

The Australian Partnership Approach to Protecting Roadside Habitats

Max Gilbert

Chairman, Roadside Conservation Advisory Committee

Melbourne, Victoria, Australia

Many roadsides throughout Australia are important for their biodiversity. They form part of the natural habitat for much of the Australian fauna, in some cases being the only natural habitat remaining, and in other cases forming important corridors linking larger isolated areas of natural vegetation.

The uniqueness of the biodiversity value of the roadsides in Australia is more a product of good luck, rather than sensitive planning. Since settlement, large scale clearing of native vegetation for agriculture, forestry, industry and urbanization has left native vegetation fragmented into many remnants. However much roadside vegetation during this period has often been left relatively untouched. This can partly be attributed to the width of the road reserves, usually a minimum of 20 metres (66 feet) and often 60 metres (198 feet) wide, allowing the various services to be placed in the reserve without removal of all the vegetation.

The State Government of Victoria, recently in launching "Victoria's Biodiversity Strategy" recognizes the importance of roadside biodiversity values, and the Strategy strongly advocates the protection of roadside vegetation and habitats.

Victoria has a diverse range of ecosystems with accompanying native vegetation regimes including:

- Alpine
- Grasslands
- Heath Lands
- Mallee
- Dry Forests and Woodlands
- Wet Forests and Rain Forests
- Wetlands
- Coastal

Although each of these ecosystems is generally expected to be found only in parks, forests and undeveloped land, throughout Victoria, many roadsides within the framework of the developed private land contain the same native vegetation regimes and habitats.

It is essential then, that as further development occurs increasing demands on our road reserves for the provision of improved and additional services, that in providing and maintaining the services on the road reserve, we do not lose this valuable natural resource.

Community Awareness

Sadly, it has only been over the last 8 to 10 years, that the community and other users of road reserves, such as utility service providers, i.e. electricity, gas, water, telecommunications; road constructing authorities; farmers, etc. have begun to appreciate the value of the natural resource.

Unnecessary destruction of the roadside vegetation still occurs today. However, the growing environmental awareness by the community, the introduction of legislation to control the removal of native vegetation, and the adoption of biodiversity and other strategies at State and Regional levels, is placing pressure on the various authorities and services providers using road reserves to protect the roadside vegetation and habitat along these linear reserves.

Up until six years ago the Roadside Conservation Committee spent most of its time in an educative role promoting the value of the roadside native vegetation in an endeavor to create greater awareness and reduce losses along roadsides. Now the Committee is actively involved in assisting the various agencies, authorities and other interest groups in preparing management strategies and operational guidelines to protect the biodiversity of the roadsides. This reflects a welcoming shift in attitude from one of ignorance and unnecessary destruction to one of enlightenment and acceptance of responsibility to respond accordingly.

Roadside Conservation Committee of Victoria

The Roadside Conservation Committee of Victoria has been at the forefront of achievements in promoting the conservation value of roadside, and in protecting the native vegetation and wildlife habitats along road reserves.

The Committee commenced in 1975 when many individuals representing government, agency and community groups were concerned at the senseless destruction and loss of habitat along the road reserves. The Committee initially comprised twenty-six representatives from a wide range of interest groups ranging from the Bird Observers Club of Australia to the Country Fire Authority, Department of Conservation Forests & Lands, Vic Roads (State Road Authority), Farmers Federation, Local Government Engineers, etc.

The large representation from diverse groups established the framework for the successful work to follow years later. The twenty six-member group representing a large section of the community, formed a partnership approach with a common focus to protect the native vegetation and habitats along roadsides.

This "partnership" approach is now successfully used in the preparation of community based Roadside Management Plans. The Plans draw upon the principals of Best Practice to be adopted by the various interest groups using road reserves to minimize the negative impact of their operations on the roadside native vegetation and habitats.

The process of producing the Plans is a partnership process bringing together all the various agencies, interest groups, authorities, etc. who have an interest in road reserves. They actively participate in the formulation of policies, strategies, guidelines and action plans that form the Roadside Management Plan for the protection of roadside biodiversity.

The Roadside Conservation Committee membership was reduced to twelve key players when it received formal status from the State Government and became a Ministerial Advisory Committee in 1995.

The role of the Roadside Conservation Advisory Committee is to:

- Consult:
with community groups, government agencies and organizations involved in roadside works or planning.
- Provide:
advice to government on issues associated with linear reserve development.

- **Generate:**
discussion and projects within Local and State Government organizations on appropriate management practices for linear reserves.
- **Promote:**
community awareness and understanding of the management of linear reserves.
- **Foster:**
coordination and cooperation between organizations in the management of linear reserves.

Community Based Roadside Management Plans

Authority Over Road Reserves

When you consider the many demands placed on a road reserve, it is a wonder that any native vegetation is left on the roadsides. With the various agencies having the potential to destroy habitat vegetation through road construction, provision of storm water drains, provision of utility services such as electricity, communications, water and gas; fire hazard reduction works, grazing, etc, it appears a dauntless task to protect any vegetation at all.

However, though each agency is responsible for its own actions, barring there being any specific legislation to remove the authority, Local Government Authorities have responsibility for the care and management of all road reserves in Victoria. That is except for freeways and state highways that are controlled by the State Road Authority (Vic Roads), and unused road reserves controlled by the State Department of Conservation & Natural Resources. That is, Local Government has control over more than 95% of road reserves in the State.

First Comprehensive Local Government Roadside Management Plan

The Gisborne Shire (now Macedon Ranges Shire), located 50 kilometers north-west of metropolitan Melbourne, had over a number of years, in response to local community demands, adopted environmentally sensitive practices to minimize vegetation destruction. This reflected in many areas of the Shires operations, but in particular in the way it had initiated many sensitive work practices in road construction and maintenance, and the coordination of other roadside works, to minimize negative impact on the roadside native vegetation. However, none of the roadside practices had been documented.

In 1991, the Gisborne Shire, working with the Roadside Conservation Committee, produced the first comprehensive Roadside Management Plan, incorporating the good practices already in place and extending the same principles to cover many other issues that could potentially affect roadside vegetation. The Plan enables potentially competing uses of the roadside to co-exist through a coordinated approach and limits the unnecessary removal and destruction of habitat vegetation through adopting best management practices.

The success of the Plan was dependent upon ownership and adoption by all key stakeholders. To achieve this a Working Party was established with representation from all key players including local community representation from environmental groups, farmers, Town Planners, utility service providers, Road Constructing Authority, Country Fire Authority, Council, etc. The preparation of the plan was coordinated through the Council and an appointed Facilitator.

The preparation of the plan involved three stages:

Stage 1: Assessment of the value of the roadside vegetation along each of the roads

These were assessed through a process developed by the Roadside Conservation Committee and categorized all roads within the municipality as having either a high, medium or low conservation value. The local Macedon Ranges Conservation Group

carried out the assessments. This ensured the local environmental group was an active part of the process.

Stage 2: Identification of the local issues and the development of Policies, Strategies and Guidelines addressing the identified issues. Preparation of Site Specific Plans.

Some 31 issues that could impact on the roadside vegetation and habitat values were identified. These were grouped under four generic headings:

- *Functional*
Firewood collection and timber harvesting
Fire prevention
Installation and maintenance of services
Road construction and road widening
Road maintenance
Stockpile and dump site management
Vegetation removal
Vehicle and machinery activity
Water supply catchments
- *Cultural and Recreational*
Cultural and heritage values
Horse riding
Visual amenity and landscape values
Way side stops
- *Land Care*
Apiculture
Cropping and hay making
Raising insect pests
Moving livestock
Pest animals
Ploughing, cultivating, grading
Revegetation and site rehabilitation
Weeds
- *Conservation*
Native grasslands and grassy woodlands
Protecting and conserving remnant indigenous vegetation
Rare, threatened or significant flora and fauna
Regeneration of native plant communities
Roadside marking of special environmental areas
Unused road reserves
Wetlands
Wildlife habitat
Wildlife corridors

Each of these were examined in detail and after much debate, site visits and 'trade-offs', strategies and operational guidelines were produced for each issue.

Site specific plans were prepared where potential conflicting issue arose which required a more specific resolution than that given by the general policies, strategies and guidelines.

Stage 3: Adoption by the Council as a formal policy.

The authority of the Roadside Management Plan comes from the adoption of the Plan as policy by the Local Shire Council. The Gisborne Shire Council adopted the Plan.

Stage 4: Implementation of the Plan.

Methods of implementation are dealt with later in the paper.

Partnership Process

It is as much the process of preparing the plans that leads to a successful outcome, as the actual strategies and guidelines produced.

All parties have ownership of the final document, and representatives with diverse and opposing positions to others gain a broader understanding and tolerance of each others position on issues.

A partnership approach with involvement of all parties is rewarding in the end, but can require delicate facilitation when conflicting issues give rise to suspicion and aggression between different interest groups. For example, the local fire brigades viewed the preparation of the Management Plan as a push by the "greenies" to reduce the extent of fire prevention works of slashing on roadsides carried out by the Council each year. (Gisborne Shire has been subject to a number of bushfires and is in a high fire risk area. Each year considerable resources are spent to reduce the fuel load such as litter, grass, etc. on roadsides that the local fire brigades determine to be strategic for the suppression of a fire outbreak).

Often care with language used by the facilitator was required to keep the group focused. The use of an emotive word can get some of the groups off side. For example, the use of the word "conservation" is interpreted by some interest groups as "do nothing at all on the roadsides". A better approach is to use the phrase "managing a natural resource" which does not quite have the same emotive connotation.

It is pleasing to report that since the preparation of this first community based Local Government Roadside Management Plan in the Gisborne Shire in 1991, it has been used as a model for the preparation of many others throughout country Victoria. Victoria has 78 Local Government authorities of which over 50 are country Shires. Nearly all the country Shires are currently in the process, or have completed, a Roadside Management Plan.

Regional Roadside Management Plans covering a number of the Shires within the same water catchment are also now being produced. This reflects the recognition of the importance of maintaining the biodiversity of roadsides, not only for the purposes of habitat, but also for the purity of rainfall runoff that eventually ends up in the drinking water systems.

Implementation

The Roadside Management Plan, left sitting on the bookshelf, even if accepted by all parties involved, is of no use unless it is being implemented.

The message must get through to the practitioners in the field; the people who in ignorance can destroy large tracts of habitat vegetation with one careless action. Implementation often involves changes in behavior and the 'way things are done' to achieve the results on the ground.

The Roadside Conservation Committee actively promotes techniques that greatly add to the likelihood of the success of a Plan. The following details some of these.

A. Training

The Roadside Conservation Committee has developed and runs roadside training courses for plant and equipment operators (road contractors, maintenance crews, electrical power line clearance tree cutting crews, etc.), professional staff, engineers, planners and other utility provider staff. The training programs are one or two day courses and develops recognition and understanding of roadside values and highlights best work practices to minimize adverse impact on vegetation and habitats. The training program ensures local issues and environments are dealt with, and includes identification of local vegetation species, and visits to high conservation remnants, current projects and works.

The Roadside Conservation Committee has provided training to many Local Governments in both Victoria and New South Wales (a neighboring State).

The training programs have been very successful with observed changes in work practices and the participants having a greater ownership of the natural vegetation as a valuable resource.

B. Contract Documentation

Local Government in Victoria is 'contracting out' more of its

work. Under legislation a minimum of 50% of all expenditures must be competitively tendered. This has meant that contractors now perform much work previously carried out 'in-house'.

To ensure that roadside vegetation is protected, Shires now include Roadside Management Plans as part of the contract documentation in any contract involving road reserves.

C. Community Workshops / Seminars

Recently the Roadside Conservation Committee successfully ran a series of roadside management planning awareness seminars in the western part of Victoria. Held in conjunction with regional Catchment Management Authorities, the one day seminars aimed to take participants through the maze of roadside planning issues and provide an opportunity for people and organizations involved in roadside management and conservation to forge better communication links. The seminars included field trips.

The seminars were well attended signifying the growing awareness by different groups of people to the need for better management of our roadside biodiversity.

D. Roadside Marking of Special Environmental Areas

There are Special Environmental sites along roads which are significant and which require extra care when road construction, maintenance or work by service authorities is undertaken.

These areas may be special because they have:

- Scientific, historic or conservation value
- Remnant vegetation not common in the district
- Regenerating native plants necessary for the conservation of roadside conservation
- Native grasses and wild flower areas that might be overlooked because there are no shrubs or trees
- Rare or endangered plants
- Unusual geological formations.

Special sites may not be obvious to road workers so they need to be marked with signs. To help prevent damage, the Roadside Conservation Committee promotes the use of two roadside signs: one identifying "significant roadside areas" and the second, an "environmental marker".

The 'Significant Roadside Area' sign is located close to the road and has been designed to alert travelers, roadside workers and local people to the value of roadsides. It shows that a particular roadside is special in some way and should be treated with respect, even more so than other native vegetation on roadsides. A message on the sign gives the authority to be contacted before working on the site.

The 'Environmental Marker' is located close to the fence line of the road reserve and is a much smaller low key sign used to identify special sites. Its function is to alert roadside workers and adjacent landowners without the need to draw the attention of the general public. No work or disturbance of the soil or vegetation is to take place without approval of the Road Manager as recorded on the sign.

Each sign has a code number identifying the site. A register of marked sites is kept. Site details include reasons for marking, description of plants and other features as well as the management requirements. Signs are approved and allocated by the Roadside Conservation Committee.

Since the introduction of the environmental signs, over 1,000 sites throughout Victoria have been marked. These signs are complementary to the preparation and implementation of Roadside Management Plans.

E. Implementation Case Studies

The application and implementation of Roadside Management Plans has many successes in improving work practices, changing people's attitudes towards the need for the protection of habitat

vegetation, resolution of conflict and coordination of activities. Three case studies involving the application of Roadside Management Plans in three Shires within Victoria are given as examples.

I. GISBORNE SHIRE (NOW MACEDON RANGES SHIRE)

Application of Roadside Management Plans to:

- ● Fire Prevention Works and Regeneration
- ● Power Line (Vegetation) Clearances
- ● Road Construction and Maintenance.

(a) Fire Prevention Works and Revegetation

In 1983 the "Ash Wednesday" bushfires destroyed over 500 houses, burnt out the commercial centres of the two small townships of Macedon and Mount Macedon and took seven lives within the small Gisborne Shire. For a Shire with a total of only 2,500 houses this was devastating to the community.

The risk of a wild fire throughout much of rural Victoria is a real threat during the dry summer months and communities have come to live with the danger, particularly in designated high fire risk areas such as Macedon and Mount Macedon.

Much of the native vegetation throughout Victoria is highly flammable during the dry summer months. Yet fire which can be destructive to property and life threatening, assists the Australian native vegetation to regenerate. Trees such as Mountain Ash require fire to germinate the seed. So the dichotomy is that fire can be both a threat and an asset in the management of habitat vegetation.

A natural initial reaction to the Ash Wednesday fires was to blame the intensity and ferocity of the fire on the native vegetation, which covers much of the municipality in state forests, along roadsides and in private property. Consequently for a period of time the community was divided. Some wanted roadsides to be 'made safe' and cleared of all native vegetation and those who realized the attraction of the area was the vegetation, especially along roadsides, and the habitats it provided to the wide range of wildlife in the area, wanted to retain the cover of native vegetation on the roadsides.

It was in the aftermath of the fire that the Gisborne Shire Roadside Management Plan evolved.

By legislation Councils are required to establish a Fire Prevention Committee comprising local fire brigades (comprising of volunteers), the Country Fire Authority (a Statutory State Government body that coordinates, trains and supplies equipment to the volunteer fire brigades), Department of Conservation & Natural Resources (a State Government Department) and Council.

The role of the Fire Prevention Committee is to prepare a Fire Prevention Plan for the municipality, identifying the fire risks for areas within the municipality and recommending to the Council works to be carried out to reduce the risk of fire. Part of the Fire Prevention Plan identifies works to be carried out on roadsides to reduce the fuel load which assist with the suppression of fires should one start.

In some instances the recommended roadside works, such as removing all the valuable understory vegetation by slashing from fence line to fence line, conflicted with the high conservation value of the roadside vegetation. To remove all the under story through slashing would degrade the biodiversity value of the roadside. To resolve the potential conflict on site meetings were held and appropriate treatments agreed to which satisfied the need to protect the biodiversity and yet achieve a reduction in the fuel load.

The following illustrates some of the treatments agreed to and successfully implemented in the Gisborne Shire:

Block Treatment – Mount Macedon Road (Fire Prevention and Regeneration)

Mount Macedon Road, assigned a high conservation value rating is also classified as a strategic fire break road in the Fire Prevention Plan. Much of the roadside vegetation was burnt in the

1983 "Ash Wednesday" fires requiring a large number of advanced trees to be removed. The fire also initiated vigorous regeneration. During the conservation assessment survey localized areas of rare native orchids were also identified.

The vegetation on the road reserve provides habitat and a corridor for koalas, echidnas and kangaroos. The potential conflict of extensive roadside clearing to achieve the required strategic fire break, and the need to retain the roadside biodiversity was resolved by establishing "blocks" of undisturbed revegetation and native orchids. The balance of the vegetation around the blocks was mowed.

The 'blocks' varied in size from 1000 to 20 metres in length by the width of one side of the roadside reserve. The smaller blocks were physically roped off and the larger areas marked by stakes in the ground.

The result has been the retention of important native vegetation ecosystems, the assurance of a seed source for future replanting programs, the preservation of the orchids and a satisfactory fire prevention fuel reduction.

Strip Clearing – Along Fence Lines (Fire Prevention and Power Line Clearance)

Another method of achieving a suitable fire break and retain the important native vegetation was to combine the fire break required under the Fire Prevention Plan with the need for clearing along an overhead electric power line located along one of the fence lines of the road reserve.

The area from the fence line to the code distance required from the power line towards the road pavement was cleared of all vegetation and slashed. This left substantial undisturbed ground cover, shrubs and advanced trees between the fire prevention works and the road pavement, thus retaining a continuous strip of relatively undisturbed native vegetation.

Litter Fuel Reduction

Many roads within the Shire have large well-established trees as the roadside vegetation with introduced non-native grasses growing underneath. The conservation value of these roads is weighted high due to the large trees that often form continuous canopies along the road reserve. To maintain the habitat of the large trees and to attain adequate fire prevention standards, the grass is mowed and the trees left undisturbed. This leaves the larger trees for the use of animals such as koalas and the squirrel glider, for food, and as a corridor for movement from one area to another.

(b) Power Line (Vegetation) Clearances

Much of the electrical power distribution throughout Victoria consists of overhead conductors mounted on poles that are located within the road reserve.

A State Code of Practice establishing vegetation clearances from power lines has been prepared and adopted to:

- (a) establish limits of tree clearance; and
- (b) reduce the risk of a fire starting from conductors clashing with trees.

The Code objectives include, amongst others, "ensure that management procedures minimize the effect of power lines on vegetation and establish strategies to progressively achieve a sustainable environment unaffected by the presence of power lines."

Unfortunately, despite the intent of this objective, power distribution authorities over the years have attempted to achieve more than minimum clearance and in many instances throughout the State of Victoria have been very heavy handed, removing more vegetation than is necessary.

Although appropriate environmental performance measures will be prepared to link with Victoria's Biodiversity Strategy, there has been no accountability for the power distribution authorities to concern themselves about the impact their excessive vegetation

clearance practices have on the biodiversity value of the roadsides. The Gisborne Shire community, being dissatisfied with the "butchering" of the vegetation by the power authorities, consequently took steps to establish a partnership approach to resolve the problem.

The following outlines the process and results achieved to minimize the adverse impact of clearance of vegetation around power lines on the native vegetation and habitat throughout the Gisborne Shire.

A Tree Clearing Coordination Committee was established with representation from the power authority, the Shire, Department of Conservation & Environment, Macedon Range Conservation Society and other interested parties. The purpose of the committee was to improve the tree cutting practices of the power authority.

The committee members would inspect all power line routes prior to the tree cutting crews commencing work. The members would walk along the route of the power conductors and physically mark all trees to indicate whether they should be totally removed, lightly trimmed or only have limbs removed. Although time consuming, this achieved a desired standard of tree cutting lessening the negative impact of past practices on the native vegetation, and still obtained code clearance of vegetation from the power lines.

Having established this partnership approach and developing a cooperative relationship, the power authority and the Council initiated other activities to protect the roadside vegetation. These other initiatives included:

- Undergrounding of power lines in sensitive areas to eliminate the need for any tree clearing works.
- Relocation of power lines to avoid specific stands of important vegetation. In some instances, this required the power line to zig zag from one side of the road reserve to the other.
- Combining the need for clearances around power lines with the need for fire prevention clearing to achieve a suitable firebreak. This has been mentioned earlier in this paper.
- The use of new technology, such as aerial bundled cable. The aerial bundled cable, which can be used for both high voltage and low voltage power distribution, is a heavily insulated cable wound together like a piece of rope. The cable is then strung overhead, but because of its insulation requires much less clearance from trees than the standard 'bare wire' overhead distribution method. This has successfully been used on environmentally sensitive roadsides on Mount Macedon.

It should be noted that recent privatization of the electricity distribution, has resulted in a less cooperative attitude from some of the new companies.

(c) Road Construction and Maintenance

Recognition of the importance of preserving the roadside vegetation has resulted in the adoption of best practices in road construction and maintenance that minimize negative impact on the roadside vegetation.

With its proximity to the Melbourne metropolitan area the Gisborne Shire is experiencing increasing urbanization and increasing tourism from "day trippers". This has resulted in growth in vehicular traffic volumes throughout the Shire, applying pressure on the Shire to upgrade many roads, some from narrow gravel roads to a sealed surface, or by widening existing sealed roads.

To achieve the protection of the roadside vegetation and accommodate for the increased traffic volumes through the provision of better road conditions expected by today's motorists, the Council adopted modified design standards and construction techniques which were sympathetic to the biodiversity value of roadsides and still provide improved road surfaces.

The modified design and construction techniques included:

- (a) Reduced design speed values.
- (b) Reduced vertical alignment. This minimized cut and fills that cause massive earth disturbance and the need for tree removal.
- (c) Reduced horizontal alignment. Generally, new roadworks followed existing road alignments and were not widened, thus minimizing disturbance to roadside vegetation.
- (d) Road pavements constructed without shoulders to reduce the overall width of the roadworks.
- (e) Roadside drains placed directly against the sealed road pavement.
- (f) Reduced clearance between the edge of the pavement and the existing trees. In many instances, the road horizontal alignment would meander between trees rather than have the straight-line approach to road design and construction.

The overall result has been very effective with a maintenance free sealed road network and the retention of the natural roadside vegetation.

During construction and maintenance a number of practices are deployed to minimize disturbance to the roadside vegetation. These include:

- Limiting all new works to a defined work area 'construction zone' and not allow any of the works to overflow into the vegetation.
 - Locating stockpiles of road construction material on sites that do not have a high conservation value.
 - Not allowing construction machinery to park or turn around on the roadside vegetation.
 - Employing hygienic procedures to minimize the spread of weeds by washing down plant and equipment that had previously worked in a weed infested area.
 - Minimizing disturbance to vegetation by minimizing the removal of vegetation to the bare essential to match the roadworks required, and minimizing disturbance to root systems.
- Not importing weed infected topsoil from other sites.
- Not spreading any excess grading material into the bushland, but rather cut it into the work surface area or road pavement area and pick up and cart away.

II. YARRA RANGES SHIRE

Implementation of a Code of Environmental Practice for Works on Council Controlled Land

The Yarra Ranges Shire located on the eastern fringe of Melbourne adjoins the Dandenong mountain range and contains some of the most important biodiversity in the State on its roadsides and other land under the control of Council.

The Council developed and adopted a Code of Environmental Practice for Works on Council Controlled Land in recognition of the importance of the roadside biodiversity.

The Code comprises three components:

- Part A – Policy for the Minimization of Environmental Impacts
- Part B – Best Practice Operating Principles for Planning, Design, Construction and Maintenance of Works on Council Controlled Land.
- Part C – Environmental Impact Assessment Check List and Preparation of Environmental Management Plans.

The Policy is directed towards the maintenance of natural values, by introducing the environmental compliance process to identify environmental issues and respond appropriately during design construction and maintenance.

For new construction projects at over \$10,000, an environmental compliance process is mandatory. The compliance process requires an environmental impact assessment to be undertaken by Council. Service providers are then required to prepare an environmental management plan that responds to matters identified at the impact assessment stage prior to the commencement of works. The environmental management plan is to indicate work practices which are to be used to minimize environmental damage.

For new construction works valued at less than \$10,000, or routine maintenance works, the policy advocates use of appropriate best practice operating principles.

The best practice operating principles are intended to ensure appropriate work practices are used to minimize environmental damage.

The environmental impact assessment checklist is used in the early identification of possible environmental risks associated with the planned work. The checklist has been presented in a user friendly flow chart format addressing the critical environmental issues. If a 'yes' answer is given to any of the questions involving potential impact on any of the critical issues, a cross reference is made to the Best Practice Operating Principles document by page number which provides the necessary information for the preparation of an Environmental Management Plan to address the potential impact.

This process is included in all contract documentation and has successfully been used on a number of projects within the Yarra Ranges Shire since its introduction in 1996.

III. MOUNT ALEXANDER SHIRE

Implementation of:

- Public Awareness - Education Material
- Firewood Collection from Roadsides

Public Awareness – Education Material

Having prepared a Roadside Management Plan for the Maldon district of the municipality, the plan was produced in a poster format. Both sides of the poster were used to present the information.

One side contained a map of the district with the conservation value (high, medium or low) for each road, color coded on the map. Around the edges of the map, text and photographs were placed describing what the conservation values meant and photographs of typical roads. Other information included descriptions on the value of roadsides, uncommon plants on roadsides, wildlife corridors, roads that link with vegetation, rare and endangered species found on roadsides within the district and native grasses.

The reverse side contained, in easy to read 'dot' point, the management objectives and guidelines to be followed in addressing each of the major issues identified within the district as being critical for the area.

The poster was then distributed to the public, schools and especially to the field workers such as road crews, utility providers and others. Being easy to read and able to be folded and kept in glove boxes of vehicles, has made this a very accessible, valuable resource to communicate and remind the workers of the need to take

care when doing works and preserve the natural vegetation and habitat along the roadsides.

Firewood Collection from Roadsides

Native vegetation, especially the trees, is very popular for burning in wood fires in people's homes, as it is effective and a cheap means of heating. The Mount Alexander Shire Council regularly issued permits for people to cut and collect wood from roadsides. This was limited to the removal of dead trees and fallen timber.

Unaware of the habitat value of fallen timber, especially hollow logs and dead trees with hollows, the Council was of the belief it was a good way to reduce the fuel load along roadsides and lessen the risk of fire, as well as providing a community service.

At an awareness seminar run by the Roadside Conservation Committee (see earlier), the Municipal Engineer in charge of the roads and of issuing the permits became "enlightened". As a consequence he stated at the end of the seminar, "I will never allow another permit to be issued for roadside firewood collection again." The result is that he hasn't issued any permits, and the Mount Alexander Shire Roadside Management Plan, under the section of firewood collection, now prohibits the collection of firewood from roadsides.

Conclusion

Australia, and particularly Victoria, is very unique in the range of vegetation types of high biodiversity value found on its roadsides throughout the State. The awareness of the need to manage for the resource has only recently been recognized. In that short period of time the identification and classification of the resource on the roadsides has been undertaken. Roadside management plans have been prepared introducing best practices for the many activities and issues involving road reserves, to ensure that minimum adverse impact occurs to the native vegetation.

Although much progress has been made, the use and application of Roadside Management Plans is in its infancy and further improvements and greater acceptance by the relevant stakeholders in the road reserves will be seen in the coming years.