Roadside Vegetation and Conservation Values in the Shire of Narrogin

Photo by C. Denton

July 2009

Roadside Conservation Committee

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Executive Summary

This report provides an overview of the conservation status of roadside remnant vegetation in the Shire of Narrogin. The report primarily provides detailed results of the roadside survey and is accompanied by management recommendations. It also briefly describes the natural environment in Narrogin, legislative considerations and threats to conservation values.

Aware of the need to conserve roadside remnants, the Shire of Narrogin, local community members and Williams-Narrogin Landcare liaised with the Roadside Conservation Committee (RCC) in 2008 to survey roadsides in their Shire. Surveys to assess the conservation values of roadside remnants were conducted between October and November 2008. The majority, 89.58%, of the Shire's 717.07 km of roadsides were assessed by the RCC for their conservation status and maps were produced via a Geographic Information System (GIS). Roadside locations of six nominated weeds and salt affected roadsides were also recorded and mapped onto separate clear overlays.

The results of the survey indicated that high conservation value roadsides covered 29.3% of the roadsides surveyed in the Shire, with medium-high conservation value roadsides accounting for 42.1%. Medium-low and low conservation value roadsides occupied 20.0% and 8.6%, respectively. A more detailed analysis of results is presented in Part C of this report.

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

- formulating a roadside vegetation management plan for 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 Narrogin to utilise the RCV map in many facets of its Landcare, tourism, road maintenance operations and Natural Resource Management (NRM) strategy documents. In addition, the RCC is available to provide assistance with the development of roadside vegetation management plans and associated documents.

PART A

OVERVIEW OF ROADSIDE CONSERVATION

1.0 Why is Roadside Vegetation Important?

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

The flora and fauna in these areas are in jeopardy due to limited 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 of a particular species. It is therefore essential to their survival that they have a means of dispersing throughout the landscape. The presence of native vegetation along roadsides often fulfils this important role 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.

The Southern Death Adder (*Acanthophis antarcticus*) has been recorded in the Shire of Narrogin.

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, such that roadside plant 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;

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, especially 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. The lack of awareness of the roadside vegetation's values means that those connected with the roadside are unable to modify their actions to minimise their impact. As a result, activities such as road maintenance and the use of fire can 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).

Road and roadside vegetation management practices have a significant impact on the conservation value of roadside vegetation. The decision to minimise clearing for construction and maintenance, and avoid systematic and indiscriminate clearing which creates irreversible damage, will enable roadside vegetation to continue to act as a biological corridor and habitat.

Due to the movement and disturbance of soil, all road construction and maintenance activities have the potential to introduce and spread weeds and dieback, which have a devastating impact on native vegetation. It is thus important to work from "clean" areas to "dirty" – that is, from areas that are weeds and/or dieback free to those areas in which weeds and/or dieback exist. It is also important to clean down machinery before moving between work sites.

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

2.3 Fire

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

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

The RCC's policy on fire management is:

- roadside burning should not take place without the consent of the managing authority;
- Local Government Authorities should adopt by-laws to control roadside burning;
- roadside burning should be planned as part of a total Shire/area Fire Management Plan;
- only one side of a road should be burnt in any one year;
- when designing a Fire Management Plan, the two principles which must be kept in mind are the ecological management of vegetation and the abatement of fire hazard;
- no firebreaks within the Road Reserve should be permitted unless the width of the roadside vegetation strip is greater than 20m;
- a firebreak on any road reserve should be permitted only when, in the opinion of the road manager, one is necessary for the protection of the roadside vegetation. The road manager shall specify the maximum width to which the break may be constructed; and
- in the case of any dispute concerning roadside fire management, the Fire and Emergency Services Authority (FESA) should be called in to arbitrate.

If a decision is made to use fire, only one side of a road should be burnt in any one year, 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 137 weed species in the Shire of Narrogin (Appendix 4). The roadside survey recorded populations of six significant weeds, and their locations were mapped by the RCC onto clear overlays. The six nominated weeds were:

- Perennial Veldt Grass (*Ehrharta calycina*);
- Soursob (*Oxalis pes-caprae*);
- Bridal Creeper (*Asparagus asparagoides*);
- Wild Radish (*Raphanus raphanistrum*);
- Cape Tulip (*Moraea flaccida)*; and
- Wild Oats *(Avena fatua)*.

The Bridal Creeper smothers other plant species and has been recorded within the Shire of Narrogin.

Photography by J. P. Pigott & R. Randall. Photo used with the permission of the WA Herbarium, DEC http://florabase.calm.wa.gov.au/help/photos#reuse).

Roadside populations of these weeds can be observed on the weed overlays provided with the Narrogin Roadside Conservation Value map (2009). The Roadside Conservation Value map and weed overlays will assist the Shire and community in planning, budgeting and coordinating strategic weed control projects. Further information on the presence of these nominated weeds is presented in Part C of this report.

Soursob is a major weed of roadsides, crops, pastures and disturbed vegetation throughout Western Australia.

Photography by K. C. Richardson. Photo used with the permission of the WA Herbarium, DEC http://florabase.calm.wa.gov.au/help/photos#reuse).

Wild radish can be a common weed in degraded roadsides, and is found throughout Narrogin.

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), approximately 5.81%, or 42.95km of roads in the Shire of Narrogin are potentially under threat from salinity (Table 1). Over half of these, 27.20 km, are local roads managed by the Shire.

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

Shire	Total road length assessed (km)	Roads potentially affected by salinity - length in km					
		Highways	Local roads	Main roads	Other roads	Total affected	% of total potentially affected
Narrogin	**739.07**	**0.38**	**27.20**	**2.85**	**12.53**	**42.95**	**5.81%**
Wagin	817.68	-	43.90	4.03	6.05	53.98	6.60%
Dumbleyung	1,020.80	-	49.30	5.10	4.03	58.43	5.72%
Cuballing	542.21	-	10.68	1.33	5.65	17.65	3.26%
Wickepin	848.27	-	32.93	0.70	12.73	46.35	5.46%
Williams	580.51	0.48	8.0	0.68	7.0	16.15	2.78%

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 legalisation 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 requirements. Clearing applications are assessed against twelve clearing principles, which incorporate the:

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

This assessment process is designed to provide a more comprehensive and stringent land clearing control system. There are two land clearing permits available: an area permit; and a purpose permit. For example, where clearing is for a once-off clearing event such as pasture clearing or an agricultural development, an area permit is required. Where ongoing clearing is necessary for a specific purpose, such as road widening programs, a purpose permit is needed. Shire road maintenance activities are exempt, to the width and height previously legally cleared for that purpose (refer to Schedule 2 of the *Environmental Protection (Clearing of Native Vegetation) Regulations* 2004).

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

4.0 Environmentally Sensitive Areas

An Environmentally Sensitive Area (ESA) is an area that requires special protection. Some of the reasons include:

- protection of rare or threatened species of native plants;
- protection of wetlands and water course;
- protection of sites that have other high conservation or scientific 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, it is recommended 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. This will ensure that inadvertent damage does not occur.

Local Government is encouraged to permanently mark ESAs to prevent inadvertent 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.

Roadside ESA markers are highly visible.
Photo by C. Wilson

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 and upon recommendation of the RCC. The RCC 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.

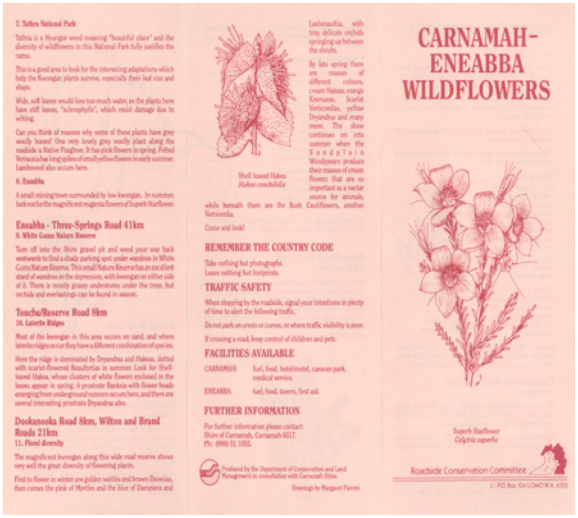
Roadsides are one of the most accessible places for tourists to view wildflowers.
Photo by DEC

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

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

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

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



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

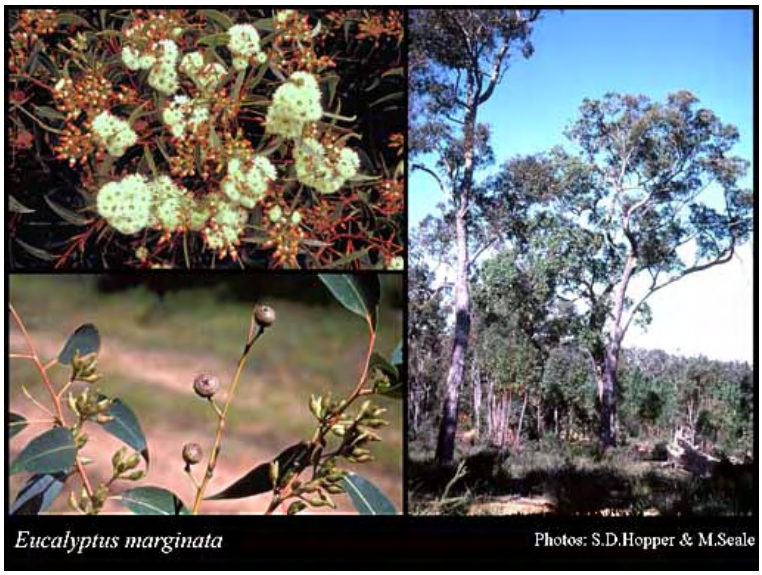
PART B

THE NATURAL ENVIRONMENT IN NARROGIN

1.0 Flora

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

The WA Herbarium has recorded over 1000 species of native plants from the Shire of Narrogin. The most prolific genera are *Eucalyptus* (53 spp.), *Acacia* (46 spp.), *Caladenia* (28 spp.) and *Stylidium* (24 spp.). The complete list of recorded flora can be seen in Appendix 4 of this report.



***Eucalyptus marginate* occurs along roadsides in the Shire of Narrogin.**
Photography by S. D. Hopper & M. Seale. Photo used with the permission of the WA Herbarium, DEC
http://florabase.calm.wa.gov.au/browse/flora?f=090&level=s&id=2115

2.0 Declared Rare Flora (DRF)

Declared Rare Flora (DRF) species, or populations, are of great conservation significance and should therefore be treated with special care when road and utility service, construction or maintenance is undertaken. Populations of DRF along roadsides are designated Environmentally Sensitive Areas (ESAs) and should be delineated by yellow stakes with an identification plate attached. The RCC suggests using the publication *Guidelines for Managing Special Environmental Areas in Transport Corridors* as a guideline for managing these sites. It is the responsibility of the road manager to ensure these markers are installed, and guides for this are available from the RCC. For information regarding DRF, contact the Department of Environment and Conservation (DEC) Flora Officer for the Great Southern District in Narrogin. If roadworks are to be carried out near DRF sites, it is advisable to contact DEC at least six weeks in advance.

As of April 2009, 4 locations of Declared Rare and Priority Flora are known to occur within roadsides in the Shire of Narrogin. However, none of these locations are on roadsides vested in the Shire.

For more detailed information regarding DRF in the Shire of Narrogin, contact the Department of Environment and Conservation (DEC) Flora Officer for the Great Southern

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

District. Please note that the information provided in this report will not remain current. It is thus important that the Shire check with DEC periodically to avoid inadvertent damage to DRF. If roadworks are the be carried out near known DRF sites, it is advisable to contact DEC at least six weeks in advance.

3.0 Fauna

The Western Australian Museum records approximately 88 species of fauna from the Narrogin 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 Narrogin area, there were 23 bird, 6 amphibia, 23 mammal and 36 reptile species.

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

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

The Western Spotted frog can be found in the Shire of Narrogin.

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

- **Woylie (*Bettongia penicillata ogilbyi*)**

This species of rat-kangaroo occupies a variety of habitats with a clumped low understorey of grasses or woody shrubs.

- **Numbat (*Myrmecobius fasciatus*)**

The numbat is a diurnal marsupial that feeds almost exclusively on termites and is very vulnerable to predation by foxes and cats.

- **Red-tailed Phascogale (*Phascogale calura*)**

This arboreal marsupial has been recorded numerous times over the years in the Shire of Narrogin.

- **Carpet Python (*Morelia spilota imbricata*)**

This species occurs in a variety of habitats including forest and heathland. It is listed under both Schedule 4 and Priority 4.

- **Western Rosella, inland suspecies (*Platycercus icterotis xanthogenys*)**

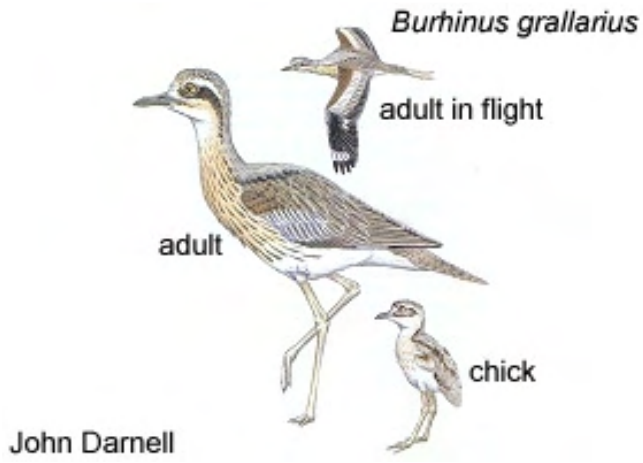
This subspecies of the Western Rosella occurs in Eucalypt and Casuarina woodlands and scrubs, especially of Salmon Gum and tall mallees.

- **Bush Stonecurlew (Burhinus grallarius)**

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

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

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



The Bush Stonecurlew can camouflage well into its surrounding environment.

Illustration by John Darnell, Photo used with the permission of the WA Museum, FaunaBase (http://www.museum.wa.gov.au/faunabase.htm).

The Carpet Python is listed under both Schedule 4 and Piority 4 and has been recorded in the Shire of Narrogin.

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

4.0 Remnant Vegetation Cover

The *National Objectives and Targets for Biodiversity Conservation 2001-2005* (Environment Australia, 2001) state that vegetation types represented by less than 30% are considered ecologically endangered and in need of protection and restoration wherever they are located. Only 13.6% of the original native vegetation remains in the Shire of Narrogin and this is located in a variety of tenures from nature reserves to privately owned land. The remaining vegetation can easily be further depleted if proactive measures are not taken to manage this priceless resource.

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

Shire	Total Area (ha)	Area Inside Ag. Clearing Line (ha)	Vegetation Cover Remaining (inside agricultural clearing line)	
			(ha)	(%)
Narrogin	**164,063**	**164,063**	**22,369**	**13.6**
Wagin	193,910	193,910	15,847	8.2
Dumbleyung	253,816	253,816	24,003	9.5
Wickepin	202,347	202,347	15,120	7.5
Cuballing	117,351	117,351	23,324	19.9
Williams	228,482	228,482	75,562	33.1

The continued presence of the flora and fauna living in these fragmented remnants are 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.

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

Remnant roadside vegetation connects the landscape.
Photo by Main Roads WA

PART C

ROADSIDE SURVEYS IN THE SHIRE OF NARROGIN

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 'snap-shot' 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 of the Shire of Narrogin's 717.07km of roads (642.37km, or 89.58%, and the majority of non-urban roads) were surveyed and then assessed to determine the conservation status of the road reserves. The surveys were carried out throughout the months of October and November 2008. The enthusiastic effort of the roadside surveyors, Natural Resource Management Officer Nicholas Sampson and the support provided by Narrogin Shire Council ensured that this project was successfully completed. The roadside surveyors were:

- Ian Wardell-Johnson
- Charles Petty
- Carole Carden
- Toni Beaton
- Jenny Carley
- Danny Kuronen
- Susan Astbury
- Nicholas Sampson

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 6 nominated weeds; and
- presence of salt affected roadside.

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

1.2 Mapping Roadside Conservation Values

The RCC produced a computer-generated map (using a Geographic Information System, or GIS), at a scale of 1:100,000 for the Shire of Narrogin. 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 Narrogin. 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 of remnant vegetation and watercourse on both Crown estate and privately owned land used in the map was obtained from the Department of Environment and Conservation (DEC), Main Roads WA and the Department of Agriculture and Food WA.

1.3 Roadside Conservation Value Categories

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

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

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

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

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

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

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

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

Medium-low conservation value roadsides may contain Declared Rare Flora (DRF).
Photo by RCC

Low conservation value roadsides are those with a score between 0 and 4, and generally have the following characteristics:

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

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

2.0 USING THE ROADSIDE CONSERVATION VALUE MAP (RCV MAP)

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

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

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

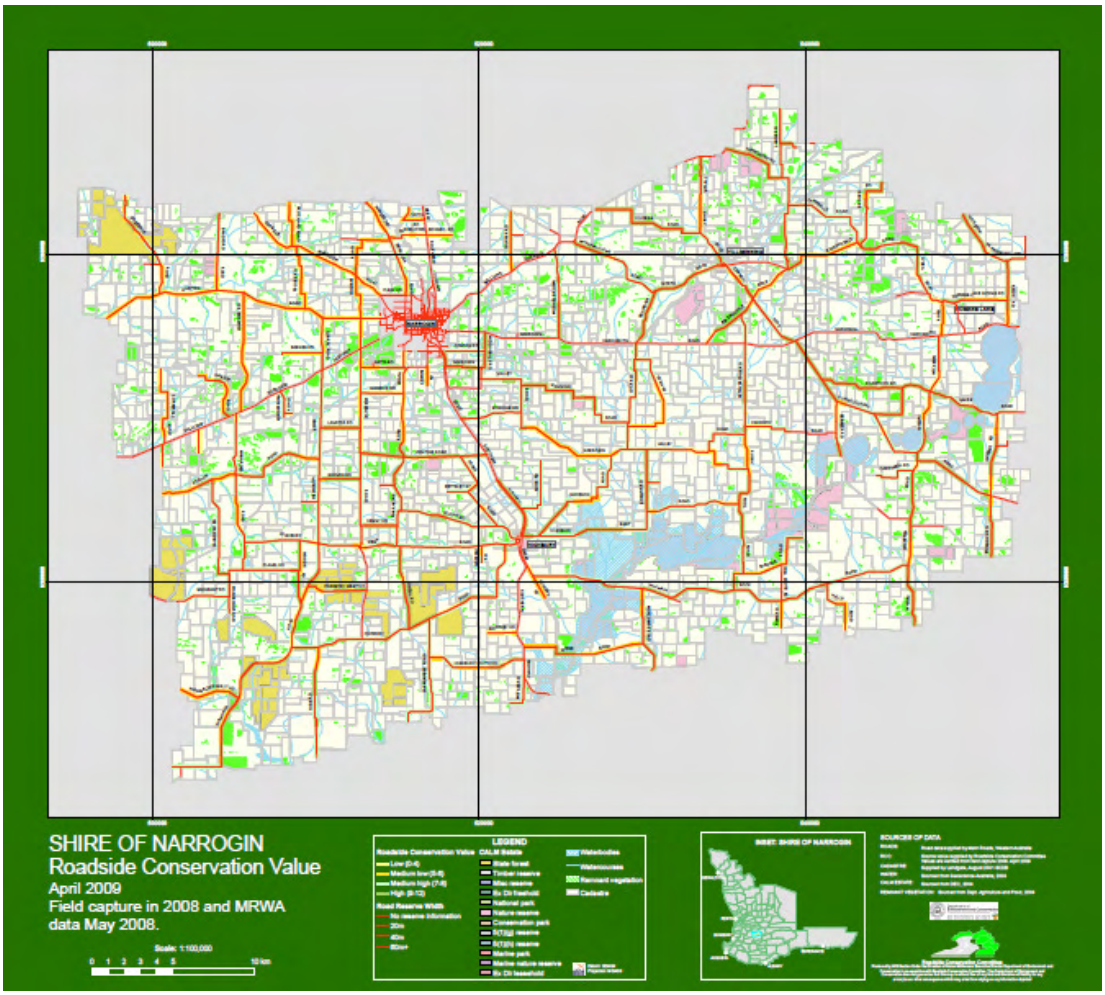


Figure 2. Roadside conservation value map of the Shire of Narrogin

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

Summary Information: Shire of Narrogin

Length of roadsides surveyed: 1284.74km (642.37 km of road)

Roadside Conservation Status

	Total (km)	(%)
High (9-12)	376.51	29.3
Medium-high (7-8)	540.60	42.1
Medium-low (5-6)	256.93	20.0
Low (0-4)	110.70	8.6
Total	1284.74	100.0

Native Vegetation in Roadsides

	Total (km)	(%)
2-3 vegetation layers	814.24	63.4
1 vegetation layer	420.48	32.7
0 vegetation layers	50.02	3.9
Total	1284.74	100.0

Number of Native Plant Species

	Total (km)	(%)
Over 20 species	214.75	16.7
6 to 19 species	699.34	54.4
0 to 5 species	370.65	28.9
Total	1284.74	100.0

Predominant Adjoining Land Use

	Total (km)	(%)
Agricultural: completely cleared	657.51	51.18
Agricultural: scattered vegetation	487.02	37.91
Uncleared native vegetation	116.88	9.10
Plantation of non-natives	4.26	0.33
Urban or Industrial	2.43	0.19
Railway	12.47	0.97
Other	4.17	0.32
Total	1284.74	100.0

Weed Infestation

	Total (km)	(%)
Light <20% weeds	217.36	16.9
Medium 20-80% weeds	807.61	62.9
Heavy >80% weeds	259.77	20.2
Total	1284.74	100.0

Roadside Conservation Values

Score	Total (km)	(%)
0	0.00	0.0
1	15.68	1.2
2	25.85	2.0
3	18.84	1.5
4	50.33	3.9
5	102.23	8.0
6	154.70	12.0
7	237.11	18.5
8	303.49	23.6
9	217.19	16.9
10	131.37	10.2
11	20.24	1.6
12	7.71	0.6
Total	1284.74	100.0

Width of Vegetated Roadside

	Total (km)	(%)
1 to 5 m	757.02	58.9
5 to 20 m	432.41	33.7
Over 20 m	8.21	0.6
Unknown	87.1	6.8
Total	1284.74	100.0

Extent of Native Vegetation

	Total (km)	(%)
Over 80%	99.09	7.7
20% to 80%	836.54	65.1
Less than 20%	349.11	27.2
Total	1284.74	100.0

Value as a Biological Corridor

	Total (km)	(%)
High	1017.93	79.3
Medium	150.66	11.7
Low	116.15	9.0
Total	1284.74	100.0

Roadside surveys were carried out in the Shire of Narrogin

Table 3. Summary of results from the survey in the Shire of Narrogin

Width of Road Reserve

The width of road reserves in the Shire of Narrogin was recorded in increments of 20 metres (Table 4). The vaste majority of road reserves were 20 metres in width, with 637.80km (99.29%) of roads falling into this category. Of the remaining roads, 2.34km (0.36%) were 40 metres in width and 2.23km (0.35%) of road reserves were 100 meters wide. No other road widths were recorded.

Width of Road Reserve - Narrogin		
	Total km	%
20 m	637.80	99.29
40 m	2.34	0.36
100 m	2.23	0.35
Total	642.37	100.0

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

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, 757.02km (58.9%) was between 1 to 5 metres in width, followed by 432.41km (33.7%) of roadsides where the width of vegetation fell between 5 to 20 metres in width. Roadside vegetation over 20 metres in width spanned 8.21km (0.6%) of the roadsides surveyed, whilst the width was unknown for 87.10km (6.8%) of the roadsides surveyed.

Width of Vegetated Roadside - Narrogin		
	Total km	%
1-5 m	757.02	58.9
5-20 m	432.41	33.7
Over 20 m	8.21	0.6
Unknown	87.10	6.8
Total	1284.74	100.0

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

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 63.4% of roadsides (814.24km), 32.7% (420.48km) of roadsides had only one layer and 3.9% (50.02km) had no layers of native vegetation (Table 3 and Figure 2).

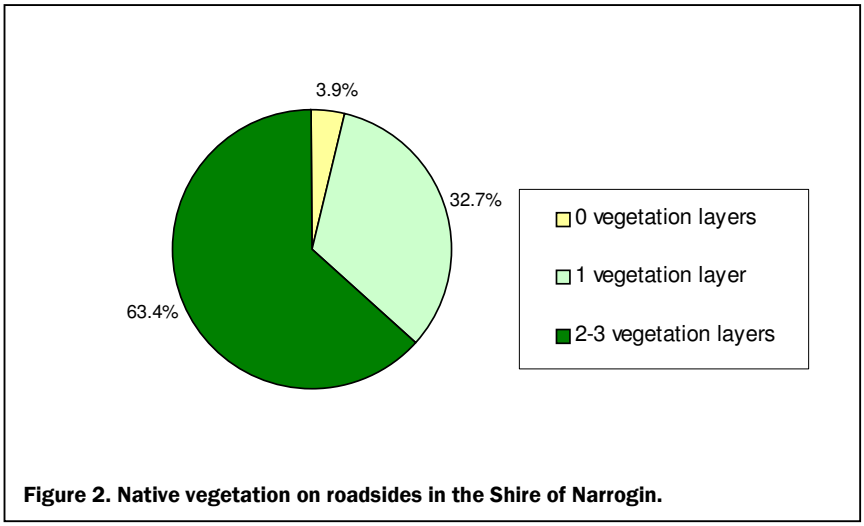


Figure 2. Native vegetation on roadsides in the Shire of Narrogin.

Number of Native Plant Species

The number of native plant species provides a measure of the diversity of the roadside vegetation. Survey sections with over 20 plant species spanned 16.7% (214.75km) of the roadsides surveyed. Roadside sections with 6 to 19 plant species accounted for 54.4% (699.34km) of the roadside. Over a quarter of the roadsides, 28.9% (370.65km) contained less than 5 plant species (Table 3 and Figure 3).

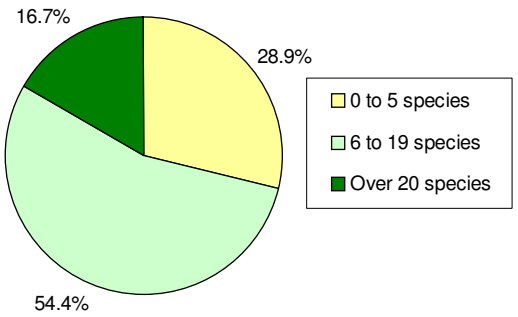


Figure 3. Number of native plant species in roadsides in the Shire of Narrogin.

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 7.7% (99.09km) of the roadsides surveyed. Survey sections with medium vegetation cover, i.e. 20% to 80%, accounted for 65.1% (836.54km) of the roadsides. The remaining 27.2% (349.11km) had less than 20% native vegetation and therefore a low 'extent of native vegetation' value (Table 3 and Figure 4).

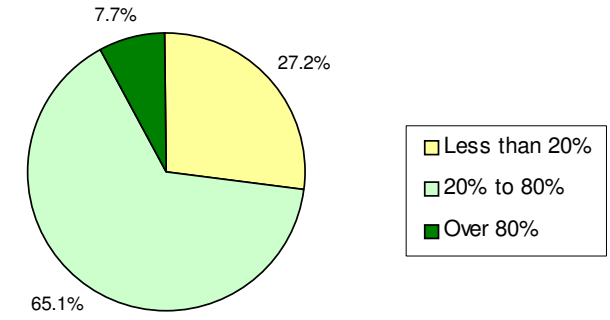


Figure 4. Extent of native vegetation in roadsides in the Shire of Narrogin.

Value as a Biological Corridor

This characteristic considered the presence of four attributes: connection of uncleared areas; presence of flowering shrubs; presence of large trees with hollows; and presence of hollow logs. Roadsides determined to have high value as a biological corridor were present along 79.3% (1017.93km) of the roadsides surveyed. Roadsides with medium value as biological corridors made up 11.7% (150.66km), and roadsides with low value as a biological corridor occurred along 9.0% (116.15km) of the roadsides surveyed (Table 3 and Figure 5).

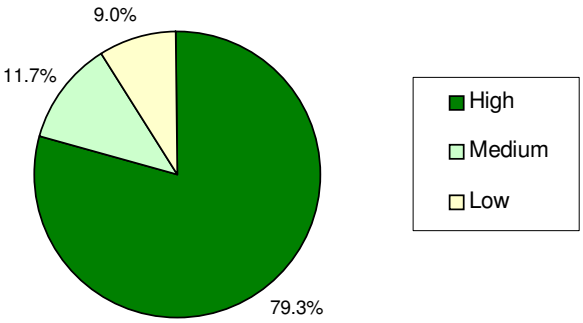


Figure 5. Roadside vegetation value as a biological corridor in the Shire of Narrogin.

Weed Infestation

Light levels of weed infestation (weeds comprising less than 20% of total plants), were recorded on 16.9% (217.36km) of the roadsides surveyed, medium level weed infestation (weeds comprising 20-80% of the total plants) occurred on 62.9% (807.61km) of the roadsides and 20.2% of roadsides (259.77km) were heavily infested with weeds (weeds comprising more than 80% of the total plants) (Table 3 and Figure 6).

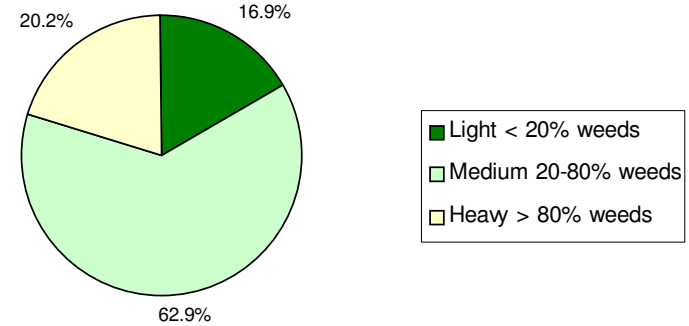


Figure 6. Weed infestation along roadsides in the Shire of Narrogin.

Predominant Adjoining Land Use

Uncleared native vegetation was present on 9.10% (116.88km) of the land adjoining roadsides, whilst 51.18% (657.51km) of roadsides adjoined land that had been completely cleared for agriculture. Land cleared for agriculture, containing a scattered distribution of native vegetation comprised 37.91% (487.02km) of the roadsides. Railway reserves adjoined 0.97% (12.47km) of the roadsides, urban or industrial land uses adjoined 0.19% (2.43km), and other land uses were found on 0.32% (4.17km) of the roadsides (Table 3 and Figure 7).

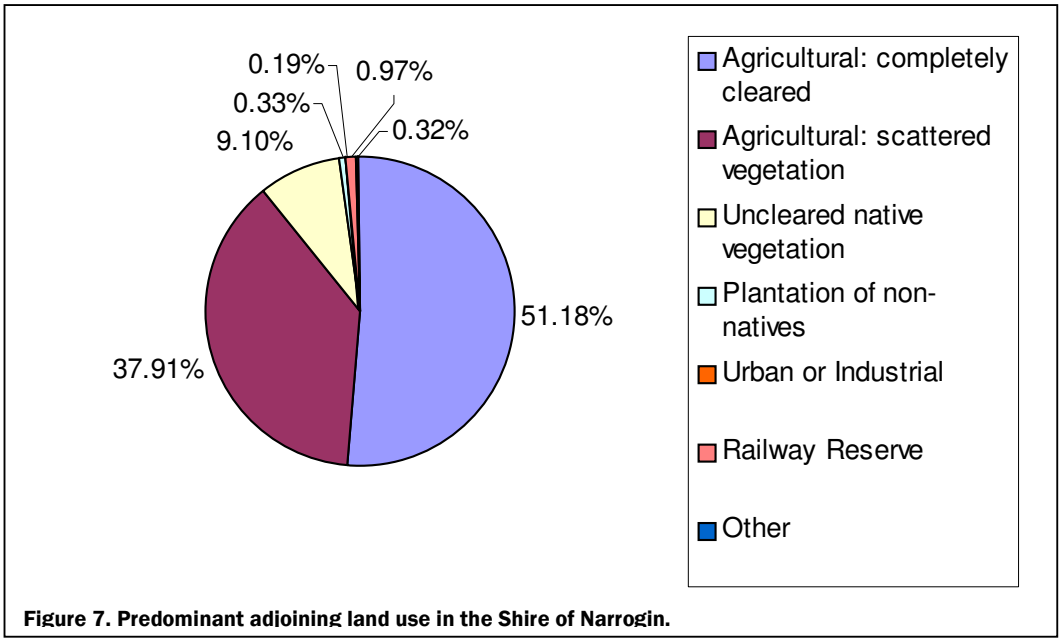


Figure 7. Predominant adjoining land use in the Shire of Narrogin.

Nominated Weeds

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

- Perennial Veldt Grass (*Ehrharta calycina*);
- Soursob (*Oxalis pes-caprae*);
- Bridal Creeper (*Asparagus asparagoides*);
- Wild Radish (*Raphanus raphanistrum*);
- Cape Tulip (*Moraea flaccida)*; and
- Wild Oats *(Avena fatua)*.

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.

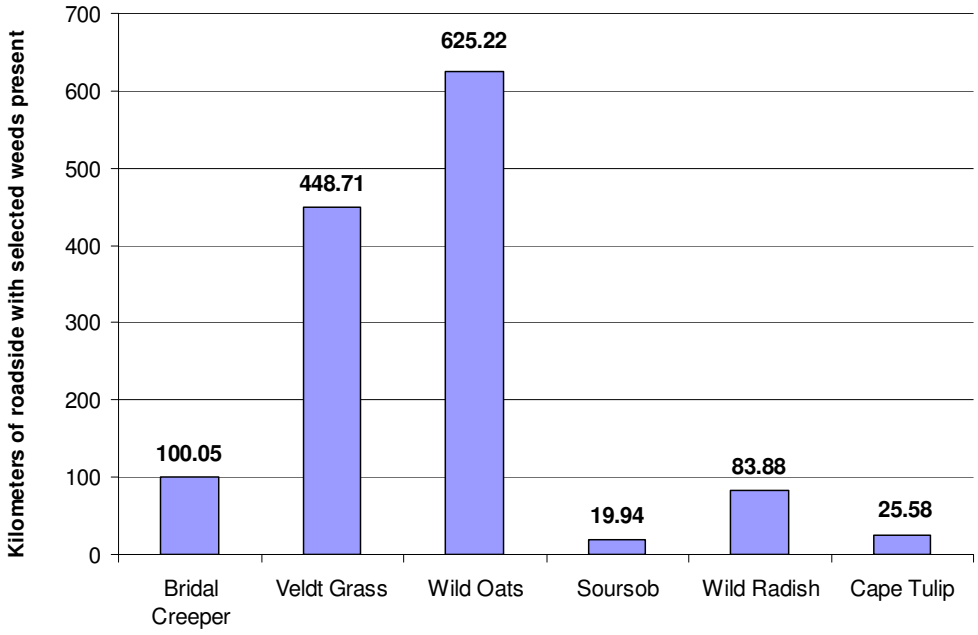


Figure 8. Presence of nominated weed groups along roads in the Shire of Narrogin.

Of the nominated weeds species, Wild Oats was the most prevalent, recorded along 625.22km of the roads surveyed. The next most commonly recorded weeds were Veldt Grass, recorded along 448.71km of roads, and Bridal Creeper, recorded along 100.05km of roads. Wild Radish was the next most commonly recorded weed, occurring along 83.88km of roads, then Cape Tulip, recorded along 25.58km of roads and Soursob was recorded along 19.94km (Figure 8).

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 8). The most occurring roadside conservation value score was 8, with 303.49km of roadsides recording this score. Following this, a score of 7 was recorded along 237.11km of roadsides, a score of 9 covered 217.19km and a score of 6 was surveyed along 154.70km of roadsides. Roadsides with a score of 10 covered 131.37km, a score of 5 covered 102.23km, and roadsides with a score of 4 spanned 50.33km. Roadsides with a score of 2 spanned 25.85km, a score of 11 spanned 20.24km, roadsides scoring 3 covered 18.84km, a score of 1 spanned 15.68km, a score of 12 covered 7.71km. There were no roadsides that recorded a score of 0.

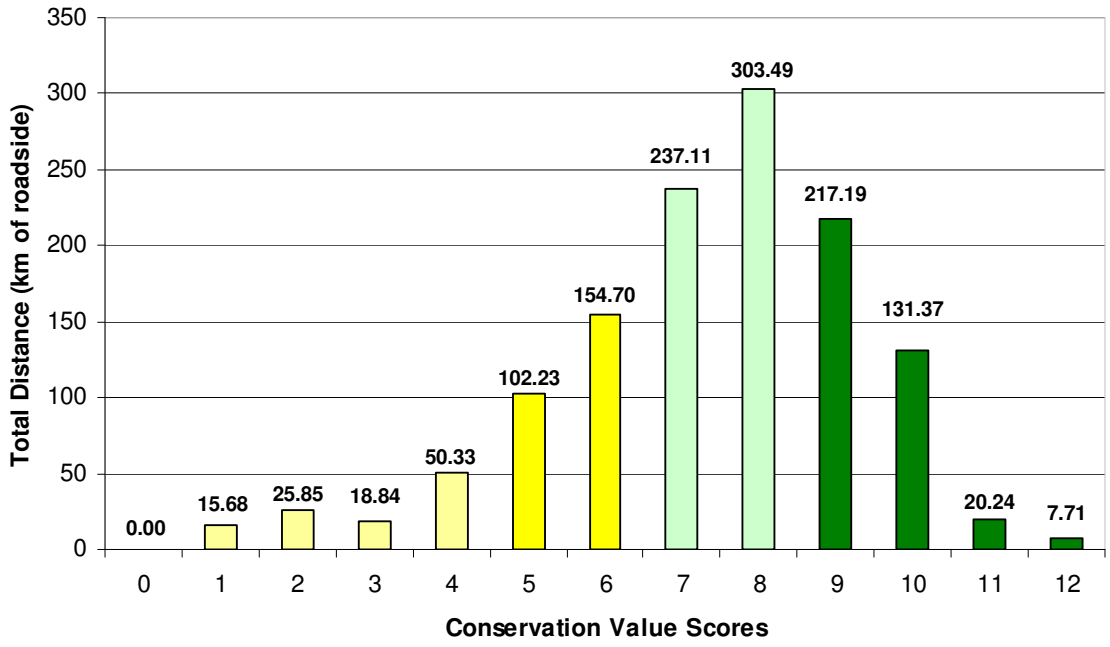


Figure 8. Conservation value scores of all roadsides surveyed in the Shire of Dandaragan.

Conservation Status

The conservation status category indicates the combined conservation value of roadsides surveyed in the Shire of Narrogin. Roadside sections of high conservation value covered 29.3% (376.51km) of the roadsides surveyed. Medium-high conservation value roadsides accounted for 42.1% (540.60km) of the total surveyed, medium-low conservation roadside covered 20.0% (256.93km) of the total roadsides surveyed. Roadsides of low conservation value occupied 8.6% (110.70m) of the roadsides surveyed (Table 3 and Figure 9).

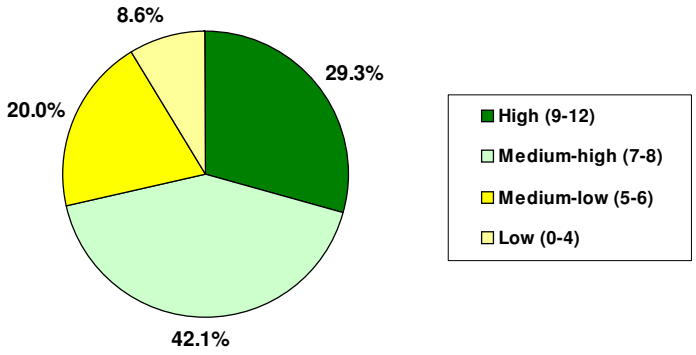


Figure 9. Conservation status of roadsides in the Shire of Narrogin.

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 Narrogin, the roadside survey and the 2009 RCV map highlighted a number of roadsides that have the potential to be declared as Flora Roads. Roadsides, or large sections of roadsides, determined as having high conservation value in the Shire of Narrogin include:

- Birdwhistle Rd;
- Jenkins Rd; and
- Manning Rd.

PART D

ROADSIDE MANAGEMENT RECOMMENDATIONS

1.0 Management Recommendations

The primary aim of road management is the creation and maintenance of a safe, efficient road system. However, there are often important conservation values within the road reserve and thus this section provides general management procedures and recommendations that will assist in retaining and enhancing roadside conservation values.

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

- *Guidelines for Managing Special Environmental Areas in Transport Corridors*; and
- *Handbook of Environmental Practice for Road Construction and Maintenance Works.*

1.1 Protect high conservation value roadsides by maintaining and enhancing the native plant communities. This can be achieved by:

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

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

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

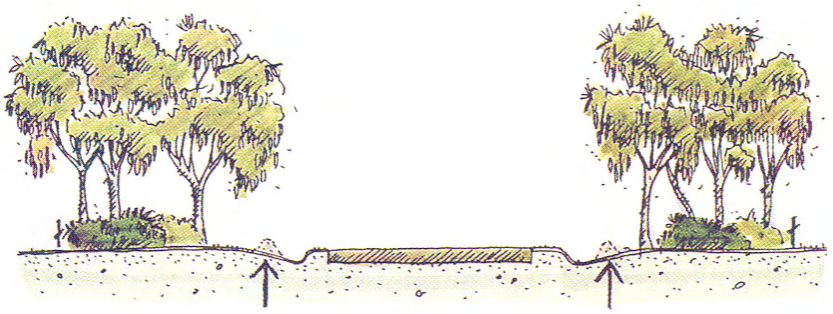
1.3 Improve roadside sections of medium to low conservation value by:

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

2.0 Minimising Disturbance

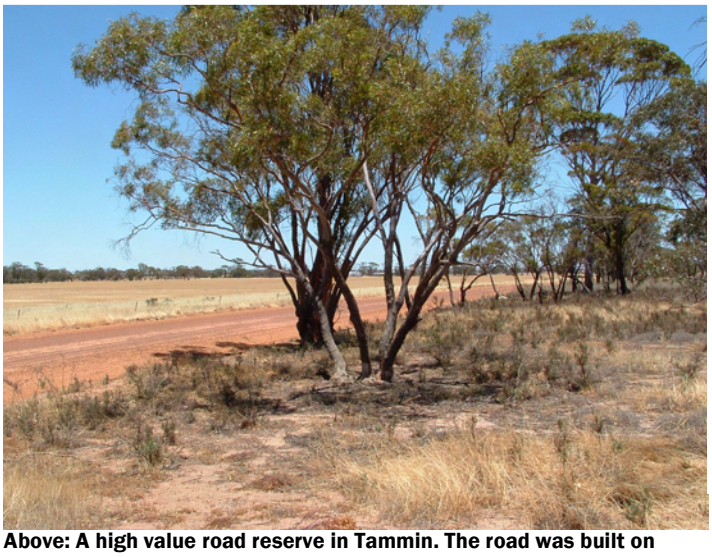
Minimal disturbance can be achieved by:

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

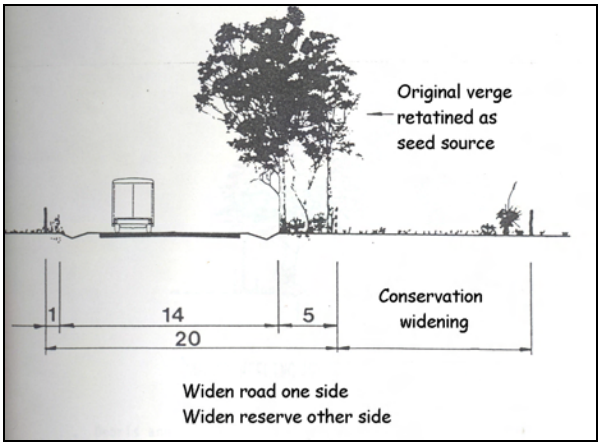


Avoid windrowing drain material into vegetation

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



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



3.0 Planning for Roadsides

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

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

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

Training develops recognition and understanding of roadside values and highlights best work practices. Workshops are developed to ensure that local issues and environments are dealt with and they include site visits to high conservation remnants, current projects and works. For training enquiries please contact the RCC Executive Officer on (08) 9334 0423.

4.0 Setting Objectives

The objective of all roadside management should be to:

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

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Appendix

1

SURVEY TO DETERMINE THE CONSERVATION VALUE OF ROADSIDES IN THE SHIRE OF ______________________

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

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

Date ______________
Observer(s) ______________
Road Name ______________
Shire ______________
Nearest named place ______________
Direction of travel ______________
Section No. ______________
Starting Point ______________
Odometer reading ______________
Ending Point ______________
Odometer reading ______________
Length of Section ______________

WIDTH OF ROAD RESERVE (m) _______

Side of the road	Left	Right
WIDTH OF VEGETATED ROADSIDE		
1 – 5 m	☐	☐
5 – 20 m	☐	☐
Over 20m	☐	☐
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	☐	☐

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	☐	☐

NOMINATED WILDCARD

OFFICE USE ONLY

Conservation value score ☐ ☐

Appendix

2

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190002	1	0	0.2	0.2	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	1	1	1	0	0	1	1	1	0	1	2	5	5	VELDT_GRASS WILD_OATS
4190002	2	0.2	0.7	0.5	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	1	1	1	0	0	1	1	1	0	1	0	5	3	VELDT_GRASS WILD_OATS
4190002	3	0.7	1.1	0.4	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	1	1	1	0	0	1	0	1	0	1	1	5	3	VELDT_GRASS WILD_OATS
4190002	4	1.1	1.4	0.3	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	1	1	1	0	0	1	1	2	0	1	2	6	5	VELDT_GRASS WILD_OATS
4190002	5	1.4	1.6	0.2	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	0	0	0	0	0	0	0	1	0	2	2	4	2	VELDT_GRASS WILD_OATS
4190002	6	1.6	3.4	1.8	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	0	1	0	0	0	1	0	2	0	1	1	6	1	VELDT_GRASS WILD_OATS
4190002	7	3.4	4.8	1.4	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	0	1	0	0	0	1	0	1	0	1	2	5	2	VELDT_GRASS WILD_OATS
4190002	8	4.8	5.5	0.7	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	0	1	0	0	0	1	2	1	0	1	0	5	2	VELDT_GRASS WILD_OATS
4190002	9	5.5	5.8	0.3	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	1	1	1	0	0	1	1	1	0	2	0	6	3	VELDT_GRASS WILD_OATS
4190002	10	5.8	7.1	1.3	CONGELIN - NARROGIN RD	North West	10/10/08	20	2	1	1	1	0	0	1	1	0	0	1	1	5	4	VELDT_GRASS WILD_OATS
4190002	11	7.1	7.5	0.4	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	0	1	0	0	0	1	0	1	0	1	1	5	1	VELDT_GRASS WILD_OATS
4190002	12	7.5	8.7	1.2	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	1	1	1	0	0	1	1	1	0	1	1	5	4	VELDT_GRASS WILD_OATS
4190002	13	8.7	9.2	0.5	CONGELIN - NARROGIN RD	North West	10/10/08	20	1	0	1	0	0	0	1	0	1	1	1	1	5	2	VELDT_GRASS WILD_OATS
4190002	14	9.2	9.6	0.4	CONGELIN - NARROGIN RD	North West	10/10/08	20	0	1	0	1	0	0	0	1	0	0	1	1	1	4	VELDT_GRASS WILD_OATS
4190003	1	0	1.2	1.2	CLAYTON RD	West	9/10/08	20	1	1	1	0	0	0	0	0	0	1	1	1	3	3	WILD_OATS VELDT_GRASS WILD_RADISH
4190003	2	1.2	1.4	0.2	CLAYTON RD	West	9/10/08	20	0	1	0	1	0	0	1	1	0	1	1	1	2	5	WILD_OATS VELDT_GRASS WILD_RADISH
4190003	3	1.4	3.1	1.7	CLAYTON RD	West	9/10/08	20	1	1	1	1	0	0	1	1	0	2	1	1	4	6	WILD_OATS VELDT_GRASS
4190003	4	3.1	3.4	0.3	CLAYTON RD	West	9/10/08	20	1	1	0	1	0	0	2	1	0	1	0	1	3	5	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190003	5	3.4	6.1	2.7	CLAYTON RD	West	9/10/08	20	1	1	1	1	0	0	1	1	2	1	1	1	6	5	WILD_OATS VELDT_GRASS
4190003	6	6.1	6.7	0.6	CLAYTON RD	West	9/10/08	20	0	1	0	1	0	0	0	1	0	1	1	1	1	5	WILD_OATS VELDT_GRASS
4190003	7	6.7	7.6	0.9	CLAYTON RD	West	9/10/08	20	1	1	1	1	0	0	1	1	1	1	2	1	6	5	WILD_OATS VELDT_GRASS
4190003	8	7.6	8.2	0.6	CLAYTON RD	West	9/10/08	20	1	1	1	1	0	0	1	1	2	2	1	2	6	7	WILD_OATS VELDT_GRASS
4190003	9	8.2	8.4	0.2	CLAYTON RD	West	9/10/08	20	1	1	1	1	0	0	1	1	2	2	0	2	5	7	WILD_OATS VELDT_GRASS
4190003	10	8.4	8.55	0.15	CLAYTON RD	West	9/10/08	20	0	1	0	1	0	0	1	1	0	1	1	2	2	6	WILD_OATS VELDT_GRASS
4190003	11	8.55	9.8	1.25	CLAYTON RD	West	9/10/08	20	1	1	1	1	0	0	1	1	0	0	1	1	4	4	WILD_OATS VELDT_GRASS
4190003	12	9.8	10.15	0.35	CLAYTON RD	West	9/10/08	20	1	0	0	0	0	0	0	1	0	0	1	1	2	2	WILD_OATS VELDT_GRASS
4190003	13	10.15	10.6	0.45	CLAYTON RD	West	9/10/08	20	2	1	1	1	0	0	1	1	1	0	0	1	5	4	WILD_OATS VELDT_GRASS
4190003	14	10.6	11.2	0.6	CLAYTON RD	West	9/10/08	20	1	1	1	1	0	0	1	1	1	1	1	1	5	5	WILD_OATS VELDT_GRASS
4190003	15	11.2	13.2	2	CLAYTON RD	West	9/10/08	20	1	1	1	0	0	0	1	0	0	0	2	1	5	2	WILD_OATS VELDT_GRASS
4190003	16	13.2	13.6	0.4	CLAYTON RD	West	9/10/08	20	0	1	1	1	0	0	1	1	0	1	1	1	3	5	WILD_OATS VELDT_GRASS
4190003	17	13.6	14.9	1.3	CLAYTON RD	West	9/10/08	20	1	1	1	1	0	0	1	1	1	1	1	1	5	5	WILD_OATS VELDT_GRASS
4190003	18	14.9	16.4	1.5	CLAYTON RD	West	9/10/08	20	0	1	0	1	0	0	0	1	0	1	1	1	1	5	WILD_OATS VELDT_GRASS
4190003	19	16.4	17.3	0.9	CLAYTON RD	West	9/10/08	20	1	1	1	1	0	0	1	1	1	1	1	1	5	5	WILD_OATS VELDT_GRASS
4190004	1	0	12.2	12.2	TARWONGA RD	South	21/10/08	20	1	1	1	1	1	1	1	1	1	1	2	2	7	7	WILD_RADISH VELDT_GRASS BRIDAL_CREEPER WILD_OATS SOURSOB
4190004	2	12.2	13.5	1.3	TARWONGA RD	South	21/10/08	20	2	2	2	2	2	1	2	2	2	2	0	2	10	11	WILD_OATS
4190004	3	13.5	14.6	1.1	TARWONGA RD	South	21/10/08	20	2	1	1	1	0	0	1	1	0	0	2	2	6	5	WILD_OATS VELDT_GRASS
4190004	4	14.6	14.9	0.3	TARWONGA RD	South	21/10/08	20	2	0	1	0	1	0	2	0	2	0	2	2	10	2	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190004	5	14.9	15.4	0.5	TARWONGA RD	South	21/10/08	20	2	1	1	0	1	0	2	0	1	0	2	2	9	3	WILD_OATS VELDT_GRASS
4190004	6	15.4	16.2	0.8	TARWONGA RD	South	21/10/08	20	2	2	2	0	2	0	2	1	2	0	0	2	10	5	WILD_OATS VELDT_GRASS
4190004	7	16.2	16.6	0.4	TARWONGA RD	South	21/10/08	20	2	2	2	2	2	1	2	2	2	2	0	2	10	11	WILD_OATS VELDT_GRASS
4190004	8	16.6	16.8	0.2	TARWONGA RD	South	21/10/08	20	0	1	0	0	0	0	0	0	0	1	2	2	2	4	WILD_OATS VELDT_GRASS
4190004	9	16.8	17.6	0.8	TARWONGA RD	South	21/10/08	20	1	1	0	0	0	0	0	0	0	0	2	2	3	3	WILD_OATS VELDT_GRASS
4190004	10	17.6	17.9	0.3	TARWONGA RD	South	21/10/08	20	1	2	0	1	0	1	0	2	0	2	2	0	3	8	WILD_OATS VELDT_GRASS
4190004	11	17.9	20	2.1	TARWONGA RD	South	21/10/08	20	2	1	2	0	2	0	2	0	2	0	0	2	10	3	WILD_OATS
4190004	12	20	21.3	1.3	TARWONGA RD	South	21/10/08	100	2	2	2	2	2	2	2	2	2	2	0	0	10	10	WILD_OATS
4190004	13	21.3	22	0.7	TARWONGA RD	South	21/10/08	20	2	1	2	0	2	0	2	0	2	1	0	2	10	4	WILD_OATS
4190004	14	22	22.67	0.67	TARWONGA RD	South	21/10/08	20	1	2	0	1	0	1	1	2	1	2	2	0	5	8	WILD_OATS
4190004	15	22.67	23.6	0.93	TARWONGA RD	South	21/10/08	100	2	2	2	2	1	1	2	2	2	2	0	0	9	9	WILD_OATS
4190004	16	23.6	25.8	2.2	TARWONGA RD	South	21/10/08	20	2	1	2	1	1	0	2	0	2	1	0	2	9	5	VELDT_GRASS WILD_OATS
4190004	17	25.8	26.5	0.7	TARWONGA RD	South	21/10/08	20	2	2	1	1	1	1	1	1	1	2	2	2	8	9	VELDT_GRASS WILD_OATS
4190004	18	26.5	27.2	0.7	TARWONGA RD	South	21/10/08	20	2	2	2	0	1	0	2	0	2	1	0	2	9	5	VELDT_GRASS WILD_OATS
4190005	1	0	0.49	0.49	WHIMBIN ROCK RD	East	31/10/08	20	1	2	0	1	0	0	0	0	0	2	0	1	1	6	
4190005	2	0.49	2.74	2.25	WHIMBIN ROCK RD	East	31/10/08	20	2	2	0	0	0	0	1	1	2	2	2	1	7	6	WILD_OATS CAPE_TULIP WILD_RADISH BRIDAL_CREEPER
4190005	3	2.74	4.5	1.76	WHIMBIN ROCK RD	East	31/10/08	20	2	2	0	0	1	1	2	2	2	2	0	0	7	7	WILD_OATS
4190005	4	4.5	4.79	0.29	WHIMBIN ROCK RD	East	31/10/08	20	2	2	1	1	0	1	2	2	2	2	1	0	8	8	WILD_OATS
4190005	5	4.79	5.87	1.08	WHIMBIN ROCK RD	East	31/10/08	20	2	2	1	1	1	2	1	1	2	2	1	1	8	9	WILD_OATS
4190005	6	5.87	7.53	1.66	WHIMBIN ROCK RD	East	31/10/08	20	2	2	1	1	1	1	1	1	2	2	1	0	8	7	WILD_OATS
4190005	7	7.53	9.29	1.76	WHIMBIN ROCK RD	East	31/10/08	20	2	2	1	1	1	1	1	1	2	2	2	1	9	8	WILD_OATS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190005	8	9.29	18.87	9.58	WHIMBIN ROCK RD	East	31/10/08	20	2	2	0	1	0	1	1	1	2	2	2	2	7	9	WILD_OATS VELDT_GRASS
4190005	9	18.87	19.36	0.49	WHIMBIN ROCK RD	East	31/10/08	20	2	2	2	2	2	2	0	0	2	2	0	0	8	8	WILD_OATS
4190005	10	19.36	19.78	0.42	WHIMBIN ROCK RD	East	31/10/08	20	2	2	2	2	2	2	2	2	2	2	2	0	12	10	WILD_OATS
4190005	11	19.78	22.78	3	WHIMBIN ROCK RD	East	31/10/08	20	2	2	1	1	0	0	1	1	2	2	2	2	8	8	WILD_OATS VELDT_GRASS
4190005	12	22.78	24.93	2.15	WHIMBIN ROCK RD	East	31/10/08	20	2	2	0	0	0	1	1	1	2	2	2	2	7	8	WILD_OATS
4190006	1	0	2.15	2.15	RUSHY POOL RD	South	3/11/08	20	2	2	1	0	0	0	0	0	2	2	2	2	6	5	BRIDAL_CREEPER WILD_OATS
4190006	2	2.15	2.54	0.39	RUSHY POOL RD	South	3/11/08	20	1	1	0	0	0	0	2	2	2	2	1	1	6	6	WILD_OATS
4190006	3	2.54	6.93	4.39	RUSHY POOL RD	South	3/11/08	20	2	2	1	1	2	2	1	1	2	2	1	1	9	9	VELDT_GRASS WILD_OATS BRIDAL_CREEPER
4190006	4	6.93	7.22	0.29	RUSHY POOL RD	South	3/11/08	20	2	2	1	1	1	1	1	1	2	2	0	0	7	7	VELDT_GRASS
4190006	5	7.22	7.51	0.29	RUSHY POOL RD	South	3/11/08	20	2	2	1	1	1	1	2	2	2	2	1	0	9	8	VELDT_GRASS BRIDAL_CREEPER
4190006	6	7.51	8.49	0.98	RUSHY POOL RD	South	3/11/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	VELDT_GRASS WILD_OATS BRIDAL_CREEPER
4190006	7	8.49	9.17	0.68	RUSHY POOL RD	South	3/11/08	20	2	2	0	0	1	1	2	2	2	2	1	0	8	7	
4190006	8	9.17	9.57	0.4	RUSHY POOL RD	South	3/11/08	20	2	2	1	1	1	1	0	0	2	2	1	0	7	6	VELDT_GRASS WILD_OATS CAPE_TULIP
4190006	9	9.57	10.57	1	RUSHY POOL RD	South	3/11/08	20	2	2	1	1	1	1	2	2	2	2	1	1	9	9	VELDT_GRASS WILD_OATS
4190007	1	0	2.13	2.13	WAGIN - WICKEPIN RD	South	31/10/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_OATS WILD_RADISH VELDT_GRASS
4190007	2	2.13	3.59	1.46	WAGIN - WICKEPIN RD	South	31/10/08	20	0	0	0	0	0	0	0	0	0	0	1	2	1	2	WILD_OATS VELDT_GRASS WILD_RADISH
4190007	3	3.59	3.96	0.37	WAGIN - WICKEPIN RD	South	31/10/08	20	2	2	1	1	1	0	1	1	2	2	0	2	7	8	WILD_OATS VELDT_GRASS
4190007	4	3.96	5.41	1.45	WAGIN - WICKEPIN RD	South	31/10/08	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_OATS WILD_RADISH

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190007	5	5.41	5.99	0.58	WAGIN - WICKEPIN RD	South	31/10/08	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_OATS WILD_RADISH
4190007	6	5.99	7.63	1.64	WAGIN - WICKEPIN RD	South	31/10/08	20	2	2	1	1	1	1	2	2	2	2	2	0	10	8	WILD_OATS WILD_RADISH
4190007	7	7.63	8.09	0.46	WAGIN - WICKEPIN RD	South	31/10/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS
4190007	8	8.09	8.8	0.71	WAGIN - WICKEPIN RD	South	31/10/08	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_OATS WILD_RADISH
4190007	9	8.8	12.56	3.76	WAGIN - WICKEPIN RD	South	31/10/08	20	2	2	1	1	2	1	1	1	2	2	2	2	10	9	WILD_OATS VELDT_GRASS WILD_RADISH
4190007	10	12.56	13.14	0.58	WAGIN - WICKEPIN RD	South	31/10/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS CAPE_TULIP
4190007	11	13.14	14.66	1.52	WAGIN - WICKEPIN RD	South	31/10/08	20	2	2	0	0	0	0	0	0	2	2	2	2	6	6	WILD_OATS WILD_RADISH
4190007	12	14.66	17.97	3.31	WAGIN - WICKEPIN RD	South	31/10/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS VELDT_GRASS
4190008	1	0	2.8	2.8	WICKEPIN - HARRISMITH RD	East	31/10/08	20	2	2	0	0	2	2	1	1	2	2	2	2	9	9	WILD_OATS WILD_RADISH
4190008	2	2.8	3.12	0.32	WICKEPIN - HARRISMITH RD	East	31/10/08	20	0	0	0	0	0	0	1	1	0	0	2	2	3	3	WILD_OATS WILD_RADISH
4190008	3	3.12	5.3	2.18	WICKEPIN - HARRISMITH RD	East	31/10/08	20	2	2	0	0	1	1	0	0	2	2	2	2	7	7	WILD_OATS VELDT_GRASS WILD_RADISH
4190009	1	0	4.5	4.5	DONGOLOCKING RD	South East	31/10/08	20	2	2	1	1	2	2	1	1	2	2	1	1	9	9	WILD_OATS VELDT_GRASS
4190009	2	4.5	5.1	0.6	DONGOLOCKING RD	South East	31/10/08	20	1	1	0	0	0	0	1	1	2	2	1	1	5	5	WILD_OATS VELDT_GRASS
4190009	3	5.1	7.85	2.75	DONGOLOCKING RD	South East	31/10/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS VELDT_GRASS
4190009	4	7.85	8.35	0.5	DONGOLOCKING RD	South East	31/10/08	20	1	1	0	0	0	0	1	1	0	0	1	1	3	3	WILD_OATS VELDT_GRASS
4190009	5	8.35	11	2.65	DONGOLOCKING RD	South East	31/10/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_OATS VELDT_GRASS
4190010	1	0	0.94	0.94	BIRDWHISTLE RD	North	3/11/08	20	2	2	1	1	0	1	0	1	0	2	2	2	4	7	VELDT_GRASS WILD_OATS
4190010	2	0.94	1.98	1.04	BIRDWHISTLE RD	North	3/11/08	20	2	2	2	2	2	2	2	2	2	2	2	2	10	11	WILD_OATS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190010	3	1.98	2.92	0.94	BIRDWHISTLE RD	North	3/11/08	20	2	2	2	2	2	2	2	2	2	2	2	2	10	12	
4190010	4	2.92	3.55	0.63	BIRDWHISTLE RD	North	3/11/08	20	2	2	2	2	2	2	2	2	2	2	2	2	12	10	WILD_OATS
4190010	5	3.55	6.68	3.13	BIRDWHISTLE RD	North	3/11/08	20	2	0	0	0	0	1	0	1	1	1	2	2	3	5	WILD_OATS
4190010	6	6.68	7	0.32	BIRDWHISTLE RD	North	3/11/08	20	2	2	1	1	1	1	1	2	1	2	2	2	8	8	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190010	7	7	7.94	0.94	BIRDWHISTLE RD	North	3/11/08	20	2	2	1	1	2	2	2	1	2	2	2	2	9	10	WILD_OATS VELDT_GRASS
4190010	8	7.94	11.94	4	BIRDWHISTLE RD	North	3/11/08	20	2	2	0	0	0	0	0	0	2	0	2	2	6	4	WILD_OATS VELDT_GRASS
4190010	9	11.94	12.73	0.79	BIRDWHISTLE RD	North East	4/11/08	20	2	2	2	2	2	2	2	1	2	2	0	1	10	10	WILD_OATS
4190010	10	12.73	13.36	0.63	BIRDWHISTLE RD	East	4/11/08	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	WILD_OATS VELDT_GRASS
4190010	11	13.36	14.51	1.15	BIRDWHISTLE RD	East	4/11/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_OATS VELDT_GRASS
4190010	12	14.51	14.72	0.21	BIRDWHISTLE RD	East	4/11/08	20	2	2	1	1	1	1	1	2	2	2	1	1	8	9	WILD_OATS VELDT_GRASS
4190010	13	14.72	15.24	0.52	BIRDWHISTLE RD	East	4/11/08	20	2	2	2	2	2	2	2	2	2	2	0	1	10	11	WILD_OATS VELDT_GRASS
4190010	14	15.24	15.88	0.64	BIRDWHISTLE RD	East	4/11/08	20	2	2	2	2	2	2	2	2	2	2	1	1	11	11	WILD_OATS VELDT_GRASS
4190011	1	0	0.5	0.5	MANARING RD	South	3/11/08	20	1	1	0	0	0	0	0	0	0	1	2	0	3	2	WILD_OATS
4190011	2	0.5	5.1	4.6	MANARING RD	South	3/11/08	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190011	3	5.1	6.8	1.7	MANARING RD	South	3/11/08	20	1	1	1	1	1	1	0	0	1	0	2	2	6	5	WILD_OATS
4190011	4	6.8	7.3	0.5	MANARING RD	South	3/11/08	20	1	1	0	0	0	0	0	0	1	1	2	2	4	4	WILD_OATS VELDT_GRASS
4190011	5	7.3	8.3	1	MANARING RD	South	3/11/08	20	2	2	1	1	1	1	1	1	1	1	2	2	8	8	WILD_OATS
4190011	6	8.3	9	0.7	MANARING RD	South	3/11/08	20	2	2	1	1	1	1	1	1	2	2	2	0	9	7	WILD_OATS
4190011	7	9	10.7	1.7	MANARING RD	East	3/11/08	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190011	8	10.7	13.3	2.6	MANARING RD	South	3/11/08	20	1	1	1	1	1	1	1	1	2	2	2	2	8	8	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190012	1	0	2.51	2.51	NARROGIN VALLEY RD	East	21/10/08	20	2	2	2	2	2	2	2	2	2	2	1	1	11	11	VELDT_GRASS WILD_OATS BRIDAL_CREEPER
4190012	2	2.51	2.91	0.4	NARROGIN VALLEY RD	East	21/10/08	20	2	2	1	1	1	2	2	2	1	2	2	0	9	9	VELDT_GRASS WILD_OATS BRIDAL_CREEPER
4190012	3	2.91	3.31	0.4	NARROGIN VALLEY RD	East	21/10/08	20	2	2	1	1	1	1	2	2	0	2	2	2	8	10	VELDT_GRASS WILD_OATS BRIDAL_CREEPER
4190012	4	3.31	5.31	2	NARROGIN VALLEY RD	South	21/10/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190012	5	5.31	5.92	0.61	NARROGIN VALLEY RD	South	21/10/08	20	2	2	0	1	1	2	2	2	2	2	1	1	8	10	WILD_OATS VELDT_GRASS
4190012	6	5.92	9.33	3.41	NARROGIN VALLEY RD	South	21/10/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_OATS VELDT_GRASS
4190012	7	9.33	9.63	0.3	NARROGIN VALLEY RD	South	21/10/08	20	2	2	1	1	2	1	2	2	2	2	1	1	10	9	WILD_OATS
4190012	8	9.63	15.87	6.24	NARROGIN VALLEY RD	South	21/10/08	20	2	2	0	0	1	1	0	0	2	2	1	1	6	6	WILD_OATS VELDT_GRASS
4190012	9	15.87	20.11	4.24	NARROGIN VALLEY RD	South East	21/10/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS
4190012	10	20.11	21.6	1.49	NARROGIN VALLEY RD	South East	21/10/08	20	0	0	0	0	0	0	0	0	0	0	2	2	1	1	WILD_OATS
4190012	11	21.6	24.61	3.01	NARROGIN VALLEY RD	South East	21/10/08	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	WILD_OATS
4190013	1	0	1.6	1.6	CHOMLEY RD	East	23/11/08	20	2	2	1	1	1	1	1	1	1	2	2	2	8	9	VELDT_GRASS WILD_OATS
4190013	2	1.6	3.5	1.9	CHOMLEY RD	East	23/11/08	20	2	2	1	1	2	1	1	1	2	2	0	2	8	9	VELDT_GRASS WILD_OATS BRIDAL_CREEPER
4190013	3	3.5	5.8	2.3	CHOMLEY RD	East	23/11/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	VELDT_GRASS WILD_OATS WILD_RADISH
4190013	4	5.8	6.2	0.4	CHOMLEY RD	East	23/11/08	20	2	2	2	1	2	1	2	1	2	2	0	2	10	9	VELDT_GRASS WILD_OATS
4190013	5	6.2	7.5	1.3	CHOMLEY RD	East	23/11/08	20	1	1	1	1	1	1	1	1	1	1	2	2	7	7	VELDT_GRASS WILD_OATS
4190013	6	7.5	9.5	2	CHOMLEY RD	East	23/11/08	20	2	2	2	1	2	1	2	1	2	2	0	2	10	9	VELDT_GRASS WILD_OATS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190013	7	9.5	11	1.5	CHOMLEY RD	East	23/11/08	20	0	2	2	0	0	2	0	2	0	2	2	0	4	8	VELDT_GRASS WILD_OATS
4190013	8	11	13.4	2.4	CHOMLEY RD	East	23/11/08	20	2	2	1	1	2	1	1	1	2	2	1	1	9	8	VELDT_GRASS WILD_OATS
4190013	9	13.4	15.8	2.4	CHOMLEY RD	North	23/11/08	20	2	2	1	1	2	1	1	1	2	2	0	1	8	8	VELDT_GRASS WILD_OATS SOURSOB
4190013	10	15.8	16.4	0.6	CHOMLEY RD	North	23/10/08	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	VELDT_GRASS WILD_OATS
4190013	11	16.4	16.8	0.4	CHOMLEY RD	North	23/10/08	20	2	2	2	2	1	1	2	2	2	2	0	0	9	9	VELDT_GRASS
4190014	1	0	7.7	7.7	YARRANABEE RD	South	5/11/08	20	1	1	1	1	1	1	1	1	2	2	2	2	8	8	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190015	1	0	0.99	0.99	HIGHBURY RD EAST	West	3/11/08	20	2	2	0	0	1	0	1	1	2	2	1	1	7	6	WILD_OATS
4190015	2	0.99	1.37	0.38	HIGHBURY RD EAST	West	3/11/08	20	0	0	0	0	0	0	0	0	1	1	1	1	2	2	WILD_OATS
4190015	3	1.37	4.91	3.54	HIGHBURY RD EAST	West	3/11/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS VELDT_GRASS
4190015	4	4.91	5.32	0.41	HIGHBURY RD EAST	West	3/11/08	20	1	1	1	1	0	0	2	2	2	2	1	1	7	7	WILD_OATS
4190015	5	5.32	5.7	0.38	HIGHBURY RD EAST	West	3/11/08	20	2	2	0	0	0	0	1	1	2	2	1	1	6	6	WILD_OATS
4190015	6	5.7	8.4	2.7	HIGHBURY RD EAST	West	3/11/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS
4190015	7	8.4	10.7	2.3	HIGHBURY RD EAST	West	3/11/08	20	2	2	1	1	1	1	2	2	2	2	1	1	9	9	WILD_OATS
4190015	8	10.7	11.3	0.6	HIGHBURY RD EAST	West	3/11/08	20	2	2	1	1	1	1	2	2	2	2	1	1	9	9	WILD_OATS VELDT_GRASS
4190015	9	11.3	14	2.7	HIGHBURY RD EAST	West	3/11/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS VELDT_GRASS
4190015	10	14	14.3	0.3	HIGHBURY RD EAST	West	3/11/08	20	2	2	2	2	2	2	2	2	2	2	1	1	11	11	WILD_OATS
4190015	11	14.3	14.8	0.5	HIGHBURY RD EAST	West	3/11/08	20	2	2	1	1	2	2	2	2	2	2	0	0	9	9	WILD_OATS
4190016	1	0	1.55	1.55	HIGHBURY WEST RD	West	22/10/08	20	2	2	2	2	2	2	0	0	2	2	0	0	8	8	
4190016	2	1.55	5.45	3.9	HIGHBURY WEST RD	West	22/10/08	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190016	3	5.45	7.55	2.1	HIGHBURY WEST RD	West	22/10/08	20	2	2	1	1	1	1	0	0	2	2	2	2	8	7	WILD_OATS VELDT_GRASS
4190016	4	7.55	8.8	1.25	HIGHBURY WEST RD	West	22/10/08	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	WILD_OATS
4190016	5	8.8	9.4	0.6	HIGHBURY WEST RD	West	22/10/08	20	2	1	1	1	1	1	2	2	1	1	0	2	8	7	WILD_OATS
4190016	6	9.4	10.3	0.9	HIGHBURY WEST RD	West	22/10/08	20	1	1	0	0	1	1	1	1	0	0	2	2	5	5	WILD_OATS VELDT_GRASS
4190016	7	10.3	12.45	2.15	HIGHBURY WEST RD	West	22/10/08	20	2	2	1	1	1	1	1	1	0	1	2	2	8	7	WILD_OATS
4190016	8	12.45	12.9	0.45	HIGHBURY WEST RD	West	22/10/08	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_OATS
4190016	9	12.9	17	4.1	HIGHBURY WEST RD	West	22/10/08	20	1	1	1	1	1	1	1	1	2	2	2	2	8	8	WILD_OATS
4190017	1	0	0.4	0.4	MCKENZIE RD	South	10/10/08	20	1	1	1	1	0	0	1	1	2	1	1	1	6	5	VELDT_GRASS WILD_OATS
4190017	2	0.4	0.8	0.4	MCKENZIE RD	South	10/10/08	20	1	1	1	1	0	0	1	1	1	1	2	1	6	5	VELDT_GRASS WILD_OATS
4190017	3	0.8	1.17	0.37	MCKENZIE RD	South	10/10/08	20	2	2	1	1	0	0	1	1	2	2	1	0	7	6	VELDT_GRASS WILD_OATS
4190017	4	1.17	1.37	0.2	MCKENZIE RD	South	10/10/08	20	2	2	1	1	1	1	1	1	2	1	0	0	7	6	VELDT_GRASS WILD_OATS
4190017	5	1.37	2.3	0.93	MCKENZIE RD	South	17/10/08	20	2	2	2	1	1	1	2	1	2	2	0	1	9	8	WILD_OATS
4190017	6	2.3	3	0.7	MCKENZIE RD	South	17/10/08	20	1	1	1	1	1	1	0	0	1	1	2	2	6	6	WILD_OATS VELDT_GRASS
4190017	7	3	4.2	1.2	MCKENZIE RD	South	17/10/08	20	1	1	1	1	1	1	1	1	2	2	2	1	8	7	VELDT_GRASS BRIDAL_CREEPER WILD_OATS
4190017	8	4.2	6	1.8	MCKENZIE RD	South	17/10/08	20	2	1	1	1	1	1	0	0	2	2	1	1	7	6	VELDT_GRASS WILD_OATS
4190017	9	6	8.3	2.3	MCKENZIE RD	South	17/10/08	20	1	2	0	1	0	1	0	1	1	2	2	2	4	9	VELDT_GRASS WILD_OATS
4190017	10	8.3	13.8	5.5	MCKENZIE RD	South	17/10/08	20	1	1	1	1	1	1	1	1	2	2	2	1	8	7	VELDT_GRASS WILD_OATS
4190017	11	13.8	14.1	0.3	MCKENZIE RD	South	17/10/08	20	0	2	0	0	0	0	2	1	0	2	0	1	2	6	WILD_OATS VELDT_GRASS
4190018	1	0.25	0.85	0.6	TAYLOR SHORT RD	South	29/10/08	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	WILD_OATS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190018	2	0.85	2.59	1.74	TAYLOR SHORT RD	South	29/10/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS BRIDAL_CREEPER VELDT_GRASS
4190018	3	2.59	4.89	2.3	TAYLOR SHORT RD	South	4/11/08	20	2	2	0	0	0	0	0	0	2	2	1	1	5	5	WILD_OATS VELDT_GRASS
4190018	4	4.89	5.98	1.09	TAYLOR SHORT RD	South	4/11/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_OATS VELDT_GRASS
4190018	5	5.98	6.74	0.76	TAYLOR SHORT RD	South	4/11/08	20	2	2	2	2	2	2	2	2	2	2	1	1	11	11	WILD_OATS
4190018	6	6.74	7.28	0.54	TAYLOR SHORT RD	South	4/11/08	20	2	2	1	1	2	2	2	2	2	2	1	1	10	10	WILD_OATS
4190019	1	0	2.2	2.2	LAKES RD	North	31/10/08	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	WILD_RADISH WILD_OATS
4190019	2	2.2	2.7	0.5	LAKES RD	North	31/10/08	20	2	2	1	1	2	2	2	2	2	2	0	0	9	9	WILD_RADISH WILD_OATS
4190019	3	2.7	4.4	1.7	LAKES RD	North	31/10/08	20	2	2	2	1	2	1	2	1	2	2	0	1	10	8	WILD_RADISH WILD_OATS
4190019	4	4.4	4.6	0.2	LAKES RD	North	31/10/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_RADISH WILD_OATS
4190019	5	4.6	5.7	1.1	LAKES RD	North	31/10/08	20	2	2	1	1	2	2	2	2	2	2	0	0	9	9	WILD_RADISH
4190020	1	0	1.59	1.59	CONTINE RD	East	20/10/08	20	1	1	1	1	2	2	1	1	2	0	2	2	9	7	WILD_OATS
4190020	2	1.59	2.55	0.96	CONTINE RD	East	20/10/08	20	2	2	2	2	2	2	2	2	2	2	0	2	10	12	VELDT_GRASS WILD_OATS
4190020	3	2.55	3.57	1.02	CONTINE RD	East	20/10/08	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	VELDT_GRASS WILD_OATS WILD_RADISH
4190020	4	3.57	5.1	1.53	CONTINE RD	East	20/10/08	20	0	2	0	1	0	2	1	2	1	2	2	0	4	9	VELDT_GRASS WILD_OATS
4190020	5	5.1	7.77	2.67	CONTINE RD	East	20/10/08	20	2	2	0	0	2	2	1	1	2	2	2	2	9	9	VELDT_GRASS WILD_OATS
4190021	1	0	2.53	2.53	NARRAKINE RD SOUTH	South	17/10/08	20	1	1	1	1	0	0	1	1	0	0	1	1	4	4	VELDT_GRASS WILD_OATS WILD_RADISH
4190021	2	2.53	4.27	1.74	NARRAKINE RD SOUTH	South	17/10/08	20	1	1	1	1	0	0	1	1	0	0	2	1	5	4	VELDT_GRASS WILD_OATS
4190021	3	4.27	5.66	1.39	NARRAKINE RD SOUTH	South	17/10/08	40	1	1	1	1	0	0	1	1	0	0	2	2	5	5	VELDT_GRASS WILD_OATS SALT_AFFECTED

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190021	4	5.66	6.35	0.69	NARRAKINE RD SOUTH	South	17/10/08	40	2	2	2	2	2	2	2	2	2	2	0	0	10	10	
4190021	5	6.35	6.61	0.26	NARRAKINE RD SOUTH	South	17/10/08	40	2	2	2	2	2	2	2	2	2	2	2	0	12	10	VELDT_GRASS WILD_OATS
4190021	6	6.61	7.25	0.64	NARRAKINE RD SOUTH	South	17/10/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	VELDT_GRASS WILD_OATS
4190021	7	7.25	8.57	1.32	NARRAKINE RD SOUTH	South	17/10/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	VELDT_GRASS SOURSOB WILD_OATS CAPE_TULIP
4190021	8	8.57	9.43	0.86	NARRAKINE RD SOUTH	South	17/10/08	20	2	2	1	1	1	1	2	1	2	2	0	2	8	9	VELDT_GRASS
4190021	9	9.43	12.51	3.08	NARRAKINE RD SOUTH	South	17/10/08	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_OATS VELDT_GRASS
4190022	1	0	1.8	1.8	ONEILL RD	North	4/11/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS
4190022	2	1.8	2.3	0.5	ONEILL RD	North	4/11/08	20	1	1	1	1	0	1	0	0	0	1	2	2	4	6	WILD_OATS
4190022	3	2.3	5.2	2.9	ONEILL RD	North	4/11/08	20	2	2	2	2	2	2	2	2	2	2	0	2	10	12	WILD_OATS VELDT_GRASS
4190023	1	0	1	1	HIGHBURY SOUTH RD	South West	5/11/08	20	2	2	1	1	1	1	1	1	1	2	2	2	8	9	WILD_OATS
4190023	2	1	1.3	0.3	HIGHBURY SOUTH RD	South West	5/11/08	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_OATS VELDT_GRASS
4190023	3	1.3	2.3	1	HIGHBURY SOUTH RD	South West	5/11/08	20	2	2	1	1	1	1	2	2	1	2	2	2	9	10	WILD_OATS
4190023	4	2.3	4.2	1.9	HIGHBURY SOUTH RD	South West	5/11/08	20	1	1	1	1	0	1	1	1	1	2	2	2	6	8	WILD_OATS VELDT_GRASS
4190023	5	4.2	5.4	1.2	HIGHBURY SOUTH RD	South West	5/11/08	20	0	0	2	2	1	1	0	0	2	2	2	2	7	7	WILD_OATS VELDT_GRASS
4190023	6	5.4	6.2	0.8	HIGHBURY SOUTH RD	South West	5/11/08	20	1	1	1	1	1	1	1	1	0	0	2	2	6	6	WILD_OATS VELDT_GRASS
4190024	1	0	1.9	1.9	WIESE RD	East	31/10/08	20	1	1	0	0	1	1	0	0	2	2	1	1	5	5	WILD_OATS
4190024	2	1.9	2.4	0.5	WIESE RD	East	31/10/08	20	2	2	2	2	2	2	2	2	2	2	0	1	10	11	WILD_OATS
4190024	3	2.4	3.6	1.2	WIESE RD	East	31/10/08	20	2	2	2	2	2	2	2	2	2	2	0	1	10	11	WILD_OATS
4190024	4	3.6	4	0.4	WIESE RD	East	31/10/08	20	2	2	0	0	2	2	0	0	2	2	2	1	8	7	WILD_OATS
4190024	5	4	6.9	2.9	WIESE RD	East	31/10/08	20	2	2	0	0	0	1	1	1	2	2	1	1	6	7	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190024	6	6.9	7.9	1	WIESE RD	East	31/10/08	20	1	1	0	0	0	0	1	1	2	1	2	2	6	5	WILD_OATS VELDT_GRASS
4190025	1	0	0.3	0.3	BOOTHEY RD	West	5/11/08	20	1	1	1	1	0	0	2	2	1	0	0	1	5	5	

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190025	2	0.3	0.6	0.3	BOOTHEY RD	West	5/11/08	20	1	1	0	0	0	0	0	0	1	1	2	1	4	3	VELDT_GRASS
4190025	3	0.6	1.93	1.33	BOOTHEY RD	West	5/11/08	20	0	0	0	0	0	0	0	0	0	0	2	1	2	1	VELDT_GRASS WILD_RADISH VELDT_GRASS
4190026	1	0	3.78	3.78	MORCOMBE RD	North	31/10/08	20	2	2	0	0	1	1	1	2	2	2	2	2	8	9	WILD_OATS
4190026	2	3.78	4.38	0.6	MORCOMBE RD	North	31/10/08	20	1	1	0	0	0	0	2	2	2	1	1	1	6	5	WILD_OATS
4190026	3	4.38	4.88	0.5	MORCOMBE RD	North	31/10/08	20	2	2	1	1	1	1	2	2	2	2	1	1	9	9	WILD_OATS
4190026	4	4.88	5.48	0.6	MORCOMBE RD	North	31/10/08	20	1	1	0	0	0	0	1	1	2	2	1	1	5	5	WILD_OATS
4190027	1	0	5.29	5.29	CAMPBELLS RD	North	5/11/08	20	1	1	1	1	1	1	1	1	2	2	2	1	8	7	WILD_OATS WILD_RADISH
4190027	2	5.29	5.91	0.62	CAMPBELLS RD	North	5/11/08	20	2	2	1	1	1	1	1	1	1	2	2	0	8	7	WILD_OATS
4190028	1	0	0.7	0.7	NEWBOLDS RD	East	5/11/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_RADISH VELDT_GRASS WILD_OATS
4190028	2	0.7	1.2	0.5	NEWBOLDS RD	East	5/11/08	20	2	2	1	1	1	1	1	1	2	1	0	2	7	8	VELDT_GRASS WILD_OATS
4190029	1	0	1.5	1.5	CARMODY RD	East	3/11/08	20	1	1	0	0	0	0	0	0	2	2	1	1	4	4	WILD_OATS
4190029	2	1.5	3.1	1.6	CARMODY RD	East	3/11/08	20	2	2	1	1	1	1	0	0	2	2	1	1	7	7	WILD_OATS VELDT_GRASS
4190030	1	0	1.86	1.86	MICHAEL BROWN	North	29/10/08	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	BRIDAL_CREEPER WILD_OATS SOURSOB
4190030	2	1.86	2.27	0.41	MICHAEL BROWN	North	29/10/08	20	2	2	1	1	2	2	2	2	1	1	2	2	10	10	WILD_OATS
4190030	3	2.27	3.5	1.23	MICHAEL BROWN	North	29/10/08	20	2	2	1	1	1	1	1	1	1	0	2	2	8	7	WILD_OATS
4190030	4	3.5	5.88	2.38	MICHAEL BROWN	North	29/10/08	20	2	2	1	1	1	1	2	2	2	2	2	1	10	9	VELDT_GRASS WILD_OATS
4190032	1	0	0.32	0.32	GREENS RD	North	31/10/08	20	2	2	1	1	0	0	1	1	2	2	0	2	6	8	WILD_OATS
4190032	2	0.32	0.65	0.33	GREENS RD	North	31/10/08	20	0	0	0	0	0	0	2	2	2	2	0	2	4	6	WILD_OATS
4190032	3	0.65	1.19	0.54	GREENS RD	North	31/10/08	20	2	2	0	0	0	0	0	0	1	1	2	2	5	5	WILD_OATS VELDT_GRASS
4190032	4	1.19	3.79	2.6	GREENS RD	North	31/10/08	20	2	2	1	1	1	2	1	1	2	2	2	2	9	10	WILD_OATS VELDT_GRASS
4190032	5	3.79	4.22	0.43	GREENS RD	North	31/10/08	20	1	1	0	0	0	0	2	2	1	1	1	1	5	5	WILD_OATS
4190032	6	4.22	5.09	0.87	GREENS RD	North	31/10/08	20	1	2	0	0	0	0	0	0	2	2	1	2	4	6	WILD_OATS WILD_RADISH
4190035	1	0	0.5	0.5	BROOKS RD	North East	4/11/08	20	2	2	1	1	1	1	1	1	2	2	2	0	9	7	VELDT_GRASS WILD_OATS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190035	2	0.5	2.2	1.7	BROOKS RD	North	4/11/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	VELDT_GRASS WILD_OATS
4190035	3	2.2	2.5	0.3	BROOKS RD	North	4/11/08	20	2	2	1	1	1	0	1	1	2	2	0	1	7	7	VELDT_GRASS WILD_OATS
4190035	4	2.5	3.2	0.7	BROOKS RD	North	4/11/08	20	2	2	1	1	1	1	2	2	2	2	1	1	9	9	VELDT_GRASS WILD_OATS
4190035	5	3.2	3.5	0.3	BROOKS RD	North	4/11/08	20	2	2	0	0	0	0	1	1	2	2	0	1	5	6	VELDT_GRASS WILD_OATS
4190035	6	3.5	5.3	1.8	BROOKS RD	East	4/11/08	20	2	2	1	1	1	1	2	2	2	2	1	1	9	9	VELDT_GRASS WILD_OATS
4190036	1	0	1.1	1.1	ARMSTRONG RD	South West	5/11/08	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	WILD_OATS
4190036	2	1.1	2.2	1.1	ARMSTRONG RD	South West	5/11/08	20	2	2	1	2	1	2	1	2	2	2	2	0	9	10	WILD_OATS
4190036	3	2.2	4.2	2	ARMSTRONG RD	South West	5/11/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS VELDT_GRASS
4190037	1	0	3.76	3.76	SPENCER RD	North	3/11/08	20	2	2	1	1	1	1	0	0	2	2	0	1	6	7	VELDT_GRASS WILD_OATS CAPE_TULIP
4190037	2	3.76	5.44	1.68	SPENCER RD	North	3/11/08	20	2	2	1	1	1	1	2	2	2	2	0	1	8	9	VELDT_GRASS WILD_OATS
4190039	1	0	2.76	2.76	CARDWELL RD	West	5/11/08	20	1	1	1	1	1	1	1	1	2	2	2	2	8	8	VELDT_GRASS WILD_OATS
4190040	1	0	0.4	0.4	HALLS RD	South	5/11/08	20	2	2	1	2	1	2	1	2	1	2	2	0	8	10	WILD_OATS
4190040	2	0.4	1.3	0.9	HALLS RD	South	5/11/08	20	1	1	1	1	1	1	1	1	1	2	2	2	7	8	WILD_OATS
4190040	3	1.3	1.5	0.2	HALLS RD	South	5/11/08	20	1	0	1	0	1	0	1	0	1	0	2	2	7	2	WILD_OATS
4190040	4	1.5	3.35	1.85	HALLS RD	South	5/11/08	20	1	2	1	1	0	1	1	2	1	2	2	2	6	10	WILD_OATS
4190040	5	3.35	3.8	0.45	HALLS RD	South	5/11/08	20	0	0	0	0	0	0	2	2	0	0	2	2	4	4	WILD_OATS SALT_AFFECTED
4190044	1	0	1.1	1.1	SIMS RD	South	5/11/08	20	1	1	0	1	0	1	1	1	2	0	2	2	6	6	WILD_OATS
4190044	2	1.1	1.7	0.6	SIMS RD	South	5/11/08	20	1	1	1	1	1	1	1	1	2	2	2	0	8	6	WILD_OATS
4190045	1	0	1.54	1.54	PORTERS RD	South	5/11/08	20	1	1	1	0	0	0	2	2	0	2	2	1	6	6	SALT_AFFECTED
4190046	1	0	1.8	1.8	WOODS RD	North	3/11/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS VELDT_GRASS
4190046	2	1.8	2.7	0.9	WOODS RD	North	3/11/08	20	2	1	1	1	1	1	2	1	2	0	2	2	10	6	WILD_OATS VELDT_GRASS
4190046	3	2.7	4	1.3	WOODS RD	North	3/11/08	20	2	1	1	0	1	0	1	0	2	1	2	2	9	4	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190047	1	0	3.04	3.04	FLAVEL RD	East	3/11/08	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190047	2	3.04	3.54	0.5	FLAVEL RD	East	3/11/08	20	2	2	1	1	1	1	2	2	1	1	2	2	9	9	WILD_OATS
4190049	1	0	0.6	0.6	WARREN RD	South	23/10/08	20	1	2	0	0	0	0	0	1	0	1	2	2	3	6	VELDT_GRASS WILD_OATS
4190049	2	0.6	0.97	0.37	WARREN RD	South	23/10/08	20	1	1	1	1	1	1	1	1	2	2	1	1	7	7	VELDT_GRASS WILD_OATS
4190050	1	0	1.5	1.5	JENKINS RD	North	3/11/08	20	2	2	1	1	2	2	2	2	2	2	1	1	10	10	WILD_OATS VELDT_GRASS
4190050	2	1.5	4.09	2.59	JENKINS RD	North	3/11/08	20	2	2	1	1	2	2	2	2	2	2	1	1	10	10	WILD_OATS VELDT_GRASS
4190051	1	0	1.3	1.3	BENNIER RD	South	5/11/08	20	1	1	0	0	0	0	0	0	0	0	1	1	2	2	WILD_OATS
4190051	2	1.3	2.3	1	BENNIER RD	South	5/11/08	20	1	0	1	0	1	0	1	0	2	0	2	2	8	2	WILD_OATS
4190051	3	2.3	2.6	0.3	BENNIER RD	South	5/11/08	20	1	1	1	1	1	1	1	1	2	1	2	2	8	7	WILD_OATS
4190051	4	2.6	3.4	0.8	BENNIER RD	South	5/11/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS
4190052	1	0	2.79	2.79	MANNING RD	West	4/11/08	20	1	1	1	1	1	1	1	1	2	2	2	2	8	8	VELDT_GRASS WILD_OATS
4190052	2	2.79	4.23	1.44	MANNING RD	West	4/11/08	20	1	1	1	1	1	1	2	2	2	2	2	2	9	9	
4190052	3	4.23	4.85	0.62	MANNING RD	West	4/11/08	20	2	2	2	1	2	1	0	1	2	2	2	2	8	9	WILD_OATS
4190052	4	4.85	8.88	4.03	MANNING RD	West	4/11/08	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	VELDT_GRASS WILD_OATS
4190053	1	0	6.4	6.4	HILDERS RD	Sout East	29/10/08	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	WILD_OATS VELDT_GRASS
4190053	2	6.4	7.56	1.16	HILDERS RD	Sout East	29/10/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS BRIDAL_CREEPER VELDT_GRASS
4190055	1	0	2.14	2.14	NOMANS LAKE SIDING RD	North	31/10/08	20	2	2	0	0	0	0	0	0	2	2	2	1	6	5	WILD_OATS VELDT_GRASS WILD_RADISH
4190055	2	2.14	3.5	1.36	NOMANS LAKE SIDING RD	North	31/10/08	20	2	2	1	1	1	2	1	1	2	2	2	0	9	8	WILD_OATS WILD_RADISH
4190055	3	3.5	6.12	2.62	NOMANS LAKE SIDING RD	North	31/10/08	20	2	2	0	0	0	1	0	0	2	2	2	2	6	7	WILD_OATS WILD_RADISH
4190056	1	0	0.73	0.73	O"DEA RD	North West	4/11/08	20	0	1	0	0	0	0	0	0	1	0	1	2	2	3	WILD_OATS
4190056	2	0.73	1.88	1.15	O"DEA RD	North West	4/11/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190056	3	1.88	2.72	0.84	O"DEA RD	North West	4/11/08	20	0	2	0	1	0	1	0	2	0	2	1	1	1	9	WILD_OATS
4190056	4	2.72	3.76	1.04	O"DEA RD	North West	4/11/08	20	2	2	1	1	1	2	1	1	2	2	1	1	8	9	WILD_OATS VELDT_GRASS
4190056	5	3.76	4.06	0.3	O"DEA RD	North West	4/11/08	20	2	2	2	2	2	2	2	2	2	2	1	1	11	11	WILD_OATS VELDT_GRASS
4190057	1	0	2.5	2.5	LOCK RD	South	3/11/08	20	2	2	1	1	2	2	1	0	2	2	1	1	9	8	WILD_OATS VELDT_GRASS
4190057	2	2.5	6.92	4.42	LOCK RD	South	3/11/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS VELDT_GRASS
4190058	1	0	0.5	0.5	CHIPPER RD	North	10/10/08	20	1	1	1	1	0	0	1	1	1	1	2	1	6	5	WILD_OATS BRIDAL_CREEPER CAPE_TULIP
4190058	2	0.5	1.1	0.6	CHIPPER RD	North	10/10/08	20	1	1	1	1	0	0	1	1	0	0	2	1	5	4	WILD_OATS
4190058	3	1.1	3.7	2.6	CHIPPER RD	North	10/10/08	20	1	1	1	1	0	0	1	1	1	2	1	2	5	7	WILD_OATS
4190061	1	0	3.7	3.7	MARRAMUCKING RD	West	29/10/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_OATS
4190061	2	3.7	4.17	0.47	MARRAMUCKING RD	West	29/10/08	20	0	0	0	0	0	0	0	0	1	1	2	2	3	3	WILD_OATS
4190061	3	4.17	6.45	2.28	MARRAMUCKING RD	West	29/10/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS
4190062	1	0	0.65	0.65	CONDON RD	East	21/10/08	20	2	2	2	2	0	0	0	0	2	2	2	1	8	7	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190062	2	0.65	2.29	1.64	CONDON RD	East	21/10/08	20	2	2	1	1	1	1	0	0	2	2	2	1	8	7	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190063	1	0	3.84	3.84	BORGAS RD	North	3/11/08	20	2	2	1	1	2	2	1	1	2	2	1	1	9	9	WILD_RADISH WILD_OATS VELDT_GRASS
4190064	1	0	0.84	0.84	BORGAS RD NO2	East	3/11/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS WILD_RADISH
4190065	1	0	0.3	0.3	SPOUSE RD	South	10/10/08	20	2	1	1	1	1	0	1	1	2	1	2	2	9	6	WILD_OATS
4190065	2	0.3	0.6	0.3	SPOUSE RD	South	10/10/08	20	2	0	1	0	1	0	1	0	2	0	2	2	9	2	WILD_OATS
4190065	3	0.6	1.35	0.75	SPOUSE RD	South	10/10/08	20	1	1	1	1	0	0	1	1	1	1	1	1	5	5	WILD_OATS
4190065	4	1.35	1.6	0.25	SPOUSE RD	South	10/10/08	20	1	1	1	1	0	0	1	1	0	0	1	1	4	4	WILD_OATS VELDT_GRASS
4190065	5	1.6	2.2	0.6	SPOUSE RD	South	10/10/08	20	1	1	1	1	0	0	1	1	1	1	2	2	6	6	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190065	6	2.2	2.5	0.3	SPOUSE RD	South	10/10/08	20	1	1	1	1	0	0	1	1	2	2	1	1	6	6	WILD_OATS VELDT_GRASS
4190065	7	2.5	4.4	1.9	SPOUSE RD	South	10/10/08	20	1	1	1	1	0	0	1	1	2	2	1	1	6	6	WILD_OATS VELDT_GRASS
4190067	1	0	0.7	0.7	PRITCHARD RD	North	10/10/08	20	1	1	1	1	0	0	1	1	0	0	2	2	5	5	CAPE_TULIP WILD_OATS
4190067	2	0.7	0.9	0.2	PRITCHARD RD	North	10/10/08	20	0	0	0	0	0	0	0	0	0	0	1	1	1	1	WILD_OATS CAPE_TULIP
4190067	3	0.9	2.9	2	PRITCHARD RD	North	10/10/08	20	1	1	1	1	0	0	1	1	2	2	1	1	6	6	WILD_OATS
4190068	1	0	0.2	0.2	FARRELLY RD	West	9/10/08	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	VELDT_GRASS WILD_OATS
4190068	2	0.2	0.6	0.4	FARRELLY RD	West	9/10/08	20	1	0	0	0	0	0	0	0	0	0	2	2	3	2	VELDT_GRASS WILD_OATS
4190068	3	0.6	1.1	0.5	FARRELLY RD	West	9/10/08	20	1	1	1	1	0	0	1	1	1	0	1	2	5	5	VELDT_GRASS WILD_OATS CAPE_TULIP
4190068	4	1.1	1.5	0.4	FARRELLY RD	West	9/10/08	20	1	0	1	0	0	0	1	0	0	0	1	2	4	2	VELDT_GRASS WILD_OATS
4190068	5	1.5	2.2	0.7	FARRELLY RD	South	9/10/08	20	1	1	1	1	1	1	1	1	2	2	1	1	7	7	VELDT_GRASS WILD_OATS
4190068	6	2.2	2.6	0.4	FARRELLY RD	West	9/10/08	20	1	1	1	1	0	0	1	1	0	0	2	2	5	5	VELDT_GRASS WILD_OATS
4190069	1	0	0.2	0.2	CURTIS RD	West	9/10/08	20	1	1	1	1	0	0	1	1	1	1	0	1	4	5	VELDT_GRASS WILD_OATS
4190069	2	0.2	1.2	1	CURTIS RD	West	9/10/08	20	1	1	1	1	0	0	1	1	2	1	2	2	7	6	VELDT_GRASS WILD_OATS CAPE_TULIP
4190069	3	1.2	1.4	0.2	CURTIS RD	North	9/10/08	20	1	1	1	1	0	0	1	1	1	1	1	1	5	5	VELDT_GRASS WILD_OATS CAPE_TULIP
4190069	4	1.4	2.1	0.7	CURTIS RD	North	9/10/08	20	1	2	1	1	0	0	0	1	0	0	2	1	4	5	VELDT_GRASS WILD_OATS
4190070	1	0	1.6	1.6	BOXSELL RD	East	10/10/08	20	1	1	1	1	0	0	1	1	0	0	1	2	4	5	VELDT_GRASS WILD_OATS
4190071	1	0	0.7	0.7	WANERIE RD	West	20/10/08	20	1	0	1	0	1	0	1	0	2	0	2	1	8	1	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190071	2	0.7	2.65	1.95	WANERIE RD	East	20/10/08	20	2	0	1	0	1	0	1	1	2	1	1	2	8	4	VELDT_GRASS VELDT_GRASS WILD_OATS WILD_OATS
4190072	1	0	1.1	1.1	KATTA RD	East	20/10/08	20	2	2	1	1	0	0	0	0	2	1	1	1	6	5	WILD_OATS VELDT_GRASS WILD_RADISH SALT_AFFECTED
4190072	2	1.1	1.7	0.6	KATTA RD	East	20/10/08	20	2	2	1	1	1	1	1	1	2	2	0	0	7	7	WILD_OATS VELDT_GRASS
4190072	3	1.7	2.86	1.16	KATTA RD	East	20/10/08	20	2	2	1	1	1	1	1	1	2	2	0	2	7	9	WILD_OATS VELDT_GRASS
4190073	1	0	0.35	0.35	BRADFORD RD	South	8/10/08	20	2	2	1	1	1	1	2	2	2	2	0	1	8	9	WILD_OATS VELDT_GRASS
4190073	2	0.35	2.7	2.35	BRADFORD RD	South	8/10/08	20	1	1	1	1	1	1	1	1	2	2	2	1	8	7	WILD_OATS VELDT_GRASS CAPE_TULIP
4190073	3	2.7	3.9	1.2	BRADFORD RD	South	8/10/08	20	1	1	1	1	0	0	1	1	2	2	2	0	7	5	WILD_OATS VELDT_GRASS
4190073	4	3.9	4.8	0.9	BRADFORD RD	South	8/10/08	20	1	1	1	1	0	0	1	1	1	2	2	1	6	6	WILD_OATS VELDT_GRASS
4190074	1	0	0.7	0.7	ROSEDALE RD	North	8/10/08	20	1	0	1	0	0	0	0	0	1	0	1	1	4	1	WILD_OATS VELDT_GRASS
4190074	2	0.7	1	0.3	ROSEDALE RD	North	8/10/08	20	0	1	0	1	0	0	0	1	0	1	1	1	1	5	WILD_OATS VELDT_GRASS CAPE_TULIP
4190074	3	1	1.85	0.85	ROSEDALE RD	North	8/10/08	20	1	1	1	1	0	0	1	1	0	1	2	1	5	5	WILD_OATS VELDT_GRASS CAPE_TULIP
4190074	4	1.85	3.4	1.55	ROSEDALE RD	North	8/10/08	20	2	2	2	1	1	1	2	1	1	1	0	1	8	7	WILD_OATS VELDT_GRASS
4190074	5	3.4	3.6	0.2	ROSEDALE RD	North	8/10/08	20	2	2	1	1	1	1	2	2	1	1	0	0	7	7	
4190074	6	3.6	3.9	0.3	ROSEDALE RD	North	8/10/08	20	1	1	1	1	0	0	2	2	1	1	0	0	5	5	
4190074	7	3.9	4.1	0.2	ROSEDALE RD	North	8/10/08	20	2	2	1	1	1	1	2	2	1	1	0	0	7	7	
4190074	8	4.1	4.5	0.4	ROSEDALE RD	North	8/10/08	20	1	1	1	1	0	1	2	2	2	2	0	0	6	7	
4190074	9	4.5	5.2	0.7	ROSEDALE RD	North	8/10/08	20	2	2	2	2	1	1	2	2	2	2	0	0	9	9	WILD_OATS
4190074	10	5.2	5.5	0.3	ROSEDALE RD	North	8/10/08	20	1	2	1	1	0	1	2	1	1	2	0	1	5	8	WILD_OATS
4190074	11	5.5	5.7	0.2	ROSEDALE RD	North	8/10/08	20	1	0	2	0	0	0	2	1	2	0	0	1	7	2	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190074	12	5.7	6.3	0.6	ROSEDALE RD	North	8/10/08	20	1	1	1	1	1	1	1	1	1	2	1	1	6	7	WILD_OATS VELDT_GRASS CAPE_TULIP
4190074	13	6.3	6.6	0.3	ROSEDALE RD	North	8/10/08	20	2	2	1	1	1	1	2	2	2	2	1	1	9	9	WILD_OATS VELDT_GRASS CAPE_TULIP
4190074	14	6.6	6.87	0.27	ROSEDALE RD	North	8/10/08	20	1	1	1	1	0	0	0	0	1	0	1	1	4	3	WILD_OATS VELDT_GRASS CAPE_TULIP
4190075	1	0	0.8	0.8	SPRIGGS RD TRK	East	10/10/08	20	1	1	1	1	0	0	1	1	1	1	2	2	6	6	VELDT_GRASS WILD_OATS
4190076	1	0	0.31	0.31	SIMMONS RD	West	29/10/08	20	2	2	1	1	2	2	2	2	2	2	1	1	10	10	WILD_OATS VELDT_GRASS
4190076	2	0.31	3.8	3.49	SIMMONS RD	West	29/10/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_OATS BRIDAL_CREEPER
4190077	1	0	2.48	2.48	MOYSES RD	South	5/11/08	20	1	1	1	1	1	1	1	1	2	2	2	2	8	8	WILD_OATS VELDT_GRASS SALT_AFFECTED
4190078	1	0	1.3	1.3	HYDE RD	South	4/11/08	20	1	1	0	0	0	0	0	0	2	2	2	2	5	5	CAPE_TULIP WILD_OATS
4190078	2	1.3	3	1.7	HYDE RD	South	4/11/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190078	3	3	4.5	1.5	HYDE RD	South	4/11/08	20	1	1	1	1	1	1	1	1	2	2	2	2	8	8	WILD_OATS VELDT_GRASS
4190078	4	4.5	4.9	0.4	HYDE RD	South	4/11/08	20	2	2	2	1	1	1	2	2	2	2	2	2	11	10	WILD_OATS
4190078	5	4.9	6.9	2	HYDE RD	South	4/11/08	20	1	1	0	0	1	1	1	1	2	2	2	2	7	7	WILD_OATS
4190079	1	0	0.5	0.5	FORESTRY WEST RD	East	4/11/08	20	2	2	2	2	2	1	2	2	2	2	0	2	10	11	BRIDAL_CREEPER WILD_OATS VELDT_GRASS
4190079	2	0.5	1.1	0.6	FORESTRY WEST RD	East	4/11/08	20	1	1	1	1	1	1	1	1	2	0	0	2	6	6	WILD_OATS
4190079	3	1.1	1.7	0.6	FORESTRY WEST RD	East	4/11/08	20	2	2	1	1	1	1	2	2	2	2	0	0	8	8	WILD_OATS BRIDAL_CREEPER
4190079	4	1.7	2.5	0.8	FORESTRY WEST RD	East	4/11/08	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	WILD_OATS BRIDAL_CREEPER
4190079	5	2.5	3	0.5	FORESTRY WEST RD	East	4/11/08	20	1	2	1	2	0	1	1	2	0	2	2	0	5	9	WILD_OATS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190079	6	3	3.8	0.8	FORESTRY WEST RD	East	4/11/08	20	2	2	2	2	1	2	2	2	1	2	2	0	10	10	WILD_OATS
4190080	1	0	1.15	1.15	BLIGHT RD	West	22/10/08	20	2	2	2	2	1	1	0	0	2	2	0	0	7	7	WILD_OATS VELDT_GRASS
4190080	2	1.15	4.95	3.8	BLIGHT RD	West	22/10/08	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_OATS VELDT_GRASS
4190080	3	4.95	6.05	1.1	BLIGHT RD	West	22/10/08	20	2	2	2	2	1	1	2	1	2	2	0	2	9	10	WILD_OATS VELDT_GRASS
4190080	4	6.05	7.95	1.9	BLIGHT RD	West	22/10/08	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_OATS VELDT_GRASS
4190081	1	0	1.94	1.94	PARKS RD	South East	22/10/08	20	2	2	1	1	1	1	0	0	1	2	2	2	7	8	WILD_OATS VELDT_GRASS
4190081	2	1.94	2.14	0.2	PARKS RD	South West	22/10/08	20	2	0	1	0	1	0	2	0	2	0	1	2	9	2	WILD_OATS VELDT_GRASS
4190081	3	2.14	2.75	0.61	PARKS RD	South West	22/10/08	20	2	1	1	0	1	0	1	0	2	0	2	2	9	3	WILD_OATS BRIDAL_CREEPER VELDT_GRASS WILD_RADISH
4190081	4	2.75	3.98	1.23	PARKS RD	South East	22/10/08	20	2	2	2	2	0	0	1	1	1	2	2	1	8	8	WILD_OATS VELDT_GRASS
4190081	5	3.98	4.28	0.3	PARKS RD	South East	22/10/08	20	1	1	1	1	0	0	1	1	0	0	2	1	5	4	WILD_OATS VELDT_GRASS
4190081	6	4.28	5.61	1.33	PARKS RD	South East	22/10/08	20	2	2	1	1	1	1	0	0	2	1	2	2	8	7	WILD_OATS VELDT_GRASS
4190082	1	0	1.29	1.29	BETTELEY RD	West	22/10/08	20	2	2	1	1	1	1	0	0	2	1	1	2	7	7	WILD_OATS VELDT_GRASS
4190083	1	0	2.44	2.44	LAVATOR RD	West	20/10/08	20	2	2	1	1	2	1	1	1	2	2	2	2	10	9	WILD_OATS WILD_OATS VELDT_GRASS VELDT_GRASS
4190084	1	0	2.16	2.16	GROVES RD	East	20/10/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	SOURSOB WILD_OATS
4190084	2	2.16	2.54	0.38	GROVES RD	East	20/10/08	20	0	2	0	1	2	2	0	1	1	2	2	2	5	10	WILD_OATS
4190085	1	0	2.58	2.58	BARNES RD	West	10/10/08	20	1	1	1	1	0	0	1	1	2	2	1	2	6	7	WILD_OATS VELDT_GRASS
4190086	1	0	1.8	1.8	COWCHER RD	North	8/10/08	20	1	1	1	1	0	0	1	1	2	2	1	1	6	6	VELDT_GRASS WILD_OATS
4190086	2	1.8	2	0.2	COWCHER RD	North	8/10/08	20	1	1	1	1	1	0	1	1	2	2	0	1	6	6	VELDT_GRASS WILD_OATS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190086	3	2	7.5	5.5	COWCHER RD	North	8/10/08	20	1	1	1	1	0	0	1	1	2	2	1	1	6	6	VELDT_GRASS WILD_OATS BRIDAL_CREEPER
4190087	1	0	0.4	0.4	CORNWALL RD	North	9/10/08	20	1	1	1	1	0	0	1	1	2	2	2	2	7	7	WILD_OATS BRIDAL_CREEPER
4190087	2	0.4	1	0.6	CORNWALL RD	North	9/10/08	20	1	1	1	1	0	0	1	1	2	2	1	1	6	6	WILD_OATS BRIDAL_CREEPER VELDT_GRASS
4190087	3	1	1.2	0.2	CORNWALL RD	North	9/10/08	20	1	0	1	0	0	0	1	0	1	0	1	1	5	1	WILD_OATS BRIDAL_CREEPER VELDT_GRASS
4190087	4	1.2	4.3	3.1	CORNWALL RD	North	9/10/08	20	1	1	1	1	0	0	1	1	2	2	1	2	6	7	WILD_OATS BRIDAL_CREEPER VELDT_GRASS
4190087	5	4.3	5.36	1.06	CORNWALL RD	West	9/10/08	20	0	0	0	0	0	0	0	0	0	0	1	2	1	2	WILD_OATS BRIDAL_CREEPER VELDT_GRASS
4190089	1	0	0.5	0.5	HANCOCK RD	South	4/11/08	20	2	1	1	1	1	1	2	2	2	2	0	2	8	9	WILD_OATS VELDT_GRASS SALT_AFFECTED
4190089	2	0.5	1.37	0.87	HANCOCK RD	South	4/11/08	20	1	1	1	0	0	0	1	1	2	0	2	2	7	4	WILD_OATS VELDT_GRASS
4190090	1	0	0.4	0.4	HARDIE RD	North	9/10/08	20	2	2	2	2	1	1	2	2	2	2	0	0	9	9	VELDT_GRASS WILD_OATS
4190090	2	0.4	2.3	1.9	HARDIE RD	North	9/10/08	20	1	1	1	1	0	0	1	1	2	2	1	1	6	6	VELDT_GRASS WILD_OATS
4190090	3	2.3	2.5	0.2	HARDIE RD	North	9/10/08	20	2	2	1	1	1	1	2	2	2	2	0	0	8	8	VELDT_GRASS WILD_OATS
4190090	4	2.5	3	0.5	HARDIE RD	North	9/10/08	20	2	2	2	2	1	1	2	2	2	2	0	1	9	10	
4190090	5	3	4.3	1.3	HARDIE RD	North	9/10/08	20	1	1	1	1	0	0	1	1	2	2	2	1	7	6	VELDT_GRASS WILD_OATS
4190092	1	0	0.6	0.6	WANGELING GULLY RD	West	4/11/08	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	
4190092	2	0.6	3.9	3.3	WANGELING GULLY RD	West	4/11/08	20	1	1	0	0	1	1	0	0	2	2	2	2	6	6	WILD_OATS VELDT_GRASS
4190093	1	0	1.1	1.1	SAUNDERS RD	North	4/11/08	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	WILD_OATS VELDT_GRASS SALT_AFFECTED
4190093	2	1.1	6.4	5.3	SAUNDERS RD	North	4/11/08	20	1	1	0	0	1	1	1	1	2	2	2	2	7	7	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190093	3	6.4	6.7	0.3	SAUNDERS RD	North	4/11/08	20	2	2	2	1	2	1	2	2	2	2	0	2	10	10	BRIDAL_CREEPER VELDT_GRASS WILD_OATS SALT_AFFECTED
4190094	1	0	2.8	2.8	SARGEANT RD	West	4/11/08	20	1	1	1	1	1	1	1	1	2	2	2	2	8	8	WILD_OATS VELDT_GRASS
4190097	1	0	4.08	4.08	ROWE RD	East	3/11/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS VELDT_GRASS
4190099	1	0	2.26	2.26	JAMIESON RD	North East	3/11/08	20	2	2	1	1	1	1	2	2	2	2	1	1	9	9	WILD_OATS VELDT_GRASS
4190099	2	2.26	2.66	0.4	JAMIESON RD	North East	3/11/08	20	2	2	1	2	1	1	2	2	2	2	1	0	9	9	WILD_OATS VELDT_GRASS
4190099	3	2.66	3.15	0.49	JAMIESON RD	East	3/11/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS
4190099	4	3.15	5.01	1.86	JAMIESON RD	East	3/11/08	20	1	1	0	0	0	0	2	2	2	2	1	0	6	5	WILD_OATS BRIDAL_CREEPER
4190099	5	5.01	8.06	3.05	JAMIESON RD	North	3/11/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS BRIDAL_CREEPER
4190100	1	0	3.1	3.1	HIGHAM RD	North	10/10/08	20	1	1	1	1	0	0	1	1	2	2	1	1	6	6	WILD_OATS VELDT_GRASS CAPE_TULIP
4190100	2	3.1	3.3	0.2	HIGHAM RD	North	10/10/08	20	2	2	2	2	1	1	2	2	2	2	0	1	9	10	WILD_OATS VELDT_GRASS
4190100	3	3.3	7.1	3.8	HIGHAM RD	North	10/10/08	20	1	1	1	1	0	0	1	1	1	2	1	1	5	6	WILD_OATS VELDT_GRASS CAPE_TULIP
4190103	1	0	1.3	1.3	GRAHAM RD	West	3/11/08	20	1	1	0	0	0	0	1	1	1	1	2	2	5	5	WILD_OATS BRIDAL_CREEPER VELDT_GRASS
4190103	2	1.3	2.1	0.8	GRAHAM RD	West	3/11/08	20	2	2	2	2	2	2	2	2	2	2	2	2	12	12	WILD_OATS BRIDAL_CREEPER VELDT_GRASS
4190103	3	2.1	5.7	3.6	GRAHAM RD	West	3/11/08	20	2	2	1	1	1	1	1	1	2	2	1	2	8	9	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190103	4	5.7	6	0.3	GRAHAM RD	West	3/11/08	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_OATS VELDT_GRASS
4190103	5	6	7.49	1.49	GRAHAM RD	West	3/11/08	20	1	1	0	0	0	0	1	1	2	2	2	2	6	6	WILD_OATS VELDT_GRASS
4190103	6	7.49	7.7	0.21	GRAHAM RD	West	3/11/08	20	1	1	1	1	1	1	2	2	2	2	0	2	7	9	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190103	7	7.7	8.5	0.8	GRAHAM RD	West	3/11/08	20	2	2	2	2	1	1	2	2	2	1	2	2	11	10	WILD_OATS
4190103	8	8.5	10.7	2.2	GRAHAM RD	West	3/11/08	20	1	1	0	0	0	0	1	1	2	2	2	2	6	6	WILD_OATS VELDT_GRASS
4190105	1	0	2.25	2.25	KENNY RD	East	17/10/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS VELDT_GRASS
4190106	1	0	1.8	1.8	KUNDERNING RD	South	3/11/08	20	2	2	1	1	1	1	0	0	2	2	2	2	8	8	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190107	1	0	1.3	1.3	LANGE RD	North	5/11/08	20	2	2	1	2	1	2	1	2	2	2	1	1	8	11	VELDT_GRASS
4190107	2	1.3	2.7	1.4	LANGE RD	North	5/11/08	20	2	2	2	1	2	1	2	1	2	1	0	2	10	8	WILD_OATS
4190107	3	2.7	10.35	7.65	LANGE RD	North	5/11/08	20	1	1	1	1	1	1	1	1	2	2	1	2	7	8	WILD_OATS VELDT_GRASS
4190108	1	0	3.33	3.33	WOOLYERLING RD	North East	31/10/08	20	2	2	1	1	2	2	2	2	2	2	0	0	9	9	WILD_OATS
4190109	1	0	2.37	2.37	MCDOUGALLS RD	South	21/10/08	20	2	2	1	1	1	1	2	2	2	2	2	2	10	10	BRIDAL_CREEPER VELDT_GRASS WILD_OATS
4190110	1	0	0.51	0.51	PUSTKUCHEN RD	East	3/11/08	20	2	1	1	0	0	0	1	0	1	0	2	2	7	3	WILD_OATS
4190111	1	0	1.6	1.6	QUARRY RD	North	8/10/08	20	1	1	1	1	0	0	1	1	0	0	1	1	4	4	WILD_OATS VELDT_GRASS
4190111	2	1.6	2.15	0.55	QUARRY RD	North	8/10/08	20	1	2	1	1	0	0	1	1	2	2	1	1	6	7	WILD_OATS VELDT_GRASS
4190111	3	2.15	3.22	1.07	QUARRY RD	North	8/10/08	20	2	2	1	1	1	1	2	2	2	2	0	1	8	9	WILD_OATS VELDT_GRASS
4190112	1	0	0.31	0.31	BOUNDAIN NORTH RD	North	29/10/08	20	2	2	1	1	1	1	2	2	1	1	1	1	8	8	WILD_OATS
4190112	2	0.31	0.72	0.41	BOUNDAIN NORTH RD	North	29/10/08	20	2	2	1	1	2	2	2	2	2	2	0	0	9	9	WILD_OATS VELDT_GRASS
4190112	3	0.72	1.13	0.41	BOUNDAIN NORTH RD	North	29/10/08	20	2	2	2	1	2	1	2	2	2	2	0	2	10	10	WILD_OATS VELDT_GRASS
4190112	4	1.13	6.39	5.26	BOUNDAIN NORTH RD	North	29/10/08	20	2	2	1	1	2	2	1	1	2	2	1	2	9	10	WILD_OATS VELDT_GRASS
4190112	5	6.39	6.91	0.52	BOUNDAIN NORTH RD	North East	29/10/08	20	0	2	0	1	0	1	0	1	0	2	1	2	1	9	WILD_OATS VELDT_GRASS
4190112	6	6.91	7.73	0.82	BOUNDAIN NORTH RD	North East	29/10/08	20	2	2	0	1	1	2	1	2	2	2	2	2	8	11	WILD_OATS VELDT_GRASS
4190112	7	7.73	8.35	0.62	BOUNDAIN NORTH RD	North East	29/10/08	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190114	1	0	1.6	1.6	NARROGIN VALLEY SOUTH RD	West	3/11/08	20	2	2	0	0	0	0	0	0	2	2	1	1	5	5	WILD_OATS BRIDAL_CREEPER
4190114	2	1.6	3.4	1.8	NARROGIN VALLEY SOUTH RD	West	3/11/08	20	2	2	0	0	1	1	1	1	2	2	1	1	7	7	WILD_OATS WILD_RADISH
4190119	1	0	2.36	2.36	KEMP RD	East	3/11/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_OATS VELDT_GRASS
4190119	2	2.36	7.48	5.12	KEMP RD	East	3/11/08	20	1	2	0	0	0	0	0	0	2	2	1	1	4	5	WILD_OATS VELDT_GRASS
4190120	1	0	6.96	6.96	KILPATRICK RD	West	31/10/08	20	2	2	1	1	2	2	1	1	2	2	2	1	10	9	WILD_OATS WILD_RADISH
4190121	1	0	2.44	2.44	MURDOCH RD	North	31/10/08	20	2	2	1	1	2	2	2	2	2	2	1	2	10	11	VELDT_GRASS WILD_OATS
4190121	2	2.44	3.04	0.6	MURDOCH RD	North	31/10/08	20	1	1	0	0	0	0	2	2	2	2	1	2	6	7	VELDT_GRASS WILD_OATS
4190121	3	3.04	3.34	0.3	MURDOCH RD	North	31/10/08	20	2	2	0	0	0	0	1	1	2	1	1	1	6	5	WILD_OATS
4190121	4	3.34	3.64	0.3	MURDOCH RD	North	31/10/08	20	2	2	0	0	0	0	1	1	2	2	0	1	5	6	VELDT_GRASS WILD_OATS
4190122	1	0	3.5	3.5	DWELYERDINE RD	North	31/10/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS VELDT_GRASS
4190122	2	3.5	3.9	0.4	DWELYERDINE RD	North	31/10/08	20	2	2	0	0	0	0	2	2	1	1	2	2	7	7	WILD_OATS VELDT_GRASS
4190122	3	3.9	4.7	0.8	DWELYERDINE RD	North	31/10/08	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	CAPE_TULIP VELDT_GRASS
4190122	4	4.7	5.2	0.5	DWELYERDINE RD	North	31/10/08	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	CAPE_TULIP
4190123	1	0	4.1	4.1	PETHYBRIDGE RD	North	3/11/08	20	2	2	0	0	1	1	1	1	2	2	2	2	8	8	WILD_OATS
4190123	2	4.1	5.5	1.4	PETHYBRIDGE RD	North	3/11/08	20	2	2	1	1	1	1	1	1	2	2	2	2	9	9	WILD_OATS VELDT_GRASS
4190123	3	5.5	6	0.5	PETHYBRIDGE RD	North	3/11/08	20	2	2	0	0	0	0	1	1	2	2	2	2	7	7	WILD_OATS BRIDAL_CREEPER VELDT_GRASS
4190123	4	6	6.2	0.2	PETHYBRIDGE RD	North	3/11/08	20	2	2	0	0	1	1	1	1	2	2	0	1	6	7	WILD_OATS VELDT_GRASS
4190123	5	6.2	6.8	0.6	PETHYBRIDGE RD	North	3/11/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	WILD_OATS BRIDAL_CREEPER VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190123	6	6.8	7.44	0.64	PETHYBRIDGE RD	North	3/11/08	20	2	2	2	1	2	2	2	2	2	2	0	1	10	10	WILD_OATS BRIDAL_CREEPER VELDT_GRASS
4190124	1	0	3	3	PIESSEVILLE - TARWONGA RD	West	4/11/08	20	1	1	1	1	1	1	1	1	2	2	2	2	8	8	WILD_OATS VELDT_GRASS WILD_RADISH
4190132	1	0	0.61	0.61	WANDERING - NARROGIN RD	South East	10/10/08	20	1	2	1	1	0	0	1	1	2	2	1	2	6	8	WILD_OATS VELDT_GRASS
4190132	2	0.61	1.02	0.41	WANDERING - NARROGIN RD	South East	10/10/08	20	1	1	1	1	0	0	1	1	1	1	1	2	5	6	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190132	3	1.02	2.35	1.33	WANDERING - NARROGIN RD	South East	10/10/08	20	1	1	1	1	0	0	1	1	1	1	2	2	6	6	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190132	4	2.35	3.98	1.63	WANDERING - NARROGIN RD	South East	10/10/08	20	1	1	1	1	0	0	1	1	2	2	2	2	7	7	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190132	5	3.98	4.18	0.2	WANDERING - NARROGIN RD	South East	10/10/08	20	1	2	1	1	0	1	1	1	2	1	2	2	7	8	WILD_OATS VELDT_GRASS
4190132	6	4.18	4.9	0.72	WANDERING - NARROGIN RD	South East	10/10/08	20	1	1	1	1	0	0	1	1	1	2	2	2	6	7	WILD_OATS VELDT_GRASS
4190132	7	4.9	5.31	0.41	WANDERING - NARROGIN RD	South East	10/10/08	20	1	1	1	0	1	0	1	0	1	0	2	2	7	3	WILD_OATS VELDT_GRASS
4190132	8	5.31	6.53	1.22	WANDERING - NARROGIN RD	South	10/10/08	20	1	1	1	1	0	0	1	1	1	1	1	1	5	5	WILD_OATS VELDT_GRASS BRIDAL_CREEPER
4190133	1	0	3	3	READ RD	South	31/10/08	20	2	2	1	1	2	2	1	1	2	2	2	2	10	10	WILD_OATS WILD_RADISH VELDT_GRASS
4190133	2	3	4	1	READ RD	South	31/10/08	20	2	2	0	0	1	1	1	1	1	1	1	1	6	6	WILD_OATS WILD_RADISH VELDT_GRASS
4190134	1	0	1.47	1.47	GEERALING RD	South	3/11/08	20	0	0	0	0	0	0	0	0	0	0	2	2	2	2	WILD_RADISH WILD_OATS
4190136	1	0	0.6	0.6	CANNELL RD	South East	4/11/08	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	WILD_OATS
4190136	2	0.6	1.2	0.6	CANNELL RD	South East	4/11/08	20	2	2	1	1	1	1	0	0	2	2	1	0	7	6	WILD_OATS
4190136	3	1.2	1.6	0.4	CANNELL RD	South East	4/11/08	20	2	2	1	1	0	2	1	1	1	2	1	1	6	9	WILD_OATS VELDT_GRASS

Road#	Sect#	OD Start	OD Finish	Sect length	Road Name	Direction	Date	Width	Native Vegetation		Extent of Vegetation		# Native Plant Species		Weeds		Value as Biol. Corridor		Adjoining Landuse		Conservation Value Score (0-12)		Overlay Data
		(km)	(km)					(m)	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	(Listed if Present)
4190136	4	1.6	2	0.4	CANNELL RD	South East	4/11/08	20	2	2	0	2	0	2	0	2	2	2	1	0	5	10	WILD_OATS VELDT_GRASS
4190136	5	2	2.2	0.2	CANNELL RD	South East	4/11/08	20	2	2	2	2	2	2	2	2	2	2	0	0	10	10	WILD_OATS
4190136	6	2.2	2.92	0.72	CANNELL RD	South East	4/11/08	20	2	2	1	1	2	2	2	2	2	2	1	1	10	10	VELDT_GRASS
4190136	7	2.92	4.84	1.92	CANNELL RD	South East	4/11/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	VELDT_GRASS WILD_OATS
4190136	8	4.84	5.85	1.01	CANNELL RD	South East	4/11/08	20	2	2	1	1	1	1	1	1	2	2	1	1	8	8	VELDT_GRASS WILD_OATS
4190136	9	5.85	6.66	0.81	CANNELL RD	South East	4/11/08	20	2	2	2	2	1	1	1	2	2	2	1	0	9	9	WILD_OATS
4190137	1	0	1.21	1.21	COMINI RD	South	21/10/08	20	1	1	1	1	0	0	0	0	1	1	2	2	5	5	VELDT_GRASS WILD_OATS

Appendix

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APPENDIX 3

Road names and lengths: Shire of Narrogin

(Source: Main Roads WA 2008)

Road Number	Road Name	Road length (km)
4190001	EARL ST	0.5
4190002	CONGELIN - NARROGIN RD	9.61
4190003	CLAYTON RD	17.28
4190004	TARWONGA RD	27.15
4190005	WHIMBIN ROCK RD	24.93
4190006	RUSHY POOL RD	10.57
4190007	WAGIN - WICKEPIN RD	17.97
4190008	WICKEPIN - HARRISMITH RD	5.29
4190009	DONGOLOCKING RD	10.99
4190010	BIRDWHISTLE RD	15.88
4190011	MANARING RD	13.25
4190012	NARROGIN VALLEY RD	24.61
4190013	CHOMLEY RD	16.82
4190014	YARRANABEE RD	7.67
4190015	HIGHBURY EAST RD	14.8
4190016	HIGHBURY WEST RD	16.99
4190017	MCKENZIE RD	14.11
4190018	TAYLOR SHORT RD	7.28
4190019	LAKES RD	5.7
4190020	CONTINE RD	7.77
4190021	NARRAKINE RD SOUTH	12.51
4190022	ONEILL RD	5.18
4190023	HIGHBURY SOUTH RD	6.21
4190024	WIESE RD	7.88
4190025	BOOTHEY RD	1.93
4190026	MORCOMBE RD	5.48
4190027	CAMPBELLS RD	5.91
4190028	NEWBOLDS RD	1.23
4190029	CARMODY RD	6.08
4190030	MICHAEL BROWN	5.88
4190032	GREENS RD	5.09
4190033	ASTBURY RD	0.88
4190034	REYNOLDS RD	1.29
4190035	BROOKS RD	5.3
4190036	ARMSTRONG RD	4.2
4190037	SPENCER RD	5.44
4190038	MELLONS RD	3.86
4190039	CARDWELL RD	2.76
4190040	HALLS RD	3.8
4190041	HALLS NEW RD	2.02
4190042	MAIL ROUTE RD	2.23
4190043	T MCDONALDS RD	2.41
4190044	SIMS RD	1.67
4190045	PORTERS RD	1.54
4190046	WOODS RD	3.97
4190047	FLAVEL RD	3.54
4190048	FLEMMING TRK	0.85
4190049	WARRENS RD	0.97
4190050	JENKINS RD	4.09
4190051	BENNIER RD	3.4
4190052	MANNING RD	8.88
4190053	HILDERS RD	7.56
4190054	NEPOWIE RD	2.27

4190055	NOMANS LAKE SIDING RD	6.12
4190056	O"DEA RD	4.06
4190057	LOCK RD	6.92
4190058	CHIPPER RD	3.7
4190059	MURPHYS TRK	0.2
4190060	CROOKED POOL	3.7
4190061	MARRAMUCKING RD	6.45
4190062	CONDON RD	2.29
4190063	BORGAS RD	3.84
4190064	BORGAS RD NO2	0.84
4190065	SPOUSE RD	4.32
4190067	PRITCHARD RD	2.9
4190068	FARRELLY RD	2.57
4190069	CURTIS RD	2.03
4190070	BOXSELL RD	1.6
4190071	WANERIE RD	2.65
4190072	KATTA RD	2.86
4190073	BRADFORD RD	4.78
4190074	ROSEDALE RD	6.87
4190075	SPRIGG TRK	1.03
4190076	SIMMONS RD	3.8
4190077	MOYSES RD	2.48
4190078	HYDE RD	6.96
4190079	FORESTRY WEST RD	3.74
4190080	BLIGHT RD	7.94
4190081	PARKS RD	5.61
4190082	BETTELEY RD	1.29
4190083	LAVATOR RD	2.44
4190084	GROVES RD	2.54
4190085	BARNES RD	2.58
4190086	COWCHER RD	7.47
4190087	CORNWALL RD	5.36
4190089	HANCOCK RD	1.37
4190090	HARDIE RD	4.26
4190091	PORTER RD	1.29
4190092	WANGELING GULLY RD	3.87
4190093	SAUNDERS RD	6.66
4190094	SARGEANT RD	2.85
4190095	HIGHBURY BIN RD	1.41
4190096	BRAMLEY RD	1.02
4190097	ROWE RD	4.08
4190098	BROWNS RD	0.72
4190099	JAMIESON RD	8.06
4190100	HIGHAM RD	7.09
4190101	FORESTRY RD	5.84
4190102	QUARTERMAINE RD	0.32
4190103	GRAHAM RD	10.71
4190104	CURNOWS RD	1.05
4190105	KENNY RD	2.25
4190106	KUNDERNING RD	1.85
4190107	LANGE RD	10.35
4190108	WOOLYERLING RD	3.33
4190109	MCDOUGALLS RD	2.37
4190110	PUSTKUCHEN RD	0.51
4190111	QUARRY RD	3.22
4190112	BOUNDAIN NORTH RD	8.35
4190113	G.LOCKS RD	0.73
4190114	NARROGIN VALLEY SOUTH RD	3.45
4190115	MCDONALDS	2.03
4190116	CALLAN WY	0.42

4190117	MYERS PL	0.39
4190118	ROSE RD	0.64
4190119	KEMP RD	7.48
4190120	KILPATRICK RD	6.96
4190121	MURDOCH RD	3.64
4190122	DWELYERDINE RD	5.87
4190123	PETHYBRIDGE RD	7.44
4190124	PIESSEVILLE - TARWONGA RD	2.98
4190125	MOKINE RD	2.24
4190126	FLEAY RD	1.6
4190127	TUOHY RD	0.1
4190128	WILSON ST	0.53
4190129	UNNAMED	0.77
4190130	HILLSIDE RD	1.44
4190131	NARROGIN - HARRISMITH RD	35.14
4190132	WANDERING - NARROGIN RD	6.53
4190133	REIDS RD	3.99
4190134	GEERALING RD	1.47
4190135	BOTTLE CREEK PL	0.28
4190136	CANNELL RD	6.66
4190137	COMINI RD	1.21

Appendix

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APPENDIX 4

Flora species in the Shire of Narrogin (Source: W.A Herbarium)

Note: not a comprehensive list and may not be the most up to date information available.
* = Weed species
P = Priority species
R = Rare species

Acacia aff. *amputa*
Acacia acuminata
Acacia amputata
Acacia applanata
Acacia assimilis subsp. *assimilis*
**Acacia baileyana*
Acacia bidentata
Acacia brachyphylla var. *recurvata* **P3**
Acacia browniana var. *intermedia*
Acacia celastrifolia
Acacia chrysocephala
**Acacia decurrens*
Acacia deflexa **P3**
Acacia drummondii subsp. *drummondii*
Acacia erinacea
Acacia gemina **P2**
Acacia glaucoptera
Acacia insolita subsp. *insolita*
Acacia lanei **P1**
Acacia lasiocalyx
Acacia lasiocarpa var. *bracteolata*
Acacia lasiocarpa var. *sedifolia*
Acacia leptopetala
Acacia merinthophora
Acacia microbotrya
Acacia multispicata
Acacia pulchella var. *goadbyi*
Acacia pulchella var. *glaberrima*
Acacia pulchella var. *goadbyi*
Acacia pulviniformis
Acacia pycnantha
Acacia pycnocephala
Acacia rigida
Acacia saligna
Acacia saligna subsp. *lindleyi*
Acacia sclerophylla
Acacia sp.
Acacia sp. P174 (J.M. Brown 228)
Acacia squamata
Acacia stenoptera
Acacia subflexuosa subsp. *subflexuosa*
Acacia sulcata
Acacia sulcata group
Acacia sulcata var. *planoconvexa*
Acacia tratmaniana
Acacia varia var. *crassinervis*
Acarospora citrina
Actinobole uliginosum
Adenanthos cygnorum subsp. *cygnorum*
Adenanthos flavidiflorus
Adenanthos obovatus
Agrostocrinum scabrum subsp. *scabrum*
**Aira caryophyllea*
**Allium triquetrum*
**Allium vineale*
Allocasuarina huegeliana
Allocasuarina humilis
Allocasuarina microstachya
Allocasuarina thuyoides
**Amaranthus albus*
**Ammi majus*
Amphibromus nervosus
Amphipogon strictus
Amphipogon turbinatus
Amyema miquelii
Amyema preissii
Amylotrama sp.
Anagallis arvensis var. *caerulea*
Anarthria humilis
Andersonia bifida **P2**
Andersonia caerulea
Andersonia carinata **P2**
Andersonia lehmanniana
Andersonia parvifolia
Anigozanthos bicolor subsp. *decrescens*
Anigozanthos humilis
Anigozanthos humilis subsp. *humilis*
Anthotium odontophyllum
Aphelia cyperoides
**Arctotheca calendula*
Argentipallium niveum
Aristida sp.
Arthropodium curvipes
**Asparagus asparagoides*
Asteridea nivea
Asterolasia pallida subsp. *hyaline* **P2**
Asterolasia squamuligera
Astroloma aff. *drummondii*
Astroloma aff. *epacridis*
Astroloma cataphractum
Astroloma ciliatum
Astroloma compactum
Astroloma epacridis
Astroloma pallidum
Astroloma serratifolium
Astroloma serratifolium var. *placidum*
Astroloma sp. Tutanning (A.S. George 7779)
Atriplex exilifolia
Atriplex prostrata *
Atriplex semibaccata
Atriplex sp.
Austrodanthonia acerosa
Austrodanthonia caespitosa
Austrodanthonia setacea
Austrodanthonia sp.
Austrostipa elegantissima
Austrostipa elegantissima
Austrostipa eremophila
Austrostipa exilis
Austrostipa hemipogon

Austrostipa mollis
Austrostipa pycnostachya
Austrostipa scabra
Austrostipa semibarbata
Austrostipa sp.
Austrostipa tenuifolia
Austrostipa trichophylla
Austrostipa variabilis
**Avellinia michelii*
**Avena barbata*
**Avena fatua*

Baeckea camphorosmae
Baeckea corymbulosa
Baeckea crispiflora
Baeckea sp.
Baeckea sp. Narrogin (R. Hnatiuk 780011) **P2**
Baeckea sp. fine-leaved (C.M. Lewis 517)
Banksia arctotidis
Banksia armata
Banksia armata var. *armata*
Banksia columnaris
Banksia dallanneyi var. *dallanneyi*
Banksia densa
Banksia fasciculata **P3**
Banksia fraseri var. *fraseri*
Banksia grandis
Banksia meganotia **P3**
Banksia nivea subsp. *nivea*
Banksia nobilis subsp. *nobilis*
Banksia porrecta **P4**
Banksia proteoides
Banksia purdieana
Banksia rufa subsp. *obliquiloba* **P3**
Banksia sessilis
Banksia sessilis var. *sessilis*
Banksia sphaerocarpa var. *caesia*
Banksia squarrosa subsp. *squarrosa*
Banksia stuposa
Banksia subpinnatifida var. *subpinnatifida* **P2**
Banksia vestita
Baumea juncea
Beaufortia bracteosa
Beaufortia incana
Beaufortia micrantha var. *puberula*
Beaufortia sp.
Beyeria brevifolia
Billardiera coriacea
Billardiera fusiformis
Billardiera venusta
Blennospora drummondii
Blennospora phlegmatocarpa **P3**
Boletus sp.
Boronia aff. *subsessilis*
Boronia busselliana
Boronia ramosa subsp. *anethifolia*
Boronia scabra subsp. *scabra*
Boronia subsessilis
Borya laciniata
Borya scirpoidea
Borya sphaerocephala
Bossiaea eriocarpa
Bossiaea pulchella
Brachyscome bellidioides
Brachyscome glandulosa
Brachyscome iberidifolia
Brachyscome perpusilla
Brachyscome pusilla
Brachyscome sp.
**Brassica barrelieri* subsp. *oxyrrhina*
**Brassica tournefortii*
**Briza maxima*
**Briza minor*
**Bromus diandrus*
**Bromus hordeaceus*
**Bromus madritensis*
**Bromus rubens*
**Bromus* sp.
Bryum sp.
Buellia sp.
Bulbine semibarbata
Burchardia monantha
Burchardia multiflora

Caesia sp. *Wongan (K.F. Kenneally 8820)*
Caesia micrantha
Caesia sp.
Caesia sp. Wheatbelt (A.J.M. Hopkins 353)
Caladenia polychroma
Caladenia barbarossa
Caladenia chapmanii
Caladenia discoidea
Caladenia falcata
Caladenia filifera
Caladenia flava subsp. *flava*
Caladenia flava x *reptans*
Caladenia footeana
Caladenia hiemalis
Caladenia hirta subsp. *hirta*
Caladenia hirta subsp. *hirta* x *rosea*
Caladenia hirta subsp. *rosea*
Caladenia integra **P4**
Caladenia longicauda subsp. *eminens*
Caladenia longiclavata
Caladenia multiclavia
Caladenia pendens subsp. *pendens*
Caladenia radialis
Caladenia reptans subsp. *reptans*
Caladenia reptans x *flava*
Caladenia roei
Caladenia sp. Brookton Hwy (G. Brockman GBB 547)
Caladenia sp. Moodiarrup (A.P. Brown 233)
Caladenia uliginosa subsp. *candicans*
Caladenia vulgata
Caladenia x *triangularis* **P4**
Caladenia xantha
Calandrinia calyptrata
Calandrinia eremaea
Calandrinia granulifera
Calandrinia sp. Needilup (K.R. Newbey 4892)
Calectasia grandiflora subsp. Wheatbelt (A.M. Coates 4315)
Callistemon phoeniceus
Calocephalus multiflorus
Calochilus stramenicola
Caloplaca cinnabarina
Caloplaca erythrosticta
Caloplaca haematommona

Calothamnus planifolius
Calothamnus preissii
Calothamnus quadrifidus
Calothamnus sanguineus
Calothamnus sp.
Calytrix flavescens
Calytrix fraseri
Calytrix leschenaultii
Calytrix simplex subsp. *suboppositifolia*
Calytrix sp. Wheatbelt (R. Davis 4544)
Campylopus australis
Campylopus bicolor var. *bicolor*
Canoparmelia pruinata
**Cardamine hirsuta*
**Carpobrotus edulis*
Carpobrotus modestus
Cassytha glabella
Casuarina obesa
Caustis dioica
**Centaurium erythraea*
Centaurium sp.
Centaurium spicatum
Centipeda crateriformis subsp. *compacta*
Centipeda cunninghamii
Centrolepis aristata
Centrolepis pilosa
Centrolepis polygyna
**Cerastium glomeratum*
**Chamaecytisus palmensis*
Chamaescilla corymbosa
Chamaescilla corymbosa var. *corymbosa*
Chamaescilla spiralis
Chamaexeros serra
Cheilanthes austrotenuifolia
Cheilanthes distans
Cheilanthes sieberi subsp. *sieberi*
**Chenopodium album*
Chloanthes coccinea
Choretrum glomeratum
Choretrum glomeratum var. *glomeratum*
Chorizandra enodis
Chorizema aciculare subsp. *aciculare*
Chorizema aciculare subsp. *laxum*
Chorizema dicksonii
**Chrysanthemoides monilifera* subsp. *monilifera*
Chrysocephalum apiculatum
Cladia aggregata
Cladia ferdinandii
Cladonia sp.
Comesperma calymega
Comesperma ciliatum
Comesperma drummondii
Comesperma integerrimum
Comesperma scoparium
Comesperma sp.
Comesperma volubile
**Conium maculatum*
Conospermum amoenum subsp. *cuneatum*
Conospermum distichum
Conospermum filifolium subsp. *filifolium*
Conospermum stoechadis
Conospermum stoechadis subsp. *sclerophyllum*
Conospermum triplinervium
Conostylis aculeata
Conostylis aculeata subsp. *bromelioides*
Conostylis caricina
Conostylis prolifera
Conostylis pusilla
Conostylis serrulata
Conostylis setigera
Conostylis setigera subsp. *setigera*
**Consolida ajacis*
Convolvulus angustissimus subsp. *angustissimus*
Convolvulus remotus
**Conyza bonariensis*
**Cortaderia selloana*
Cortinomyces sp.
Corymbia calophylla
Cotula australis
**Cotula bipinnata*
**Cotula coronopifolia*
Cotula sp.
Crambe hispanica
Craspedia variabilis
Crassula closiana
Crassula colorata
Crassula colorata var. *colorata*
Crassula colorata var. *miriamiae* **P2**
Crassula decumbens
Crassula decumbens var. *decumbens*
Crassula exserta
**Crassula natans* var. *minus*
Cryptandra arbutiflora var. *arbutiflora*
Cryptandra leucopogon
Cryptandra myriantha
Cryptandra nutans
Cryptandra pungens
**Cucumis myriocarpus*
Cyanicula gemmata
Cyanicula sericea
Cyanophilic sp.
Cyanostegia lanceolata
**Cymbalaria muralis*
**Cynara cardunculus* subsp. *flavescens*
**Cyperus tenellus*
Cyrtostylis robusta

Dampiera alata
Dampiera eriocephala
Dampiera fasciculata
Dampiera juncea
Dampiera lavandulacea
Dampiera lindleyi
Dampiera linearis
Dampiera obliqua
Dampiera sacculata
Dampiera sp.
Darwinia carnea **R**
Daucus glochidiatus
Daviesia angulata
Daviesia cardiophylla
Daviesia costata
Daviesia decipiens
Daviesia decurrens
Daviesia hakeoides subsp. *hakeoides*
Daviesia hakeoides subsp. *subnuda*
Daviesia lancifolia
Daviesia longifolia
Daviesia pachyloma

Daviesia preissii
Daviesia rhombifolia
Daviesia scoparia
Daviesia uncinata **P3**
Descomyces sp.
Desmocladus asper
Desmocladus fasciculatus
Desmocladus flexuosus
Dianella revoluta
Dianella revoluta var. *divaricata*
Dianella sp.
Dianthus sp.
Dichopogon capillipes
Dichopogon fimbriatus
Dicranoloma diaphanoneuron
**Digitaria* aff. *sanguinalis*
**Digitaria ciliaris*
Dillwynia laxiflora
Dillwynia sp. A Perth Flora (R. Coveny 8036)
Diploschistes sp.

Diploschistes thunbergianus
**Disa bracteata*
**Dittrichia graveolens*
Diuris aff. *corymbosa*
Diuris aff. *recurva*
Diuris brumalis
Diuris corymbosa
Diuris laxiflora
Diuris porrifolia
Diuris sp.
Dodonaea humifusa
Dodonaea pinifolia
Dodonaea viscosa
Dodonaea viscosa subsp. *angustissima*
Drechslera avenacea
Drosera bulbosa
Drosera androsacea
Drosera bulbosa
Drosera erythrorhiza
Drosera erythrorhiza subsp. *collina*
Drosera gigantea subsp. *gigantea*
Drosera glanduligera
Drosera leucoblasta
Drosera macrantha
Drosera macrantha subsp. *macrantha*
Drosera menziesii subsp. *menziesii*
Drosera ramellosa
Drosera scorpioides
Drosera sp.
Drosera subhirtella
Drosera zonaria
Dryandra serratuloides

**Echium plantagineum*
**Ehrharta calycina*
**Ehrharta longiflora*
Eleocharis acuta
Elymus scaber
Elythranthera brunonis
Elythranthera emarginata
Enchylaena lanata
Endocarpon sp.
Entoloma moongum
Epilobium billardiereanum subsp. *cinereum*
**Eragrostis cilianensis*
Eragrostis dielsii
Eremaea pauciflora
Eremaea pauciflora var. *pauciflora*
Eremophila glabra
Eremophila sp.
Ericksonella saccharata
Eriochilus dilatatus subsp. *multiflorus*
Eriochilus dilatatus subsp. *undulatus*
**Erodium botrys*
**Erodium moschatum*
Erymophyllum tenellum
Eucalyptus aspersa
Eucalyptus gardneri
Eucalyptus hebetifolia
Eucalyptus odorata
Eucalyptus aff. *aspersa*
Eucalyptus aff. *astringens* x *pluricaulis* subsp. *pluricaulis*
Eucalyptus aff. *incrassata*
Eucalyptus aff. *latens*
Eucalyptus aff. *olivacea*
Eucalyptus aff. *transcontinentalis*
Eucalyptus albida
Eucalyptus arachnaea subsp. *arachnaea*
Eucalyptus argyphea
Eucalyptus aspersa
Eucalyptus aspersa x *falcata*
Eucalyptus astringens subsp. *astringens*
Eucalyptus captiosa
Eucalyptus cylindriflora
Eucalyptus drummondii
Eucalyptus falcata
Eucalyptus flocktoniae
Eucalyptus flocktoniae subsp. *flocktoniae*
Eucalyptus gardneri subsp. *gardneri*
Eucalyptus hebetifolia
Eucalyptus horistes
Eucalyptus incrassata
Eucalyptus kochii subsp. *plenissima*
Eucalyptus latens **P4**
Eucalyptus longicornis
Eucalyptus loxophleba subsp. *loxophleba*
Eucalyptus macrandra
Eucalyptus marginata subsp. *marginata*
Eucalyptus myriadena
Eucalyptus nuda
Eucalyptus occidentalis
Eucalyptus orthostemon
Eucalyptus pachyloma
Eucalyptus phaenophylla subsp. *phaenophylla*
Eucalyptus phenax
Eucalyptus phenax subsp. *phenax*
Eucalyptus pluricaulis subsp. *pluricaulis*
Eucalyptus rudis
Eucalyptus salmonophloia
Eucalyptus sp.
Eucalyptus sp. Yealering (D. Nicolle & M. French DN 3424)
Eucalyptus sporadica
Eucalyptus thamnoides
Eucalyptus thamnoides subsp. *megista*
Eucalyptus transcontinentalis
Eucalyptus uncinata

Eucalyptus urna
Eucalyptus vegrandis
Eucalyptus xanthonema
Euchiton sphaericus
Euphorbia chamaesyce
**Euphorbia dendroides*
Euphorbia sp.
Eutaxia microphylla var. *diffusa*
Eutaxia microphylla var. *microphylla*
Eutaxia parvifolia
Exocarpos sparteus

**Fallopia convolvulus*
Flavoparmelia rutidota
Frankenia drummondii **P3**
**Frankenia pulverulenta*
**Freesia alba* x *leichtlinii*
**Fumaria capreolata*

Gahnia australis
Gahnia sp.
**Galium divaricatum*
**Gamochaeta calviceps*
Gastrolobium spathulatum
Gastrolobium bennettsianum
Gastrolobium bilobum
Gastrolobium bracteolosum
Gastrolobium calycinum
Gastrolobium dilatatum
Gastrolobium microcarpum
Gastrolobium obovatum
Gastrolobium ovalifolium **P4**
Gastrolobium parviflorum
Gastrolobium parvifolium
Gastrolobium punctatum
Gastrolobium reticulatum
Gastrolobium retusum
Gastrolobium rotundifolium **P3**
Gastrolobium spathulatum
Gastrolobium spinosum
Gastrolobium stipulare **P4**
Gastrolobium stowardii
Gastrolobium tomentosum **P4**
Gastrolobium trilobum
Gastrolobium truncatum
**Gazania linearis*
**Genista monspessulana*
Genus sp.
**Gladiolus tristis*
Glischrocaryon angustifolium
Glischrocaryon aureum
Gnephosis aff. *brevifolia*
Gnephosis brevifolia
Gnephosis drummondii
Gnephosis multiflora
Gnephosis sp.
Gnephosis tenuissima
Gnephosis uniflora
Gompholobium confertum
Gompholobium cyaninum
Gompholobium knightianum
Gompholobium laxum
Gompholobium marginatum
Gompholobium preissii
Gompholobium scabrum
Gompholobium tomentosum
Gonocarpus benthamii subsp. *benthamii*
Goodenia berardiana
Goodenia coerulea
Goodenia helmsii
Goodenia micrantha
Goodenia mimuloides
Goodenia pulchella
Goodenia pulchella subsp. Wheatbelt (L.W. Sage & F. Hort 795)
Goodenia scapigera
Goodenia scapigera subsp. *scapigera*
Goodenia sp.
Goodenia watsonii subsp. *glandulosa*
Grevillea aff. *pilulifera*
Grevillea anethifolia
Grevillea biternata
Grevillea hookeriana subsp. *hookeriana*
Grevillea huegelii
Grevillea insignis subsp. *insignis*
Grevillea leptobotrys
Grevillea pilulifera
Grevillea pulchella subsp. *ascendens*
Grevillea tenuiflora
Grevillea uncinulata
Grevillea vestita subsp. *vestita*
Grimmia laevigata
Guichenotia micrantha
Gymnomyces sp.
Gyrostemon subnudus

Haemodorum discolor
Haemodorum simulans
Hakea lissocarpha
Hakea aff. *lehmanniana*
Hakea aff. *pritzelii*
Hakea baxteri
Hakea brownii
Hakea cygna subsp. *cygna*
Hakea gilbertii
Hakea incrassata
Hakea lehmanniana
Hakea lissocarpha
Hakea loranthifolia
Hakea nitida
Hakea petiolaris subsp. *petiolaris*
Hakea preissii
Hakea prostrata
Hakea ruscifolia
Hakea trifurcata
Hakea undulata
Halgania cyanea var. *cyanea*
Harperia lateriflora
Helichrysum leucopsideum
Helichrysum luteoalbum
Helipterum sp.
Hemiandra pungens
Hemigenia argentea
Hemigenia humilis
Hemigenia incana
Hemigenia sericea
Heterodea muelleri
Hibbertia exasperata

Hibbertia aff. *montana*
Hibbertia acerosa
Hibbertia commutata
Hibbertia exasperata
Hibbertia hemignosta
Hibbertia microphylla
Hibbertia ovata
Hibbertia rupicola
Hibbertia sp.
Hibbertia spicata subsp. *spicata*
**Hordeum geniculatum*
**Hordeum glaucum*
**Hordeum leporinum*
**Hordeum marinum*
Hovea chorizemifolia
Hovea pungens
Hovea trisperma
Hyalosperma cotula
Hybanthus floribundus
Hybanthus floribundus subsp. *floribundus*
Hydrocotyle diantha
Hydrocotyle pilifera
Hydrocotyle rugulosa
Hydrocotyle sp.
Hypericum gramineum
Hypocalymma angustifolium
Hypocalymma strictum
**Hypochaeris glabra*
**Hypochaeris radicata*
Hypolaena exsulca
Hypoxis glabella
Hypoxis glabella var. *glabella*
Hysterangium sp.

**Iris germanica*
Isolepis stellata
Isolepis cernua var. *setiformis*
**Isolepis marginata*
Isolepis stellata
Isopogon buxifolius var. *spathulatus*
Isopogon crithmifolius
Isopogon dubius
Isopogon sphaerocephalus
Isopogon teretifolius subsp. *teretifolius*
Isotoma hypocrateriformis
Isotoma scapigera
Isotropis cuneifolia
Isotropis cuneifolia subsp. *cuneifolia*
Isotropis drummondii
**Ixia maculata*

Jacksonia alata
Jacksonia epiphyllum
Jacksonia furcellata
Jacksonia racemosa
Jacksonia restioides
Jacksonia sternbergiana
Juncus aff. *bufonius*
**Juncus acutus* subsp. *acutus*
**Juncus bufonius*
Juncus kraussii subsp. *australiensis*
Juncus pallidus
Juncus radula
Juncus subsecundus

Kennedia prostrata
**Kickxia elatine* subsp. *elatine*
Kunzea micromera
Kunzea preissiana
Kunzea pulchella
Kunzea recurva

Lachnagrostis filiformis
**Lactuca serriola forma serriola*
Lagenophora huegelii
Lambertia ilicifolia
Lamprothamnium papulosum
Lasiopetalum rotundifolium **R**
Lawrencella rosea
Laxmannia grandiflora
Laxmannia grandiflora subsp. *grandiflora*
Laxmannia omnifertilis
Laxmannia ramosa subsp. *ramosa*
Laxmannia sp.
Laxmannia squarrosa
Lechenaultia biloba
Lechenaultia formosa
Lechenaultia formosa Wheatbelt (R.J.Cranfield 4718)
Lecidea sp.
**Lepidium africanum*
**Lepidium draba*
Lepidium phlebopetalum
Lepidium rotundum
Lepidobolus chaetocephalus
Lepidobolus preissianus
Lepidobolus preissianus subsp. *preissianus*
Lepidosperma leptostachyum
Lepidosperma aff. *costale*
Lepidosperma brunonianum
Lepidosperma costale
Lepidosperma leptostachyum
Lepidosperma obtusum
Lepidosperma pruinosum
Lepidosperma resinosum
Lepidosperma sp.
Lepidosperma sp. A2 Island Flat (G.J. Keighery 7000)
Lepidosperma sp. K Boorabbin (K.L. Wilson 2579)
Lepidosperma sp. Margaret River (B.J. Lepschi 1841)
Lepidosperma tenue
Lepidosperma tuberculatum
Lepidosperma viscidum
Leporella fimbriata
Leptoceras menziesii
Leptodontium paradoxum
Leptomeria pauciflora
Leptomeria preissiana
Leptospermum erubescens
Leptospermum oligandrum
Leucopogon aff. *nutans*
Leucopogon concinnus
Leucopogon dielsianus
Leucopogon fimbriatus

Leucopogon glabellus
Leucopogon obtusatus
Leucopogon propinquus
Leucopogon sp. Darling Range (F. & J. Hort 1804)
Leucopogon sp. Great Southern (R.S. Cowan A 586)
Leucopogon sp. Newdegate (M. Hislop 3585)
Leucopogon sp. Wandering (F. Hort 419)
Leucopogon sp. Short Style (S. Barrett 1578)
Leucopogon strictus
Levenhookia dubia
Levenhookia leptantha
Levenhookia pusilla
Levenhookia stipitata
Linum marginale
Lobelia anceps
Lobelia gibbosa
Lobelia rarifolia
Lobelia rhombifolia
Lobelia rhytidosperma
Logania flaviflora
**Lolium rigidum*
Lomandra effusa
Lomandra micrantha
Lomandra micrantha subsp. *micrantha*
Lomandra micrantha subsp. *teretifolia*
Lomandra nutans
Lomandra rupestris
Lomandra sp.
Lomandra suaveolens
**Lotus uliginosus*
Loxocarya striata
Lycoperdon sp.
Lyginia imberbis
Lysinema ciliatum
Lysiosepalum aromaticum **P2**
**Lythrum hyssopifolia*

**Malva dendromorpha*
**Malva parviflora*
Marianthus bicolor
Marianthus drummondianus
Marianthus erubescens
Marianthus tenuis
**Medicago polymorpha*
**Medicago truncatula*
Melaleuca acuminata
Melaleuca acuminata subsp. *acuminata*
Melaleuca atroviridis
Melaleuca brophyi
Melaleuca halmaturorum
Melaleuca hamata
Melaleuca haplantha
Melaleuca incana subsp. *incana*
Melaleuca lateriflora
Melaleuca lateriflora subsp. *lateriflora*
Melaleuca pauperiflora subsp. *fastigiata*
Melaleuca platycalyx
Melaleuca pungens
Melaleuca rhaphiophylla
Melaleuca scalena
Melaleuca sp.
Melaleuca strobophylla
Melaleuca subtrigona
Melaleuca tuberculata
Melaleuca tuberculata var. *tuberculata*
Melaleuca urceolaris
Melaleuca viminea
Melaleuca viminea subsp. *viminea*
Mesomelaena preissii
Microcorys capitata
Microcorys ericifolia
Microcorys subcanescens
Microtis alba
Microtis cupularis
Microtis orbicularis
Millotia tenuifolia
Millotia tenuifolia var. *tenuifolia*
Mirbelia aff. *dilatata*
Mirbelia dilatata
Mirbelia spinosa
**Misopates orontium*
**Moraea miniata*
**Moraea ochroleuca*
**Moraea setifolia*
Muehlenbeckia adpressa
Mycena vinacea
Mycosphaerella graminicola

**Nemesia strumosa*
Neurachne alopecuroidea

Olax benthamiana
Olearia elaeophila
Olearia incondita
Olearia muelleri
Olearia paucidentata
Olearia rudis
Opercularia apiciflora
Opercularia vaginata
Orthrosanthus laxus
Orthrosanthus laxus var. *gramineus*
**Oxalis corniculata*
Oxalis exilis
Oxalis perennans
**Oxalis pes-caprae*
**Oxalis purpurea*
Oxalis sp.

Panicum sp.
**Parapholis incurva*
**Parentucellia latifolia*
Patersonia juncea
Patersonia occidentalis
Patersonia occidentalis var. *occidentalis*
Pelargonium havlasae
Peltula sp.
**Pentaschistis airoides* subsp. *airoides*
Persicaria prostrata
Persoonia quinquenervis
Petrophile antecedens
Petrophile circinata
Petrophile divaricata
Petrophile ericifolia subsp. *ericifolia*
Petrophile glauca

Petrophile heterophylla
Petrophile rigida
Petrophile seminuda
Petrophile serruriae
Petrophile squamata subsp. northern (J. Monks 40)
Petrophile squamata subsp. *squamata*
Petrophile striata
**Petrorhagia dubia*
Phaeogyroporus portentosus
**Phalaris minor*
Phalaris sp.
Phebalium tuberculosum
Pheladenia deformis
Philydrella pygmaea
Phyllangium divergens
Phyllanthus calycinus
Phyllota gracilis
Physcia jackii
Physcia tribacia
Pimelea angustifolia
Pimelea argentea
Pimelea ciliata subsp. *ciliata*
Pimelea ferruginea suaveolens
Pimelea graniticola
Pimelea lehmanniana subsp. *lehmanniana*
Pimelea sp.
Pimelea suaveolens subsp. *suaveolens*
Pittosporum angustifolium
Pityrodia terminalis
**Plantago coronopus* subsp. *commutata*
Plantago debilis
**Plantago lanceolata*
Platysace juncea
Pleurosorus rutifolius
**Poa annua*
Poa drummondiana
Podolepis canescens
Podolepis capillaris
Podolepis gracilis
Podolepis lessonii
Podolepis sp.
Podotheca angustifolia
Podotheca gnaphalioides
Pogonolepis stricta
Polianthion wichurae
**Polycarpon tetraphyllum*
**Polygonum arenastrum*
**Polygonum aviculare*
**Polygonum bellardii*
**Polypogon monspeliensis*
Potamogeton drummondii
Prasophyllum cyphochilum
Prasophyllum gracile
Prasophyllum hians
Prasophyllum sargentii
Pseudocercospora sp.
Pterochaeta paniculata
Pterostylis aff. *angusta*
Pterostylis aff. *nana*
Pterostylis angusta
Pterostylis barbata
Pterostylis concava
Pterostylis hamiltonii
Pterostylis recurva
Pterostylis sanguinea
Pterostylis sargentii
Pterostylis scabra
Pterostylis sp. inland (A.C. Beauglehole 11880)
Pterostylis vittata
Ptilotus declinatus
Ptilotus drummondii
Ptilotus humilis subsp. *humilis*
Ptilotus manglesii
Ptilotus polystachyus
Ptilotus polystachyus var. *polystachyus*
Ptilotus spathulatus
**Puccinellia ciliata*
Puccinellia longior
Puccinellia stricta
Pultenaea indira subsp. *pudoides* **P2**
Pultenaea pauciflora **R**
Pultenaea sp.
Punctelia subalbicans
Pyrrhospora laeta
Quinetia urvillei

Ramalina inflata subsp. *australis*
Regelia inops
**Reseda luteola*
Rhagodia preissii subsp. *preissii*
Rhizocarpon tinei
Rhodanthe citrina
Rhodanthe laevis
Rhodanthe manglesii
Rhodanthe propinqua
Rhodanthe sterilescens
Ricinocarpos glaucus
Ricinocarpos velutinus
Rinzia fumana
**Robinia pseudoacacia*
**Romulea rosea*
**Romulea rosea* var. *australis*
**Romulea rosea* var. *communis*
**Rumex crispus*
Ruppia megacarpa

**Salix babylonica*
Salix x *sepulcralis*
Santalum acuminatum
Santalum murrayanum
Schoenus brevisetis
Schoenus curvifolius
Schoenus humilis
Schoenus minutulus
Schoenus pleiostemoneus
Schoenus sp.
Schoenus subflavus
Sebaea ovata
Senecio quadridentatus
Senna artemisioides
Senna artemisioides subsp. x *artemisioides*
Septoria sp.
**Silene vulgaris*
Siloxerus multiflorus
Siphula coriacea
Siphula sp.
**Solanum elaeagnifolium*

**Solanum nigrum*
**Solanum rostratum*
**Sonchus oleraceus*
Sowerbaea laxiflora
Spartochloa scirpoidea
**Spergula arvensis*
Spergularia marina
**Spergularia diandra*
**Spergularia marina*
**Spergularia rubra*
**Spergularia salina*
**Spergularia* sp.
Sphaerolobium medium
Spiculaea ciliata
Spyridium microcephalum
Stachys arvensis *
Stackhousia monogyna
Stackhousia scoparia
Stenopetalum salicola
Stirlingia simplex
Stylidium amoenum
Stylidium amoenum var. *amoenum*
Stylidium androsaceum
Stylidium araeophyllum
Stylidium calcaratum
Stylidium caricifolium
Stylidium dichotomum
Stylidium ecorne
Stylidium eriopodum
Stylidium expeditionis **P4**
Stylidium hirsutum
Stylidium inundatum
Stylidium leptophyllum
Stylidium piliferum
Stylidium pingrupense
Stylidium repens
Stylidium rhynchocarpum
Stylidium schoenoides
Stylidium stowardii
Stylidium tenuicarpum **P4**
Stylidium tylosum **P1**
Stylidium udusicola
Stylidium uniflorum
Stylidium zeicolor
Stypandra glauca
Stypandra sp.
Styphelia tenuiflora
**Suaeda baccifera*
Synaphea aff. *flabelliformis*
Synaphea aff. *interioris*
Synaphea flabelliformis
Synaphea interioris
Synaphea obtusata
Synaphea platyphylla **P3**
Synaphea spinulosa subsp. *major*

Tecticornia lepidosperma
Templetonia sulcata
Tetraria capillaris
Tetraria octandra
Tetratheca confertifolia
Tetratheca retroso **P3**
Tetratheca virgata
Thaxterogaster bombycinus
Thaxterogaster sp.
Thelymitra antennifera
Thelymitra antennifera x *petrophila*
Thelymitra benthamiana
Thelymitra graminea
Thelymitra petrophila
Thelymitra villosa
Themeda triandra
Thomasia foliosa
Thomasia macrocalyx
Thryptomene australis subsp. *australis*
Thysanotus sparteus
Thysanotus dichotomus
Thysanotus patersonii
Thysanotus sparteus
Thysanotus thyrsoideus
Thysanotus triandrus
Tilletia trabuti
Toninia sp.
Trachymene cyanopetala
Trachymene ornata
Trachymene pilosa
Trachymene sp.
Tribonanthes longipetala
Trichocline spathulata
Tricoryne elatior
Tricoryne humilis
Tricoryne tenella
Tricostularia compressa
Tricostularia neesii
**Trifolium angustifolium*
**Trifolium arvense*
**Trifolium arvense* var. *arvense*
**Trifolium campestre*
**Trifolium glomeratum*
**Trifolium incarnatum* var. *incarnatum*
**Trifolium stellatum* var. *stellatum*
**Trifolium subterraneum*
**Trifolium tomentosum*
**Trifolium tomentosum* var. *tomentosum*
Triglochin calcitrapa
Triglochin centrocarpa
Triglochin linearis
Triglochin stowardii **P3**
Tripterococcus brunonis
Trymalium ledifolium var. *lineare*
Trymalium ledifolium var. *rosmarinifolium*
Trymalium monospermum **P2**
Typha domingensis

Urocystis bolivarii
Urodon dasyphyllus
**Ursinia anthemoides*
Usnea sp.
Ustilago avenae
Utricularia menziesii
Utricularia multifida

Velleia trinervis
**Vellereophyton dealbatum*
Verreauxia reinwardtii
Verticordia densiflora
Verticordia preissii

Verticordia acerosa var. *preissii*
Verticordia chrysantha
Verticordia chrysanthella
Verticordia densiflora
Verticordia densiflora var. *cespitosa*
Verticordia eriocephala
Verticordia fimbrilepis subsp. *fimbrilepis* **R**
Verticordia grandiflora
Verticordia huegelii var. *stylosa*
Verticordia huegelii var. *tridens* **P3**
Verticordia insignis subsp. *compta*
Verticordia ovalifolia
Verticordia pennigera
Verticordia picta
Verticordia roei subsp. *roei*
Villarsia capitata
Vittadinia gracilis
Vittadinia sp.
**Vulpia fasciculata*
**Vulpia myuros*
**Vulpia myuros forma myuros*

Wahlenbergia gracilenta
Wahlenbergia preissii
Wahlenbergia sp.
Waitzia acuminata
Waitzia acuminata var. *acuminata*
**Watsonia meriana* var. *meriana*
Westringia rigida
Wilsonia humilis
Wurmbea dioica subsp. *alba*
Wurmbea tenella

Xanthoparmelia concomitans
Xanthoparmelia eilifii
Xanthoparmelia exillima
Xanthoparmelia flavescentireagens
Xanthoparmelia imitatrix
Xanthoparmelia incantata
Xanthoparmelia notata
Xanthoparmelia pulla
Xanthoparmelia reptans
Xanthoparmelia sammyi **P1**
Xanthoparmelia sargentii **P1**
Xanthoparmelia sp.
Xanthoparmelia substrigosa
Xanthoparmelia tasmanica
Xanthorrhoea brevistyla **P4**
Xanthorrhoea drummondii
Xanthosia atkinsoniana
Xanthosia singuliflora

**Zaluzianskya divaricata*

Appendix

5

APPENDIX 5

Fauna species in the Shire of Narrogin (Source: W.A Museum, 2006)

Information provided by Western Australian Museum, Fauna Base.

Note: not a comprehensive list.

BIRD SPECIES

Acanthiza inornata	Western Thornbill
Anas gracilis	Grey Teal
Aquila audax	Wedge-tailed Eagle
Burhinus grallarius	Bush Stone-curlew
Calyptorhynchus banksii subsp. *naso*	Forest Red-tailed Black-Cockatoo
Falco berigora subsp. berigora	
Glossopsitta porphyrocephala	Purple-crowned Lorikeet
Lichmera indistincta subsp. indistincta	
Melithreptus chloropsis	Western White-naped Honeyeater
Neophema elegans	Elegant Parrot
Oreoica gutturalis subsp. *gutturalis*	Crested Bellbird
Pachycephala pectoralis subsp. *fuliginosa*	
Pachycephala rufiventris	Rufous Whistler
Pachycephala rufiventris subsp. *rufiventris*	
Petroica multicolor subsp. campbelli	
Phaps elegans	Brush Bronzewing
Platycercus icterotis	Western Rosella
Platycercus icterotis subsp. *xanthogenys*	
Podargus strigoides	Tawny Frogmouth
Pomatostomus superciliosus subsp. *ashbyi*	White-browed Babbler
Sericornis frontalis	White-browed Scrubwren
Tyto alba subsp. *delicatula*	
Zosterops lateralis subsp. *gouldi*	

MAMMAL SPECIES

Bettongia penicillata subsp. *ogilbyi*	Brush-tailed Bettong
Cercartetus concinnus	Western Pygmy-possum
Chalinolobus gouldii	Gould's Wattled Bat
Chalinolobus morio	Chocolate Wattled Bat
Falsistrellus mackenziei	Western False Pipistrelle
Isoodon obesulus subsp. *fusciventer*	Southern Brown Bandicoot
Macropus eugenii subsp. *derbianus*	Tammar Wallaby
Macropus fuliginosus	Western Grey Kangaroo
Macropus irma	Western Brush Wallaby
Macrotis lagotis	Bilby
Mormopterus planiceps	Southern Freetail-bat
Mus musculus	House Mouse
Myrmecobius fasciatus	Numbat
Nyctophilus geoffroyi	Lesser Long-eared Bat
Oryctolagus cuniculus	Rabbit
Phascogale calura	Red-tailed Phascogale
Phascogale tapoatafa subsp. tapoatafa	Southern Brush-tailed Phascogale
Scotorepens balstoni	Inland Broad-nosed Bat
Sminthopsis crassicaudata	Fat-tailed Dunnart
Sminthopsis gilberti	Gilbert's Dunnart
Tarsipes rostratus	Honey Possum
Trichosurus vulpecula subsp. *vulpecula*	Common Brushtail Possum
Vespadelus regulus	Southern Forest Bat

REPTILE SPECIES

Acanthophis antarcticus	Southern Death Adder
Christinus marmoratus	Marbled Gecko
Crenadactylus ocellatus	Clawless Gecko
Crenadactylus ocellatus subsp. *ocellatus*	
Cryptoblepharus buchananii	
Cryptoblepharus plagiocephalus	
Ctenotus impar	
Delma australis	
Delma fraseri	
Diplodactylus granariensis	
Diplodactylus granariensis subsp. *granariensis*	
Diplodactylus pulcher	
Echiopsis curta	Bardick
Egernia kingii	King's Skink
Egernia napoleonis	
Eremiascincus richardsonii	Broad-banded Sand Swimmer
Lerista distinguenda	
Menetia greyii	
Morelia spilota subsp. *imbricata*	Carpet Python
Morethia obscura	
Nephrurus milii	Barking Gecko
Notechis scutatus	Tiger Snake
Oedura reticulata	
Parasuta gouldii	
Pogona minor	
Pogona minor subsp. *minor*	
Pseudechis australis	Mulga Snake
Pseudonaja affinis subsp. *affinis*	Dugite
Pygopus lepidopodus	Common Scaly Foot
Ramphotyphlops australis	
Ramphotyphlops bituberculatus	
Ramphotyphlops waitii	
Simoselaps bertholdi	Jan's Banded Snake
Tiliqua occipitalis	Western Bluetongue
Tiliqua rugosa subsp. *rugosa*	
Varanus gouldii	Sand Monitor

AMPHIBIA SPECIES

Heleioporus albopunctatus	Western Spotted Frog
Heleioporus eyrei	Moaning Frog
Limnodynastes dorsalis	Western Banjo Frog
Myobatrachus gouldii	Turtle Frog
Neobatrachus pelobatoides	Humming Frog
Pseudophryne guentheri	Crawling Toadlet

Appendix

6

ROADSIDE CONSERVATION COMMITTEE

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

Introduction

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

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

The implementation of these simple guidelines by road managers for the removal of flora and timber material from the roadsides will ensure that the vegetated roadside reserve is maintained for its biodiversity values, and the benefit of the community and road users.

In some instances the Roadside Conservation Committee (RCC) is supportive of the sustainable harvesting of flora, such as salvage (removal of dead material that is not significant wildlife habitat or is material to be destroyed by road works), or the selective collection of seed for revegetation. However, each case should be viewed on its merits and any decision to facilitate harvesting from roadsides should be referred to the Department of Environment and Conservation (DEC, previously 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 means that a person can only take (cut or remove) native flora from Crown land under a licence.

Road and rail reserves are Crown land, and hence a licence is required to cut or remove any native flora from a roadside or rail line. There is, however, a legal provision by which the road manager or their agent (contractor) does not require a licence whilst undertaking legitimate road management activities, such as those approved under the *Environmental Protection (Clearing of Native vegetation) Regulations 2004*. This provision does not extend to other persons who wish to take protected flora from roadsides.

There are two types of licences that apply to the taking of protected flora from Crown land: Commercial Purposes Licences, where the flora is being taken for any commercial purpose; and Scientific or Other Prescribed Purposes Licences, where the protected flora is being taken for specific non-commercial purposes.

In issuing a licence, 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 road manager to determine the potential impact of the activity, and how the activity relates to the management objectives being applied to that land.

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

Commercial Wildflower Harvesting

Western Australia is referred to as the *'Wildflower State'*, and its wildflowers attract a significant number of tourists each year. Roadside vegetation provides the most accessible, and hence the most commonly viewed, array of wildflowers, and as such are an important feature of regional tourism, potentially providing a significant financial boost to local economies. Wildflower harvesting in many instances detracts from the biodiversity and tourism values of the roadside and should therefore be discouraged.

The RCC considers that the flora on roadsides is reserved and maintained for public benefit. It is therefore seen as a contradiction of purpose to allow wildflowers on roadsides to be harvested, particularly for private gain, and this activity should not be permitted. However, there are situations where some harvesting may be considered, such as in very wide road reserves where the activity can be screened from road users and has a smaller impact on biodiversity. It is often the case that flora is harvested from roadsides because of the convenience of access, and harvesters should be directed to find alternative locations. Road managers have been discouraged from supporting or allowing such harvesting to occur, but if harvesting is to be approved, then the points provided at the end of these guidelines should be considered.

Seed Collection

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

Seed production is an important component of remnant vegetation. Some species, called re-seeder species, regrow only from seed when plants are either killed by an event, such as fire, storm damage, or die as part of their natural cycle. The maintenance of adequate seed of these species is necessary as a precaution to ensure the continuity of the flora biodiversity.

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

When seed is needed for *bona fide* revegetation projects within the local community, and no other source of local seed is available, then the managing authority may consider giving permission for collection of seed from roadsides. Such collection must be under the appropriate licence issued by 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 craft wood. Due to the ease of access, timber harvesters may wish to source timber from roadside vegetation for these purposes.

Roadside managers are encouraged to retain timber on roadsides as an important component of the natural habitat, which fulfils ecological, aesthetic and land management functions. Fallen logs and branches within the roadside create important habitat for many species of insects, reptiles, mammals and birds, thus enhancing the roadside biodiversity. Insects and reptiles that live in fallen timber are also important elements of the food chain, and are very important to the functioning of natural systems, and the survival of many other native animals.

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

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

Guidelines for Harvesting on Roadsides

- In all cases the permission of the managing authority, i.e. Main Roads WA, Local Government or 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 or the RCC.
- Approval for flora harvesting should be for a set period, with a review of the impact and operation before renewal.
- Approval should also stipulate approved methods of harvesting, the species which may be harvested, and the quantity of material to be taken. Advice on harvest conditions may be obtained from 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 Environmentally Sensitive Areas defined in the *Environmental Protection (Clearing of Native vegetation) Regulations 2004*.
- Flora harvesting should be prohibited from designated Flora Roads.
- Care should be taken that access to Dieback infected areas is limited to the drier months of the year, and vehicular access disallowed.
- Safety should always be of prime concern and every effort should be made to ensure that personal safety is a key consideration in any harvesting operation.
- Flora harvesters should not operate from the roadside in areas where the vegetation is close to the road, where vehicles cannot be safely parked off the road, or where there is poor driver visibility.

Appendix

7

Guidelines for the Nomination and Management of Flora Roads

Introduction

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

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

Principle Conservation Values of Flora Roads:

- The roadside must contain a significant population of native vegetation. Introduced trees and grasses are not important for conservation.
- The native vegetation must be in as near to its natural condition as possible. In undisturbed vegetation, several layers of plants occur – trees, shrubs and herbs are present in woodlands, for example. If one or more of the expected layers are missing, the conservation value is reduced.
- The roadside may be the only remaining example of original vegetation within a cleared area. It thus:

- assists in vegetation mapping and distribution studies;
- provides a benchmark for study of soil change during agricultural development;
- provides a source of local seed for revegetation projects;
- acts as a wildlife habitat for the protection of fauna;
- harbours rare or endangered plants in the roadside;
- may provide nest sites and refuges for native animals; and
- may act as a biological corridor.

Identification and Nomination of Flora Roads

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

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

A road may be nominated as a Flora Road by submitting a written request to the RCC. The RCC requires the following information:

- endorsement from the managing authority;
- name of the road, Local Government Authority, and the road manager (MRWA, Local Government or DEC);
- distance of the proposed Flora Road; and
- width of the road reserve.

The following information would also be useful:

- photograph(s) of the road;
- a list of the dominant plant species; and
- threats such as weeds, disturbances, etc.

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

Establishment of a Flora Road

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

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

Management Implications

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

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

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

The managing authority will be expected to take into consideration the high conservation values present, and take special care when working within the Flora Road road reserve and the surrounding area. More specifically though;
- council may choose to adopt a policy on Roadside Conservation;
- environmental assessments (pre-construction checklists) should be completed prior to any upgrade work, to assist with planning for flora preservation;
- fire management should be undertaken in such a way so as to take into account the ecological needs of the flora; and
- where rehabilitation is contemplated, local native species should always be used.

Tourism Implications

Declared Flora Roads will, by their very nature, be attractive to tourists, and would often be suitable as part of a tourist drive network. Consideration should be given to:
- promoting the road by means of a small brochure or booklet;
- eventually showing all Flora Roads on a map of the region or State;
- using specially designed signs to delineate the Flora Road section; and
- constructing roadside flora rest areas where people can get out and enjoy the flora. Walk trails could be made from these, and information brochures produced. The RCC has established links with the W.A.Tourism Commission for inclusion on wildflower tourist publications.

Flora Road Register

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

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