WEEDS AND ROADSIDES

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Abstract  By nature road corridors are a primary vector for weeds. Some of their unique characteristics include the ribbon shape of road surfaces which create steep cut and fill batters which are ideal weed beds, and extensive bare ground resulting from drain cleaning and other maintenance activities, which offers the weeds a free range and no other plant competition.

Public roads are usually corridors for a number of services, and this makes it difficult to assign overall responsibility for controls including weed control. In addition, travelling vehicles commonly transport a range of weedy materials, in many different ways ranging from mud on tyres to air suction currents, and these frequently end up being dumped in the road corridor.

Being very long and thin, roadways are also ideal for introducing weeds into the wider countryside, from where they can spread onto farms and other lands.

But the news is not all bad.

As well as programs to recognise the positive values of roadside vegetation and minimise the impact of weeds, there are conscious moves in Tasmania and elsewhere, to establish cooperative, inter-agency liaison and road corridor management initiatives.

There are also some innovative community programs which potentially have very positive effects for road corridor weed control, including ‘Adopt a Highway’ and ‘Clean up Australia’. By viewing weeds as a form of rubbish it is possible for local people to use these programs to regularly clean up the weeds, which can then be positively recycled through the new megacomposting enterprises of many local Councils.

INTRODUCTION

The major problems associated with road corridors, which lead to weediness are, weed-promoting characteristics inherent in the structure of a road, shared road management responsibilities which are not adequately coordinated, the shape and nature of road reserves and the activities which occur in them.

But the news is not all bad.

A PRIMARY VECTOR FOR WEEDS

A number of different characteristics of road corridors make them an agent for the transport and establishment of weeds. These include:

Unique characteristics of the road structure:

• Road pavements are very precise, flat curving ribbons of hard material which must cross every kind of terrain, hilly, flat, marshy, sandy, rivers, rocky cliffs and mountains.

To accommodate these variations the pavement must be supported in different locations with rock or soil fillings, bridges, solid fill batters and the like. Many of these land-disturbing structures involve steep areas of open soil, often this is poor subsoil. Difficult in profile, low in nutrient and generally without plant competition these areas have a special potential to support weed growth.

• Because of usual road maintenance activities, table drains and roadside cuttings in road corridors often have bare ground which has been scraped or sprayed clear of any vegetation. Such attempts to clear weeds are usually unproductive in the long term because they create a seed bed which is free from plant competition and encourages the re-establishment of weeds from any seed or other propagule which may fall.

• The limitations of surveying ensure that reservations are always straight-edged, but because vehicles have round wheels, and even walkers have a rolling gait, the road itself is always a curved flowing shape. This often results in left-over corners and unattended verges which function as weed traps in which hardy foreign colonisers can flourish and set seed.

Coincidentally, such areas also often act as a refuge for native plant material which is itself like many weeds and can survive in harsh, neglected environments.

(It is an interesting aside to consider our strong subconscious tendency to consider anything that inhabits a roadside waste place, to be a weed. For this reason
some common native roadside colonisers such as saggs and silver wattles, are often dubbed weeds even though they cause no nuisance, rather reduce maintenance and contribute environmental and scenic benefit to road corridors).

Shared management responsibilities:

Traditionally road reserves have tended to be managed in a relatively benign and casual way and although they are usually owned by the Crown, many people seem to feel a sense of ownership for them. Following are some of the groups who take interest:

- Property frontages onto roads are often maintained in one way or another by the owners, especially if these are farmers or householders
- Many agencies have responsibilities for utility services, pavement maintenance and the like within the corridor. These include:
  - Telstra
  - Aurora Energy
  - Local Councils
    - water and waste pipes
    - road pavements
    - road safety
  - Transport Division
    - road pavements
    - road safety
    - road maintenance contractors
    - Adopt a Highway volunteers
    - rest areas for motorists
    - protection of natural areas
- Tourism agencies feel an interest in the scenic and cultural features and general presentation of road corridors, as do motoring organisations such as the RACT, and even professional architects, archaeologists, etc.
- Community groups and government agencies, which are interested in the conservation of biodiversity also feel an ownership of road corridors because of their special potential as nature corridors with environmental values.

The lack of clarity regarding ownership tends to result in confused management of roadsides. As in the case of tourism authorities trying to preserve trees and power distributors trying to remove them, the aims of one interest group may conflict with those of another. Unfortunately this too often leads to confusion, resulting in one group negating the intentions of another.

Unfortunately one of the negative results may be promotion of excessive weediness.

Features and Activities in the Road Reservation

- By nature road reservations are very long and narrow, a shape recognised as most difficult for the management of vegetation and any natural values.
- One reason for the difficulty is the length of edges which are exposed to degrading pressures. In road reservations the ratio of edge to middle is extremely large, and this means that the roadside is extraordinarily vulnerable to weed attack and other pressures. If the road corridor is defined or perceived to include not only the reservation but all the land which the road effects then its vulnerability is lessened because the adjacent land can be considered and managed to buffer the effects of the road itself.
- The moving traffic itself is a major weed distributor because speeding vehicles pick up seeds and other material in the air suction currents which they create, and drop them further down the road. Vehicles can also collect propagules on muddy tires and elsewhere. Later the collected material is dumped, thus creating a seed reservoir from which further infestations can develop. Work vehicles engaged in maintenance of pavements, drains and vegetation can be major offenders in this regard and need to be regularly cleaned, especially when moving from one area to another.
- Because they traverse so much land, roads spread weedy material over an extensive frontage. Once established in the roadside, weeds can easily disperse into adjacent farmland and also infest waterways and bushland.

THE NEWS IS NOT ALL BAD

Although the situation is inherently vulnerable, a number of programs now under way in Tasmania are leading to positive improvements in the weed
situation on roadsides. Some of the most promising initiatives are as follows:

**Awareness Raising for Road Designers** Redesigning the physical settings of roads would be one of the most productive ways to improve the weed situation in most road corridors.

Although in most situations redesign and reconstruction are not possible, it is still prudent to raise the awareness of the road designers, to ensure that all future designs minimise the number of weed opportunities.

In Tasmania this is being undertaken through training for road engineers in a range of courses and field days. Accredited training is being offered by Greening Australia (Tasmania), and other professional development activities are part of the Environmental Management Systems being adopted by the Transport Division, Aurora Energy, Forestry Tasmania and other agencies.

**Weed Recognition Programs** Coordinated weed recognition and mapping programs being promoted by the Department of Primary Industries, Water and Environment are helping to raise awareness of weeds.

There are also other groups such as the Understorey Network and Greening Australia, which offer native plant identification activities, and these can be coupled with promotions such as Weed Buster Week to complete the picture.

Together the various general initiatives to get agencies and community groups working together in a cooperative way have produced many positive spin-offs for all, including those agencies with road corridor responsibilities.

The road operatives are not only learning to differentiate between weeds and other plants, but they are also learning new and effective weed control techniques.

**Cooperative Inter-Agency Liaison and Management**

The recently established Tasmanian Road Corridor Vegetation Management Panel has representation from all the key agencies with responsibilities in Tasmanian roadsides.

Through its work there is improved liaison and a measure of peer review, which together are effective in encouraging the agencies to make positive responses at a policy level.

**Community Clean-Up Programs** By viewing roadside weeds as a kind of rubbish, community initiatives such as Adopt-a-Highway and Clean Up Australia have displayed great potential to contribute to weed control.

The key to success in these groups is to plan activities well in advance of the community days, and to ensure that the participants have a full appreciation of the intricacies of effective weed control.

There needs to be an appreciation that weed removal must be followed by replacement with a desirable plant species, and this is where organisations such as Greening Australia and Landcare can make positive contributions.

**Mega-Composting** Once collected, roadside vegetation waste is renowned for being weedy. Any collected spoil from drain cleaning and regrading cannot be reused, and windrowed spoil at the sides of roads, is a major harbour for weed regrowth.

Initiatives recently adopted by a number of local Councils involve collection and composting of waste vegetative material on a mega scale. Spoil could also be included.

The heat of the composting process destroys any weed seed or vegetative material, rubbish is used up, and the resultant fertile soil can then be used for revegetation and many other positive projects.

**CONCLUSION**

Many positive initiatives are leading to improvements for weed control in Tasmanian road corridors.

These include greater awareness of weed issues on the part of road designers, maintenance operatives and the community, programs to improve weed recognition and management skills, cooperative management approaches between the responsible government agencies, and a range of popular community clean-up initiatives.