

Roadside Vegetation and Conservation Values in the Shire of Kellerberrin



Photo by C. Wilson

April 2009

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 Kellerberrin. The report primarily provides detailed results of the roadside survey and is accompanied by management recommendations. It also briefly describes the natural environment in Kellerberrin, legislative considerations and threats to conservation values.

Aware of the need to conserve roadside remnants, the Shire of Kellerberrin liaised with the Roadside Conservation Committee (RCC) in 2007 to survey roadsides in their Shire. Surveys to assess the conservation values of roadside remnants were conducted between August and September 2007 and again in August 2008. The majority, 86.82%, of the Shire's 938.2 km of roadsides were assessed by the RCC for their conservation status and maps were produced via a Geographic Information System (GIS). Roadside locations of six nominated weeds and salt affected roadsides were also recorded and mapped onto separate clear overlays.

The results of the survey indicated that high conservation value roadsides covered 12.1% of the roadsides surveyed in the Shire, with medium-high conservation value roadsides accounting for 34.1%. Medium-low and low conservation value roadsides occupied 34.8% and 19.0%, 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:

- formulating a roadside vegetation management plan for roads maintenance work;
- identifying degraded areas for strategic rehabilitation or specific management techniques and weed control 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 Kellerberrin to utilise the RCV map in 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, more than 50% of Declared Rare Flora (DRF) have at least one roadside population and three species are known only to exist on roadsides;
- 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 Peregrine Falcon (*Falco peregrinus*) has been recorded in the Shire of Kellerberrin.

Illustration 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, in both the land adjoining the road reserve and further afield; 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 Department of Environment and Conservation (DEC) 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 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 designed 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, however 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 policy on fire management is:

- roadside burning should not take place without the consent of the managing authority;
- Local Government Authorities should adopt by-laws to control roadside burning;
- roadside burning should be planned as part of a total Shire/area Fire Management Plan;
- only one side of a road should be burnt in any one year;
- 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;
- no firebreaks within the Road Reserve should be permitted unless the width of the roadside vegetation strip is greater than 20m;
- 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; and
- in the case of any dispute concerning roadside fire management, the Fire and Emergency Services Authority (FESA) 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 habitat retention for associated fauna and also retention of some of the scenic values associated with the road.

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 which is 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 54 weed species in the Shire of Kellerberrin (Appendix 4). The roadside survey recorded populations of seven significant weeds, and their locations were mapped by the RCC onto clear overlays. The seven nominated weeds were:

- Paterson's Curse (*Echium plantagineum*);
- Wild Radish (*Raphanus raphanistrum*);
- Cape Tulip (*Moraea flaccida* and *Moraea miniata*);
- African Lovegrass (*Eragrostis curvula*);
- Bridal Creeper (*Asparagus asparagoides*);
- Wild Oats (*Avena fatua*); and
- Soursob (*Oxalis pes-caprae*).

Roadside populations of these weeds can be observed on the weed overlays provided with the Kellerberrin Roadside Conservation Value map (2009). 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.



Avena fatua Photo: J.D. Dodd

Wild Oats is an annual grassy exotic weed species found along roadsides in the Shire of Kellerberrin. Photography by J.D.Dodd. Photo used with the permission of the WA Herbarium, DEC <http://florabase.dec.wa.gov.au/help/photos#reuse>.



Echium plantagineum Photos: R. Knox & J. Dodds

Paterson's curse is a widespread pasture weed that is spread by seed, making roadside populations a priority for control.

Photography by R. Knox and J.Dodds. Photo used with the permission of the WA Herbarium, DEC <http://florabase.dec.wa.gov.au/help/photos#reuse>.



Moraea flaccida

Photos: R. Knox & K.C. Richardson

Cape Tulip is a serious pasture weed that is poisonous to stock, making any initial roadside populations a priority for control before it spreads into nearby farms.

Photography by R. Knox and K.C. Richardson. Photo used with the permission of the WA Herbarium, DEC <http://florabase.dec.wa.gov.au/help/photos#reuse>

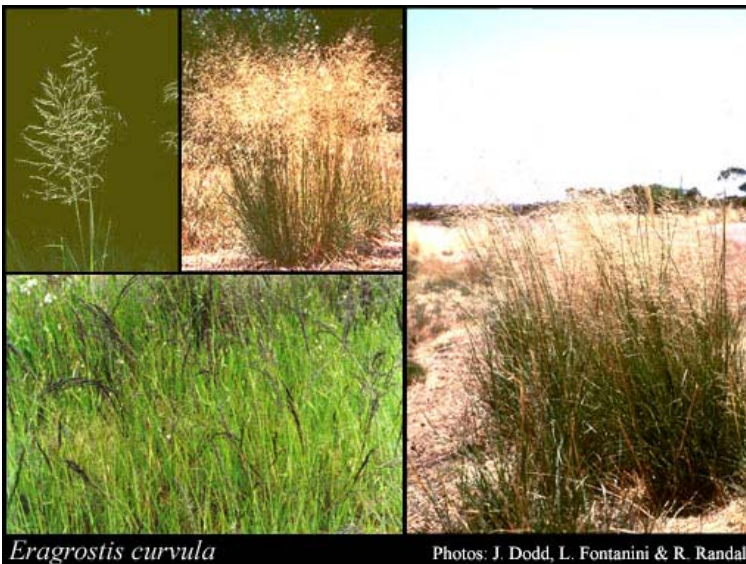


Oxalis pes-caprae

Photos: K.C. Richardson

Soursob (*Oxalis pes-caprae*) is a major weed on roadsides throughout the southwest of the State and it may cause oxalate poisoning in sheep. Control of roadside infestations is important before it spreads into nearby paddocks.

Photography by K.C. Richardson. Photo used with the permission of the WA Herbarium, DEC <http://florabase.dec.wa.gov.au/browse/photo/4356>



Eragrostis curvula

Photos: J. Dodd, L. Fontanini & R. Randall

African Lovegrass is a widespread weed along roadsides. It is highly invasive and is prevalent along the roadsides in the Shire of Kellerberrin.

Photography by J.Dodd, L. Fontanini and R. Randall. Photo used with the permission of the WA Herbarium, DEC <http://florabase.dec.wa.gov.au/browse/photo/376>

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 crops 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 into the root-zone to the soil 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 (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), approximately 6.7%, or 60.5km of roads in the Shire of Kellerberrin are potentially under threat from salinity (Table 1). Most of these, 44.45km, are local roads managed by the Shire.

Table 1. Road lengths potentially affected by salinity in the Shires of Kellerberrin, Bruce Rock, Quairading, Tammin, Wyalcatchem, Trayning, Nungarin and Merredin.

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

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
Bruce Rock	1223.01	-	47.73	1.08	9.05	57.85	4.73
Quairading	862.00	-	52.83	2.43	10.07	65.95	7.65
Kellerberrin	903.31	3.95	44.45	-	12.10	60.50	6.70
Tammin	491.47	6.75	26.23	-	7.88	40.85	8.31
Wyalcatchem	784.11	-	24.43	0.23	11.98	36.63	4.67
Trayning	775.97	-	34.60	0.28	6.58	41.45	5.34
Nungarin	491.25	-	20.48	0.53	5.90	26.90	5.48
Merredin	1230.83	4.08	41.30	0.60	10.90	56.88	4.62

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 Environment and Conservation (DEC) 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* detail these requirements. Clearing applications are assessed against twelve clearing principles, which incorporate the:

- biological value of the remnant vegetation;
- potential impact on wetlands, water sources 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. For example, where clearing is for a once-off clearing event such as pasture clearing or an agricultural development, an area permit is required. Where ongoing clearing is necessary for a specific purpose, such as road widening programs, a purpose permit is needed. Shire road maintenance activities are exempt, to the width and height previously legally cleared for that purpose (refer to Schedule 2 of the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*).

It is recommended that a precautionary 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 Environmentally Sensitive Areas

An Environmentally Sensitive Area (ESA) 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; and/or
- protection of Aboriginal or European cultural sites.

Environmentally Sensitive 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 ESA markers. Workers who come across an 'Environmentally Sensitive 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 WestNet 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 an *Environmentally Sensitive Area Register*. This should outline any special treatment that the site should receive and be consulted prior to any work being initiated in the area.

The *Environmentally Sensitive 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 ESA markers are highly visible.
Photo by K. Jackson

Local Government is encouraged to permanently mark ESAs to prevent inadvertent or inappropriate damage to 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* (Appendix 7). The Flora Road signs (provided by the RCC) draw the attention of both the tourist and those working in the road reserve to the roadside flora, indicating that it is 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 DEC

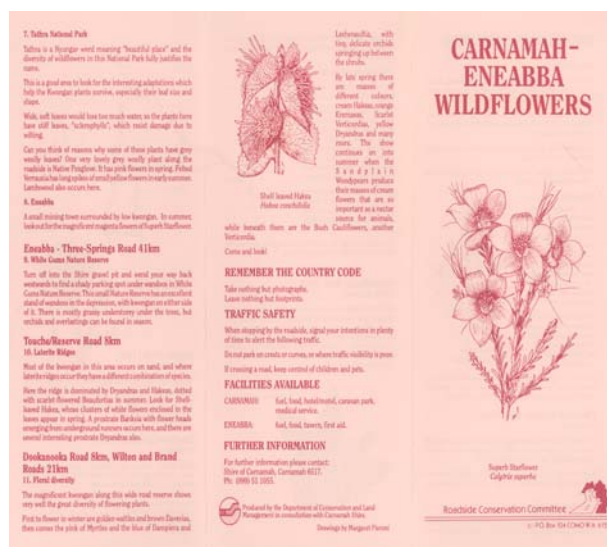
Although presently there are no Flora Roads designated within the Shire of Kellerberrin, the roadside survey and the RCV map highlighted a number of roadsides that have the potential to be declared as Flora Roads. These and other roads may be investigated further to see if they warrant a declaration 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 be aware of these areas. To ensure this is not overlooked it is suggested that areas declared as Flora Roads be included in the Shire's *Special Environmental Area Register*.

Attractive roadsides are an important focus in Western Australia, the "Wildflower State". 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; and
- using specially designed signs to delineate the Flora Road section (provided by the RCC).

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



PART B

THE NATURAL ENVIRONMENT IN KELLERBERRIN

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. 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 south west, are endemic.

The WA Herbarium has recorded over 970 species of native plants from the Shire of Kellerberrin. The most prolific genera are *Acacia* 84 spp, *Eucalyptus* 55 spp, *Melaleuca* 35 spp and *Grevillea* 27 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 Environmentally Sensitive Areas (ESAs) and should be delineated by yellow stakes with an identification plate attached. The RCC suggests using the publication *Guidelines for Managing Special Environmental Areas in Transport Corridors* 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 RCC. For information regarding DRF, contact the Department of Environment and Conservation (DEC) Flora Officer for the Yilgarn District. If roadworks are to be carried out near DRF sites, it is advisable to contact DEC at least six weeks in advance.

***Grevillea umbellulata* occurs on roadsides in the Shire of Kellerberrin.**
Photography by H. Adamson. Photo used with the permission of the WA Herbarium, DEC
<http://florabase.calm.wa.gov.au/browse/flora?f=090&level=s&id=2115>



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

Photo K. Jackson.

As of December 2007, 23 locations of Declared Rare and Priority Flora are known to occur within roadsides in the Shire of Kellerberrin. All of these sites occur in roadsides vested in the Shire of Kellerberrin. In total, there are three species of Declared Rare Flora (DRF) and five species of Priority Flora that occur in these roadside locations in the Shire, these are:

Declared rare Flora

- *Boronia adamsiana*
- *Grevillea dryandroides* subsp. *hirsuta*
- *Guichenotia seorsiflora*

Priority Flora

- *Acacia merrickiae*
- *Acacia sclerophylla* var. *pilosa*
- *Acacia sclerophylla* var. *teretiuscula*
- *Cryptanda dielsii*
- *Leucopogon amplexans*



Guichenotia seorsiflora

Photos: K. Bettink & S.J. Patrick

***Guichenotia seorsiflora* is a declared rare plant that is present on roadsides in the Shire of Kellerberrin. It is a multistemmed shrub that flowers in July to September.**

Photography by K. Bettink and S.J. Patrick. Photo used with the permission of the WA Herbarium, DEC
<http://florabase.calm.wa.gov.au/help/photos#reuse>

Note: this information may have changed since the time of this report's release; therefore it is important to contact the relevant DEC District office or the Species and Communities Branch in Kensington for the most recent information.



The Reticulated Velvet Gecko can be found in Kellerberrin

Photo by B. G. Bush, Photo used with the permission of the WA Museum, FaunaBase

3.0 Fauna

The Western Australian Museum records approximately 123 species of fauna from the Kellerberrin area (Appendix 5). WA Museum fauna records comprise specimen records, museum collections and observations from 1850 to present and therefore it is intended to act only as a general representation of the fauna in the area. Of the fauna species recorded in the Kellerberrin area, there were 49 bird, 6 amphibia, 21 mammal and 47 reptile species.

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.

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 Environment and Conservation (DEC), eleven species of threatened and priority fauna have been recorded or sighted throughout the Shire of Kellerberrin, and these are listed below:

- **Western Brush Wallaby (*Macropus irma*)**

This species occurs in areas of forest and woodland supporting a dense shrub layer.

- **Black-flanked Rock-wallaby (*Petrogale lateralis lateralis*)**

This species thrives in steep, complex rocky habitats providing tunnels, caves and crevices for shelter and protection from predators.

- **Crescent Nail-tail Wallaby (*Onychogalea lunata*)**

This species is presumed to be extinct. One individual was recorded near Kellerberrin in Mt Caroline Nature Reserve.

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

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

- **Bilby (*Macrotis lagotis*)**

This species shelters in burrows and occupies a range of habitats from grassland on clayey and stony soils or sandplains to mulga scrub and woodlands on red earths. It has suffered a large decline and contraction in distribution

- **Malleefowl (*Leipoa ocellata*)**

This species was once widely distributed across southern Australia. It prefers woodland or shrubland with an abundant litter layer that provides essential material for construction of its nest mound.

- **Bush Stone Curlew (*Burhinus grallarius*)**

A well camouflaged, ground nesting bird which prefers to 'freeze' rather than fly when disturbed. It inhabits lightly timbered open woodlands.



The Western Brush Wallaby (*Macropus irma*) is endemic to Western Australia. It is present across the south west corner of the state, except in the karri forests

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

- **White-browed Babbler (western wheatbelt)**
(*Pomatostomus superciliosus ashbyi*)

This species of bird lives in eucalypt forests and woodlands. It forages on or near the ground for insects and seeds.

- **Shield - backed Trapdoor Spider (*Idiosoma nigrum*)**

This species is in decline in its patchy distribution through the northern and central wheatbelt and coastal plain. It is a long-lived species that is very sensitive to disturbance

- **Western Spiny-tailed Skink (*Egernia stokesii badia*)**

This species occurs in semi-arid scrubs and woodlands in the northern wheatbelt, sheltering in hollow logs and behind bark of fallen trees.



The Western Spiny-tailed Skink is found in arid and semiarid zones and also in the wheat belt from Mullewa south to Kellerberrin and east to Perenjori and Mukinbudin. It is confined to WA and is considered rare or likely to become extinct.

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

4.0 Remnant Vegetation Cover

Only 7.4% of the original native vegetation remains in the Shire of Kellerberrin 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. The remaining 7.4% of native vegetation in the Shire of Kellerberrin can easily be further depleted if proactive measures are not taken to manage this priceless resource.

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

Shire	Total Area (ha)	Area Inside Ag. Clearing Line (ha)	Vegetation Cover Remaining (inside agricultural clearing line)	
			(ha)	(%)
Bruce Rock	274,371	274,371	19,503	7.1
Quairading	200,489	200,489	7,307	3.6
Kellerberrin	191,970	191,170	14,214	7.4
Tammin	110,090	110,090	6,067	5.5
Wyalcatchem	158,004	158,004	7,814	4.9
Trayning	164,255	164,255	13,811	8.4
Merredin	326,610	326,610	38,551	11.8

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.



Remnant roadside vegetation connects 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
KELLERBERRIN**

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 (814.56 km, or 86.82%) of the Shire of Kellerberrin's 938.2 km of roads were surveyed and then assessed to determine the conservation status of the road reserves. Fieldwork was carried out throughout the months of August and September in 2007 and 2008. The enthusiastic effort of the roadside surveyors, Shire Natural Resource Management Officer Glenice Bachelor and the support provided by Kellerberrin Shire Council ensured that this project was successfully completed. The roadside surveyors were:

- Sahba Yazdani
- Umberto Bova
- Mario Wilson
- Jessica Forsyth
- Gerald Coyne
- Anthony Bianco
- Stefano Bova
- Glenice Batchelor
- Regina Walter
- Raquel Ormella
- Stewart Spenceley

1.1 Methods


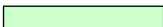

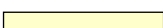
Roadside surveys are undertaken in a vehicle, generally with two people per vehicle. The passenger records the roadside attributes using the RCC's iPAQ hand-held personal computers. At the end of the survey, the iPAQs are returned to the RCC, where the survey information is analysed and mapped.

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 (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;
- extent of native vegetation along roadside;
- number of native species;
- level of weed infestation;
- value as a biological corridor; and
- 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.

Conservation Value	Conservation Status	Colour Code	
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 7 nominated weeds; and
- presence of salt affected roadside;

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 Kellerberrin. Known as the Roadside Conservation Value map (RCV map), it depicts the conservation status of the roadside vegetation and the width of the road reserves within the Shire of Kellerberrin. 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 Environment and Conservation (DEC), Main Roads WA and the Department of Agriculture and Food 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 and 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 and 8, and generally have the following characteristics:

- generally intact natural structure, with one layer disturbed or absent;
- extent of native vegetation between 20 and 80%;
- medium to high diversity of native flora, i.e. between 6 and 19 species;
- few to half weeds, i.e. between 20 and 80% of the total plants; and
- 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 and 6, and generally have the following characteristics:

- natural structure disturbed, i.e. one or more vegetation layers absent;
- extent of native vegetation between 20 and 80%;
- medium to low diversity of native flora, i.e. between 0 and 5 species;
- half to mostly weeds, i.e. between 20-80% of total plants; and
- 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 and 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 and 5 different species;
- mostly weeds, i.e. more than 80% of total plants, or ground layer totally weeds; and
- 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 ROADSIDE CONSERVATION VALUE MAP (RCV MAP)

The Roadside Conservation Value map (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 or 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.

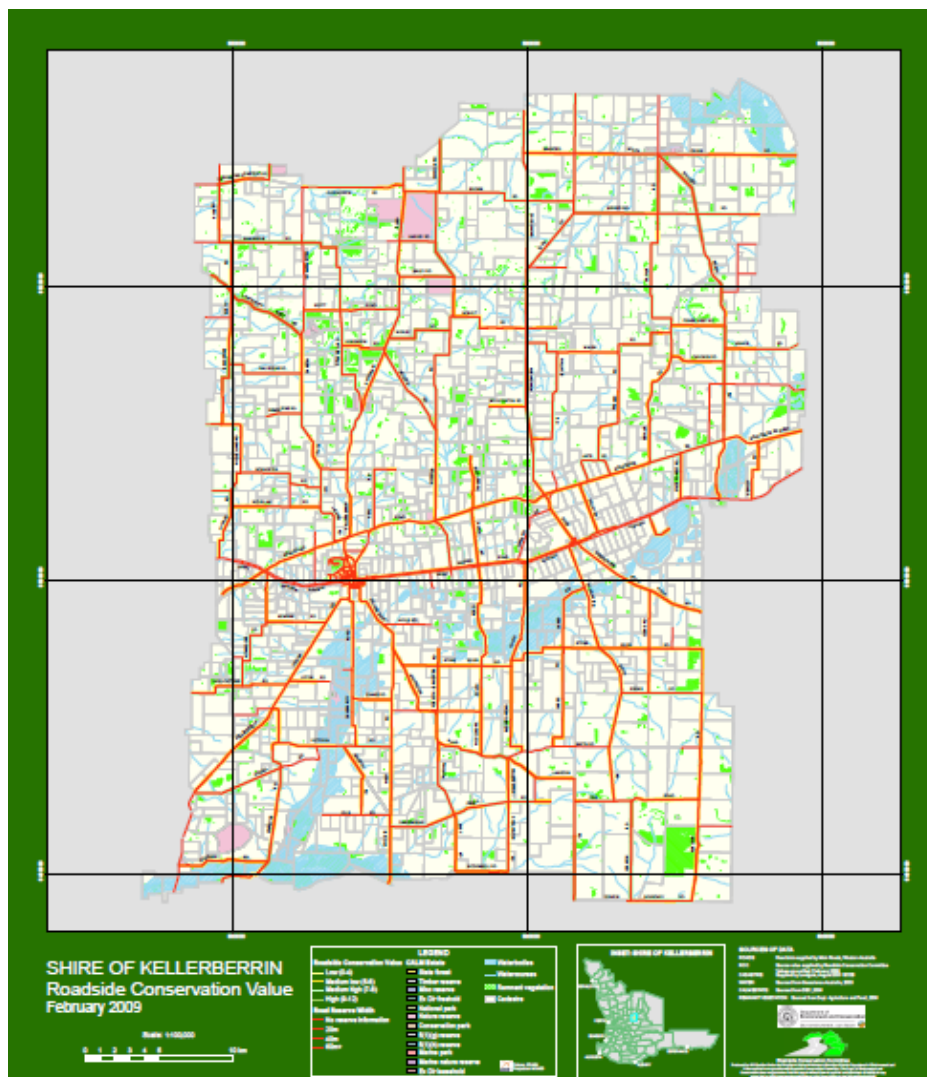


Figure 1. Roadside Conservation Map of the Shire of Kellerberrin.

As well as providing a road reserve planning and management tool, the RCV 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 DEC

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 Kellerberrin are 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.

Summary Information: Shire of Kellerberrin					
Length of roadsides surveyed: 1629.12km (814.56 km of road)					
<u>Roadside Conservation Status</u>			<u>Roadside Conservation Values</u>		
	Total (km)	(%)	Score	Total (km)	(%)
High (9-12)	196.87	12.1	0	0.00	0.0
Medium-high (7-8)	555.50	34.1	1	0.68	0.0
Medium-low (5-6)	566.43	34.8	2	56.99	3.5
Low (0-4)	310.32	19.0	3	103.27	6.3
			4	150.26	9.2
Total	1629.12	100.0	5	247.49	15.2
			6	318.54	19.6
			7	305.19	18.7
			8	249.84	15.3
			9	100.50	6.2
			10	76.30	4.7
			11	20.06	1.2
			12	0.00	0.0
			Total	1629.12	100.0
<u>Native Vegetation in Roadsides</u>			<u>Width of Vegetated Roadside</u>		
	Total (km)	(%)		Total (km)	(%)
2-3 vegetation layers	136.27	8.4	1 to 5 m	1477.69	90.8
1 vegetation layer	559.63	34.3	5 to 20 m	132.05	8.1
0 vegetation layers	933.22	57.3	Over 20 m	10.55	0.6
			Unknown	8.83	0.5
Total	1629.12	100.0	Total	1629.12	100.0
<u>Number of Native Plant Species</u>			<u>Extent of Native Vegetation</u>		
	Total (km)	(%)		Total (km)	(%)
Over 20 species	6.77	0.4	Over 80%	44.64	2.7
6 to 19 species	360.78	22.2	20% to 80%	628.66	38.6
0 to 5 species	1261.57	77.4	Less than 20%	955.82	58.7
Total	1629.12	100.0	Total	1629.12	100.0
<u>Predominant Adjoining Land Use</u>			<u>Value as a Biological Corridor</u>		
	Total (km)	(%)		Total (km)	(%)
Agricultural: completely cleared	1406.42	86.3	High	749.88	46.0
Agricultural: scattered vegetation	15.77	1.0	Medium	584.59	35.9
Uncleared native vegetation	150.01	9.2	Low	294.65	18.1
Plantation of non-natives	3.80	0.2	Total	1629.12	100.0
Railway	17.66	1.1			
Urban or Industrial	17.43	1.1			
Other	18.03	1.1			
Total	1629.12	100.0			
<u>Weed Infestation</u>					
	Total (km)	(%)			
Light <20% weeds	539.37	33.1			
Medium 20-80% weeds	563.48	34.6			
Heavy >80% weeds	526.27	32.3			
Total	1629.12	100.0			

Roadside surveys were carried out in the Shire of Kellerberrin

Table 2. Summary of results from the roadside survey in the City of Geraldton-Greenough.

Width of Road Reserve

The width of road reserves in the Shire of Kellerberrin was recorded in increments of 20 metres (Table 4). The majority of road reserves were 20 metres in width, with 793.54km (97.42%) of roads falling into this category. Of the remaining roads, 20.30km (2.49%) were 40 metres in width and 0.72km (.09%) of roads had no reserves.

Width of Road Reserve - Kellerberrin		
	Total km	%
0 m	0.72	0.09
20 m	793.54	97.42
40 m	20.30	2.49
Total	814.56	100.0

Table 4. Width of road reserves in the Shire of Kellerberrin.

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 (Table 5). The majority of roadside vegetation, 1477.69km (90.70%), was between 1 to 5 metres in width, followed by 132.05km (8.11%) of roadsides where the width of vegetation fell between 5 to 20 metres in width. Roadside vegetation over 20 metres in width spanned 10.55km (0.65%) of the roadsides surveyed, whilst the width was unknown for 8.83km (0.54%) of the roadsides surveyed.

Width of Vegetated Roadside - Kellerberrin		
	Total km	%
1-5 m	1477.69	90.70
5-20 m	132.05	8.11
Over 20 m	10.55	0.65
Unknown	8.83	0.54
Total	1629.12	100.00

Table 5. Width of vegetation on roadsides in the Shire of Kellerberrin.

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 57.3% of roadsides (933.22km), 34.3% (559.63km) of roadsides had only one layer and 8.4% (136.27km) had no layers of native vegetation (Table 3 and Figure 2).

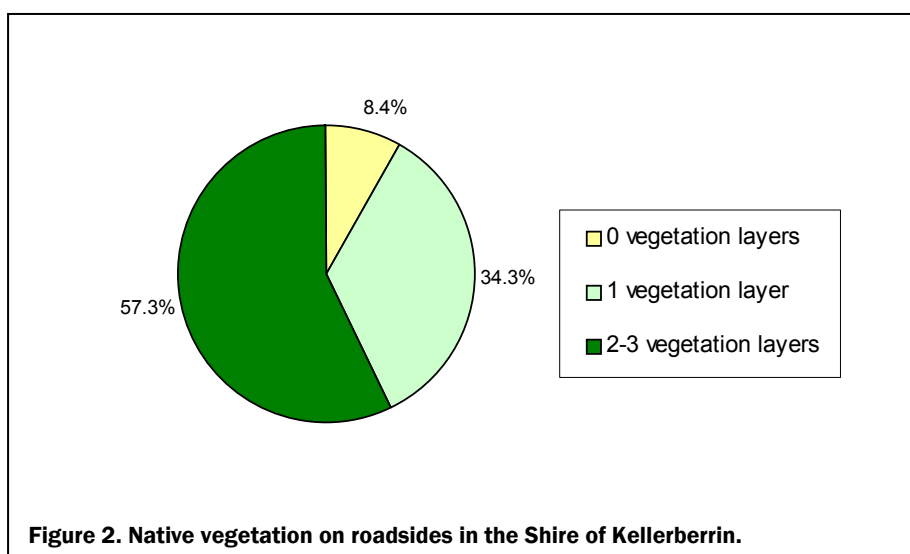
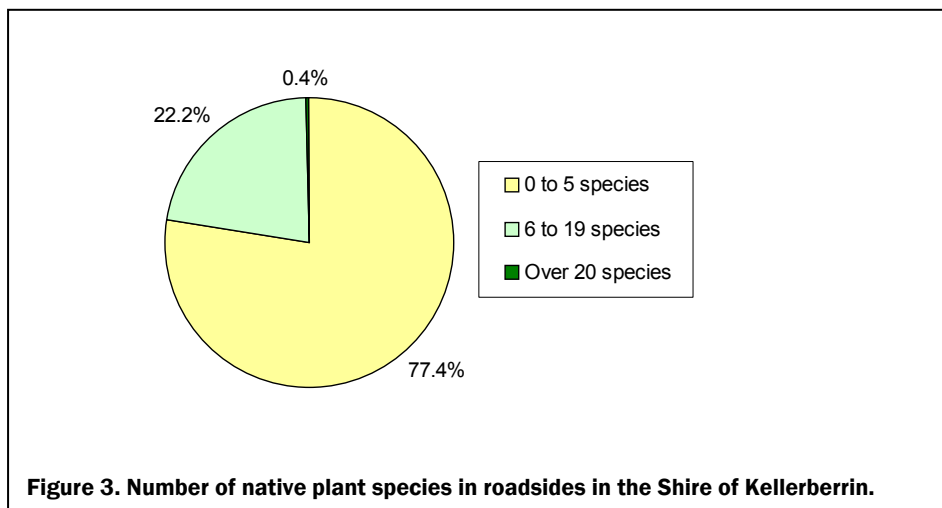


Figure 2. Native vegetation on roadsides in the Shire of Kellerberrin.

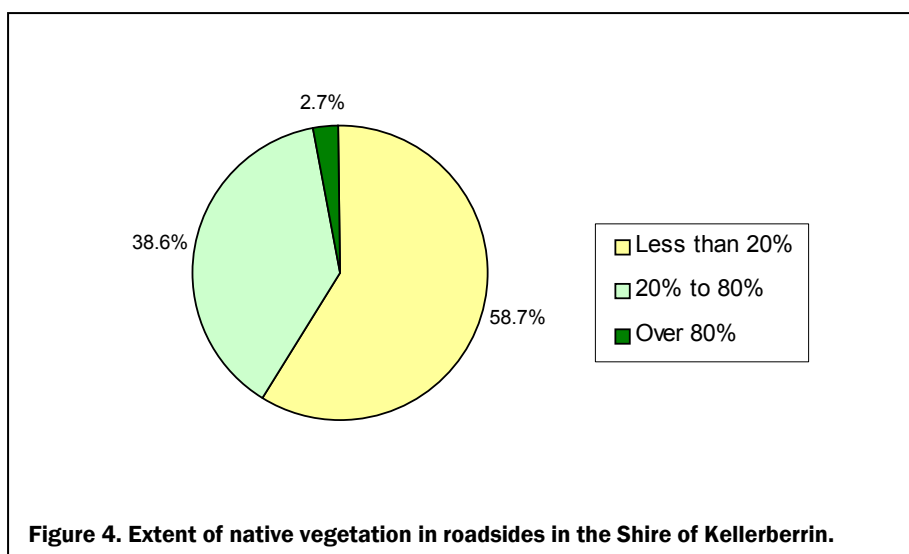
Number of Native Plant Species

The number of native plant species provides a measure of the diversity of the roadside vegetation. Survey sections with over 20 plant species spanned only 0.40% (6.77km) of the roadsides surveyed. Roadside sections with 6 to 19 plant species accounted for 22.2% (360.78km) of the roadside. Over three quarters of the roadsides, 77.4% (1261.57km) contained less than 5 plant species (Table 3 and Figure 3).



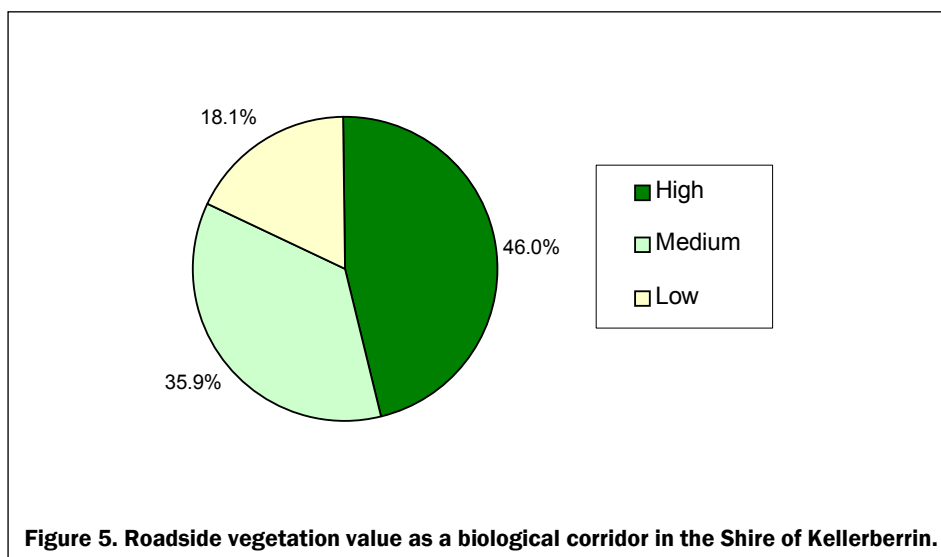
Extent of Native Vegetation

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 2.7% (44.64km) of the roadsides surveyed. Survey sections with medium vegetation cover, i.e. 20% to 80%, accounted for 38.6% (628.66km) of the roadsides. The remaining 58.7% (955.82km) had less than 20% native vegetation and therefore a low 'extent of native vegetation' value (Table 3 and Figure 4).



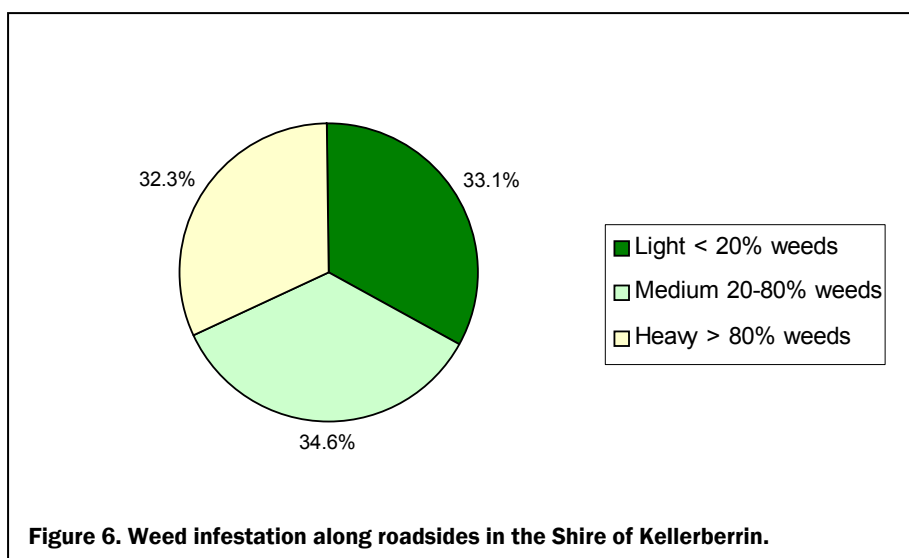
Value as a Biological Corridor

This characteristic considered the presence of four attributes: connection of uncleared areas; presence of flowering shrubs; presence of large trees with hollows; and presence of hollow logs. Roadsides determined to have high value as a biological corridor were present along 46.0% (749.88km) of the roadsides surveyed. Roadsides with medium value as biological corridors made up 35.9% (584.59km), and roadsides with low value as a biological corridor occurred along 18.1% (294.65km) of the roadsides surveyed (Table 3 and Figure 5).



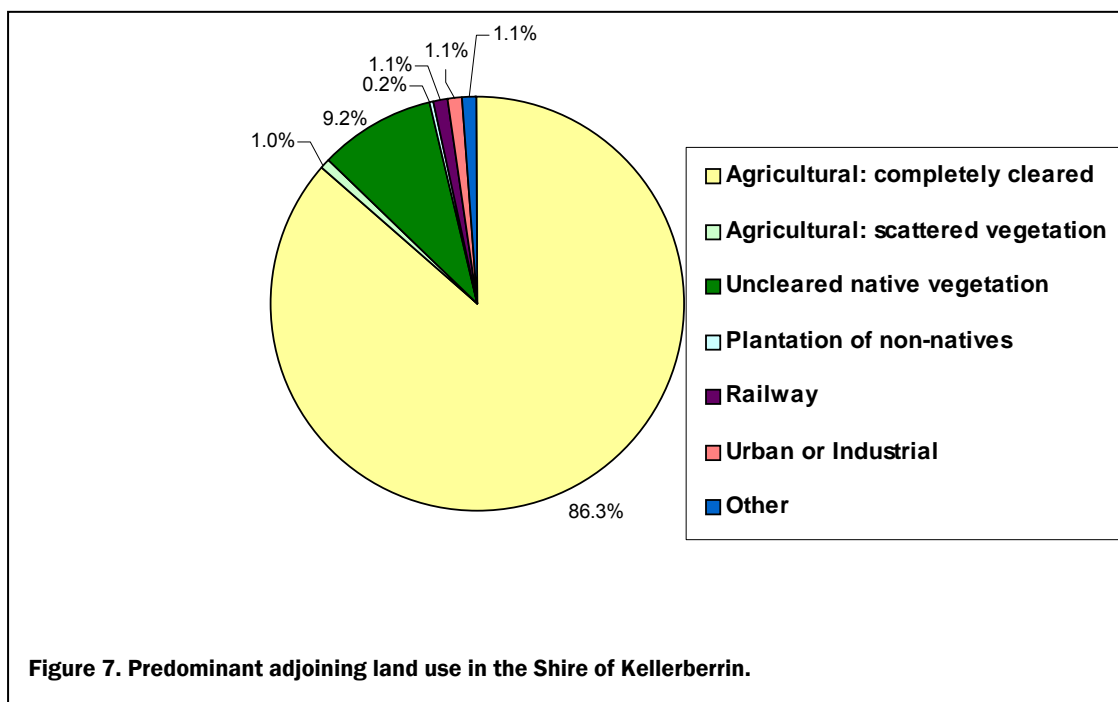
Weed Infestation

Light levels of weed infestation (weeds comprising less than 20% of total plants), were recorded on 33.1% (539.37km) of the roadsides surveyed, medium level weed infestation (weeds comprising 20-80% of the total plants) occurred on 34.6% (563.48km) of the roadsides and 32.3% of roadsides (526.27km) were heavily infested with weeds (weeds comprising more than 80% of the total plants) (Table 3 and Figure 6).



Predominant Adjoining Land Use

Uncleared native vegetation was present on 9.3% (150.01km) of the land adjoining roadsides, whilst 86.3% (1406.42km) of roadsides adjoined land that had been completely cleared for agriculture. Land cleared for agriculture, containing a scattered distribution of native vegetation comprised 1.0% (15.77km) of the roadsides. Railway reserves adjoined 1.1% (17.66km) of the roadsides, urban or industrial land uses adjoined 1.1% (17.43km), Plantations of non-natives were found on .2% (3.80km) of surveyed roadsides and other land uses were found on 1.1% (18.03km) of the roadsides (Table 3 and Figure 7).

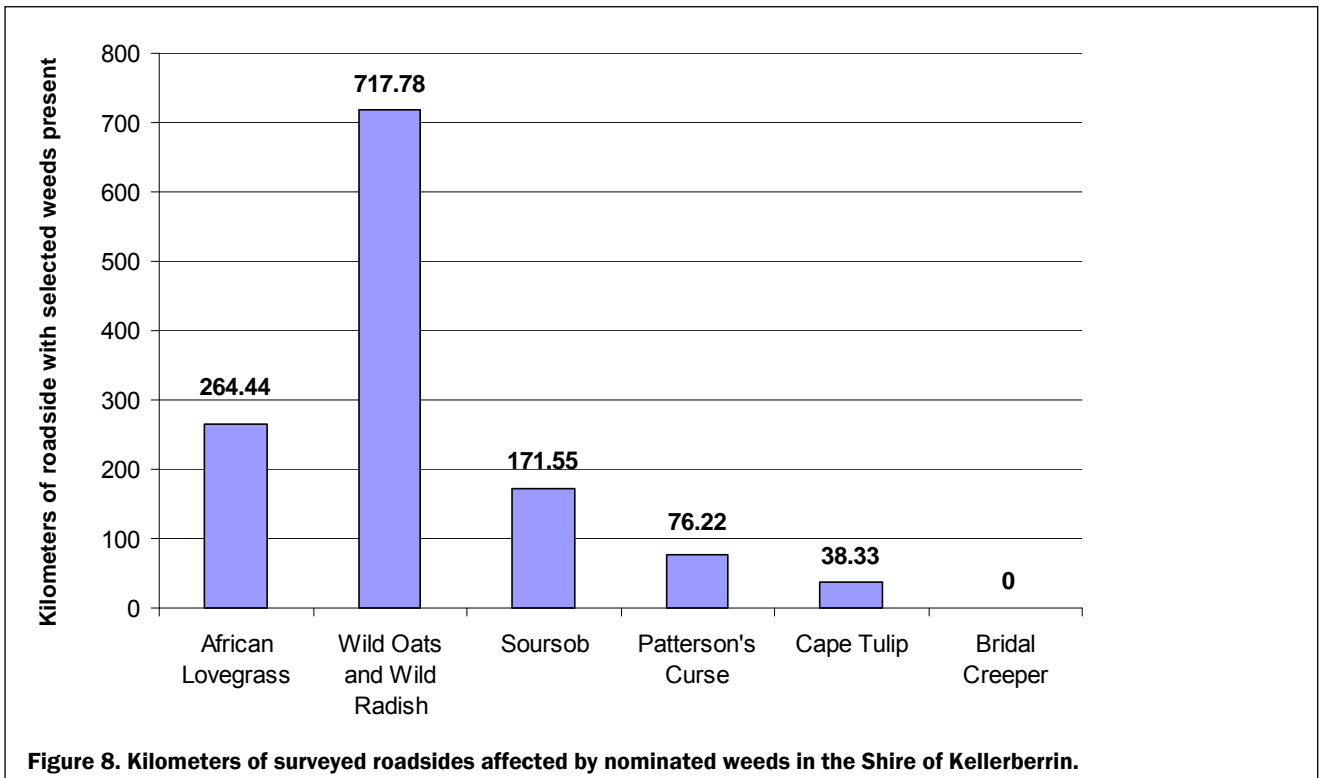


Nominated Weeds

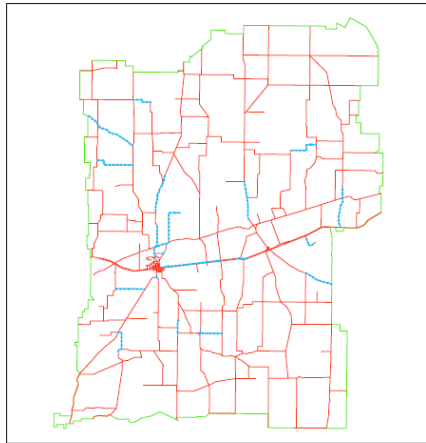
The following weeds are depicted on clear overlays accompanying the 2009 Roadside Conservation Value map:

- Paterson's Curse (*Echium plantagineum*);
- Wild Radish (*Raphanus raphanistrum*) and Wild Oats (*Avena fatua*);
- Cape Tulip (*Moraea flaccida* and *Moraea miniata*);
- African Lovegrass (*Eragrostis curvula*);
- Bridal Creeper (*Asparagus asparagoides*) and
- Soursob (*Oxalis pes-caprae*)

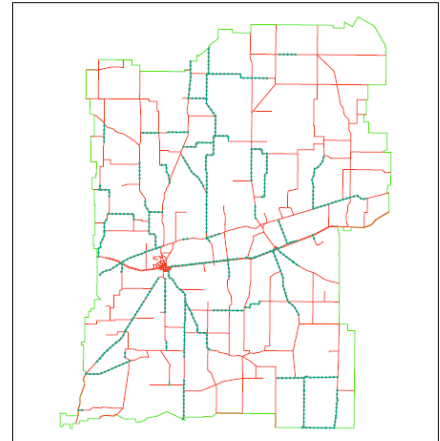
These weeds were only recorded as being present or absent in each roadside section. The density of weed infestations was not recorded and nor was there a separate recording for the left and right sides of the roads. Figure 7 displays the length of roads (km) in which each weed was observed. As such, this length provides a general indication of the extent of each weeds presence in the Shire's roadsides.



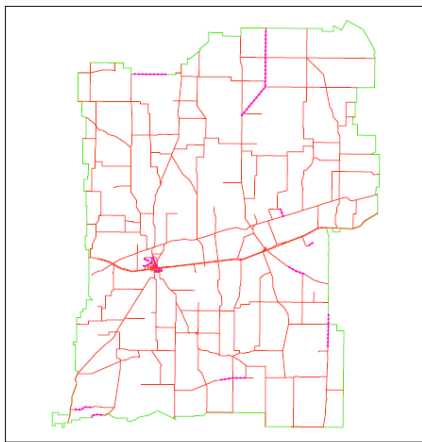
Of the nominated weeds species, Wild Oats and Wild Radish were the most prevalent, recorded along 717.78 of the roads surveyed. The next most commonly recorded weeds were African Lovegrass, recorded along 264.44km of roads, and Soursob, recorded along 171.55km of roads. Patterson’s Curse was the next most commonly recorded weed, occurring along 76.22km of roads, then Cape Tulip, recorded along 38.33km of roads. Bridal Creeper was not found surveyed as occurring on any of the roadsides (Figure 8).



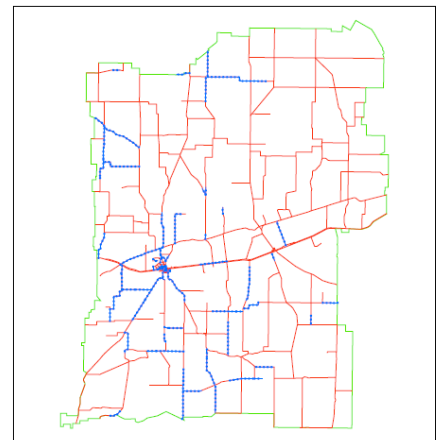
Patterson's Curse



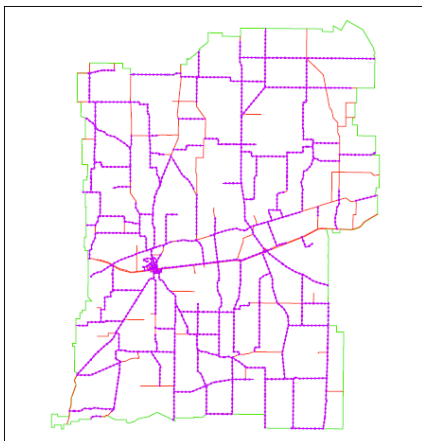
African Lovegrass



Cape Tulip



Soursob

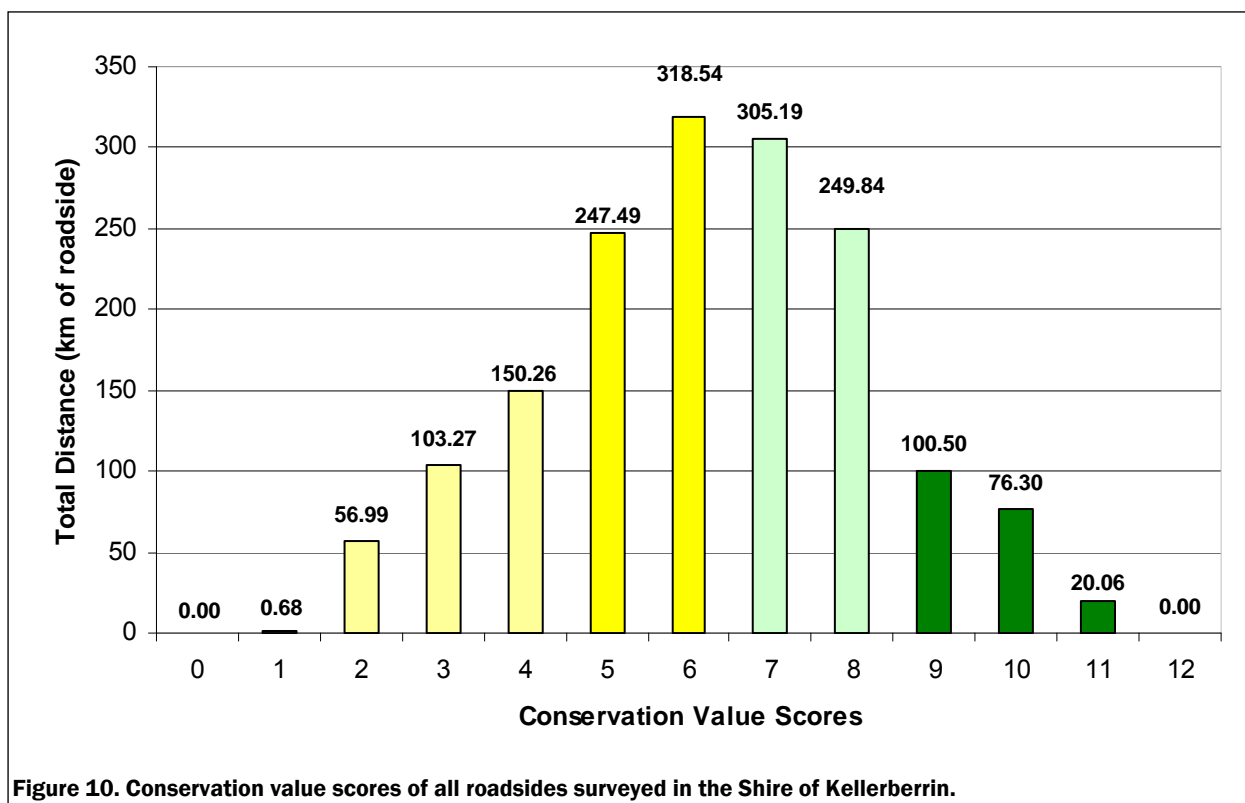


**Wild Radish and
Wild Oats**

Figure 9. Spatial extent of nominated weeds on roadsides in the Shire of Kellerberrin.

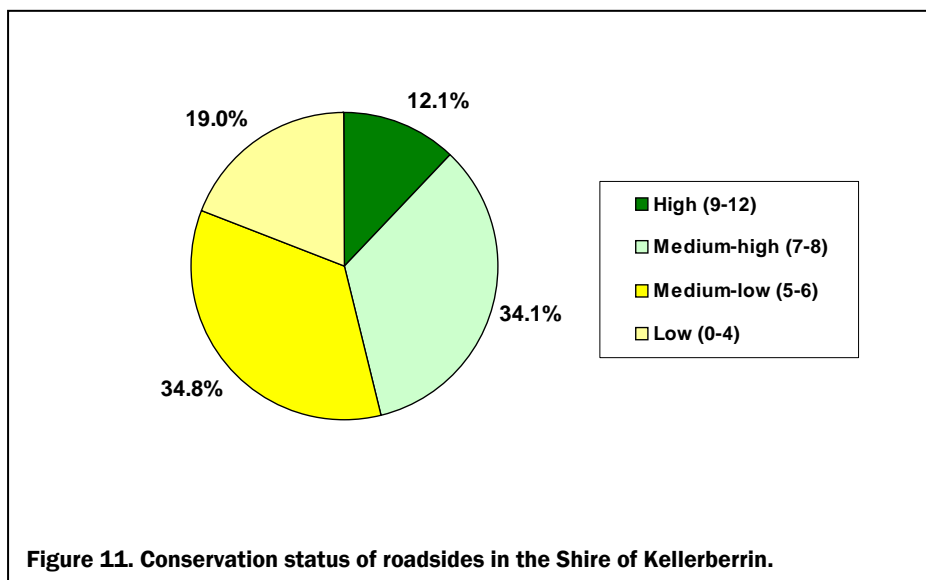
Conservation Value Scores

Conservation value scores were calculated for each section of roadside surveyed. Scores range from 0 to 12, from lowest to highest conservation value respectively (Figure 10). The most occurring roadside conservation value score was 6, with 318.54km of roadsides recording this score. Following this, 305.13km of roadsides recorded a score of 7, 249.84km recorded a score of 8 and 247.49km recorded a score of 5. Following this 150.26km of roadsides had a score of 4, 103.27km recorded a score of 3, and 100.50km of produced a score of 9. A total of 76.30km had a score of 10, 56.99km produced a score of 2, 20.06km were surveyed as having a score of 11, and 0.68km had a score of 1. No roadsides were surveyed as having a score of 0 or 12.



Conservation Status

The conservation status category indicates the combined conservation value of roadsides surveyed in the Shire of Kellerberrin. Roadside sections of high conservation value covered 12.1% (196.87km) of the roadsides surveyed. Medium-high conservation value roadsides accounted for 34.1% (555.5km) of the total surveyed, medium-low conservation roadside covered 34.8% (566.43km) of the total roadsides surveyed. Roadsides of low conservation value occupied 19% (310.32km) of the roadsides surveyed (Table 3 and Figure 11).



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* (Appendix 7).

Although presently there are no Flora Roads designated within the Shire of Kellerberrin, the roadside survey and the 2009 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 Kellerberrin include:

- Baandee North Road; and
- Yorkrakine-Cemetery 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, there are often important conservation values within the road reserve and thus this section provides general management procedures and 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:

- *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; and
- incorporating them into tourist, wildflower and/or scenic drives.

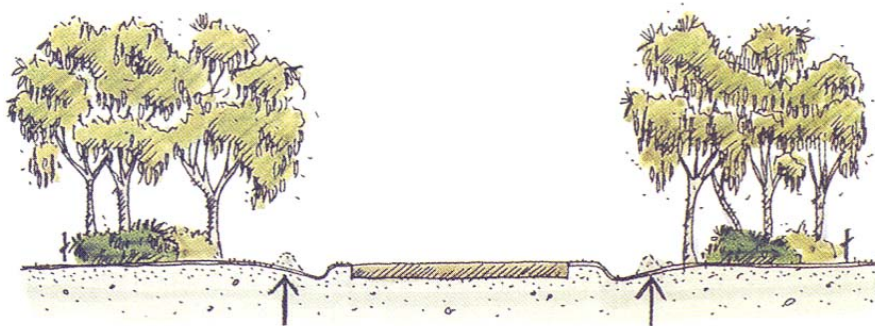
1.3 Improve roadside sections of medium to low conservation value by:

- 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
- encouraging revegetation projects by adjacent landholders.

2.0 Minimising Disturbance

Minimal disturbance can be achieved by:

- adopting a road design that occupies the minimum space;
- diverting the line of a table drain to avoid disturbing valuable flora;
- pruning branches, rather than removing the whole tree or shrub;
- not dumping spoil on areas of native flora;
- applying the Fire Threat Assessment (see RCC Roadside Manual) before burning roadside vegetation, using methods other than fuel reduction burns to reduce fire threat;
- encouraging adjacent landholders to set back fences to allow roadside vegetation to proliferate;
- encouraging adjacent landholders to plant windbreaks or farm tree lots adjacent to roadside vegetation to create a denser windbreak or shelterbelt; and
- encouraging revegetation projects by adjacent landholders.

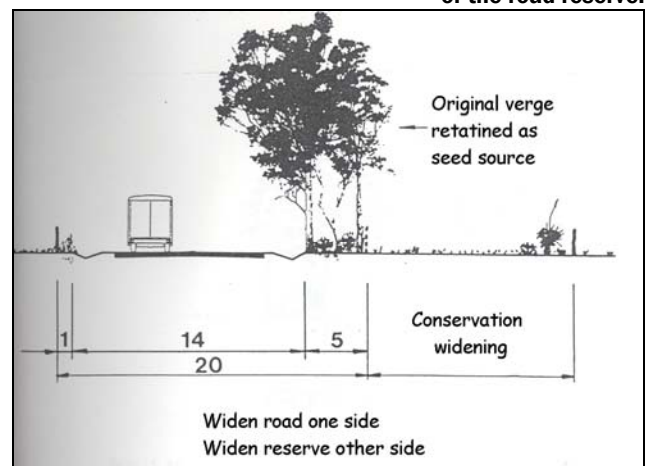


Avoid windrowing drain material into vegetation

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; and
- 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. For training enquiries please contact the RCC Executive Officer on (08) 9334 0423.

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



**SURVEY TO DETERMINE THE CONSERVATION VALUE OF
ROADSIDES IN THE SHIRE OF _____**

Roadside Conservation Committee
C/- Locked Bag 104
Bentley Delivery Centre WA 6983

Phone: (08) 9334 0423
Fax: (08) 9334 0199

Date _____ Observer(s) _____ Road Name _____ Shire _____ Nearest named place _____ Direction of travel _____ Section No. _____ Starting Point _____ Odometer reading _____ Ending Point _____ Odometer reading _____ Length of Section _____		<u>No. OF DIFFERENT NATIVE SPECIES</u> 0 – 5 <input type="checkbox"/> <input type="checkbox"/> 6 – 19 <input type="checkbox"/> <input type="checkbox"/> Over 20 <input type="checkbox"/> <input type="checkbox"/> <u>VALUE AS A BIOLOGICAL CORRIDOR</u> Connects uncleared areas <input type="checkbox"/> <input type="checkbox"/> Flowering shrubs <input type="checkbox"/> <input type="checkbox"/> Large trees with hollows <input type="checkbox"/> <input type="checkbox"/> Hollow logs <input type="checkbox"/> <input type="checkbox"/> <u>PREDOMINANT ADJOINING LANDUSE</u> Agricultural crop or pasture: - Completely cleared <input type="checkbox"/> <input type="checkbox"/> - Scattered <input type="checkbox"/> <input type="checkbox"/> Uncleared land <input type="checkbox"/> <input type="checkbox"/> Plantation of non-native trees <input type="checkbox"/> <input type="checkbox"/> Urban or Industrial <input type="checkbox"/> <input type="checkbox"/> Railway reserve parallel to road <input type="checkbox"/> <input type="checkbox"/> Drain reserve parallel to road <input type="checkbox"/> <input type="checkbox"/> Other: <input type="checkbox"/> <input type="checkbox"/> <u>UTILITIES</u> Utility Present <input type="checkbox"/> <input type="checkbox"/> Utility Absent <input type="checkbox"/> <input type="checkbox"/> Type: _____ <u>GENERAL WEEDS</u> Few weeds (<20% total plants) <input type="checkbox"/> <input type="checkbox"/> Half weeds (20 – 80% total) <input type="checkbox"/> <input type="checkbox"/> Mostly weeds (>80% total) <input type="checkbox"/> <input type="checkbox"/> Ground layer totally weeds <input type="checkbox"/> <input type="checkbox"/>		<u>NOMINATED WEEDS</u> <hr/> <20% total weeds <input type="checkbox"/> <input type="checkbox"/> 20 – 80% total weeds <input type="checkbox"/> <input type="checkbox"/> >80% total weeds <input type="checkbox"/> <input type="checkbox"/> <hr/> <20% total weeds <input type="checkbox"/> <input type="checkbox"/> 20 – 80% total weeds <input type="checkbox"/> <input type="checkbox"/> >80% total weeds <input type="checkbox"/> <input type="checkbox"/> <hr/> <20% total weeds <input type="checkbox"/> <input type="checkbox"/> 20 – 80% total weeds <input type="checkbox"/> <input type="checkbox"/> >80% total weeds <input type="checkbox"/> <input type="checkbox"/> <hr/> <20% total weeds <input type="checkbox"/> <input type="checkbox"/> 20 – 80% total weeds <input type="checkbox"/> <input type="checkbox"/> >80% total weeds <input type="checkbox"/> <input type="checkbox"/> <hr/> <20% total weeds <input type="checkbox"/> <input type="checkbox"/> 20 – 80% total weeds <input type="checkbox"/> <input type="checkbox"/> >80% total weeds <input type="checkbox"/> <input type="checkbox"/> <hr/> <20% total weeds <input type="checkbox"/> <input type="checkbox"/> 20 – 80% total weeds <input type="checkbox"/> <input type="checkbox"/> >80% total weeds <input type="checkbox"/> <input type="checkbox"/>	
<u>WIDTH OF ROAD RESERVE (m)</u> _____ Side of the road _____ Left Right <u>WIDTH OF VEGETATED ROADSIDE</u> 1 – 5 m <input type="checkbox"/> <input type="checkbox"/> 5 – 20 m <input type="checkbox"/> <input type="checkbox"/> Over 20m <input type="checkbox"/> <input type="checkbox"/>					
<u>NATIVE VEGETATION ON ROADSIDE</u> Tree layer <input type="checkbox"/> <input type="checkbox"/> Shrub layer <input type="checkbox"/> <input type="checkbox"/> Ground layer <input type="checkbox"/> <input type="checkbox"/>					
<u>EXTENT OF NATIVE VEGETATION ON ROADSIDE</u> Less than 20% <input type="checkbox"/> <input type="checkbox"/> 20 – 80% <input type="checkbox"/> <input type="checkbox"/> Over 80% <input type="checkbox"/> <input type="checkbox"/>					
		<u>NOMINATED WILDCARD</u> <u>OFFICE USE ONLY</u> Conservation value score <input type="checkbox"/> <input type="checkbox"/>			

Appendix

2

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090001	1	0	5.2	5.2	KELLERBERRIN - SHACKELTON RD	South East	28-Aug-08	20	1	1	0	0	0	0	0	0	2	2	2	2	3	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SOURSOB
4090001	2	5.2	6.5	1.3	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	2	2	5	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090001	3	6.5	7.2	0.7	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	0	1	1	0	0	0	0	1	1	2	2	5	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090001	4	7.2	7.7	0.5	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	1	1	1	0	0	1	1	1	1	2	0	6	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090001	5	7.7	8.8	1.1	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	0	0	1	1	0	0	0	0	2	2	2	2	5	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090001	6	8.8	9.6	0.8	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	0	1	1	0	0	0	0	2	1	2	2	6	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090001	7	9.6	10.1	0.5	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	0	1	0	1	0	0	0	0	2	1	2	2	4	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090001	8	10.1	12.3	2.2	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	2	2	5	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090001	9	12.3	13.2	0.9	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	2	1	1	0	0	0	0	2	1	2	2	6	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090001	10	13.2	13.6	0.4	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	2	1	1	0	0	0	0	2	1	2	0	6	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090001	11	13.6	17	3.4	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	2	1	1	0	0	0	0	2	2	2	2	6	7	WILD_RADISH WILD_OATS
4090001	12	17	18.05	1.05	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	2	2	2	2	0	0	1	1	2	2	2	2	9	9	WILD_RADISH WILD_OATS
4090001	13	18.05	20.2	2.15	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	2	2	5	5	WILD_RADISH WILD_OATS
4090001	14	20.2	21.5	1.3	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	1	1	1	0	0	0	0	1	2	2	2	5	6	WILD_RADISH WILD_OATS
4090001	15	21.5	23.8	2.3	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	0	2	1	1	0	0	0	0	1	2	2	2	4	7	WILD_RADISH WILD_OATS
4090001	16	23.8	25.78	1.98	KELLERBERRIN - SHACKELTON RD	South	28-Aug-08	20	1	2	1	1	0	0	0	0	2	2	2	2	6	7	WILD_RADISH WILD_OATS
4090003	1	0	2.5	2.5	KWOLYIN WEST RD	South	04-Sep-07	20	1	0	0	0	0	0	0	0	2	2	2	2	5	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE
4090003	2	2.5	4.6	2.1	KWOLYIN WEST RD	South	04-Sep-07	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS PATERSONS_CURSE SALT_AFFECTED_ROADSIDE

Road#	Sect #	OD	OD	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090003	3	4.6	5.45	0.85	KWOLYIN WEST RD	South	04-Sep-07	20	2	2	0	0	0	0	0	0	2	1	2	2	6	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSID E
4090003	4	5.45	5.9	0.45	KWOLYIN WEST RD	South	04-Sep-07	20	2	1	0	0	0	0	0	0	2	1	2	2	6	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSID E
4090003	5	5.9	7.7	1.8	KWOLYIN WEST RD	South	04-Sep-07	20	2	1	0	0	0	0	0	1	1	2	1	5	3	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS	
4090003	6	7.7	9.2	1.5	KWOLYIN WEST RD	South	04-Sep-07	20	2	2	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS	
4090003	7	9.2	10.8	1.6	KWOLYIN WEST RD	South	04-Sep-07	20	2	2	0	0	0	0	0	2	2	2	1	6	5	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E	
4090003	8	10.8	15.87	5.07	KWOLYIN WEST RD	South	04-Sep-07	20	2	2	0	0	0	0	0	2	2	2	1	6	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SOURSOB SALT_AFFECTED_ROADSID E	
4090004	1	0	2	2	KELLERBERRIN - YELBENI RD	North	28-Aug-07	20	2	2	0	0	0	2	2	1	1	2	2	7	7	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS	
4090004	2	2	3.82	1.82	KELLERBERRIN - YELBENI RD	North	28-Aug-07	20	1	1	0	0	0	2	2	1	1	2	2	6	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS	
4090004	3	3.82	4.55	0.73	KELLERBERRIN - YELBENI RD	North	28-Aug-07	20	0	0	0	0	0	1	1	1	1	2	2	4	4	SALT_AFFECTED_ROADSID E	
4090004	4	4.55	5.15	0.6	KELLERBERRIN - YELBENI RD	North	28-Aug-07	20	1	1	1	1	0	2	2	1	1	2	2	7	7	SALT_AFFECTED_ROADSID E	
4090004	5	5.15	6.9	1.75	KELLERBERRIN - YELBENI RD	North	28-Aug-07	20	1	1	1	1	0	2	2	1	1	2	2	7	7	SALT_AFFECTED_ROADSID E	
4090004	6	6.9	9.25	2.35	KELLERBERRIN - YELBENI RD	North	28-Aug-07	20	1	1	0	0	0	2	2	0	0	2	2	5	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSID E	
4090004	7	9.25	11.56	2.31	KELLERBERRIN - YELBENI RD	North	28-Aug-07	20	1	1	1	1	0	0	0	1	1	2	2	5	5	WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE	
4090004	8	11.56	13.35	1.79	KELLERBERRIN - YELBENI RD	North	28-Aug-07	20	2	2	1	1	0	2	2	2	2	0	0	7	7	WILD_RADISH WILD_OATS	
4090005	1	0	3.55	3.55	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	2	0	0	0	1	1	1	1	2	2	6	6	WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE	

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090005	2	3.55	5.2	1.65	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	2	0	0	0	0	2	2	0	0	0	2	4	6	WILD_RADISH WILD_OATS
4090005	3	5.2	7.2	2	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	PATERSONS_CURSE AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090005	4	7.2	10.45	3.25	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	PATERSONS_CURSE WILD_RADISH WILD_OATS
4090005	5	10.45	14.8	4.35	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	2	1	1	0	0	1	1	2	2	2	2	8	8	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090005	6	14.8	15.8	1	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	2	0	0	1	1	2	2	1	1	2	1	8	7	WILD_RADISH WILD_OATS
4090005	7	15.8	16.8	1	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE
4090005	8	16.8	19.72	2.92	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	WILD_RADISH WILD_OATS
4090005	9	19.72	29.4	9.68	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_RADISH WILD_OATS
4090005	10	29.4	30	0.6	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	0	0	0	0	2	2	2	0	2	2	8	4	WILD_RADISH WILD_OATS	
4090005	11	30	30.8	0.8	DOODLAKINE - KUNUNOPPIN RD	North	10-Sep-07	20	2	0	0	0	0	1	1	2	0	2	2	7	3		
4090006	1	0	1	1	BAANDEE NORTH RD	South East	28-Aug-08	20	1	1	1	1	0	0	2	2	1	1	1	1	6	6	PATERSONS_CURSE WILD_RADISH WILD_OATS
4090006	2	1	4.2	3.2	BAANDEE NORTH RD	South East	28-Aug-08	20	0	0	0	0	0	0	0	0	1	1	2	1	3	2	PATERSONS_CURSE WILD_RADISH WILD_OATS
4090006	3	4.2	4.8	0.6	BAANDEE NORTH RD	South East	28-Aug-08	40	1	1	1	1	0	0	1	1	2	2	2	2	7	7	PATERSONS_CURSE WILD_RADISH WILD_OATS
4090006	4	4.8	5.8	1	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	2	2	1	1	2	2	2	2	2	2	11	11	PATERSONS_CURSE WILD_RADISH WILD_OATS
4090006	5	5.8	10.6	4.8	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	2	2	1	1	2	2	2	2	2	2	11	11	
4090006	6	10.6	12.09	1.49	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	2	2	1	1	2	2	1	2	2	0	10	9	
4090006	7	12.09	12.7	0.61	BAANDEE NORTH RD	South East	28-Aug-08	40	1	2	2	2	1	1	2	2	1	1	2	0	9	8	
4090006	8	12.7	13.3	0.6	BAANDEE NORTH RD	South East	28-Aug-08	40	1	1	1	1	1	1	1	1	1	1	2	0	7	5	
4090006	9	13.3	13.8	0.5	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	2	2	1	1	1	1	1	2	2	0	9	8	
4090006	10	13.8	14.8	1	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	2	2	1	1	1	1	1	1	2	2	9	9	

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090006	11	14.8	15.2	0.4	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	2	2	1	1	2	2	2	2	0	0	9	9	
4090006	12	15.2	16.1	0.9	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	2	2	1	1	2	2	1	1	0	0	8	8	
4090006	13	16.1	16.7	0.6	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	2	2	1	1	2	2	2	2	2	2	11	11	
4090006	14	16.7	18.3	1.6	BAANDEE NORTH RD	South East	28-Aug-08	40	1	1	1	1	1	1	1	1	2	2	2	2	8	8	
4090006	15	18.3	21.3	3	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	2	2	1	1	2	2	2	2	2	2	11	11	
4090006	16	21.3	21.9	0.6	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	2	2	0	0	2	2	1	1	2	2	9	9	
4090006	17	21.9	24.5	2.6	BAANDEE NORTH RD	South East	28-Aug-08	40	2	2	0	0	1	1	2	2	2	2	2	2	9	9	
4090006	18	24.5	25.22	0.72	BAANDEE NORTH RD	South East	28-Aug-08	0	2	2	2	2	1	1	2	2	1	2	0	0	8	9	
4090007	1	0	0.23	0.23	DOODLAKINE SOUTH RD	South	06-Sep-07	20	2	1	0	0	0	0	0	0	2	1	0	2	4	4	AFRICAN_LOVEGRASS
4090007	2	0.23	1.26	1.03	DOODLAKINE SOUTH RD	South	06-Sep-07	20	2	1	0	0	0	0	0	0	2	0	2	2	6	3	AFRICAN_LOVEGRASS SOURSOB WILD_RADISH WILD_OATS
4090007	3	1.26	6.49	5.23	DOODLAKINE SOUTH RD	South	06-Sep-07	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE
4090007	4	6.49	7.52	1.03	DOODLAKINE SOUTH RD	South	06-Sep-07	20	1	2	0	0	0	0	0	0	2	1	2	2	5	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE
4090007	5	7.52	9.75	2.23	DOODLAKINE SOUTH RD	South	06-Sep-07	20	0	2	0	0	0	0	0	0	1	2	2	2	3	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE
4090007	6	9.75	18.48	8.73	DOODLAKINE SOUTH RD	South	06-Sep-07	20	1	1	0	0	0	0	0	0	1	2	2	2	4	5	WILD_RADISH WILD_OATS
4090008	1	0	3.02	3.02	MISSION RD	North	31-Aug-07	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_RADISH WILD_OATS
4090008	2	3.02	3.71	0.69	MISSION RD	North	31-Aug-07	20	2	2	0	0	0	0	1	1	1	0	0	0	4	3	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090008	3	3.71	4.46	0.75	MISSION RD	North	31-Aug-07	20	2	2	1	1	0	0	1	1	1	1	0	2	5	7	SOURSOB
4090008	4	4.46	8.28	3.82	MISSION RD	North	31-Aug-07	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090008	5	8.28	9.9	1.62	MISSION RD	North	31-Aug-07	20	2	2	1	1	1	1	1	1	1	1	2	0	8	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090008	6	9.9	10.92	1.02	MISSION RD	North	31-Aug-07	20	2	2	1	1	1	1	1	1	1	1	0	2	6	8	SOURSOB AFRICAN_LOVEGRASS
4090008	7	10.9 2	18.89	7.97	MISSION RD	North	31-Aug-07	20	2	2	1	1	0	0	2	2	1	1	2	2	8	8	AFRICAN_LOVEGRASS
4090008	8	18.8 9	20.31	1.42	MISSION RD	North	31-Aug-07	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	AFRICAN_LOVEGRASS
4090008	9	20.3 1	21.28	0.97	MISSION RD	North	31-Aug-07	20	1	2	1	0	0	0	1	1	1	1	0	2	4	6	AFRICAN_LOVEGRASS
4090008	10	21.2 8	23.98	2.7	MISSION RD	North	31-Aug-07	20	2	2	1	1	0	0	2	2	2	2	2	2	9	9	AFRICAN_LOVEGRASS
4090008	11	23.9 8	27.8	3.82	MISSION RD	North	31-Aug-07	20	2	2	1	0	1	0	2	2	2	1	0	2	8	7	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS SOURSOB
4090008	12	27.8	32.5	4.7	MISSION RD	North	31-Aug-07	20	2	2	1	1	0	0	2	2	2	2	2	2	9	9	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS SOURSOB
4090009	1	0	13.28	13.28	ANGLE RD	North	13-Sep-07	20	1	1	0	0	0	0	2	2	2	2	2	2	7	7	WILD_RADISH WILD_OATS CAPE_TULIP
4090010	1	0	3.28	3.28	GOLDFIELDS RD	North-East	28-Aug-07	20	1	1	0	0	0	0	2	2	1	1	2	1	6	5	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090010	2	3.28	9.42	6.14	GOLDFIELDS RD	North-East	28-Aug-07	20	1	2	0	0	0	0	1	1	0	0	2	2	4	5	SOURSOB AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090010	3	9.42	11.1	1.68	GOLDFIELDS RD	North East	28-Aug-07	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_RADISH WILD_OATS PATERSONS_CURSE
4090010	4	11.1	12.67	1.57	GOLDFIELDS RD	East	30-Aug-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS
4090010	5	12.6 7	13.22	0.55	GOLDFIELDS RD	East	30-Aug-07	20	1	1	0	0	0	0	2	2	1	1	0	0	4	4	AFRICAN_LOVEGRASS
4090010	6	13.2 2	14.67	1.45	GOLDFIELDS RD	East	30-Aug-07	20	0	0	0	0	0	0	1	1	0	0	2	2	3	3	WILD_RADISH WILD_OATS
4090010	7	14.6 7	16.07	1.4	GOLDFIELDS RD	East	30-Aug-07	20	1	1	1	1	0	0	1	1	1	1	2	0	6	4	WILD_RADISH WILD_OATS
4090010	8	16.0 7	18.02	1.95	GOLDFIELDS RD	East	30-Aug-07	20	2	2	0	0	0	0	1	1	1	0	2	2	6	5	AFRICAN_LOVEGRASS
4090010	9	18.0 2	21.17	3.15	GOLDFIELDS RD	East	30-Aug-07	20	1	1	0	0	0	0	1	1	2	2	2	2	6	6	WILD_RADISH WILD_OATS
4090010	10	21.1 7	22.77	1.6	GOLDFIELDS RD	East	30-Aug-07	20	1	1	0	0	0	0	2	2	1	1	0	0	4	4	WILD_RADISH WILD_OATS
4090010	11	22.7 7	23.22	0.45	GOLDFIELDS RD	East	30-Aug-07	20	1	1	0	0	0	0	2	2	1	1	1	1	5	5	WILD_RADISH WILD_OATS
4090010	12	23.2 2	25.72	2.5	GOLDFIELDS RD	East	30-Aug-07	20	0	0	0	0	0	0	2	2	1	1	2	2	5	5	WILD_RADISH WILD_OATS

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090010	13	25.72	29.12	3.4	GOLDFIELDS RD	East	30-Aug-07	20	1	1	0	0	0	0	2	2	1	1	2	2	6	6	WILD_RADISH WILD_OATS
4090010	14	29.12	31.17	2.05	GOLDFIELDS RD	East	30-Aug-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS
4090010	15	31.17	36.45	5.28	GOLDFIELDS RD	East	30-Aug-07	20	2	2	0	0	0	0	2	2	2	2	2	2	8	8	AFRICAN_LOVEGRASS
4090010	16	36.45	39.01	2.56	GOLDFIELDS RD	East	30-Aug-07	20	0	0	0	0	0	0	2	2	0	0	2	2	4	4	AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE
4090010	17	39.01	41.15	2.14	GOLDFIELDS RD	East	30-Aug-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS
4090011	1	0	0.815	0.815	BENDERINE NORTH RD	North	07-Sep-07	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090011	2	0.82	1.83	1.015	BENDERINE NORTH RD	North	07-Sep-07	20	2	2	0	0	1	1	2	2	1	1	2	2	8	8	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090011	3	1.83	2.15	0.315	BENDERINE NORTH RD	North	07-Sep-07	20	0	0	0	0	0	0	2	2	0	0	2	2	4	4	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSIDE
4090011	4	2.15	4.86	2.715	BENDERINE NORTH RD	North	07-Sep-07	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSIDE
4090011	5	4.86	5.28	0.415	BENDERINE NORTH RD	North	07-Sep-07	20	0	0	0	0	0	0	1	1	0	1	2	2	3	4	SOURSOB WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090011	6	5.28	6.89	1.615	BENDERINE NORTH RD	North	07-Sep-07	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	SOURSOB WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090011	7	6.89	9.31	2.42	BENDERINE NORTH RD	North	07-Sep-07	20	2	2	1	1	0	1	2	2	1	2	2	2	8	10	WILD_RADISH WILD_OATS SOURSOB AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE
4090011	8	9.31	9.62	0.31	BENDERINE NORTH RD	North	07-Sep-07	20	0	0	0	0	0	0	2	2	0	0	2	2	4	4	WILD_RADISH WILD_OATS
4090011	9	9.62	10.94	1.315	BENDERINE NORTH RD	North	07-Sep-07	20	0	2	0	1	0	1	1	1	0	2	2	2	3	9	WILD_RADISH WILD_OATS
4090011	10	10.94	12.75	1.815	BENDERINE NORTH RD	North	07-Sep-07	20	2	2	0	1	1	1	1	1	2	2	2	2	7	9	WILD_RADISH WILD_OATS

Road#	Sect #	OD	OD	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)		
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left		Right	
4090012	1	0.00	1.74	1.737 1429	MORISON RD	South	05-Sep-07	20	1	1	0	0	0	0	2	2	1	2	2	2	6	7	WILD_RADISH WILD_OATS		
4090012	2	1.74	6.17	4.437 1429	MORISON RD	South	05-Sep-07	20	1	1	0	0	0	0	0	0	2	2	2	0	5	3	CAPE_TULIP WILD_RADISH WILD_OATS		
4090012	3	6.17	10.37	4.195 7142	MORISON RD	South	05-Sep-07	20	1	1	0	0	0	0	1	1	1	2	2	2	5	6	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE		
4090012	4	10.37	12.13	1.76	MORISON RD	South	05-Sep-07	20	0	2	0	0	0	0	0	0	0	2	2	0	2	4	4	WILD_RADISH WILD_OATS	
4090012	5	12.13	13.49	1.355 7145	MORISON RD	South	05-Sep-07	20	2	1	1	1	1	2	2	2	1	2	0	10	6	6	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS		
4090012	6	13.49	15.92	2.437 1429	MORISON RD	South	05-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS		
4090012	7	15.92	17.36	1.437 1429	MORISON RD	South	05-Sep-07	20	1	2	0	0	0	0	0	1	2	2	2	4	6	6	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS		
4090013	1	0	0.5	0.5	KWOLYIN EAST RD	South	04-Sep-07	20	2	2	1	2	1	1	0	0	2	2	0	2	6	9	9	WILD_RADISH WILD_OATS SOURSOB	
4090013	2	0.5	1.3	0.8	KWOLYIN EAST RD	South	04-Sep-07	20	2	2	0	0	1	1	0	0	2	2	2	2	6	6	6	WILD_RADISH WILD_OATS SOURSOB	
4090013	3	1.3	5	3.7	KWOLYIN EAST RD	South	04-Sep-07	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	8	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSIDE	
4090013	4	5	9.23	4.23	KWOLYIN EAST RD	South	04-Sep-07	20	1	1	0	0	1	1	0	0	2	2	2	2	6	6	6	WILD_RADISH WILD_OATS SOURSOB	
4090014	1	0	0.5	0.5	INVERARITY RD	South	30-Aug-07	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	6	WILD_RADISH WILD_OATS PATERSONS_CURSE SOURSOB	
4090014	2	0.5	2.25	1.75	INVERARITY RD	South	30-Aug-07	20	0	2	0	0	0	0	0	2	0	0	2	2	2	6	6	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090014	3	2.25	2.9	0.65	INVERARITY RD	South	30-Aug-07	20	1	1	0	0	0	0	2	2	0	0	0	0	3	3	3	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE	
4090014	4	2.9	5.2	2.3	INVERARITY RD	South	30-Aug-07	20	1	1	0	0	0	0	2	2	0	0	0	0	3	3	3	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE	
4090014	5	5.2	6.2	1	INVERARITY RD	South	30-Aug-07	20	1	1	0	0	0	0	2	2	0	0	0	0	3	3	3	SALT_AFFECTED_ROADSIDE	
4090014	6	6.2	8	1.8	INVERARITY RD	South	30-Aug-07	20	1	1	0	0	0	0	2	2	0	0	0	0	3	3	3	SALT_AFFECTED_ROADSIDE	

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090014	7	8	9.4	1.4	INVERARITY RD	South	30-Aug-07	20	2	2	0	0	0	0	2	2	0	0	0	0	4	4	SOURSOB WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSID E
4090014	8	9.4	10.1	0.7	INVERARITY RD	East	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	2	2	5	5	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090014	9	10.1	10.5	0.4	INVERARITY RD	East	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	2	2	5	5	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090015	1	0	2.1	2.1	WOOLUNDRA SOUTH RD	South	06-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSID E
4090015	2	2.1	2.4	0.3	WOOLUNDRA SOUTH RD	South	06-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSID E
4090015	3	2.4	4.7	2.3	WOOLUNDRA SOUTH RD	South	06-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSID E
4090015	4	4.7	6.8	2.1	WOOLUNDRA SOUTH RD	South	06-Sep-07	20	1	1	0	0	0	0	1	1	1	1	0	0	3	3	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSID E
4090015	5	6.8	8.7	1.9	WOOLUNDRA SOUTH RD	South	06-Sep-07	20	2	1	0	0	0	0	1	1	2	1	2	2	7	5	WILD_RADISH WILD_OATS
4090015	6	8.7	13.4	4.7	WOOLUNDRA SOUTH RD	South	06-Sep-07	20	1	1	0	0	0	0	1	1	2	2	2	2	6	6	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E
4090016	1	0	1.546	1.546	WOOLUNDRA NORTH RD	North	30-Aug-07	20	1	1	1	1	0	0	1	1	0	0	2	2	5	5	WILD_RADISH WILD_OATS
4090016	2	1.546	3.992	2.446	WOOLUNDRA NORTH RD	North	30-Aug-07	20	2	2	1	1	0	0	1	1	0	0	2	2	6	6	WILD_RADISH WILD_OATS
4090016	3	3.992	6.238	2.246	WOOLUNDRA NORTH RD	North	30-Aug-07	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	WILD_RADISH WILD_OATS
4090016	4	6.238	6.784	0.546	WOOLUNDRA NORTH RD	North	30-Aug-07	20	2	2	1	1	0	0	1	1	2	2	0	0	6	6	
4090016	5	6.784	7.68	0.896	WOOLUNDRA NORTH RD	North	30-Aug-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	SOURSOB
4090017	1	0	3.6	3.6	TOLLEY RD	South	30-Aug-07	20	2	2	1	1	0	0	1	1	0	0	2	2	6	6	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS SOURSOB
4090018	1	0	3.645	3.645	BARNES RD	North East	13-Sep-07	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)	
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left		Right
4090018	2	3.645	5.89	2.245	BARNES RD	North East	13-Sep-07	20	2	2	0	0	0	0	2	1	1	0	2	2	7	5	WILD_RADISH WILD_OATS	
4090018	3	5.89	6.635	0.745	BARNES RD	North East	13-Sep-07	20	2	2	1	1	0	0	2	2	1	1	2	2	8	8		
4090018	4	6.635	8.48	1.845	BARNES RD	North	13-Sep-07	20	2	2	0	0	0	0	1	1	1	2	2	2	6	7	WILD_RADISH WILD_OATS	
4090018	5	8.48	11.925	3.445	BARNES RD	North	13-Sep-07	20	2	2	1	1	0	0	2	2	1	1	2	2	8	8	WILD_RADISH WILD_OATS	
4090018	6	11.925	15.17	3.245	BARNES RD	East	13-Sep-07	20	2	2	2	2	1	1	2	2	1	1	2	2	10	10	PATERSONS_CURSE WILD_RADISH WILD_OATS	
4090018	7	15.17	15.415	0.245	BARNES RD	East	13-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	PATERSONS_CURSE WILD_RADISH WILD_OATS	
4090018	8	15.415	16.06	0.645	BARNES RD	East	13-Sep-07	20	0	0	0	0	0	0	1	1	0	0	2	2	3	3	PATERSONS_CURSE WILD_RADISH WILD_OATS	
4090019	1	0	0.9	0.9	CAROMIN RD	West	14-Sep-07	20	0	2	0	0	0	0	2	2	0	1	2	2	4	7	WILD_RADISH WILD_OATS	
4090019	2	0.9	3.7	2.8	CAROMIN RD	West	14-Sep-07	20	1	1	0	0	0	0	1	1	2	1	2	2	6	5	WILD_RADISH WILD_OATS	
4090020	1	0	2.5	2.5	BAANDEE NORTH CROSS RD	East	14-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS	
4090020	2	2.5	4	1.5	BAANDEE NORTH CROSS RD	East	14-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS	
4090020	3	4	5.1	1.1	BAANDEE NORTH CROSS RD	East	14-Sep-07	20	1	1	0	0	0	0	1	1	1	2	2	2	5	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS	
4090020	4	5.1	6.2	1.1	BAANDEE NORTH CROSS RD	East	14-Sep-07	20	1	1	0	0	0	0	1	1	2	2	2	2	6	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS	
4090020	5	6.2	12.75	6.55	BAANDEE NORTH CROSS RD	East	14-Sep-07	20	2	2	0	1	0	1	1	1	2	2	2	2	7	9	WILD_RADISH WILD_OATS	
4090020	6	12.75	18.985	6.23	BAANDEE NORTH CROSS RD	East	14-Sep-07	20	1	1	0	0	0	0	2	2	1	1	2	2	6	6	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE	
4090022	1	0	4.84	4.84	BERESFORD RD	East	13-Sep-07	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	WILD_RADISH WILD_OATS	
4090022	2	4.84	5.74	0.9	BERESFORD RD	East	13-Sep-07	20	0	0	0	0	0	0	1	1	0	0	2	2	3	3	WILD_RADISH WILD_OATS	
4090022	3	5.74	7.24	1.5	BERESFORD RD	East	13-Sep-07	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	WILD_RADISH WILD_OATS	
4090022	4	7.24	9.14	1.9	BERESFORD RD	East	13-Sep-07	20	2	2	1	1	0	0	1	1	1	1	2	2	7	7	WILD_RADISH WILD_OATS	
4090022	5	9.14	12.04	2.9	BERESFORD RD	East	13-Sep-07	20	2	2	1	1	0	0	1	1	2	2	2	2	8	8	WILD_RADISH WILD_OATS	
4090022	6	12.04	12.74	0.7	BERESFORD RD	East	13-Sep-07	20	0	0	0	0	0	0	2	2	0	0	0	0	2	2	SALT_AFFECTED_ROADSIDE	
4090024	1	0	3.68	3.68	FISHER WEST RD	West	14-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS	
4090026	1	0	1	1	MCBOLT RD	East	28-Aug-08	20	1	2	1	1	0	1	1	1	1	2	2	2	6	9	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS	
4090026	2	1	2.5	1.5	MCBOLT RD	East	28-Aug-08	20	0	1	0	1	0	0	0	1	0	2	2	2	2	7	7	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090026	3	2.5	3	0.5	MCBOLT RD	East	28-Aug-08	20	0	2	0	1	0	1	0	1	1	2	2	2	3	9	WILD_RADISH WILD_OATS	

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090026	4	3	3.7	0.7	MCBOLT RD	East	28-Aug-08	20	0	0	0	0	0	0	0	0	0	1	2	2	2	3	WILD_RADISH WILD_OATS
4090026	5	3.7	4.1	0.4	MCBOLT RD	East	28-Aug-08	20	0	1	0	1	0	1	0	1	1	1	2	2	3	7	WILD_RADISH WILD_OATS
4090026	6	4.1	5	0.9	MCBOLT RD	East	28-Aug-08	20	0	0	0	1	0	0	0	1	0	1	2	2	2	5	WILD_RADISH WILD_OATS
4090026	7	5	5.8	0.8	MCBOLT RD	East	28-Aug-08	20	0	1	1	1	0	0	0	0	1	1	2	2	4	5	WILD_RADISH WILD_OATS
4090026	8	5.8	6.4	0.6	MCBOLT RD	East	28-Aug-08	20	1	1	1	1	1	1	1	1	1	1	2	2	7	7	WILD_RADISH WILD_OATS
4090026	9	6.4	6.9	0.5	MCBOLT RD	East	28-Aug-08	20	1	0	0	0	0	0	0	0	1	1	2	2	4	3	WILD_RADISH WILD_OATS
4090026	10	6.9	9.43	2.53	MCBOLT RD	East	28-Aug-08	20	1	2	1	1	1	1	0	1	1	1	2	2	6	8	WILD_RADISH WILD_OATS
4090027	1	0	9.37	9.37	WALLATIN RD	South	13-Sep-07	20	2	2	1	1	0	0	1	1	2	2	2	2	8	8	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090027	2	9.37	9.87	0.5	WALLATIN RD	South	13-Sep-07	20	1	1	0	0	0	0	2	2	1	0	1	1	5	4	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSID E
4090027	3	9.87	10.27	0.4	WALLATIN RD	South	13-Sep-07	20	2	2	0	0	0	0	1	1	0	1	2	2	5	6	WILD_RADISH WILD_OATS
4090029	1	0	0.3	0.3	ARTHUR RD	North	06-Sep-07	20	1	1	0	0	0	0	0	0	1	1	2	0	4	2	
4090029	2	0.3	8.3	8	ARTHUR RD	North	06-Sep-07	20	2	2	1	1	1	1	0	0	2	2	0	2	6	8	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090029	3	8.3	17.7	9.4	ARTHUR RD	North	06-Sep-07	20	2	1	1	1	1	1	1	1	2	2	0	2	7	8	WILD_RADISH WILD_OATS
4090029	4	17.7	18.2	0.5	ARTHUR RD	North	06-Sep-07	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	WILD_RADISH WILD_OATS
4090029	5	18.2	23.43	5.23	ARTHUR RD	North	06-Sep-07	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	WILD_RADISH WILD_OATS
4090030	1	0	1.02	1.02	STATE FOREST RD	North	30-Aug-07	20	2	1	0	0	0	0	1	1	1	0	2	2	6	4	
4090030	2	1.02	1.84	0.82	STATE FOREST RD	North	30-Aug-07	20	2	0	1	0	1	0	2	2	1	0	0	2	7	4	
4090030	3	1.84	3.13	1.29	STATE FOREST RD	North	30-Aug-07	20	2	0	1	0	1	0	2	2	2	0	2	2	10	4	WILD_RADISH WILD_OATS
4090031	1	0	0.38	0.38	ARTS RD	South	13-Sep-07	20	2	2	0	0	0	0	2	2	1	2	2	2	7	8	WILD_RADISH WILD_OATS
4090031	2	0.38	1.48	1.1	ARTS RD	South	13-Sep-07	20	2	2	1	1	0	0	2	2	1	1	2	2	8	8	WILD_RADISH WILD_OATS CAPE_TULIP
4090033	1	0	2.43	2.43	BROWN RD	East	31-Aug-07	20	2	2	0	1	0	1	1	2	1	2	2	0	6	8	WILD_RADISH WILD_OATS
4090033	2	2.43	10.88	8.45	BROWN RD	East	31-Aug-07	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_RADISH WILD_OATS SOURSOB AFRICAN_LOVEGRASS
4090033	3	10.88	11.98	1.1	BROWN RD	East	31-Aug-07	20	2	2	0	1	0	1	2	2	2	2	2	0	8	8	WILD_RADISH WILD_OATS
4090034	1	0	1.86	1.86	DUROKOPPIN RD	West	20-Sep-07	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E
4090034	2	1.86	2.16	0.3	DUROKOPPIN RD	West	20-Sep-07	20	2	2	1	1	0	0	2	2	1	1	0	2	6	8	WILD_RADISH WILD_OATS
4090034	3	2.16	6.62	4.46	DUROKOPPIN RD	West	20-Sep-07	20	2	2	1	1	0	0	1	1	1	1	2	2	7	7	WILD_RADISH WILD_OATS CAPE_TULIP

Road#	Sect #	OD	OD	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090034	4	6.62	6.94	0.32	DUROKOPPIN RD	West	20-Sep-07	20	2	2	0	0	0	0	1	1	0	0	2	2	5	5	WILD_RADISH WILD_OATS
4090035	1	1.5	1.9	0.4	YORKRAKINE-CEMETERY RD	East	14-Sep-07	20	2	2	2	2	2	2	2	2	2	1	2	2	10	11	WILD_RADISH WILD_OATS
4090035	2	1.9	2.8	0.9	YORKRAKINE-CEMETERY RD	East	14-Sep-07	20	2	2	1	1	2	2	1	1	1	1	2	2	9	9	WILD_RADISH WILD_OATS
4090035	3	2.8	3.7	0.9	YORKRAKINE-CEMETERY RD	East	14-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS
4090035	4	3.7	4.65	0.95	YORKRAKINE-CEMETERY RD	East	14-Sep-07	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	SOURSOB WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090035	5	4.65	5.3	0.65	YORKRAKINE-CEMETERY RD	East	14-Sep-07	20	1	1	1	0	1	1	2	2	1	1	2	2	8	7	WILD_RADISH WILD_OATS
4090035	6	5.3	6.16	0.86	YORKRAKINE-CEMETERY RD	East	14-Sep-07	20	2	2	2	2	2	2	2	2	1	2	2	2	11	10	
4090036	1	0	1.67	1.67	NANYANINE RD	East	07-Sep-07	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_RADISH WILD_OATSSALT_AFFECTED_ROADSIDE
4090036	2	1.67	2.17	0.5	NANYANINE RD	East	07-Sep-07	20	2	2	1	1	1	1	1	2	2	2	2	2	9	10	WILD_RADISH WILD_OATS
4090036	3	2.17	5.47	3.3	NANYANINE RD	East	07-Sep-07	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	WILD_RADISH WILD_OATS
4090037	1	0.8	3.2	2.4	HARVEY RD	East	31-Aug-07	20	2	2	1	0	1	0	2	2	2	2	0	2	8	8	AFRICAN_LOVEGRASS
4090038	1	0	1.66	1.66	MALEY RD	East	31-Aug-07	20	2	2	0	0	0	0	1	1	2	1	2	2	7	6	WILD_RADISH WILD_OATS
4090038	2	1.66	3.72	2.06	MALEY RD	East	31-Aug-07	20	2	2	1	1	1	1	2	2	2	2	2	0	10	8	WILD_RADISH WILD_OATS
4090039	1	0	4.55	4.55	MORLEY RD	East	31-Aug-07	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090040	1	0	3.38	3.38	DEEP WELL RD	North West	07-Sep-07	20	1	1	1	1	1	1	2	2	2	2	0	0	7	7	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090040	2	3.38	12.2	8.82	DEEP WELL RD	North West	07-Sep-07	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_RADISH WILD_OATSSALT_AFFECTED_ROADSIDE
4090040	3	12.2	14.84	2.64	DEEP WELL RD	North West	07-Sep-07	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	PATERSONS_CURSE WILD_RADISH WILD_OATSSALT_AFFECTED_ROADSIDE
4090041	1	0	1.1	1.1	HIGGINSON RD	West	14-Sep-07	20	2	2	1	1	1	1	2	2	2	2	0	0	8	8	
4090041	2	1.1	1.7	0.6	HIGGINSON RD	West	14-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	0	5	3	WILD_RADISH WILD_OATS
4090041	3	1.7	3.1	1.4	HIGGINSON RD	West	14-Sep-07	20	1	1	0	0	0	0	2	2	1	1	2	2	6	6	WILD_RADISH WILD_OATS
4090042	1	0	7.65	7.65	YORKRAKINE ROCK RD	West	07-Sep-07	20	2	2	1	1	0	0	2	2	2	2	2	2	9	9	WILD_RADISH WILD_OATS PATERSONS_CURSE SOURSOB

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090043	1	0	5.56	5.56	NALYERINE RD	West	07-Sep-07	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_RADISH WILD_OATS PATERSONS_CURSE SOURSOB SALT_AFFECTED_ROADSIDE
4090044	1	0	3.21	3.21	BENDERINE RD	West	20-Sep-07	20	1	1	1	1	0	0	2	2	1	1	2	2	7	7	WILD_RADISH WILD_OATS
4090045	1	0	5.8	5.8	OLD YELBENI	South	28-Aug-07	20	2	2	1	1	0	0	2	2	0	0	2	2	7	7	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090046	1	0	2.2	2.2	MCWHIRTER RD	West	29-Aug-07	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090046	2	2.2	6.6	4.4	MCWHIRTER RD	West	29-Aug-07	20	2	2	0	0	0	0	2	2	2	2	2	2	8	8	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090048	1	0	2.03	2.03	MCLELLAN RD	West	29-Aug-07	20	2	1	0	0	0	0	2	2	0	0	2	2	6	5	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090048	2	2.03	3.6	1.57	MCLELLAN RD	West	29-Aug-07	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090048	3	3.6	6.1	2.5	MCLELLAN RD	West	29-Aug-07	20	1	1	0	0	0	0	1	1	2	2	1	2	5	6	WILD_RADISH WILD_OATS
4090049	1	0	3.75	3.75	HANLON RD	North	29-Aug-07	20	2	2	0	1	0	0	1	1	1	1	2	2	6	7	SOURSOB AFRICAN_LOVEGRASS WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE
4090049	2	3.75	4.83	1.08	HANLON RD	North	29-Aug-07	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	AFRICAN_LOVEGRASS
4090049	3	4.83	5.5	0.67	HANLON RD	North	29-Aug-07	20	2	2	0	1	0	1	1	1	2	2	2	0	7	7	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090049	4	5.5	6.22	0.72	HANLON RD	North	29-Aug-07	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	WILD_RADISH WILD_OATS
4090050	1	0	1.2	1.2	WOOLTORTON RD	West	20-Sep-07	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	WILD_RADISH WILD_OATS
4090050	2	1.11	1.62	0.51	WOOLTORTON RD	West	20-Sep-07	20	2	2	0	0	0	0	1	1	1	1	0	2	4	6	WILD_RADISH WILD_OATS
4090050	3	1.62	2.52	0.9	WOOLTORTON RD	West	20-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS
4090052	1	0	2	2	HEARLE RD	East	14-Sep-07	20	1	1	0	0	0	0	1	1	2	1	2	2	6	5	WILD_RADISH WILD_OATS
4090052	2	2	4.6	2.6	HEARLE RD	East	14-Sep-07	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_RADISH WILD_OATS
4090052	3	4.6	4.76	0.16	HEARLE RD	East	14-Sep-07	20	2	2	1	1	1	1	2	2	0	0	2	2	8	8	WILD_RADISH WILD_OATS
4090053	1	0	1.2	1.2	MINKADINE RD	South	28-Aug-07	20	2	2	0	0	0	0	2	2	1	1	1	2	6	7	SOURSOB AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090053	2	1.2	3.33	2.13	MINKADINE RD	South	28-Aug-07	20	1	1	0	0	0	0	2	2	1	1	2	2	6	6	SOURSOB WILD_RADISH WILD_OATS
4090053	3	3.33	9.32	5.99	MINKADINE RD	South	28-Aug-07	20	2	2	0	0	0	0	2	2	2	2	2	2	8	8	SOURSOB WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE
4090054	1	0	2.29	2.29	PUDLYCUTTING RD	West	29-Aug-07	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	WILD_RADISH WILD_OATS
4090054	2	2.29	7.18	4.89	PUDLYCUTTING RD	West	29-Aug-07	20	2	1	1	0	1	0	2	2	0	0	2	2	8	5	WILD_RADISH WILD_OATS
4090055	1	3.55	10.09	6.54	MCNEIL RD	West	28-Aug-07	20	2	2	1	1	1	1	2	2	0	0	2	2	8	8	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090056	1	2.95	6.309	3.359	GLENLUCE RD	South	30-Aug-07	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	WILD_RADISH WILD_OATS PATERSONS_CURSE SOURSOB
4090056	2	6.309	7.118	0.809	GLENLUCE RD	South	30-Aug-07	20	1	1	0	0	0	0	2	2	2	2	2	2	7	7	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090056	3	7.118	9.327	2.209	GLENLUCE RD	South	30-Aug-07	20	2	2	1	1	1	1	2	2	2	2	2	0	10	8	WILD_RADISH WILD_OATS
4090056	4	9.327	10.286	0.959	GLENLUCE RD	South	30-Aug-07	20	2	0	0	0	0	0	2	2	1	1	2	2	7	5	WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE
4090056	5	10.286	10.745	0.459	GLENLUCE RD	South	30-Aug-07	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	WILD_RADISH WILD_OATS
4090056	6	10.745	12.224	1.479	GLENLUCE RD	South	30-Aug-07	20	2	2	0	0	0	0	1	1	0	0	2	2	5	5	WILD_RADISH WILD_OATS
4090056	7	12.224	12.963	0.739	GLENLUCE RD	South	30-Aug-07	20	0	1	0	0	0	0	1	1	0	0	2	2	3	4	WILD_RADISH WILD_OATS
4090056	8	12.963	14.822	1.859	GLENLUCE RD	South	30-Aug-07	20	2	2	1	1	0	0	2	2	2	2	2	2	9	9	WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE
4090056	9	14.822	16.581	1.759	GLENLUCE RD	South	30-Aug-07	20	1	1	0	0	0	0	2	2	0	0	0	1	3	4	SOURSOBSALT_AFFECTED ROADSIDE
4090056	10	16.581	18.14	1.559	GLENLUCE RD	South	30-Aug-07	20	2	2	1	1	1	1	2	2	1	1	0	0	7	7	WILD_RADISH WILD_OATS CAPE_TULIP SALT_AFFECTED_ROADSID E
4090057	1	0	3.355	3.355	GARDNER RD	West	28-Aug-07	20	1	1	1	1	0	1	2	2	0	0	2	1	6	6	WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE
4090057	2	3.355	5.51	2.155	GARDNER RD	West	28-Aug-07	20	2	0	1	0	1	0	2	1	0	0	0	2	6	3	WILD_RADISH WILD_OATS CAPE_TULIPSALT_AFFECT ED_ROADSIDE
4090057	3	5.51	5.665	0.155	GARDNER RD	West	28-Aug-07	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_RADISH WILD_OATS

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)	
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left		Right
4090057	4	5.665	6.22	0.555	GARDNER RD	West	28-Aug-07	20	0	2	0	1	0	1	1	2	0	0	2	0	3	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS	
4090058	1	0	0.7	0.7	EVANS RD	East	04-Sep-07	20	1	1	0	0	0	0	2	2	0	0	0	0	3	3	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E	
4090058	2	0.7	2.7	2	EVANS RD	East	04-Sep-07	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E	
4090059	1	0	3.8	3.8	VICTORIA RD	West	31-Aug-07	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	SOURSOB WILD_RADISH WILD_OATS	
4090059	2	3.8	5.1	1.3	VICTORIA RD	West	31-Aug-07	20	0	0	0	0	0	0	2	2	0	0	0	0	2	2	2	SOURSOB WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE
4090059	3	5.1	6.85	1.75	VICTORIA RD	West	30-Aug-07	20	2	1	0	0	0	0	1	1	1	0	2	2	6	4	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSID E	
4090059	4	6.85	7.75	0.9	VICTORIA RD	West	30-Aug-07	20	2	2	0	0	0	0	1	1	1	2	0	2	4	7	WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE	
4090060	1	0	0.5	0.5	BRADLEY RD	north	30-Aug-07	20	1	0	0	0	0	0	1	1	0	0	2	2	4	3	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS	
4090060	2	0.5	2.5	2	BRADLEY RD	north	30-Aug-07	20	2	2	0	0	0	0	1	1	1	0	2	2	6	5	WILD_RADISH WILD_OATS	
4090060	3	2.5	5.16	2.66	BRADLEY RD	north	30-Aug-07	20	2	2	0	0	0	0	2	2	0	0	2	2	6	6	WILD_RADISH WILD_OATS	
4090061	1	0	1.25	1.25	LOTON RD	East	29-Aug-07	20	2	1	0	0	0	0	1	1	1	1	2	2	6	5		
4090064	1	0	0.99	0.99	STONE GILES RD	West	04-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS SOURSOB	
4090064	2	0.99	2.1	1.11	STONE GILES RD	West	04-Sep-07	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	WILD_RADISH WILD_OATS SOURSOB	
4090064	3	2.1	3.65	1.55	STONE GILES RD	West	04-Sep-07	20	1	1	0	0	0	0	1	1	0	1	2	2	4	5	WILD_RADISH WILD_OATS	
4090064	4	3.65	10.9	7.25	STONE GILES RD	West	04-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5		
4090064	5	10.9	15.1	4.2	STONE GILES RD	West	04-Sep-07	20	0	0	0	0	0	0	2	2	0	0	2	2	4	4	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS SOURSOBSALT_AFFECTED ROADSIDE	
4090064	6	15.1	18.4	3.3	STONE GILES RD	West	04-Sep-07	20	1	2	0	0	0	0	0	0	2	2	2	2	5	6	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS SOURSOB	
4090064	7	18.4	21.76	3.36	STONE GILES RD	West	31-Aug-07	20	2	2	0	0	0	0	0	0	1	1	2	2	5	5	WILD_RADISH WILD_OATS	
4090065	1	0	0.9	0.9	BADGETOPPING SOUTH RD	South	05-Sep-07	20	1	1	0	0	0	0	1	1	1	0	2	1	5	3	WILD_RADISH WILD_OATS	

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)	
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left		Right
4090065	2	0.9	2.68	1.78	BADGETOPPING SOUTH RD	South	05-Sep-07	20	1	2	0	0	0	0	0	0	2	2	2	0	5	4	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E	
4090065	3	2.68	5.66	2.98	BADGETOPPING SOUTH RD	South	05-Sep-07	20	0	0	0	0	0	0	2	2	0	1	0	0	2	3	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E	
4090065	4	5.66	6.76	1.1	BADGETOPPING SOUTH RD	South	05-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	4	6	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSID E	
4090065	5	6.76	10.94	4.18	BADGETOPPING SOUTH RD	South	05-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS	
4090065	6	10.94	12.14	1.2	BADGETOPPING SOUTH RD	South	05-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	0	6	4	WILD_RADISH WILD_OATS	
4090065	7	12.14	12.74	0.6	BADGETOPPING SOUTH RD	South	05-Sep-07	20	2	2	0	0	0	0	1	1	2	2	2	0	7	5	WILD_RADISH WILD_OATS	
4090065	8	12.74	13.84	1.1	BADGETOPPING SOUTH RD	South	05-Sep-07	20	2	1	0	0	0	0	0	0	1	2	2	2	5	5	WILD_RADISH WILD_OATS	
4090066	1	0	0.97	0.97	TURON RD	South West	20-Sep-07	20	2	2	1	1	0	0	1	1	2	2	2	2	8	8	WILD_RADISH WILD_OATS	
4090067	1	0	0.5125	0.5125	SKI LAKE RD	South	20-Sep-07	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS	
4090067	2	0.5125	1.325	0.8125	SKI LAKE RD	South	20-Sep-07	20	1	1	1	1	0	0	1	1	0	0	2	2	5	5	WILD_RADISH WILD_OATS PATERSONS_CURSE	
4090067	3	1.325	1.8375	0.5125	SKI LAKE RD	South	20-Sep-07	20	2	2	1	1	0	0	1	1	1	1	2	1	7	6	WILD_RADISH WILD_OATS PATERSONS_CURSE SALT_AFFECTED_ROADSID E	
4090067	4	1.8375	2.35	0.5125	SKI LAKE RD	South	20-Sep-07	20	2	2	1	1	0	0	1	1	1	1	0	1	5	6	WILD_RADISH WILD_OATS CAPE_TULIP SALT_AFFECTED_ROADSID E	
4090068	1	0	1.9	1.9	JOHNS RD	south	05-Sep-07	20	2	0	0	0	0	0	0	0	0	0	2	2	4	2	WILD_RADISH WILD_OATS	
4090068	2	1.9	5.76	3.86	JOHNS RD	south	05-Sep-07	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	WILD_RADISH WILD_OATS	
4090068	3	5.76	7.06	1.3	JOHNS RD	south	05-Sep-07	20	0	2	0	0	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS SOURSOB
4090069	1	0	2.9	2.9	INNES RD	South	06-Sep-07	20	2	2	0	0	0	0	1	1	1	2	2	2	6	7	WILD_RADISH WILD_OATS	
4090069	2	2.9	3.94	1.04	INNES RD	South	06-Sep-07	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	WILD_RADISH WILD_OATS	
4090069	3	3.94	4.3	0.36	INNES RD	South	28-Aug-08	20	2	2	1	1	0	0	2	2	2	2	2	2	9	9	WILD_RADISH WILD_OATS	
4090069	4	4.3	7.4	3.1	INNES RD	South	28-Aug-08	20	2	1	1	1	0	0	1	0	1	2	2	2	7	6	WILD_RADISH WILD_OATS	
4090069	5	7.4	8.9	1.5	INNES RD	South	28-Aug-08	20	1	1	1	1	0	0	0	1	1	2	2	2	5	7	WILD_RADISH WILD_OATS	

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090069	6	8.9	10	1.1	INNES RD	South	28-Aug-08	20	1	2	1	1	0	0	0	0	2	2	2	2	6	7	WILD_RADISH WILD_OATS
4090069	7	10	11.34	1.34	INNES RD	South	28-Aug-08	20	0	1	1	1	0	0	0	0	2	2	2	2	5	6	WILD_RADISH WILD_OATS
4090069	8	11.34	12.2	0.86	INNES RD	South	28-Aug-08	20	2	2	1	1	1	1	0	0	1	1	2	2	7	7	WILD_RADISH WILD_OATS
4090070	1	0	2.445	2.445	LANGDON RD	South	05-Sep-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH WILD_OATS
4090070	2	2.445	4.79	2.345	LANGDON RD	South	05-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS SOURSOB
4090070	3	4.79	8.835	4.045	LANGDON RD	South	05-Sep-07	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_RADISH WILD_OATS
4090070	4	8.835	13.28	4.445	LANGDON RD	South	05-Sep-07	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	WILD_RADISH WILD_OATS
4090071	1	0	0.3	0.3	FIRE RD	East	05-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS
4090071	2	0.3	0.9	0.6	FIRE RD	East	05-Sep-07	20	0	2	0	0	0	0	1	1	2	2	2	2	5	7	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090071	3	0.9	4.12	3.22	FIRE RD	East	05-Sep-07	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090071	4	4.12	8.64	4.52	FIRE RD	East	05-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	0	6	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090072	1	0	1.8	1.8	YERAPIN RD	South	05-Sep-07	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090072	2	1.8	6.93	5.13	YERAPIN RD	South	05-Sep-07	20	2	2	1	1	1	1	1	1	1	2	2	2	8	9	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090073	1	0	5.52	5.52	SIMMS RD	East	05-Sep-07	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_RADISH WILD_OATS
4090074	1	0	3.3	3.3	YERAPIN BOUNDARY RD	East	05-Sep-07	20	2	2	0	0	0	0	1	1	2	1	2	2	7	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090074	2	3.3	4.41	1.11	YERAPIN BOUNDARY RD	East	05-Sep-07	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090075	1	0	2.3	2.3	MCDONNELL RD	East	04-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS
4090075	2	2.3	2.9	0.6	MCDONNELL RD	East	04-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS
4090075	3	2.9	3.57	0.67	MCDONNELL RD	East	04-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS
4090076	1	0	2.662	2.662	DAADENNING CREEK RD	East	31-Aug-07	20	2	2	0	0	0	0	2	2	2	1	2	2	8	7	SOURSOB WILD_RADISH WILD_OATS
4090076	2	2.662	6.124	3.462	DAADENNING CREEK RD	East	31-Aug-07	20	1	1	0	0	0	0	2	2	0	2	2	2	5	7	WILD_RADISH WILD_OATS
4090076	3	6.124	6.786	0.662	DAADENNING CREEK RD	East	31-Aug-07	20	1	2	0	0	0	0	1	1	0	0	2	2	4	5	WILD_RADISH WILD_OATS
4090076	4	6.786	10.25	3.464	DAADENNING CREEK RD	East	31-Aug-07	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	SOURSOB WILD_RADISH WILD_OATS CAPE_TULIP
4090076	5	10.25	11.3	1.05	DAADENNING CREEK RD	East	31-Aug-07	20	2	1	0	0	0	0	1	1	1	1	2	2	6	5	SOURSOB WILD_RADISH WILD_OATS
4090077	1	0	3.6	3.6	FORSYTH - BRAYSHER RD	North	28-Aug-08	20	0	0	0	0	0	0	0	0	1	1	2	2	3	3	PATERSONS_CURSE WILD_RADISH WILD_OATS

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090077	2	3.6	6.1	2.5	FORSYTH - BRAYSHER RD	North	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	2	2	5	5	WILD_RADISH WILD_OATS
4090077	3	6.1	7.16	1.06	FORSYTH - BRAYSHER RD	West	28-Aug-08	20	2	1	1	1	0	0	0	0	1	1	2	2	6	5	WILD_RADISH WILD_OATS
4090080	1	0	1.95	1.95	HEWITT RD	South	30-Aug-07	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	
4090080	2	1.95	4.37	2.42	HEWITT RD	South	30-Aug-07	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	
4090081	1	0	3	3	SCOTT RD	West	28-Aug-07	20	2	2	0	0	0	0	2	2	2	2	2	2	8	8	AFRICAN_LOVEGRASS
4090081	2	3	4	1	SCOTT RD	West	28-Aug-07	20	1	1	0	0	0	0	2	2	2	2	2	0	7	5	WILD_RADISH WILD_OATS
4090081	3	4	6.48	2.48	SCOTT RD	West	28-Aug-07	20	1	1	1	1	0	0	2	2	1	0	2	2	7	6	AFRICAN_LOVEGRASS
4090082	1	0	0.9	0.9	MATHER RD	West	28-Aug-08	20	1	2	1	1	0	0	2	2	1	2	2	1	7	8	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090082	2	0.9	1.4	0.5	MATHER RD	West	28-Aug-08	20	0	2	1	1	0	0	0	1	0	2	2	1	3	7	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090082	3	1.4	2.2	0.8	MATHER RD	West	28-Aug-08	20	2	2	1	1	0	1	2	2	2	2	1	1	8	9	
4090082	4	2.2	2.8	0.6	MATHER RD	West	28-Aug-08	20	1	1	1	1	0	0	2	2	0	0	1	1	5	5	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090082	5	2.8	6.3	3.5	MATHER RD	West	28-Aug-08	20	2	2	1	1	0	0	0	0	2	2	2	1	7	6	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090082	6	6.3	7.7	1.4	MATHER RD	West	28-Aug-08	20	2	2	1	1	0	0	0	0	2	2	2	1	7	6	AFRICAN_LOVEGRASS PATERSONS_CURSE WILD_RADISH WILD_OATS
4090082	7	7.7	8.7	1	MATHER RD	West	28-Aug-08	20	1	1	1	1	0	0	0	0	1	2	2	1	5	5	WILD_RADISH WILD_OATS
4090082	8	8.7	10.06	1.36	MATHER RD	West	28-Aug-08	20	0	2	1	1	0	0	0	1	1	1	2	1	4	6	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090082	9	10.06	11	0.94	MATHER RD	West	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	1	1	4	4	SOURSOB AFRICAN_LOVEGRASS PATERSONS_CURSE WILD_RADISH WILD_OATS
4090082	10	11	11.9	0.9	MATHER RD	West	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	1	1	4	4	SOURSOB AFRICAN_LOVEGRASS PATERSONS_CURSE WILD_RADISH WILD_OATS
4090082	11	11.9	13.8	1.9	MATHER RD	West	28-Aug-08	20	1	1	1	1	0	0	0	0	1	2	2	1	5	5	SOURSOB AFRICAN_LOVEGRASS PATERSONS_CURSE WILD_RADISH WILD_OATS
4090082	12	13.8	15.1	1.3	MATHER RD	West	28-Aug-08	20	1	0	1	0	0	0	0	0	1	1	2	1	5	2	AFRICAN_LOVEGRASS PATERSONS_CURSE WILD_RADISH WILD_OATS
4090082	13	15.1	18.15	3.05	MATHER RD	West	28-Aug-08	20	0	0	0	0	0	0	0	0	1	1	2	1	3	2	AFRICAN_LOVEGRASS PATERSONS_CURSE WILD_RADISH WILD_OATS

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090083	1	0	1	1	MOORANOPPIN RD	North East	28-Aug-07	20	1	1	0	0	0	0	0	0	1	1	1	2	3	4	SOURSOB WILD_RADISH WILD_OATS
4090083	2	1	1.35	0.35	MOORANOPPIN RD	North East	28-Aug-07	20	2	2	0	0	0	0	1	1	0	1	2	2	5	6	WILD_RADISH WILD_OATS PATERSONS_CURSE
4090084	1	0	2.3	2.3	NEWMAN RD	West	29-Aug-07	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	WILD_RADISH WILD_OATS PATERSONS_CURSE SOURSOB
4090084	2	2.3	4.06	1.76	NEWMAN RD	West	29-Aug-07	20	2	2	0	0	0	0	1	1	0	0	2	2	5	5	WILD_RADISH WILD_OATS PATERSONS_CURSE SOURSOB
4090085	1	0	0.7	0.7	RASON ST	West	15-Sep-07	20	1	0	0	0	0	0	2	2	0	0	2	2	5	2	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSID E
4090086	1	0	0.29	0.29	FORREST ST	West	14-Sep-07	20	1	1	0	0	0	0	2	2	0	0	2	2	5	3	WILD_RADISH WILD_OATS SOURSOB CAPE_TULIP
4090086	2	0.29	1.01	0.72	FORREST ST	West	14-Sep-07	20	1	1	0	0	0	0	2	2	0	0	2	2	3	3	WILD_RADISH WILD_OATS CAPE_TULIP
4090087	1	0	1.01	1.01	HAMMOND ST	West	14-Sep-07	20	0	0	0	0	0	0	2	2	0	0	0	0	2	2	SOURSOB WILD_RADISH WILD_OATS
4090087	2	1.01	1.59	0.58	HAMMOND ST	West	14-Sep-07	20	1	0	0	0	0	1	2	2	0	0	2	2	3	3	WILD_RADISH WILD_OATS
4090089	1	0	0.62	0.62	SCADDAN ST	West	15-Sep-07	20	1	2	1	1	1	1	2	2	1	2	2	2	7	8	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E
4090089	2	0.62	1.2	0.58	SCADDAN ST	West	15-Sep-07	20	2	2	1	0	1	0	1	1	2	0	1	0	8	3	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E
4090090	1	0	0.9	0.9	JAMES ST	West	15-Sep-07	20	1	1	0	0	1	0	2	2	0	0	2	2	4	3	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E
4090091	1	0	0.9	0.9	GREGORY ST	West	14-Sep-07	20	1	1	0	0	0	0	2	2	0	0	0	0	3	3	SOURSOB WILD_RADISH WILD_OATS
4090094	1	0	0.7	0.7	GEORGE ST	West	15-Sep-07	20	1	1	0	0	0	0	1	1	0	0	0	0	2	2	WILD_RADISH WILD_OATS
4090095	1	0	1.4	1.4	CEMETERY ST	West	14-Sep-07	20	2	2	1	1	1	1	2	2	2	2	2	2	10	8	WILD_RADISH WILD_OATS
4090095	2	1.4	1.61	0.21	CEMETERY ST	West	14-Sep-07	20	2	2	1	1	0	0	1	1	2	2	2	2	8	8	
4090096	1	0	0.53	0.53	BATH ST	South	15-Sep-07	20	1	1	0	0	0	0	2	2	0	1	2	2	3	4	SOURSOB WILD_RADISH WILD_OATS
4090097	1	0	0.65	0.65	KING ST	South East	15-Sep-07	20	0	0	0	0	0	0	2	2	0	0	0	0	2	2	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSID E
4090098	1	0	1	1	CONNELLY ST	West	14-Sep-07	20	1	1	0	0	1	1	2	2	0	0	0	0	4	4	WILD_RADISH WILD_OATS

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090099	1	0	0.35	0.35	WILSON ST	North	15-Sep-07	20	1	1	0	0	0	0	1	2	0	0	2	2	2	3	WILD_RADISH WILD_OATS
4090099	2	0.35	1	0.65	WILSON ST	North	15-Sep-07	20	2	1	1	0	2	0	1	2	2	0	1	2	9	5	WILD_RADISH WILD_OATS CAPE_TULIP SOURSOB
4090100	1	0	0.73	0.73	HINCKLEY RD	North	14-Sep-07	20	0	1	0	0	0	0	2	2	0	0	2	2	2	3	WILD_RADISH WILD_OATS SOURSOB
4090102	1	0	0.34	0.34	SEWELL ST	South	15-Sep-07	20	0	0	0	0	0	0	1	1	0	0	0	0	1	1	WILD_RADISH WILD_OATS SOURSOB
4090103	1	0	0.34	0.34	RIPPER ST	South	15-Sep-07	20	0	0	0	0	0	0	2	2	0	0	2	2	2	2	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSIDE
4090105	1	0	0.3	0.3	CHAMBERS ST	South	14-Sep-07	20	1	1	0	0	0	0	2	2	0	0	2	0	5	3	WILD_RADISH WILD_OATS
4090112	1	0	0.9	0.9	RYAN RD	North	14-Sep-07	20	2	2	1	0	1	0	1	1	1	1	2	2	8	6	WILD_RADISH WILD_OATS
4090112	2	0.9	1.7	0.8	RYAN RD	North	14-Sep-07	20	2	1	0	0	1	0	0	0	1	1	2	2	6	4	WILD_RADISH WILD_OATS
4090112	3	1.7	3.3	1.6	RYAN RD	North	14-Sep-07	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090112	4	3.3	3.9	0.6	RYAN RD	North	14-Sep-07	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	WILD_RADISH WILD_OATS
4090113	1	0	0.94	0.94	MCCLELLAND RD	North	14-Sep-07	20	1	2	0	0	0	1	1	1	1	1	2	2	5	7	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090113	2	0.94	2.47	1.53	MCCLELLAND RD	North	14-Sep-07	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSIDE
4090113	3	2.47	3.3	0.83	MCCLELLAND RD	North	14-Sep-07	20	0	1	0	1	0	0	1	1	0	0	2	2	3	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE
4090113	4	3.3	4.73	1.43	MCCLELLAND RD	West	14-Sep-07	20	1	1	0	0	0	0	0	0	0	1	2	2	3	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE
4090114	1	0	4.96	4.96	HEAL RD	North	20-Sep-07	20	2	2	1	1	0	0	1	1	1	1	2	2	7	7	WILD_RADISH WILD_OATS PATERSONS_CURSE SOURSOB
4090114	2	4.96	5.52	0.56	HEAL RD	East	20-Sep-07	20	0	0	1	1	0	0	1	1	0	0	2	2	4	4	PATERSONS_CURSE WILD_RADISH WILD_OATS
4090115	1	0	1.04	1.04	WILKINS RD	North-West	31-Aug-07	20	2	2	0	1	0	1	2	2	2	2	2	0	8	8	SOURSOB
4090115	2	1.04	6.18	5.14	WILKINS RD	North-West	31-Aug-07	20	2	2	0	0	0	0	2	2	2	2	2	2	8	8	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS
4090115	3	6.18	6.52	0.34	WILKINS RD	North-West	31-Aug-07	20	2	2	1	1	0	0	2	2	1	2	0	2	6	9	

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)	
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left		Right
4090117	1	0	4.2	4.2	WALSH RD	East	20-Sep-07	20	1	1	0	0	0	0	0	0	1	1	0	2	2	4	WILD_RADISH WILD_OATS	
4090118	1	0	1.2	1.2	PRICE ST	East	15-Sep-07	20	2	1	1	0	1	0	1	1	2	0	0	0	7	2	WILD_RADISH WILD_OATS CAPE_TULIP	
4090119	1	0	1.05	1.05	DOWDING ST	South East	15-Sep-07	20	1	1	0	0	0	0	1	2	0	0	1	0	3	3	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E	
4090127	1	0	0.9	0.9	NICHOLLS DR	North	15-Sep-07	20	2	2	2	2	2	2	1	1	2	2	0	0	9	9	WILD_RADISH WILD_OATS SOURSOB CAPE_TULIP	
4090133	1	0	0.45	0.45	BEDFORD ST	North	15-Sep-07	20	1	1	1	0	0	0	2	2	0	2	0	0	4	5	WILD_RADISH WILD_OATS SOURSOB SALT_AFFECTED_ROADSID E	
4090133	2	0.45	1.04	0.59	BEDFORD ST	North	15-Sep-07	20	1	1	0	0	0	0	1	1	0	0	2	2	2	4	4	WILD_RADISH WILD_OATS
4090145	1	0	1.3	1.3	SCUTTER RD	West	20-Sep-07	20	2	2	1	1	0	0	1	1	2	2	2	2	8	8	WILD_RADISH WILD_OATS	
4090149	1	0	2.78	2.78	DOODLAKINE - BRUCE ROCK RD	South-East	04-Sep-07	20	0	0	0	0	0	0	0	0	2	1	2	2	4	3	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSID E	
4090149	2	2.78	3.78	1	DOODLAKINE - BRUCE ROCK RD	South-East	04-Sep-07	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	AFRICAN_LOVEGRASS WILD_RADISH WILD_OATS SALT_AFFECTED_ROADSID E	
4090149	3	3.78	5.88	2.1	DOODLAKINE - BRUCE ROCK RD	South-East	04-Sep-07	20	1	1	0	0	0	0	0	0	2	2	2	2	5	5	WILD_RADISH WILD_OATS CAPE_TULIP	
4090149	4	5.88	9.68	3.8	DOODLAKINE - BRUCE ROCK RD	South-East	04-Sep-07	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_RADISH WILD_OATS PATERSONS_CURSE	
4090151	1	0	1.5	1.5	MOORE ST	North	15-Sep-07	20	1	1	0	0	0	0	2	2	0	0	0	0	3	3	WILD_RADISH WILD_OATS CAPE_TULIP SALT_AFFECTED_ROADSID E	
4090152	1	0	1.75	1.75	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	0	0	0	0	0	0	1	1	0	0	2	2	3	3	WILD_RADISH WILD_OATS PATERSONS_CURSE SOURSOB	
4090152	2	1.75	4.4	2.65	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	WILD_RADISH WILD_OATS PATERSONS_CURSE SOURSOB SALT_AFFECTED_ROADSID E	
4090152	3	4.4	6.35	1.95	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	SOURSOB WILD_RADISH WILD_OATSSALT_AFFECTE D_ROADSIDE
4090152	4	6.35	8.65	2.3	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	WILD_RADISH WILD_OATS PATERSONS_CURSE	

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090152	5	8.65	9.65	1	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	2	2	1	1	0	0	2	2	0	0	2	2	7	7	WILD_RADISH WILD_OATS PATERSONS_CURSE
4090152	6	9.65	10.6	0.95	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	WILD_RADISH WILD_OATS PATERSONS_CURSE
4090152	7	10.6	11.75	1.15	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	1	1	1	1	0	0	2	2	2	2	0	0	6	6	WILD_RADISH WILD_OATS PATERSONS_CURSE
4090152	8	11.75	12.75	1	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	1	1	0	0	0	0	2	2	1	1	2	0	6	4	WILD_RADISH WILD_OATS
4090152	9	12.75	15.11	2.36	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	2	2	1	1	1	0	2	2	1	1	0	0	7	6	WILD_RADISH WILD_OATS
4090152	10	15.11	16.55	1.44	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	2	2	1	1	0	0	2	2	1	1	0	2	6	8	
4090152	11	16.55	19.25	2.7	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	2	2	1	1	1	1	0	0	1	1	2	2	7	7	
4090152	12	19.25	20.2	0.95	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	2	2	1	1	0	0	0	0	1	1	0	2	4	6	
4090152	13	20.2	22.7	2.5	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	2	2	1	1	1	1	0	0	1	0	2	2	7	6	
4090152	14	22.7	24	1.3	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	2	2	1	1	1	1	2	2	1	1	2	0	9	7	AFRICAN_LOVEGRASS
4090152	15	24	26.1	2.1	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	1	1	1	1	1	1	2	2	1	1	0	0	6	6	AFRICAN_LOVEGRASS
4090152	16	26.1	27.89	1.79	KELLERBERRIN - BENCUBBIN RD	North	28-Aug-07	20	1	1	1	1	0	0	2	2	1	1	2	2	7	7	AFRICAN_LOVEGRASS
4090154	1	0	1.5	1.5	KELLERBERRIN - YOTING RD	South	28-Aug-07	20	0	2	0	0	0	0	0	0	0	0	2	2	2	4	WILD_RADISH WILD_OATS SOURSOB
4090154	2	1.5	4.8	3.3	KELLERBERRIN - YOTING RD	South	28-Aug-07	20	0	1	0	1	0	0	0	0	0	2	2	2	2	6	WILD_RADISH WILD_OATS SOURSOB AFRICAN_LOVEGRASSSALT_AFFECTED_ROADSIDE
4090154	3	4.8	5.2	0.4	KELLERBERRIN - YOTING RD	South	28-Aug-07	20	1	1	0	0	0	0	0	0	0	1	2	2	3	4	WILD_RADISH WILD_OATS SOURSOB
4090154	4	5.2	8.18	2.98	KELLERBERRIN - YOTING RD	South	28-Aug-07	20	0	1	0	1	0	0	0	1	0	1	2	2	2	6	WILD_RADISH WILD_OATS SOURSOB AFRICAN_LOVEGRASSSALT_AFFECTED_ROADSIDE
4090154	5	8.18	10.02	1.84	KELLERBERRIN - YOTING RD	South	28-Aug-07	20	0	1	0	0	0	0	0	0	0	1	2	2	2	4	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS SALT_AFFECTED_ROADSIDE
4090154	6	10.02	11.4	1.38	KELLERBERRIN - YOTING RD	South	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	2	2	5	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090154	7	11.4	12	0.6	KELLERBERRIN - YOTING RD	South	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	0	2	3	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS

Road#	Sect #	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data (Listed if Present)
		(km)	(km)						(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4090154	8	12	13.6	1.6	KELLERBERRIN - YOTING RD	South	28-Aug-08	20	1	1	1	1	0	0	0	0	1	1	2	2	5	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090154	9	13.6	14.5	0.9	KELLERBERRIN - YOTING RD	South	28-Aug-08	20	2	1	1	1	0	0	0	0	1	1	0	2	4	5	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090154	10	14.5	15.1	0.6	KELLERBERRIN - YOTING RD	South	28-Aug-08	20	1	1	1	1	0	0	1	0	1	2	2	2	6	6	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090154	11	15.1	16.1	1	KELLERBERRIN - YOTING RD	South	28-Aug-08	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_RADISH WILD_OATS AFRICAN_LOVEGRASS
4090154	12	16.1	17.1	1	KELLERBERRIN - YOTING RD	South	28-Aug-08	20	1	1	1	1	0	0	0	0	1	2	2	2	5	6	WILD_RADISH WILD_OATS
4090154	13	17.1	17.85	0.75	KELLERBERRIN - YOTING RD	South	28-Aug-08	20	0	0	1	1	0	0	0	0	1	1	2	2	4	4	WILD_RADISH WILD_OATS

Key to table interpretation:

OD Start/Finish: is the odometer reading for the section start and finish points.

Direction: is the direction travelled by the surveyors when assessing the roadside.

Width: is the width of the road reserve.

The following attributes are ranked from 0 (lowest level) to 2 (highest level) as per the descriptions below.

Native Vegetation: score based on the number of native vegetation layers present (ie) tree, shrub and/or ground cover layers.

Extent of Vegetation: score is based on the proportion of native vegetation in the total roadside vegetation.

#Native Plant Species: score is based on the diversity of plants species in the roadside vegetation.

Value as Biological Corridor: score is based on the number of roadside vegetation attributes present that are important as fauna habitat.

Adjoining Landuse: score is based on the extent of native vegetation in the surrounding landscape (higher scores indicate lower levels of native vegetation in the surrounding landscape).

Weeds: score is based on level of weed infestation (higher scores indicate lower levels of weed infestation).

Appendix

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APPENDIX 3

Road names and lengths: Shire of Kellerberrin

(Source: Main Roads WA 2004)

ROAD NUMBER	ROAD NAME	ROAD LENGTH
4090001	KELLERBERRIN-SHACKELTON RD	25.78
4090003	KWOLYIN-WEST RD	15.87
4090004	KELLERBERRIN-YELBENI RD	22.54
4090005	DOODLAKINE-KUNUNOPPIN RD	30.81
4090006	BAANDEE NORTH RD	29.33
4090007	DOODLAKINE SOUTH RD	18.47
4090008	MISSION RD	32.73
4090009	ANGLE RD	13.28
4090010	GOLDFIELDS RD	41.15
4090011	BENDERINE NORTH RD	12.75
4090012	MORISON RD	17.36
4090013	KWOLYIN EAST RD	9.23
4090014	INVERARITY RD	10.5
4090015	WOOLUNDRA SOUTH RD	13.4
4090016	WOOLUNDRA NORTH RD	7.68
4090017	TOLLEY RD	3.6
4090018	BARNES RD	16.06
4090019	CAROMIN RD	3.7
4090020	BAANDEE NORTH CROSS RD	18.98
4090021	SMITH RD	7.14
4090022	BERESFORD RD	12.74
4090023	FISHER RD	7.88
4090024	FISHER WEST RD	3.68
4090025	JENNINGS RD	2.54
4090026	MCBOLT RD	9.43
4090027	WALLATIN RD	10.27
4090028	PEEL RD	1.42
4090029	ARTHUR RD	23.43
4090030	STATE FOREST RD	3.13
4090031	ARTS RD	1.48
4090032	COLE RD	4.68
4090033	BROWN RD	11.98
4090034	DUOKOPPIN RD	6.94
4090035	YORKRAKINE CEMETERY RD	6.16
4090036	NANYANINE RD	5.47
4090037	HARVEY RD	3.3
4090038	MALEY RD	3.72
4090039	MORLEY RD	4.55
4090040	DEEP WELL RD	14.84
4090041	HIGGINSON RD	3.1
4090042	YORKRAKINE ROCK RD	7.65
4090043	NALYERINE RD	5.56
4090044	BENDERINE RD	3.21
4090045	OLD YELBENI RD	5.82
4090046	MCWHIRTER RD	6.6
4090047	MCLELLAN NORTH RD	1.61
4090048	MCLELLAN RD	6.15
4090049	HANLON RD	6.2
4090050	WOOLTORTON RD	2.52
4090051	SPILLMAN RD	5.7
4090052	HEARLE RD	4.76
4090053	MINKADINE RD	9.32
4090054	PUDLYCUTTING RD	7.18
4090055	MCNEIL RD	10.09
4090056	GLENLUCE RD	18.14
4090057	GARDNER RD	6.22
4090058	EVANS RD	2.7
4090059	VICTORIA RD	7.75
4090060	BRADLEY RD	5.16

4090061	LOTON RD	1.86
4090062	NICHOLS RD	2.01
4090063	HOYLE RD	3.12
4090064	STONE GILES RD	21.76
4090065	BADGETOPPING SOUTH RD	13.83
4090066	TURON RD	0.97
4090067	SKI LAKE RD	2.35
4090068	JOHNS RD	7.06
4090069	INNES RD	11.33
4090070	LANGDON RD	13.28
4090071	FIRE RD	8.64
4090072	YERAPIN RD	6.93
4090073	SIMMS RD	5.52
4090074	YERAPIN BOUNDARY RD	4.41
4090075	MCDONNELL RD	3.57
4090076	DAADENNING CREEK RD	11.31
4090077	FORSYTH-BRAYSHER RD	7.16
4090078	PUSTKUCHEN RD	3.77
4090079	GARBIN RD	5.12
4090080	HEWITT RD	4.37
4090081	SCOTT RD	6.48
4090082	MATHER RD	18.29
4090083	MOORANOPPIN RD	2.42
4090084	NEWMAN RD	4.06
4090085	RASON ST	0.72
4090086	FORREST ST	1.01
4090087	HAMMOND ST	1.82
4090088	LEAKE ST	1.59
4090089	SCADDAN ST	1.81
4090090	JAMES ST	0.91
4090091	GREGORY ST	0.98
4090092	THORNTON AV	0.21
4090093	MCCULLOCH ST	0.33
4090094	GEORGE ST	0.72
4090095	CEMETERY ST	1.57
4090096	BATH ST	0.49
4090097	KING ST	0.54
4090098	CONNELLY ST	1.05
4090099	WILSON ST	0.98
4090100	HINCKLEY RD	0.65
4090101	SCHOOL ST	0.11
4090102	SEWELL ST	0.42
4090103	RIPPER ST	0.45
4090104	WATT ST	0.16
4090105	CHAMBERS ST	0.32
4090106	RESTDOWN ST	0.18
4090107	LEAKE ST	0.43
4090108	BARR ST	0.3
4090109	GEORGE ST	0.2
4090110	RIPPER ST	0.11
4090111	UN NAMED RD	1.25
4090112	RYAN RD	4.95
4090113	MCCLELLAND RD	4.73
4090114	HEAL RD	5.52
4090115	WILKINS RD	6.52
4090116	CORNELL CL	0.12
4090117	WALSH RD	4.2
4090118	PRICE ST	1.28
4090119	DOWDING ST	1.04
4090120	HUMPLEBY ST	0.2
4090121	BARR ST	0.05
4090122	MILL RD	0.15
4090124	DAVID CT	0.06
4090125	HANLEY PL	0.08
4090126	WEST CROSSING RD	0.1
4090127	NICHOLLS DR	0.93

4090128	NICHOLLS ST	0.09
4090129	WILDING ST	0.23
4090132	MITCHELL ST	0.5
4090133	BEDFORD ST	1.03
4090134	DOY RD	1.25
4090135	CURTIS RD	1.7
4090136	STEBER RD	2.32
4090137	PASCOE RD	1.69
4090138	CAMPBELL RD	4.67
4090139	STEVENS RD	1.47
4090142	SCUTTER RD	4.51
4090143	MELVIN RD	3.58
4090144	UN NAMED RD	1.27
4090145	UN NAMED RD	1.3
4090146	HARRISON ST	0.21
4090147	DUNCAN RD	6.84
4090148	RUBBISH TIP RD	0.68
4090149	DOODLAKINE-BRUCE ROCK RD	9.68
4090150	EAST CROSSING RD	0.22
4090151	MOORE ST	1.5
4090152	KELLERBERRIN-BENCUBBIN RD	27.89
4090153	SCOTT ST	0.4
4090154	KELLERBERRIN-YOTING RD	25.07
4090155	UNKNOWN RD	0.46
4090156	"UNKNOWN"	0.77
4090157	5 MILE TANK RD	2.23
4090158	UNKOWWN RD	0.87
4090159	NICHOLLS RD	0.52
4090160	UNKNOWN RD	1.28
4090161	MCQUEEN RD	1.67

Appendix

4

APPENDIX 4

Flora species in the Shire of Kellerberrin (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

THIS DATA HAS BEEN PROVIDED BY THE WESTERN AUSTRALIAN HERBARIUM ON 3 DECEMBER 2007

<i>Abutilon cryptopetalum</i>	<i>Acacia mimica</i> var. <i>mimica</i>
<i>Abutilon oxycarpum</i>	<i>Acacia multispicata</i>
<i>Acacia</i> ? <i>caesariata</i>	<i>Acacia neurophylla</i> subsp. <i>erugata</i>
<i>Acacia</i> ? <i>chrysella</i>	<i>Acacia neurophylla</i> subsp. <i>neurophylla</i> (Northern variant)
<i>Acacia</i> ? <i>leptopetala</i> x <i>merrickiae</i>	<i>Acacia nigripilosa</i> subsp. <i>nigripilosa</i>
<i>Acacia</i> ? <i>recurvata</i>	<i>Acacia phaeocalyx</i> P3
<i>Acacia acanthoclada</i> subsp. <i>acanthoclada</i>	<i>Acacia Plurinerves Phyllodes</i> 8-nerved, terete/flat (<i>fragilis</i> group)
<i>Acacia acoma</i>	<i>Acacia Plurinerves-Microneurae Phyllodes</i> >8-nerved, flat (<i>A.lineolata</i> group)
<i>Acacia acuaria</i>	<i>Acacia Plurinerves-Microneurae Phyllodes</i> >8-nerved, flat (Miscellaneous)
<i>Acacia acuminata</i>	<i>Acacia restiacea</i>
<i>Acacia acuminata</i> (narrow phyllode variant) ms	<i>Acacia rigens</i>
<i>Acacia aestivalis</i>	<i>Acacia rigida</i>
<i>Acacia ancistrophylla</i> var. <i>perarcuata</i> P3	<i>Acacia rossei</i>
<i>Acacia anfractuosa</i>	<i>Acacia saligna</i> subsp. <i>lindleyi</i> ms
<i>Acacia assimilis</i> subsp. <i>assimilis</i>	<i>Acacia sclerophylla</i>
<i>Acacia beauverdiana</i>	<i>Acacia sclerophylla</i> var. <i>pilosa</i> P2
<i>Acacia bidentata</i>	<i>Acacia sclerophylla</i> var. <i>teretiuscula</i> P1
<i>Acacia brachyclada</i>	<i>Acacia Sect. Phyllod.</i> (<i>bidentata</i> sens. lat.)
<i>Acacia brachyphylla</i> var. <i>brachyphylla</i>	<i>Acacia sericocarpa</i>
<i>Acacia caesariata</i> R	<i>Acacia sessilispica</i>
<i>Acacia chrysella</i>	<i>Acacia</i> sp.
<i>Acacia colletioides</i>	<i>Acacia</i> sp. narrow phyllode (B.R. Maslin 7831) PN
<i>Acacia cowaniana</i> P2	<i>Acacia</i> sp. <i>Juliflorae</i> - flat South West Region
<i>Acacia densiflora</i>	<i>Acacia stereophylla</i> var. <i>stereophylla</i>
<i>Acacia dielsii</i>	<i>Acacia subflexuosa</i> subsp. <i>capitata</i> R
<i>Acacia dissona</i> var. <i>dissona</i>	<i>Acacia torticarpa</i>
<i>Acacia enervia</i> subsp. <i>enervia</i>	<i>Acacia tratmaniana</i>
<i>Acacia erinacea</i>	<i>Acacia tratmaniana</i> (short phyllode variant)
<i>Acacia fragilis</i>	<i>Acacia ulicina</i>
<i>Acacia gibbosa</i>	<i>Acacia uncinella</i>
<i>Acacia glutinosissima</i>	<i>Acacia unifissilis</i>
<i>Acacia graniticola</i>	<i>Acacia verricula</i>
<i>Acacia hemiteles</i>	<i>Acacia yorkrakinensis</i> subsp. ? <i>acrita</i>
<i>Acacia heteroneura</i>	<i>Acacia yorkrakinensis</i> subsp. <i>acrita</i>
<i>Acacia heteroneura</i> var. <i>heteroneura</i>	<i>Acacia yorkrakinensis</i> subsp. <i>yorkrakinensis</i>
<i>Acacia heteroneura</i> var. <i>jutsonii</i>	* <i>Acetosa vesicaria</i>
<i>Acacia heteroneura</i> var. <i>prolixa</i>	<i>Actinotus superbus</i>
<i>Acacia inceana</i> subsp. <i>conformis</i>	* <i>Aira cupaniana</i>
<i>Acacia jacksonioides</i>	<i>Allocauarina acutivalvis</i>
<i>Acacia jutsonii</i>	<i>Allocauarina campestris</i>
<i>Acacia lasiocalyx</i>	<i>Allocauarina corniculata</i>
<i>Acacia lasiocarpa</i> var. <i>sedifolia</i>	<i>Allocauarina huegeliana</i>
<i>Acacia leptopetala</i>	<i>Allocauarina humilis</i>
<i>Acacia leptospermoides</i> subsp. <i>leptospermoides</i>	<i>Allocauarina microstachya</i>
<i>Acacia ligustrina</i>	<i>Allocauarina spinosissima</i>
<i>Acacia lirellata</i> subsp. <i>compressa</i> P2	<i>Alyogyne hakeifolia</i>
<i>Acacia mackeyana</i>	<i>Alyxia buxifolia</i>
<i>Acacia merinthophora</i>	<i>Amphibromus nervosus</i>
<i>Acacia merrallii</i>	
<i>Acacia merrickiae</i> P4	
<i>Acacia microbotrya</i>	

Amphipogon caricinus
Amphipogon caricinus var. *caricinus*
 **Amsinckia lycopsoides*
Amyema gibberula var. *tatei*
Amyema miraculosa subsp. *miraculosa*
 **Anagallis arvensis* var. *caerulea*
Andersonia lehmanniana
Andersonia lehmanniana subsp. *pubescens*
Angianthus sp.
Angianthus tomentosus
Anigozanthos humilis subsp. *humilis*
Anthocercis anisantha subsp. *anisantha*
Anthocercis genistoides
Anthotium rubriflorum
 **Arctotheca calendula*
Arcyria cinerea
Aristida contorta
Arthropodium ? *dyeri*
Arthropodium curvipes
Arthropodium dyeri
Astartea heteranthera
Asteridea athrixioides
Astroloma epacridis
Astroloma serratifolium
Astroloma serratifolium var. *horridulum*
Astroloma sp.
Atriplex ? *paludosa* subsp. *baudinii*
Atriplex acutibractea subsp. *karoniensis*
Atriplex bunburyana
Atriplex codonocarpa
Atriplex hymenotheca
 **Atriplex leptocarpa*
Atriplex lindleyi subsp. *inflata*
Atriplex paludosa
Atriplex paludosa subsp. *baudinii*
Atriplex semibaccata
Atriplex semilunaris
Atriplex sp.
Atriplex vesicaria
Austrodanthonia ? *acerosa*
Austrodanthonia acerosa
Austrodanthonia caespitosa
Austrodanthonia setacea
Austrodanthonia sp.
Austrodanthonia sp. *Goomalling* (A.G. Gunness et al. OAKP 10/63) PN
Austrostipa elegantissima
Austrostipa eremophila
Austrostipa flavescens
Austrostipa hemipogon
Austrostipa nitida
Austrostipa scabra
Austrostipa scabra subsp. *scabra*
Austrostipa sp.
Austrostipa sp. WYCH14/26
Austrostipa sp. WYCH19H
Austrostipa tenuifolia
Austrostipa trichophylla
Austrostipa variabilis
 * *Avena barbata*
 * *Avena fatua*
Badhamia sp.
Baeckea crispiflora
Baeckea megaflorea ms
Baeckea rosea ms
Baeckea sp. fine-leaved (C.M. Lewis 517) PN
Baeckea sp. Kellerberrin (C.A. Gardner s.n. PERTH 03351009) PN **P1**
Baeckea sp. Tammin (R. Coveny 8319 & B. Habberley) PN **P3**
Baeckea sp. Wildflower Show (?A.M. Coates S 4407) PN
Baeckea sp. Yorkrakine (C.A. Gardner s.n. September 1933) PN
Baeckea tenuiramea
Barbula calycina
Beaufortia bracteosa
Beaufortia interstans
Billardiera coriacea
Blennospora drummondii
Boletus marginatus
Boletus sp.
Boronia adamsiana **R**
Boronia coerulescens
Boronia coerulescens subsp. *spinescens*
Boronia crenulata
Borya constricta
Borya sphaerocephala
Bossiaea eriocarpa
Bossiaea smithiorum
Brachyloma tamminense ms
Brachyscome ciliaris
Brachyscome iberidifolia
Brachyscome perpussilla
Brachyscome pusilla
 * *Brassica tournefortii*
 * *Briza maxima*
 * *Bromus rubens*
Brunonia australis
Bulbine semibarbata
Caesia micrantha
Caladenia denticulata
Caladenia dimidia
Caladenia falcata
Caladenia footeana
Caladenia hirta subsp. *rosea*
Caladenia longicauda
Caladenia multiclavia
Caladenia radialis
Caladenia roei
Caladenia varians subsp. *pendens* ms
Calandrinia calyptrata
Calandrinia eremaea
Calandrinia granulifera
Calandrinia sp. Blackberry (D.M. Porter 171) PN
Callistemon phoeniceus
Callitris canescens
Calostoma sp.
Calothamnus gilesii
Calothamnus quadrifidus
Calothamnus quadrifidus var. (H. Demarz 989)
Calotis hispidula
Calytrix depressa
Calytrix leschenaultii
Calytrix sapphirina

Calytrix strigosa
Calytrix violacea
 **Carrichtera annua*
Cassythya melantha
 **Cenchrus echinatus*
 **Centaurea melitensis*
Ceratogyne obionoides
Chamaescilla corymbosa var. *corymbosa*
Chamaexeros fimbriata
Chamelaucium aff. *pauciflorum*
Chamelaucium brevifolium
Chamelaucium ciliatum
Chamelaucium drummondii subsp. *hallii* ms
Cheilanthes sieberi subsp. *sieberi*
Cheiranthra filifolia
Chenopodium pumilio
Chenopodium x christii
Chorizema racemosum
Chorizema rhynchotropis
Chthonocephalus pseudevax
 **Cirsium vulgare*
 **Cleretum papulosum*
 **Cleretum papulosum* subsp. *papulosum*
Collaria aff. *elegans*
Comatricha ellae
Comesperma ciliatum
Comesperma drummondii
Comesperma integerrimum
Comesperma scoparium
Comesperma volubile
Conospermum brownii
Conospermum canaliculatum subsp. *canaliculatum*
Conospermum cinereum
Conospermum eatoniae **P3**
Conospermum ephedroides
Conospermum galeatum **P1**
Conospermum stoechadis
Conospermum stoechadis subsp. *stoechadis*
Conostylis petrophiloides
Conostylis teretifolia subsp. *teretifolia*
Cooperookia strophiolata
Cortinarius sp.
 **Cotula bipinnata*
Crassula closiana
Crassula colorata var. *acuminata*
Crassula colorata var. *colorata*
Crassula decumbens var. *decumbens*
Crassula extrorsa
 **Crassula natans* var. *minus*
Cribraria sp.
Croninia kingiana
Cryptandra ? pungens
Cryptandra apetala var. *anomala*
Cryptandra dielsii ms **P3**
Cryptandra leucopogon
Cryptandra myriantha
Cryptandra pungens
Cryptandra sp.
Cryptandra sp. Beverley (M. Ochtman & D. Lynch 48) PN
Cryptandra sp. Morawa (F. Keast M1C 253) PN
Cyanicula gemmata
Cyanostegia angustifolia

Cyphanthera microphylla
Cyphanthera racemosa
Dampiera eriocephala
Dampiera haematotricha subsp. *dura*
Dampiera incana var. *incana*
Dampiera juncea
Dampiera lavandulacea
Dampiera sacculata
Dampiera tomentosa
Dampiera wellsiana
Daucus glochidiatus
Daviesia articulata
Daviesia benthamii subsp. *benthamii*
Daviesia hakeoides subsp. *hakeoides*
Daviesia hakeoides subsp. *subnuda*
Daviesia nematophylla
Daviesia nudiflora subsp. *drummondii*
Daviesia nudiflora subsp. *nudiflora*
Daviesia oxylobium **P4**
Daviesia pachyloma
Desmocladius asper
Dianella revoluta
Dianella revoluta var. *divaricata*
Dichopogon ? preissii
Dichopogon capillipes
Dichopogon fimbriatus
Dicrastylis globiflora
Dicrastylis reticulata **P3**
Dicrastylis rugosifolia
Dicrastylis velutina **P3**
Didymanthus roei
Diplolaena velutina
Diploschistes thunbergianus
Disphyma crassifolium
Disphyma crassifolium subsp. *clavellatum*
Diuris aff. *corymbosa*
Diuris aff. *recurva*
Diuris porrifolia
Dodonaea adenophora
Dodonaea bursariifolia
Dodonaea caespitosa
Dodonaea divaricata
Dodonaea inaequifolia
Dodonaea lobulata
Dodonaea pinifolia
Dodonaea sp.
Dodonaea stenozyga
Dodonaea viscosa
Dodonaea viscosa subsp. *angustissima*
Dodonaea viscosa subsp. *spatulata* / *angustissima*
Drosera glanduligera
Drosera leucoblata
Drosera macrantha
Drosera macrantha subsp. *macrantha*
Drosera menziesii subsp. *basifolia*
Drosera menziesii subsp. *menziesii*
Drosera subhirtella
Dryandra armata
Dryandra conferta var. *conferta*
Dryandra fraseri var. *fraseri*
Dryandra purdieana
Dryandra vestita

Ecdeiocolea monostachya
Echinostelium apitectum
Echinostelium minutum
Echinostelium sp.
 * *Echium plantagineum*
 * *Ehrharta longiflora*
Enchylaena lanata
Enchylaena sp.
Enchylaena tomentosa
 * *Eragrostis cilianensis*
Eragrostis dielsii
 * *Eragrostis minor*
Eremaea ? *brevifolia*
Eremaea pauciflora
Eremaea pauciflora var. *pauciflora*
Eremophila brevifolia **P2**
Eremophila decipiens
Eremophila decipiens subsp. *decipiens*
Eremophila deserti
Eremophila drummondii
Eremophila glabra subsp. *elegans*
Eremophila glabra subsp. *tomentosa*
Eremophila ionantha
Eremophila lehmanniana
Eremophila oppositifolia
Eremophila oppositifolia subsp. *angustifolia*
Eremophila scoparia
Eremophila subfloccosa subsp. *subfloccosa*
Eremophila viscida **R**
Eriachne ovata
Eriochilus dilatatus subsp. *undulatus*
Eriochiton sclerolaenoides
 * *Erodium aureum*
 * *Erodium botrys*
Erodium cygnorum
Erymophyllum tenellum
Eryngium pinnatifidum
Eucalyptus ? *salubris*
Eucalyptus aequioperta
Eucalyptus aff. *capillosa*
Eucalyptus aff. *salicola*
Eucalyptus burracoppinensis
Eucalyptus burracoppinensis / *oldfieldii*
Eucalyptus caesia
Eucalyptus caesia subsp. *caesia* **P4**
Eucalyptus caesia subsp. *magna* **P4**
Eucalyptus calycogona subsp. *calycogona*
Eucalyptus capillosa
Eucalyptus capillosa subsp. *capillosa*
Eucalyptus celastroides
Eucalyptus celastroides subsp. *celastroides*
Eucalyptus celastroides subsp. *celastroides* / *virella*
Eucalyptus celastroides subsp. *virella*
Eucalyptus crucis subsp. *lanceolata*
Eucalyptus drummondii
Eucalyptus erythronema
Eucalyptus erythronema var. *erythronema*
Eucalyptus flocktoniae subsp. *flocktoniae*
Eucalyptus horistes
Eucalyptus incrassata
Eucalyptus kochii subsp. *plenissima*
Eucalyptus leptophylla var. *floribunda*
Eucalyptus leptopoda subsp. *arctata*
Eucalyptus leptopoda subsp. *leptopoda*
Eucalyptus longicornis
Eucalyptus loxophleba
Eucalyptus loxophleba subsp. *lissophloia*
Eucalyptus loxophleba subsp. *loxophleba*
Eucalyptus melanoxydon
Eucalyptus moderata
Eucalyptus myriadena
Eucalyptus myriadena subsp. *myriadena*
Eucalyptus obtusiflora
Eucalyptus obtusiflora / *wubinensis*
Eucalyptus obtusiflora subsp. *cowcowensis*
Eucalyptus oldfieldii
Eucalyptus phenax
Eucalyptus pluricaulis subsp. *pluricaulis*
Eucalyptus rigidula
Eucalyptus salicola
Eucalyptus salmonophloia
Eucalyptus salubris
Eucalyptus sargentii
Eucalyptus sheathiana
Eucalyptus sheathiana / *wubinensis*
Eucalyptus sp.
Eucalyptus sporadica
Eucalyptus stowardii
Eucalyptus subangusta subsp. *subangusta*
Eucalyptus tenera
Eucalyptus wandoo subsp. *wandoo*
Eucalyptus yilgarnensis
Euphorbia drummondii subsp. *drummondii*
 * *Euphorbia marginata*
Eutaxia leptophylla
Eutaxia neurocalyx subsp. *neurocalyx* ms
Eutaxia parvifolia
Exocarpos aphyllus
Exocarpos sparteus
Frankenia aff. *parvula*
Frankenia glomerata **P3**
 * *Frankenia pulverulenta*
Frankenia sp.
 * *Fumaria muralis*
Fusarium graminearum
Fusarium sp.
Gaeumannomyces graminis
Gaeumannomyces graminis var. *tritici*
Gahnia drummondii
Gahnia sp.
Galerina unicolor
Gastrolobium aff. *obovatum*
Gastrolobium bennettsianum
Gastrolobium callistachys **P4**
Gastrolobium obovatum
Gastrolobium parviflorum
Gastrolobium parvifolium
Gastrolobium spathulatum
Gastrolobium spinosum
Gastrolobium stowardii
Gastrolobium tenue **P1**
Gastrolobium trilobum
Gilberta tenuifolia
Glischrocaryon aureum

Glischrocaryon flavescens
Glossostigma drummondii
Gnephosis drummondii
Gnephosis tenuissima
**Gomphocarpus fruticosus*
Gompholobium obcordatum
Gonocarpus intricatus P4
Gonocarpus nodulosus
Goodenia berardiana
Goodenia coerulea
Goodenia helmsii
Goodenia occidentalis
Goodenia pusilliflora
Goodenia sp.
Goodenia tripartita
Gratiola pubescens
Grevillea acuaria
Grevillea cagiana
Grevillea didymobotrya
Grevillea didymobotrya subsp. didymobotrya
Grevillea disjuncta
Grevillea dryandroides subsp. hirsuta R
Grevillea eryngioides
Grevillea excelsior
Grevillea hakeoides subsp. stenophylla
Grevillea haplantha subsp. haplantha
Grevillea haplantha subsp. recedens P3
Grevillea hookeriana
Grevillea hookeriana subsp. apiculoba
Grevillea hookeriana subsp. hookeriana
Grevillea huegelii
Grevillea integrifolia
Grevillea oligomera
Grevillea paniculata
Grevillea paradoxa
Grevillea petrophiloides
Grevillea petrophiloides subsp. magnifica
Grevillea petrophiloides subsp. petrophiloides
Grevillea polybotrya
Grevillea pterosperma
Grevillea shuttleworthiana subsp. shuttleworthiana
Grevillea umbellulata
Grevillea uncinulata
Grevillea yorkakinensis
Grimmia laevigata
Guichenotia angustifolia
Guichenotia impudica P3
Guichenotia macrantha
Guichenotia micrantha
Guichenotia sarotes
Guichenotia seorsiflora R
Haemodorum discolor
Hakea circumalata
Hakea cygna subsp. cygna
Hakea erecta
Hakea francisiana
Hakea gilbertii
Hakea incrassata
Hakea invaginata
Hakea invaginata var. invaginata
Hakea lissocarpha
Hakea meisneriana
Hakea multilineata
Hakea preissii
Hakea recurva
Hakea recurva subsp. recurva
Hakea scoparia subsp. scoparia
Halgania anagalloides
Halgania lavandulacea
Halosarcia halocnemoides
Halosarcia indica subsp. bidens
Halosarcia lepidosperma
Halosarcia pergranulata subsp. pergranulata
Hannafordia bissillii subsp. latifolia
Hannafordia quadrivalvis subsp. quadrivalvis
Helichrysum leucopsidium
Hemigenia dielsii
Hemigenia sp. Sticky Terete (B.H. Smith 449) PN
Hibbertia aff. exasperata
Hibbertia aff. rostellata
Hibbertia eatoniae
Hibbertia exasperata
Hibbertia glomerosa
Hibbertia glomerosa var. glomerosa
Hibbertia gracilipes
Hibbertia rostellata
Hibbertia rupicola
Hibbertia sp.
Hibbertia stowardii
**Hordeum glaucum*
Hyalosperma demissum
Hyalosperma glutinosum subsp. glutinosum
Hybanthus epacroides
Hybanthus floribundus
Hybanthus floribundus subsp. floribundus
Hydrocotyle alata
Hydrocotyle callicarpa
Hydrocotyle pilifera var. glabrata
Hydrocotyle rugulosa
Hypericum gramineum
Hypocalymma puniceum
**Hypochaeris glabra*
Inocybe sp.
Isoetopsis graminifolia
Isopogon divergens
Isopogon scabriusculus subsp. scabriusculus
Isotoma hypocrateriformis
Isotoma petraea
Isotropis cuneifolia
Isotropis drummondii
Isotropis juncea
Jacksonia racemosa
Jacksonia rubra ms P2
Juncus aridicola
Juncus pauciflorus
Juncus radula
Kennedia prorepens
Keraudrenia hermanniifolia
Keraudrenia velutina subsp. velutina
Kunzea pulchella
Labichea lanceolata subsp. brevifolia
Lachnostachys eriobotrya
Lasiopetalum floribundum
Lasiopetalum molle subsp. molle

Lasiopetalum sp.
Lawrencella rosea
Lawrencia berthae
Lechenaultia formosa
Lechenaultia laricina **R**
Lechenaultia tubiflora
Leiocarpa semicalva subsp. *semicalva*
**Leontodon taraxacoides* subsp. *taraxacoides*
Lepidium rotundum
Lepidobolus preissianus
Lepidobolus preissianus subsp. *volubilis*
Lepidobolus sp.
Lepidoderma cf. *tigrinum*
Lepidosperma ? *tuberculatum*
Lepidosperma aff. *costale*
Lepidosperma costale
Lepidosperma drummondii
Lepidosperma resinosum
Lepidosperma sp.
Lepidosperma sp. A2 Island Flat (G.J. Keighery 7000) PN
Lepidosperma tenue
Leptomeria pauciflora
Leptomeria preissiana
Leptosema daviesioides
Leptospermum erubescens
Leptospermum fastigiatum
Leptospermum nitens
Leptospermum roei
Leucopogon aff. *conostephioides*
Leucopogon amplexans **P2**
Leucopogon assimilis
Leucopogon conostephioides
Leucopogon dielsianus
Leucopogon hamulosus
Leucopogon obtusatus
Leucopogon planifolius
Leucopogon sp. Avon (J. Buegge D34) PN
Leucopogon sp. Bungulla (R.D. Royce 3435) PN **P2**
Leucopogon sulcatus *ms*
Levenhookia stipitata
Licea kleistobolus
Licea operculata
Licea pygmaea
Licea sp.
Lobelia winfridae
Logania tortuosa
**Lolium rigidum*
Lomandra collina
Lomandra effusa
Lotus cruentus
Lycium australe
Lysinema ciliatum
Lysiosepalum hexandrum
Lysiosepalum rugosum
**Lythrum hyssopifolia*
Maireana brevifolia
Maireana carnosa
Maireana diffusa
Maireana georgei
Maireana marginata
Maireana trichoptera
Maireana triptera

Malleostemon roseus
Marianthus bicolor
Marianthus erubescens
**Medicago minima*
**Medicago truncatula*
Melaleuca acuminata
Melaleuca acuminata subsp. *acuminata*
Melaleuca adnata
Melaleuca atroviridis
Melaleuca calyptroides
Melaleuca carrii
Melaleuca cf. *leptospermoides*
Melaleuca cf. *manglesii*
Melaleuca conothamnoides
Melaleuca cordata
Melaleuca coronicarpa
Melaleuca ctenoides
Melaleuca eleuterostachya
Melaleuca fulgens
Melaleuca fulgens subsp. *fulgens*
Melaleuca halmaturorum
Melaleuca hamata
Melaleuca hamulosa
Melaleuca haplantha
Melaleuca lanceolata
Melaleuca lateriflora subsp. *lateriflora*
Melaleuca laxiflora
Melaleuca leptospermoides
Melaleuca macronychia subsp. *macronychia*
Melaleuca manglesii **P1**
Melaleuca parviceps
Melaleuca pauperiflora
Melaleuca pauperiflora subsp. *fastigiata*
Melaleuca platycalyx
Melaleuca radula
Melaleuca scalena
Melaleuca sp.
Melaleuca spicigera
Melaleuca uncinata
Melaleuca villosisepala
**Mesembryanthemum crystallinum*
**Mesembryanthemum nodiflorum*
Mesomelaena preissii
Microcorys ericifolia
Microcorys sp. *stellate* (A. Strid 21885) PN
Micromyrtus obovata
Micromyrtus racemosa var. *racemosa* *ms*
Millotia tenuifolia var. *tenuifolia*
Mirbelia multicaulis
Mirbelia ramulosa
Mirbelia spinosa
Mirbelia trichocalyx
Monachather paradoxus
**Monoculus monstrosus*
Monotaxis bracteata
Monotaxis grandiflora var. *grandiflora*
**Moraea setifolia*
Muehlenbeckia adpressa
Mycena sp.
Mycosphaerella graminicola
Neurachne alopecuroidea
Nicotiana rosulata subsp. *rosulata*

Nicotiana rotundifolia
Nuytsia floribunda
Olearia dampieri subsp. *eremicola* ms
Olearia muelleri
Olearia rudis
Omphalotus nidiformis
**Oncosiphon suffruticosum*
Opercularia spermacocea
Opercularia vaginata
Osteospermum hyoseroides
Oxalis perennans
**Papaver hybridum*
**Parentucellia latifolia*
Parietaria cardiostegia
Patersonia drummondii subsp. *drummondii* ms
Patersonia drummondii subsp. Northern (R.D. Royce UWA 777) PN
Pelargonium havlasae
Peltigera sp.
**Pentaschistis airoides* subsp. *airoides*
Perichaena corticalis
Perichaena liceoides
Persoonia coriacea
Persoonia pungens **P3**
Persoonia quinquenervis
Persoonia saundersiana
Persoonia trinervis
Petrophile brevifolia
Petrophile circinata
Petrophile ericifolia subsp. *subpubescens*
Petrophile seminuda
**Petrorhagia dubia*
Petula sp.
Phaeomarasmium sp.
Phebalium ambiguum
Phebalium filifolium
Phebalium sp.
Phebalium tuberculatum
Philotheca deserti subsp. *deserti*
Philotheca thryptomenoides
Phlebopus marginatus
Phyllangium sulcatum
Physopsis spicata
Pileanthus peduncularis
Pimelea aeruginosa
Pimelea angustifolia
Pimelea argentea
Pimelea brevifolia subsp. *modesta*
Pimelea brevistyla subsp. *minor*
Pimelea imbricata var. *piligera*
Pisolithus sp.
Pittosporum angustifolium
Pityrodia teckiana
Pityrodia terminalis
Plantago debilis
Platysace maxwellii
Platysace trachymenioides
Podolepis canescens
Podolepis capillaris
Podolepis lessonii
Podolepis tepperi
Podotrocha angustifolia
Podotrocha gnaphalioides
Pogonolepis muelleriana
Pogonolepis sp.
Polianthion wichurae
**Polygonum aviculare*
**Polypogon monspeliensis*
Poranthera microphylla
Potamogeton drummondii
Prasophyllum gracile
Prostanthera canaliculata
Pterostylis sanguinea
Pterostylis sargentii
Ptilotus declinatus
Ptilotus divaricatus var. *divaricatus*
Ptilotus drummondii
Ptilotus fasciculatus **R**
Ptilotus gaudichaudii var. *parviflorus*
Ptilotus holosericeus
Ptilotus polystachyus
Ptilotus polystachyus var. *polystachyus*
Ptilotus spathulatus
Ptilotus spathulatus forma *spathulatus*
Pycnopus coccineus
Ramaria sp.
**Reseda luteola*
Rhagodia drummondii
Rhagodia preissii
Rhagodia preissii subsp. *preissii*
Rhodanthe chlorocephala subsp. *rosea*
Rhodanthe citrina
Rhodanthe laevis
Rhodanthe manglesii
Rhodanthe pygmaea
Rhodanthe rubella
Rhodanthe spicata
Ricinocarpos muricatus
Ricinocarpos tuberculatus
Rickenella fibula
Roycea pycnophylloides **R**
Roycea spinescens
Rulingia luteiflora
Ruppia polycarpa
Russula sp.
Salsola australis
Santalum acuminatum
Santalum spicatum
Scaevola hamiltonii
Scaevola restiacea
Scaevola restiacea subsp. *restiacea*
Scaevola sp.
Scaevola spinescens
Scaevola tortuosa **P1**
Schizaea fistulosa
Schoenia cassiniana
Schoenia filifolia subsp. *filifolia*
Schoenus brevisetis vel sp. aff.
Schoenus calcatus
Schoenus clandestinus
Schoenus hexandrus
Schoenus nanus
Schoenus sp.
Schoenus sp. smooth culms (K.R. Newbey 7823) PN

Schoenus subflavus subsp. *subflavus*
Scholtzia aff. *capitata*
Scholtzia drummondii
Scholtzia sp.
Sclerolaena diacantha
Sclerolaena eurotioides
Sclerolaena parviflora
Sclerophthora macrospora
Senecio glossanthus
Senna artemisioides
Senna artemisioides subsp. *filifolia*
Senna artemisioides subsp. *x artemisioides*
Sida calyxhymeria
Siloxerus multiflorus
**Silybum marianum*
Solanum ellipticum
Solanum hoplopetalum
Solanum lasiophyllum
Solanum plicatile
Solanum simile
Spartochloa scirpoidea
Stachystemon brachyphyllum
Stackhousia monogyna
Stackhousia muricata
Stemonitopsis aff. *amoena*
Stenanthemum intricatum
Stenanthemum pomaderroides
Stenanthemum tridentatum
Stylidium ? neglectum
Stylidium adpressum
Stylidium dichotomum
Stylidium dielsianum
Stylidium ecorne
Stylidium eriopodum
Stylidium leptophyllum
Stylidium merrallii **R**
Stylidium nungarinense
Stylidium obtusatum
Stylidium obtusatum var. *obtusatum*
Stylidium petiolare
Stylidium piliferum
Stylidium yilgarnense
Stylobasium australe
Stypandra glauca
Swainsona colutoides
Synaphea constricta **P3**
Synaphea interioris
Synaphea spinulosa subsp. *major*
Templetonia aculeata
Templetonia smithiana
Templetonia sp.
Templetonia sulcata
Tetratea deltoidea **R**
Teucrium sessiliflorum
Thaxterogaster sebosus
Thelymitra antennifera
Thelymitra petrophila ms
Thelymitra sargentii
Thomasia rugosa
Thomasia sarotes
Thryptomene racemulosa
Thysanotus manglesianus
Thysanotus patersonii
Thysanotus rectantherus
Thysanotus sp.
Thysanotus speckii
Thysanotus tenuis **P3**
Torrendia grandis **P2**
Torrendia inculta **P2**
Trachymene cyanopetala
Trachymene ornata
Tribonanthes longipetala
**Tribulus terrestris*
Tricoryne tenella
Triglochin sp. A Flora of Australia (G.J. Keighery 2477) PN
Tripterococcus brunonis
Trymalium daphnifolium
Tubaria serrulata
Tylopilus sp.
Urocystis tritici
Urodon dasyphyllum
Uromycladium tepperianum
**Ursinia anthemoides*
Velleia cycnopotamica
Velleia discophora
Verticordia acerosa var. *preissii*
Verticordia brachypoda
Verticordia chrysantha
Verticordia chrysanthella
Verticordia densiflora var. *cespitosa*
Verticordia densiflora var. *densiflora*
Verticordia eriocephala
Verticordia inclusa
Verticordia pennigera
Verticordia picta
Verticordia pritzelii
Vittadinia gracilis
Vittadinia sp.
Volvariella sp.
**Vulpia myuros*
Vulpia myuros var. *hirsuta*
**Vulpia myuros* var. *myuros*
Wahlenbergia gracilentata
Wahlenbergia preissii
Wahlenbergia sp.
Waitzia acuminata
Waitzia acuminata var. *acuminata*
Waitzia nitida
Waitzia podolepis
Waitzia suaveolens var. *suaveolens*
Westringia cephalantha
Westringia discipulorum
Westringia rigida
Willkommangea reticulata
Wilsonia humilis
Wurmbea graniticola
Wurmbea tenella
Xanthoparmelia reptans
Xanthorrhoea nana
Xylomelum angustifolium
**Zaluzianskya divaricata*
Zygophyllum apiculatum
Zygophyllum eremaeum
Zygophyllum ovatu

Appendix

5

APPENDIX 5

Fauna species in the Shire of Kellerberrin (Source: W.A Museum, 2003)

Information provided by Western Australian Museum, Fauna Base, latitude/longitude coordinates:

-31.333, 117.560 and -31.828, 118.032

Note: not a comprehensive list.

* represents an introduced species.

BIRD SPECIES		
Acanthizidae	<i>Acanthiza uropygialis</i> <i>Pyrrholaemus brunneus</i> <i>Smicrornis brevirostris</i>	Chestnut-tailed Thornbill Weebill
Accipitridae	<i>Hamirostra isura</i>	Square-tailed Kite
Aegothelidae	<i>Aegotheles cristatus</i> <i>Aegotheles cristatus cristatus</i>	Australian Owlet Nightjar
Ardeidae	<i>Ixobrychus minutus dubius</i>	
Artamidae	<i>Artamus cinereus</i> <i>Artamus cinereus melanops</i>	Black-faced Woodswallow
Charadriidae	<i>Charadrius rubricollis</i>	Hooded Plover
Climacteridae	<i>Climacteris rufa</i>	Rufous Treecreeper
Cracticidae	<i>Cracticus tibicen dorsalis</i>	Australian Magpie
Cuculidae	<i>Cuculus pallidus</i>	Pallid Cuckoo
Dicruridae	<i>Rhipidura fuliginosa preissi</i>	
Falconidae	<i>Falco peregrinus</i>	Peregrine Falcon
Halcyonidae	<i>Dacelo novaeguineae</i> <i>Todiramphus sanctus sanctus</i>	Laughing Kookaburra Sacred Kingfisher
Maluridae	<i>Malurus pulcherrimus</i>	Blue-breasted Fairy-wren
Megapodiidae	<i>Leipoa ocellata</i>	Mallee Fowl
Meliphagidae	<i>Anthochaera carunculata</i> <i>Lichenostomus ornatus</i> <i>Lichenostomus virescens</i> <i>Manorina flavigula</i> <i>Melithreptus brevirostris leucogenys</i> <i>Phylidonyris melanops</i>	Red Wattlebird Yellow-plumed Honeyeater Singing Honeyeater White-rumped Miner Tawny-crowned Honeyeater
Neosittidae	<i>Daphoenositta chrysoptera</i> <i>Daphoenositta chrysoptera pileata</i>	Sittella
Pachycephalidae	<i>Colluricincla harmonica rufiventris</i> <i>Falcunculus frontatus</i> <i>Oreoica gutturalis</i>	Shriketit Crested Bellbird

Pardalotidae	<i>Pardalotus striatus</i> <i>Pardalotus striatus westraliensis</i>	
Petroicidae	<i>Drymodes brunneopygia</i> <i>Eopsaltria australis griseogularis</i> <i>Microeca fascinans assimilis</i> <i>Petroica cucullata</i>	Southern Scrub-robin Western Yellow Robin Hooded Robin
Podargidae	<i>Podargus strigoides brachypterus</i>	
Pomatostomidae	<i>Pomatostomus superciliosus</i>	White-browed Babbler
Psittacidae	<i>Calyptorhynchus latirostris</i> <i>Glossopsitta porphyrocephala</i> <i>Neophema elegans</i> <i>Platycercus icterotis</i> <i>Platycercus zonarius</i> <i>Platycercus zonarius zonarius</i> <i>Polytelis anthopeplus anthopeplus</i>	Carnaby's Cockatoo Purple-crowned Lorikeet Elegant Parrot Western Rosella Australian Ringneck Regent Parrot
Strigidae	<i>Ninox novaeseelandiae</i>	Boobook Owl
Turnicidae	<i>Turnix varia varia</i>	Painted Bustard-Quail
Tytonidae	<i>Tyto alba</i> <i>Tyto alba delicatula</i>	Barn Owl

MAMMAL SPECIES

Burramyidae	<i>Cercartetus concinnus</i>	Western Pygmy-possum, Mundarda
Dasyuridae	<i>Sminthopsis crassicaudata</i> <i>Sminthopsis dolichura</i>	Fat-tailed dunnart Little Long-tailed Dunnart
Equidae	<i>Equus caballus</i> *	Horse
Leporidae	<i>Oryctolagus cuniculus</i> *	Rabbit
Macropodidae	<i>Macropus fuliginosus</i> <i>Macropus robustus erubescens</i> <i>Petrogale lateralis lateralis</i>	Western Grey Kangaroo Black-footed Rock-wallaby
Molossidae	<i>Tadarida australis</i>	White-striped Freetail-bat
Muridae	<i>Mus musculus</i> * <i>Pseudomys albocinerus</i> <i>Rattus rattus</i> *	House Mouse Ash-grey Mouse Black Rat
Myrmecobiidae	<i>Myrmecobius fasciatus</i>	Numbat
Phalangeridae	<i>Trichosurus vulpecula vulpecula</i>	Common Brushtail Possum
Tachyglossidae	<i>Tachyglossus aculeatus</i>	Short-beaked Echidna
Thylacomyidae	<i>Macrotis lagotis</i>	Bilby
Vespertilionidae	<i>Chalinolobus gouldii</i> <i>Chalinolobus morio</i> <i>Nyctophilus geoffroyi</i> <i>Nyctophilus timoriensis timoriensis</i> <i>Vespadelus regulus</i>	Gould's wattled bat Chocolate Wattled Bat Lesser long-eared bat Greater Long-eared Bat Southern Forest Bat

REPTILE SPECIES		
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Agamidae	<i>Ctenophorus cristatus</i>	Crested Bicycle Dragon
	<i>Ctenophorus maculatus griseus</i>	
	<i>Ctenophorus ornatus</i>	Ornate Rock Dragon
	<i>Ctenophorus reticulatus</i>	Western Netted Dragon
	<i>Moloch horridus</i>	Thorny Devil
	<i>Pogona minor minor</i>	Western Bearded Dragon
Boidae	<i>Antaresia stimsoni stimsoni</i>	Western Stimson's Python
	<i>Aspidites ramsayi</i>	Ramsay's python or woma
	<i>Morelia spilota imbricate</i>	Southern Carpet Python
Elapidae	<i>Brachyuropsis semifasciata</i>	Southern shovel-nosed snake
	<i>Demansia psammophis reticulata</i>	
	<i>Parasuta gouldii</i>	Gould's snake
	<i>Pseudechis australis</i>	Mulga Snake
	<i>Pseudonaja modesta</i>	Ringed Brown Snake
	<i>Pseudonaja nuchalis</i>	Gwardar
	<i>Simoselaps bertholdi</i>	Jan's banded snake
Gekkonidae	<i>Crenadactylus ocellatus ocellatus</i>	Clawless Gecko
	<i>Diplodactylus granariensis granariensis</i>	Wheatbelt Stone Gecko
	<i>Diplodactylus maini</i>	Main's Ground Gecko
	<i>Diplodactylus pulcher</i>	Beautiful Gecko
	<i>Gehyra variegata</i>	Variegated Tree Dtella
	<i>Heteronotia binoei</i>	Bynoe's Gecko
	<i>Oedura reticulata</i>	Reticulated Velvet Gecko
	<i>Strophurus spinigerus inornatus</i>	
	<i>Underwoodisaurus milii</i>	Barking Gecko
Pygopodidae	<i>Delma australis</i>	Marbled-faced Delma
	<i>Delma fraseri fraseri</i>	Fraser's Legless Lizard
	<i>Delma grayii</i>	Side-barred Delma
	<i>Lialis burtonis</i>	Burton's Legless Lizard
	<i>Pygopus lepidopodus</i>	Common Scaly-foot
Scincidae	<i>Cryptoblepharus plagiocephalus</i>	Fence or Wall Skink
	<i>Ctenotus pantherinus pantherinus</i>	Leopard Skink
	<i>Ctenotus schomburgkii</i>	
	<i>Egernia stokesii badia</i>	Western Spiny-tailed Skink
	<i>Lerista distinguenda</i>	
	<i>Lerista macropisthopus macropisthopus</i>	
	<i>Lerista muelleri</i>	
	<i>Menetia greyii</i>	Common Dwarf Skink
	<i>Morethia lineoocellata</i>	
<i>Morethia obscura</i>	Woodland Flecked Skink	
Typhlopidae	<i>Tiliqua occipitalis</i>	Western Bluetongue
	<i>Tiliqua rugosa rugosa</i>	Southwestern Bobtail
Typhlopidae	<i>Ramphotyphlops australis</i>	
	<i>Ramphotyphlops hamatus</i>	
	<i>Ramphotyphlops waitii</i>	
Varanidae	<i>Varanus gouldii</i>	Gould's Sand Monitor
	<i>Varanus tristis tristis</i>	Black-headed Monitor

AMPHIBIA SPECIES

Myobatrachidae

Crinia pseudinsignifera
Heleioporus albopunctatus
Myobatrachus gouldii
Neobatrachus kunapalari
Neobatrachus pelobatoides
Pseudophryne guentheri

Bleating Froglet
Western Spotted Frog
Turtle Frog
Kunapalari Frog or Wheatbelt Frog
Humming Frog
Crawling Frog, Günther's Toadlet

Appendix

6



ROADSIDE CONSERVATION COMMITTEE

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

Introduction

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 include material for making didgeridoos, other types of craft wood, and stakes or poles for various purposes.

The implementation of these simple guidelines by road managers for the removal of flora and timber material from the roadsides will ensure that the vegetated roadside reserve is 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 means that a person can 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, such as those approved under the *Environmental Protection (Clearing of Native vegetation) Regulations 2004*. 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

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

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 road manager 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, potentially providing a significant financial boost to local economies. Wildflower harvesting in many instances detracts from the biodiversity and tourism values of the roadside and should therefore be discouraged.

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. However, 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 and has a smaller impact on biodiversity. 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. Road managers have been discouraged from supporting or allowing such harvesting to occur, but 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 one of few sources of such seed.

Seed production is an important component of remnant vegetation. Some species, called re-seeder species, regrow only from seed 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 continuity 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 managing 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 craft wood. Due to the ease of access, timber harvesters may wish to source timber from roadside vegetation for these purposes.

Roadside managers are encouraged to retain timber on roadsides as an important component of the natural habitat, which fulfils ecological, aesthetic and land management functions. Fallen logs and branches within the roadside create 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 recommends 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 or the RCC.
- 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 Environmentally Sensitive Areas defined in the *Environmental Protection (Clearing of Native vegetation) Regulations 2004*.
- 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



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 highlight areas of high conservation flora as a tourist asset to local communities. These 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;
 - harbours rare or endangered plants in the roadside;
 - may provide nest sites and refuges for native animals; and
 - 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, Local Government Authority, and the road manager (MRWA, Local Government or CALM);
- 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; and
- threats such as weeds, disturbances, etc.

This information is stored in the RCC Flora Roads Register, a database that 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.

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 provides 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; and
- where rehabilitation is contemplated, local native species should always 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:

Survey of Roadside Conservation Values in the Shire of Kellerberrin

- 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. The RCC has established links with the W.A. Tourism Commission for inclusion on wildflower tourist publications.

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 establishes a *Register of Roads Important for Conservation* also. This register should be consulted prior to any works being initiated in the area.