala* ms  
*Melaleuca carrii* ms  
*Melaleuca blaeiifolia*  
*Melaleuca bracteosa*  
*Melaleuca brevifolia*  
*Melaleuca cuticularis*  
*Melaleuca densa*  
*Melaleuca hamulosa*  
*Melaleuca lateralis*  
*Melaleuca micromera* P3  
*Melaleuca pauciflora*  
*Melaleuca pentagona*  
*Melaleuca polycephala* P3  
*Melaleuca pungens*  
*Melaleuca raphiophylla*  
*Melaleuca scabra*  
*Melaleuca seriata*  
*Melaleuca spathulata*  
*Melaleuca striata*  
*Melaleuca suberosa*  
*Melaleuca thymoides*  
*Melaleuca torquata*  
*Melaleuca violacea*  
 \* *Mentha pulegium*  
*Mesomelaena stygia* subsp. *stygia*  
*Mesomelaena tetragona*  
*Microcorys virgata* P2  
*Microlaena stipoides*  
*Microtis alba* subsp. *nov.*  
*Microtis alba* subsp. *nov.* (*atypical*)  
*Microtis media* subsp. *media*  
*Microtis alba*  
*Microtis brownii*  
*Millotia myosotidifolia*  
*Mirbelia dilatata*  
*Mirbelia ovata*  
*Mirbelia spinosa*  
*Mirbelia subcordata*  
 \* *Monadenia bracteata*  
*Monotaxis grandiflora*  
*Monotoca oligarrhenoides*

*Monotoca tamariscina*  
 \* *Muehlenbeckia adpressa*  
*Muiriantha hassellii* P2  
*Myoporum tetrandum*  
*Myoporum tetrandrum*  
*Myriocephalus occidentalis*  
*Myriophyllum* sp.  
*Myriophyllum limnophilum*  
  
*Needhamiella pumilio*  
*Nemcia elegans*  
*Nemcia* sp.  
*Nemcia* aff. *crenulata* "*subsessile*" (S.Barrett 106)  
*Nemcia* aff. *rubra*  
*Nemcia leakeana*  
*Nemcia lehmannii* X  
*Nemcia carinata*  
*Nemcia coriacea*  
*Nemcia vestita* P2  
*Nemcia dilatata*  
*Nemcia retusa*  
*Nemcia punctata*  
*Nemcia rubra*  
*Nemcia pyramidalis*  
*Nemcia mondurup* ms  
*Nemcia* sp. Mt Magog (S.Barrett 55 P2)  
*Nemcia* sp. *crenulata capitata* (E. & S. Pignatti P2)  
*Neurachne alopecuroidea*  
  
*Olx benthamiana*  
*Olx phyllanthi*  
*Olearia rudis*  
*Olearia dampieri* subsp. *eremicola* ms  
*Olearia ciliata*  
*Olearia rudis*  
*Oligarrhena micrantha*  
*Onychosepalum laxiflorum*  
*Opercularia apiciflora*  
*Opercularia vaginata*  
*Opercularia spermacocea*  
*Opercularia liberiflora*  
*Opercularia volubilis*  
 \* *Ornithogalum* sp.  
*Orthrosanthus* sp.  
*Orthrosanthus laxus* var. *laxus*  
*Orthrosanthus laxus*  
*Orthrosanthus muelleri* R  
*Orthrosanthus multiflorus*  
 \* *Oxalis incarnata*  
*Oxalis perennans*  
 \* *Oxalis purpurea*  
*Oxylobium lineare*  
  
*Panicum laevifolium*  
 \* *Panicum schinzii*  
*Pannaria elixii*

*Paracaleana nigrata*  
 \* *Parentucellia viscosa*  
*Patersonia sp.*  
*Patersonia juncea*  
*Patersonia limbata*  
*Patersonia occidentalis*  
*Patersonia pygmaea*  
*Patersonia umbrosa*  
*Pelargonium havlasae*  
*Pelargonium australe*  
*Pelargonium havlasae*  
*Pelargonium littorale*  
*Pericalymma spongiocaulum ms*  
*Pericalymma ellipticum var. ellipticum ms*  
*Pericalymma ellipticum var. floridum ms*  
*Pericalymma ellipticum*  
*Peronospora trifoliorum*  
*Persicaria prostrata*  
*Persoonia aff. striata*  
*Persoonia saundersiana*  
*Persoonia striata*  
*Petrophile ericifolia subsp. ericifolia*  
*Petrophile squamata subsp. squamata*  
*Petrophile anceps*  
*Petrophile carduacea*  
*Petrophile divaricata*  
*Petrophile diversifolia*  
*Petrophile heterophylla*  
*Petrophile longifolia*  
*Petrophile media*  
*Petrophile phyllicoides*  
*Petrophile rigida*  
*Petrophile seminuda*  
*Petrophile serruriae*  
*Petrophile squamata*  
*Petrophile teretifolia*  
 \* *Petrorhagia velutina*  
*Peziza nigrella*  
 \* *Phalaris sp.*  
 \* *Phalaris aquatica*  
*Philothea nodiflora subsp. lasiocalyx*  
*Philydrella sp.*  
*Philydrella pygmaea*  
*Phyllangium paradoxum*  
*Phyllanthus calycinus*  
*Phyllota barbata*  
*Phyllota luehmannii*  
*Phymatocarpus porphyrocephalus*  
*Physcia sp.*  
*Pimelea sp.*  
*Pimelea brevifolia subsp. brevifolia*  
*Pimelea imbricata var. piligera*  
*Pimelea lehmanniana subsp. lehmanniana*  
*Pimelea longiflora subsp. longiflora*  
*Pimelea ciliata subsp. ciliata*  
*Pimelea suaveolens subsp. suaveolens*

*Pimelea cracens subsp. cracens*  
*Pimelea neokyrea ms P2*  
*Pimelea angustifolia*  
*Pimelea argentea*  
*Pimelea ciliata*  
*Pimelea erecta*  
*Pimelea imbricata*  
*Pimelea sulphurea*  
*Pimelea sylvestris*  
*Pimelea tinctoria*  
*Plantago sp.*  
*Plantago exilis*  
*Platysace effusa*  
*Platysace commutata*  
*Platysace effusa*  
*Platysace juncea*  
*Platytheca galioides var. crassifolia*  
*Platytheca galioides*  
*Platytheca juniperina*  
 \* *Poa annua*  
*Poa drummondiana*  
*Poa porphyroclados*  
*Podolepis sp.*  
*Podolepis capillaris*  
*Podolepis gracilis*  
*Podolepis lessonii*  
*Podolepis tepperi*  
*Podotheca gnaphalioides*  
 \* *Polypogon monspeliensis*  
*Polypogon tenellus*  
*Poranthera ericoides*  
*Poranthera huegelii*  
*Poranthera microphylla*  
*Potamogeton ochreatus*  
*Praecoxanthus aphyllus ms*  
*Prasophyllum ovale*  
*Prasophyllum aff. parvifolium*  
*Prasophyllum plumiforme*  
*Prasophyllum cucullatum*  
*Prasophyllum gracile*  
*Prasophyllum elatum*  
*Prasophyllum fimbria*  
*Prasophyllum giganteum*  
*Prasophyllum hians*  
*Prasophyllum macrostachyum*  
*Prasophyllum ovale*  
*Prasophyllum parvifolium*  
*Prasophyllum triangulare*  
*Prostanthera baxteri*  
*Pseudanthus virgatus*  
*Pseudocyphellaria neglecta*  
 \* *Pseudognaphalium luteoalbum*  
*Pterochaeta paniculata*  
*Pterostylis vittata var. subdifformis*  
*Pterostylis aff. barbata*  
*Pterostylis aff. rufa*

*Pterostylis picta*  
*Pterostylis concava*  
*Pterostylis hamiltonii*  
*Pterostylis barbata*  
*Pterostylis dilatata*  
*Pterostylis recurva*  
*Pterostylis vittata*  
*Pterostylis* sp. Slender Snail Orchid(G.J.Keighery  
*Pterostylis* sp. small stature(W.Jackson BJ303)  
*Pterostylis* sp. inland(A.C.Beauglehole 11880)  
*Ptilotus* aff. *manglesii*  
*Ptilotus stirlingii* var. *stirlingii*  
*Ptilotus manglesii*  
*Puccinellia stricta*  
*Pultenaea verruculosa* var. *brachyphylla*  
*Pultenaea verruculosa* var. *verruculosa*  
*Pultenaea verruculosa* var. *pilosa*  
*Pultenaea barbata*  
*Pultenaea empetrifolia*  
*Pultenaea ericifolia*  
*Pultenaea neurocalyx*  
*Pultenaea strobilifera*  
*Pultenaea verruculosa*  
*Pultenaea vestita*  
*Pyrorchis nigricans*  
  
*Quinetia urvillei*  
  
*Racopilum convolutaceum*  
\* *Raphanus raphanistrum*  
\* *Rapistrum rugosum*  
*Regelia cymbifolia* P4  
*Regelia inops*  
*Restio* sp.  
*Rhacocarpus purpurascens*  
*Rhagodia preissii* subsp. *preissii*  
*Rhaphidorrhynchium amoenum*  
*Rhizoctonia solani*  
*Rhodanthe manglesii*  
*Rhodanthe polycephala*  
*Rhodanthe citrina*  
*Rinzia communis*  
*Rinzia fumana*  
*Rinzia schollerifolia*  
\* *Romulea flava* var. *minor*  
*Rosulabryum albolimbatum*  
*Rosulabryum capillare*  
*Rosulabryum torquescens*  
*Rulingia corylifolia*  
*Rulingia cygnorum*  
\* *Rumex brownii*  
\* *Rumex pulcher*  
*Rumicastrum chamaecladum* P3  
  
\* *Salvia verbenaca*  
*Samolus caespitosus*  
  
*Samolus junceus*  
*Samolus repens*  
*Santalum acuminatum*  
*Santalum murrayanum*  
*Sarcocornia quinqueflora*  
*Sarcogyne clavus*  
*Scaevola striata* var. *striata*  
*Scaevola nitida*  
*Scaevola pulvinaris*  
*Scaevola thesioides*  
*Schoenolaena juncea*  
*Schoenus brevisetis* vel sp. aff.  
*Schoenus* aff. *caespititius*  
*Schoenus obtusifolius*  
*Schoenus pleiostemoneus*  
*Schoenus subbarbatus*  
*Schoenus subfascicularis*  
*Schoenus submicrostachyus*  
*Schoenus subflavus* subsp. *long leaves*(K.L.Wilson 2865)  
*Schoenus bifidus*  
*Schoenus brevisetis*  
*Schoenus caespititius*  
*Schoenus curvifolius*  
*Schoenus efoliatus*  
*Schoenus grandiflorus*  
*Schoenus laevigatus*  
*Sematophyllum homomallum*  
*Senecio lautus* subsp. *dissectifolius*  
*Senecio hispidulus* var. *hispidulus*  
\* *Senecio diaschides*  
*Senecio glomeratus*  
\* *Senecio lautus*  
*Senecio picridioides*  
*Senecio quadridentatus*  
\* *Setaria sphacelata*  
\* *Silene gallica* var. *quinquevulnera*  
*Siloxerus multiflorus*  
*Siloxerus humifusus*  
*Solanum symonii*  
*Sollya drummondii* P2  
*Sollya heterophylla*  
\* *Sonchus asper* subsp. *glaucescens*  
\* *Sonchus asper*  
*Sonchus oleraceus*  
*Sowerbaea laxiflora*  
\* *Sparaxis bulbifera*  
*Sphaerolobium drummondii*  
*Sphaerolobium alatum*  
*Sphaerolobium linophyllum*  
*Sphaerolobium* aff. *macranthum*  
*Sphaerolobium medium*  
*Sphaerolobium nudiflorum*  
*Sphaerolobium scabriusculum*  
*Sphenotoma* aff. *dracophylloides*  
*Sphenotoma* sp. Stirling Range(P.G.Wilson 4235 P3)

*Sphenotoma capitatum*  
*Sphenotoma dracophylloides*  
*Sphenotoma aff. dracophylloides*  
*Sphenotoma drummondii* R  
*Sphenotoma gracile*  
 \* *Sporobolus indicus* var. *capensis*  
*Sporobolus virginicus*  
*Spyridium montanum* P2  
*Spyridium majoranifolium*  
*Spyridium oligocephalum* P3  
*Stachystemon polyandrus*  
*Stackhousia monogyna*  
*Stawellia gymnocephala*  
*Stenanthemum pumilum* P4  
*Stenotalis ramosissima*  
*Stipa hemipogon*  
*Stipa mollis*  
*Stirlingia latifolia*  
*Stirlingia tenuifolia*  
*Stirlingia teretifolia*  
*Stylidium breviscapum* complex  
*Stylidium spathulatum* subsp. *glandulosum*  
*Stylidium spinulosum* subsp. *spinulosum*  
*Stylidium repens* var. *diplectroglossum*  
*Stylidium diuroides* subsp. *nanum*  
*Stylidium spinulosum* subsp. *montanum*  
*Stylidium brunonianum* subsp. *minor*  
*Stylidium junceum* subsp. *brevius*  
*Stylidium piliferum* subsp. *minor*  
*Stylidium breviscapum* var. *breviscapum*  
*Stylidium corymbosum* var. *corymbosum*  
*Stylidium affine*  
*Stylidium amoenum*  
*Stylidium breviscapum*  
*Stylidium brunonianum*  
*Stylidium calcaratum*  
*Stylidium carnosum*  
*Stylidium dichotomum*  
*Stylidium ecorne*  
*Stylidium emarginatum*  
*Stylidium guttatum*  
*Stylidium hirsutum*  
*Stylidium imbricatum*  
*Stylidium insensitivum*  
*Stylidium inundatum*  
*Stylidium junceum*  
*Stylidium lepidum* P3  
*Stylidium leptophyllum*  
*Stylidium lineatum*  
*Stylidium luteum*  
*Stylidium obtusatum*  
*Stylidium piliferum*  
*Stylidium plantagineum* P4  
*Stylidium repens*  
*Stylidium rhipidium* P1  
*Stylidium rhyngocarpum*  
  
*Stylidium roseonanum*  
*Stylidium scandens*  
*Stylidium schoenoides*  
*Stylidium spathulatum*  
*Stylidium spinulosum*  
*Stylidium uniflorum*  
*Stylidium verticillatum* P3  
*Stypandra glauca*  
*Styphelia tenuiflora*  
*Symonanthus* sp.  
*Synaphea* ? *favosa*  
*Synaphea* aff. *favosa*  
*Synaphea* aff. *reticulata*  
*Synaphea obtusata*  
*Synaphea floribunda*  
*Synaphea media*  
*Synaphea favosa*  
*Synaphea polymorpha*  
*Synaphea reticulata*  
*Synaphea spinulosa*  
  
*Targionia lorbeeriana*  
*Tegicornia uniflora* P4  
*Teloschistes chrysophthalmus*  
*Templetonia retusa*  
*Templetonia sulcata*  
*Tetralia capillaris*  
*Tetralia octandra*  
*Tetralia laevis*  
*Tetralia* sp.  
*Tetralia* sp. R  
*Tetralia affinis*  
*Tetralia hirsuta*  
*Tetralia pubescens*  
*Tetralia virgata*  
*Thelymitra* ? *pauciflora*  
*Thelymitra* aff. *antennifera* x *macrophylla*  
*Thelymitra* aff. *macrophylla*  
*Thelymitra benthamiana*  
*Thelymitra azurea*  
*Thelymitra macrophylla*  
*Thelymitra antennifera*  
*Thelymitra campanulata*  
*Thelymitra cornicina*  
*Thelymitra crinita*  
*Thelymitra cucullata*  
*Thelymitra fuscolutea*  
*Thelymitra* x *macmillanii*  
*Thelymitra psammophila* R  
*Thelymitra villosa*  
*Thelymitra* sp. Plain Sun Orchid(A.R. Annels 512  
*Thomasia* sp. Toolbrunup(G.J. Keighery 9895 P3  
*Thomasia angustifolia*  
*Thomasia dielsii* P1  
*Thomasia foliosa*  
*Thomasia grandiflora*

*Thomasia purpurea*  
*Thryptomene saxicola*  
*Thuidium sparsum* var. *hastatum*  
*Thysanothecium hookeri*  
*Thysanotus brevifolius* P2  
*Thysanotus gageoides* P2  
*Thysanotus glaucifolius*  
*Thysanotus patersonii*  
*Thysanotus tenellus*  
*Thysanotus thyrsoides*  
*Thysanotus triandrus*  
*Tilletia ehrhartae*  
*Trachymene grandis* ms  
*Trachymene pilosa*  
*Tribonanthes australis*  
*Tribonanthes longipetala*  
*Tribonanthes violacea*  
*Trichocline spathulata*  
*Tricoryne elatior*  
*Tricoryne humilis*  
*Tricoryne eyreana* ms  
*Tricostularia compressa*  
*Tricostularia neesii* var. *elatior*  
*Tricostularia neesii* var. *neesii*  
\* *Trifolium angustifolium* var. *angustifolium*  
\* *Trifolium arvense* var. *arvense*  
\* *Trifolium campestre* var. *campestre*  
\* *Trifolium cernuum*  
\* *Trifolium hirtum*  
\* *Trifolium subterraneum*  
*Triglochin* sp.  
*Triglochin minutissimum*  
*Triglochin huegelii*  
*Tripterococcus brunonis*  
*Triquetrella papillata*  
*Trithuria bibracteata*  
*Trithuria submersa*  
*Triticum aestivum*  
*Trymalium ledifolium* var. *rosmarinifolium*  
  
\* *Urochloa maxima* var. *maxima*  
*Uromycladium tepperianum*  
\* *Ursinia anthemoides*  
*Usnea nidulifera*  
*Usnea scabrida*  
*Usnea subeciliata*  
*Ustilago hordei*  
*Utricularia menziesii*  
*Utricularia multifida*  
*Utricularia tenella*  
  
*Velleia foliosa* P3  
*Velleia trinervis*  
\* *Vellereophyton dealbatum*  
*Veronica calycina*  
*Veronica plebeia*  
  
*Verticordia ? coronata*  
*Verticordia carinata* R  
*Verticordia chrysanthella*  
*Verticordia coronata* P3  
*Verticordia densiflora* var. *cespitosa*  
*Verticordia endlicheriana*  
*Verticordia endlicheriana* var. *major*  
*Verticordia huegelii* var. *tridens* P1  
*Verticordia lindleyi* subsp. *purpurea* P4  
*Verticordia plumosa* var. *brachyphylla*  
*Verticordia plumosa* var. *grandiflora*  
*Verticordia subulata*  
*Verticordia brevifolia* subsp. *brevifolia* P1  
*Verticordia multiflora* subsp. *multiflora* P4  
*Verticordia densiflora* var. *densiflora*  
*Verticordia endlicheriana* var. *endlicheriana*  
*Verticordia chrysantha*  
*Verticordia densiflora*  
*Verticordia grandiflora*  
*Verticordia habrantha*  
*Verticordia pennigera*  
*Verticordia picta*  
\* *Vicia sativa* subsp. *nigra*  
*Vicia villosa* subsp. *eriocarpa*  
*Villarsia marchantii* P4  
*Villarsia parnassifolia*  
*Villarsia submersa* P4  
*Vittadinia cervicalis* var. *circularis*  
*Vittadinia gracilis*  
\* *Vulpia myuros* var. *megalura*  
\* *Vulpia myuros* var. *myuros*  
\* *Vulpia bromoides*  
  
*Wahlenbergia* sp.  
\* *Wahlenbergia capensis*  
*Wahlenbergia gracilentata*  
*Wahlenbergia multicaulis*  
*Waitzia suaveolens* var. *suaveolens*  
\* *Watsonia borbonica*  
*Westringia dampieri*  
*Wilsonia humilis*  
*Wilsonia rotundifolia*  
*Wurmbea dioica*  
*Wurmbea sinora*  
  
*Xanthoria parietina*  
*Xanthorrhoea brevistyla* P4  
*Xanthosia rotundifolia* var. *hypoleuca* P3  
*Xanthosia rotundifolia* var. *rotundifolia*  
*Xanthosia candida*  
*Xanthosia collina* P3  
*Xanthosia rotundifolia*  
  
*Zygodon intermedius*

# Appendix

## 5

## APPENDIX 5

### Fauna species in Shire of Tambellup (Source- W.A Museum, 2005)

Information provided by Western Australian Museum, Fauna Base, latitude/longitude coordinates:  
-33.9500, 115.3333 and -34.2666, 118.000

Note- not a comprehensive list. May include exotic species. The area searched includes other localities outside Tambellup Shire. The **Family** name is identified in bold, *Genus* and *species* names follow listed in italics.

#### BIRD SPECIES

##### **Acanthizidae**

*Acanthiza apicalis*  
*Acanthiza apicalis leeuwinensis*  
*Acanthiza chrysorrhoa*  
*Acanthiza inornata*  
*Calamanthus campestris*  
*Calamanthus campestris montanellus*  
*Hylacola cauta*  
*Sericornis frontalis*  
*Sericornis frontalis maculatus*

##### **Accipitridae**

*Accipiter cirrocephalus*  
*Accipiter cirrocephalus cirrocephalus*  
*Accipiter fasciatus fasciatus*  
*Aquila audax*  
*Circus assimilis*  
*Elanus caeruleus axillaris*  
*Haliastur sphenurus*  
*Hamirostra isura*  
*Pandion haliaetus cristatus*

##### **Aegothelidae**

*Aegotheles cristatus*  
*Aegotheles cristatus cristatus*

##### **Anatidae**

*Anas castanea*  
*Anas superciliosa*  
*Biziura lobata*  
*Oxyura australis*  
*Tadorna tadornoides*

##### **Ardeidae**

*Ardea novaehollandiae*  
*Nycticorax caledonicus hilli*

##### **Artamidae**

*Artamus cinereus*  
*Artamus cyanopterus*  
*Artamus personatus*

##### **Atrichornithidae**

*Atrichornis clamosus*

##### **Burhinidae**

*Burhinus grallarius*

##### **Campephagidae**

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*Coracina maxima*  
*Coracina novaehollandiae*  
*Coracina novaehollandiae novaehollandiae*  
*Lalage tricolor*

#### **Casuariidae**

*Dromaius ater*

#### **Charadriidae**

*Charadrius rubricollis*  
*Charadrius ruficapillus*

#### **Climacteridae**

*Climacteris rufa*

#### **Columbidae**

*Phaps chalcoptera*  
*Phaps elegans*

#### **Corvidae**

*Corvus coronoides perplexus*

#### **Cracticidae**

*Cracticus tibicen*  
*Cracticus tibicen dorsalis*  
*Cracticus torquatus*  
*Strepera versicolor*

#### **Cuculidae**

*Cacomantis flabelliformis flabelliformis*  
*Chrysococcyx lucidus plagosus*  
*Cuculus pallidus*

#### **Dicruridae**

*Myiagra inquieta*  
*Rhipidura fuliginosa*  
*Rhipidura fuliginosa preissi*

#### **Falconidae**

*Falco berigora berigora*  
*Falco cenchroides cenchroides*  
*Falco longipennis longipennis*  
*Falco peregrinus*

#### **Halcyonidae**

*Dacelo novaeguineae*  
*Dacelo novaeguineae novaeguineae*  
*Todiramphus sanctus sanctus*

#### **Hirundinidae**

*Cheramoeca leucosternus*  
*Hirundo neoxena*  
*Hirundo nigricans nigricans*

#### **Maluridae**

*Malurus elegans*  
*Malurus pulcherrimus*  
*Malurus splendens*  
*Malurus splendens splendens*  
*Stipiturus malachurus westernensis*

#### **Meliphagidae**

Survey of Roadside Conservation Values in the Shire of Tambellup

*Acanthorhynchus superciliosus*  
*Anthochaera carunculata*  
*Anthochaera lunulata*  
*Epthianura albifrons*  
*Lichenostomus cratitius*  
*Lichenostomus ornatus*  
*Lichenostomus virescens*  
*Lichmera indistincta indistincta*  
*Melithreptus brevirostris leucogenys*  
*Melithreptus chloropsis*  
*Phylidonyris melanops*  
*Phylidonyris nigra gouldii*  
*Phylidonyris novaehollandiae*

#### **Meropidae**

*Merops ornatus*

#### **Motacillidae**

*Anthus australis australis*

#### **Neosittidae**

*Daphoenositta chrysoptera*  
*Daphoenositta chrysoptera pileata*

#### **Otididae**

*Ardeotis australis*

#### **Pachycephalidae**

*Colluricincla harmonica*  
*Colluricincla harmonica rufiventris*  
*Falcunculus frontatus*  
*Falcunculus frontatus leucogaster*  
*Oreoica gutturalis*  
*Pachycephala pectoralis fuliginosa*  
*Pachycephala rufiventris rufiventris*

#### **Pardalotidae**

*Pardalotus punctatus*  
*Pardalotus punctatus xanthopyge*  
*Pardalotus striatus*  
*Pardalotus striatus westraliensis*

#### **Passeridae**

*Stagonopleura oculata*

#### **Petroicidae**

*Drymodes brunneopygia*  
*Eopsaltria australis griseogularis*  
*Eopsaltria georgiana*  
*Eopsaltria griseogularis griseogularis*  
*Petroica cucullata*  
*Petroica multicolor*  
*Petroica multicolor campbelli*

#### **Phalacrocoracidae**

*Phalacrocorax melanoleucos melanoleucos*

#### **Phasianidae**

*Coturnix pectoralis*  
*Coturnix ypsilophora*

#### **Podargidae**

*Podargus strigoides*  
*Podargus strigoides brachypterus*

**Podicipedidae**

*Tachybaptus novaehollandiae novaehollandiae*

**Pomatostomidae**

*Pomatostomus superciliosus*

**Procellariidae**

*Pachyptila desolata*  
*Pterodroma macroptera macroptera*  
*Puffinus assimilis assimilis*

**Psittacidae**

*Cacatua pastinator pastinator*  
*Calyptorhynchus banksii*

**Psittacidae**

*Calyptorhynchus baudinii*  
*Calyptorhynchus latirostris*  
*Glossopsitta porphyrocephala*  
*Melopsittacus undulatus*  
*Neophema elegans*  
*Platycercus icterotis*  
*Platycercus icterotis icterotis*  
*Platycercus spurius*  
*Platycercus zonarius*  
*Platycercus zonarius semitorquatus*  
*Polytelis anthopeplus anthopeplus*

**Rallidae**

*Gallinula ventralis*  
*Gallirallus philippensis mellori*  
*Porphyrio porphyrio bellus*  
*Porzana tabuensis*  
*Rallus pectoralis clelandi*

**Recurvirostridae**

*Cladorhynchus leucocephalus*

**Scolopacidae**

*Calidris acuminata*  
*Calidris ferruginea*  
*Calidris ruficollis*

**Strigidae**

*Ninox connivens*  
*Ninox novaeseelandiae*  
*Ninox novaeseelandiae boobook*

**Sylviidae**

*Acrocephalus australis*  
*Megalurus gramineus gramineus*

**Turdidae**

*Turdus merula merula*

**Turnicidae**

*Turnix varia varia*

**Tytonidae**

*Tyto alba*  
*Tyto alba delicatula*  
*Tyto novaehollandiae*  
*Tyto novaehollandiae novaehollandiae*

**Zosteropidae**

*Zosterops lateralis*  
*Zosterops lateralis gouldi*

**MAMMAL SPECIES**

**Bovidae**

*Capra hircus*

**Burramyidae**

*Cercartetus concinnus*

**Canidae**

*Canis lupus dingo*  
*Canis lupus familiaris*

**Dasyuridae**

*Antechinus flavipes leucogaster*  
*Dasyurus geoffroii*  
*Phascogale calura*  
*Phascogale tapoatafa*  
*Phascogale tapoatafa tapoatafa*  
*Sminthopsis crassicaudata*  
*Sminthopsis gilberti*  
*Sminthopsis griseoventer griseoventer*  
*Sminthopsis murina*

**Delphinidae**

*Pseudorca crassidens*

**Equidae**

*Equus caballus*

**Felidae**

*Felis catus*

**Leporidae**

*Oryctolagus cuniculus*

**Macropodidae**

*Macropus eugenii derbianus*  
*Macropus fuliginosus*  
*Macropus irma*  
*Onychogalea lunata*  
*Setonix brachyurus*

**Molossidae**

*Mormopterus planiceps*  
*Tadarida australis*

**Muridae**

*Hydromys chrysogaster*  
*Mus musculus*  
*Pseudomys albocinereus*  
*Pseudomys occidentalis*  
*Rattus fuscipes*

*Rattus rattus*

**Myrmecobiidae**

*Myrmecobius fasciatus*

**Peramelidae**

*Isoodon obesulus fusciventer*

**Phalangeridae**

*Trichosurus vulpecula*

*Trichosurus vulpecula vulpecula*

**Potoroidae**

*Bettongia lesueur graii*

*Bettongia penicillata*

*Bettongia penicillata ogilbyi*

*Bettongia sp*

**Pseudocheiridae**

*Pseudocheirus occidentalis*

*Pseudocheirus peregrinus*

**Tachyglossidae**

*Tachyglossus aculeatus*

**Tarsipedidae**

*Tarsipes rostratus*

**Thylacomyidae**

*Macrotis lagotis*

**Vespertilionidae**

*Chalinolobus gouldii*

*Chalinolobus morio*

*Chalinolobus sp*

*Falsistrellus mackenziei*

*Nyctophilus cf\_gouldi*

*Nyctophilus geoffroyi*

*Nyctophilus gouldi*

*Nyctophilus timoriensis*

*Nyctophilus timoriensis timoriensis*

*Vespadelus regulus*

**Ziphiidae**

*Mesoplodon grayi*

**REPTILE SPECIES**

**Agamidae**

*Ctenophorus ornatus*

*Pogona minor*

*Pogona minor minor*

**Boidae**

*Morelia spilota imbricata*

**Cheluidae**

*Chelodina oblonga*

**Elapidae**

*Echiopsis curta*

*Elapognathus coronatus*  
*Notechis scutatus*  
*Parasuta gouldii*  
*Parasuta nigriceps*  
*Pseudonaja affinis affinis*  
*Rhinoplocephalus bicolor*

#### **Gekkonidae**

*Christinus marmoratus*  
*Crenadactylus ocellatus*  
*Crenadactylus ocellatus ocellatus*  
*Diplodactylus granariensis*  
*Diplodactylus granariensis granariensis*  
*Diplodactylus polyophthalmus*  
*Underwoodisaurus milii*

#### **Pygopodidae**

*Aprasia pulchella*  
*Aprasia repens*  
*Christinus marmoratus*  
*Delma australis*  
*Delma fraseri fraseri*  
*Pygopus lepidopodus*

#### **Scincidae**

*Acritoscincus trilineatum*  
*Cryptoblepharus plagiocephalus*  
*Ctenotus catenifer*  
*Ctenotus gemmula*  
*Ctenotus impar*  
*Ctenotus labillardieri*  
*Egernia kingii*  
*Egernia luctuosa*  
*Egernia multiscutata bos*  
*Egernia napoleonis*  
*Egernia pulchra pulchra*  
*Hemiergis initialis*  
*Hemiergis peronii*  
*Hemiergis peronii peronii*  
*Hemiergis peronii tridactyla*  
*Lerista distinguenda*  
*Lerista microtis microtis*  
*Menetia greyii*  
*Morethia obscura*  
*Tiliqua occipitalis*  
*Tiliqua rugosa rugosa*

#### **Typhlopidae**

*Ramphotyphlops australis*

#### **Varanidae**

*Varanus gouldii*  
*Varanus rosenbergi*

### **FISH SPECIES**

#### **Atherinidae**

*Atherinosoma wallacei*

#### **Clinidae**

*Cristiceps australis*

**Engraulidae**

*Engraulis australis*

**Galaxiidae**

*Galaxias occidentalis*

*Galaxiella munda*

*Galaxiella sp*

**Kyphosidae**

*Girella zebra*

**Mullidae**

*Upeneichthys lineatus*

**Nannopercidae**

*Edelia vittata*

*Nannatherina balstoni*

**Paralichthyidae**

*Pseudorhombus jenynsii*

**Parascyllidae**

*Parascyllium variolatum*

**Percichthyidae**

*Bostockia porosa*

**Percidae**

*Perca fluviatilis*

**Petromyzontidae**

*Geotria australis*

**Plotosidae**

*Cnidoglanis macrocephalus*

**Pomatomidae**

*Pomatomus saltatrix*

**Scorpaenidae**

*Gymnapistes marmoratus*

**Serranidae**

*Trichonotus sp*

**Tetraodontidae**

*Torquigener pleurogramma*

**AMPHIBIA SPECIES****Hylidae**

*Litoria adelaidensis*

*Litoria moorei*

**Myobatrachidae**

*Crinia georgiana*

*Crinia glauerti*

*Crinia pseudinsignifera*

*Crinia sp*

*Crinia subinsignifera*

*Geocrinia leai*

*Geocrinia rosea*  
*Heleioporus eyrei*  
*Heleioporus sp*  
*Limnodynastes dorsalis*  
*Metacrinia nicholli*  
*Myobatrachus gouldii*  
*Neobatrachus pelobatoides*  
*Pseudophryne guentheri*

# Appendix

## 6



## ROADSIDE CONSERVATION COMMITTEE

### GUIDELINES FOR MANAGING THE HARVESTING OF NATIVE FLOWERS, SEED AND TIMBER FROM ROADSIDES

#### Preamble

The diversity of values associated with roadside vegetation is well documented and acknowledged. In landscapes that have been extensively cleared, roadside vegetation provides essential wildlife corridors and habitat for local flora and fauna, including a number of threatened species. Hence it is highly desirable that this asset is managed in such a way as to ensure its conservation and sustainability.

The control and management of roadside vegetation is the responsibility of the road manager. Local government authorities, as road managers, are often approached for 'permission' to take various flora products from the roadside. These requests are mainly for wildflowers, native seed and firewood. Other products which may be sought includes material for making didgeridoos, other types of craftwood, and stakes or poles for various purposes.

Although road managers are primarily concerned about the maintenance of the running surface itself, through the implementation of these simple guidelines for the removal of flora and timber material from the roadsides, the vegetated roadside reserve should be maintained for its biodiversity values, and the benefit of the community and road users.

In some instances the Roadside Conservation Committee (RCC) is supportive of the sustainable harvesting of flora, such as salvage (removal of dead material that is not significant wildlife habitat or is material to be destroyed by road works), or the selective collection of seed for revegetation. However, each case should be viewed on its merits and any decision to facilitate harvesting from roadsides should be referred to the Department of Conservation and Land Management (CALM) and/or the RCC for advice. Licences allowing the taking of roadside flora may be issued by CALM when supported by the road managing authority.

#### Legislation

All Western Australian native flora is protected under the *Wildlife Conservation Act 1950*. Native flora includes all parts of a native plant, including its flowers, seed, and timber. Protection of native flora under the Act has the effect of requiring a person to only take (cut or remove) native flora from Crown land under a licence.

Road and rail reserves are Crown land, and hence a licence is required to cut or remove any native flora from a roadside or rail line. There is, however, a legal provision by which the road manager or their agent (contractor) does not require a licence whilst undertaking legitimate road management activities. This provision does not extend to other persons who wish to take protected flora from roadsides.

There are two types of licences that apply to the taking of protected flora from Crown land - Commercial Purposes Licences where the flora is being taken for any commercial purpose, and Survey of Roadside Conservation Values in the Shire of Tambellup

Scientific or Other Prescribed Purposes Licences where the protected flora is being taken for specific non-commercial purposes.

These licences are issued by CALM. In issuing a licence, CALM is required to be assured that the activity will not compromise the conservation of the flora. In determining this, CALM will seek advice from the land manager for which the application relates to determine the potential impact of the activity, and how the activity relates to the management objectives being applied to that land.

A licence application may be refused if the activity is either a conservation concern, or does not fit in with the management objectives of the road manager. Once issued with a licence, a licensee must comply with the conditions of the licence that are designed to ensure the activity does not adversely impact on the conservation of the flora or the natural environment in which it occurs.

### **Commercial Wildflower Harvesting**

Western Australia is referred to as the '*Wildflower State*', and its wildflowers attract a significant number of tourists each year. Roadside vegetation provides the most accessible, and hence the most commonly viewed, array of wildflowers, and as such are an important feature of regional tourism and can provide a significant financial boost to local economies.

The RCC considers that the flora on roadsides is reserved and maintained for public benefit. It is therefore seen as a contradiction of purpose to allow wildflowers on roadsides to be harvested, particularly for private gain, and this activity should not be permitted.

Wildflower harvesting in many instances detracts from the biodiversity and tourism values of the roadside. It is often the case that flora is harvested from roadsides because of the convenience of access, and harvesters should be directed to find alternative locations.

There are situations where some harvesting may be considered, such as in very wide road reserves where the activity can be screened from road users, but mostly road managers have been discouraged from supporting or allowing such harvesting to occur. If harvesting is to be approved, then the points provided at the end of these guidelines should be considered.

### **Seed Collection**

Throughout much of the south west, revegetation of the native flora is being undertaken to redress the problems that historic clearing has created. Increasingly, this revegetation is aimed at using local native flora so as to recreate the native vegetation to support biodiversity objectives. The paradox is that in many areas the native vegetation has been cleared to such an extent that adequate sources of native seed cannot be found for undertaking this work. Roadside vegetation may be a source of such seed.

Native seed is an important component of remnant vegetation. It is critical for the regeneration of certain species, called re-seeder species, when plants are either killed by an event, such as fire, storm damage, or die as part of their natural cycle. The maintenance of adequate seed of these species is necessary as a precaution to ensure the sustainability of the flora biodiversity.

Native seed is also an important food source for native fauna living in roadside vegetation, from ants to birds and mammals. The maintenance of this fauna is important for the continuing survival of the vegetation, especially where the fauna is required to pollinate the flora.

When seed is needed for *bona fide* revegetation projects within the local community, and no other source of local seed is available, then the controlling authority may consider giving permission for

collection of seed from roadsides. Such collection must be under the appropriate licence issued by CALM and the harvesting should be done in a way that does not endanger the long-term survival of the roadside vegetation.

Where seed collection is to be authorised on roadsides, the road manager should consider the points listed at the end of these guidelines. Specific consideration should be given to the methods that are approved for harvesting the seed, the quantity of seed that may be taken, and the species from which the seed is to be sourced.

### **Timber Harvesting from Roadsides.**

Timber is harvested for a range of reasons, including saw logs, firewood and craftwood. Due to the ease of access, timber harvesters may wish to source timber from roadside vegetation for these purposes.

The RCC seeks to encourage roadside managers to retain timber on roadsides as an important component of the natural habitat, which fulfils ecological, aesthetic and land management functions. The value of fallen logs and branches within the roadside is often not realised, but this material forms an important habitat for many species of insects, reptiles, mammals and birds, thus enhancing the roadside biodiversity. Insects and reptiles that live in fallen timber are also important elements of the food chain, and are very important to the functioning of natural systems, and the survival of many other native animals.

The RCC believes that harvesting of timber from roadsides should not be permitted except in defined road safety, fence line or service clearance zones, or where a tree has fallen, or appears likely to fall into clearance zones.

Where timber removal is to be allowed, consideration should be given to the points raised at the end of these guidelines, especially in relation to safety issues related to timber cutting. Permission to remove timber should be specific to certain sections of roadsides where the removal is necessary for other planned road management purposes.

### **Guidelines For Harvesting On Roadsides**

- ✓ In all cases the permission of the managing authority, i.e. Main Roads WA, Local Government or CALM, must be sought before native flora is removed from a roadside.
- ✓ Flora removal should be from only designated roads, which have wider vegetated road verges i.e. vegetation width > 3metres
- ✓ The number of operators authorised to remove flora from a roadside should be strictly limited to that which can be sustained and managed. The determination of this is at the judgement of the managing authority, but consideration should be taken of the type of flora being harvested and an evaluation of monitoring of the impact of the harvest activity. Advice may be sought from CALM.
- ✓ Approval for flora harvesting should be for a set period, with a review of the impact and operation before renewal.
- ✓ Approval should also stipulate approved methods of harvesting, the species which may be harvested, and the quantity of material to be taken. Advice on harvest conditions may be obtained from CALM.

- ✓ Any flora removed should not affect the viability of the residual seed bank. It is recommended that no more than 20% of the flowers or seed on a plant should be taken, unless it is in an area that is scheduled to be cleared as part of road management.
- ✓ Methods of harvesting flora should not jeopardise the survival of the plant/tree, unless it is in an area that is scheduled to be cleared as part of road management.
- ✓ The removal of whole plants should be restricted to areas that are scheduled to be cleared as part of road management. Note, some species of flora such as zamia palms and grass trees cannot be removed for commercial purposes without a special endorsement on the Commercial Purposes Licence issued by CALM.
- ✓ No flora of special conservation concern (Declared Rare Flora or Priority Flora) should be removed without special authorisation through CALM.
- ✓ No commercial harvesting of any plant product should be allowed for any reason between the markers that delineate a Special Environmental Area.
- ✓ Flora harvesting should be prohibited from designated Flora Roads.
- ✓ Care should be taken that access to Dieback infected areas is limited to the drier months of the year, and vehicular access disallowed.
- ✓ Safety should always be of prime concern and every effort should be made to ensure that personal safety is a key consideration in any harvesting operation.
- ✓ Flora harvesters should not operate from the roadside in areas where the vegetation is close to the road, where vehicles cannot be safely parked off the road, or where there is poor driver visibility.

# Appendix

## 7



## ROADSIDE CONSERVATION COMMITTEE

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### Guidelines for the Nomination and Management of Flora Roads

#### Introduction

The Flora Roads program began as an initiative of the Roadside Conservation Committee (RCC), as a means of encouraging road managers to protect and conserve roadside vegetation of high conservation value. Flora Roads also highlight areas of high conservation flora as a tourist asset to local communities and are easily identified to passing travellers as areas worthy of an inspection to view the local flora.



The Roadside Conservation Committee has defined Flora Roads as "those roads which have conservation value owing to the vegetation growing within the reserve".

#### Principle Conservation Values of Flora Roads:

- The roadside must contain a significant population of native vegetation. Introduced trees and grasses are not important for conservation.
- The native vegetation must be in as near to its natural condition as possible. In undisturbed vegetation, several layers of plants occur - trees, shrubs and herbs are present in woodlands, for example. If one or more of the expected layers are missing, the conservation value is reduced.
- The roadside may be the only remaining example of original vegetation within a cleared area. It thus:
  - Assists in vegetation mapping and distribution studies
  - Provides a benchmark for study of soil change during agricultural development
  - Provides a source of local seed for revegetation projects
  - Acts as a wildlife habitat for the protection of fauna.
  - Rare or endangered plants may occur on the roadside.
  - May provide nest sites and refuges for native animals.
  - May act as a biological corridor.

#### Identification and Nomination of Flora Roads

The RCC has been coordinating a volunteer roadside survey program since 1989, which provides a list of high conservation value roads within many Shires in the agricultural areas of this state. These roadsides can be investigated further to see if they warrant declaration as a Flora Road. Nevertheless, roadsides that have not been surveyed may still be nominated.

Any person may suggest to the managing authority or to the RCC that a road, or a section of road fits the criteria of a Flora Road. However, only the managing authority in whom care, control and management of the road is vested can officially declare it a Flora Road.

A road may be nominated as a Flora Road by submitting a written request to the RCC.

The RCC requires the following information:

- Endorsement from the managing authority;
- Name of the road, LGA, and the road manager (MRWA, Local Government or DCLM);
- Distance of the proposed Flora Road; and
- Width of the road reserve.

The following information would also be useful:

- Photograph(s) of the road;
- A list of the dominant plant species;
- Threats (weeds, disturbances, etc).

This information will be stored in the RCC Flora Roads Register, a database which is maintained by the RCC Technical Officer (Mapping).

## Establishment of a Flora Road

Given that only the managing authority can officially declare a road, or section of road as a Flora Road, it is important to have the support of the road manager.

The RCC will provide two Flora Road signs to the managing authority. The signs are in the tourist sign colours of white letters and symbols on a leaf brown background. It is the responsibility of the managing authority to erect the signs, and to provide signposts, auxiliary signs and carry out maintenance. One sign may be placed at each approach to the area.

## Management Implications

A standard sign was developed by Main Roads WA in the late 1980's, a policy for the erection of Flora Road signage was developed shortly afterwards. See Appendix 1

Part 16 of the RCC *Roadside Manual* details the establishment and management of Flora Roads. The RCC's *Guidelines for Managing Special Environment Areas in Transport Corridors* and the *Roadside Handbook* also provide information on Flora Road establishment.

The aim of all management should be to minimise any disturbance to the roadside flora, consistent with the provision of a safe and efficient roadway.

The managing authority will be expected to take into consideration the high conservation values present, and take special care when working within the Flora Road road reserve and the surrounding area. More specifically though;

- Council may choose to adopt a policy on Roadside Conservation.
- Environmental assessments (pre-construction checklists) should be completed prior to any upgrade work, to assist with planning for flora preservation.
- Fire Management should be undertaken in such a way so as to take into account the ecological needs of the flora.
- Where rehabilitation is contemplated, local native species should be used.

## Tourism Implications

Declared Flora Roads will, by their very nature, be attractive to tourists, and would often be suitable as part of a tourist drive network. Consideration should be given to:

- Promoting the road by means of a small brochure or booklet;
- Eventually showing all Flora Roads on a map of the region or State;
- Using specially designed signs to delineate the Flora Road section; and
- Constructing roadside flora rest areas where people can get out and enjoy the flora. Walk trails could be made from these, and information brochures produced;

## Flora Road Register

To ensure that knowledge of Flora Roads sites does not get lost, due perhaps to staff changes, the RCC has established a Flora Roads Register. Information pertaining to each Flora Road (i.e. road name, location, length, etc) will be stored in the Flora Roads database, and updated as necessary.

In order to plan roadworks so that these important areas of roadside vegetation are not disturbed, road managers should also know of these areas. Therefore, it is suggested that the Managing Authority (Shire, MRWA, DCLM) establish a *Register of Roads Important for Conservation* also. This register should be consulted prior to any works being initiated in the area.