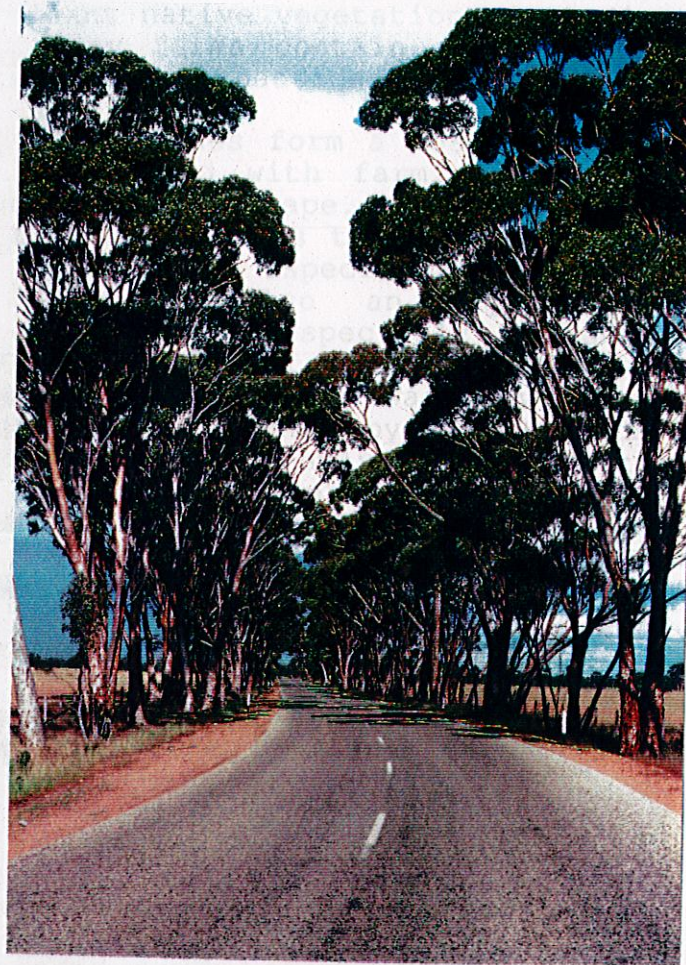


# ASSESSMENT OF THE CONSERVATION VALUE OF ROADSIDE VEGETATION IN THE SHIRE OF BEVERLEY, WA

009470



BEVERLEY-BROOKTON ROAD



# ASSESSMENT OF THE CONSERVATION VALUE OF ROADSIDE VEGETATION IN THE SHIRE OF BEVERLEY, 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 Beverley is fortunate in that it has numerous patches of remnant native vegetation, including some State Forest in the west. 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. A trial was undertaken with the Executive Officer of the Roadside Conservation Committee (Penny Hussey) before the main survey began.

### 2.2 Field Work

Fieldwork was undertaken between 9/8/1989 and 18/10/89, during the prime wildflower season.

The assessment was done by the following people, all of whom are local residents:-

M Blight  
K Dean  
A Fisher  
D Fleay  
L Heal  
P Kimpton

In all they drove 629.5km and covered 92.2% of roads in the Shire.

### 2.3 Limitations

24 roads totalling 48km were not surveyed. In the main these appear to be dead-end roads servicing individual farm properties. (See appendix 3)

### 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 Beverley on request.

#### 3.2 Summary of Data

As explained in Section 2, 629.5km of roads in the Shire of Beverley have been assessed. The following table gives an overview of this assessment.

Figure 1

Results of all roads assessed  
Shire of Beverley 1989

CONSERVATION VALUE	LENGTH KM	% OF SURVEY BY LENGTH	NO. OF ROADS WITH AT LEAST ONE SECTION HAVING THIS VALUE
High	99.7	15.8	12
Medium	474.3	75.4	54
Low	55.5	8.8	18
	629.5	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

Two roads within Beverley Shire, portion of M3 and M31, are 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 Beverley 1989

ROAD	CONSERVATION VALUE	NO. OF SECTIONS	LENGTH OF SECTIONS	TOTAL LENGTH OF ROAD
M3	high	3	26.9	34.5
	medium	2	7.6	
M31	medium	2	21.0	29.1
	low	1	8.1	

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

### 3.4 Roads Vested in the Shire of Beverley

When the MRD roads are excluded, the data for roads under the care, control and management of the Shire of Beverley is as follows:

Figure 3

Assessment of roads vested in the Shire of Beverley (1989)

CONSERVATION VALUE	LENGTH KM	% OF SURVEY BY LENGTH	NO OF ROADS WITH AT LEAST ONE SECTION HAVING THIS VALUE
High	72.8	12.9	11
Medium	445.7	78.7	52
Low	47.4	8.4	17
	565.9	100.0	

48km of Shire roads have not been surveyed. See Appendix 3.

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

Figure 4

## High Conservation Value Roads

ROAD	SECTION	CONSERVATION VALUE	LENGTH	WIDTH OF ROADSIDE	REMARKS
S34 Dale - Mawson Rd	from: Brookton Hwy to: end of reserve	n = 9 s = 9	1.5 km	?	Passes through West Dale townsite
	f: Dale Hall t: end of uncleared	n = 8 s = 11	3.3 km	1-5 m 1-5 m	Very good shrub flora
	f: Mandiakon Rd t: Mile Pool Gate	n = 11 s = 11	1.4 km	1-5 m 1-5 m	Very good sandplain shrubs
	f: 7.1km E of Mile Pool Gate t: 8.8km E of Mile Pool Gate	n = 9 s = 9	1.7 km	1-5 m 1-5 m	Good shrubs
5 Dale West Rd	f: 6km E of Dale Hall t: 11.7km E of Dale Hall	n = 9 s = 9	5.7 km	1-5 m 1-5 m	Passes through Dobaderry Swamp Nature Reserve
	f: 14km E of Dale Hall t: Forest boundary to N	n = 9 s = 9	3.7 km	1-5 m 1-5 m	Dale Forest to S for last 0.9 km
	f: Forest boundary t: Brookton Hwy	n = 10 s = 10	11.0 km	?	Passes through Dale Forest

ROAD	SECTION	CONSERVATION VALUE	LENGTH	WIDTH OF ROADSIDE	REMARKS
11 Kokendin Rd	f: Talbot Rd W t: end of formed road	n = 10 s = 10	16.8 km	1-5 m	Attractive wildflowers
20 Butchers Rd	f: Shire S boundary t: 0.7km NE of boundary	e = 10 w = 10	0.7 km	1-5 m 1-5 m	Dense sheoak scrub
21 Vallen- tines Rd	f: 3.7km W of York- Williams Rd t: 4.4km W of York- Williams Rd	n = 10 s = 11	0.7 km	1-5 m 1-5 m	Good shrub vegetation
24 Dale Bin Rd	f: Dale West Rd t: 1.7km S of Dale W	e = 9 w = 9	1.7 km	1-5 m 1-5 m	
28 Walgy Mt Rd	f: Walgy farm gate t: Northbourne Rd	n = 9 s = 8	1.9 km	1-5 m 1-5 m	Good tree and shrub flora
41 Southern Branch Rd	f: Great S Hwy t: Shire S boundary	n = 8 s = 9	5.0 km	1-5 m 1-5 m	
48 Jones Rd	f: Brookton Hwy t: End of road	e = 10 w = 10	3.8 km	1-5 m 1-5 m	

ROAD	SECTION	CONSERVATION VALUE	LENGTH	WIDTH OF ROADSIDE	REMARKS
102 Dobaderry Rd	f: Kokenden Rd t: End of cleared land	e = 10 w = 10	6.0 km	5-20 m 5-20 m	
	f: End of cleared land N t: Start of cleared land S	e = 10 w = 10	5.0 km	5-20 m 5-20 m	Passes through State Forest and Dobaderry Swamp NR
	f: Start of cleared land S t: Dale West Rd	e = 11 w = 11	2.0km	5-20 m 5-20 m	Good wildflowers on wide verges

#### 4. MAPPING

A 1:100,000 MRD 'State of Construction' map for the Shire of Beverley 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	=	orange
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

So far as is known no such areas have been designated within the Shire of Beverley.

#### 7. LANDSCAPE VALUE

##### 7.1 Map

A 1:100 000 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 will be useful for the design of tourist or scenic routes.

## 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 Salmon Gums with their bright shiny leaves and beautiful bark.

Trees take many years to reach full stature, especially Salmon Gums which are exceptionally slow growing, 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. It has been calculated that it takes about 150 years for a Salmon Gum or 100 years for a Wandoo to develop hollows, so the importance of mature trees to maintaining the bird population is very clear.

Figure 5 below is a list of "Tree Roads" as determined by the assessors. Usually, avenues only occur on short sections along these roads.

### Figure 5

#### Tree Roads in the Shire of Beverley (1989)

M3	Brookton Highway
M31	Great Southern Highway
S34	Dale-Mawson Road
1	Old Beverley Road
3	York-Williams Road
6	Bremmer Road
7	Lake Mears Road (nb. excellent Salmon Gums)
9	Bally Bally Road
10	Dale-Kokerby Road
16	Chulows Road
19	Qualandry Road
22	Luptons Road
23	Springhill Road
29	Beringar Road (nb. superb Salmon Gums)
40	Hobbs Road
41	Southern Branch Road
43	Dale-Kokerby Road
47	Carrs Road
49	Millers Road
50	Negus Road

8. CONSERVATION IN THE SHIRE OF BEVERLEY

A number of conservation reserves exist within the Shire of Beverley (see Figure 6) but there are also many areas of remnant vegetation on roadsides and private land which altogether form a conservation network.

Beverley Shire also falls within the boundaries of the Avon River Management Advisory Committee.

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.

Figure 6

Conservation reserves in the Shire of Beverley

NO	NAME	PURPOSE	AREA	VESTING
A833	Annandale Pool	Recreational, Trout Fishing and Conservation of Flora	43.4ha	Shire of Beverley
A3218	-	Protection of Flora	3.8ha	unvested
A16412	Yandinilling Nature Reserve	Conservation of Flora and Fauna	46ha	National Parks and Nature Conservation Authority
26897	-	Conservation of Flora and Fauna	16ha	unvested
33188 34442 37306	Dobaderry Swamp Nature Reserve	Conservation of Flora and Fauna	3809ha	National Parks and Nature Conservation Authority
SF13	Dale Forest	State Forest		Lands and Forests Commission

length of section \_\_\_\_\_

over 80% ☐ ☒ 2

Dominant species (If Known)

Dominant weeds (if known)

Hollow legs	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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## Other \_\_\_\_\_

## Type

### Reasons

### Reasons

						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**

Eleven roads have at least one section of high conservation value (see Figure 4 for detail). These sections occupy 72.8km of roadside and are 12.9% of the roads surveyed in the Shire.

The greatest length of these roads are in the west of the Shire passing through State Forest or Reserves.

Isolated sections of good vegetation occur along the western section of the Dale-Mawson Road and these are very valuable as they are in largely cleared areas and contain good shrub vegetation.

Another area of valuable roadsides occurs around Wyalgima Hill.

Southern Branch Road has good vegetation which would be very useful seed source if rehabilitation of the Beverley-Brookton Road was being considered.

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

#### **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)

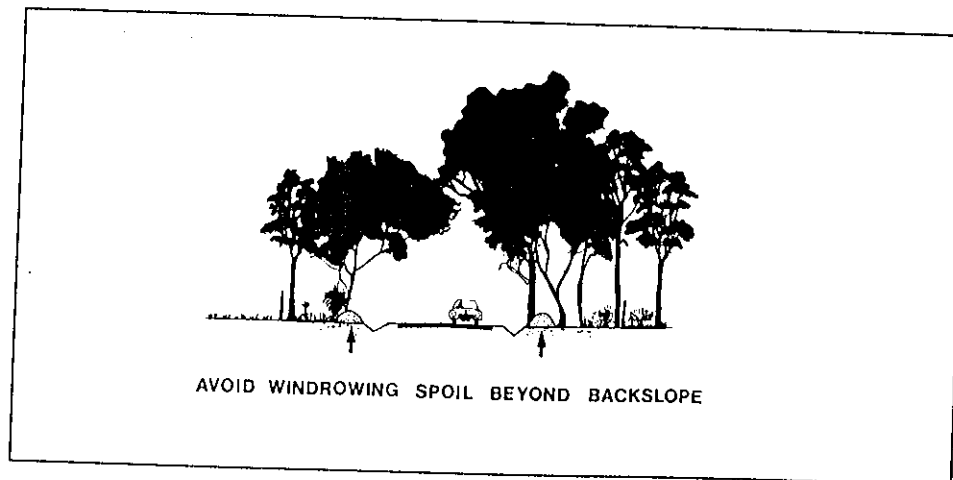
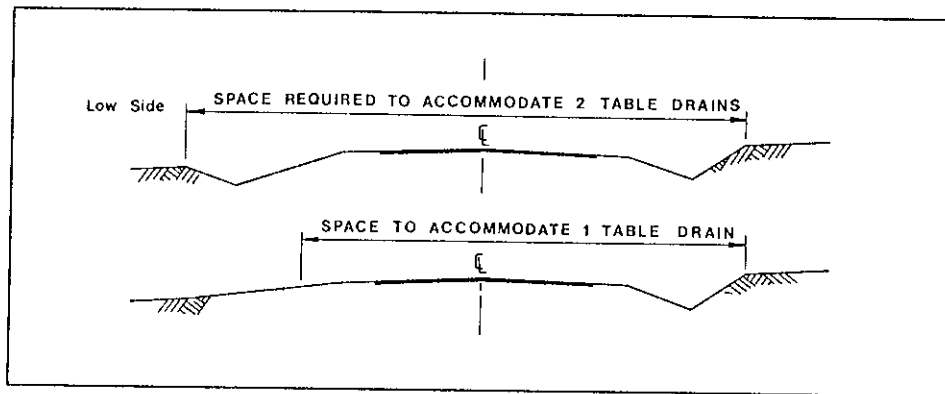
This can be done by:-

- . 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 if appropriate.
- . 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.

Construction of a table drain on the lower side of the road should be avoided.



2. **MEDIUM CONSERVATION VALUE ROADSIDES**  
**Score 5-8**

Most Shire roads fall in this category, 78.7% of those surveyed, with a length of 445.7km.

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.**

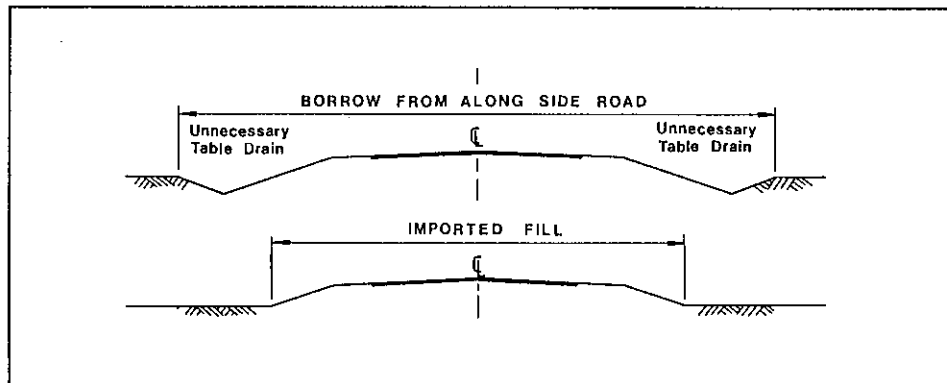
**Guidelines For Achieving This Goal**

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 reseedling/replanting local species.

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

Import fill for embankment to avoid side borrow from alongside the road.



Do not turn road machinery at locations where roadside flora is well conserved.



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.

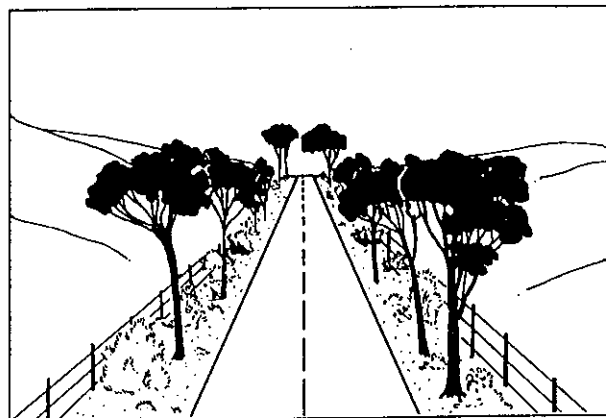
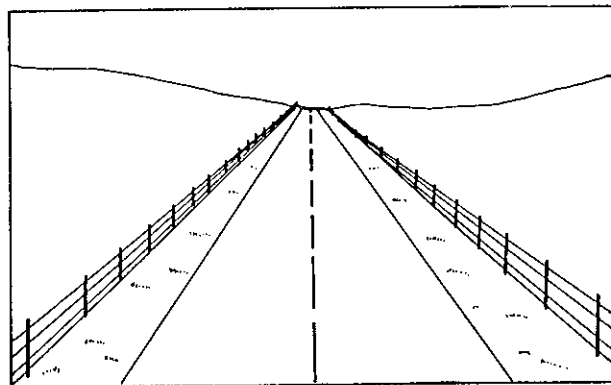
In some cases, the landholder has totally cleared the roadside when erecting a new fence, leaving only weeds or an occasional jam tree to regenerate.

**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.



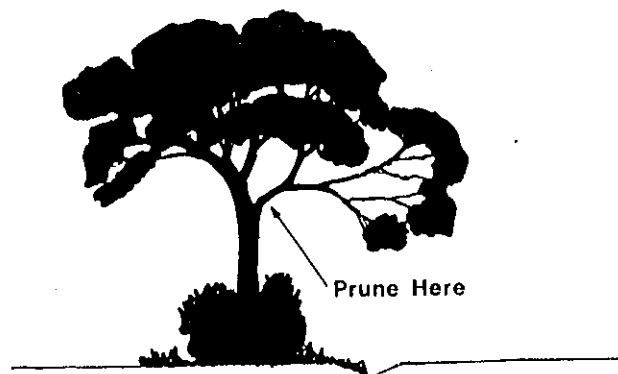
## MANAGEMENT OF "TREE ROADS"

Since mature trees are so slow growing and hard to replace, care should be taken to preserve these avenues wherever possible.

- . 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.
- . if using herbicide for grass control on the road shoulders, do not use a soil residual tupe, as Salmon Gums are especially sensitive to these.
- . encourage the adjoining landholder to plant tree belts on his property that will complement the roadside trees.



Prune offending branches rather than remove the whole tree. Cut branches off close to limb or tree trunk.



### APPENDIX 3

Roadsides which have not been assessed for conservation value are listed below

All except the first one are short, one way, farm access tracks.

#### Figure 7

Roads in the Shire of Beverley that have not been assessed for conservation value



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37	60	69	94
44	62	71	95
45	63	81	96
46	64	83	98
52	65	86	101
56	66	88	123
57	67	91	138
59	68	93	140

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# ROADSIDE CONSERVATION VALUE

## SHIRE OF BEVERLEY

high =   
medium =   
low = 