

# A SURVEY OF ROADSIDE CONSERVATION VALUES IN THE SHIRE OF BROOMEHILL



## AND ROADSIDE MANAGEMENT GUIDELINES

November 2002 – Roadside Conservation Committee

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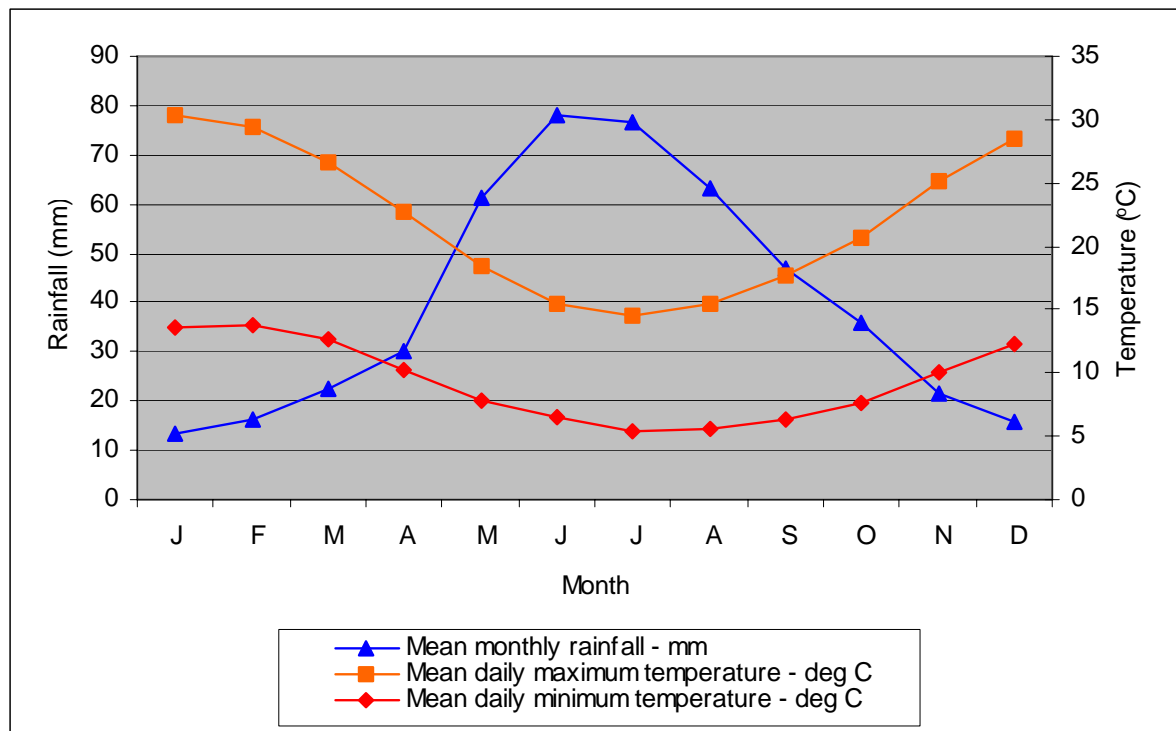
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## INTRODUCTION

The Shire of Broomehill covers an area of 1,376 km<sup>2</sup> and supports a population of approximately 550 people. The area experiences a mediterranean climate with an average annual rainfall of 491 mm. Seasonal temperatures are characterised by warm summers, with maxima averaging from the mid to high twenties, and mild winters, with maxima in the mid teens. Mean daily maximum and minimum temperatures and rainfalls are shown below.



**Figure 1 – Mean daily maximum and minimum temperature (°C) and rainfall (mm) in the Shire of Broomehill.**

Broomehill is located 302 km south east of Perth in Western Australia's south west land division. The major agricultural pursuits and industries in the area are sheep, cattle, cereal crops, aquaculture and viticulture. Tourism is also an important industry, with the area's spectacular natural resources, such as wildflowers, being a major attraction. The Holland Track, Boot Rock Reserve and Old Eticup settlement and cemetery are salient features of the area.

The WA herbarium records more than 130 species of plants from the Shire of Broomehill. Of these, 18 are Acacia species and 17 are Eucalypt species.

## VALUE OF ROADSIDES

Since the settlement of Western Australia by Europeans, large areas of native vegetation in the south west of the state have been cleared for agriculture, roads,

settlements, and other development. The fragmentation of the more or less continuous expanse of native vegetation communities by clearing has resulted in the isolation of plant and animal populations, restricted by man-made biogeographical islands of small remnants. They are prone to food shortages, disease and reduced genetic diversity. However, the presence of native vegetation along roadsides can often assist in alleviating this isolation effect by providing connectivity between bush remnants, thereby facilitating the movement of biota across the landscape. Unfortunately, the protective role provided by the native flora has been badly depleted with now only 6-7% of the remnant vegetation remaining in the Shire of Broomehill.

Remnant vegetation includes more than just trees. Trees, shrubs and ground covers (creepers, grasses and herbs) combine to provide valuable food and shelter for different types of wildlife. Existing native vegetation will require less maintenance if left undisturbed.

### **Trees are good – bush is better**

Local indigenous trees, shrubs and grasses on the roadside are valuable because they:

- are often the only remaining example of original vegetation within extensively cleared areas;
- are easier to maintain and generally less fire prone than introduced vegetation;
- provide habitat for many native species of plants, mammals, reptiles, amphibians and invertebrates;
- provide wildlife corridors linking other areas of native vegetation;
- often contain rare and endangered plants and animals. Currently, roadside plants represent more than 80 per cent of the known populations of 40 of the declared rare species, and three of these 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 historic or cultural significance;
- provide windbreaks and stock shelter areas for adjoining farmland by helping to stabilise temperature and reduce evaporation.
- assist with erosion and salinity control, and not only in the land adjoining the road reserve per se;
- are generally far less of a fire threat than annual weeds;
- provide a benchmark for the study of soil change throughout the development of agriculture;

- are a vital source of local seed for revegetation projects in the absence of other alternatives;
- provide a valuable source of seed for regeneration projects. This is especially pertinent to shrub species, as clearing and grazing beneath farm trees often removes this layer;

**Approval of the local shire and a CALM permit are required prior to collection.**

In a time of rapid change, where the demands placed on the natural world are many, it is vital that there is a coordinated management of lands across all tenures and boundaries to ensure the sustainability and integrity of the natural biota and ecosystem processes, agricultural lands and service infrastructure.

**Roadsides are the vital link ..... and a priceless community asset.**

## LEGISLATION

Uncertainty often exists in the minds of many with regard to the 'ownership', control and management of the roadside. When a public road is created, a corridor of land is dedicated for a road, i.e. a road reserve. The road formation and its associated infrastructure are accommodated for within the road reserve. The remaining area on each side of the road is called the road verge or roadside. It is in the control and management responsibilities of this area (and the plants and animals residing within it) that the uncertainty exists.

[See David's legislation material](#)

With the proclamation of the ***Wildlife Conservation Act 1950*** the responsibility for flora conservation, including the control of harvesting of protected flora, this includes seed, was given to the Minister of the Crown responsible for Fisheries and Wildlife and the Department of Fisheries and Wildlife. With the formation of the Department of Conservation and Land Management in 1984 (now the Department of Conservation) and the accompanying ***Conservation and Land Management Act 1984*** the conservation and management of all native wildlife passed to the Minister responsible for that Department and the Department itself. As a consequence the Department of Conservation has the authority to exert controls.

## ASSESSMENT PROCESS

### Methods

The methods to assess and calculate the conservation value of the roadside reserves are described in Hussey (1991). 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, see Appendix 2. This provides both a convenient and uniform method of scoring. Ideally, the survey is undertaken by a group of local volunteers, who, aided by their knowledge of the area, are able to provide an accurate and cost effective method of data collection. Community participation also ensures a sense of ownership of the end product, which increases the likelihood of its acceptance and use by the local community and road managers. Lamont and Blyth (1995).

Fieldwork was carried out throughout the month of October 2001. The enthusiastic efforts of the volunteer surveyors and of project coordinator Anthony Witham ensured that this project was successfully completed. It is now hoped that the data collected will be used by all sectors of the community who have an interest in the roadside environment.

### Quantifying Conservation Values

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

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

Each of these attributes was given a score ranging from 0 to 2 points. The combined scores provide a conservation score ranging from 0 to 12. The conservation values, in the form of conservation status categories, are represented 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

**Table 1: Colour codes used to depict the conservation status of roadsides.**

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;
- dominant native species;
- dominant weeds;
- fauna observed;
- general comments.

It is felt that the recording of these attributes will provide a community database that would provide information useful in many spheres local government and community interest.

### **Mapping Conservation Values**

A computer generated map (using a Geographic Information System, or GIS), at a scale of 1:100 000, depicting the conservation status of the roadside vegetation and the width of the road reserves within the Shire of Broomehill was produced. The data used to produce both the map and the following figures and tables are presented in Appendix 3.

The roadside conservation values map initially provides an inventory of the *status quo* of the condition of the roadside vegetation. This is important as 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 *per se*, as it enables the condition of roadside vegetation to be easily assessed. This information can then be used to identify environmentally sensitive areas, high conservation roadsides or strategically important areas, and thus ensure their conservation. Conversely, it enables degraded areas to be identified as areas important for strategic rehabilitation, or in need of specific management techniques and weed control programmes.

The map can also be used as a reference to overlay transparencies of other information relevant to roadside conservation. Data obtained from the Department of Conservation and Land Management and the Department of Agriculture Western Australia can be used to produce an overlay map that depicts the location of remnant vegetation on both the Crown estate and privately owned land. 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.

As well as providing a road reserve planning and management tool, the survey data can also be used for:

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

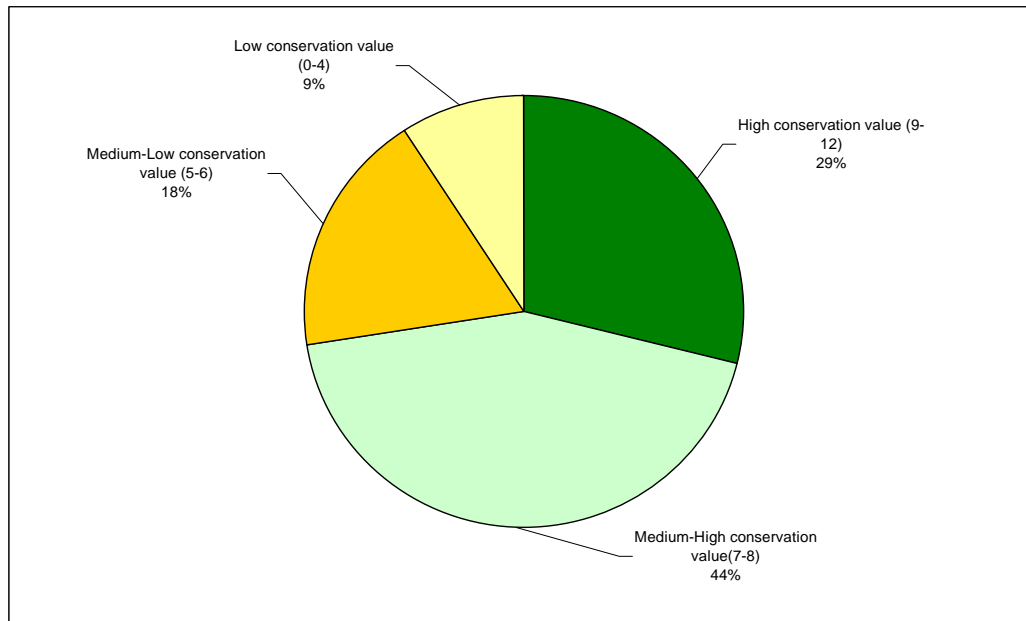
## SURVEY DATA RESULTS

A summary of the general roadside conditions in the Shire of Broomehill is presented in Table 2. 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 (see Table 2). 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 Broomehill						Length of shire controlled road surveyed: 460 km		
<b>Conservation Status</b>			<b>Native Vegetation on Roadside</b>			<b>Weed Infestation</b>		
	(km)	(%)		(km)	(%)		(km)	%
High (9-12)	265.1	28.8	2-3 veg layers (2)	664.5	72.2	Light (2)	19.8	2.2
Med-High (7-8)	402.7	43.8	1 veg layer (1)	231.5	25.2	Medium (1)	758.3	82.4
Med-Low (5-6)	168.7	18.3	0 veg layers (0)	7.4	0.8	Heavy (0)	125.4	13.6
Low (0-4)	83.5	9.1	Data absent	16.6	1.8	Data absent	16.6	1.8
Total	920.0	100.0	Total	920.0	100.0	Total	920.0	100.0
<b>Conservation Values</b>			<b>Extent of Native Vegetation</b>			<b>Value as a Biological Corridor</b>		
	(km)	(%)		(km)	(%)		km	%
1	1.9	0.2	>80%, Good (2)	26.6	2.9	High (2)	522.3	56.8
2	9.7	1.1	20-80%, Med (1)	759	82.5	Medium (1)	212.7	23.1
3	39.0	4.2	<20%, Low (0)	117.8	12.8	Low (0)	168.4	18.3
4	32.9	3.6	Data absent	16.6	1.8	Data absent	16.6	1.8
5	83.5	9.1						
6	85.2	9.3	Total	920.0	100.0	Total	920	100.0
7	155.6	16.9						
8	247.0	26.8	<b>Number of native species</b>			<b>Adjoining landuse</b>		
9	230.6	25.1		(km)	(%)		km	%
10	26.3	2.9	Over 20 (2)	68.6	7.5	Cleared	475.2	51.7
11	7.1	0.8	6-19 (1)	657.6	71.5	Scattered	417.2	45.3
12	1.2	0.1	0-5 (0)	177.2	19.3	Uncleared	21.1	2.3
			Data absent	16.6	1.8	Other	0.0	0.0
Total	920.0	100.0	Total	920.0	100.0	Urban	0.0	0.0
						Railway	6.5	0.7
						Drain	0.0	0.0
						Plantation	0.0	0.0
						Total	920.0	100.0

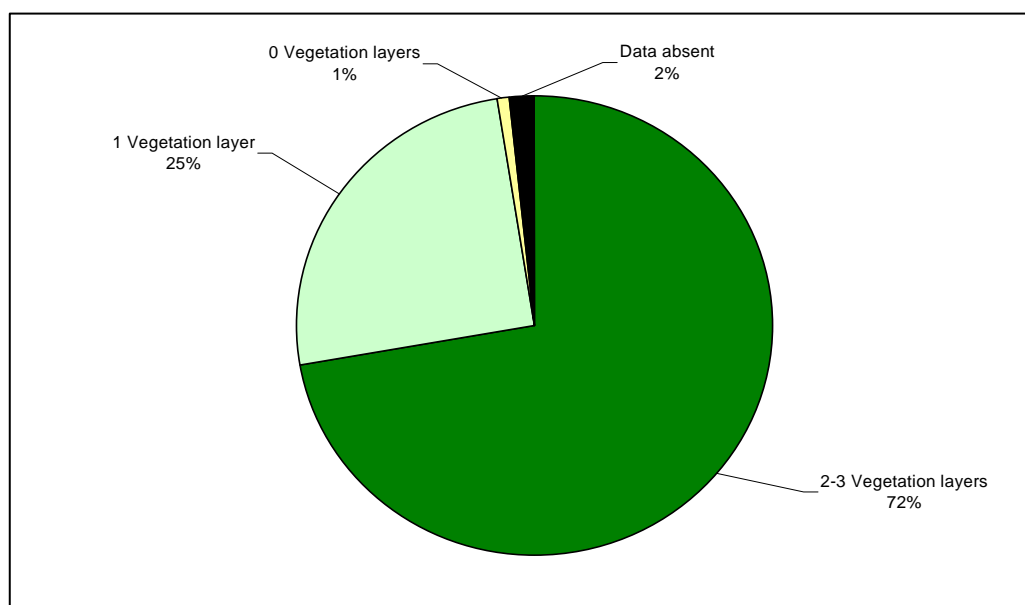
**Table 2: Summary of roadside conditions along roads in the Shire of Broomehill.**

Roadside sections of high conservation value covered 265.1 km of roadside, 29% of the length of roadside surveyed. Medium-high conservation areas accounted for 402.7 km of roadside, 44% of the total surveyed. Medium-low conservation roadside covered 168.7 km, 18.% of the total surveyed. Areas of low conservation value occupied 83.5km, 9% of the roadside surveyed (Table 2, Figure 2).



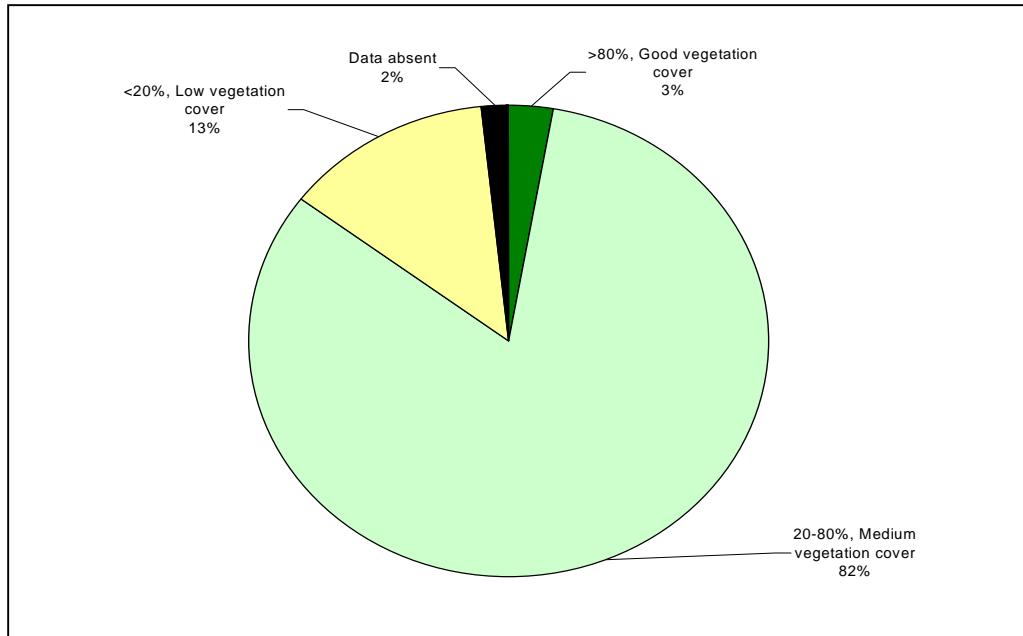
**Figure 2 – Conservation status of roadsides in the Shire of Broomehill**

The ' native vegetation on roadside' value is determined from the number of native vegetation layers from either the tree, shrub or ground layers. Sections with at least two layers of native vegetation covered 72.2% of the roadside. 25.2% had only one layer and 0.8% had no layers of native vegetation (Table 2, Figure 3).



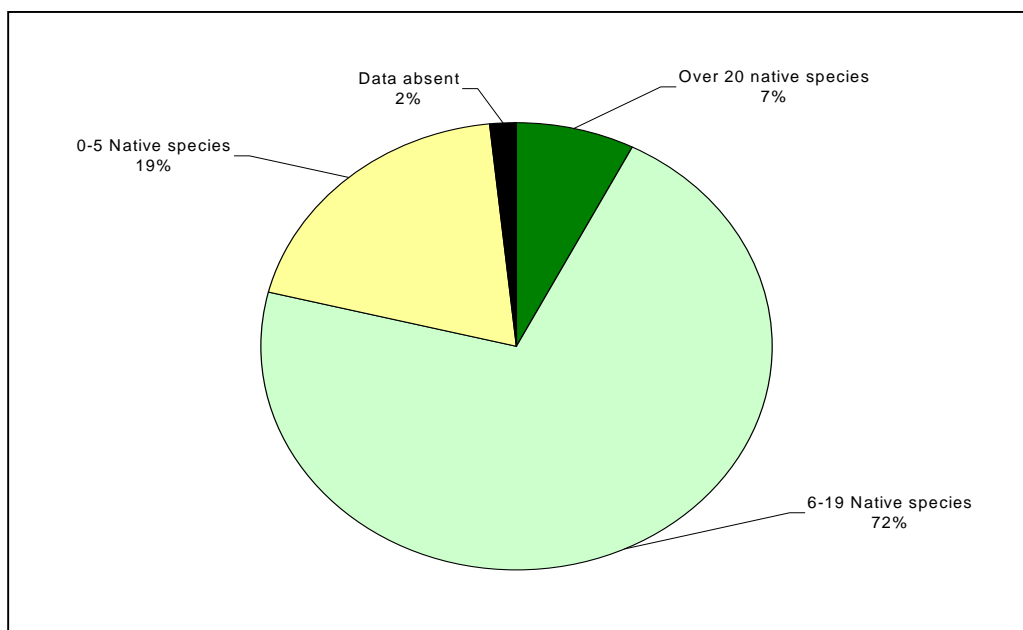
**Figure 3 – Native vegetation on roadsides**

Roadside vegetation with extensive cover, i.e. greater than 80%, occurred along 2.6% of the length of road surveyed. Survey sections with 20 to 80% cover accounted for 82.5% of the roadsides. The remaining 12.8% had less than 20% native vegetation, and therefore, low 'extent of native vegetation' value.



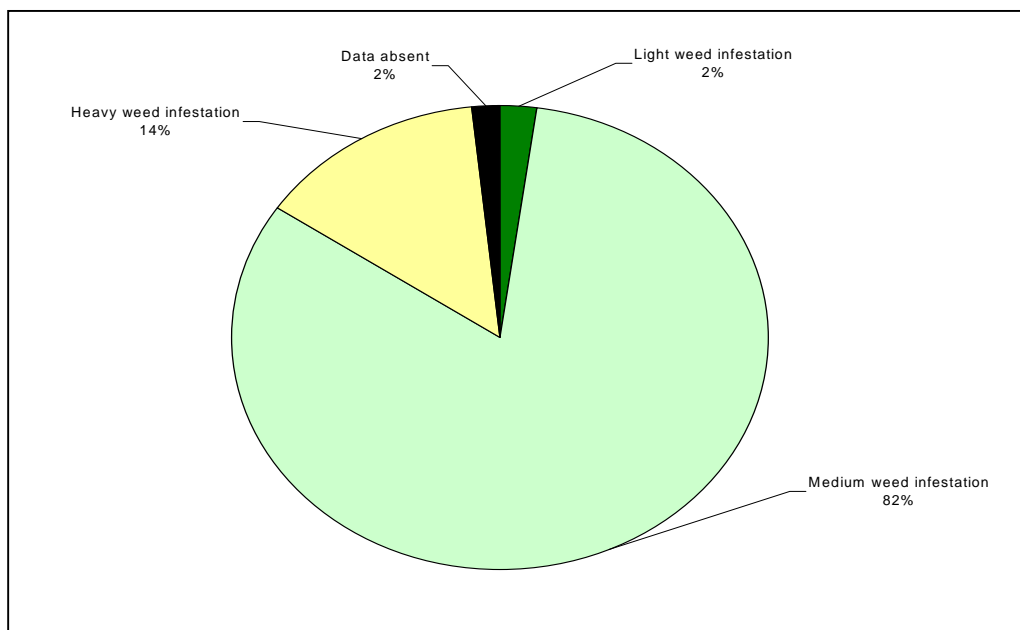
**Figure 4 – Extent of native vegetation**

The 'number of native species' score provides a measure of the diversity of the vegetation. Survey sections with more than 20 plant species spanned 68.6 km (7.5%) of the roadside. Roadside sections with 6 to 19 plant species accounted for 657.6 km (71.5%) of the roadside. The remaining 117.8 km (12.8%) had less than 6 plant species. (Table 2, Figure 5).



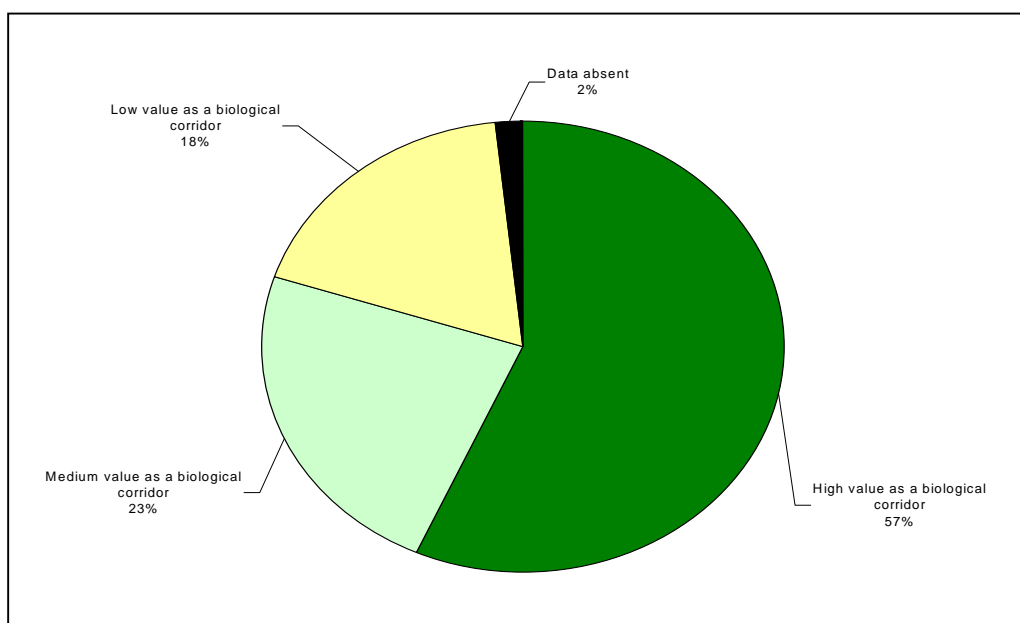
**Figure 5 – Number of native species**

2.2% (19.8 km) of the roadsides surveyed were only lightly affected by weeds. Medium level weed infestation occurred on 82.4% (758.3 km) of the roadsides. 13.6% (125.4 km) was heavily infested with weeds. (Table 2, Figure 6).



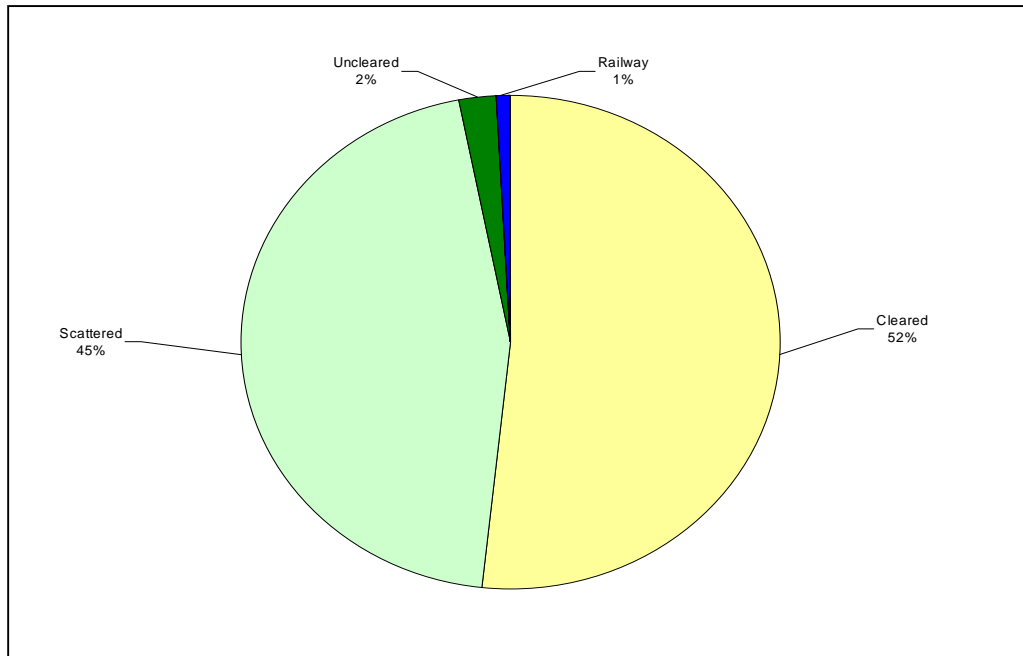
**Figure 6 – Weed infestation. Light weed infestation = weeds less than 20% of ground layer. Medium weed infestation = weeds 20 to 80% of the ground layer. Heavy infestation = weeds more than 80% of the ground layer.**

The ‘value as a biological corridor’ score is largely dependent upon the diversity of habitat and whether the corridor connects areas of uncleared land. Roadsides determined to have high value as biological corridors (as determined by the roadside surveyors) were present along 56.8% (522.3 km) of the roadside, medium value made up 23.1% (212.7 km), and low value corridor along 18.3% (168.4 km) of the roads surveyed.



**Figure 7 – Value as a biological corridor**

A scattered distribution of native vegetation was present on the land adjoining 45.3% (417.2 km) of the roadside, whilst 2.3% of roadside was adjoined by land that had not been cleared. 51.7% of the roadside surveyed was adjoined by land that had been totally cleared of vegetation. Railway reserve adjoined the remaining 0.7% (6.5 km). (Table 2, Figure 8)





**Figure 8 – Adjoining landuse**

## MANAGEMENT TECHNIQUES

The following section provides management recommendations that will assist in retaining and enhancing roadside conservation value. These guidelines are taken from the Roadside Conservation Committee's Roadside Manual and or the Roadside Handbook. The Executive Officer of the Roadside Conservation Committee is also available to assist on all roadside conservation matters, and can be contacted on (08) 9334 0423. The primary aim of road management is the creation and maintenance of a safe, efficient road system. However, the following management procedures should be adopted.



### High Conservation Value Roadsides

Management Goal		Maintain and enhance the native plant communities.
Management Guidelines		Minimal disturbance to existing vegetation.  Disturbance leads to weed invasion, which downgrades the conservation value, and increases the fire threat.



#### **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;
- observing dieback control measures as required;
- apply the Fire Threat Assessment (Roadside Manual) before burning roadside vegetation;
- use methods other than fuel reduction burns to reduce fire threat; if roadside burning must be undertaken, incorporate it into a district fire management program;
- encourage adjacent landholders to set back fences to allow roadside vegetation to proliferate;
- encourage adjacent landholders to plant windbreaks or farm tree lots adjacent to roadside vegetation to create a denser windbreak or shelterbelt;
- encourage revegetation projects by adjacent landholders.

## Medium Conservation Value Roadsides

Management Goal		Maintain native vegetation wherever possible, and encourage its regeneration.
Management Guidelines		Minimise disturbance to existing vegetation.

## Low Conservation Value Roadsides

Management Goal		Retain remnant trees and shrubs and encourage their regeneration. Encourage revegetation projects using indigenous plants.
Management Guidelines		Minimise soil disturbance to reduce weed invasion. Encourage revegetation projects by adjacent landholders.

### **Code of Practice**

A generic Code of Practice has been developed through collaboration with Main Roads Western Australia, the Western Australian Local Government Association and the Roadside Conservation Committee. This document will provide defined parameters for all roadside management works and also provide the local community with an overview of management practices that will ensure the sustainability of native roadside vegetation.

### **Tree Roads**

Tree roads are defined as those roadsides with a sufficient density of mature trees to create an attractive tunnel effect. Besides the aesthetic benefits, these areas also provide valuable habitat for birds and other arboreal fauna. Since mature trees are slow growing and hard to replace, care should be taken to conserve these avenues wherever possible. The following points should be considered when working on Tree Roads:

- prune offending branches rather than remove the whole tree;
- cut branches off close to limb or tree trunk;
- divert line of table drain to avoid disturbing tree roots;
- import fill to build up formation, rather than using side-borrow from roadside;
- when using herbicide for weed control on the roadside do not use a soil residual type, such as Siomazine or Atrazine. Eucalypts are especially sensitive to these;
- encourage the adjoining landholders to plant shelter belts on their property that will complement the roadside vegetation.



## **Flora Roads and Roads Important for Conservation**

Flora Roads are significant sections of road having a special conservation value due to the vegetation growing on the road reserve. Signs are available to mark these roads as Flora Roads. This has a twofold effect of drawing the attention of tourists to the high conservation value roadside and it also alerts all that work in the roadside environment that the marked section of roadside requires due care to protect the values present.

In order to plan roadworks so that important areas of roadside vegetation are not disturbed, road managers should know of these areas. It is suggested that the Shire establishes a *Register of Roads Important for Conservation*. The following guidelines should be considered prior to establishing this registrar

- 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, ie. trees, shrubs and groundcovers (herbs or native grasses). 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, may provide a source of local seed for revegetation projects and acts as wildlife habitat , protecting fauna,
- rare or endangered plants and animals may occur on the roadside,
- it may provide nest sites and refuges for native animals. Dense vegetation provides habitat for avifauna and invertebrates.

## **Special Environment Areas**

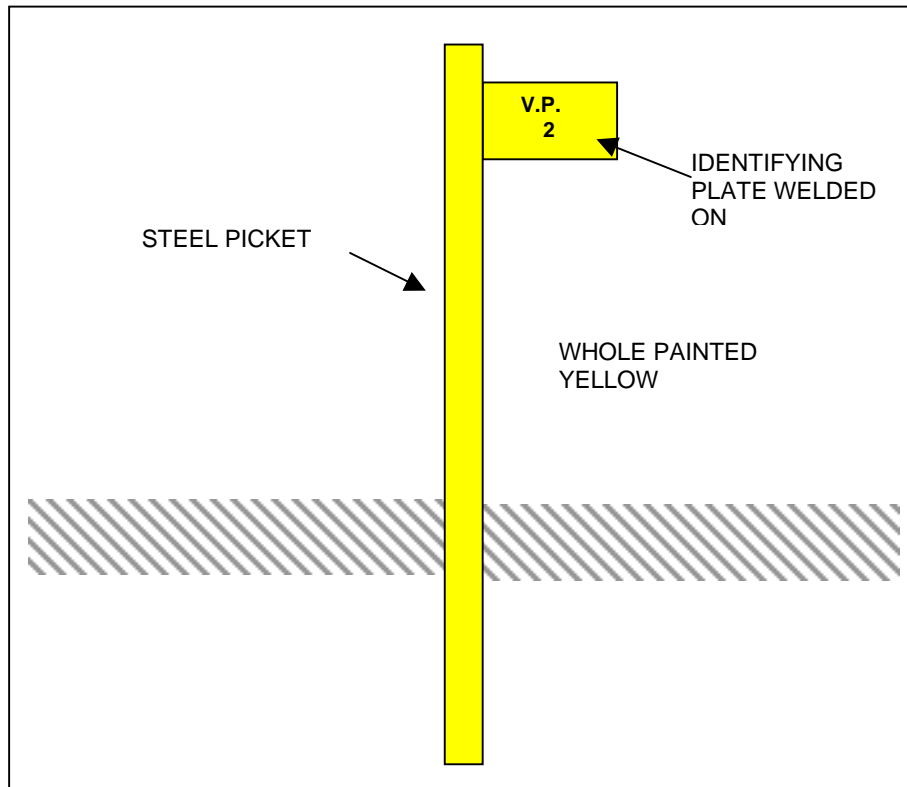
A Special Environmental Area is a section of roadside which has such significance that it requires special protection. Reasons for establishing Special Environmental Areas can include:

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

Special Environmental Areas can be delineated by the use of site markers. See Figures 9 and 10 for design and placement of SEA markers. Workers who come across a

'Special Environmental Area' marker in the field should not disturb the area between the markers unless specifically instructed. If in doubt, the Supervisor, Shire Engineer or CEO should be contacted.

Western Power and Westrail also have systems for marking sites near power or rail lines. Examples of these are seen in the figure below.



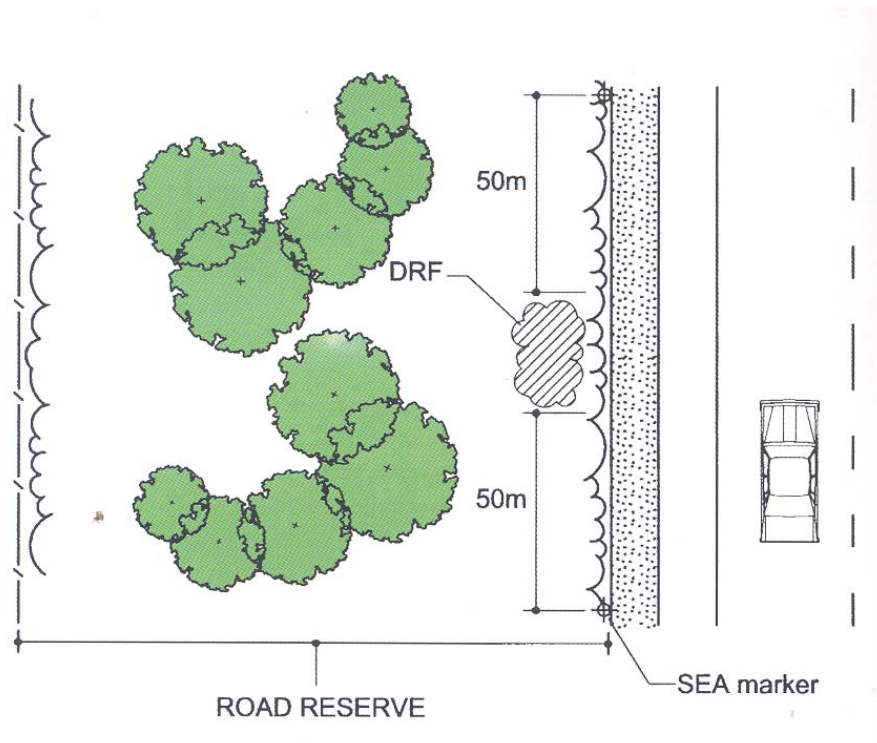
**Figure 9 - Special Environmental Area site marker**

### **Special Environmental Area Register**

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

The Special Environmental Area Register should be consulted by the appropriate person prior to starting work on any particular road, to ensure that inadvertent damage does not occur. All Special Environment Area sites should be marked on the Shire map, which records Roadside Conservation Value

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



**Figure 10 - Marking Special Environment Area (SEA) sites in the field. In this case, a declared rare flora (DRF) site has been marked.**

When notified of a population needing marking, the Local Authority should contact the appropriate C.A.L.M. Regional or District office for assistance to ensure the exact site location and correct positioning of marker posts.

## **Roadside Management Strategies**

### Planning

The RCC is able to provide good models of Roadside Management Plans and encourages all shires to adopt this practice of planning for roadside conservation. The following actions greatly enhance likelihood of a plan that changes behaviour and results in on-ground actions:

- ❖ community support encourage ongoing community involvement and commitment by establishing a local Roadside Advisory Committee or working group within the Shire Environmental Committee;
- ❖ contract specifications maintain roadside values by developing environmental specifications for inclusion in all tender documents or work practices;

- ❖ community education use of innovative and pertinent material can increase community understanding of roadside values;
- ❖ training promote local roadside planning initiatives and gain acceptance and understanding by involving shire staff, contractors, utility provider staff and the community in workshops, seminars or training days. The Roadside Conservation Committee can provide this training.

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

The objective of all roadside management planning should be to:

- **Protect**

- native vegetation
- rare or threatened flora or fauna
- cultural and heritage values
- community assets from fire

- **Enhance**

- indigenous vegetation communities
- fauna habitats and corridors

- **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

## Strategies

The development of a strategy enables potentially competing uses to coexist and ensures that roadsides are managed in a coordinated approach. When producing regional strategies the RCC suggests that:

- organisational support from local government is essential from the outset;
- strategies should take no longer than 12 months to produce (including a period for community comment);
- communities need to be provided with background information to make formal decisions.

Management strategies should be produced to address local issues, rather than be to a standard format. Issues can be categorised as:

### ❖ **Functional**

- Fire prevention
- Installation and maintenance of services
- Road construction and maintenance
- Stockpile and dumpsite management
- Vegetation removal
- Vehicle and machinery activity
- Water Supply Catchments

### ❖ **Cultural and Recreational**

- Cultural and heritage values
- Horse riding
- Visual amenity and landscape values
- Wayside stops

### ❖ **Landcare**

- Apiculture
- Insect Pests
- Pest animals
- Ploughing, cultivating or grading
- Revegetation and site rehabilitation
- Weeds

### ❖ **Conservation**

- Protecting and conserving remnant native vegetation
- Rare, threatened or significant flora and fauna
- Regeneration of native plant communities
- Roadside marking of special environmental areas
- Unused road reserves
- Wetlands
- Wildlife habitat
- Wildlife corridors

## **Roadside Action Plans**

A Roadside Action Plan is prepared for an individual road and contains a works program that will enable conservation values and other road uses to be managed compatibly.

Roadside Action Plans are based on the guidelines that are produced as part of the roadside strategy.

The RCC suggests that Roadside Action Plans be:

- short term documents (to be reviewed within 2 years);
- prepared on a need basis;
- prepared after consultation with major stakeholders;
- a maximum of 2 pages per road;
- names a person or agency responsible for implementing the management recommendations.

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# Appendix

## 1



# APPENDIX 1

## Definitions of Remnant Vegetation Types, Beeston et al (1993).

Vegetation classed as "**remnant vegetation**" has one or more of the following characteristics:

- \* Most closely reflects the natural state of vegetation for a given area.
- \* Has an intact understorey (if forest or woodland).
- \* Has minimal disturbance by agents of human activity.

Vegetation classed as "**modified vegetation**" has one or more of the following characteristics:

- \* Degraded understorey (ie reduction in the number of native species, includes weeds).
- \* Obvious human disturbance-clearing, mining, grazing, weeds.
- \* Affected by salt.
- \* Narrow corridors of vegetation (usually along roads and railway lines or windbreaks), which are more likely to be affected by edge effects.

Vegetation classed as "**scattered vegetation**" has:


- \* No understorey
- \* Parkland cleared ie are scattered single trees.
- \* No significant signs or chance of regeneration.

# Appendix

## 2

# APPENDIX 2

## Standard Survey Sheet

		<b>SURVEY TO DETERMINE THE CONSERVATION VALUE OF ROADSIDES IN THE SHIRE OF BROOMEHILL</b>		Roadside Conservation Committee c/- Locked Bag 104 Bentley Delivery Centre WA 6983	☎ (08) 9334 0423 📠 Fax: (08) 9334 0199
Date <u>19/10/01</u> Observer(s) <u>GREENCOCKS</u> Road Name <u>CHILDROP RD (0006)</u> Shire <u>Broomehill</u> Nearest named Place <u>Int with Morgan Rd</u> Direction of travel (N,S,E,W) <u>S</u> Section No. <u>1</u> Starting Point <u>Int with Morgan Rd</u> odometer reading <u>0.00</u> Ending Point _____ odometer reading <u>2.9</u> Length of section <u>2.9km</u>		No. OF DIFFERENT NATIVE SPECIES 0-5 <input checked="" type="checkbox"/> 6-19 <input type="checkbox"/> Over 20 <input type="checkbox"/> Dominant species (if known) <u>Crow's</u>		Roadside Conservation Committee c/- Locked Bag 104 Bentley Delivery Centre WA 6983	
WIDTH OF ROAD RESERVE (m) <u>30m</u> Side of the road      Left      Right WIDTH OF VEGETATED ROADSIDE 1-5 m <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 5-20 m <input type="checkbox"/> <input type="checkbox"/> over 20 m <input type="checkbox"/> <input type="checkbox"/>		WEEDS Few weeds (<20% total plants) <input type="checkbox"/> Half weeds (20 - 80% total) <input checked="" type="checkbox"/> Mostly weeds (>80% total) <input type="checkbox"/> Ground layer totally weeds <input type="checkbox"/> Complete the reverse side of this form to record the weed species present: <u>1</u> <u>1</u>		PREDOMINANT ADJOINING LANDUSE Agricultural crop or pasture: <input checked="" type="checkbox"/> - completely cleared <input type="checkbox"/> - scattered <input type="checkbox"/> Uncleared land <input type="checkbox"/> Plantation of non-native trees <input type="checkbox"/> Urban or industrial <input type="checkbox"/> Railway Reserve parallel to road <input type="checkbox"/> Drain Reserve parallel to road <input type="checkbox"/> Other <input type="checkbox"/>	
NATIVE VEGETATION ON ROADSIDE Tree layer <input checked="" type="checkbox"/> Shrub layer <input type="checkbox"/> Ground layer <input type="checkbox"/>		FAUNA OBSERVED <u>Crow's</u> Rabbits (evidence of) <input type="checkbox"/>		Conservation Value High <input type="checkbox"/> <input type="checkbox"/> Medium <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Low <input type="checkbox"/> <input type="checkbox"/> Avenue of trees <input type="checkbox"/> Reasons <input type="checkbox"/>	
EXTENT OF NATIVE VEGETATION ON ROADSIDE Less than 20% <input type="checkbox"/> 20 - 80% <input checked="" type="checkbox"/> over 80% <input type="checkbox"/>		VALUE AS A BIOLOGICAL CORRIDOR Connects uncleared areas <input type="checkbox"/> Flowering shrubs <input type="checkbox"/> Large trees with hollows <input type="checkbox"/> Hollow logs <input type="checkbox"/>		Landscape Value High <input type="checkbox"/> <input type="checkbox"/> Medium <input type="checkbox"/> <input type="checkbox"/> Low <input type="checkbox"/> <input type="checkbox"/> Avenue of trees <input type="checkbox"/> Reasons <input type="checkbox"/>	
GENERAL COMMENTS _____ _____ _____		OFFICE USE ONLY Conservation value score <u>5</u> <u>5</u>			



# Appendix

## 3

## APPENDIX 3

### Raw data used to calculate the conservation values

SHIRE_# AND ROAD_#	SECTION #	SECTION LENGTH (km)	RESERVE WIDTH (m)	CONS. VALUE (0-12)		NATIVE VEGETATION		EXTENT OF VEGETATION		NUMBER OF SPECIES		WEEDS		VALUE AS BIOLOGICAL CORRIDOR		ADJOINING LANDUSE	
				LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT
3030001	1	3.7	40	5	5	2	2	0	0	0	0	0	0	1	1	C	C
3030001	2	0.4	60	7	7	1	1	1	1	1	1	1	1	1	1	C	C
3030001	3	2.4	40	3	3	1	1	0	0	0	0	0	0	0	0	C	C
3030001	4	7.7	40	7	7	1	1	1	1	1	1	1	1	2	2	S	S
3030001	5	2.3	60	6	6	1	1	1	1	1	1	1	1	1	1	S	S
3030001	6	2.2	40	7	7	1	1	1	1	1	1	1	1	1	1	C	C
3030001	7	0.6	40	7	7	2	2	1	1	1	1	1	1	2	2	U	U
3030001	8	4.3	40	6	6	1	1	1	1	1	1	1	1	1	1	S	S
3030001	9	2.3	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030001	10	3.6	40	5	5	1	1	1	1	1	1	1	1	0	0	S	S
3030001	11	2.5	40	5	5	1	1	1	1	1	1	1	1	0	0	S	S
3030002	1	1.1	40	7	6	2	2	1	1	1	1	1	1	1	0	S	S
3030002	2	7.1	40	7	7	1	1	1	1	1	1	1	1	2	2	S	S
3030003	1	0.5	40	5	5	1	1	1	1	0	0	1	1	0	0	C	C
3030003	2	4.5	40	7	8	2	2	1	1	1	1	1	1	1	2	S	S
3030003	3	1.4	40	4	5	1	1	1	1	0	0	1	1	0	1	S	S
3030003	4	1.0	40	6	6	2	2	1	1	1	1	1	1	0	0	S	S
3030003	5	2.0	40	6	8	2	2	1	1	1	1	1	1	0	1	S	C
3030003	6	5.5	40	8	8	2	2	1	1	1	2	1	1	2	2	S	U
3030003	7	1.5	40	6	6	2	2	1	1	1	1	1	1	0	0	S	S
3030003	8	0.9	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030003	9	0.8	40	5	5	1	1	1	1	0	0	1	1	2	2	U	U
3030003	10	1.9	40	8	7	2	2	1	1	1	1	1	1	1	1	C	S
3030003	11	1.4	40	5	5	1	1	1	1	0	0	1	1	0	0	C	C
3030003	12	0.7	40	1	2	0	0	0	0	0	0	0	0	0	0	S	C
3030003	13	0.4	40	4	5	1	1	1	1	0	0	1	1	0	1	S	S
3030004	1	3.7	40	7	7											S	S
3030005	1	1.4	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C
3030005	2	1.1	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C
3030005	3	1.9	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030005	4	0.7	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C
3030005	5	0.8	40	4	4	2	2	0	0	0	0	0	0	0	0	C	C
3030005	6	2.3	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030005	7	14.1	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030005	8	0.4	40	7	7	2	2	1	1	1	1	1	1	0	0	C	C
3030005	9	3.6	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030005	10	1.3	40	7	7	1	1	1	1	1	1	1	1	1	1	C	C
3030006	1	2.9	40	5	5	1	1	1	1	0	0	1	1	0	0	C	C
3030006	2	1.5	40	5	5	1	2	1	0	0	0	1	0	0	1	C	C
3030006	3	0.5	40	6	8	2	2	0	1	1	1	0	1	1	1	C	C
3030006	4	0.7	40	4	8	1	2	0	1	0	1	0	1	1	1	C	C
3030006	5	2.4	40	8	8	2	2	1	1	1	1	1	1	1	1	C	S
3030007	1	0.5	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030007	2	0.4	40	7	7	2	2	1	1	1	1	1	1	2	2	U	U
3030007	3	6.3	40	9	8	2	2	1	1	1	1	1	1	2	2	C	S
3030007	4	1.0	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030007	5	0.9	60	9	6	2	1	1	1	1	0	1	1	2	0	C	C
3030007	6	0.8	40	8	5	2	1	1	1	1	0	1	1	1	0	C	C

3030007	7	1.3	40	8	9	2	2	1	1	1	1	1	1	2	2	S	C
3030007	8	0.6	40	3	3	1	1	0	0	0	0	0	0	0	0	C	C
3030007	9	1.2	40	4	4	1	1	1	1	0	0	1	1	0	0	S	S
3030007	10	1.1	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C
3030008	1	1.1	40	3	4	1	1	0	0	0	0	0	0	0	0	1	C
3030008	2	1.0	40	9	6	2	2	1	1	1	0	1	0	2	1	C	C
3030008	3	1.5	40	9	3	2	1	1	0	1	0	1	0	2	0	C	C
3030008	4	1.5	40	8	5	2	2	1	0	1	0	1	0	1	1	C	C
3030008	5	3.4	40	7	8	2	2	0	1	1	1	0	1	2	2	C	S
3030008	6	2.1	40	6	8	2	2	0	1	1	1	0	1	2	2	S	S
3030008	7	1.9	40	5	8	1	2	0	1	1	1	0	1	1	2	C	S
3030008	8	10.0	40	7	9	2	2	0	1	1	1	0	1	2	2	C	C
3030008	9	2.4	40	6	9	2	2	1	1	0	1	1	1	1	2	S	C
3030009	1	3.4	40	8	6	2	2	1	1	1	1	1	1	2	0	S	S
3030009	2	1.5	40	3	3	2	2	0	0	0	0	0	0	0	0	S	S
3030009	3	4.5	20	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030010	1	2.2	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030010	2	0.9	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030010	3	2.0	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030010	4	1.4	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030010	5	2.4	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030010	6	4.3	20	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030011	1	1.8	40	8	8	2	2	2	2	1	1	1	1	1	0	S	C
3030011	2	0.7	40	8	8	2	2	2	2	1	1	1	1	0	0	C	C
3030011	3	2.1	40	8	9	2	2	1	1	1	1	1	1	1	2	C	C
3030011	4	2.9	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030011	5	2.2	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030011	6	0.5	40	6	6	1	1	1	1	0	0	2	2	1	1	S	S
3030011	7	1.7	40	8	7	2	2	1	1	1	1	1	1	1	1	C	S
3030012	1	0.5	40	6	4	1	1	1	1	0	0	1	1	2	0	S	S
3030012	2	0.7	40	1	4	0	1	0	1	0	0	0	1	0	0	S	S
3030012	3	7.4	40	4	5	1	1	1	1	0	0	1	1	0	1	S	S
3030015	1	2.1	40	7	3	2	1	1	0	0	0	1	0	1	0	C	C
3030015	2	1.9	40	9	8	2	2	1	1	1	1	1	1	2	2	C	S
3030015	3	0.8	40	3	5	0	1	0	1	0	0	0	1	1	1	C	S
3030015	4	0.7	40	4	3	1	0	0	0	0	0	0	0	1	1	C	C
3030016	1	0.4	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C
3030016	2	0.7	40	3	5	1	1	0	1	0	0	0	1	0	0	C	C
3030016	3	1.6	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C
3030016	4	1.4	40	4	4	2	2	0	0	0	0	0	0	0	0	C	C
3030016	5	3.4	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C
3030016	6	0.8	40	3	2	1	0	0	0	0	0	0	0	0	0	C	C
3030016	7	0.5	40	7	8	2	2	1	1	0	0	1	1	1	2	C	C
3030017	1	2.6	40	7	8	2	2	1	1	1	1	1	1	1	1	S	C
3030017	2	2.8	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030017	3	4.2	40	8	8	1	1	1	1	1	1	1	1	2	2	C	C
3030017	4	1.5	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030017	5	1.0	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030017	6	2.1	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030017	7	1.2	40	7	7	2	2	1	1	0	0	1	1	1	1	C	C
3030017	8	1.8	40	5	10	1	2	1	2	0	2	1	2	0	2	C	U
3030018	1	1.1	40	7	9	2	2	1	1	1	1	1	1	0	2	C	C
3030018	2	1.9	40	7	8	2	2	1	1	1	1	1	1	0	1	C	C
3030018	3	1.8	40	4	4	1	1	0	0	1	1	0	0	0	0	C	C
3030018	4	8.5	20	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030018	5	3.3	20	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030018	6	1.5	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C

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3030018	7	2.2	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C	
3030020	1	0.5	40	10	10	2	2	2	2	2	2	2	2	2	2	U	U	
3030020	2	0.3	40	9	12	2	2	1	2	1	2	1	2	2	2	C	C	
3030020	3	1.8	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C	
3030020	4	1.1	20	9	9	2	2	1	1	1	1	1	1	2	2	C	C	
3030021	1	0.7	40	10	10	2	2	2	2	2	2	2	2	2	2	U	U	
3030021	2	1.3	40	8	8	2	2	1	1	1	1	1	1	1	1	2	C	S
3030021	3	0.3	40	2	5	0	2	0	1	0	0	0	1	0	1	1	C	U
3030021	4	4.2	40	10	10	2	2	1	1	2	2	1	1	2	2	C	C	
3030021	5	3.7	40	9	9	2	2	1	1	2	2	1	1	2	2	S	S	
3030022	1	1.0	40	6	10	2	2	1	2	1	2	0	2	1	2	S	U	
3030022	2	0.5	40	9	9	2	2	2	1	1	1	0	1	2	2	C	C	
3030022	3	2.1	40	8	9	2	2	1	1	1	1	1	1	2	2	S	C	
3030022	4	2.0	40	7	8	2	2	0	1	1	1	0	1	2	2	C	S	
3030023	1	5.9	20	9	9	2	2	1	1	1	1	1	1	2	2	C	C	
3030023	2	0.6	40	5	5	2	2	0	0	1	1	0	0	0	0	C	C	
3030023	3	1.2	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C	
3030023	4	1.2	20	8	7	2	2	1	1	1	1	1	1	2	2	S	U	
3030023	5	3.9	20	8	8	2	2	1	1	1	1	1	1	2	2	S	S	
3030024	1	2.1	40	6	7	2	2	1	1	1	1	1	1	0	1	S	S	
3030024	2	3.7	40	6	6	1	1	1	1	1	1	1	1	1	1	S	S	
3030027	1	0.4	40	2	2	0	0	0	0	0	0	0	0	0	0	C	C	
3030027	2	1.5	40	4	5	1	1	1	1	0	0	1	1	0	0	S	C	
3030027	3	0.8	40	6	6	2	2	1	1	1	1	1	1	0	0	S	S	
3030027	4	1.8	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C	
3030028	1	5.6	40	8	8	2	2	0	0	2	2	0	0	2	2	C	C	
3030028	2	0.7	40	10	11	2	2	2	2	1	1	2	2	1	2	C	C	
3030028	3	1.3	40	9	8	2	2	1	1	1	1	1	1	2	2	C	S	
3030029	1	1.2	40	2	3	1	1	0	0	0	0	0	0	0	0	S	C	
3030029	2	3.1	40	3	2	1	1	0	0	0	0	0	0	0	0	C	S	
3030030	1	2.5	40	3	3	1	1	0	0	0	0	0	0	0	0	C	C	
3030030	2	3.1	40	5	5	1	1	1	1	0	0	1	1	1	0	S	C	
3030030	3	0.4	40	7	5	2	1	1	1	1	0	1	1	1	1	S	S	
3030030	4	0.5	40	3	3	1	1	0	0	0	0	0	0	0	0	C	C	
3030030	5	2.1	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C	
3030031	1	0.8	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C	
3030031	2	0.6	40	8	7	2	2	1	1	1	0	1	1	1	1	C	C	
3030031	3	0.5	40	9	7	2	1	1	1	1	0	1	1	2	2	C	C	
3030031	4	0.6	40	3	4	1	1	0	0	0	0	0	0	0	1	C	C	
3030031	5	0.5	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C	
3030031	6	0.3	40	2	2	0	0	0	0	0	0	0	0	0	0	C	C	
3030031	7	1.7	40	6	6	1	1	1	1	1	1	1	1	0	0	C	C	
3030036	1	0.7	40	3	3	1	1	0	0	0	0	0	0	0	0	C	C	
3030036	2	0.7	40	11	3	2	1	2	0	1	0	2	0	2	0	C	C	
3030036	3	1.6	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C	
3030036	4	0.5	40	4	5	2	2	0	0	0	1	0	0	0	0	C	C	
3030036	5	1.4	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C	
3030037	1	2.5	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C	
3030037	2	2.4	40	6	9	2	2	0	1	1	1	0	1	1	2	C	C	
3030038	1	1.2	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C	
3030038	2	0.3	40	5	5	1	1	1	1	0	0	1	1	0	0	C	C	
3030038	3	0.7	40	2	8	0	2	0	1	0	1	0	1	0	1	C	C	
3030038	4	0.3	40	6	3	2	1	1	0	0	0	1	0	0	0	C	C	
3030038	5	0.9	40	3	5	1	1	0	1	0	0	0	1	0	0	C	C	
3030038	6	1.2	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C	
3030039	1	1.1	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C	
3030039	2	0.3	40	5	5	2	2	0	0	0	0	0	0	1	1	C	C	

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3030039	3	0.6	40	8	7	2	2	1	1	1	1	1	1	1	1	C	S
3030039	4	0.5	40	7	5	2	2	1	1	0	0	1	1	1	0	C	S
3030040	1	4.2	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030040	2	0.5	40	7	7	2	2	1	1	1	1	0	0	2	2	S	S
3030040	3	0.7	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C
3030041	1	1.3	40	4	3	1	1	1	0	0	0	1	0	0	0	S	C
3030041	2	1.5	60	6	5	1	1	1	1	0	0	1	1	1	1	C	S
3030042	1	1.1	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030042	2	1.4	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030042	3	2.6	40	9	8	2	2	1	1	1	1	1	1	2	2	C	S
3030042	4	0.8	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030042	5	0.6	40	9	8	2	2	1	1	1	1	1	1	2	2	C	S
3030042	6	1.0	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030043	1	0.4	40	10	11	2	2	2	2	1	1	2	2	2	3	S	C
3030043	2	0.8	40	6	7	2	2	1	1	1	1	1	1	0	0	S	C
3030043	3	0.7	40	8	8	2	2	2	2	1	1	2	2	0	0	S	S
3030043	4	1.6	40	6	7	2	2	1	1	0	0	1	1	0	1	C	C
3030043	5	0.6	60	6	9	2	2	1	1	1	1	1	1	0	2	S	C
3030043	6	1.2	60	7	8	2	2	1	1	0	1	1	1	1	2	C	R
3030044	1	2.3	40	8	3	2	2	1	0	1	0	1	0	1	0	S	S
3030045	1	3.1	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030045	2	0.8	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030046	1	2.7	40	8	9	2	2	1	1	1	1	1	1	2	2	S	C
3030047	1	4.3	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030047	2	0.8	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030048	1	1.7	40	8	8	2	2	1	1	1	1	1	1	2	1	S	C
3030048	2	0.8	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030048	3	4.1	40	9	9	2	2	1	1	2	2	1	1	2	2	S	S
3030049	1	1.3	20	7	7	2	2	1	1	1	1	1	1	1	1	S	S
3030049	2	2.0	20	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030050	1	1.3	40	7	6	1	1	1	1	1	1	1	1	1	0	C	C
3030050	2	0.7	40	7	8	2	2	1	1	1	1	1	1	0	1	C	C
3030050	3	2.9	40	10	10	2	2	1	1	2	2	1	1	2	2	C	C
3030054	1	2.6	60	11	11	2	2	2	2	2	2	2	2	2	2	S	C
3030054	2	0.9	60	10	12	2	2	2	2	2	2	2	2	2	2	U	C
3030055	1	2.5	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030055	2	5.3	40	5	7	1	1	0	1	1	1	0	1	2	2	S	S
3030057	1	0.7	20	2	2	1	1	0	0	0	0	0	0	0	0	S	S
3030057	2	0.8	20	3	3	1	1	0	0	0	0	0	0	0	0	C	C
3030057	3	1.0	20	5	6	1	1	1	1	1	1	1	1	0	0	S	C
3030059	1	2.6	40	7	7	1	1	1	1	1	1	1	1	2	2	S	S
3030060	1	1.8	40	5	7	1	1	1	1	1	1	1	1	0	2	S	S
3030061	1	2.9	40	6	6	1	1	1	1	0	0	1	1	2	2	S	S
3030064	1	2.6	40	6	6	1	1	1	1	0	0	1	1	1	1	C	C
3030065	1	0.4	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C
3030065	2	0.5	40	5	6	1	1	1	1	0	0	1	1	0	1	C	C
3030065	3	0.9	40	10	10	2	2	2	2	1	1	2	2	1	1	C	C
3030066	1	1.1	40	8	9	2	2	1	1	2	2	1	1	2	2	U	R
3030066	2	0.8	40	9	9	2	2	1	1	1	2	1	1	2	2	C	R
3030066	3	2.2	40	9	10	2	2	2	1	2	2	1	1	2	2	S	R
3030066	4	1.1	40	9	8	2	2	1	1	1	1	1	1	2	2	C	R
3030069	1	1.4	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030069	2	3.9	60	8	9	2	2	1	1	1	1	1	1	2	2	S	C
3030069	3	1.1	60	7	9	2	2	1	1	1	1	1	1	2	2	U	C
3030069	4	0.6	60	7	8	2	2	1	1	1	1	1	1	2	2	U	C
3030069	5	0.7	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030070	1	1.1	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S

3030071	1	1.1	40	9	9	2	2	1	1	1	1	1	1	2	2	C	C
3030071	2	1.0	40	5	5	1	1	1	1	0	0	1	1	0	0	C	C
3030072	1	1.2	20	6	5	1	1	1	1	0	0	1	1	2	0	S	C
3030074	1	1.5	40	8	7	2	2	1	1	1	1	1	1	1	1	C	S
3030075	1	2.5	20	7	7	1	1	1	1	1	1	1	1	2	2	S	S
3030076	1	2.3	40	6	6	2	2	1	1	1	1	1	1	0	0	S	S
3030083	1	1.0	40	8	8	2	2	1	1	1	1	1	1	1	1	C	C
3030084	1	1.0	40	4	4	1	1	1	1	0	0	1	1	0	0	S	S
3030084	2	4.6	40	7	7											S	S
3030087	1	2.0	40	6	5	2	2	1	1	0	0	0	0	2	2	C	S
3030087	2	0.5	40	5	1	2	0	0	0	0	0	0	0	1	0	C	S
3030089	1	0.8	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030089	2	1.3	40	8	9	2	2	1	1	1	1	1	1	2	2	S	C
3030089	3	1.3	40	8	8	2	2	1	1	1	1	1	1	2	2	S	S
3030090	1	1.3	40	9	8	2	2	1	1	1	2	1	1	2	2	C	U
3030090	2	0.8	40	9	10	2	2	1	1	1	2	1	1	2	2	C	C
3030090	3	0.7	40	7	8	1	1	1	1	1	1	1	1	2	2	S	C
M0005	1	1.6	40	9	4	2	2	1	0	1	0	1	0	2	0	C	C
M0005	2	0.9	40	4	4	2	2	0	0	0	0	0	0	0	0	C	C
M0005	3	10.4	40	7	7	2	2	1	1	1	1	1	1	1	1	S	S
M0005	4	3.3	40	7	7	2	2	1	1	1	1	1	1	1	1	S	S
M0005	5	2.6	40	3	5	2	2	0	1	0	0	0	1	0	0	S	S
M0005	1	0.9	40	5	5	2	2	1	1	0	0	1	1	0	0	S	S
M0005	7	3.8	40	6	6	2	2	1	1	0	1	1	1	1	0	S	S

# Appendix

## 4

## APPENDIX 4

### Native plant species in the Shire of Broomehill

<i>Acacia chamaeleon</i>	<i>Dryandra cuneata</i>
<i>Acacia erinacea</i>	<i>Dryandra mucronulata</i> subsp. <i>mucronulata</i>
<i>Acacia errabunda</i> ms P3	<i>Dryandra mucronulata</i> subsp. <i>retrorsa</i> P1
<i>Acacia ferocior</i>	<i>Dryandra nivea</i> subsp. <i>nivea</i>
<i>Acacia glaucoptera</i>	<i>Dryandra stuposa</i>
<i>Acacia grisea</i> P4	<i>Dryandra subpinnatifida</i> var. <i>imberbis</i> P2
<i>Acacia lasiocarpa</i>	<i>Echium plantagineum</i>
<i>Acacia lasiocarpa</i> var. <i>bracteolata</i>	<i>Erymophyllum tenellum</i>
<i>Acacia lasiocarpa</i> var. <i>sedifolia</i>	<i>Eucalyptus annulata</i>
<i>Acacia lullfitziorum</i> ms P3	<i>Eucalyptus astringens</i> subsp. <i>astringens</i>
<i>Acacia microbotrya</i>	<i>Eucalyptus decipiens</i> subsp. <i>chalara</i>
<i>Acacia paradoxa</i>	<i>Eucalyptus hypochlamydea</i> subsp. <i>ecdysiastes</i> ms
<i>Acacia pulviniformis</i>	<i>Eucalyptus kondininensis</i>
<i>Acacia pycnantha</i>	<i>Eucalyptus lehmannii</i>
<i>Acacia pycnocephala</i>	<i>Eucalyptus occidentalis</i>
<i>Acacia restiacea</i>	<i>Eucalyptus phaenophylla</i> subsp. <i>interjacens</i>
<i>Acacia sphacelata</i> subsp. <i>recurva</i> ms	<i>Eucalyptus phaenophylla</i> subsp. <i>phaenophylla</i>
<i>Acacia stenoptera</i>	<i>Eucalyptus pluricaulis</i> subsp. <i>porphyrea</i>
<i>Allocasuarina lehmanniana</i> subsp. <i>lehmanniana</i>	<i>Eucalyptus redacta</i> subsp. <i>thamnoides</i> ms
<i>Amyema miraculosa</i> subsp. <i>miraculosa</i>	<i>Eucalyptus spathulata</i>
<i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>	<i>Eucalyptus sporadica</i> ms
<i>Astroloma serratifolium</i>	<i>Eucalyptus suggrandis</i> subsp. <i>alipes</i>
<i>Banksia meisneri</i> subsp. <i>meisneri</i>	<i>Eucalyptus suggrandis</i> subsp. <i>suggrandis</i>
<i>Beaufortia incana</i>	<i>Eucalyptus wandoo</i> subsp. <i>wandoo</i>
<i>Billardiera bicolor</i> var. <i>bicolor</i>	<i>Eucalyptus xanthonema</i> subsp. <i>xanthonema</i>
<i>Bossiaea eriocarpa</i>	<i>Gastrolobium calycinum</i>
<i>Brachyscome ciliaris</i>	<i>Gastrolobium parviflorum</i>
<i>Brachyscome glandulosa</i>	<i>Gastrolobium spinosum</i> var. <i>spinosum</i>
<i>Brachyscome perpusilla</i> var. <i>tenella</i>	<i>Gastrolobium trilobum</i>
<i>Brachysema celsianum</i>	<i>Grevillea cirsiifolia</i> P4
<i>Bromus lanceolatus</i>	<i>Helichrysum leucopsideum</i>
<i>Caladenia cairnsiana</i>	<i>Hydrocotyle alata</i>
<i>Caladenia chapmanii</i> ms	<i>Hydrocotyle callicarpa</i>
<i>Caladenia falcata</i>	<i>Hydrocotyle diantha</i>
<i>Caladenia flava</i> subsp. <i>flava</i> ms	<i>Hydrocotyle pilifera</i> var. <i>glabrata</i>
<i>Caladenia hiemalis</i> ms	<i>Jacksonia sternbergiana</i>
<i>Caladenia longicauda</i> subsp. <i>eminens</i> ms	<i>Juncus subsecundus</i>
<i>Caladenia multiclavia</i>	<i>Kennedia microphylla</i>
<i>Caladenia reptans</i> subsp. <i>reptans</i> ms	<i>Laxmannia omnifertilis</i>
<i>Caladenia xantha</i> ms	<i>Lechenaultia formosa</i>
<i>Calytrix leschenaultii</i>	<i>Lepidium rotundum</i>
<i>Calytrix tetragona</i>	<i>Leptoceras menziesii</i>
<i>Chamelaucium ciliatum</i>	<i>Leptomeria pauciflora</i>
<i>Chamelaucium pauciflorum pauciflorum</i> ms	<i>Leucopogon cymbiformis</i>
<i>Chloanthes coccinea</i>	<i>Leucopogon minutifolius</i>
<i>Choretrum glomeratum</i> var. <i>glomeratum</i>	<i>Leucopogon obtusatus</i>
<i>Conostylis seorsiflora</i> subsp. <i>seorsiflora</i>	<i>Leucopogon ozothamnoides</i>
<i>Conostylis setigera</i> subsp. <i>setigera</i>	<i>Leucopogon polymorphus</i>
<i>Cryptandra nutans</i>	<i>Lyginia barbata</i>
<i>Cyanicula deformis</i> ms	<i>Marsilea drummondii</i>
<i>Cyanicula gemmata</i> ms	<i>Melaleuca strobophylla</i>
<i>Dampiera juncea</i>	<i>Melaleuca undulata</i>
<i>Dillwynia</i> sp.A Perth Flora(R.Coveny 8036)	<i>Mirbelia dilatata</i>
<i>Dodonaea humifusa</i>	<i>Mirbelia ovata</i>

Nemcia emarginata  
Olearia incondita  
Ophioglossum lusitanicum  
Oxalis purpurea  
Persicaria prostrata  
Podolepis gracilis  
Praecoxanthus aphyllus ms  
Prasophyllum gracile  
Ptilotus declinatus  
Ptilotus manglesii  
Regelia cymbifolia P4  
Santalum acuminatum  
Solanum elaeagnifolium  
Sollya heterophylla  
Stylidium leptophyllum  
Stylidium piliferum  
Stylidium uniflorum  
Templetonia sulcata  
Tetraria capillaris  
Tetratheca virgata  
Thelymitra x macmillanii  
Thysanotus gageoides P2  
Thysanotus tenellus  
Thysanotus triandrus  
Tricoryne elatior  
Ursinia anthemoides  
Verticordia lindleyi subsp. purpurea P4  
Verticordia plumosa var. brachyphylla  
Wurmbea tenella