

Roadside Vegetation and Conservation Values in the Shire of Trayning



August 2006

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

Aware of the need to conserve roadside remnants, the Shire of Trayning and Trayning Landcare liaised with the Roadside Conservation Committee (RCC) in 2004 to survey roadsides in their Shire. Surveys to assess the conservation values of roadside remnants were conducted throughout July to August 2004 and May 2005. The majority, 92%, of the Shire's 775km of roadsides were assessed by the RCC for their conservation status and maps were produced via a Geographic Information System (GIS). Roadside locations of four nominated weeds, salt affected roadside and significant habitat trees were also recorded and mapped onto separate clear overlays.

The results of the survey indicated that high conservation value roadsides covered 34.4% of the roadsides surveyed in the Shire, with medium-high conservation value roadsides accounting for 24.9%. Medium-low and low conservation value roadsides covered 17.5% and 23.2%, 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 map (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 plan for road 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 Trayning to utilise the RCV map into many facets of its Landcare, tourism, road maintenance operations and Natural Resource Management (NRM) strategy documents. The RCC is available to provide assistance with the development of roadside vegetation management plans and associated documents.

PART A

OVERVIEW OF ROADSIDE CONSERVATION

1.0 Why is Roadside Vegetation Important?

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

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

Other important values of transport corridor remnants are that they:

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



Martin Thompson

The Striated Pardalote (*Pardalotus striatus*) has been recorded in the Shire of Trayning.

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



Flora Roads are high conservation value roadside remnants.

Photo D. Lamont.

- assist with erosion and salinity control, 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 inappropriate clearing.

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

2.3 Fire

Although Western Australia's flora and fauna have evolved with a tolerance to pre-European fire regimes these are generally not present today. Fire in transport corridors will inevitably alter the native vegetation, 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 9 weed species in the Shire of Trayning (Appendix 4). The roadside survey recorded populations of four significant weeds, and their locations were mapped by the RCC onto clear overlays. The 4 nominated weeds were:

- Soursob (*Oxalis pes-caprae*);
- Wild Radish (*Raphanus raphanistrum*);
- African Lovegrass (*Eragrostis curvula*); and
- Paterson's Curse (*Echium plantagineum*).

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



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

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



African Lovegrass is a perennial grass growing to 1.5 metres. It is common on road shoulders and in drains and can undermine the road structure.

Photo by K. Jackson

Survey of Roadside Conservation Values in the Shire of Trayning



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

Photo by K. Jackson RCC

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), Table 1 shows that approximately 5.34%, or 41.45 km of roads in the Shire of Trayning are potentially under threat from salinity. The majority of these, 34.6 km, are local roads managed by the Shire.

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
Kellerberrin	903.31	3.95	44.45		12.10	60.50	6.70
Koorda	908.40		53.30		14.90	68.20	7.51
Merredin	1,230.83	4.08	41.30	0.60	10.90	56.88	4.62
Mount Marshall	1,312.85		20.35		32.95	53.30	4.06
Mukinbudin	878.51		1.28		2.70	3.98	0.45
Nungarin	491.25		20.48	0.53	5.90	26.90	5.48
Tammin	491.47	6.75	26.23		7.88	40.85	8.31
Trayning	775.97		34.60	0.28	6.58	41.45	5.34
Wyalkatchem	784.11		24.43	0.23	11.98	36.63	4.67

Table 1. Road lengths potentially affected by salinity in the Shire of Trayning and surrounding Shires.
Adapted from material produced by the Department of Agriculture WA for Department of Environment 2003, Salinity Investment Framework Interim Report - Phase 1, 2003, Department of Environment, Salinity and Land Use Impacts Series No. SLUI 32

Aware of the threat salinity poses to the Shire, the 2004/05 Trayning roadside survey was designed to record the presence of salt affected roadsides as an additional attribute. The location of these roadsides appears as a clear overlay accompanying the Shire of Trayning RCV map (2005). The data relating to occurrence of salt affected roadsides in Kent, as observed by the roadside surveyors, is also presented in Part C of this report.

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 specify that all clearing of native vegetation require a permit, unless it is for an exempt purpose. The *Environmental Protection (Clearing of Native Vegetation) Regulations* 2004 detail these exemptions. 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 Trayning, 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).

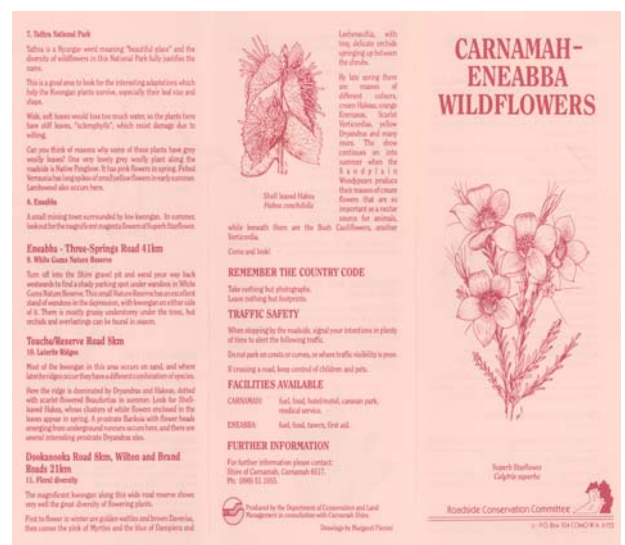
In order to plan roadworks so that important areas of roadside vegetation are not disturbed, road managers should be aware of these areas. To ensure this is not overlooked it is suggested that areas declared as Flora Roads be included in the Shire's *Special Environmental Area Register*.

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

Consideration should be given to:

- promoting the road by means of a small brochure or booklet;
- showing all Flora Roads on a map of the region or State; 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 TRAYNING

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 288 species of native plants from the Shire of Trayning. The most prolific genera are *Acacia* (44 spp), *Eucalyptus* (22 spp), *Melaleuca* (12 spp), and *Grevillea* (12 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 are 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 Merredin District. If roadworks are to be carried out near DRF sites, it is advisable to contact DEC at least six weeks in advance.

Currently (as at January 2006), 13 locations of declared rare and priority flora are known to occur within roadsides in the Shire of Trayning. One of these sites is on roadsides vested in Main Roads WA and the remaining 12 occur in roadsides vested in the Shire of Trayning. In total, there are five species of Declared Rare Flora (DRF) and Priority Flora on roadsides in the Shire:

- *Grevillea minutiflora*;
- *Boronia adamsiana*;
- *Acacia caesariata*;
- *Philotheca basistyla*; and
- *Cryptandra dielsii*.

Note that 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.



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

Photo K. Jackson.

3.0 Fauna

The Western Australian Museum records approximately 89 species of fauna from the Trayning 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 Trayning area, there were 28 bird, 7 amphibia, 10 mammal, and 44 reptile species.



The Western Spiny-tailed Skink, *Egernia stokesii badia*, can be found in the Shire of Trayning.
Photo by B. G. Bush, Photo used with the permission of the WA Museum, FaunaBase
(<http://www.museum.wa.gov.au/faunabase.htm>)

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.

A number of the fauna species recorded from Trayning are classified as endemic to the Wheatbelt region of Western Australia, or smaller regions within the State. For example, the Western Spiny-tailed Skink (*Egernia stokesii badia*) only occurs in the semi-arid scrubs and woodlands of Shark Bay and the northern Wheatbelt, where it shelters in hollow logs and behind the bark of fallen trees. This skink has been recorded in the Trayning area.

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), three species of threatened and priority fauna have been recorded or sighted throughout the Shire of Trayning, and these are listed below.

- **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 the construction of its nest mound.

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

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

- **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.



Michael J. Bamford

The Malleefowl can be found in the Shire of Trayning.

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

4.0 Remnant Vegetation Cover

Only 8.4 per cent of the original native vegetation remains in the Shire of Trayning and this is located in a variety of tenures from nature reserves to privately owned land. *National Objectives and Targets for Biodiversity Conservation 2001-2005* (Environment Australia, 2001) stated that vegetation types represented by less than 30% are considered ecologically endangered and in need of protection and restoration wherever they are located. With less than 10% remaining in Trayning, this is considerably low and even these remaining remnants can be depleted if proactive measures are not taken to manage this priceless resource.

Shire	Total Area (ha)	Area Inside Ag. Clearing Line (ha)	Vegetation Cover Remaining (inside agricultural clearing line)	
			(ha)	(%)
Kellerberrin	191,970	191,970	14,214	7.4
Mount Marshall	1,019,574	444,185	47,071	10.6
Mukinbudin	342,575	278,129	39,021	14.0
Nungarin	117,004	117,004	17,827	15.2
Trayning	164,255	164,255	13,811	8.4
Wyalkatchem	158,004	158,004	7,814	4.9

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

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



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
TRAYNING**

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 (713.05 km, or 92%) of the Shire of Trayning's 775 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 July and August 2004 and May 2005. The enthusiastic effort of the roadside surveyor, Linda Vernon and the support provided by Trayning Shire Council ensured that this project was successfully completed.

1.1 Methods


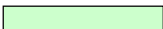

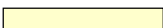
Roadside surveys are undertaken in a vehicle, generally with two people per vehicle. The passenger records the roadside attributes using the RCC's iPAQ hand-held personal computers. At the end of the survey, the iPAQs are returned to the RCC, where the survey information is analysed and mapped.

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 4 nominated weeds;
- presence of salt affected roadside; and
- presence of habitat trees.

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

1.2 Mapping Roadside Conservation Values

The RCC produced a computer-generated map (using a Geographic Information System, or GIS), at a scale of 1:100,000 for the Shire of Trayning. 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 Trayning. 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 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 20-80%;
- medium to high diversity of native flora, i.e. between 6 and 19 species;
- few to half weeds, i.e. between 20-80% 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 20-80%;
- 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.

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 Trayning are presented (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 Roadside Information: Shire of Trayning					
Length of roadside surveyed: 1426.1 km (or 713.05 km of road)					
<u>Roadside Conservation Status</u>			<u>Native Vegetation on Roadside</u>		
	Total (km)	(%)		Total (km)	(%)
Low (0-4)	330.5	23.2	0 vegetation layers	45.9	3.2
Medium-low (5-6)	250.2	17.5	1 vegetation layer	367.8	25.8
Medium-high (7-8)	355.3	24.9	2-3 vegetation layers	1012.4	71.0
High (9-12)	490.1	34.4	Total	1426.1	100.0
Total	1426.1	100.0			
<u>Roadside Conservation Values</u>			<u>Extent of Native Vegetation</u>		
	Total (km)	(%)		Total (km)	(%)
0	2.6	0.2	Low, <20%	855.9	60.0
1	1.3	0.1	Medium, 20-80%	546.8	38.3
2	38.7	2.7	Good, >80%	23.4	1.6
3	92.1	6.5	Total	1426.1	100.0
4	195.8	13.7			
5	154.4	10.8	<u>Number of Native Plant Species</u>		
6	95.8	6.7		Total (km)	(%)
7	186.1	13.0	0 - 5 native species	450.0	31.6
8	169.2	11.9	6 - 19 native species	794.5	55.7
9	188.8	13.2	Over 20 native species	181.7	12.7
10	211.7	14.8	Total	1426.1	100.0
11	76.5	5.4			
12	13.1	0.9	<u>Weed Infestation</u>		
Total	1426.1	100.0		Total (km)	(%)
			Heavy	448.4	31.4
<u>Predominant Adjoining Landuse</u>			Medium	552.0	38.7
	Total (km)	(%)	Light	425.7	29.8
Agricultural: Completely cleared	1378.7	96.7	Total	1426.1	100.0
Agricultural: Scattered vegetation	4.0	0.3			
Other	0.4	0.0	<u>Value as a Biological Corridor</u>		
Railway Reserve	28.8	2.0		Total (km)	(%)
Uncleared native vegetation	10.5	0.7	Low	383.1	26.9
Urban or Industrial	3.7	0.3	Medium	473.6	33.2
Total	1426.1	100.0	High	569.4	39.9
			Total	1426.1	100.0

Roadside surveys were carried out throughout July- August 2004 and May 2005.

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

Width of Road Reserve

The width of road reserves in the Shire of Trayning was recorded in increments of 20 metres (Table 4). The majority of road reserves were 20 metres in width, with 632.1km (88.6%) of roads falling into this category. Of the remaining roads, 45.7km (6.4%) were 40 metres in width and no data was recorded for 35.3km (4.9%) of road reserves.

Width of Road Reserves		
	Total km	%
20 m	632.08	88.6
40 m	45.69	6.4
No Data	35.26	4.9
Total	713.0	100.0

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

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, 1059.9km (74.3%), was between 1 to 5 metres in width, followed by 328.0km (23.0%) of roadsides where the width of vegetation fell between 5 to 20 metres in width. Roadside vegetation over 20 metres in width spanned 3.2km (0.2%) of the roadsides surveyed, whilst the width was unknown for 35.0km (2.5%) of the roadsides surveyed.

Width of Vegetated Roadside		
	Total km	%
1-5 metres	1059.9	74.3
5-20 metres	328.0	23.0
Over 20 metres	3.2	0.2
Unknown	35.0	2.5
Total	1426.1	100.0

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

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 71.0% of roadsides (1012.4km), 25.8% (367.8km) of roadsides had only one layer and 3.2% (45.9km) had no layers of native vegetation (Table 3 and Figure 1).

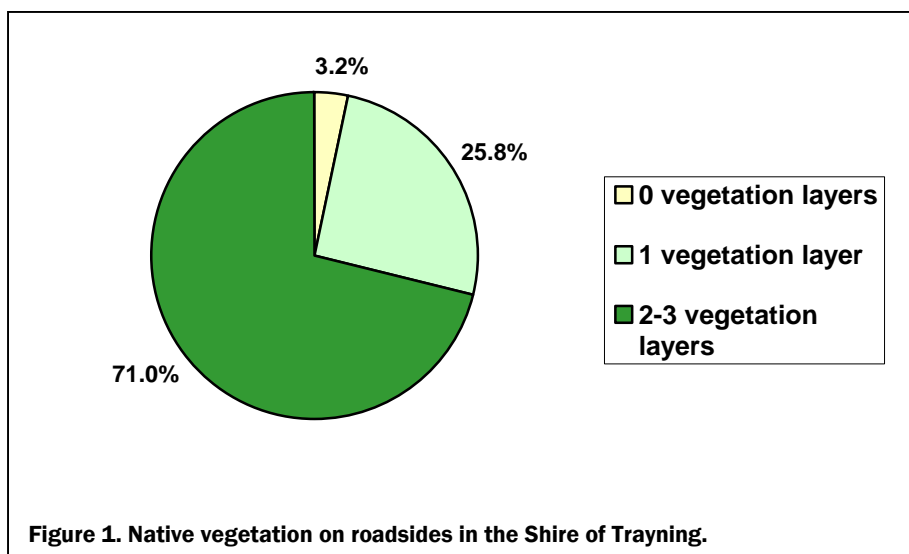
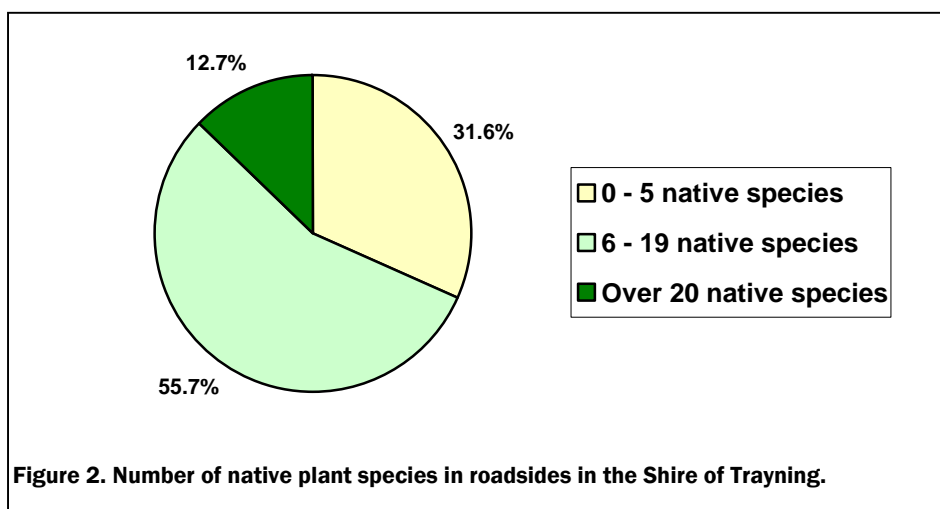


Figure 1. Native vegetation on roadsides in the Shire of Trayning.

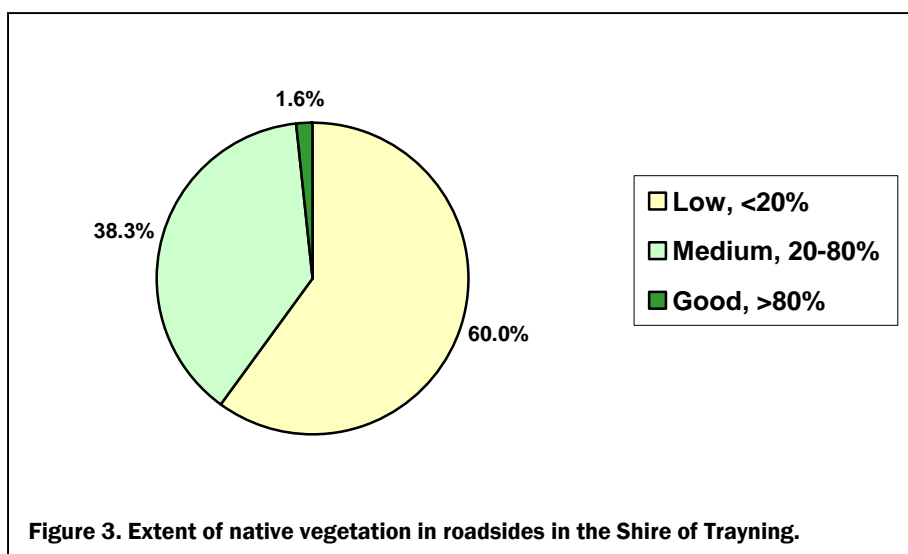
Number of Native Plant Species

The 'number of native plant species' score provided a measure of the diversity of the roadside vegetation. Survey sections with over 20 plant species spanned 12.7% (181.7km) of the roadsides surveyed. Roadside sections with 6 to 19 plant species accounted for 55.7% (794.5km) of the roadside. The remaining 31.6% (450.0km) contained less than 5 plant species (Table 3 and Figure 2).



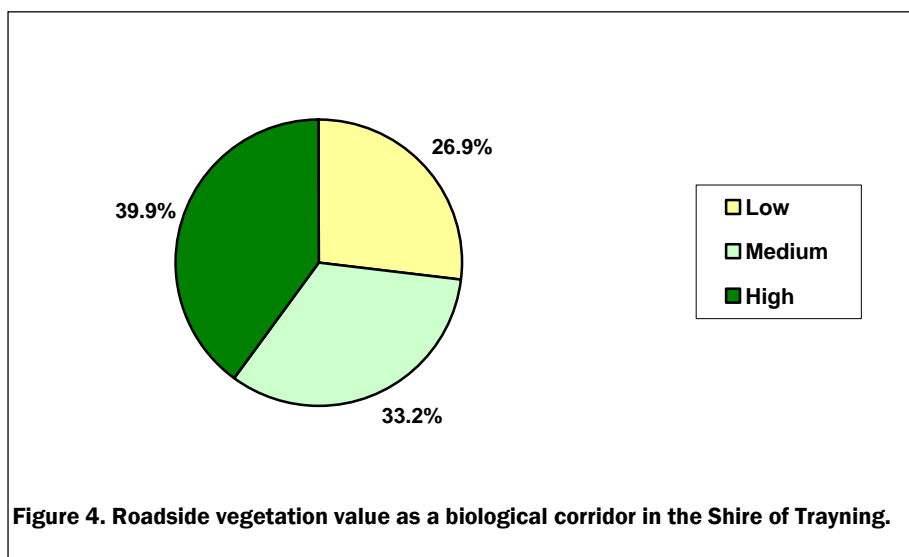
Extent of Native Vegetation

The 'extent of native vegetation' cover refers to the continuity of the roadside vegetation and takes into account the presence of disturbances such as weeds. Roadsides with extensive vegetation cover, i.e. greater than 80%, occurred along 1.6% (23.4km) of the roadsides surveyed. Survey sections with medium vegetation cover, i.e. 20% to 80%, accounted for 38.3% (546.8km) of the roadsides. The remaining 60% (855.9km) had less than 20% native vegetation and therefore a low 'extent of native vegetation' value (Table 3 and Figure 3).



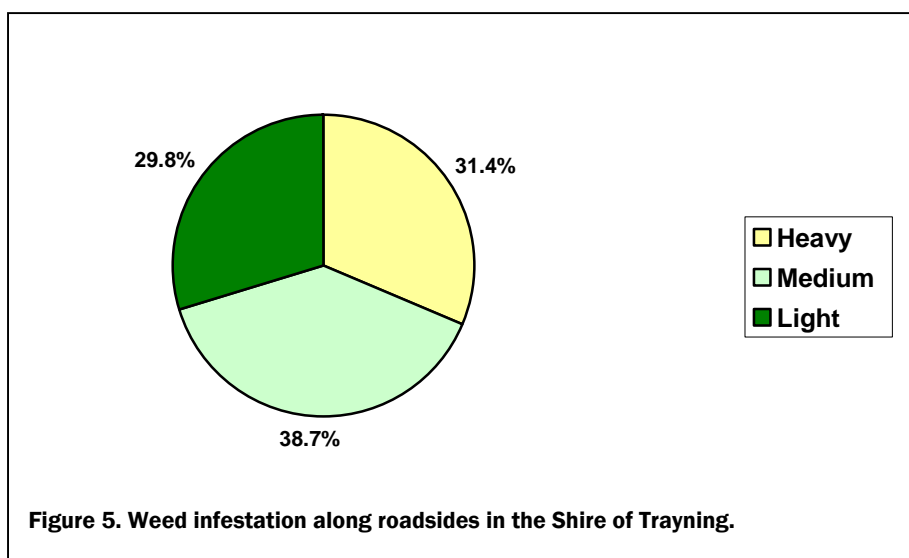
Value as a Biological Corridor

This characteristic considered the presence of four attributes: connection to uncleared areas; presence of flowering shrubs; presence of large trees with hollows; and presence of hollow logs. Roadsides determined to have high value as a biological corridor were present along 39.9% (569.4km) of the roadsides surveyed. Roadsides with medium value as biological corridors made up 33.2% (473.6km), and roadsides with low value as a biological corridor occurred along 26.9% (383.1km) of the roadsides surveyed (Table 3 and Figure 4).



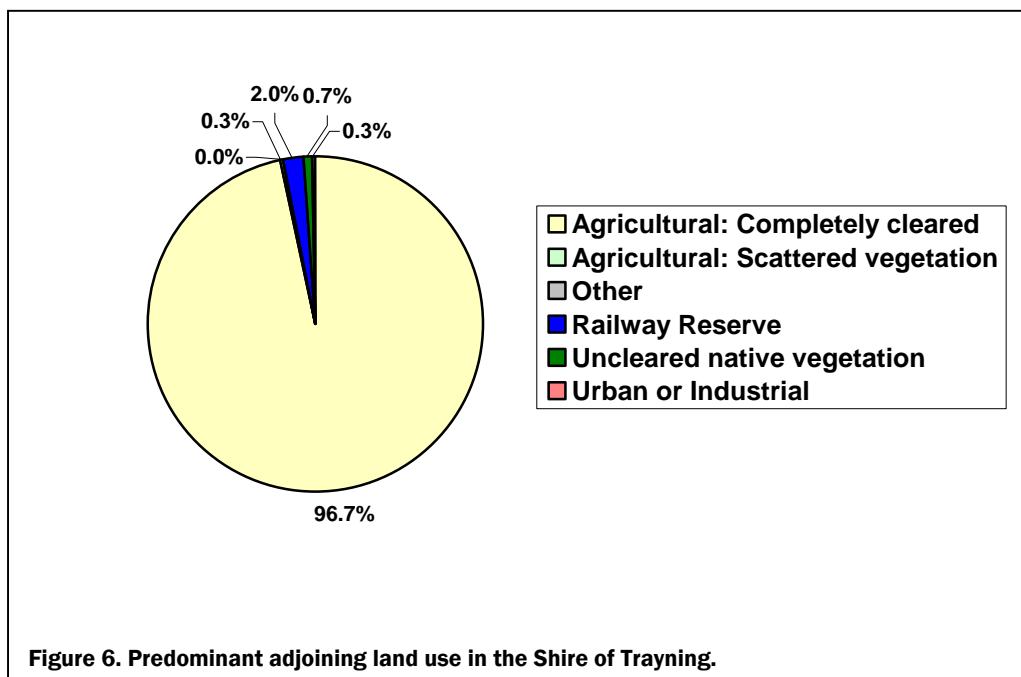
Weed Infestation

Light levels of weed infestation (weeds comprising less than 20% of total plants), were recorded on 29.8% (425.7km) of the roadsides surveyed, medium level weed infestation (weeds comprising 20-80% of the total plants) occurred on 38.7% (552.0km) of the roadsides and 31.4% of roadsides (448.4km) were heavily infested with weeds (weeds comprising more than 80% of the total plants) (Table 3 and Figure 5).



Predominant Adjoining Land Use

Uncleared native vegetation was present on 0.7% (10.5km) of the land adjoining roadsides, whilst 96.7% (1378.7km) of roadsides adjoined land that had been completely cleared for agriculture. Land cleared for agriculture, containing a scattered distribution of native vegetation comprised 0.3% (4.0km) of the roadsides. Railway reserves adjoined 2.0% (28.8km) of the roadsides, urban or industrial land uses adjoined 0.3% (3.7km), and other land uses were found on 0.0% (actually 0.4km) of the roadsides (Table 3 and Figure 6).



Nominated Weeds

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

- Soursob (*Oxalis pes-caprae*);
- Wild Radish (*Raphanus raphanistrum*);
- African Lovegrass (*Eragrostis curvula*); and
- Paterson's Curse (*Echium plantagineum*).

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

Of the nominated weeds species, Wild Radish was the most prevalent, recorded along 82.0km of the roads surveyed. Soursob was also highly dominant and was recorded along 59.5km of roads. African Lovegrass was the next most commonly recorded weed, occurring along 28.6km of roads, then Patterson's Curse, which was recorded along 7.6km (Figure 7).

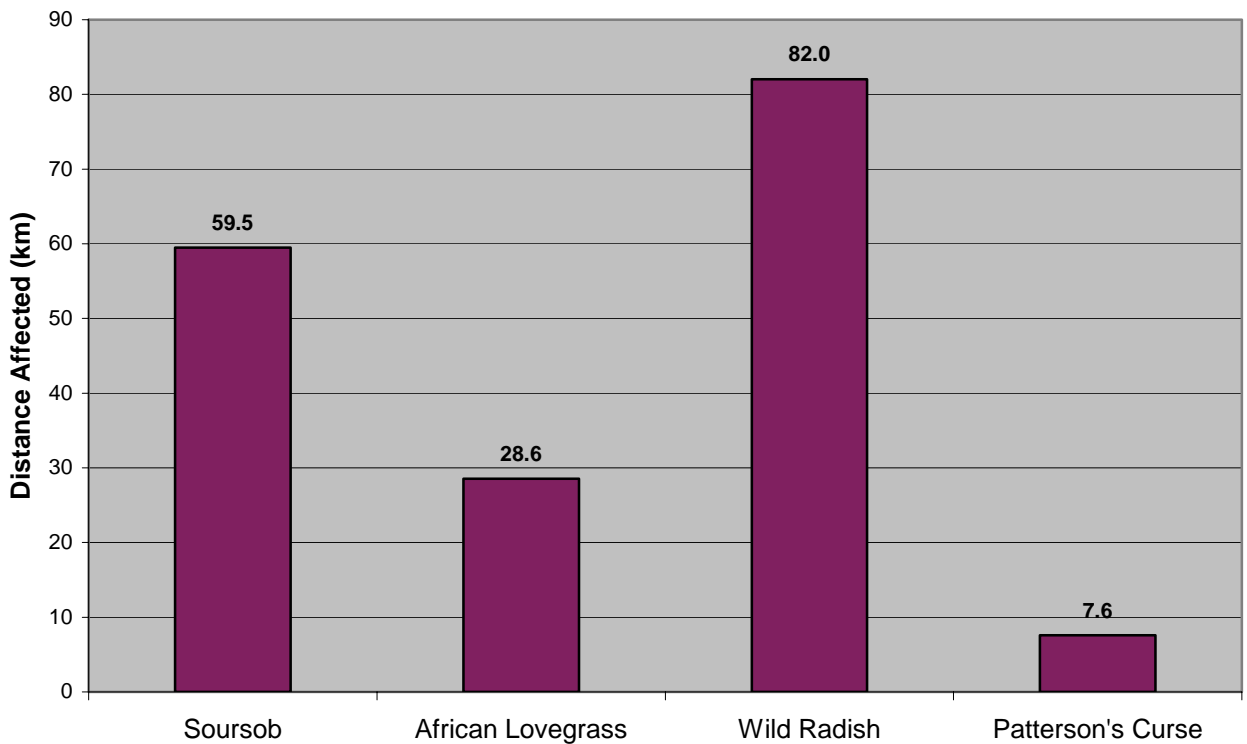


Figure 7. Presence of nominated weed groups along roads in the Shire of Trayning.

Habitat Trees

The presence of significant habitat trees in roadsides was recorded throughout the survey and these locations are depicted on a separate clear overlay accompanying the 2005 RCV map. The roadside surveyors recorded the presence (or absence) of habitat trees within sections of roads as they recorded the other roadside attributes. There were 18.0% (128.4km) of roadsides that contained significant habitat trees (Figure 8).

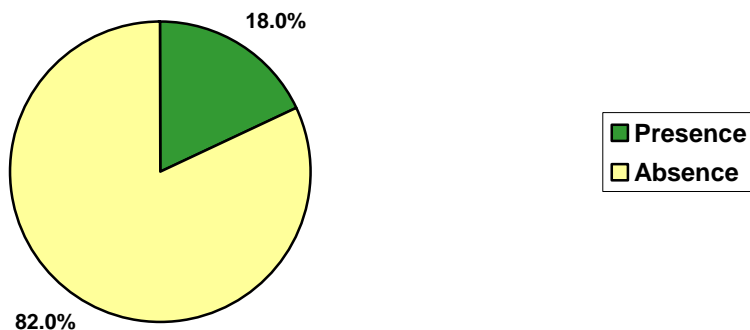


Figure 8. Presence of significant habitat trees in roadsides in the Shire of Trayning.

The roads containing habitat trees were:

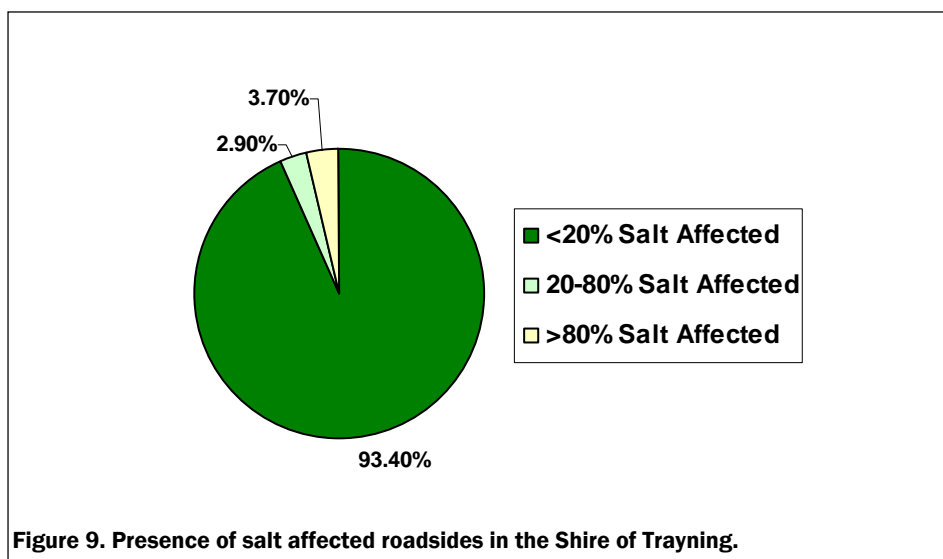
- Yelbeni South East Road
- Purdy Road
- Kellerberrin-Yelbeni Road
- Gent Road
- McNeil Road
- Minniberri Road
- Ryans Road
- Lee Road
- Couper Road
- Lairds Road
- Pullen Road
- Kellerberrin-Bencubbin Road
- Goomalling-Merredin Road
- Doodlakine-Kununoppin Road

Salinity

The presence of salinity in roadsides was recorded throughout the survey and these locations are depicted on a separate clear overlay accompanying the 2005 RCV map. The surveyors determined the level of salt damage occurring in roadsides, and there were 3 categories to choose from:

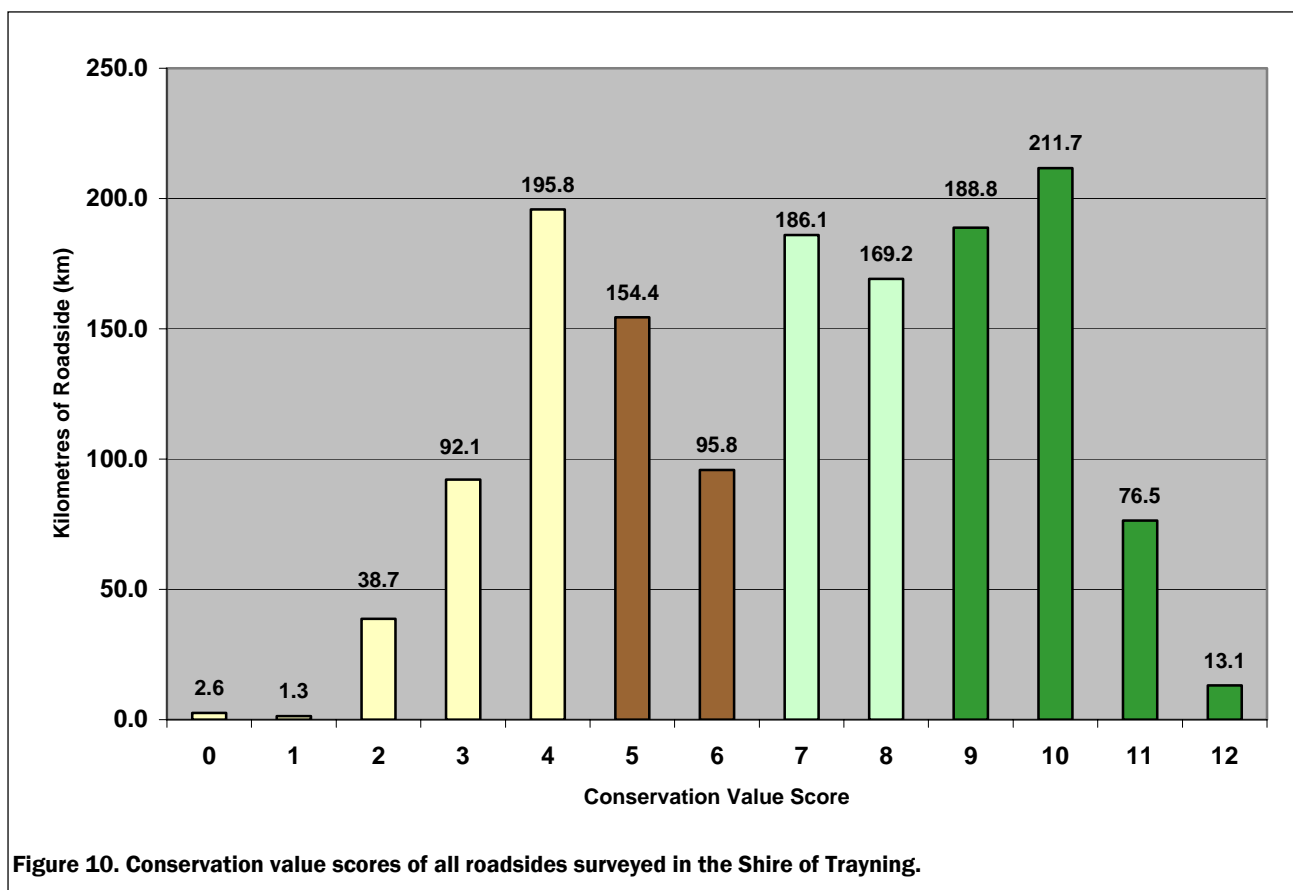
- no or minor salt damage (<20% of roadside salt affected);
- moderate salt damage (20-80% of roadside salt affected); or
- major salt damage (>80% of roadside salt affected).

Of the 1,426.1km of roadsides surveyed, 93.4% (1,331.6km) of roadsides had no, or a minor (<20%) level of salt damage, 2.9% (41.6km) were moderately affected by salt (20-80% salt affected) and 3.7% (52.9km) were heavily affected by salt (Figure 9).



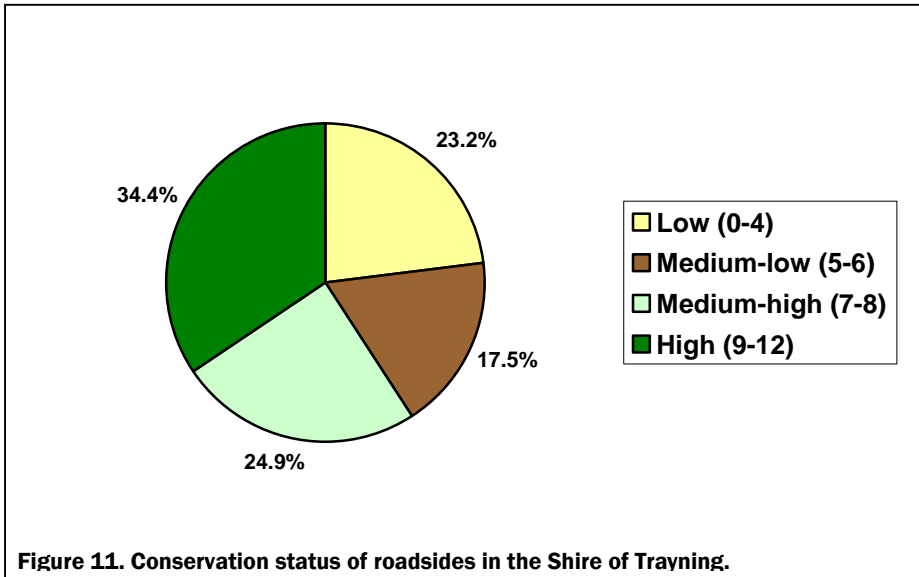
Conservation Value Scores

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 10, with 211.7km of roadsides recording this score. Following this, 195.8km of roadsides recorded a score of 4, 188.8km recorded a score of 9 and 186.1km recorded a score of 7. Roadsides with a score of 8 covered 169.2km, a score of 5 covered 154.4km, and roadsides with a score of 6 spanned 95.8km. Roadsides with a score of 3 spanned 92.1km, a score of 11 spanned 76.5km, roadsides scoring 2 covered 38.7km, a score of 12 spanned 13.1km, a score of 0 covered 2.6, and 1.3km of roadsides scored 1.



Conservation Status

The conservation status category indicates the combined conservation value of roadsides surveyed in the Shire of Trayning. Roadside sections of high conservation value covered 34.4% (490.1km) of the roadsides surveyed. Medium-high conservation value roadsides accounted for 24.9% of the total surveyed (355.3km), medium-low conservation roadside covered 17.5% (250.2km) of the total roadsides surveyed. Roadsides of low conservation value occupied 23.2% (330.5km) 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 Trayning, the roadside survey and the 2005 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 Trayning include:

- Billyacatting Road
- Buckley Road
- Huandanning Road
- Keene Road
- Kidd Road
- Kodjkodjin Road
- Gent Road - *from Riley Road to Minniberri Road*
- Kellerberrin-Bencubbin Road - *from Travers Road to Letchford Road*
- Kunnunoppin-Mukinbudin Road - *north to Kidd Road*
- Minniberri Road - *from Purdy Road to Kellerberrin-Bencubbin Road*
- Lockyer Road
- Mandiga-Trayning Road
- Purdy Road
- Sutton Road
- Wallace 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*; and

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.

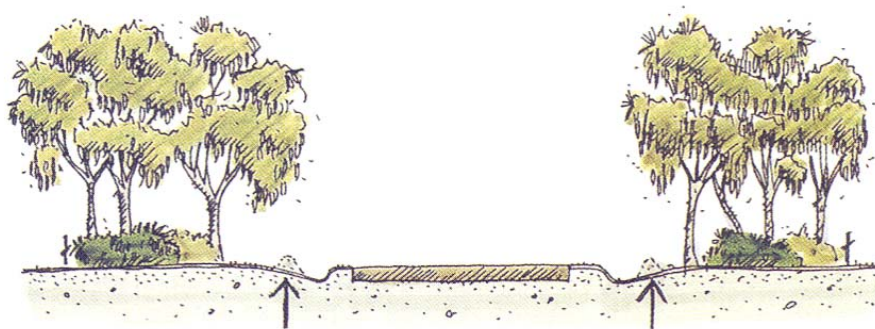
1.3 Improve roadside sections of medium to low conservation value by:

- 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.

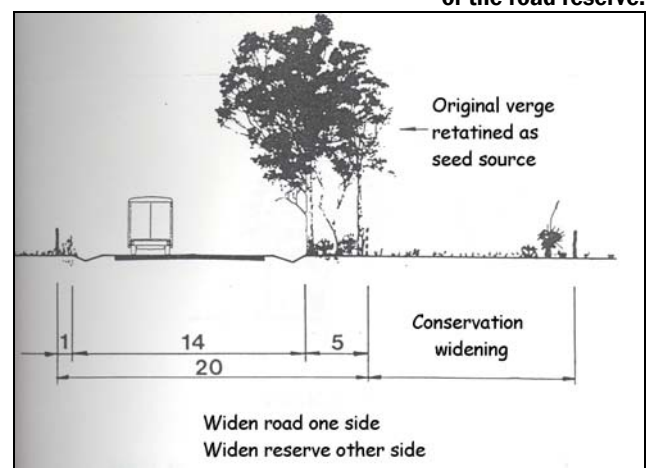


Avoid windrowing drain material into vegetation

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
CI- 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 (N,S,E,W) _____

Section No. _____

Starting Point _____

Odometer reading _____

Ending Point _____

Odometer reading _____

Length of section _____

WIDTH OF ROAD RESERVE (m) _____

Side of the road Left Right

WIDTH OF VEGETATED ROADSIDE

1 – 5 m

5 – 20 m

Over 20 m

NATIVE VEGETATION ON ROADSIDE

Tree layer

Shrub layer

Ground layer

EXTENT OF NATIVE VEGETATION ON ROADSIDE

Less than 20%

20 – 80%

Over 80%

No. OF DIFFERENT NATIVE SPECIES

0 – 5

6 – 19

Over 20

VALUE AS A BIOLOGICAL CORRIDOR

Connects uncleared areas

Flowering shrubs

Large trees with hollows

Hollow logs

PREDOMINANT ADJOINING LANDUSE

Agricultural crop or pasture:

- Completely cleared

- Scattered

Uncleared land

Plantation of non-native trees

Urban or Industrial

Railway Reserve parallel to road

Drain Reserve parallel to road

Other:

UTILITIES

Utility Present

Utility Absent

Type: _____

GENERAL WEEDS

Few weeds (<20% total plants)

Half weeds (20 - 80% total)

Mostly weeds (>80% total)

Ground layer totally weeds

SALT AFFECTED ROADSIDE

< 20% salt affected

20 – 80% salt affected

> 80% salt affected

NOMINATED WEEDS

< 20% total weeds

20 – 80% total weeds

> 80% total weeds

< 20% total weeds

20 – 80% total weeds

> 80% total weeds

< 20% total weeds

20 – 80% total weeds

> 80% total weeds

< 20% total weeds

20 – 80% total weeds

> 80% total weeds

< 20% total weeds

20 – 80% total weeds

> 80% total weeds

< 20% total weeds

20 – 80% total weeds

80% total weeds

GENERAL COMMENTS

OFFICE USE ONLY

Conservation value score

Appendix

2

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130001	1	0	1.8	1.8	BENCUBBIN-KUNUNOPPIN RD	North	19-May-05	Linda	0	1	1	0	0	1	1	1	1	0	0	2	2	5	5	
4130001	2	1.8	3.7	1.9	BENCUBBIN-KUNUNOPPIN RD	North	19-May-05	Linda	20	2	2	2	0	1	2	1	2	0	2	2	0	8	8	
4130001	3	3.7	5.8	2.1	BENCUBBIN-KUNUNOPPIN RD	North	19-May-05	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7	
4130001	4	5.8	6.4	0.6	BENCUBBIN-KUNUNOPPIN RD	North	19-May-05	Linda	20	1	1	0	0	1	1	1	1	1	1	2	2	6	6	
4130001	5	6.4	9.2	2.8	BENCUBBIN-KUNUNOPPIN RD	North	19-May-05	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7	
4130001	6	9.2	12.9	3.7	BENCUBBIN-KUNUNOPPIN RD	North	19-May-05	Linda	20	1	1	0	0	1	1	2	2	0	0	2	2	6	6	
4130002	1	0	0.5	0.5	YELBENI SOUTH EAST RD	South	14-Aug-04	Linda	20	2	2	2	2	2	2	2	2	2	2	2	2	12	12	HABITAT_TREES SOURSOB
4130002	2	0.5	2.8	2.3	YELBENI SOUTH EAST RD	South	14-Aug-04	Linda	20	2	2	1	0	1	1	2	2	2	2	2	2	10	9	HABITAT_TREES
4130002	3	2.8	4.3	1.5	YELBENI SOUTH EAST RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	
4130002	4	4.3	4.7	0.4	YELBENI SOUTH EAST RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	
4130002	5	4.7	5.2	0.5	YELBENI SOUTH EAST RD	South	14-Aug-04	Linda	20	1	0	0	0	0	0	0	0	0	0	2	2	3	2	
4130002	6	5.2	6.2	1	YELBENI SOUTH EAST RD	South	14-Aug-04	Linda	20	2	1	1	0	1	0	1	0	2	1	2	2	9	4	
4130002	7	6.2	7.7	1.5	YELBENI SOUTH EAST RD	South	14-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	2	2	2	8	9	
4130002	8	7.7	8.63	0.93	YELBENI SOUTH EAST RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130003	1	0	2.45	2.45	SHERZINGER RD	North	19-Aug-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	
4130003	2	2.45	3.5	1.05	SHERZINGER RD	North	19-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	
4130003	3	3.5	6.65	3.15	SHERZINGER RD	North	19-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4	
4130003	4	6.65	7.1	0.45	SHERZINGER RD	North	19-Aug-04	Linda	20	2	2	1	0	1	0	1	0	2	2	2	2	9	6	
4130003	5	7.1	9.85	2.75	SHERZINGER RD	North	19-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	1	2	2	9	9	
4130003	6	9.85	13.34	3.49	SHERZINGER RD	North	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	
4130004	1	0	2.2	2.2	PURDY RD	South	02-Aug-04	Linda	20	2	2	0	1	1	2	2	1	2	2	2	2	9	10	
4130004	2	2.2	3.3	1.1	PURDY RD	South	02-Aug-04	Linda	20	2	2	0	1	1	2	2	1	2	2	2	2	9	10	
4130004	3	3.3	5.4	2.1	PURDY RD	South	02-Aug-04	Linda	20	2	2	0	1	1	2	1	2	2	2	2	2	8	11	
4130004	4	5.4	6.1	0.7	PURDY RD	South	02-Aug-04	Linda	20	2	2	1	0	2	1	2	2	2	2	0	2	9	9	
4130004	5	6.1	7.5	1.4	PURDY RD	South	02-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	1	2	2	8	8	
4130004	6	7.5	10.9	3.4	PURDY RD	South	02-Aug-04	Linda	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	PATERSONS_CURSE WILD_RADISH
4130004	7	10.9	11.7	0.8	PURDY RD	South	02-Aug-04	Linda	20	1	1	0	0	1	1	1	1	1	1	2	2	6	6	WILD_RADISH
4130004	8	11.7	15.3	3.6	PURDY RD	South	02-Aug-04	Linda	20	2	2	1	1	2	2	2	2	2	2	2	2	11	11	WILD_RADISH

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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
4130004	9	15.3	16.9	1.6	PURDY RD	South	02-Aug-04	Linda	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	HABITAT_TREES SALT_AFFECTED_ROADSIDE	
4130004	10	16.9	19.8	2.9	PURDY RD	South	02-Aug-04	Linda	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	HABITAT_TREES SALT_AFFECTED_ROADSIDE	
4130004	11	19.8	21.1	1.3	PURDY RD	South	02-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7	SOURSOB	
4130004	12	21.1	28.48	7.38	PURDY RD	South	02-Aug-04	Linda	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	HABITAT_TREES	
4130005	1	0	0.8	0.8	MANDIGA-TRAYNING RD	North	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8		
4130005	2	0.8	4.9	4.1	MANDIGA-TRAYNING RD	North	19-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	1	2	2	9	9		
4130005	3	4.9	10.5	5.6	MANDIGA-TRAYNING RD	North	19-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10		
4130005	4	10.5	12.8	2.3	MANDIGA-TRAYNING RD	North	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8		
4130006	1	0	3.8	3.8	SMEETON RD	East	19-Aug-04	Linda	20	2	2	0	0	1	1	2	2	1	1	2	2	8	8	SALT_AFFECTED_ROADSIDE	
4130006	2	3.8	9.5	5.7	SMEETON RD	East	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7		
4130006	3	9.5	13.17	3.67	SMEETON RD	East	19-Aug-04	Linda	20	2	2	0	0	1	1	1	2	1	1	2	2	7	8		
4130007	1	0	0.6	0.6	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	0	1	0	2	0	2	0	2	0	0	2	2	9	2	
4130007	2	0.6	3.6	3	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	0	1	0	2	0	2	0	2	0	2	2	11	2	HABITAT_TREES WILD_RADISH	
4130007	3	3.6	4.9	1.3	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	0	1	0	1	0	2	0	2	0	2	2	10	2	HABITAT_TREES WILD_RADISH	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130007	4	4.9	5.4	0.5	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	1	0	0	0	0	0	0	0	1	0	2	2	4	2	WILD_RADISH
4130007	5	5.4	5.9	0.5	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	1	0	0	0	0	0	1	0	1	0	2	2	5	2	HABITAT_TREES
4130007	6	5.9	6.4	0.5	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	0	0	0	1	0	1	0	2	1	2	0	8	1	HABITAT_TREES
4130007	7	6.4	7.3	0.9	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	0	0	0	1	0	1	0	1	1	2	2	7	3	
4130007	8	7.3	9.8	2.5	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	1	0	1	0	1	0	2	2	2	2	9	6	HABITAT_TREES
4130007	9	9.8	10.3	0.5	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	0	0	0	0	2	2	1	1	1	1	6	6	HABITAT_TREES SALT_AFFECTED_ROADSIDE
4130007	10	10.3	11.3	1	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	0	0	1	1	2	2	1	1	1	2	7	8	SALT_AFFECTED_ROADSIDE
4130007	11	11.3	12	0.7	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	0	0	1	1	2	2	2	1	2	2	9	8	SALT_AFFECTED_ROADSIDE
4130007	12	12	13.2	1.2	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	HABITAT_TREES
4130007	13	13.2	14.5	1.3	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	HABITAT_TREES
4130007	14	14.5	15.8	1.3	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7	HABITAT_TREES
4130007	15	15.8	16.2	0.4	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	2	1	2	1	2	2	2	2	0	2	10	10	HABITAT_TREES
4130007	16	16.2	17.7	1.5	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	1	1	2	2	2	2	2	2	0	2	9	11	HABITAT_TREES
4130007	17	17.7	19.5	1.8	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	1	1	2	2	2	2	2	2	2	2	11	11	HABITAT_TREES

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130007	18	19.5	21	1.5	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	1	1	0	0	0	0	1	1	2	2	2	2	6	6	HABITAT_TREES
4130007	19	21	22.2	1.2	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	1	1	2	2	2	2	2	2	2	2	11	11	HABITAT_TREES
4130007	20	22.2	22.7	0.5	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	0	0	1	1	2	1	2	2	2	2	9	8	HABITAT_TREES
4130007	21	22.7	23.4	0.7	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	2	2	2	2	2	2	2	2	2	0	12	10	HABITAT_TREES
4130007	22	23.4	24.4	1	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	1	1	2	2	2	2	1	2	2	2	10	11	HABITAT_TREES
4130007	23	24.4	25.3	0.9	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	2	2	0	0	1	1	1	0	1	1	2	2	7	6	SOURSOB WILD_RADISH
4130007	24	25.3	27	1.7	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	HABITAT_TREES
4130007	25	27	27.48	0.48	DOODLAKINE-KUNUNOPPIN RD	South	23-Jul-04	Linda	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	HABITAT_TREES
4130008	1	0	0.3	0.3	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	2	1	0	2	2	0	2	0	2	0	2	2	10	5	
4130008	2	0.3	1.9	1.6	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	1	0	0	0	2	2	4	3	
4130008	3	1.9	4	2.1	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	SALT_AFFECTED_ROADSIDE
4130008	4	4	4.4	0.4	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	HABITAT_TREES
4130008	5	4.4	5.6	1.2	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	2	2	0	0	1	1	0	0	0	1	2	2	5	6	HABITAT_TREES
4130008	6	5.6	6.9	1.3	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	2	2	0	0	1	1	0	0	2	2	2	2	7	7	SOURSOB WILD_RADISH

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130008	7	6.9	7.7	0.8	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	1	1	0	0	1	1	2	2	0	1	2	2	6	7	SOURSOB WILD_RADISH
4130008	8	7.7	8.4	0.7	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	1	2	2	8	8	SOURSOB WILD_RADISH
4130008	9	8.4	10.4	2	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	0	1	0	0	0	0	0	0	0	0	2	2	2	3	
4130008	10	10.4	11.8	1.4	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	2	2	1	1	1	1	1	1	0	2	2	2	7	9	
4130008	11	11.8	13.5	1.7	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	2	2	1	1	1	1	1	2	0	2	2	2	7	10	
4130008	12	13.5	15	1.5	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	
4130008	13	15	18.1	3.1	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	
4130008	14	18.1	18.9	0.8	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	1	0	0	0	0	0	0	0	0	0	2	2	3	2	
4130008	15	18.9	22	3.1	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	WILD_RADISH SOURSOB
4130008	16	22	23.4	1.4	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	WILD_RADISH SOURSOB
4130008	17	23.4	23.9	0.5	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	SALT_AFFECTED_ROADSIDE
4130008	18	23.9	24.2	0.3	KELLERBERRIN-YELBENI RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	SALT_AFFECTED_ROADSIDE
4130009	1	0	8.3	8.3	HUANDANNING RD	South	11-Aug-04	Linda	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	SOURSOB
4130009	2	8.3	9	0.7	HUANDANNING RD	South	11-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	SOURSOB

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130009	3	9	9.5	0.5	HUANDANNING RD	South	11-Aug-04	Linda	20	1	0	0	0	0	0	1	1	1	0	2	2	5	3	
4130009	4	9.5	18.7	9.2	HUANDANNING RD	South	11-Aug-04	Linda	20	2	2	1	1	2	2	2	2	2	2	2	2	11	11	
4130009	5	18.7	21	2.3	HUANDANNING RD	South	11-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	
4130009	6	21	25.2	4.2	HUANDANNING RD	South	11-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	2	2	2	9	10	SOURSOB
4130009	7	25.2	25.9	0.7	HUANDANNING RD	South	11-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	SOURSOB
4130009	8	25.9	26.4	0.5	HUANDANNING RD	South	11-Aug-04	Linda	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	WILD_RADISH SALT_AFFECTED_ROADSIDE
4130009	9	26.4	28.92	2.52	HUANDANNING RD	South	11-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	WILD_RADISH
4130010	1	0	1.7	1.7	GENT RD	South	19-May-05	Linda		2	2	1	1	1	1	1	1	1	1	2	2	8	8	
4130010	2	1.7	2.5	0.8	GENT RD	South	19-May-05	Linda		1	1	0	0	1	1	2	2	0	0	2	2	6	6	
4130010	3	2.5	7.5	5	GENT RD	South	19-May-05	Linda		2	2	1	1	1	1	1	1	2	2	2	2	9	9	
4130010	6	7.5	8.1	0.6	GENT RD	South	21-Jul-04	Linda	20	1	0	0	0	0	0	0	0	1	1	2	2	4	3	HABITAT_TREES
4130010	7	8.1	8.5	0.4	GENT RD	South	21-Jul-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	HABITAT_TREES
4130010	8	8.5	9.2	0.7	GENT RD	South	21-Jul-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	HABITAT_TREES
4130010	9	9.2	10.5	1.3	GENT RD	South	21-Jul-04	Linda	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	HABITAT_TREES

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130010	10	10.5	13.6	3.1	GENT RD	South	21-Jul-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	HABITAT_TREES
4130010	11	13.6	15.5	1.9	GENT RD	South	21-Jul-04	Linda	20	2	2	0	0	0	0	2	2	0	0	2	2	6	6	HABITAT_TREES SALT_AFFECTED_ROADSIDE
4130010	12	15.5	19	3.5	GENT RD	South	21-Jul-04	Linda	20	1	1	0	0	1	1	1	1	2	2	2	2	7	7	HABITAT_TREES
4130010	13	19	20.9	1.9	GENT RD	South	21-Jul-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	HABITAT_TREES
4130010	14	20.9	24.89	3.99	GENT RD	South	21-Jul-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	HABITAT_TREES
4130011	1	0	1.3	1.3	MOUJAKINE RD	North	17-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	1	2	2	8	8	
4130011	2	1.3	2.8	1.5	MOUJAKINE RD	North	17-Aug-04	Linda	20	2	1	0	0	1	0	1	0	1	0	2	2	7	3	
4130011	3	2.8	3.6	0.8	MOUJAKINE RD	North	17-Aug-04	Linda	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	SALT_AFFECTED_ROADSIDE
4130011	4	3.6	4	0.4	MOUJAKINE RD	North	17-Aug-04	Linda	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	SALT_AFFECTED_ROADSIDE
4130011	5	4	5.2	1.2	MOUJAKINE RD	North	17-Aug-04	Linda	20	2	2	0	0	0	0	2	2	0	0	2	2	6	6	SALT_AFFECTED_ROADSIDE
4130011	6	5.2	6.7	1.5	MOUJAKINE RD	North	17-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	1	2	2	9	9	
4130011	7	6.7	8	1.3	MOUJAKINE RD	North	17-Aug-04	Linda	20	2	2	1	1	1	1	1	1	2	1	2	2	9	8	
4130011	8	8	10.1	2.1	MOUJAKINE RD	North	17-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	1	2	2	8	8	WILD_RADISH
4130011	9	10.1	10.7	0.6	MOUJAKINE RD	North	17-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	WILD_RADISH

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130011	10	10.7	12.53	1.83	MOUJAKINE RD	North	17-Aug-04	Linda	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_RADISH
4130012	1	0	0.6	0.6	MCNEIL RD	South	03-Aug-04	Linda	20	1	1	0	1	0	1	2	2	2	2	2	0	7	7	
4130012	2	0.6	1.3	0.7	MCNEIL RD	South	03-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	2	2	2	4	6	HABITAT_TREES
4130012	3	1.3	3.1	1.8	MCNEIL RD	South	03-Aug-04	Linda	20	1	1	0	0	0	0	0	1	1	2	2	4	4	HABITAT_TREES	
4130012	4	3.1	5.2	2.1	MCNEIL RD	South	03-Aug-04	Linda	20	0	0	0	0	0	0	0	0	0	2	2	2	2	HABITAT_TREES	
4130012	5	5.2	7.49	2.29	MCNEIL RD	South	03-Aug-04	Linda	20	1	1	0	0	0	0	0	1	1	2	2	4	4	PATERSONS_CURSE	
4130013	1	0	6.84	6.84	MINNIBERRI RD	East	03-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	HABITAT_TREES
4130013	2	6.84	7.68	0.84	MINNIBERRI RD	East	03-Aug-04	Linda	20	0	0	0	0	0	0	0	0	0	2	2	2	2	HABITAT_TREES	
4130013	3	7.68	13.72	6.04	MINNIBERRI RD	East	03-Aug-04	Linda	20	2	2	1	1	2	2	2	2	2	2	2	2	11	11	HABITAT_TREES
4130013	4	13.72	16.26	2.54	MINNIBERRI RD	East	03-Aug-04	Linda	20	2	2	1	1	2	2	2	2	2	2	2	2	11	11	
4130013	5	16.26	17.5	1.24	MINNIBERRI RD	East	03-Aug-04	Linda	20	2	2	0	0	1	1	2	2	0	0	2	2	7	7	SALT_AFFECTED_ROADSIDE
4130013	6	17.5	18.04	0.54	MINNIBERRI RD	East	03-Aug-04	Linda	20	2	2	0	0	1	1	2	2	0	0	2	2	7	7	HABITAT_TREES SALT_AFFECTED_ROADSIDE
4130013	7	18.04	20.3	2.26	MINNIBERRI RD	East	03-Aug-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	HABITAT_TREES
4130014	1	0	2.043	2.043	GALE RD	North	19-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4	SOURSOB

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130014	2	2.043	3.886	1.843	GALE RD	North	19-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4	
4130014	3	3.886	5.429	1.543	GALE RD	North	19-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	1	2	2	8	8	
4130014	4	5.429	8.272	2.843	GALE RD	North	19-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	1	2	2	9	9	
4130014	5	8.272	9.415	1.143	GALE RD	North	19-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4	
4130014	6	9.415	12.06	2.645	GALE RD	North	19-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	1	2	2	8	8	
4130015	1	0	6	6	GABBIN-TRAYNING RD	North	18-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	
4130015	2	6	8.5	2.5	GABBIN-TRAYNING RD	North	18-Aug-04	Linda	20	2	2	0	0	0	0	1	1	0	0	2	2	5	5	
4130015	3	8.5	8.9	0.4	GABBIN-TRAYNING RD	North	18-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4	
4130015	4	8.9	10.7	1.8	GABBIN-TRAYNING RD	North	18-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	
4130015	5	10.7	11.7	1	GABBIN-TRAYNING RD	North	18-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	
4130015	6	11.7	12.3	0.6	GABBIN-TRAYNING RD	North	18-Aug-04	Linda	20	2	2	0	0	0	0	0	0	1	1	2	2	5	5	
4130015	7	12.3	14	1.7	GABBIN-TRAYNING RD	North	18-Aug-04	Linda	20	1	1	0	0	0	0	2	2	1	1	2	2	6	6	SALT_AFFECTED_ROADSIDE
4130015	8	14	15.61	1.61	GABBIN-TRAYNING RD	North	18-Aug-04	Linda	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	SALT_AFFECTED_ROADSIDE
4130016	1	0	2.2	2.2	STAPLETON RD	East	16-Aug-04	Linda	20	1	2	0	0	0	0	1	1	0	0	2	2	4	5	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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
4130016	2	2.2	3.3	1.1	STAPLETON RD	East	16-Aug-04	Linda	20	1	2	0	1	1	1	1	1	1	0	1	2	2	5	8	
4130016	3	3.3	5.6	2.3	STAPLETON RD	East	16-Aug-04	Linda	20	2	2	0	1	1	1	1	2	1	2	2	2	7	10		
4130016	4	5.6	8.3	2.7	STAPLETON RD	East	16-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3		
4130016	5	8.3	11.9	3.6	STAPLETON RD	East	16-Aug-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9		
4130016	6	11.9	15.3	3.4	STAPLETON RD	East	16-Aug-04	Linda	20	2	2	0	0	1	1	0	0	1	1	2	2	6	6		
4130016	7	15.3	18.6	3.3	STAPLETON RD	East	16-Aug-04	Linda	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5		
4130017	1	0	5.615	5.615	KEENE RD	East	17-Aug-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9		
4130017	2	5.615	6.13	0.515	KEENE RD	East	17-Aug-04	Linda	20	2	2	1	1	1	1	2	1	2	1	2	2	10	8		
4130019	1	0	0.43	0.43	TRAYNING NORTH RD	West	18-Aug-04	Linda	20	2	2	0	0	0	0	1	0	1	1	2	2	6	5		
4130019	2	0.43	1.86	1.43	TRAYNING NORTH RD	West	18-Aug-04	Linda	20	2	2	0	0	1	1	0	0	2	2	2	2	7	7		
4130019	3	1.86	3.49	1.63	TRAYNING NORTH RD	West	18-Aug-04	Linda	20	2	2	0	0	1	1	1	1	0	0	2	2	6	6		
4130019	4	3.49	5.02	1.53	TRAYNING NORTH RD	West	18-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4		
4130019	5	5.02	6.85	1.83	TRAYNING NORTH RD	West	18-Aug-04	Linda	20	2	2	1	1	1	1	2	2	0	0	2	2	8	8		
4130019	6	6.85	8.29	1.44	TRAYNING NORTH RD	West	18-Aug-04	Linda	20	2	2	0	0	1	1	1	1	0	0	2	2	6	6		

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130020	1	0	2.45	2.45	LETCHFORD RD	West	14-Aug-04	Linda	20	1	1	0	0	1	1	1	1	1	1	2	2	6	6	
4130020	2	2.45	5.3	2.85	LETCHFORD RD	West	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	
4130020	3	5.3	6.93	1.63	LETCHFORD RD	West	14-Aug-04	Linda	20	2	2	0	0	0	0	1	1	0	0	2	2	5	5	WILD_RADISH
4130020	4	6.93	8.36	1.43	LETCHFORD RD	West	14-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	WILD_RADISH
4130020	5	8.36	10.01	1.65	LETCHFORD RD	West	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	WILD_RADISH
4130020	6	10.01	12.96	2.95	LETCHFORD RD	West	14-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	2	2	2	8	9	WILD_RADISH
4130020	7	12.96	16.82	3.86	LETCHFORD RD	West	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	WILD_RADISH
4130021	1	1.7	2.2	0.5	MCANDREW RD	East	18-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4	
4130021	2	2.2	3.7	1.5	MCANDREW RD	East	18-Aug-04	Linda	20	0	1	0	0	0	0	0	0	0	0	2	2	2	3	
4130021	3	3.7	4.4	0.7	MCANDREW RD	East	18-Aug-04	Linda	20	2	2	0	0	0	0	0	0	1	1	2	2	5	5	
4130021	4	4.4	5.3	0.9	MCANDREW RD	East	18-Aug-04	Linda	20	2	2	0	0	0	0	0	0	1	1	2	2	5	5	
4130021	5	5.3	6.5	1.2	MCANDREW RD	East	18-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	
4130021	6	6.5	7.6	1.1	MCANDREW RD	East	18-Aug-04	Linda	20	1	2	0	1	0	1	0	2	0	2	2	2	3	10	
4130021	7	7.6	9.15	1.55	MCANDREW RD	East	18-Aug-04	Linda	20	2	2	0	1	1	1	2	2	0	1	2	2	7	9	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130022	1	0	3.4	3.4	RILEY RD	East	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	WILD_RADISH
4130022	2	3.4	3.9	0.5	RILEY RD	East	14-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	WILD_RADISH
4130022	3	3.9	5.9	2	RILEY RD	East	14-Aug-04	Linda	20	2	2	0	0	1	1	0	0	0	0	2	2	5	5	WILD_RADISH
4130022	4	5.9	6.55	0.65	RILEY RD	East	14-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	1	2	2	8	8	
4130023	1	0	6.13	6.13	HEWITT RD	East	18-Aug-04	Linda	20	2	2	0	0	1	1	0	0	2	2	2	2	7	7	
4130024	1	0	0.97	0.97	MULCAHY RD	South	16-Aug-04	Linda	20	2	2	0	0	0	0	1	1	0	0	2	2	5	5	
4130024	2	0.97	2.14	1.17	MULCAHY RD	South	16-Aug-04	Linda	20	2	2	1	1	2	2	2	2	1	1	2	2	10	10	
4130024	3	2.14	4.71	2.57	MULCAHY RD	South	16-Aug-04	Linda	20	2	2	0	0	1	1	2	2	0	0	2	2	7	7	
4130024	4	4.71	5.29	0.58	MULCAHY RD	South	16-Aug-04	Linda	20	1	1	0	0	1	1	1	1	0	0	2	2	5	5	
4130025	1	0	0.9	0.9	DUNKLEY RD	South	16-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	
4130025	2	0.9	1.4	0.5	DUNKLEY RD	South	16-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	2	2	2	9	10	
4130025	3	1.4	2.4	1	DUNKLEY RD	South	16-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	
4130025	4	2.4	5.3	2.9	DUNKLEY RD	South	16-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	
4130025	5	5.3	6.6	1.3	DUNKLEY RD	South	16-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	2	2	2	8	9	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130025	6	6.6	8.34	1.74	DUNKLEY RD	South	16-Aug-04	Linda	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	
4130026	1	0	3.7	3.7	PERKS-O'MEARA RD	South	14-Aug-04	Linda	20	2	2	0	0	1	1	0	0	1	1	2	2	6	6	SOURSOB
4130026	2	3.7	5.8	2.1	PERKS-O'MEARA RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	
4130026	3	5.8	7.3	1.5	PERKS-O'MEARA RD	South	14-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	
4130026	4	7.3	8.5	1.2	PERKS-O'MEARA RD	South	14-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	
4130026	5	8.5	9.6	1.1	PERKS-O'MEARA RD	South	14-Aug-04	Linda	20	1	1	1	1	1	1	2	2	1	1	2	2	8	8	
4130026	6	9.6	10.2	0.6	PERKS-O'MEARA RD	South	14-Aug-04	Linda	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	
4130026	7	10.2	11.3	1.1	PERKS-O'MEARA RD	South	14-Aug-04	Linda	20	2	2	0	0	1	0	2	2	1	2	2	2	8	8	
4130026	8	11.3	15.1	3.8	PERKS-O'MEARA RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	
4130026	9	15.1	15.85	0.75	PERKS-O'MEARA RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	SALT_AFFECTED_ROADSIDE
4130027	1	0	0.74	0.74	GOLDFIELDS RD	East	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	
4130027	2	0.74	1.38	0.64	GOLDFIELDS RD	East	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	
4130027	3	1.38	3.02	1.64	GOLDFIELDS RD	East	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7	
4130027	4	3.02	5.36	2.34	GOLDFIELDS RD	East	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130027	5	5.36	7.5	2.14	GOLDFIELDS RD	East	19-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	1	2	2	9	9	
4130027	6	7.5	9.54	2.04	GOLDFIELDS RD	East	19-Aug-04	Linda	20	2	2	0	0	1	1	0	0	0	0	2	2	5	5	
4130027	7	9.54	10.98	1.44	GOLDFIELDS RD	East	19-Aug-04	Linda	20	2	2	0	0	1	1	0	0	2	2	2	2	7	7	SOURSOB
4130027	8	10.98	15.39	4.41	GOLDFIELDS RD	East	19-Aug-04	Linda	20	2	2	0	0	1	1	0	0	2	2	2	2	7	7	SOURSOB
4130030	1	0	0.6	0.6	KODJ KODJIN RD	South	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	
4130030	2	0.6	2	1.4	KODJ KODJIN RD	South	14-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	1	2	2	9	9	
4130030	3	2	3.26	1.26	KODJ KODJIN RD	South	14-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	1	2	2	9	9	
4130031	1	0	1.05	1.05	FOORD RD	East	18-Aug-04	Linda	20	2	2	0	0	1	1	0	0	0	0	2	2	5	5	WILD_RADISH
4130031	2	1.05	2	0.95	FOORD RD	East	18-Aug-04	Linda	20	0	2	0	0	0	0	0	0	0	0	2	2	2	4	WILD_RADISH
4130031	3	2	3.15	1.15	FOORD RD	East	18-Aug-04	Linda	20	0	2	0	0	0	0	0	0	0	0	2	2	2	4	WILD_RADISH
4130031	4	3.15	5.71	2.56	FOORD RD	East	18-Aug-04	Linda	20	2	2	0	0	1	1	0	0	0	0	2	2	5	5	WILD_RADISH
4130032	1	0	2.05	2.05	GANGELL RD	North	19-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4	
4130032	2	2.05	3.1	1.05	GANGELL RD	North	19-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	
4130032	3	3.1	5.65	2.55	GANGELL RD	North	19-Aug-04	Linda	20	2	2	0	0	1	1	0	0	1	1	2	2	6	6	WILD_RADISH

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130033	1	0	1.84	1.84	SACHSE RD	East	02-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4	WILD_RADISH
4130033	2	1.84	2.58	0.74	SACHSE RD	East	02-Aug-04	Linda	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	WILD_RADISH SALT_AFFECTED_ROADSIDE
4130033	3	2.58	6.77	4.19	SACHSE RD	East	02-Aug-04	Linda	20	2	2	0	0	1	1	0	0	2	2	2	2	7	7	WILD_RADISH
4130034	1	0	0.4	0.4	RYANS RD	East	03-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	1	3	2	
4130034	2	0.4	3.1	2.7	RYANS RD	East	03-Aug-04	Linda	20	2	2	0	0	1	1	0	0	1	1	2	2	6	6	
4130034	3	3.1	9.15	6.05	RYANS RD	East	03-Aug-04	Linda	20	1	1	0	0	1	1	0	0	1	1	2	2	5	5	HABITAT_TREES
4130035	1	0	4.34	4.34	WELBUNGIN SOUTH RD	North	17-Aug-04	Linda	20	2	2	0	0	1	1	1	0	2	2	2	2	8	7	
4130036	1	0	2.56	2.56	LEE RD	East	16-Aug-04	Linda	20	2	1	1	0	1	1	0	0	2	1	2	2	8	5	
4130036	2	2.56	7.62	5.06	LEE RD	East	16-Aug-04	Linda	20	2	1	1	0	1	0	1	0	2	1	2	2	9	4	
4130036	3	7.62	9.48	1.86	LEE RD	East	16-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	HABITAT_TREES
4130036	4	9.48	15.64	6.16	LEE RD	East	16-Aug-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	HABITAT_TREES
4130036	5	15.64	16.9	1.26	LEE RD	East	16-Aug-04	Linda	20	1	2	0	0	0	0	2	2	0	0	2	2	5	6	SALT_AFFECTED_ROADSIDE
4130036	6	16.9	18.06	1.16	LEE RD	East	16-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	5	5	
4130037	1	0	2.58	2.58	CONDOR RD	West	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130038	1	0	3.5	3.5	TILBROOK RD	North	14-Aug-04	Linda	20	2	2	0	1	0	1	1	1	0	1	2	2	5	8	
4130038	2	3.5	4.8	1.3	TILBROOK RD	North	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	
4130038	3	4.8	7.47	2.67	TILBROOK RD	North	14-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4	
4130039	1	0	0.3	0.3	LAST RD	West	16-Aug-04	Linda	20	2	2	0	0	1	1	2	1	0	0	2	2	7	6	SALT_AFFECTED_ROADSIDE
4130039	2	0.3	1.4	1.1	LAST RD	West	16-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	0	2	2	7	6	
4130039	3	1.4	1.9	0.5	LAST RD	West	16-Aug-04	Linda	20	2	2	0	0	0	0	1	1	1	1	2	2	6	6	SOURSOB
4130039	4	1.9	2.36	0.46	LAST RD	West	16-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	1	2	2	4	5	SOURSOB
4130040	1	0	0.9	0.9	BROWN RD	West	19-Aug-04	Linda	20	2	2	0	0	0	0	1	1	0	0	2	2	5	5	
4130040	2	0.9	1.6	0.7	BROWN RD	West	19-Aug-04	Linda	20	2	2	0	0	0	0	2	2	0	0	2	2	6	6	SALT_AFFECTED_ROADSIDE
4130040	3	1.6	3.88	2.28	BROWN RD	West	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7	
4130041	1	0	3.7	3.7	FLEMING RD	North	18-Aug-04	Linda	20	2	2	0	0	1	1	0	0	1	1	2	2	6	6	
4130041	2	3.7	6.1	2.4	FLEMING RD	North	18-Aug-04	Linda	20	2	2	0	0	1	1	2	2	1	1	2	2	8	8	SALT_AFFECTED_ROADSIDE
4130041	3	6.1	7.2	1.1	FLEMING RD	North	18-Aug-04	Linda	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	SALT_AFFECTED_ROADSIDE
4130041	4	7.2	10.2	3	FLEMING RD	North	18-Aug-04	Linda	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	SALT_AFFECTED_ROADSIDE

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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
4130042	1	0	0.3	0.3	WALLAMBIN RD	West	19-Aug-04	Linda	20	1	0	0	0	0	0	0	2	2	0	0	2	2	5	4	SALT_AFFECTED_ROADSIDE
4130042	2	0.3	1.3	1	WALLAMBIN RD	West	19-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	0	2	2	3	3	WILD_RADISH
4130042	3	1.3	5.2	3.9	WALLAMBIN RD	West	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7	WILD_RADISH	
4130042	4	5.2	5.8	0.6	WALLAMBIN RD	West	19-Aug-04	Linda	20	2	2	0	0	1	1	0	0	1	1	2	2	6	6	WILD_RADISH	
4130042	5	5.8	7.43	1.63	WALLAMBIN RD	West	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7	WILD_RADISH	
4130043	1	0	1.1	1.1	TRAVERS RD	South	16-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4		
4130043	2	1.1	2.8	1.7	TRAVERS RD	South	16-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4	SALT_AFFECTED_ROADSIDE	
4130043	3	2.8	4	1.2	TRAVERS RD	South	16-Aug-04	Linda	20	1	1	0	0	0	0	0	1	0	0	2	2	3	4		
4130043	4	4	4.3	0.3	TRAVERS RD	South	16-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	1	2	2	9	9		
4130043	5	4.3	6.6	2.3	TRAVERS RD	South	16-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7		
4130043	6	6.6	10.5	3.9	TRAVERS RD	South	16-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7		
4130043	7	14.1	18.1	4	TRAVERS RD	South	16-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	1	2	2	7	7		
4130043	8	18.1	18.8	0.7	TRAVERS RD	South	16-Aug-04	Linda	20	1	2	0	1	0	1	1	1	0	1	2	2	4	8		
4130043	9	18.8	19.3	0.5	TRAVERS RD	South	16-Aug-04	Linda	20	2	2	1	1	1	1	1	1	0	0	2	2	7	7		

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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
4130043	10	19.3	19.9	0.6	TRAVERS RD	South	16-Aug-04	Linda	20	2	2	1	1	1	1	1	1	0	0	2	2	7	7		
4130043	11	19.9	20.5	0.6	TRAVERS RD	South	16-Aug-04	Linda	20	2	2	1	1	1	1	1	1	0	0	2	2	7	7		
4130043	12	20.5	21.6	1.1	TRAVERS RD	South	16-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3		
4130043	13	21.6	23	1.4	TRAVERS RD	South	16-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4		
4130044	1	0	0.6	0.6	KIDD RD	East	18-Aug-04	Linda	20	2	2	0	0	1	1	1	2	2	2	2	2	2	8	9	SOURSOB
4130044	2	0.6	1	0.4	KIDD RD	East	18-Aug-04	Linda	20	2	2	0	0	1	1	1	2	1	1	2	2	7	8	SOURSOB	
4130044	3	1	1.8	0.8	KIDD RD	East	18-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	2	10	10	
4130044	4	1.8	4.2	2.4	KIDD RD	East	18-Aug-04	Linda	20	2	2	0	1	1	1	2	2	2	2	2	2	2	9	10	
4130045	1	0	6.68	6.68	BUCKLEY RD	North	19-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	2	10	10	
4130045	2	6.68	6.96	0.28	BUCKLEY RD	North	19-Aug-04	Linda	20	2	2	0	0	0	0	2	2	0	0	2	2	6	6	SALT_AFFECTED_ROADSIDE	
4130045	3	6.96	11.84	4.88	BUCKLEY RD	North	19-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	2	10	10	
4130047	1	0	1.36	1.36	RANCE RD	East	17-Aug-04	Linda	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	SALT_AFFECTED_ROADSIDE	
4130048	1	0	0.8	0.8	LAMOND RD	West	18-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	0	2	2	4	3		
4130048	2	0.8	2.41	1.61	LAMOND RD	West	18-Aug-04	Linda	20	2	2	2	0	2	1	2	1	2	1	2	2	12	7		

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		(km)	(km)							(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	
4130049	1	0	0.6	0.6	LAWSON RD	East	18-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	
4130049	2	0.6	3.33	2.73	LAWSON RD	East	18-Aug-04	Linda	20	2	2	0	0	1	1	0	0	2	2	2	2	7	7	
4130050	1	0	1.68	1.68	WALLACE RD	East	18-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	
4130051	1	0	0.6	0.6	SUTTON RD	East	18-Aug-04	Linda	20	2	2	0	0	1	1	2	2	2	2	2	2	9	9	
4130051	2	0.6	3.9	3.3	SUTTON RD	East	18-Aug-04	Linda	20	2	2	1	2	1	2	2	2	2	2	2	2	10	12	
4130051	3	3.9	5.76	1.86	SUTTON RD	East	18-Aug-04	Linda	20	2	2	1	2	1	2	2	2	2	2	2	2	10	12	
4130052	1	0	1.98	1.98	COUPER RD	East	19-May-05	Linda		2	2	0	0	1	1	1	1	1	1	2	2	7	7	
4130052	2	1.98	3.06	1.08	COUPER RD	East	19-May-05	Linda		1	1	0	0	0	0	2	2	0	0	2	2	5	5	HABITAT_TREES
4130052	3	3.06	6.35	3.29	COUPER RD	East	19-May-05	Linda		2	2	0	0	0	0	0	0	1	1	2	2	5	5	HABITAT_TREES
4130053	1	0	1.7	1.7	TANNER RD	South	02-Aug-04	Linda	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	SALT_AFFECTED_ROADSIDE
4130054	1	0	4.62	4.62	BILLYACATTING RD	North	18-Aug-04	Linda	20	2	2	2	1	2	1	2	2	2	2	2	2	12	10	
4130056	1	0	1.42	1.42	HODGES RD	East	03-Aug-04	Linda	20	2	2	0	0	1	1	2	2	1	1	2	2	8	8	
4130057	1	0	1.1	1.1	DOHERTY RD	North	03-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	WILD_RADISH
4130057	2	1.1	3.8	2.7	DOHERTY RD	North	03-Aug-04	Linda	20	2	2	1	1	2	2	2	2	1	1	2	2	10	10	WILD_RADISH

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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
4130057	3	3.8	4.87	1.07	DOHERTY RD	North	03-Aug-04	Linda	20	2	2	0	1	1	1	1	2	1	1	2	2	7	9		
4130058	1	0	4.54	4.54	READ RD	North	17-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	SALT_AFFECTED_ROADSIDE	
4130059	1	0	0.8	0.8	MULLINS RD	West	19-Aug-04	Linda	20	2	2	0	0	1	1	2	2	1	1	2	2	8	8		
4130059	2	0.8	2.04	1.24	MULLINS RD	West	19-Aug-04	Linda	20	1	1	0	0	0	0	1	1	0	0	2	2	4	4		
4130060	1	0	5.49	5.49	LOCKYER RD	East	19-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10		
4130061	1	0	1.35	1.35	YORKRAKINE EAST RD	West	16-Aug-04	Linda	20	2	2	0	0	1	1	1	1	1	0	2	2	7	6	SALT_AFFECTED_ROADSIDE	
4130062	1	0	0.3	0.3	CLAUSEN RD	East	16-Aug-04	Linda	20	2	2	0	0	1	1	0	0	0	0	2	2	5	5		
4130062	2	0.3	1	0.7	CLAUSEN RD	East	16-Aug-04	Linda	20	1	1	0	0	0	0	1	2	0	0	2	2	4	5		
4130062	3	1	2.1	1.1	CLAUSEN RD	East	16-Aug-04	Linda	20	1	2	0	1	0	1	2	2	0	1	2	2	5	9		
4130062	4	2.1	2.92	0.82	CLAUSEN RD	East	16-Aug-04	Linda	20	1	2	0	0	0	1	2	2	0	0	2	2	5	7		
4130063	1	0	0.7	0.7	KAHL RD	South	02-Aug-04	Linda	20	2	0	2	0	2	0	2	0	2	0	0	2	2	10	2	
4130063	2	0.7	1.52	0.82	KAHL RD	South	02-Aug-04	Linda	20	2	0	0	0	0	0	0	0	1	0	2	2	5	2		
4130064	1	0	2.91	2.91	GOLF LINKS RD	North	19-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8		
4130085	1	0	1.89	1.89	BEAURTEAUX RD	East	03-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	PATERSONS_CURSE	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130086	1	0	0.5	0.5	LAIRDS RD	East	23-Jul-04	Linda	20	1	1	0	0	1	1	1	1	2	2	2	2	7	7	HABITAT_TREES
4130086	2	0.5	2.53	2.03	LAIRDS RD	East	23-Jul-04	Linda	20	1	1	0	0	0	0	0	0	1	1	1	2	3	4	
4130087	1	0	2.41	2.41	NALKAIN RD	North	19-May-05	Linda		2	2	1	1	1	1	1	1	0	0	2	2	7	7	
4130088	1	0	1.1	1.1	PULLEN RD	West	14-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	1	2	2	8	8	
4130088	2	1.1	3	1.9	PULLEN RD	West	14-Aug-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	HABITAT_TREES
4130088	3	3	4.7	1.7	PULLEN RD	West	14-Aug-04	Linda	20	1	1	1	1	1	1	2	2	1	1	2	2	8	8	HABITAT_TREES
4130088	4	4.7	5.8	1.1	PULLEN RD	West	14-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	2	2	2	9	10	
4130088	5	5.8	7.14	1.34	PULLEN RD	West	14-Aug-04	Linda	20	1	1	1	0	1	0	1	0	1	0	2	2	7	3	
4130089	1	0	1.9	1.9	HAMMOND RD	East	14-Aug-04	Linda	20	1	2	0	0	1	1	1	1	1	1	2	2	6	7	
4130090	1	0	0.59	0.59	HARROD RD	East	17-Aug-04	Linda	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	
4130090	2	0.59	3.38	2.79	HARROD RD	East	17-Aug-04	Linda	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	
4130090	3	3.38	6.17	2.79	HARROD RD	East	17-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	
4130090	4	6.17	6.96	0.79	HARROD RD	East	17-Aug-04	Linda	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	SALT_AFFECTED_ROADSIDE
4130090	5	6.96	8.35	1.39	HARROD RD	East	17-Aug-04	Linda	20	1	1	0	0	0	0	2	2	0	0	2	2	5	5	SALT_AFFECTED_ROADSIDE

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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
4130090	6	8.35	9.54	1.19	HARROD RD	East	17-Aug-04	Linda	20	2	2	0	0	0	0	0	0	1	1	2	2	5	5		
4130090	7	9.54	10.85	1.31	HARROD RD	East	17-Aug-04	Linda	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4		
4130094	1	0	1.7	1.7	GREAVES RD	South	16-Aug-04	Linda	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_RADISH	
4130094	2	1.7	3.93	2.23	GREAVES RD	South	16-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	2	2	2	8	9	SOURSOB	
4130095	1	0	1.7	1.7	BARNES RD	East	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3		
4130095	2	1.7	2.8	1.1	BARNES RD	East	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3		
4130095	3	2.8	4.4	1.6	BARNES RD	East	14-Aug-04	Linda	20	1	1	1	1	1	1	1	0	1	2	2	2	7	9		
4130095	4	4.4	5.4	1	BARNES RD	East	14-Aug-04	Linda	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3		
4130095	5	5.4	7	1.6	BARNES RD	East	14-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	2	10	10	
4130095	6	7	9.1	2.1	BARNES RD	East	14-Aug-04	Linda	20	2	2	0	0	1	1	0	1	1	1	2	2	6	7		
4130095	7	9.1	11.77	2.67	BARNES RD	East	14-Aug-04	Linda	20	1	1	0	0	1	1	0	0	0	0	2	2	4	4		
4130099	1	0.3	5.7	5.4	KELLERBERRIN-BENCUBBIN RD	South	11-Aug-04	Linda	20	2	2	1	1	1	1	1	1	1	1	2	2	8	8		
4130099	2	5.7	7.6	1.9	KELLERBERRIN-BENCUBBIN RD	South	11-Aug-04	Linda	40	2	2	1	1	1	1	2	2	2	2	2	2	10	10		
4130099	3	7.6	9.7	2.1	KELLERBERRIN-BENCUBBIN RD	South	11-Aug-04	Linda	40	1	1	0	0	1	1	0	0	1	1	2	2	5	5	HABITAT_TREES	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	Left
4130099	4	9.7	11.8	2.1	KELLERBERRIN-BENCUBBIN RD	South	11-Aug-04	Linda	40	1	1	0	0	1	1	1	1	1	1	2	2	6	6	HABITAT_TREES SOURSOB WILD_RADISH		
4130099	5	11.8	12.8	1	KELLERBERRIN-BENCUBBIN RD	South	11-Aug-04	Linda	40	2	2	1	1	1	1	2	2	1	1	2	2	9	9	HABITAT_TREES SOURSOB WILD_RADISH		
4130099	6	12.8	17.2	4.4	KELLERBERRIN-BENCUBBIN RD	South	11-Aug-04	Linda	40	1	1	0	0	0	0	0	0	1	1	2	2	4	4	HABITAT_TREES		
4130099	7	17.2	20.7	3.5	KELLERBERRIN-BENCUBBIN RD	South	11-Aug-04	Linda	40	1	1	0	0	1	1	0	0	0	0	2	2	4	4	HABITAT_TREES		
4130099	8	20.7	22.7	2	KELLERBERRIN-BENCUBBIN RD	South	11-Aug-04	Linda	40	2	2	1	1	1	1	2	2	1	1	2	2	9	9			
4130099	9	22.7	29	6.3	KELLERBERRIN-BENCUBBIN RD	South	11-Aug-04	Linda	40	2	2	1	1	2	2	2	2	2	2	2	2	2	2	11	11	
4130099	10	29	30.9	1.9	KELLERBERRIN-BENCUBBIN RD	South	11-Aug-04	Linda	40	2	2	1	1	2	2	2	2	2	2	2	2	2	2	11	11	
4130101	1	0	0.9	0.9	KELLERBERRIN-BENCUBBIN RD	North	17-Aug-04	Linda	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4130101	2	0.9	2.5	1.6	KELLERBERRIN-BENCUBBIN RD	North	17-Aug-04	Linda	40	2	2	0	0	0	0	0	0	1	1	2	2	5	5	AFRICAN_LOVEGRASS		
4130101	3	2.5	5	2.5	KELLERBERRIN-BENCUBBIN RD	North	17-Aug-04	Linda	40	2	2	1	1	1	1	1	1	1	1	2	2	8	8	AFRICAN_LOVEGRASS		
4130101	4	5	6.8	1.8	KELLERBERRIN-BENCUBBIN RD	North	17-Aug-04	Linda	40	2	2	1	0	1	1	1	1	1	2	2	2	8	8	AFRICAN_LOVEGRASS		
4130101	5	6.8	9.3	2.5	KELLERBERRIN-BENCUBBIN RD	North	17-Aug-04	Linda	40	2	2	1	1	1	1	2	2	2	2	2	2	2	10	10	AFRICAN_LOVEGRASS	
4130101	6	9.3	9.7	0.4	KELLERBERRIN-BENCUBBIN RD	North	17-Aug-04	Linda	40	1	1	0	0	0	0	0	0	0	0	2	2	3	3			
4130101	7	9.7	13.1	3.4	KELLERBERRIN-BENCUBBIN RD	North	17-Aug-04	Linda	40	2	2	1	1	1	1	2	2	2	2	2	2	2	10	10		

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
4130101	8	13.1	15	1.9	KELLERBERRIN-BENCUBBIN RD	North	17-Aug-04	Linda	40	1	1	0	0	0	0	0	0	0	0	2	2	3	3	AFRICAN_LOVEGRASS
4130101	9	15	20.49	5.49	KELLERBERRIN-BENCUBBIN RD	North	17-Aug-04	Linda	40	2	2	1	1	1	1	1	1	2	2	2	2	9	9	AFRICAN_LOVEGRASS WILD_RADISH
4130102	1	0	1.3	1.3	KUNUNOPPIN-MUKINBUDIN RD	North	17-Aug-04	Linda	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	SOURSOB
4130102	2	1.3	6.8	5.5	KUNUNOPPIN-MUKINBUDIN RD	North	17-Aug-04	Linda	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	SOURSOB
4130102	3	6.8	9	2.2	KUNUNOPPIN-MUKINBUDIN RD	North	17-Aug-04	Linda	20	2	2	1	0	1	1	1	1	2	2	2	2	9	8	SOURSOB
4130102	4	9	10.7	1.7	KUNUNOPPIN-MUKINBUDIN RD	North	17-Aug-04	Linda	20	2	2	0	0	0	0	0	0	0	0	2	2	4	4	SOURSOB
4130102	5	10.7	16.7	6	KUNUNOPPIN-MUKINBUDIN RD	North	17-Aug-04	Linda	20	2	2	0	0	0	0	0	0	1	1	2	2	5	5	SOURSOB
4130102	6	16.7	18	1.3	KUNUNOPPIN-MUKINBUDIN RD	North	17-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	
4130102	7	18	22	4	KUNUNOPPIN-MUKINBUDIN RD	North	17-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	
4130102	8	22	24.54	2.54	KUNUNOPPIN-MUKINBUDIN RD	North	17-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	
M016	1	80.57	84.17	3.6	GOOMALLING-MERREDIN	East	19-May-05	Linda		2	2	1	1	2	2	1	1	2	2	2	2	10	10	
M016	2	84.17	85.07	0.9	GOOMALLING-MERREDIN	East	19-May-05	Linda		2	1	1	0	2	1	1	1	2	0	2	2	10	5	
M016	3	85.07	96.57	11.5	GOOMALLING-MERREDIN	East	19-May-05	Linda		2	2	1	0	2	1	2	0	2	0	1	2	10	5	
M016	4	96.57	97.07	0.5	GOOMALLING-MERREDIN	East	19-May-05	Linda		2	2	0	0	1	1	1	1	0	0	1	2	5	6	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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	
M016	5	97.07	98.27	1.2	GOOMALLING-MERREDIN	East	19-May-05	Linda		1	1	0	0	0	0	2	2	0	0	1	2	4	5	
M016	6	98.27	99.57	1.3	GOOMALLING-MERREDIN	East	19-May-05	Linda		2	1	1	0	1	0	1	0	0	0	1	2	6	3	
M016	7	100.11	100.81	0.7	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	0	0	0	0	0	0	1	1	0	0	2	2	3	3	
M016	8	100.81	107.61	6.8	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	2	0	1	0	2	0	1	0	2	0	2	2	10	2	AFRICAN_LOVEGRASS HABITAT_TREES
M016	9	107.61	109.11	1.5	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	2	2	2	2	2	2	2	2	2	2	1	0	11	10	HABITAT_TREES
M016	10	109.11	109.41	0.3	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	2	2	0	0	1	1	2	2	1	1	1	0	7	6	HABITAT_TREES SALT_AFFECTED_ROADSIDE
M016	11	109.41	110.51	1.1	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	2	2	2	2	2	2	2	2	2	2	1	0	11	10	HABITAT_TREES
M016	12	110.51	111.61	1.1	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	2	1	2	0	2	0	2	0	2	1	1	2	11	4	HABITAT_TREES
M016	13	111.61	112.71	1.1	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	1	1	0	0	0	0	1	1	1	1	1	0	4	3	AFRICAN_LOVEGRASS
M016	14	112.71	113.81	1.1	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	2	0	0	0	1	0	0	0	1	0	1	2	5	2	AFRICAN_LOVEGRASS
M016	15	113.81	114.41	0.6	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	2	2	1	0	1	0	1	1	1	1	1	2	7	6	AFRICAN_LOVEGRASS
M016	16	114.41	115.61	1.2	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	2	2	1	1	1	1	2	2	1	1	1	2	8	9	AFRICAN_LOVEGRASS
M016	17	115.61	117.01	1.4	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	2	2	1	1	1	1	2	2	2	1	1	2	9	9	HABITAT_TREES
M016	18	117.01	119.91	2.9	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	2	2	1	0	2	1	2	1	2	2	1	2	10	8	HABITAT_TREES

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Observer	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
M016	19	119.91	120.71	0.8	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	AFRICAN_LOVEGRASS
M016	20	120.71	121.88	1.17	GOOMALLING-MERREDIN	East	02-Aug-04	Linda	20	1	2	0	1	0	1	0	1	0	2	2	1	3	8	AFRICAN_LOVEGRASS	

Appendix

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APPENDIX 3

Road names and lengths: Shire of Trayning

(Source: Main Roads WA 2004)

Road #	Road Name	Length (km)
4130083	ADAM ST	0.50
4130070	ADAMS ST	0.36
4130078	ALEXANDER ST	0.56
4130065	APPLEYARD RD	1.77
4130095	BARNES RD	11.77
4130085	BEURTEAUX RD	1.89
4130001	BENCUBBIN-KUNUNOPPIN RD	20.55
4130054	BILLYACATTING RD	4.62
4130040	BROWN RD	3.88
4130045	BUCKLEY RD	11.84
4130062	CLAUSEN RD	2.92
4130037	CONDOR RD	2.58
4130066	CORONATION ST	0.54
4130052	COUPER RD	6.35
4130075	COUPER ST	0.27
4130084	COUPER ST	0.55
4130057	DOHERTY RD	4.87
4130007	DOODLAKINE-KUNUNOPPIN RD	27.48
4130025	DUNKLEY RD	8.34
4130093	FELGATE PDE	0.12
4130041	FLEMING RD	11.57
4130031	FOORD RD	5.71
4130015	GABBIN-TRAYNING RD	15.61
4130014	GALE RD	12.06
4130032	GANGELL RD	5.65
4130010	GENT RD	24.89
4130069	GEORGE ST	0.24
4130067	GLASS ST	0.54
4130080	GLASS ST	0.56
4130027	GOLDFIELDS RD	15.39
4130064	GOLF LINKS RD	2.91
4130094	GREAVES RD	3.93
4130089	HAMMOND RD	1.90
4130090	HARROD RD	10.85
4130023	HEWITT RD	6.13
4130103	HEWITT ST	0.61
4130056	HODGES RD	1.42
4130009	HUANDANNING RD	28.92
4130082	HUGHES ST	0.92
4130071	JUBILEE ST	0.12
4130063	KAHL RD	1.52
4130017	KEENE RD	6.13
4130099	KELLERBERRIN-BENCUBBIN RD	31.34
4130101	KELLERBERRIN-BENCUBBIN RD	20.49
4130008	KELLERBERRIN-YELBENI RD	25.07
4130044	KIDD RD	5.82
4130091	KING ST	0.15
4130105	KING ST	0.26
4130030	KODJ KODJIN RD	3.26
4130102	KUNUNOPPIN-MUKINBUDIN RD	24.54
4130086	LAIRDS RD	4.43
4130048	LAMOND RD	2.41
4130081	LAMOND ST	0.80

4130039	LAST RD	2.36
4130049	LAWSON RD	3.33
4130077	LEAKE ST	0.57
4130036	LEE RD	18.06
4130020	LETCHFORD RD	16.82
4130060	LOCKYER RD	5.49
4130092	LYNN ST	0.13
4130005	MANDIGA-TRAYNING RD	13.72
4130068	MARY ST	0.25
4130021	MCANDREW RD	9.15
4130012	MCNEIL RD	7.49
4130013	MINNIBERRI RD	20.30
4130011	MOUJAKINE RD	12.53
4130024	MULCAHY RD	5.29
4130059	MULLINS RD	2.04
4130087	NALKAIN RD	2.41
4130026	PERKS-O'MEARA RD	15.85
4130088	PULLEN RD	7.14
4130004	PURDY RD	28.48
4130104	RAILWAY ST	0.54
4130047	RANCE RD	1.36
4130058	READ RD	4.54
4130022	RILEY RD	6.55
4130074	RILEY ST	0.26
4130029	ROCK RD	4.86
4130034	RYANS RD	9.15
4130033	SACHSE RD	6.77
4130079	SCADDEN ST	0.56
4130003	SHERZINGER RD	13.34
4130006	SMEETON RD	13.17
4130016	STAPLETON RD	19.47
4130028	SUTHERLAND RD	6.20
4130072	SUTHERLAND ST	1.37
4130051	SUTTON RD	5.76
4130018	SWAMP WELL RD	17.60
4130053	TANNER RD	2.66
4130046	THOMPSON RD	14.46
4130038	TILBROOK RD	7.47
4130043	TRAVERS RD	31.68
4130019	TRAYNING NORTH RD	8.29
4130100	TWINE ST	0.49
4130097	UN-NAMED	0.16
4130096	UN-NAMED RD	0.36
4130073	WALKER ST	0.26
4130050	WALLACE RD	1.68
4130042	WALLAMBIN RD	7.43
4130035	WELBUNGIN SOUTH RD	4.34
4130076	WILSON ST	1.17
4130098	WRIGHT RD	1.12
4130002	YELBENI SOUTH EAST RD	8.63
4130061	YORKRAKINE EAST RD	1.35

Appendix

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APPENDIX 4

Flora species in the Shire of Trayning (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

<i>Acacia acoma</i> ms		<i>Amyema gibberula</i> var. <i>tatei</i>	
<i>Acacia acuaria</i>		<i>Amyema miquelii</i>	Stalked Mistletoe
<i>Acacia acutata</i>		<i>Amyema miraculosa</i> subsp. <i>boormanii</i>	
<i>Acacia aestivalis</i>		<i>Angianthus tomentosus</i>	Camel-grass
<i>Acacia beauverdiana</i>	Pukkati	<i>Anthocercis anisantha</i> subsp. <i>anisantha</i>	
<i>Acacia brachyclada</i>		<i>Arthropodium dyeri</i>	
<i>Acacia brumalis</i>		* <i>Asclepias curassavica</i>	Redhead Cottonbush
<i>Acacia caesariata</i>	P1	<i>Astartea heteranthera</i>	
<i>Acacia chrysellia</i>		<i>Astroloma serratifolium</i>	Kondrung
<i>Acacia coolgardiensis</i> subsp. <i>coolgardiensis</i>		<i>Austrodanthonia caespitosa</i>	
<i>Acacia enervia</i> subsp. <i>enervia</i>		<i>Austrostipa elegantissima</i>	
<i>Acacia erinacea</i>			
<i>Acacia fauntleroyi</i>		<i>Baeckea muricata</i>	
<i>Acacia glutinosissima</i>		<i>Baeckea recurva</i> ms	
<i>Acacia graniticola</i> ms		<i>Baeckea</i> sp. <i>Bencubbin-Koorda</i> (M.E. Trudgen 5421)	
<i>Acacia hemiteles</i>		<i>Baeckea tenuiramea</i>	
<i>Acacia heteroneura</i> var. <i>jutsonii</i>		<i>Balaustion pulcherrimum</i>	Native Pomegranate
<i>Acacia heteroneura</i> var. <i>petila</i>		<i>Beaufortia interstans</i>	
<i>Acacia jennerae</i>		<i>Blennospora phlegmatocarpa</i>	P3
<i>Acacia lasiocalyx</i>	Silver Wattle	<i>Boronia adamsiana</i>	R Barbalin Boronia
<i>Acacia ligulata</i>	Umbrella Bush	<i>Boronia coerulescens</i> subsp. <i>spinescens</i>	
<i>Acacia ligustrina</i>		<i>Bossiaea eriocarpa</i>	Common Brown Pea
<i>Acacia lineolata</i> subsp. <i>basalis</i> ms		* <i>Brassica tournefortii</i>	Mediterranean Turnip
<i>Acacia lineolata</i> subsp. <i>lineolata</i>		* <i>Bromus diandrus</i>	Great Brome
<i>Acacia longispinea</i>		<i>Brunonia australis</i>	Native Cornflower
<i>Acacia merinthophora</i>		<i>Caladenia pulchra</i>	
<i>Acacia merrallii</i>		<i>Caladenia radialis</i>	Drooping Spider Orchid
<i>Acacia merrickiae</i>	P4	<i>Callistemon phoeniceus</i>	Lesser Bottlebrush
<i>Acacia neurophylla</i> subsp. <i>erugata</i>		<i>Calothamnus quadrifidus</i> var. "unsorted"	One-sided Bottlebrush
<i>Acacia obtecta</i>			
<i>Acacia orbifolia</i>		<i>Calycopeplus paucifolius</i>	
<i>Acacia phaeocalyx</i>	P3	<i>Calytrix gracilis</i>	
<i>Acacia restiacea</i>		<i>Calytrix leschenaultii</i>	
<i>Acacia rigens</i>	Nealie	<i>Calytrix violacea</i>	
<i>Acacia saxatilis</i>		<i>Cassytha nodiflora</i>	
<i>Acacia sericocarpa</i>		<i>Chamaexeros fimbriata</i>	
<i>Acacia sessilispica</i>		<i>Chamelaucium drummondii</i> subsp. <i>hallii</i> ms	
<i>Acacia stereophylla</i> var. <i>stereophylla</i>		<i>Comesperma integerrimum</i>	
<i>Acacia tratmaniana</i>		<i>Comesperma spinosum</i>	Spiny Milkwort
<i>Acacia trigonophylla</i>		<i>Conostylis argentea</i>	
<i>Acacia uncinella</i>		<i>Conyza bonariensis</i>	Flaxleaf Fleabane
<i>Acacia verrucula</i>		<i>Cyanicula amplexans</i> ms	
<i>Acacia websteri</i>	P1	<i>Cyanostegia angustifolia</i>	Tinsel-flower
<i>Acacia yorkrakinensis</i> subsp. <i>acrita</i>		<i>Cyanostegia microphylla</i>	Tinsel-flower
<i>Allocasuarina acutivalvis</i> subsp. <i>acutivalvis</i>			
<i>Allocasuarina campestris</i>		<i>Dampiera eriocephala</i>	Woolly-headed Dampiera
<i>Allocasuarina corniculata</i>		<i>Dampiera haematotricha</i> subsp. <i>dura</i>	
<i>Amphibromus nervosus</i>		<i>Dampiera juncea</i>	Rush-like Dampiera

<i>Dampiera luteiflora</i>	Yellow Dampiera	<i>Glischrocaryon aureum</i> var. <i>aureum</i>	Common
<i>Dampiera stenostachya</i>	Narrow-spiked Dampiera		Popflower
<i>Darwinia purpurea</i>	Rose Darwinia	<i>Gnephosis brevifolia</i>	Short-leaved Gnephosis
<i>Dianella revoluta</i> var. <i>divaricata</i>		<i>Gompholobium gompholobioides</i>	
<i>Dicrasytilis parvifolia</i>		<i>Gonocarpus confertifolius</i> var. <i>helmsii</i>	
<i>Diplolaena velutina</i>		<i>Goodenia pinifolia</i>	Pine-leaved Goodenia
<i>Dodonaea bursariifolia</i>		<i>Goodenia tripartita</i>	
<i>Dodonaea inaequifolia</i>		<i>Granitites intangendus</i>	
<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>		<i>Grevillea didymobotrya</i> subsp. <i>didymobotrya</i>	
<i>Drosera andersoniana</i>	Sturdy Sundew	<i>Grevillea disjuncta</i>	
<i>Duboisia hopwoodii</i>	Pituri	<i>Grevillea eriobotrya</i>	P3 Woolly Cluster Grevillea
		<i>Grevillea excelsior</i>	Flame Grevillea
* <i>Echium plantagineum</i>	Paterson's Curse	<i>Grevillea haplantha</i> subsp. <i>recedens</i>	P3
<i>Enchylaena lanata</i>		<i>Grevillea minutiflora</i>	P1
<i>Eremophila decipiens</i> subsp. <i>decipiens</i> ms		<i>Grevillea nana</i> subsp. <i>nana</i>	
<i>Eremophila drummondii</i>		<i>Grevillea paradoxa</i>	Bottlebrush Grevillea
<i>Eremophila granitica</i>	Thin-leaved Poverty Bush	<i>Grevillea petrophiloides</i>	Pink Pokers
<i>Eremophila oppositifolia</i> subsp. <i>angustifolia</i> ms		<i>Grevillea pterosperma</i>	
<i>Eremophila papillata</i> ms		<i>Grevillea shuttleworthiana</i> subsp. <i>obovata</i>	
<i>Eremophila subfloccosa</i> subsp. <i>lanata</i> ms		<i>Grevillea yorkkrakinensis</i>	
<i>Eremophila subfloccosa</i> subsp. <i>subfloccosa</i>		<i>Gyrostemon racemiger</i>	
<i>Eremophila viscida</i>	R Varnish Bush	<i>Gyrostemon subnudus</i>	
<i>Eriostemon glaber</i>			
<i>Erymophyllum tenellum</i>		<i>Hakea subsulcata</i>	
<i>Eucalyptus burracoppinensis</i>	Burracoppin Mallee	<i>Halgania anagalloides</i> var. <i>anagalloides</i> ms	
<i>Eucalyptus caesia</i> subsp. <i>magna</i>	P4 Silver Princess	<i>Halgania lavandulacea</i>	Blue Bush
<i>Eucalyptus capillosa</i> subsp. <i>capillosa</i>	Wheatbelt	<i>Halosarcia halocnemoides</i> subsp. <i>halocnemoides</i>	
	Wandoo	<i>Halosarcia leptoclada</i> subsp. <i>inclusa</i>	
<i>Eucalyptus celastroides</i> subsp. <i>virella</i>		<i>Halosarcia pruinosa</i>	
<i>Eucalyptus crucis</i> subsp. <i>lanceolata</i>		<i>Hemigenia dielsii</i>	
<i>Eucalyptus eremophila</i> subsp. <i>eremophila</i>	Sand	<i>Hemigenia westringioides</i>	Open Hemigenia
	Mallee	<i>Hibbertia crassifolia</i>	
<i>Eucalyptus ewartiana</i>	Ewart's Mallee	<i>Hibbertia glomerosa</i>	
<i>Eucalyptus hypochlamydea</i> subsp. <i>ecdysiastes</i> ms		<i>Hibbertia rupicola</i>	
<i>Eucalyptus hypochlamydea</i> subsp. <i>hypochlamydea</i> ms		<i>Homalocalyx coarctatus</i>	
<i>Eucalyptus leptophylla</i>	Narrow-leaved Red Mallee	<i>Homalocalyx thryptomenoides</i>	
<i>Eucalyptus loxophleba</i> subsp. <i>lissophloia</i>		<i>Hybanthus floribundus</i> subsp. <i>floribundus</i>	
<i>Eucalyptus loxophleba</i> subsp. <i>supralaevis</i>			
<i>Eucalyptus myriadena</i>		<i>Isoetes australis</i>	
<i>Eucalyptus myriadena</i> subsp. <i>myriadena</i>		<i>Isotoma hypocrateriformis</i>	Woodbridge Poison
<i>Eucalyptus oldfieldii</i>	Oldfield's Mallee	<i>Isotoma petraea</i>	Rock Isotome
<i>Eucalyptus rigidula</i>	Stiff-leaved Mallee		
<i>Eucalyptus salicola</i>	Salt Gum	<i>Juncus radula</i>	
<i>Eucalyptus sheathiana</i>	Ribbon-barked Gum		
<i>Eucalyptus stowardii</i>	Fluted Horn Mallee	<i>Keraudrenia integrifolia</i>	Common Firebush
<i>Eucalyptus subangusta</i>			
<i>Eucalyptus subangusta</i> subsp. <i>cerina</i>		<i>Labichea lanceolata</i> subsp. <i>brevifolia</i>	
<i>Eucalyptus subangusta</i> subsp. <i>subangusta</i>		<i>Leptomeria preissiana</i>	
<i>Exocarpos aphyllus</i>	Leafless Ballart	<i>Leptospermum erubescens</i>	Roadside Teatree
		<i>Leptospermum roei</i>	
* <i>Furcraea selloa</i>		<i>Leucochrysum fitzgibbonii</i>	
		<i>Leucopogon amplexans</i>	P2
<i>Gastrolobium bennettsianum</i>	Cluster Poison	<i>Levenhookia leptantha</i>	Trumpet Stylewort
<i>Gastrolobium parviflorum</i>		<i>Lobelia rarifolia</i>	
<i>Gastrolobium spectabile</i>	P3	<i>Lomandra collina</i>	Pale Mat Rush
<i>Gilruthia osbornei</i>		<i>Lomandra effusa</i>	Scented Matrush

<i>Lysiosepalum rugosum</i>	Wrinkled Leaf Lysiosepalum	<i>Ptilotus polystachyus</i> var. <i>polystachyus</i>	Prince of Wales Feather
<i>Maireana carnosae</i>	Cottony Bluebush	<i>Ptilotus spathulatus</i>	
<i>Maireana diffusa</i>		<i>Regelia cymbifolia</i>	P4
<i>Maireana trichoptera</i>	Downy Bluebush	<i>Rhagodia drummondii</i>	
<i>Malleostemon roseus</i>		<i>Rhodanthe rubella</i>	
<i>Malleostemon tuberculatus</i>		<i>Schoenia cassiniana</i>	Schoenia
<i>Mallophora globiflora</i>		<i>Schoenia filifolia</i>	
<i>Marianthus erubescens</i>		<i>Scholtzia drummondii</i>	
<i>Melaleuca adnata</i>		<i>Sclerostegia moniliformis</i>	
<i>Melaleuca atroviridis</i>		* <i>Sisymbrium runcinatum</i>	
<i>Melaleuca conothamnoides</i>		<i>Solanum lasiophyllum</i>	Flannel Bush
<i>Melaleuca coronicarpa</i>		<i>Solanum nummularium</i>	Money-leaved Solanum
<i>Melaleuca ctenoides</i>		<i>Spartochloa scirpoidea</i>	
<i>Melaleuca eleuterostachya</i>		<i>Stylidium adpressum</i>	Trigger-on-stilts
<i>Melaleuca hamulosa</i>		<i>Stylidium calcaratum</i>	Book Triggerplant
<i>Melaleuca lateriflora</i> subsp. <i>lateriflora</i> ms		<i>Stylidium leptophyllum</i>	Needle-leaved Triggerplant
<i>Melaleuca laxiflora</i>		<i>Stylidium limbatum</i>	Fringed-leaved Triggerplant
<i>Melaleuca radula</i>	Graceful Honeymyrtle	<i>Stylidium piliferum</i>	Common Butterfly Triggerplant
<i>Melaleuca uncinata</i>	Broom Bush	<i>Stylidium yilgarnense</i>	Yilgarn Triggerplant
<i>Melaleuca viminea</i>	Mohan	<i>Stypantra glauca</i>	Blind Grass
<i>Micromyrtus obovata</i>		<i>Swainsona colutoidea</i>	Bladder Vetch
<i>Mirbelia trichocalyx</i>			
* <i>Narcissus tazetta</i>	Jonquil	<i>Templetonia sulcata</i>	Centipede Bush
<i>Neurachne alopecuroidea</i>	Foxtail Mulga Grass	<i>Tetradlea efoliata</i>	
		<i>Thryptomene australis</i>	Hook-leaf Thryptomene
<i>Olearia incondita</i>		<i>Thryptomene kochii</i>	
<i>Olearia muelleri</i>	Goldfields Daisy	<i>Thryptomene racemulosa</i>	
* <i>Oncosiphon piluliferum</i>	Globe Chamomile	<i>Thysanotus manglesianus</i>	Fringed Lily
* <i>Oncosiphon suffruticosum</i>	Calomba Daisy	<i>Thysanotus rectantherus</i>	
		<i>Trachymene cyanopetala</i>	
<i>Paspalidium basicladum</i>		<i>Tribulus terrestris</i>	Caltrop
<i>Persoonia quinquenervis</i>		<i>Trichodesma zeylanicum</i>	Camel Bush
<i>Persoonia saundersiana</i>		<i>Trymalium daphnifolium</i>	
<i>Phebalium ambiguum</i>		<i>Trymalium densiflorum</i>	P1
<i>Phebalium canaliculatum</i>			
<i>Phebalium filifolium</i>	Slender Phebalium	<i>Velleia discophora</i>	Cabbage Poison
<i>Phebalium megaphyllum</i> ms		<i>Verticordia brachypoda</i>	
<i>Phebalium tuberculatum</i>		<i>Verticordia chrysantha</i>	
<i>Philothea basistyla</i>	R	<i>Verticordia chrysanthella</i>	
<i>Philothea deserti</i>		<i>Verticordia mitchelliana</i>	Rapier Featherflower
<i>Pimelea aeruginosa</i>		<i>Verticordia picta</i>	Painted Featherflower
<i>Pimelea avonensis</i>			
<i>Pimelea brevistyla</i> subsp. <i>minor</i>		<i>Waitzia acuminata</i> var. <i>acuminata</i>	
<i>Pityrodia teckiana</i>		<i>Waitzia nitida</i>	
<i>Pityrodia terminalis</i>	Native Foxglove	<i>Westringia cephalantha</i>	
<i>Podolepis capillaris</i>	Wiry Podolepis		
<i>Podolepis lessonii</i>		<i>Zygophyllum ovatum</i>	Dwarf Twinleaf
<i>Podotheca gnaphalioides</i>	Golden Long-heads		
<i>Pogonolepis stricta</i>			
<i>Prasophyllum gracile</i>			
<i>Ptilotus carlsonii</i>			
<i>Ptilotus gaudichaudii</i> var. <i>gaudichaudii</i>			
<i>Ptilotus obovatus</i> var. <i>obovatus</i>			

Appendix

5

APPENDIX 5

Fauna species in the Shire of Trayning (Source: W.A Museum, 2005)

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

-33.9500, 115.3333 and -34.2666, 118.000

Note - not a comprehensive list.

* represents an introduced species.

BIRD SPECIES

Acanthizidae	<i>Smicronis brevirostris</i>	Weebill
Accipitridae	<i>Accipiter fasciatus fasciatus</i>	
	<i>Aquila audax</i>	Wedge-tailed Eagle
	<i>Hamirostra isura</i>	Square-tailed Kite
Burhinidae	<i>Burhinus grallarius</i>	Bush Stone-curlew
Charadriidae	<i>Vanellus tricolor</i>	Banded Lapwing
Corvidae	<i>Corvus bennetti</i>	Little Crow
Cracticidae	<i>Cracticus torquatus</i>	Silver-backed Butcherbird
Cuculidae	<i>Chrysococcyx osculans</i>	Black-eared Cuckoo
Falconidae	<i>Falco berigora berigora</i>	
	<i>Falco cenchroides cenchroides</i>	
	<i>Falco peregrinus</i>	Peregrine Falcon
Halcyonidae	<i>Todiramphus pyrrhopygia</i>	Red-backed Kingfisher
Maluridae	<i>Malurus pulcherrimus</i>	Blue-breasted Fairy-wren
Megapodiidae	<i>Leipoa ocellata</i>	Malleefowl (Threatened)
Meliphagidae	<i>Lichenostomus leucotis novaenoriae</i>	
Pardalotidae	<i>Pardalotus striatus</i>	Striated Pardalote
Phasianidae	<i>Coturnix pectoralis</i>	Stubble Quail
	<i>Gallus gallus</i>	
Psittacidae	<i>Calyptorhynchus banksii samueli</i>	
	<i>Neophema elegans</i>	Elegant Parrot
	<i>Platycercus icterotis</i>	
	<i>Platycercus zonarius</i>	Australian Ringneck Parrot
	<i>Polytelis anthopeplus anthopeplus</i>	
Recurvirostridae	<i>Himantopus himantopus leucocephalus</i>	
Strigidae	<i>Ninox novaeseelandiae</i>	Boobook Owl
Turnicidae	<i>Turnix varia varia</i>	Painted Button-quail
Tytonidae	<i>Tyto alba</i>	Barn Owl

MAMMAL SPECIES

Canidae	* <i>Vulpes vulpes</i>	Red Fox (Feral)
Dasyuridae	<i>Sminthopsis crassicaudata</i>	Fat-tailed Dunnart
	<i>Sminthopsis dolichura</i>	Little Long-tailed Dunnart
	<i>Sminthopsis murina</i>	
Macropodidae	<i>Macropus robustus erubescens</i>	Euro, Biggada
	<i>Petrogale lateralis lateralis</i>	Black-footed Rock-wallaby (Threatened)
Molossidae	<i>Mormopterus planiceps</i>	Southern Freetail-bat
Muridae	* <i>Mus musculus</i>	House Mouse (Feral)
Myrmecobiidae	<i>Myrmecobius fasciatus</i>	Numbat, Walpurti (Threatened)
Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat

REPTILE SPECIES

Agamidae	<i>Ctenophorus isolepis citrinus</i>	
	<i>Ctenophorus maculatus griseus</i>	
	<i>Ctenophorus ornatus</i>	
	<i>Ctenophorus reticulatus</i>	
	<i>Ctenophorus scutulatus</i>	
	<i>Pogona minor minor</i>	
Boidae	<i>Aspidites ramsayi</i>	Ramsay's Python, Woma
Elapidae	<i>Brachyurophis semifasciata</i>	Southern Shovel-nosed Snake

	<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>	
	<i>Diplodactylus granariensis</i>	
	<i>Diplodactylus granariensis granariensis</i>	
	<i>Diplodactylus maini</i>	
	<i>Diplodactylus pulcher</i>	
	<i>Gehyra variegata</i>	
	<i>Heteronotia binoei</i>	
	<i>Nephrurus vertebralis</i>	
	<i>Oedura reticulata</i>	
	<i>Strophurus spinigerus</i>	
Pygopodidae	<i>Underwoodisaurus milii</i>	
	<i>Delma australis</i>	
	<i>Delma fraseri fraseri</i>	
	<i>Lialis burtonis</i>	
	<i>Pygopus lepidopodus</i>	
Scincidae	<i>Cryptoblepharus plagiocephalus</i>	
	<i>Egernia stokesii badia</i>	(Threatened)
	<i>Lerista distinguenda</i>	
	<i>Lerista macropisthopus</i>	
	<i>Lerista macropisthopus macropisthopus</i>	
	<i>Lerista muelleri</i>	
	<i>Menetia greyii</i>	
	<i>Morethia butleri</i>	
	<i>Morethia obscura</i>	
	<i>Tiliqua occipitalis</i>	
	<i>Tiliqua rugosa rugosa</i>	
Typhlopidae	<i>Ramphotyphlops hamatus</i>	
	<i>Ramphotyphlops waitii</i>	
Varanidae	<i>Varanus gouldii</i>	
	<i>Varanus tristis tristis</i>	

AMPHIBIA SPECIES

Myobatrachidae	<i>Crinia pseudinsignifera</i>	
	<i>Crinia</i> sp	
	<i>Heleioporus albopunctatus</i>	Western Spotted Frog
	<i>Neobatrachus kunapalar</i>	Kunapalari Frog, Wheatbelt Frog
	<i>Neobatrachus pelobatoides</i>	Humming Frog
	<i>Neobatrachus</i> sp	
	<i>Pseudophryne guentheri</i>	Crawling Frog, Günther's Toadlet

Appendix

6



ROADSIDE CONSERVATION COMMITTEE

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

Preamble

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

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

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

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

Legislation

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

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

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

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

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

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

Commercial Wildflower Harvesting

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

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

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

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

Seed Collection

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

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

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

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

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

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

Timber Harvesting from Roadsides.

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

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

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

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

Guidelines For Harvesting On Roadsides

- ✓ In all cases the permission of the managing authority, i.e. Main Roads WA, Local Government or DEC, 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 DEC.
- ✓ 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 DEC.

- ✓ 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 DEC.
- ✓ No flora of special conservation concern (Declared Rare Flora or Priority Flora) should be removed without special authorisation through DEC.
- ✓ No commercial harvesting of any plant product should be allowed for any reason between the markers that delineate a Special Environmental Area.
- ✓ Flora harvesting should be prohibited from designated Flora Roads.
- ✓ Care should be taken that access to Dieback infected areas is limited to the drier months of the year, and vehicular access disallowed.
- ✓ Safety should always be of prime concern and every effort should be made to ensure that personal safety is a key consideration in any harvesting operation.
- ✓ Flora harvesters should not operate from the roadside in areas where the vegetation is close to the road, where vehicles cannot be safely parked off the road, or where there is poor driver visibility.

Appendix

7



ROADSIDE CONSERVATION COMMITTEE

Guidelines for the Nomination and Management of Flora Roads

Introduction

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



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

Principle Conservation Values of Flora Roads:

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

Identification and Nomination of Flora Roads

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

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

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

The RCC requires the following information:

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

The following information would also be useful:

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

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

Establishment of a Flora Road

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

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

Management Implications

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

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

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

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

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

Tourism Implications

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

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

Flora Road Register

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

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