

# ROADSIDE VEGETATION INVENTORY OF CURRENT AUSTRALIAN RESEARCH

Compiled by Valerie Hobbs  
for the Roadside Vegetation  
Conservation Committee

MARCH 1987



Department of Conservation  
and Land Management

Roadside Vegetation  
Conservation Committee



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c/- P.O. Box 104 COMO W.A. 6152



Main Roads Department

## FOREWORD

In many areas of Western Australia, the remnant vegetation left along the road reserve is the last remaining example of the flora which used to exist in the area prior to agricultural clearing. Many rare and geographically restricted plants - once, perhaps, more widespread - are now confined solely or principally to road verges. In addition, roadsides provide a habitat for animals and are especially important as corridors linking patches of remnant vegetation.

Yet road reserves, being long narrow strips, are notoriously difficult to manage. They are frequently subject to disturbance, both from road making and also from the activities of the authorities that also use the road corridor. In addition, fertilisers, herbicides, weeds and sometimes soil, drift onto the verge from the adjoining paddocks.

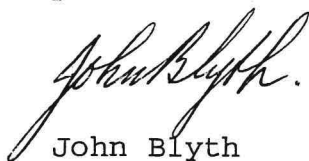
Because of the conservation value of roadside vegetation, the Roadside Vegetation Conservation Committee (RVCC) was formed in 1985. It is convened by the Department of Conservation and Land Management and funded jointly by that Department and the Main Roads Department.

Its aims are to co-ordinate and promote the conservation and effective management of rail and roadside vegetation for the benefit of the environment and the people of Western Australia.

Very early in the RVCC's deliberations, it became obvious that although a lot of research is being carried out concerning the management of small areas of native vegetation, much of the information so gained is scattered, and not easily available to the average road manager. Therefore, the Committee decided to fund a project which would collate as much as possible of the relevant research and present it in an easily accessible form.

Consequently, through CSIRO, Dr Valerie Hobbs was engaged and has produced the enclosed documents. Both are also available on a computer package written in dBase III Plus, copies of which are available from the RVCC.

The information in these documents is listed under keywords, and should be of great value not only to those concerned with roadside vegetation, but also to anyone who is faced with the problem of managing an isolated area of native vegetation.



John Blyth  
CHAIRMAN  
ROADSIDE VEGETATION CONSERVATION COMMITTEE

Department: Adelaide University  
Contact: Tim Wilson (PhD student)  
Geography Department, University of Adelaide  
Box 498, Adelaide SA 5001  
Subject: Dynamics of roadside vegetation  
Location: Kangaroo Island  
Summary: Dynamics of roadside vegetation, specifically looking at evidence of retrogressive succession along roadsides which adjoin cleared farmland.

Department: Adelaide University  
Contact: Leigh Radford (student)  
Geography Department, Adelaide University  
Box 498, Adelaide, SA 5001  
Subject: Roadside vegetation management  
Location: Northern Yorke Peninsula

Department: Adelaide University  
Contact: Dru Patkin (student)  
Geography Department, Adelaide University  
Box 498, Adelaide SA 5001  
Subject: Roadside vegetation as a corridor  
Location: South Australia  
Summary: Looking at the value of roadside vegetation as a corridor for native fauna.

Department: Australian Revegetation Corporation  
Contact: Steve Hill  
Australian Revegetation Corporation  
51 King Edward Road, Osborne Park, WA 6017

Subject: rehabilitation

Location: Australia and overseas

Summary: Incorporates Kimberley Seeds (seed supply, specialising in native, arid and saltland species); Australian Revegetation Machinery (seeding and seed processing equipment); Australian Revegetation and Environmental Consultants.

Department: CALM, Como

Contact: Alec Hart  
Department of CALM  
50 Hayman Road, Como, WA 6152.

Subject: direct seeding

Location: Wongan Hills, WA

Summary: Trials of direct seeding trees on Wongan Hills roadside.

Department: CALM, Como / RVCC

Contact: Tom Hill, Dr Joanna Tippett  
Department of CALM  
50 Hayman Road, Como, WA 6152

Subject: Treatment of isolated outbreaks of *Phytophthora cinnamomi*

Location: Roadside sites in Banksia woodland in the Gnangara area, WA

Summary: Since areas north of Perth are mostly dieback-free, treating spot infections as soon as possible may ensure control. Project will use three different treatments and monitor population levels of *P. cinnamomi* regularly.

Department: CALM, Narrogin Tree Research Centre  
Contact: Paul Brown  
Department of CALM, Narrogin Tree Research Centre  
10 Doney St, Narrogin, WA 6312  
Subject: Farm trees - problems of establishment and management  
Location: WA wheatbelt  
Summary: Revegetation techniques; direct seeding, weed control, sowing techniques and seed germination. Causes of wandoo decline. Demonstration project with Narrogin Main Roads Dept looking at roadside vegetation using direct seeding.

Department: CALM, Woodvale  
Contact: Dr Steve Hopper  
Department of CALM  
PO Box 51, Wanneroo, WA 6065  
Subject: geographical databases for rare flora, orchids and banksias  
Location: Western Australia  
Summary: Road verge data is included in the databases. The rare flora database is held on manual files; the orchid and banksia road verge information is computerised as part of the flora atlas project which has been running since 1980.

Department: CALM, Woodvale  
Contact: Judith Brown  
Department of CALM  
PO Box 51, Wanneroo, WA 6065  
Subject: vegetation monitoring along roadside verges  
Location: Kellerberrin area, WA  
Summary: Permanent plots are set up in the vicinity of sites recorded by Barry Muir in the Museum Wheatbelt Survey, and phenology is being recorded every month. Some photos of sites.

Department: CALM, Woodvale / RVCC  
Contact: Anne Taylor, Dr Steve Hopper  
Department of CALM,  
PO Box 51, Wanneroo, WA 6065  
Subject: Register of road reserves valuable for flora conservation  
Location: South-West Land Division, WA  
Summary: Project will use the network of 400 country-based volunteers who contributed to the Banksia Atlas, to prepare a register of road reserves valuable for flora conservation.

Department: CSIRO, Division of Plant Industry  
Contact: John Leigh  
CSIRO, Division of Plant Industry  
GPO Box 1600, Canberra, ACT 2601  
Subject: rare, endangered and extinct species  
Location: Australia  
Summary: Has information on endangered and extinct species occurring on roadsides (in "Extinct and Endangered Plants of Australia" 1984); also has some information on species confined to railsides.

Department: CSIRO, Division of Wildlife and Rangelands Research  
Contact: Dr Denis Saunders  
CSIRO, Division of Wildlife and Rangelands Research,  
LMB 4, PO Midland, WA 6056  
Subject: Use of road verges as a corridor by birds  
Location: Road verges between Durakoppin and Kodj Kojin reserves, Kellerberrin and Trayning Shires, WA.  
Summary: Project is examining which bird species use the road verge as a corridor and where they move to. Seasonal changes in distribution and abundance are also monitored. Project begun in September 1986, will run at least 2 years.

Department: CSIRO, Division of Wildlife and Rangelands Research

Contact: Dr Graham Arnold  
CSIRO, Division of Wildlife and Rangelands Research,  
LMB 4, PO Midland, WA 6056

Subject: Seasonal use of road verges by birds

Location: Kellerberrin and Trayning Shires, WA

Summary: This is a continuation of the RVCC study reported in Arnold, Algar & Hobbs (1986). 12 of the sites are being monitored to examine seasonal changes in the presence of different bird species. Begun in 1986, will continue at least two years.

Department: CSIRO, Division of Wildlife and Rangelands Research

Contact: Lyn Darlington, Dr Richard Hobbs  
CSIRO, Division of Wildlife and Rangelands Research  
LMB 4, PO Midland, WA 6056

Subject: Plant species distribution

Location: Kellerberrin and Trayning Shires, WA

Summary: Records of species distribution in the Kellerberrin area include notes on which species are found growing on roadsides.

Department: Community Consultative Committee on Chemicals

Contact: Naomi Arrowsmith, Department of Conservation & Environment  
Peter Rutherford, Department of Agriculture

Subject: use of herbicides on road verges

Location: Western Australia

Summary: Investigating whether herbicides used to control roadside weeds and in minimum tillage farming practices are damaging native road verge vegetation.

Department: Community Consultative Committee on Chemicals  
Contact: Wendy Alpers  
Subject: chemical spraying  
Location: Western Australia  
Summary: Investigation of what agencies spray chemicals on WA roadsides.

Department: Curtin University of Technology  
Contact: John van Shagen (Master's project)  
School of Biology, CUT, Hayman Road, Bentley, WA 6102  
Subject: The biology and ecological impact of bag shelter moths  
Location: Kellerberrin Shire, WA  
Summary: Investigating the impact of caterpillar herbivory on productivity, survival and nutrient relations of *Acacia acuminata* in the WA wheatbelt. Includes populations on roadsides. Until December 1988.

Department: Curtin University of Technology / RVCC  
Contact: Dr Byron Lamont  
School of Biology, CUT, Hayman Road, Bentley, WA 6102  
Subject: Conservation requirements of *Banksia cuneata* (gazetted rare)  
Location: Along the Quairading-Bruce Rock Road, WA  
Summary: *Banksia cuneata* is one of the rarest of *Banksias*. Aim to explore ways of increasing population size in this isolated stand by manipulating environment: possibly by fire, rabbit-proof fencing, weed control, ploughing, sowing & transplants



Department: Darling Downs Institute of Advanced Education  
Contact: Mike Russell  
School of Applied Science, Darling Downs Institute of  
Advanced Education, PO Darling Heights, Toowoomba, Qld 4350  
Subject: coal-mine spoil revegetation  
Location: Queensland  
Summary: Has been working for some years on coal-mine spoil  
revegetation - does not include road or railside vegetation,  
but some affinities with it.

Department: Department of Agriculture, NSW  
Contact: Dr Leon Smith  
Department of Agriculture,  
McKell Building, Sydney  
Subject: weed control  
Location: New South Wales  
Summary: Work on roadside weed control

Department: Department of Lands, Queensland  
Contact: The Alan Fletcher Research Station,  
Land Administration Commission, Department of Lands,  
27 Magazine Street, Sherwood, Queensland 4975  
Subject: weed control research  
Location: Queensland  
Summary: Weed control research (roadsides relevant as dispersal  
corridors to new areas); trials (by Qld Railways Vegetation  
Control Officer) to limit damage to non-target trees; trials  
on revegetation at Brisbane's new airport and freeways.

Department: Hydro-Electric Commission, Tasmania

Contact: Hydro-Electric Commission  
GPO Box 355D, Hobart, Tasmania

Subject: Road verge construction and rehabilitation

Location: Tasmania

Summary: Work covers rehabilitation; disturbance minimisation; soil conservation; environmental management planning; native seed collection, extraction and sowing; fertiliser application and seedling propagation and planting. No publications.

Department: Kings Park & Botanic Garden

Contact: Dr Kingsley Dixon, Dr Bob Dixon  
Kings Park & Botanic Garden  
West Perth, WA 6005

Subject: veldt grass control using herbicides

Location: Kings Park, Perth

Summary: Trials using mainly Fusilade to control veldt grass: effects on native flora monitored. Combinations of herbicide/fire treatments used.

Department: LaTrobe University

Contact: Dr RF Parsons  
School of Botany, LaTrobe University,  
Bundoora, Victoria 3083

Subject: native flora preservation and management

Location: Victoria

Department: Main Roads Department, Albany  
Contact: Brett Loney  
Main Roads Department  
Waterloo Crescent, East Perth, WA 6001  
Subject: herbicide trials  
Location: WA  
Summary: Herbicide trials using Fusilade, Oust and glyphosate for road verge weed control.

Department: Monash University  
Contact: Dr Peter Gell  
Department of Geography, Monash University  
Clayton, Victoria 3168  
Subject: reserve and roadside conservation  
Location: Victoria  
Summary: Interested in reserve and roadside conservation, including biogeographic aspects. Has student projects from time to time.

Department: Monash University  
Contact: Graduate School of Environmental Science  
Monash University  
Clayton, Victoria 3168  
Subject: environmental reports, etc  
Location: Victoria  
Summary: Often has students involved in aspects of roadside vegetation or conservation.

Department: Mulga Research Centre  
Contact: Dr John Fox  
School of Biology, Curtin University of Technology  
Hayman Road, Bentley, WA 6102  
Subject: environmental assessment along highway routes  
Location: Pilbara  
Summary: 5-year monitoring programme to 1992 along the Pilbara  
National Highway route is in progress; other work for Main  
Roads Department.

Department: Road Construction Authority, Victoria  
Contact: Peter Forstner (Horticultural Officer)  
Road Construction Authority,  
60 Denmark Street, Kew, Victoria 3101  
Subject: revegetation techniques on construction sites  
Location: Victoria  
Summary: Revegetation of construction sites, including weed control,  
erosion control, ground preparation, fertilisers, mulches,  
species selection and planting techniques.

Department: Road Construction Authority, Victoria  
Contact: AJ McGalliard  
Road Construction Authority, Road Design Division  
60 Denmark Street, Kew, Victoria 3101  
Subject: direct seeding of native woody species  
Location: Victoria  
Summary: Trials on direct seeding of native woody species commenced  
in 1984 but have not been monitored yet.  
Also research into the effects of trees on pavements in  
expansive clay soils.

Department: Roadside Vegetation Committee  
Contact: D Palmer  
c/o RVC, Department of Environment and Planning  
GPO Box 667, Adelaide, South Australia 5001  
Subject: Roadside vegetation mapping study  
Location: South Australia  
Summary: Roadside vegetation throughout the agricultural regions of SA is being mapped through a combination of field surveys and aerial photograph analysis. Report should be available in early 1987.

Department: Royal Melbourne Institute of Technology  
Contact: Andrew Paget (Master's project)  
Landscape Architecture, RMIT  
GPO Box 2476V, Melbourne, Victoria 3001  
Subject: Indigenous flora conservation  
Location: Victoria  
Summary: Experimental manipulation of vegetation for conservation of indigenous flora; including management of remnants of vegetation and species re-introductions.

Department: Scott & Furphy Engineers, Tasmania  
Contact: Jerry deGryse  
Scott & Furphy Engineers Pty Ltd  
GPO Box 94A. Hobart, Tasmania 7001  
Subject: landscape architecture  
Location: Tasmania  
Summary: At present working on guidelines for upgrading access road into Cradle Mountain National Park. Try to preserve local flora.

Department: University of Melbourne  
Contact: Andrew Bennett  
now: Department of Conservation, Forests and Lands  
Arthur Rylah Institute, PO Box 137, Heidelberg, Victoria 3084  
Subject: biogeography of mammals within a fragmented forest habitat  
Location: south-west Victoria  
Summary: Research towards PhD (completing 1987); includes survey of mammals in roadside vegetation, study of ecology of small mammals in remnants of forested road verge, and some observations of birds in remnant roadside vegetation.

Department: University of Melbourne  
Contact: Maxine Cooper (PhD student)  
School of Environmental Planning, University of Melbourne,  
Melbourne, Victoria  
Subject: vegetation of roadsides as an environmental indicator  
Location: Victoria

Department: University of New England  
Contact: Dr JMB Smith  
Department of Geography and Planning,  
University of New England, Armidale, NSW 2351.  
Subject: alien woody flora along roadsides  
Location: New South Wales  
Summary: Distribution of alien tree and shrub species along roadsides as related to seed dispersal and climate. Aesthetic and economic importance.