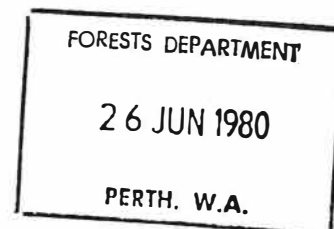


ROAD VERGE FLORA CONSERVATION IN WESTERN AUSTRALIA

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At the invitation of the Premier, the Conservator of Forests set up the Road Verge Conservation Committee in 1969, to investigate and report to Government on the condition of flora on road verges of Western Australia. A report was accepted by Government 12 months later, together with its 11 (eleven) recommendations. However, the Committee was to find that acceptance of a report, and implementation of its recommendations are not always the same thing.

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membership of the R.V.C.C. may be of interest in two ways. Not only are the authorities most involved with treatment of verges well represented, but they are generally represented at a senior level:

Forests Department	- Conservator of Forests and Secretariat
Fisheries and Wildlife	- Director
Lands Department (Bush Fires Board)	- Under Secretary (Chairman)
Department of Local Government	- Pres. of Local Government Association
Agriculture Protection Board	- Chief Officer
Soil Conservation Service	- Commissioner
Main Roads Department	- Construction and Maintenance Engineer
W.A. Herbarium	- Botanist

CORRESPONDING MEMBERS:

State Energy Commission
Telecom Australia

In addition many conservation bodies are indirectly represented due to other interests of members.

PHILOSOPHY

The R.V.C.C. recognised in 1969 that conditions on road verges in Western Australia vary widely, from those that are corridors of our famous wildflowers to those that are little more than a collection of litter, weeds and erosion. Concern with the full range of these conditions is reflected in the recommendations that are appended.

There are many factors that operate singly or collectively in affecting the flora on road verges:

- * verge width
- * mechanical disturbance
- * feral animals (especially rabbits)

- invasion
- chemical drift (fertilizer, herbicide)
- * drainage
- * wind, rain and sunshine
- * fire

The historical combination of these factors is the reason for present verge conditions. It follows therefore, that manipulation of some of these same factors offers the "best bet" for verge rehabilitation.

TECHNIQUES

The Western Australian Main Roads Department has developed a number of techniques in construction and re-construction of roads which favour the road verge flora.

Although the application of these techniques varies, the essential concept is the stockpiling and re-spreading of top soil which retains organic matter, seed and living roots of the native flora.

These techniques have been communicated to all other road building agencies in the State and have resulted in a marked improvement in the results of new road construction in much of Western Australia.

The terraced cutting technique has also been highly effective in many situations, as will be seen in the slides that follow.

ASSESSING THE PROBLEM

Western Australia is a big state, and has a commensurately big total of road lengths:

13 000 kilometres of Main Roads and Important Secondary Roads	
25 000	" " Forest Roads
110 000	" " Developmental Roads (Constructed by local authorities)
148 000	Total

tee, in considering this statistic, decided to turn its attention

- * main routes between centres of population.
- * areas of known importance to the tourist industry.

In effect, attention has been concentrated on Main Roads in more densely populated south-west of the state. Even within this area, it was agreed that there was no urgent need to examine much of the road system where it passes through National Parks, Wildlife Reserves or State Forests.

RESEARCH

Among the R.V.C.C. recommendations were the following:

4. A specialist committee consisting of a highway engineer, a botanist and a forester should be constituted to select and recommend suitable sites for these (roadside) flora areas.

10. That a research programme be implemented to investigate:

- a) the effects of season, periodicity and type of burn on native flora.
- b) the long term re-establishment of native flora on degraded road verges.
- c) the tolerance level of native species to herbicide sprays in general use.

The sub-committee has been in existence for some years, but due to pressure of other work, has made only moderate progress. It has however, performed a valuable role in the investigation of specific verge enquiries.

However, in February 1980, ten years after submission of the initial report, a graduate botanist was appointed for six months, but with a strong possibility of extending this period. His first task has been the development of a descriptive classification system for verge flora conditions.

This work has several objectives including the following:

- * Simple classification that can be used by local government authorities, and by volunteer groups, mainly conservation bodies, to apply over many of the important tourist roads.

The establishment of parameters relating verge flora condition to the history and external factors along the road reserve.

- * Evaluation of the impact of exotic plants on the verge.

CONCLUSIONS

The R.V.C.C. has existed for more than 10 years and although it is purely advisory committee, the following achievements can be claimed:

- 1) Of the 11 (eleven) recommendations numbers 1, 4, 5, 6, 7, 8, 9 and 11 have been almost completely implemented.
- 2) Recommendations 2 and 3 and 10 are being actively pursued.
- 3) The majority of agencies whose activities impinge on road verges have significantly changed their approach and techniques.
- 4) The burning of road verges by adjoining farmers has significantly decreased.
- 5) Complaints about road verge flora have markedly decreased.

This is not meant to infer that roadside flora problems have been eliminated. Far from it! But progress has been and still is being made. All of the organisations likely to influence flora on roadsides have become more conscious of the importance of road verges, and most have modified their methods in favour of the flora.

R.V.C.C. REPORT 1970

General criticism of the devastation of flora on road verges appears to have overlooked the fact that on the majority of road verges attractive displays of wildflowers occur in season. Other criticisms may be due to the reduced visual appreciation while travelling at speed over modern highways and to the loss of "view in depth" beyond the confines of the reserve itself brought about by the clearing of adjoining alienated land. There is also evidence that wildflowers are still being heavily picked on rural road verges.

The major problem exists in the older settled areas of the State where narrow riad reserves, mainly one chain in width, were provided initially to cope with "horse and buggy" transport. The subsequent use of these narrow strips for the purpose of public utilities such as telecommunications, power and water, and the improvement of road surfaces to cope with the speed and the increase demand for travel, have in many cases left verges only a few feet in width.

Any action such as road clearing which disturbs the natural habitat leads to a change in microclimate and the steady deterioration of the site, and this is accentuated and accelerated when extensive clearing operations are undertaken on adjoining properties. Many local species are unable to withstand these harsher conditions and their declining vigour results in their eventual disappearance from the site.

A road reserve width of three to five chains appears to be the minimum necessary to accommodate both road construction and a verge wide enough to maintain the natural habitat for an extended period.

Overburning of the road verges in itself has a detrimental effect in that it tends to suppress natural vegetation and encourages invasion by annual grasses and weeds, which themselves induce a vicious cycle of annual burning for protective reasons. The indiscriminate use of herbicide sprays for various purposes on road verges has also caused some damage to roadside flora.

There are some 110,000 km of rural road reserves throughout the State which at present are the responsibility of the local shire councils. Approximately 13,000 km are classified as Main Roads on which the Main Roads Department's control is limited to the road itself with the balance remaining under the control of the local authority. Improved treatment of road verges along these main roads could be extended if the whole reserve were placed under the control of the Main Roads Department.

RECOMMENDATIONS

1. The Lands Department policy of creating three to ten chain (60 to 100 metre) reserves in new areas should be continued.
2. Where wider reserves place an added burden on either individual farmers or the local authority in relation to vermin, noxious weed or fire control, Government assistance should be considered.