ASSESSMENT OF THE CONSERVATION VALUE OF ROADSIDE VEGETATION IN PART OF THE SHIRE OF AUGUSTA-MARGARET RIVER, WA

Roadside Conservation Committee

ASSESSMENT OF THE CONSERVATION VALUE OF ROADSIDE VEGETATION IN PART OF THE SHIRE OF AUGUSTA-MARGARET RIVER, WESTERN AUSTRALIA

1. INTRODUCTION

Alteration of original native vegetation into productive farmland in Western Australia has been a continual process since the time of original settlement.

The Shire of Augusta-Margaret River is fortunate in that it has numerous patches of remnant native vegetation, including some State Forest and National Parks. Many farms contain remnant patches and there are some good strips along roadsides.

These strips and patches form a mosaic in which conservation of wildlife is integrated with farming to form a productive and uniquely Australian landscape. Roadside strips are an essential element of this network, as they function as corridors enabling movement of animals - especially small birds - across the landscape. They are also an important seed source for regeneration projects - especially of shrubs, since grazing beneath farm trees often removes this layer. A well conserved roadside helps with erosion and salinity control and is less of a fire threat than one dominated by annual weeds. Finally, roadside vegetation contributes greatly to the attractiveness of the countryside, as it forms the windowframe through which visitors and residents alike view the landscape

2. ASSESSMENT PROCESS

2.1 Method

The method followed is that developed by the Roadside Conservation Committee and designed to be carried out by volunteers. Its aim is to produce a conservation score which will rate each road as having high, medium or low conservation value. This information can then be used by the road manager to choose appropriate management techniques for the roadsides.

Appendix 1 shows the field data sheet. Each road was divided into as many sections as the assessor decided were reasonably uniform. A data sheet was completed for each section.

2.2 Field Work

Fieldwork was undertaken between 2/10/1987 and 4/1/1989.

The assessment was done by the following people:-

J Allen
A Brooker
J Brooker
J Green

In all they drove 287.6km.

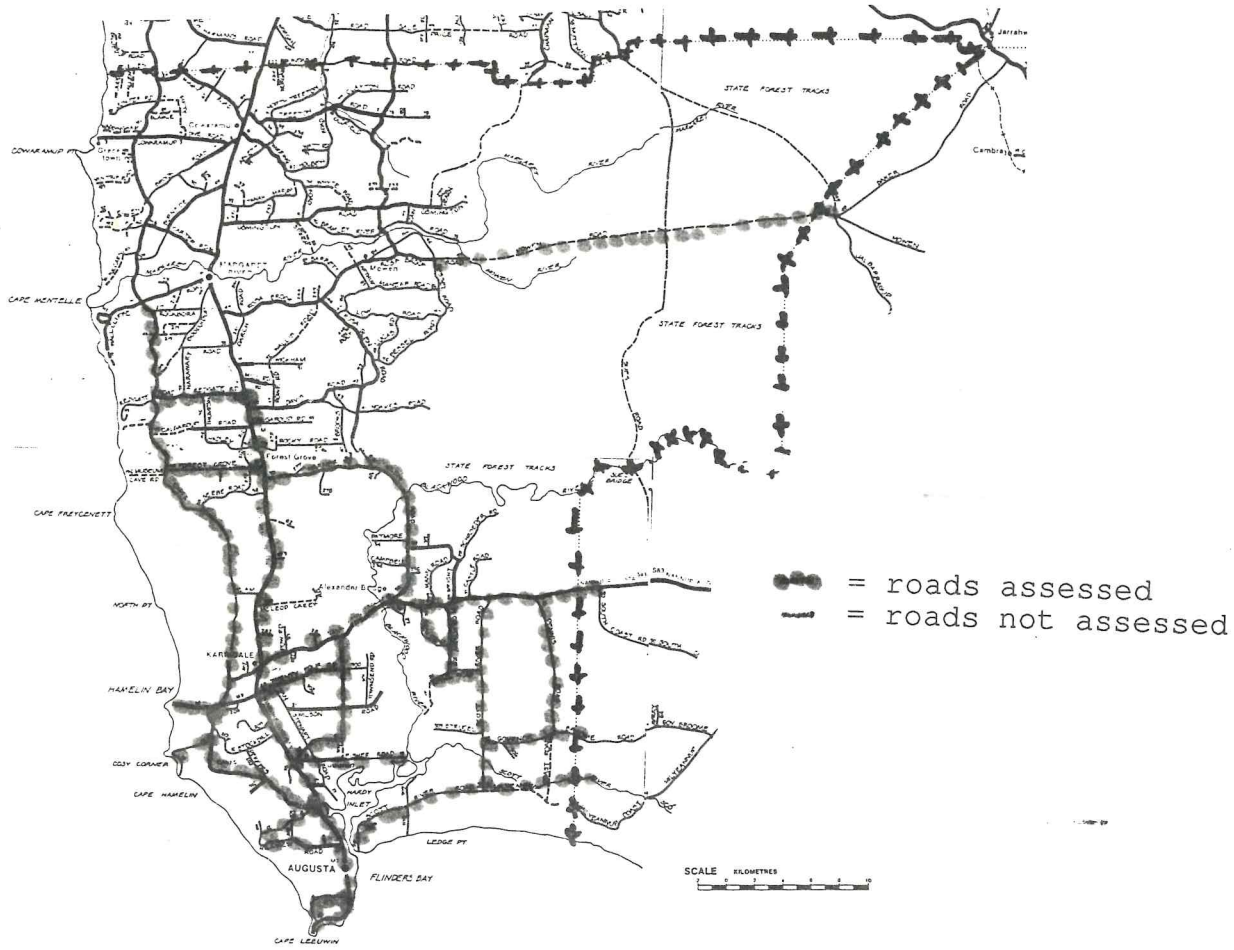
2.3 **Limitations**

Augusta-Margaret River is a large Shire, with a total of 1619km of roads, not including those roads vested in the Main Roads Department or the Department of Conservation and Land Management. Many of these roads would be urban, and not relevant to this assessment, nevertheless there are a significant number of rural roads that would benefit from being assessed, principally in the northern area of the Shire, so that a complete picture of roadside management priorities could emerge.

The map below shows the 287.6km of roads that have been covered by volunteers in this assessment. Possibly other members of the community could be encouraged to complete the work.

MAP 1

Roads assessed for conservation value,
Shire of Augusta-Margaret River



2.4 **Scoring**

Scoring is shown on the field sheet, (Appendix 1).

Topics scored:

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

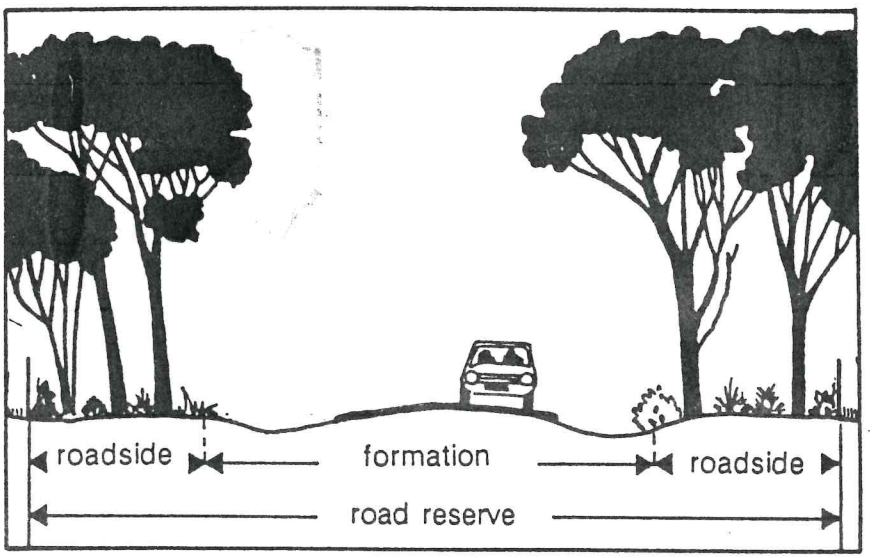
Each of the above attributes can score to a maximum of 2, giving total scores in a range from 0-12. These are ranked into the following categories:-

12 - 9	high conservation value
8 - 5	medium conservation value
4 - 0	low conservation value

The following attributes were noted but not scored:-

- width of road reserve
- width of vegetated roadside
- presence of utilities/disturbances

In addition a subjective judgement for Conservation Value and Landscape Value was also recorded.



3. RESULTS

3.1 Field Data Sheets

The field data sheets are retained at the office of the Roadside Conservation Committee, PO Box 104, Como. Duplicate copies will be supplied to the Shire of Augusta-Margaret River on request.

3.2 Summary of Data

As explained in Section 2, only 287.6km of roads in the Shire of Augusta-Margaret River have been assessed. The following table gives an overview of this assessment.

Figure 1

Results of all roads assessed
Shire of Augusta-Margaret River 1990

CONSERVATION VALUE	LENGTH KM	% OF SURVEY BY LENGTH	NO. OF ROADS WITH AT LEAST ONE SECTION HAVING THIS VALUE
High	187.5	65.2	25
Medium	75.4	26.2	16
Low	24.7	8.6	7
	287.6	100.0	

(NB: where the conservation value of the roadside is different on either side of the road, the highest value is recorded on this table.)

3.3 Roads Vested in the Main Roads Department

One road within Augusta-Margaret River Shire, is under the care, control and management of the Main Roads Department (MRD).

Figure 2

Assessment of roads vested in MRD,
Geographically within the Shire of Augusta-Margaret River 1990

ROAD	CONSERVATION VALUE	NO. OF SECTIONS	LENGTH OF SECTIONS	TOTAL LENGTH OF ROAD
M7	high	11	16.1	34.1
	medium	10	12.5	(+24.1
	low	2	5.5	unassessed)

The result of the assessment have been passed to the MRD, and this road will not be considered further in this document.

3.4 Roads vested in the Department of Conservation and Land Management

One of the roads within the Shire of Augusta-Margaret River that has been assessed is vested in the Department of Conservation and Land Management (CALM).

Figure 3

Assessment of roads vested in CALM,
Geographically within the Shire of Augusta-Margaret River 1990

ROAD	CONSERVATION VALUE	NO. OF SECTIONS	LENGTH OF SECTIONS	TOTAL LENGTH OF ROAD
395(F)	high	3	23.1	23.1

The results of this assessment have been passed to CALM, and this road will not be considered further in this document.

3.5 Roads Vested in the Shire of Augusta-Margaret River

When the MRD and CALM roads are excluded, the data for roads under the care, control and management of the Shire of Augusta-Margaret River is as follows:

Figure 4

Assessment of roads vested in the Shire of Augusta-Margaret River (1990)

CONSERVATION VALUE	LENGTH KM	% OF SURVEY BY LENGTH	NO OF ROADS WITH AT LEAST ONE SECTION HAVING THIS VALUE
High	148.3	64.4	23
Medium	62.9	27.3	15
Low	19.2	8.3	6
	230.4	100.0	

1388.6km of Shire roads have not been surveyed. See Section 2.3.

These figures will be used for detailed assessment and guidelines for management in Appendix 2.

4. MAPPING

A 1:50,000 MRD 'State of Construction' map for the Shire of Augusta-Margaret River shows the roads assessed in this survey. The exact conservation value is written in red figures, while a colour indicates the general value as follows:-

high = green
medium = pink
low = blue

5. MANAGEMENT GUIDELINES FOR CONSERVATION PURPOSES

Appendix 2 contains a detailed discussion of the Shire roads, and guidelines for suggested management techniques which retain and enhance the roadside conservation value.

These guidelines are taken from documents drawn up by the Roadside Conservation Committee.

- Roadside Manual
- Guidelines for the clearing and maintenance of roadside vegetation

Copies of these have been supplied to the Shire, but further copies may be obtained from the RCC on request.

6. SPECIAL ENVIRONMENTAL AREAS

A "Special Environmental Area" is a section of roadside which is of such great significance that it should be treated with special care when road and utility service construction or maintenance is undertaken.

Some reasons for designating a Special Environmental Area would include:

- populations of rare or endangered plants
- vegetation of special scientific, conservation or aesthetic significance
- aboriginal or European cultural sites

A number of such areas have been designated within the Shire of Augusta-Margaret River.

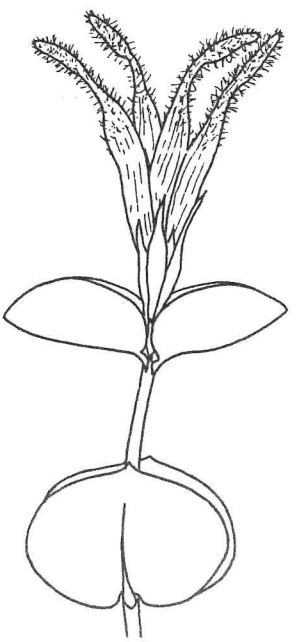
Figure 5

Special Environmental Areas
within the Shire of Augusta-Margaret River (1990)

ROAD NO.	ROAD NAME	REASON FOR AREA	EXACT LOCATION
S87	Caves Rd	DRF Caladenia "arrecta"	1.8km N of Cowaramup Rd, East verge.
33	Governor Broome Rd	DRF Loxocarya "gigantea"	1.2-3.5km E of Scott River Road
91	Dennis Rd	DRF Lambertia orbifolia	6km S of Brockman Hwy, E verge.

In addition, geographically restricted flora is found on

24 Scott River Road
26 Payne Road



Lambertia orbifolia

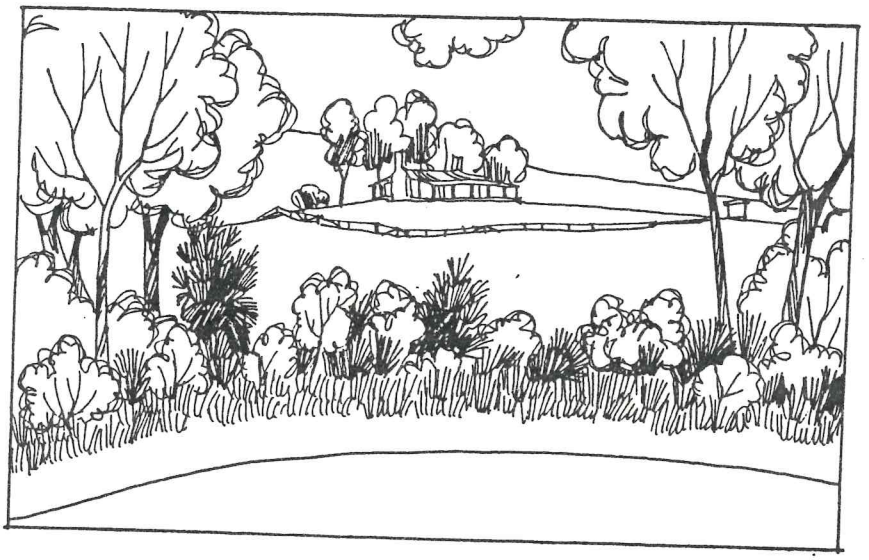
7. LANDSCAPE VALUE

7.1 Map

A 1:50 000 MRD 'State of Construction' map has been coloured to show 'landscape value' as follows:-

high	=	red
medium	=	yellow
low	=	blue
avenue of trees	=	cross hatched red

These figures are subjective, based on the individual judgement of each assessor, and relate to the attractiveness of the road in the landscape. This data



7.2 Tree Roads

An avenue of mature trees contributes substantially to the attractiveness of a landscape, framing the view and forming a tunnel effect over the road. In addition, the trees are attractive in themselves, particularly karri with their elegant shape and beautiful bark.

Trees take many years to reach full stature, so that if an avenue is destroyed, the effect can scarcely be reproduced within a lifetime.

Many trees also contain hollows which are important nest sites for certain birds. Trees do not develop these hollows until they become mature, so the importance of mature trees to maintaining the bird population is very clear.

Figure 6 below is a list of "Tree Roads" as determined by the assessors. Usually, avenues only occur on short sections along these roads.

Figure 6

Tree Roads in the Shire of Augusta-Margaret River (1990)

M7 Bussell Highway
S83 Brockman Highway
S87 Caves Road
12 Greenhill Road
13 Bushby Road
18 van Sittart Road
19 Fisher Road
20 Glenarty Road
21 Wilson Road
22 24 Road
23 Courtney Road
24 Scott River Road
26 Payne Road
30 Warner Glen Road
37 Forest Grove Road
57 Redgate Road
60 Hillview Road
98 Glenarty Road
169 Chapman Road
200 Diana Road

8. CONSERVATION IN THE SHIRE OF AUGUSTA-MARGARET RIVER

A number of conservation reserves exist within the Shire of Augusta-Margaret River (see Figure 7) but there are also many areas of remnant vegetation on roadsides and private land which altogether form a conservation network.

Together with maps showing the location of remnant vegetation, this study, which gives the location of important bush corridors, forms the basis for conservation planning within the Shire. It should now be possible to plan regeneration and replanting schemes to link the remnants and give in the Shire a landscape where production and conservation are integrated to the benefit of both. The result will be a productive and beautiful region that is uniquely Australian.

SURVEY TO DETERMINE THE CONSERVATION VALUE OF A ROAD

Roadside Conservation Committee
C - P.O Box 104 COMO W.A. 6152

Date _____ Observer(s) _____

Road Name _____

Nearest named place _____

Shire _____

Direction of travel _____

Section no. _____

starting point _____

odometer reading _____

ending point _____

odometer reading _____

length of section _____

WIDTH OF ROAD RESERVE _____

Side of the road	Left	Right
Width of Vegetated roadside		
1-5m	☐	☐
5-20m	☐	☐
over 20m	☐	☐

NATIVE VEGETATION ON ROADSIDE

tree layer	☐	1	max 2
shrub layer	☐	1	
ground layer	☐	1	

RARE FLORA

Rare flora known to be present ☐ ✳

Name _____

EXTENT OF NATIVE VEGETATION ALONG LENGTH OF ROADSIDE

Less than 20%	☐	0
20-80%	☐	1
over 80%	☐	2

No. OF DIFFERENT NATIVE SPECIES

0-5	☐	0
6-19	☐	1
Over 20	☐	2

Dominant species (if Known)

_____

WEEDS

Few weeds (under 20% total plants)	☐	2
Half weeds (20-80% total)	☐	1
Mostly weeds (over 80% total)	☐	0
Ground layer totally weeds	☐	0

Dominant weeds (if known)

_____

VALUE AS A BIOLOGICAL CORRIDOR

Connects uncleared areas	☐	1	max 2
Flowering shrubs for nectar-feeding animals	☐	1	
Large trees with hollows for birds nests	☐	1	
Hollow logs	☐	1	

FAUNA OBSERVED

_____

_____

PREDOMINANT ADJOINING LAND USE

Agricultural crop or pasture:-

• completely cleared	☐	2	max 2
• scattered trees/shrubs	☐	1	
Uncleared land	☐	0	
Plantation of non-native trees	☐	1	
Urban or Industrial	☐	1	
Railway Reserve parallel to road	☐	1	
Drain Reserve parallel to road	☐	1	

Other

UTILITIES/DISTURBANCES

Disturbances continuous	☐	☐
Disturbances Isolated	☐	☐
Disturbances absent	☐	☐

Type

_____

CONSERVATION VALUE

High	☐	☐
Medium	☐	☐
Low	☐	☐

Reasons

_____

_____

LANDSCAPE VALUE

High	☐	☐
Medium	☐	☐
Low	☐	☐
Avenue of trees	☐	✳

Reasons

_____

_____

GENERAL COMMENTS

_____

_____

_____

_____

L R

APPENDIX 2

MANAGEMENT GUIDELINES

It is assumed that the primary aim of road management is the creation and maintenance of a safe, efficient road system. The following conservation guidelines should be considered along with this.

1. **HIGH CONSERVATION VALUE ROADSIDES**
   Score 9-12

Twenty three roads have at least one section of high conservation value. These sections occupy 148.3km of roadside and are 64.4% of the roads surveyed in the Shire.

These roads occur throughout the Shire, but are especially concentrated in areas of National Parks and State Forest.

Most of these roads are only 1 chain wide and thus the roadsides are narrow and easily damaged by disturbance.

In addition, the risk of spreading Phytophthora Dieback is extremely high, and precautions should be taken as a matter of course.

Management Goal

To maintain and enhance the indigenous plant communities.

Guidelines for achieving this goal

1. Minimise disturbance to existing vegetation

> (In narrow strips, disturbance leads to weed invasion which:-
>
> . downgrades the conservation value
> . increases the fire threat)

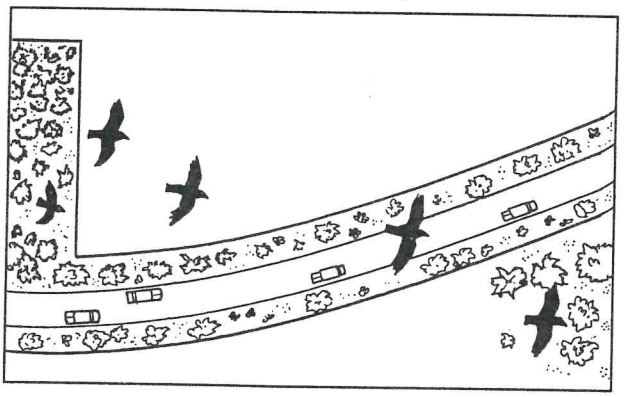
This can be done by:-

- adopting a road design that occupies the minimum space.
- diverting the line of a table drain to avoid disturbing valuable flora.
- prune overhanging branches, rather than removing the whole tree or shrub.
- do not turn or park machinery over well conserved flora.

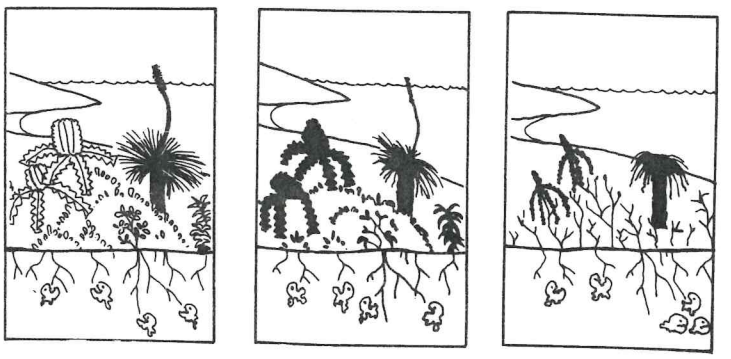
- avoid windrowing soil beyond the backslope.
- do not dump spoil on well conserved flora.
- observe dieback control measures especially on roads which adjoin Naional Parks, Nature Reserves or State Forests. (Consult CALM for details).
- use methods other than preventative burning to reduce fire threat.
- if roadside burning must be undertaken, it should not be repeated within 7 years.
- encourage adjacent landholders to set back fences to allow vegetation to spread and thicken.
- encourage adjacent landholders to plant windbreaks or farm tree lots adjacent to roadside vegetation to create a thicker belt.

It is especially important not to disturb vegetation on sandy soil, as weeds such as wild oats and veldt grass soon take over loose sand.

maintain connectivity



Dieback devastates coastal heath



2. MEDIUM CONSERVATION VALUE ROADSIDES
Score 5-8

A quarter of the Shire roads assessed fall in this category, 27.3% of those surveyed, with a length of 62.9km.

These roads are often patchy, having some good stands of native vegetation interspersed with weedy areas. They may have utility services along them. (See map for location.)

Management Goal

To maintain indigenous vegetation wherever possible, and to encourage its regeneration.

Guidelines For Achieving This Goal

As for High value roadsides, disturbance of areas with good native plant cover should be minimised.

Consideration should be given to weed eradication programmes, combined with reseeding/replanting local species.

Many of these roadsides have the potential to increase in value greatly with sympathetic management.

3. LOW CONSERVATION VALUE ROADSIDES
Score 0-4

Many of these road sections occur where the surrounding land has been long cleared, leaving only a few remnant trees and shrubs on the roadside.

In some cases, the landholder or the road authority has totally cleared the roadside when erecting a new fence, leaving only weeds to regenerate.

Management Goals

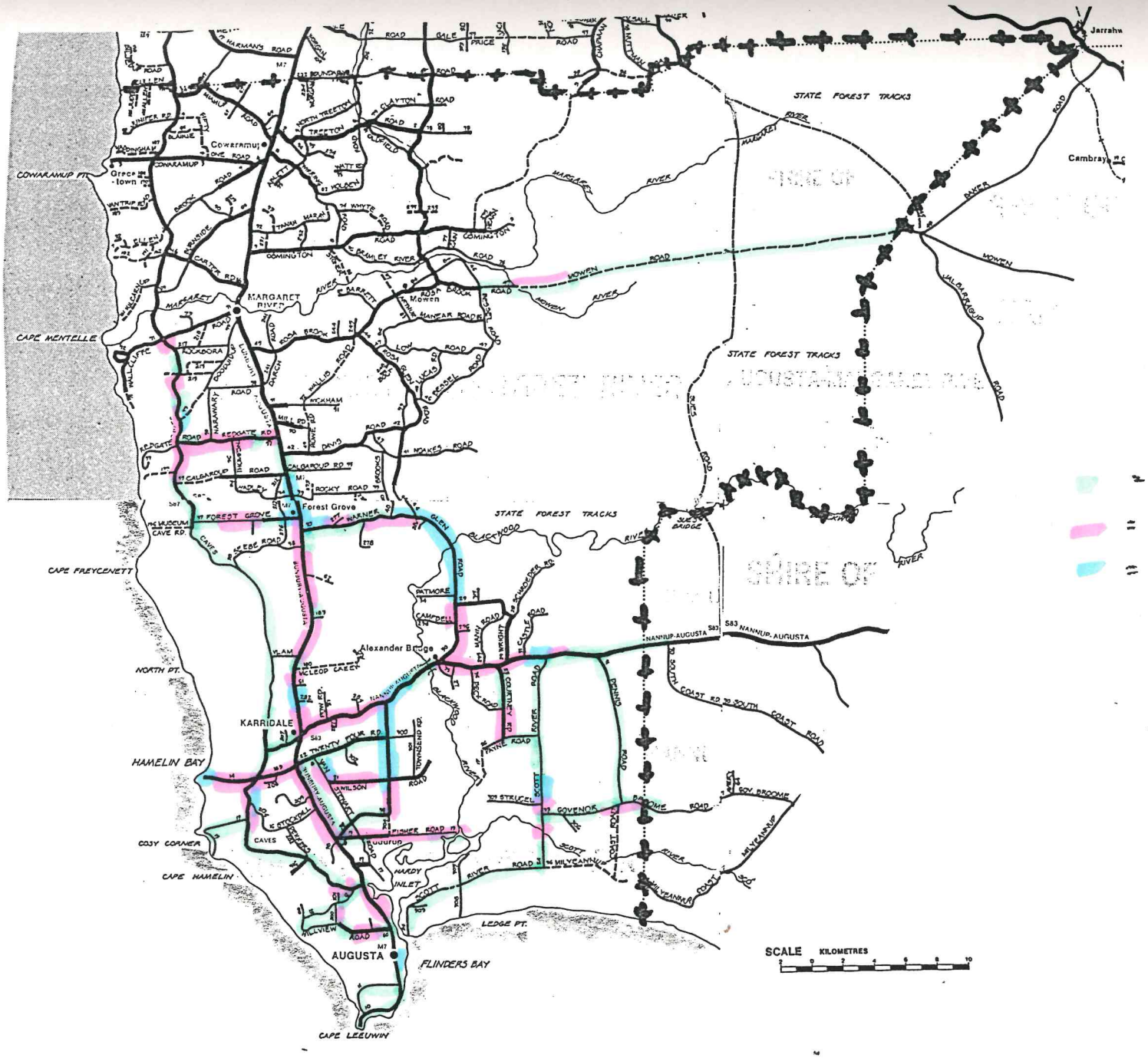
1. Retain remnant trees and shrubs and encourage their regeneration.
2. Encourage revegetation projects using indigenous plants.

Management Guidelines

- Minimise soil disturbance to reduce weed invasion.
- Encourage revegetation projects by adjacent landholders.

ROADSIDE CONSERVATION VALUE

SHIRE OF AUGUSTA - MARGARET RIVER



= high

= medium

= low