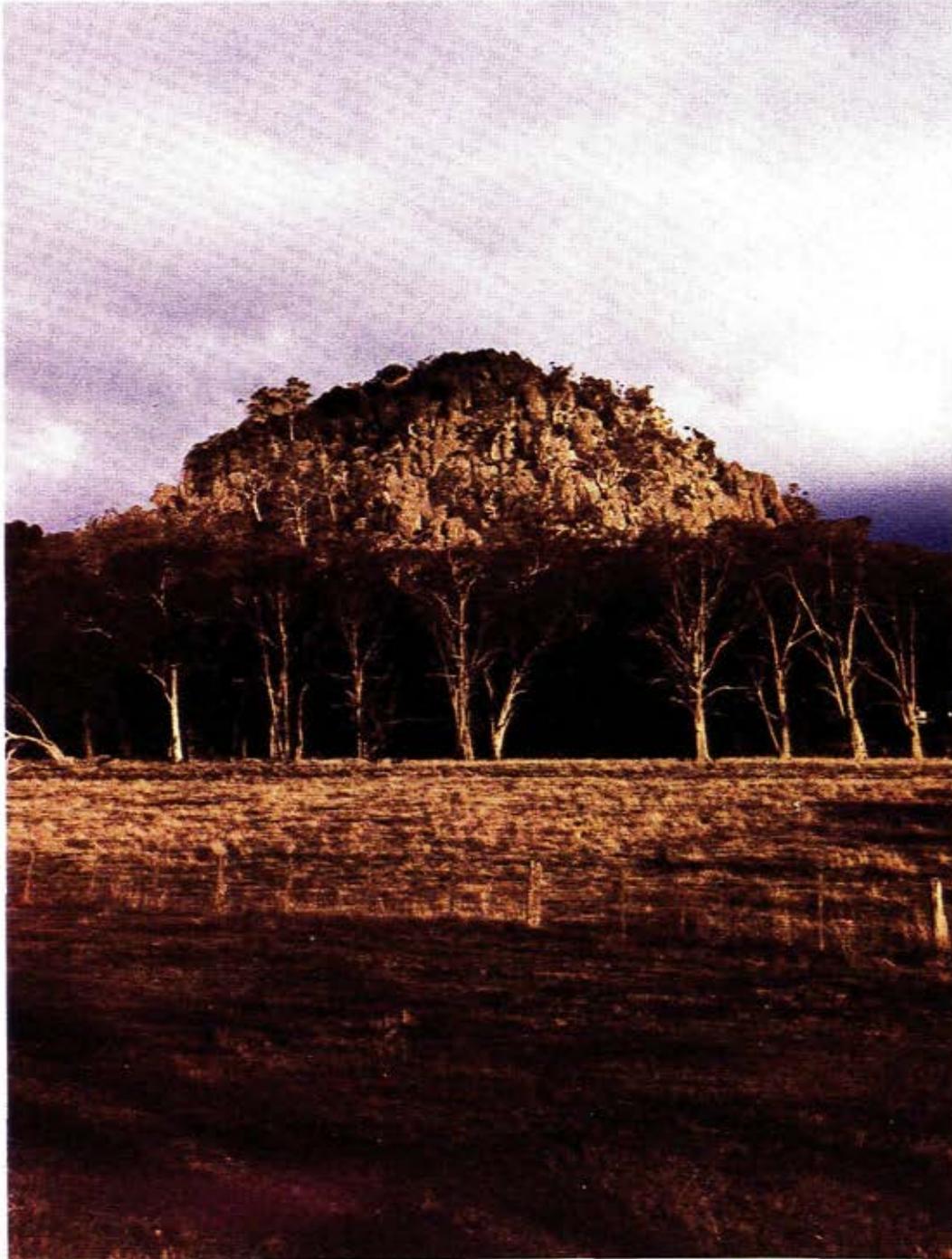


MELBOURNE AREA

DISTRICT 1 REVIEW

PROPOSED RECOMMENDATIONS



LCC LAND CONSERVATION COUNCIL

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PROPOSED RECOMMENDATIONS

JUNE 1986



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Introduction

The Land Conservation Council was established by the *Land Conservation Act 1970*. As one of its three functions, it makes recommendations to the Minister for Planning and Environment with respect to the use of public land, in order to provide for the balanced use of land in Victoria. Notices showing the boundary of the Melbourne area, District 1, and advising that a review of the earlier investigation was to be carried out were published in the *Victorian Government Gazette* of 27 June 1984 and in local and other Victorian newspapers in June 1984. A descriptive resources report was published on 17 June 1985.

Submissions

Following the publication of the report, the Council received 80 submissions on the future use of public land. Individuals, associations, companies, and local and State government bodies, representing a wide cross-section of the community, made helpful submissions covering possible forms of land use for the district. In addition, discussions have taken place with many individuals and groups prior to the formulation of recommendations. All submissions received by the Council are available for inspection at the Council's offices, 464 St. Kilda Road, Melbourne.

Recommendations

After considering the submissions and other information provided, and having visited the study area, the Council has prepared these proposed recommendations. They will be distributed to all who made submissions, and their publication will be followed by another 60-day period for further submissions. After this the Council will prepare recommendations for presentation to the Minister and Parliament.

Report contents

This report contains the Council's proposed recommendations concerning the use of public land in the Melbourne area, District 1. The recommendations in the text are grouped under major headings, such as Parks, State Forest, and so on. Accompanying the text is a map at the scale of 1:250 000 which covers the whole

study area and gives a broad view of the recommended land uses. More detailed maps show areas recommended for agriculture (by alienation). Additional information on boundaries is held by the Land Conservation Council.

Land uses

The Council recommends the continued use or establishment of: parks in areas of particular importance for recreation and nature conservation; reference areas and education areas (covering part of the range of land types found in the study area); flora reserves and flora and fauna reserves for areas of value for conservation of representative plant communities and habitat; and wildlife reserves for several sites containing valuable faunal habitats. Other areas are recommended as historic areas and substantial areas are recommended as State forest.

Where demands from competing uses vie for a given area of land, it is not possible to satisfy them all. Wherever possible, these recommendations attempt to achieve balance in providing for the present needs of most forms of use while retaining flexibility and the opportunity to adjust to future changes in such demands. They do so by placing as much of the public land as possible under forms of use that do not have a major impact on the natural ecosystem.

Flexibility in planning is essential. Our knowledge of many resources (for example, minerals) and of the distribution and ecology of plants is very imperfect. There must be many places in Victoria where special values remain unrecognized and for which no special provision can be made in present planning. Furthermore, future demands for resources on public land may require alteration or modification of these recommendations, which are based on the best information presently available.

Table 1 summarizes the recommendations in terms of the major forms of use.

It is important to realize that each primary use has a number of compatible secondary uses. In addition to nominating the best uses for the land, the recommendations indicate what is considered to be the most appropriate form of tenure for the land and the most appropriate management authority.

Table 1: Public land use.

Land use categories	Area (ha)	Percentage of all public land covered by these recommendations
State park	26 380	19
Marine reserves	3 210	N.A.
Regional parks	8 170	6
Reference areas	8 360	6
Wildlife reserves	2 120	2
Flora and flora and fauna reserves	5 095	4
State forest	60 000	44
Water production	4 860	4
Coastal reserve	2 100	1
Education areas	1 150	1
Mineral and stone	5 000	3
Historic areas	200	< 1
Agriculture	916	< 1

Other land uses, such as scenic, bushland, streamside and recreation reserves collectively make up the balance. Figures are rounded.

The Department of Conservation, Forests and Lands

The Department of Conservation, Forests and Lands was formed in 1984 by amalgamating the Forests Commission, National Parks Service, Fisheries and Wildlife Division, Department of Crown Lands and Survey, Soil Conservation Authority, and part of the central administration of the Ministry for Conservation.

The primary role of the Department is to manage Victoria's public land so as to ensure that its resources are protected and used properly, and to care for the State's water catchments and assist landholders to conserve soil, fauna and flora, and general amenity.

Head Office, located in Melbourne, consists of eight Divisions, four of which are the functional arms—the State Forests and Lands Service, National Parks Service, Fisheries and Wildlife Service, and Land Protection Service. This last Service comprises staff formerly in the Soil Conservation Authority and Vermin and Noxious Weeds Destruction Board, and the tree-growing extension group within the Forests Commission.

The functional arms are responsible for policy development and the preparation of State-wide plans and programs, technical standards, guidelines, and prescriptions, and for monitoring implementation in the regions.

Public Land management is implemented by the Regional Management Division in accordance with the approved annual programs and

the guidelines and technical standards provided by the Head Office functional groups.

The State has been divided into 18 regions and each regional group is responsible for the management of public land in that region, irrespective of whether an area is national or State park, State forest, or some other reserve set aside for a particular form of community use. Management plans will be prepared by staff from the regions and functional arms working together.

Particular attention has been given to fire-prevention and suppression. Fire-protection services for public land are provided and co-ordinated by the Regional Management Division. Organizational arrangements to provide the services are similar to those that have operated effectively in the Forests Commission. The amalgamation provides significant additional benefits; direct involvement of much larger forces of staff and employees in prevention and suppression; and better co-ordinated and more readily available support forces of manpower and equipment. All these elements collectively enable more effective fire-prevention and fire-suppression programs to be achieved on the public lands of the State.

The creation of the Department of Conservation, Forests and Lands has not altered the statutory responsibilities of such bodies as the Forests Commission (under the *Forests Act* 1958), the Soil Conservation Authority (under the *Soil Conservation and Land Utilization Act* 1958), and the Vermin and Noxious Weeds Destruction Board (under the *Vermin and*

Noxious Weeds Act 1958). Consequently, various parts of the text refer to such bodies and their responsibilities.

General recommendations

The following recommendations qualify those in the body of the text.

The Council wishes to stress the need for adequate management and protection of public land, as it has made its recommendations on the assumption that sufficient manpower and finance will be provided for the appropriate management. Unless these resources are provided, the Council's recommendations cannot be effectively implemented. Council emphasizes that vermin and noxious weeds pose problems in the management of public land in the Melbourne area, District 1. Finance and staff are required to research and implement methods of control of pest species. Council therefore recommends:

- I That the authorities responsible for managing and protecting the public land be given the resources necessary for the task.

Following Council's proposal that additional arrangements be made for protecting public land from fire, an amendment to the *Forests Act 1958* has created the designation 'protected public land', which may include public land that is not State forest or national park. The Forests Commission is now required to protect all three of these from fire. The establishment of the new Department of Conservation, Forests and Lands has brought about certain changes in the organization of fire-protection operations, with the Regional Management Division being responsible for the provision and co-ordination of fire-protection services. Current responsibilities are as follows:

- (a) Under the provisions of the *Forests Act 1958* and notwithstanding anything to the contrary in any other Act, it is the duty of the Forests Commission to suppress fires in every State forest and national park, and on all protected public land. This includes, for example, all areas included in the schedules to the *National Parks Act 1975*.
- (b) In the event of fire in any area for which the Forests Commission has

fire suppression responsibility, the Forests Commission has powers of entry under both the *Forests Act 1958* and the *Country Fire Authority Act 1958*. Decisions as to the most appropriate course of action required to suppress the fire and as to the most appropriate equipment to be used, are the responsibility of the Forests Commission alone.

- (c) The Forests Commission provides the State with an efficient fire-prevention and suppression organization. The fire fighting resources associated with parks are available to the Commission for fire suppression operations, and are used as such under the direction of the Forests Commission. They are used in conjunction with, and not as a replacement for, the resources of the Commission.
- (d) Fire-prevention works in State forests are the sole responsibility of the Forests Commission. In parks, on land reserved under section 4 of the *Crown Land (Reserves) Act 1978*, and on protected public land, however, fire-prevention works are undertaken only with the agreement of the person or body managing the land.
- (e) Plans for fire-prevention in areas reserved under the *National Parks Act 1975* will be developed by regional management together with the National Parks Service.
- (f) In addition, under the *National Parks Act 1975*, the Director of National Parks shall ensure that proper and sufficient measures are taken to protect each national park, and other parks included in the schedules of the Act, from injury by fire.
- (g) The two organizations that carry out fire-prevention and suppression in rural Victoria—namely, the Department of Conservation, Forests and Lands and the Country Fire Authority—have excellent arrangements for mutual co-operation based on those that operated successfully between the

Forests Commission and the Country Fire Authority for many years.

Accordingly, the Council recommends:

- II** That, for fire-protection purposes, public land that is not State forest or national park be examined, and appropriate areas be declared protected public land under the *Forests Act 1958*.

Council recognizes that parts of the Melbourne area, District 1, have a long history of mining, and as such have potential with respect to future mineral exploration and mining operations.

The Council recommends:

- III** That mineral exploration licences held over the area continue except in so far as they affect Reference Areas.

The Council expects that, as a result of further study and investigation, many more areas with special values will be identified. Present planning cannot specifically provide for the conservation or utilization of these values. The Council therefore recommends:

- IV** That, when significant new discoveries are made on land within their administration, government agencies enlist the best advice available on the importance of such discoveries and how they should be managed. Advice from organizations other than government authorities and academic institutions should be sought whenever appropriate.

The Council also recognizes that in some cases, existing legislation will have to be amended in order to effectively implement the recommen-

dations in this report. It is aware that this may result in a delay, perhaps of several years, before some of its recommendations can be implemented. It is concerned that, where implementation of the recommendations would involve a change of land tenure, management efficiency could be reduced during the delay period. The Council believes that the government should direct that the intent of the recommendations should be followed until they are implemented.

The following recommendations concern the implementation of recommendations:

- V** That the present legal status and management responsibilities for public land continue until the resources required to implement the recommendations are available.
- VI** That, as the boundaries of many areas have not been precisely surveyed, they be subject to minor modification, road excisions, easements, and other adjustments that may be necessary.
- VII** That in cases where occupation does not agree with title, the Department of Conservation, Forests and Lands may at its discretion make adjustments to boundaries of public land when implementing these recommendations.
- VIII** That the recommendations in this publication do not change the status of roads passing through or abutting public land that are at present declared roads under the *Transport Act 1983*.
- IX** That, where areas of public land are not specifically referred to in these recommendations present legal uses and tenure continue.

A. Parks and marine reserves

Parks

Victoria contains substantial areas of public land that have been retained in a relatively natural state. The number of people using these areas for recreation is increasing and will probably *continue to do so*. Pressures for the use of public land in ways that would change its condition are also increasing. Council believes that it is essential to reserve, now, viable samples of the various land and vegetation types, together with the outstanding natural features, that occur on public land. These areas can best be reserved in a system of parks.

The Melbourne area District 1 has several parcels of land left that can remind us of earlier landscape, flora, and fauna. Such lands are a valuable part of our heritage and must be dedicated for nature conservation and the benefit, education, and enjoyment of present and future generations. This principle of land use is a major consideration in determining that areas should be reserved as parks.

A park is defined here as 'an area of land in a natural or semi-natural condition reserved because of its scenery, floral and faunal content, historical interest, or other features, which is used by the public primarily for open-space recreation and education'. This definition encompasses many different types of parks; they vary mainly in size and content and in the types and intensity of uses to which they are subjected. Definitions of different types of parks are needed to clarify the main purposes for which each one is created, and will help planners, managers, and users of parks.

It is necessary to establish the management aims that apply to areas or zones within parks. Among these, the conservation of native flora, fauna, and other natural features would be an essential part of national and State park management. This should include the identification and strict protection of significant ecological systems as well as the development and use of techniques (including husbandry techniques and population manipulation) to enable species of particular interest to be studied and special values associated with flora and fauna to be maintained or enhanced.

The location and management of areas zoned for intensive recreation will require special care to prevent damage to the environment.

This publication presents recommendations concerning parks in terms of the uses to which the land should be put. Parks have also been placed into categories, according to the scheme of classification suggested below.

Park categories

National park

An extensive area of public land of nationwide significance because of its outstanding natural features and diverse land types, set aside primarily to provide public enjoyment, education, and inspiration in natural environments.

The conservation of native flora, and other natural features would be an essential part of national park management. Interpretative services would be provided. Development of facilities would be confined to a very small portion of the park. Activities would largely consist of sightseeing and the observation of natural features. Wilderness zones, which are relatively undisturbed tracts of land used for solitude and wide-ranging forms of recreation, could be designated within a national park.

State park

An area of public land, containing one or more land types, set aside primarily to provide public enjoyment, education and inspiration in natural environments.

State parks should include samples of major land types not already represented in national parks and, as in national parks, the conservation of native flora and fauna would be an essential feature of management. Interpretative services would be provided. Development of facilities would be limited to a very small portion of the park. Activities would largely consist of sightseeing and the observation of flora, fauna and other natural features. State parks recommended by the Council are intended to complement the national parks so that together they form a State-wide system.

Regional park

An area of public land, readily accessible from urban centres or a major tourist route, set aside primarily to provide recreation for large numbers of people in natural or semi-natural surroundings.

These parks would be intensively developed for informal recreation and could include road systems. Although natural beauty would enhance their value, closeness to an urban centre is more important than natural attributes. Other uses—such as timber harvesting—may be permitted where they are compatible with the primary use.

Park management

Council recognizes that wildfires, however caused, must be prevented from threatening life, property, and natural resources in the State. The measures necessary to control wildfires must be taken in parks as in other areas. In all parks the suppression of fires remains the responsibility of the Forests Commission.

Fire-prevention measures such as maintenance of fire-access tracks and protective burning will also be required in those areas of parks that have strategic importance for fire-control.

The particular measures to be taken in individual parks will be incorporated in the protection plans prepared by the Department of Conservation, Forests and Lands.

The two organizations that share the duty of fire-prevention in rural Victoria—namely, the Department of Conservation, Forests and Lands and the Country Fire Authority—have excellent arrangements for mutual co-operation based on those that operated successfully between the Forests Commission and the Country Fire Authority for many years.

The control of vermin and noxious weeds within parks will be the responsibility of the Department of Conservation, Forests and Lands.

With sensitive and responsive planning and management, the Council believes, parks should be able to cater for a broad spectrum of public recreation activities without prejudicing its other major functions—namely, long-term conservation and protection of the area's special natural features.

An essential aim in the reservation of an area

as a park is to provide for the enjoyment of the public, and therefore public access will be maintained. Indeed, additional access may be provided to interesting areas by way of nature trails and walking tracks. In some parks, such as Hepburn Regional Park, timber products for local use may become available from time to time as a result of developing and managing the park for recreation.

Public land in this study area includes several areas of regional importance for the production of honey. Where these areas are recommended as part of parks, honey production should be permitted and the number of apiary sites maintained.

Current legal access will continue to be available to freehold land enclosed by any of the recommended parks.

State parks

Angahook State Park

Recommendation

- A1 That the area of 3 300 ha, shown on Map A, continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977 (see Appendix I)

and that hunting and use of firearms not be permitted.

Note:

This park includes allotment 22, Parish of Angahook. An additional 36.32 ha, being portion of allotment 20 A, Parish of Angahook, are being purchased by the government using, in part, funds donated by Angair Incorporated, a local conservation organization.

Brisbane Ranges State Park

Recommendation

- A2 That the area of 7 500 ha, shown on Map A, continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977 (see Appendix I)

that hunting and use of firearms not be permitted

and that significant historical relics of past mining activity be preserved.

Notes:

1. The Brisbane Ranges were proclaimed a National Park and included in a schedule to the *National Parks Act 1975* on 26 April 1979.

2. Council is now proposing a minor amendment of the boundary between this park and Steiglitz Regional Park, which is deemed necessary for management and administration purposes. The amended boundary is indicated on Map A and involves a small area of the regional park being included in the state park.

Lerderderg State Park

Recommendation

A3 That the area of 12 700 ha, shown on Map A, continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977 (see Appendix I)

that hunting and use of firearms not be permitted

and that significant historical relics of past mining activity be preserved.

Addition to Lerderderg State Park

This 750 ha parcel of land lies between the existing park boundary and the Mount Blackwood road, and carries predominantly an open forest II of messmate in association with broad-leaf peppermint and manna gum. Council is proposing that it be added to the existing State park in order to rationalize park boundaries and to facilitate park planning.

Recommendation

A4 That the area of 750 ha shown on Map A be added to the Lerderderg State Park and be used as outlined in Appendix I for Recommendation A3.

that hunting and use of firearms not be permitted

and that significant historical relics of past mining activity be preserved.

Additional state parks

Werribee Gorge State Park

Located some 8 kilometres west of Bacchus Marsh, this park features the impressive Werribee Gorge, contains spectacular views, and

provides opportunities for bushwalking and rock-climbing.

Because of its ruggedness and steep slopes, the Werribee Gorge has remained in a relatively natural state. This has enhanced its value for flora and fauna conservation, since most of the surrounding land has been cleared for many years.

Vegetation in the park includes red ironbark, grey box, manna gum, and varnish and golden wattles. White cypress pine, usually found north of the Divide, also occurs here. Other plants here are wedge-leaf hop-bush, snowy mint-bush, bush peas, and groundsels, while several species of fern are found in the shaded gullies.

Bird life is prolific—two notable species being the wedge-tailed eagle and the peregrine falcon.

In its January 1977 final recommendations for the Melbourne area, Council recommended that Werribee Gorge be included in the Brisbane Ranges State Park. Subsequently the Werribee Gorge Park was listed separately in a schedule to the *National Parks Act 1975* on 26 April 1979. The Council is now proposing to recommend that the Werribee Gorge Park be a State Park in its own right.

Recommendation

A5 Werribee Gorge State Park (600 ha)

That the area shown on Map A continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977 (see Appendix I, Recommendation A2)

and that hunting and use of firearms not be permitted.

Note:

Werribee Gorge State Park includes allotment 3A, section 1, Parish of Korkuperimul, which has been recently purchased by the government. In addition, agreement has been reached between the government and the owners of allotments 2A, 2B, 2C, 2D, and 2E, section 1, Parish of Korkuperimul, for the purchase of those areas and they will be added to Werribee Gorge State Park following the completion of the necessary administrative arrangements.

Organ Pipes State Park

The main feature of this area—the ‘Organ Pipes’—offers a particularly good example of columns in Pliocene-Pleistocene basalt, which have been exposed in the valley cut by Jacksons Creek. In addition, the area includes some of the best remnants of the native flora that formerly covered the basaltic plains and gorges west of Melbourne—a land type that is poorly represented on public land.

Recommendation

A6 Organ Pipes State Park

That the area of 85 ha shown on Map A continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977 and that the park continue to be included in a schedule to the *National Parks Act 1975* and be managed by the Department of Conservation, Forests and Lands.

Note:

In January 1977, Council recommended that the Organ Pipes be reserved as a geological monument, although the area had previously been reserved as a national park in 1972. Since 1972, when about 90% of the area was covered with about 24 species of noxious weeds, management programs, significantly assisted by volunteer groups, have greatly reduced the extent of noxious weeds and partially restored the native flora. Council believes that in light of the area’s particular values and characteristics it should be included in the State’s system of conservation reserves as a State park.

Regional parks

You Yangs Regional Park

Recommendation

A7 That the area of 2 025 ha, shown on Map A, continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977 (see Appendix I)

and that hunting and use of firearms not be permitted.

Steiglitz Regional Park

Recommendation

A8 That the area of 800 ha, shown on Map A, continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977 (see Appendix I)

and that the stands of *Eucalyptus yarraensis*, *Pultenaea graveolens*, and *Olearia* sp. aff. *pannosa* that occur in the catchment of, and along, Sutherland Creek should be preserved.

Note:

Council is proposing a minor amendment of the boundary between Brisbane Ranges State Park and Steiglitz Regional Park for management purposes. The boundary is shown on Map A and involves a small area of the regional park being included in the state park.

Hepburn Regional Park

Recommendation

A9 That the area of 2 250 ha, shown on Map A, continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977 (see Appendix I)

except that

- (a) minor hardwood timber products be available from time to time as a result of developing and managing the park for recreation.

and that

- (b) hunting and use of firearms not be permitted
- (c) significant historical relics of past mining activity should be preserved.

Additions to Hepburn Regional Park

Council is proposing to add a number of areas of public land to this park, in order to rationalize the existing park boundaries to facilitate park management, and to incorporate into the park various historical relics and features.

Recommendation

A10 That the areas totalling 250 ha, shown on Map A and described below, be added

to Hepburn Regional Park and be used as outlined in Appendix I for Recommendation A9 and above:

- the area west of Midland Highway in the vicinity of Dry Diggings, previously designated as uncommitted land
- public land, linking Spring Creek, Doctor's Gully, and Cobblers Gully, Township of Hepburn
- the area west of the existing park, previously designated as G1, Forest Area.

Macedon Regional Park

Recommendation

A11 That the area of 2 560 ha shown on Map A be used to:

- (a) provide opportunities for informal recreation for large numbers of people
- (b) conserve and protect the natural ecosystems to the extent that this is consistent with (a) above
- (c) supply water and protect catchments

and that

- (d) preparation of a management plan for the park take account of the particular values referred to below (the areas to which they apply are broadly indicated on Map 2).

Macedon Regional Park values

Since the disastrous bushfires of 1983, considerable effort has been put into planning strategies for the redevelopment of the Macedon area. Of particular interest in this regard has been work done by the Macedon Ranges Redevelopment Advisory Committee, the Macedon Ranges Conservation Society, and the School of Environmental Planning at Melbourne University. Council has paid due regard to this work in the formulation of its proposed recommendations for the Macedon Regional Park and believes that its proposals are compatible with and complementary to the redevelopment strategies.

The most directly relevant planning for the recommended Macedon Regional Park is that currently being undertaken by the Department of Conservation, Forests and Lands. As part of the direct planning for the park, the Depart-

ment, in association with the Country Fire Authority and the local community, will be developing a fire-prevention plan.

Council believes that in preparing its management plan for this area the Department of Conservation, Forests and Lands should take account of the following values:

- water supply
- recreation
- conservation
- timber
- landscape

Water supply

The park contains the water catchments for 18 separate reservoirs and offtakes. Water from these facilities is provided untreated to the townships of Woodend, Lancefield, Sunbury, Riddells Creek, Gisborne, Macedon and Mount Macedon. It is therefore important that the park be managed in a way that ensures the maintenance of adequate stream flows and appropriate water quality.

- Accordingly, developments in the park (especially recreation and softwood) should be designed so as to have minimum impact on catchment values and be excluded from areas in the immediate vicinity of water storages or diversions.
- In view of such developments, and of the area's importance for water supply purposes, all water supply catchments that fall partly or wholly within the park should be proclaimed. In addition, existing Land Use Determinations should be reviewed and those proclaimed catchments that have not yet been investigated should have Land Use Determinations prepared as a matter of priority.

Recreation

The park is one of the study area's most important recreation assets. It attracts some 250 000 visitors per year and the number is increasing. This level of visitation already leads to overcrowding at the main attractions of the Memorial Cross and the Camel's Hump. Consideration needs to be given to increasing the number of facilities (particularly picnic sites)

both at the popularly visited areas and at other locations within the park.

- The development of recreational facilities to cater for large numbers of people should therefore be expanded and concentrated in areas such as:
 - on the mountain-top areas adjacent to Cameron Drive between the Memorial Cross and Camel's Hump, and to the east along and between Lions Head and Barringo roads
 - adjacent to the Calder Highway
- A suggested expansion of the network of walking tracks through the park has received considerable support. In particular, a trans-range track, following the spine of the Macedon Range from Macedon to Riddells Creek, has been strongly supported, including recognition in the Government Tourism Strategy. Council endorses the creation of such a track, but recognizes that in order to achieve continuity it may be necessary to purchase some private land at the eastern end of the range.
- The network of walking tracks and nature trails within the park should be extended, including a trans-range track that traverses the length of the Macedon Range.

Conservation

Macedon Range contains a wide diversity of natural environments. These vary from foothill mixed-species forests through mountain and alpine ash forests to sub-alpine woodland. More than 400 plant species have been recorded in the area—including some, such as alpine ash, at the western limit of its range. The park also contains important wildlife habitats with an interesting range of local fauna, including more than 160 bird species.

- Particular attention should therefore be given to protecting the remnant fern gullies, significant plant communities (such as the alpine and mountain ash forests, and snow gum woodlands), and the important habitat areas along Barringo Creek.
- The area of ash forests (especially mountain ash, which has been reduced to very small stands) should be expanded by the replanting of appropriate sites that have previously been planted to softwoods.

Timber

With the exception of salvage logging following the 1983 fires, very little hardwood timber has been taken from the Macedon region for many years. By far the most important areas for hardwood production are the Wombat Forest to the west and the Cobaw Ranges to the north.

- Accordingly, commercial hardwood timber harvesting should not be permitted within the park.

Softwoods have been a feature of the Macedon Ranges from the earliest days of European settlement. The first plantings commenced about 1850, and by 1880 softwoods were being planted commercially.

Mount Macedon contains some very high-quality softwood sites that have supported extremely high-quality softwood plantings.

It is important to retain these sites for the production of specialist products, and for plantation species such as Douglas fir, which are very site-specific.

The 1983 fires destroyed all the Macedon plantations and so have offered the opportunity to consolidate and rationalize softwood planting in the area. The Department of Conservation, Forests and Lands is currently planning such a rationalization, which will reduce the total area of plantations from the pre-1983 figure of 230 ha to approximately 140 ha, and Council supports this replanting of softwoods at a reduced level.

- Softwood timber production should be permitted on the basis that new plantings:
 - do not involve clearing of native forest
 - do not occupy ash sites
 - are kept from steep sites that are visually intrusive

Landscape

Macedon Range forms the dominant landscape feature of the region. Its skyline provides a dramatic contrast to the surrounding relatively flat plains.

The 1983 fires and subsequent salvage logging had a major impact on the park's landscape. The visual scars will remain for many years. However, it is important to plan the park in

such a way as to enhance the visual resource of the park.

- The landscape values of the park as viewed from the surrounding lowlands, and from major lookouts and tourist routes within the park, should be protected.

Notes:

1. While Council is not empowered to recommend uses for privately owned land, it recognizes that the values associated with the Macedon Regional Park could be substantially enhanced if strategic blocks of freehold land could be added to the public land estate. These additions would be of value for:

- protecting landscape values of the range
- increasing recreational opportunities
- providing linking corridors with other areas of public land
- fire-prevention works
- protecting important conservation values

2. The following areas of freehold land have, since 1977, been purchased and included in this park:

- allotments 182 and 209, Parish of Kerrie
- allotments 49 and 51, Parish of Macedon
- allotments 10, 11, and 12, section C, Parish of Newham
- allotments 7 and 17, section B, Parish of Newham

3. The Department of Conservation, Forests and Lands is currently preparing a management plan for the rehabilitation and redevelopment of the Macedon Regional Park. It is understood that this plan will be released for public comment. Its release is expected to coincide with the Council's statutory 60-day submission period for these recommendations.

Additional regional park

Gellibrand Hill

In the late 1960s the Shire of Bulla became interested in reserving this area for conservation and public recreation. After considerable negotiations with the owners, co-operation between the North Western Regional Organization of Councils and the State and Commonwealth governments brought about

the stage-by-stage purchase, from 1977, of Gellibrand Hill Park.

The park is situated just north of Melbourne Airport, only 20 kilometres north-west of the city. It consists of grassy slopes, woodlands, and creek frontages that provide space for relaxation, picnics, and walking, and the hilltops afford extensive views towards the Dandenongs, Port Phillip Bay, the You Yangs, Mount Macedon, and the Great Dividing Range.

The old 'Woodlands' homestead and associated outbuildings are historically significant. In fact, 'Woodlands' represents the first pre-fabricated wooden house brought to Victoria.

Current usage includes picnicking, walking, and nature study, and there are proposals to develop horse-riding and bicycle tracks and a fauna park, and to continue the restoration of the 'Woodlands' complex.

Recommendation

A12 Gellibrand Hill Regional Park

That the area of 600 ha shown on the map be used to:

- (a) provide opportunities for informal recreation for large numbers of people
- (b) conserve, protect, and enhance the natural ecosystem to the extent that this is consistent with (a) above
- (c) protect the historical values of the Woodlands homestead

and that

- (d) grazing be permitted at the discretion of the managing authority where it is consistent with (a), (b), and (c) above and where it is necessary for park management
- (e) hunting and use of firearms not be permitted

and that the park continue to be included in a schedule to the *National Parks Act 1975*, and be managed by the Department of Conservation, Forests and Lands.

Marine reserves

A marine reserve is an area of offshore underwater terrain and the waters above it, together with the associated flora and fauna, set aside to

conserve and protect marine and/or estuarine ecosystems.

Marine reserves should include examples of the major ecosystems making up the Victorian marine environment.

Uses within the reserve would be controlled to ensure that all ecosystems are conserved and reserves would be zoned to achieve this aim.

Existing marine reserves

A13- That the areas listed below and shown on the map continue to be used as approved by the government following the publication of the final recommendations, Melbourne area, January 1977.

A13 Point Cook

Harold Holt Complex

A14 Swan Bay

A15 Mud Islands

A16 Popes Eye

A17 Point Lonsdale

A18 Point Nepean

Additional marine reserve

Williamstown

This area contains an unusually diverse array of habitats close together. It includes salt-marsh, rocky reef, seagrass beds, and sandy habitats as well as a scientifically important relic population of the white mangrove, which is found at only one other site in Port Phillip Bay.

Its significance is enhanced by its relatively undisturbed nature, which in turn is due to its relative inaccessibility.

Recommendation

A19 That the area of 60 ha shown on the map be used to:

- (a) conserve and protect marine ecosystems
- (b) provide opportunities for recreation and education associated with the enjoyment and understanding of natural environments

that

- (c) commercial and recreational fishing not be permitted

and that the area be permanently reserved under section 4 of the *Crown Lands (Reserves) Act* and be managed by the Department of Conservation, Forests and Lands.

Other protected marine areas

It has been suggested to Council that in Port Phillip Bay, adjacent to Victoria's major population centres, setting aside marine areas for recreational and educational purposes is just as important as doing so for biological purposes.

The above marine reserves are designed primarily to protect areas of ecological significance. Mostly, they are either unpopular for recreational diving or are unsafe for any but very experienced divers and can only be reached by boat.

In the past no systematic attempt has been made to establish marine protected areas at strategic locations around the Bay specifically for recreational and educational purposes. These should provide easy access, safe diving conditions, high water visibility, and an interesting biota.

While Council is not now making any recommendations for such areas, it will investigate the prospect prior to publishing final recommendations. Specifically it will investigate the desirability of establishing protected marine areas for recreation and education uses, the degree of restriction necessary on commercial or recreational fishing, and potential locations.

Three locations have already been suggested to Council as suitable:

- at Ricketts Point
- between Martha Point and Balcombe Point near Mt Martha
- between the Portsea Pier and Point Franklin

These and other areas will be further investigated prior to Council making its final recommendations.

B. Reference areas

Reference areas are tracts of public land containing viable samples of one or more land types that are relatively undisturbed and that are reserved in perpetuity. Those concerned with studying land for particular comparative purposes may then refer to such areas, especially when attempting to solve problems arising from the use of land. Reference areas include typical examples of land types that have been modified elsewhere for productive uses such as agriculture, mining, or intensive timber production. The course and effects of human alteration and utilization can be measured against these relatively stable natural areas.

In common with references and standards used in other fields, these areas must not be tampered with, and natural processes should be allowed to continue undisturbed. Reference areas should be sufficiently large to be viable and should be surrounded by a buffer, the width of which would vary according to the activity occurring on the adjacent land. The role of the buffer is to protect the area from damaging or potentially damaging activities nearby. It will also protect important values in the surrounding land from potentially damaging natural processes occurring within the reference area.

Access should be restricted, and experimental manipulation should not be permitted. Setting aside such areas will enable continued study of natural features and processes: for example, fauna, hydrology, and nutrient cycling. These studies are important in increasing our knowledge of the ecological laws and processes on which humanity's survival may ultimately depend.

The preservation of some species in the long term requires the setting aside of areas free

from human interference (in the form of productive or recreational use of land). These areas preserve a valuable pool of genetic material. Wild species are often used to genetically strengthen inbred races of domestic plants and animals—and the future use of gene pools will probably expand far beyond this.

The *Reference Areas Act* 1978 provides for reference areas to be proclaimed by the Governor-in-Council, and for the Minister to issue directives for their protection, control, and management. An advisory committee, established under the *Act*, assists the Minister.

The selection of the reference areas listed here is based on current knowledge of the land types in the study area, and additional areas may be needed as better information on ecology and land use problems becomes available.

Existing reference areas

Recommendations

- B1- B6 That the areas listed below and indicated on Map A continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977.
- B1 Durdidwarrah (125 ha)
- B2 Stony Creek (270 ha)
- B3 Musk Creek (125 ha)
- B4 Ruths Gully (200 ha)
- B5 Ah Kows Gully (440 ha)
- B6 Pyrete Range (360 ha)

C. Wildlife

Wildlife conservation—a land use in its own right—cannot always be separated from other land uses such as timber production, forest grazing, water production, and recreation. These types of use often require large areas of land, much of which can be managed to retain its value as wildlife habitat. In the long term, wildlife conservation depends upon conservation of habitat covering areas that are sufficiently large and diverse to support genetically viable populations of species.

Animal habitats are generally described in terms of vegetation communities, although other characteristics—such as vegetation structure, ground cover, water depth, salinity, rock outcrops, and hollow trees—are also important.

The vegetation map of the study area illustrates the diversity of habitats and shows that no single community covers an extensive uninterrupted area, but rather that each community or habitat tends to be repeated over a wide area as part of a complex mosaic. This pattern is largely determined by the diversity of climate, soils, physiography, and aspect.

The distribution of an animal species depends on its behavioural and physical requirements for food, shelter, and breeding sites. Many species can utilize a range of habitats and consequently are widely distributed throughout the area. Some occupy their environmental range as residents. Others, such as certain bird species, are not year-round residents but migrate in and out of the area at regular intervals. Other birds visit the area infrequently in nomadic movements, while yet other species move between high and low altitudes with the seasons. It is obvious therefore that the conservation of fauna presents many difficulties, even for those relatively few species whose life history and behaviour are understood.

Council considers that the Fisheries and Wildlife Service has an important role in the management of the entire area and, by working in close co-operation with the land managers in the formulation of management plans, should ensure that provision is made for the conservation of wildlife. This is especially important for animals that are essentially restricted to a particular habitat for feeding and breeding.

The activities of man in modifying the natural environment have resulted in changes in the distribution and abundance of many species and some species have become extinct. These changes have depended upon the nature and severity of the modification, the particular habitat requirements of the species, and its adaptability to change.

The precise effects on many species, however, are not well documented. Council has recommended elsewhere in this report that principles relating to the conservation of fauna be adopted for land uses that could significantly affect wildlife values. The Council considers that further research into the ecological requirements of species is necessary to determine the effects of various land management practices, particularly those where management is oriented towards more competitive uses such as timber production, forest grazing, and intensive recreation. The results of such research may mean the modification of management practices in some areas if wildlife values are to be adequately considered.

The many streams and wetlands of the study area provide specialized habitat for a large group of birds, fish, and crustaceans, and some mammals. They also form important elements of the scenery of the region.

Although some forms of land use are compatible with fish and wildlife conservation, it is necessary to set some areas aside specifically for their conservation, and for developing wildlife conservation techniques.

These areas may be selected for conservation of species that the community harvests. They may contain the habitat of endangered species or they may have specialized breeding grounds or a high species diversity, or be of educational, recreational, or scientific interest. They may also be selected because of their ecological significance for (or regional representation of) a species or faunal association, or for their value as a stop-over for migratory or nomadic species.

In all wildlife reserves the responsibility for the suppression of fires remains with the Forests Commission, and fire-prevention measures will be carried out where necessary.

Existing wildlife reserves

Recommendations

C1- C9 That the areas indicated on Map A and listed below continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area, January 1977.

C1 Browns Swamp (30 ha)

C2 Reedy Lake (Connewarre) (730 ha)

C3 Lonsdale Lakes (150 ha)

C4 Swan Bay-Edwards Point (250 ha)

C5 Mud Islands (56 ha)

C6 St. Leonards (24 ha)

C7 The Spit (300 ha)

C8 Serendip (250 ha)

C9 Freshwater Swamp (8 ha)

D. Water production

Local catchments are very important for water production, both for domestic consumption and for irrigation water supply. Catchments wholly or partly in the study area provide domestic supply for the major centres of Geelong, Melton, and Bacchus Marsh and for many smaller townships.

Current management and use

None of the catchments is used solely for water production, although restrictions limit the type of activity permitted in some of them and on some of the reservoirs. The catchments are subject to a variety of land uses, including recreational activities, timber production, and agriculture on open farmlands.

Land use planning

Council notes that the degree of land use planning varies between catchments. There are 22 proclaimed water supply catchments partly or wholly within the District, and Land Use Determinations have been prepared for 15 of them.

Council maintains that the Soil Conservation Authority should investigate all remaining domestic water supply catchment within the study area and, where appropriate, the Land Conservation Council will recommend these for proclamation in order to ensure a uniform procedure for land use planning within these areas.

Catchment land

Recognizing that the prime water-producing areas of the State coincide with the principal mountain and forested areas, and that these areas together with inland water bodies form major attractions for recreation, the Council believes that, in many areas, catchments can be managed for a range of uses consistent with the provision of adequate protection of the water resources. Recreational use of storages, where it is permitted, must be carefully controlled to ensure adequate protection of water quality, and responsibility for this must remain with the water supply authority.

The Council realizes that the optimum combination of land uses for catchments will vary

from one land type to another; a particular use that may not impair the quantity distribution or quality of water yield in one instance may have a profound effect in another. Changes in land use, which could detrimentally affect the quality, quantity, or distribution of water supplied from a catchment, should only be made following full consideration of the benefits and disadvantages associated with the various land use options. These considerations should take account of the interests of the groups likely to be affected by any changes as well as broader regional and State-wide issues.

Where there is a multiplicity of uses in a catchment supplying water used for power generation or for domestic, industrial, or irrigation purposes, the catchment should be proclaimed under section 5 (1) of the *Land Conservation Act 1970* and section 22 (1) of the *Soil Conservation and Land Utilization Act 1958*.

After proclamation, and following consultation with the Land Conservation Council, the Soil Conservation Authority may make a land use determination for a catchment. This specifies the most suitable uses of all land in the catchment, and includes delineation of protective strips around storages and along major watercourses.

Council believes that in most situations it is not necessary for a water supply authority to control and manage all land in its water catchment. Authorities with land management responsibilities within a proclaimed catchment should be conscious of the implications of management decisions on water production and should consult, co-operate, and reach agreement with the water supply authority and the Soil Conservation Authority regarding the type, location, and timing of management activities.

Buffer zone

The water supply authority should control and manage a buffer zone (defined in the land use determination) around storages and diversion works. This buffer zone is separate from the protective strips along watercourses, which although important for water supply protection, would not by themselves form a manageable unit.

In addition the water supply authority should control and manage the storages and the areas on which capital works are situated, together with any other areas that may be needed for efficient management.

Each catchment and water supply system has individual characteristics and the determination of the buffer zone will need to take account of these differences. In determining the extent of the buffer zone, consideration should be given to factors such as ground slope, soil type, vegetative cover, adjoining land use, types of facilities available for treating the water, end-use of water, detention time in the storage, and the need to control public use of the storage and its immediate surrounds. The buffer zone should be large enough to reduce entry of most pollutants into the storage by way of filtration of overland flow, absorption through the soil, and assimilation in watercourses. The desirability of the buffer zone being a practical management unit should also be taken into account.

In some instances it may not be practical for the water supply authority to manage all, or part, of the buffer zone. In such cases agreement should be reached between the adjacent land manager and the water supply authority at the time of a land use determination. The agreement may include leaving the management of the buffer zone with the adjacent land manager on the basis that it would be managed with the prime object of protecting the water quality.

Water quality, yield, and regulation

It is possible to improve the quality of water by partial or complete treatment—at a cost. It must, however, be recognized that the higher the original quality of the water, the cheaper and more efficient is the treatment and, in most cases, the more acceptable the end product.

In many catchments it is already difficult to maintain existing water quality. This problem is likely to become even greater as pressures to allow various forms of land development and use of natural resources increase. Even with properly planned and controlled land use in catchments it is probable that many water supply authorities will consider it necessary to at least disinfect water supplied from their storages. Indeed, many authorities already employ such treatment. Council recognizes that a number of water supply systems need some

form of treatment now and that the others will need to consider some form of treatment in the future. In order to provide for this requirement, Council believes it is important for the government to establish long-term policies to maintain water supply of a satisfactory quality.

It is also vital to safeguard the quantity and timing of yield. Catchments must be protected from loss of infiltration capacity, damage to other hydrologic properties, soil erosion, and contamination from chemical or biological sources.

Proper management of land uses within catchments is extremely important and recognition must be given to the need for high levels of protection, particularly in the ecologically sensitive areas. Values such as water yield, quality, and flow regime must be of major concern when implementing recommendations for public land within catchments. The Council recognizes the need for research to provide additional information that can be used in formulating management guidelines.

Additional water needs

Future water needs for domestic, stock, and irrigation purposes may require the construction of additional water storages. In the planning for these, the possible effects of the storages and their water releases on the ecosystems in the vicinity (in particular the effects on fish and wildlife habitat downstream) should be determined and taken into account.

The Council appreciates that it will probably be necessary to develop additional facilities associated with such schemes, but cannot make specific provision for those developments until definite proposals are made. Their environmental effects should be assessed before proceeding. In most cases an Environment Effects Statement is now required as part of the planning of any new major storage.

Recommendations

- D1– D99** That the areas shown on Map A, continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977.

Note:
Merrimu Reservoir, D17, is being enlarged

to meet increasing urban water demand from the Melton and Bacchus Marsh Shires, and consequently the historic Coimadai Lime Kilns situated on the eastern bank of the reservoir will be inundated. Discussions are

continuing between the Rural Water Commission, the Historic Buildings Council, the National Trust, and the Shire of Bacchus Marsh as to how the kilns may best be preserved or, failing preservation, recorded.

E. Timber production and State forest

Timber production

The hardwood forests of this area have been used as a source of wood since early settlement. They currently supply up to 60 000 cu. m of sawlogs annually, which is about 5% of Victoria's annual production from State forests. Most of the timber produced is messmate, narrow-leaf peppermint or candlebark and is sold locally or in Melbourne for general construction purposes. Hardwood sawmilling directly employs about 160 persons in the study area. Altogether, 10 individual sawmills draw supplies from this area and are located at Daylesford, Leonards Hill, Bullarto, Lyonville, Ballarat, Woodend, Kyneton, and Korweinguboora. It should be noted that the mills at Woodend, Daylesford, and Ballarat also draw supplies from outside the area.

Minor forest products such as fencing materials, poles, and firewood are also obtained from the hardwood forests and service the local demand for these products.

The Report of the Board of Inquiry into the Timber Industry, conducted by Professor Ferguson, was presented to the government in June 1985. It envisages a number of changes to the timber industry, including those changes due to the declining abundance of the old growth eucalypt resource, and the restructuring required to harvest the mature and regrowth forest at a sustainable level.

Following publication of that Report the government is presently developing the *Timber Industry Strategy*, which may have implications for management of the hardwood timber resources available from the study area.

Impact of proposed recommendations

Council recognizes the importance of timber production based here, but also recognizes the need to set aside areas of particular conservation significance; as a result, some stands of productive timber are included in parks and other reserves where timber-harvesting is not proposed.

The 1977 recommendations allocated areas of public land for hardwood production. Council believes that these areas should continue to be

used for hardwood production and they have been included in the State forests category. Where variations have been made to previous recommendations that will affect timber availability, such as the addition to the Lerderberg State Park, the effect on sawlog production capability has been slight.

State forest

The larger areas of forested public land in the State that were not incorporated into parks, or set aside in various reserves or for softwood production, were in the past designated by the Council as either areas for hardwood timber production, or uncommitted land. In the Council's final recommendations for the Alpine Area—Special Investigation, published in November 1983, it was proposed that such forested land be managed as a single unit.

The Council decided to refer to this land as 'State forest', as it believes that term best describes public land in timber production areas and uncommitted land, even though this may contain a range of vegetation types from tall mountain forests through to woodlands, mallee scrub, heathlands, and swamplands. The name is used only in a descriptive sense rather than as a term defined in the *Forests Act* 1958.

Council has now decided to apply the concept of State forest to the public land in the Melbourne District 1 review area that was previously recommended for hardwood production and uncommitted land.

Existing land use categories

Hardwood areas and uncommitted land are administered under provisions of the *Forests Act* 1958 and the *Lands Act* 1958. In the past this has led to differences in fees for essentially the same type of licence and in some instances has resulted in the necessity to obtain two or three licences to occupy a single parcel of land.

State forest comprises a mosaic of forests of varying productivity, and the separation of land into timber production areas and uncommitted land has tended to reinforce the belief that the State's commercially productive hardwood forest is entirely located within hardwood produc-

tion areas and that timber production is the sole object of management there. In fact, a significant volume of commercial timber is extracted, in conformity with Council's recommendations, from uncommitted land; at the same time, hardwood production areas are managed for a range of uses as well as for wood production.

Although many of the outstanding natural features and values occurring on public land are included in parks and reserves, the hardwood production areas and uncommitted land contain significant water production, landscape, historical, and conservation values. Many rare plants are found in State forest and, considering it occupies about two-thirds of all public land, it is of major significance as faunal habitat. The term 'hardwood production' implies quite erroneously that such areas have few values other than for timber production, while the term 'uncommitted land' belies the significance of this land for many different uses including timber production.

Areas delineated as forest areas, adjacent to softwood plantations, were set aside in previous recommendations. These areas are used to maintain nature conservation and landscape values, and to allow protection of the adjacent plantations. Low-intensity timber production and various other uses are also permitted. This range of uses is appropriate to the State forest concept and consequently forest areas are also included.

Management of State forest

The Council believes that, in the future, a unified and co-ordinated approach should be taken to the management of State forest and that it should be set aside and managed as a unit rather than administered as two classes of land of different tenure—namely reserved forest and uncommitted land. However, it will be necessary to recognize the different management requirements of areas with particular attributes within State forest.

Council has defined the areas of State forests in this District and, in line with the concept of unified and co-ordinated management, believes it would be appropriate for all State forest to be administered under one Act and be securely reserved under a single land tenure incorporating provisions similar to those currently applying to reserved forest. The consol-

idation of responsibility for issuing all licensed occupations in State forest is an essential aspect of adopting a unified and integrated management approach. This would overcome the problems associated with the dual system of licensing that currently exists.

Following the delineation by Council of State forest and the designation of areas that have significance and need special protection or are required for particular purposes such as softwood production, management plans should be prepared. These plans should reflect the diverse values and differing capabilities of the land to support various community uses and needs. They would be developed in the light of a State-wide policy for the management of forested public land not included in parks or other specified reserves, and would take account of water production, recreation, timber production, floral, faunal, and fire-protection values.

Each management plan should also provide for the protection of significant areas designated by the Council as well as incorporating the Council's established principles relating to timber harvesting and the provision of other resources required by the community. It should also take account of existing statutory requirements such as land use determinations and specialist advice available from other agencies such as the Fisheries and Wildlife Service. Provision should be made for regular review of management plans for State forest. Where appropriate, the Council would continue to recommend areas of special significance to be permanently reserved for a particular purpose.

Many areas of State forest have no particularly significant features; nevertheless, although they do not currently support resources to meet known or predicted demands they may well be required to meet as yet unspecified demands in the future. Much of this type of land has a relatively high erosion hazard and management will need to be directed towards the maintenance of the forest cover so that land options for the future are preserved.

In summary then, the Council believes a broad management strategy for State forests must be developed to provide for the carefully planned utilization of natural resources as well as the protection of other important values. Management carried out in accordance with formal plans and the secure reservation of these lands under one form of land tenure should also pro-

vide a sound basis for the commercial utilization of resources and the long-term maintenance and, where possible, enhancement of the diverse natural values and attributes of the forest estate.

Goals in the management of State forest

State forest throughout the District has a multiplicity of uses. It is important for the protection of water supply catchments, conservation of plants and animals, and timber production and provides many opportunities for outdoor recreation. The forests also provide honey, forage, road-making materials, and other forest produce to satisfy various community needs.

Management of State forest should take into account these various values and should ensure that they can be maintained and that the range of forest products can continue to be supplied in the future. The Council believes that the broad management goals applying to State forest in this area should be incorporated into a regional 'Code of Forest Practice' and include the need to:

- protect forests and their associated vegetation and fauna from damage by wildfire and from injury by biological or other agents
- conserve landscape values, wildlife habitats, and floral, historical, and other natural values
- provide a continuing supply of hardwood timber on a sustained-yield basis
- provide opportunities and facilities for public recreation and education
- protect water supply catchments and stream environment in general
- protect adjacent softwood plantations from fire
- provide for apiculture, forest grazing, extraction of road-making materials, defence training, etc. where appropriate.

In relation to the goals the Council has referred below to a number of principles that should be incorporated into management plans for State forest. The principles are based on harvesting prescriptions used by the Department of Conservation, Forests and Lands.

Soil conservation and catchment protection

- Adequate buffer strips of at least 40 metres width along major streams and 20 metres along ephemeral watercourses and hydrologically sensitive areas should not be logged, and where possible other operations that cause soil disturbance should not take place in the buffer strips. They should, as far as practicable, be protected from fire. The width of the buffer should be determined after consideration of the sensitivity of the particular stream environment.
- All roads and snig tracks, log landings, and dumps should be designed and constructed to minimize erosion. These should be adequately drained, breached, and barred when not required, and ripped to encourage rapid regeneration.
- Intensive utilization operations should be excluded from areas of high erosion hazard and from slopes generally greater than 30°.
- Except in some mixed-species forests at lower elevations, logging operations should be restricted during winter and during and following periods of heavy rainfall; consideration should be given to closing un-surfaced logging roads during these periods. Seasonal closure of other roads will continue to be necessary because of excessive damage, erosion, or cost of maintenance, or because of extreme fire hazard.
- Plans for forest roading and harvesting operations be discussed between the State Forests and Lands Service, the Land Protection Service, and the Division of Regional Management prior to implementation, so that the aims outlined in the above principles can be achieved.
- Forestry operations in water supply catchments should be undertaken in accordance with a 'Code of Forest Practice' and/or prescriptions and with the agreement of the Department of Water Resources or the delegated water authority.

Recreation and aesthetics

- Special consideration should be given to road location, size and shape of logging coupes, and other activities carried out in the forest in areas of high landscape value.

- Specific prescriptions should be applied to logging and other activities involving disturbance to the natural environment near major roads and walking tracks.
- All refuse associated with logging, mining, or quarrying operations (such as tyres, drums, and disused huts) should be removed at the end of the operations.
- Activities involving disturbance to the natural environment should not occur in buffer zones around popular recreation sites and beauty spots.

Nature conservation

- Significant vegetation communities and colonies of rare or endangered plants and animals should be protected. Management plans should include details as to how they might best be protected, following consultation with specialist groups such as the National Herbarium. Some species or communities may require long-term monitoring in order to assess their habitat requirements and the most appropriate methods of management to ensure their survival. The managing authority may, in some cases, need to:
 - create and manage buffer zones of adequate size
 - erect protective fencing
 - provide additional weed and vermin control
 - manipulate fire regimes to maintain or enhance the viability of certain species
 - collect and store seed for use in planting and re-establishment programs.

It may be appropriate for the management authority to involve local field naturalist groups or other interested parties in some of these management operations.

- Protection strips along streams and watercourses in logging coupes should be linked to other areas in which timber harvesting does not occur, in order to provide wildlife corridors.
- Some mature and veteran trees in logging areas should be retained for fauna habitat.
- All logged areas should be regenerated with forest tree species native to the area.

- Aerially applied pesticides and fertilizers should be used with caution; no compounds that may significantly affect native animals should be used; any compounds should be carefully applied so as to avoid damage to retained native vegetation.

Historic sites

- Sites of historical significance or interest (such as relics of mining, logging, or early settlement) should be identified, and the sites and their environs should be protected by special prescriptions.
- When such sites are identified, the desirability or otherwise of providing or upgrading vehicular access to each one should be considered when logging roads are being designed.

Recommendation

- E1** That the areas shown on Map A be used in accordance with the principles outlined above to:
- (a) supply water and protect catchments and streams
 - (b) produce hardwood timber
 - (c) conserve native plants and animals, and provide opportunities for the development of wildlife conservation techniques
 - (d) provide opportunities for open-space recreation (including hunting) and education
 - (e) produce honey, forage, gravel, sand, and other forest produce
 - (f) protect adjacent areas recommended for softwood production
 - (g) protect the values in the areas described in the following sections by the implementation of management prescriptions

and that they become State forest and be managed by the Department of Conservation, Forests and Lands.

Note:

This recommendation covers land previously recommended for hardwood production and uncommitted land, with the exception of areas for which other recommendations have been made in this review.

Pyrete Range

The Pyrete Range occurs on Ordovician sandstone, which has been eroded to form a complex topography of deep gullies and steep hills and lies between the Mount Bullengarook and Mount Gisborne basalt flows. This has resulted in the range forming a significant landscape feature when viewed from a number of vantage points such as Mount Macedon and the Gisborne-Bacchus Marsh road.

Though only some 50 kilometres from Melbourne, the range's topography has ensured that the area has remained virtually untracked, except for a number of fire-access tracks, while access into the range itself is extremely limited.

Vegetation in the range is predominantly open forest-woodland I of red stringybark, red box, peppermints, and long-leaf box while, in some northern sections, open forest-woodland II of the same *Eucalyptus* species can be found. Some 250 native vascular plants have been recorded, including the rare *Boronia pilosa*, *Bossiaea obcordata*, *Lepidium pseudotasmanicum*, and *Prostanthera saxicola*. In addition, silvertop (*Eucalyptus sieberi*), silver-leaf stringybark (*E. cinerea*) and long pink bells (*Tetratheca stenocarpa*) all have their westernmost occurrence in the Pyrete Range.

The native fauna of the area have not yet been systematically recorded, but preliminary surveys by local conservation groups indicate a significant assemblage of native fauna, with the tuan (*Phascogale tapoatafa*) being of particular interest. In addition, some 32 species of native birds have been recorded.

In its southern section, the range contains the relics of an old antimony mine, which are of historical significance. The area was also subject to gold-mining during the early gold-mining days of the State, but only a few shafts were sunk and they yielded little.

The range also forms part of the Merrimu Reservoir catchment area and supplies water for domestic use in Melton and Bacchus Marsh.

While the Pyrete Range has value for nature conservation, water production, and future recreation potential, the land system and vegetation communities found here resemble those in the Lerderderg State Park. However, the area has special significance due to its location, its relatively undisturbed nature, and its con-

servation and water production values; the land managing authority should ensure maintenance of these values and land use options so that consideration can be given in the future to the inclusion of this area in the State's system of conservation reserves.

Recreation and landscape

Council considers that the area described below contains scenic qualities or recreational values that warrant particular attention.

- the natural environment of the Blue Mountain Lookout should be preserved.

Nature conservation

A number of important plant and animal species occur in State forest as listed below, and these should be protected in accordance with the principles previously outlined.

- *Brachycome debilis*, in the western portion of the Cobaw State Forest
- *Pultenaea weindorferi*, along Fingerpost Road and Campaspe Road, Wombat State Forest
- *Pultenaea muelleri* var. *reflexifolia*, Mount Barker Road and Paradise Road, Wombat State Forest
- *Grevillea repens*, the following roads in Wombat State Forest.
 - along Werona Road, in Shepherds Flat State Forest, and
 - Rocklyn Road
 - Mount Barker Road
 - Langdons Hill Road
 - Star Track and Specimen Hill Road
 - Hell Hole Track
 - McGee Road
- *Acacia langina*, along the Werona Road, Shepherds Flat State Forest
- *Grevillea obtecta*, along the Vaughan forest road, Upper Loddon State Forest
- *Phascogale tapoatafa* (tuan), in the Cobaw State Forest

Historic sites

The following sites of historic interest should be protected in accordance with the principles previously outlined.

- Paradise Mill sawdust heap, Korjamunip Creek, Wombat State Forest
- Anderson's tramway site, Wombat State Forest. The remaining bed of Anderson's tramway is an important relic of works built for substantial timber mills during the latter half of the 19th century. The line of the tramway can be followed for much of its length here.
- Wombat Railway Station site and cuttings, Wombat State Forest
- Wheelers Hill site and tramway remains, Lerderberg River, Wombat State Forest. The site of this mill at the junction of the Lerderberg River and Nolan Creek is marked by tramway and other relics.
- Firth Park, Wombat State Forest, has significance because of its early establishment for distilling eucalyptus oil and its later development as a horticultural garden.
- Tryconnel Tunnel, Barry's Reef. This long tunnel evidently constructed to drain several shafts at Barry's Reef is significant because of its length and the reason for its construction, and as one of the few surviving tunnels in the area. Council notes that the tunnel is currently being used as access to a gold-mining operation.
- Water channel, Upper Loddon State Forest. The remains of this water channel, occurring on both public and freehold land, show the ingenuity and scale of some 19th century mining works.
- Povey's Grave, Blackwood. Isaac Povey, an early miner at Blackwood, died in 1855 and was buried on his claim. A bronze tombstone marks the site.
- Poppet-head and adjacent open-cut mine, Simmons Reef. This site illustrates two types of gold-mining—shafts and open cut. The Poppet-head is the last surviving one in the area, possibly because of its more recent construction, while the open cut is either the Imperial or the Amalgamated.
- Water races, Blackwood. Within the general proximity of Blackwood, a gold-mining centre of the 1850s, extensive intact lines of water races, often one above the other, are found traversing the steep hills along the Lerderberg River and its tributaries.

Natural features along streams

The Council believes that all streams in State forest should be protected in accordance with the principles previously outlined.

F. Softwood production

The study area includes part of the Ballarat Softwood Development Zone, which is centred on plantations in the Ballarat—Creswick—Beaufort area, but also includes the softwoods in the vicinity of Daylesford and Macedon.

The bulk of the study area's plantations lie near Daylesford. Output from these plantations is currently at a low level because they are still young; an exception is the small area at Mount Franklin, which yields some sawlogs and pulpwood.

The Board of Inquiry into the Timber Industry, previously mentioned in the Timber production and State forest chapter, also considered softwood production. The Report of the Inquiry made several recommendations relevant to the softwood industry in the District.

Following a publication of this report the government is presently developing the Timber Industry Strategy for Victoria. The strategy will undoubtedly have implications for the way areas set aside for softwood production are managed.

Existing plantations

Some 3 000 ha of plantation have already been established or are in the process of being established by the Department of Conservation, Forests and Lands in the Melbourne area, District 1. In addition private individuals and companies and other government agencies have established some 2 200 ha of plantation within the study area.

Land for softwood production

The government has expressed concern about the extent to which native forest is being cleared in order to establish pine plantations.

As an alternative to using forested public land, the government is investigating strategies whereby softwood supply commitments may be met by plantations on freehold land by private companies, private farm forestry, and the purchase of suitable private land by the State for plantation establishment. The Council supports such proposals in appropriate areas.

Until these investigations have been completed, the extent to which private land within

this study area would be required for softwood plantation remains uncertain. It is government policy that no further areas of public land carrying native forest be made available for softwood production.

Council believes that the areas previously allocated for softwood production in the 1977 recommendations and the areas of private land purchased by the Department but not yet planted should continue to be available for softwood production.

These recommendations include only a small addition to the existing area set aside for softwood plantations.

Plantation planting guidelines

The Council believes that the impact large plantations of softwood have on the natural environment can be reduced by retaining selected areas of native vegetation, and by adhering to catchment prescriptions prepared by the relevant authorities after consultation with the Soil Conservation Authority where applicable. The guidelines set out below apply to the establishment of plantations on public land in this study area.

No continuous plantation units should exceed 1 400 ha without obvious break-up areas retained as native forest. Samples (100-200 ha) of all vegetation types in the area should be retained. Where possible, several should be combined in one unit. The unit may be sited to improve the appearance of the plantation, or to combine with land unsuitable for planting to form a range of habitats for wildlife. Units may also include stands of native hardwood managed for timber production. While logging and fuel-reduction burning need not be prohibited in areas where native vegetation is retained, it is important to protect their functions in relation to soil conservation, water quality, and nature conservation. Any utilization, including that carried out prior to clearing, should be carefully controlled, and slash, snig tracks, and landings cleaned up. No retained area should be fuel-reduced in its entirety in any one year.

Native vegetation should be retained for at least 80 m from each bank along major streams and

40 m from each bank along minor streams. In order to maintain soil stability and water quality, it may be necessary to retain a strip of native vegetation of at least 20 m from the centreline along some other watercourses. This is in line with other Council recommendations that all wetlands on public land should be conserved. These strips of native vegetation should be kept free of exotic vegetation, and bulldozed material and windrows should be swept back to protect them from hot burns. The importance of ground cover and surface soil conditions in reducing the amount of sediment reaching streams should be recognized.

Landscape values of areas visible from main roads and major vantage points should be maintained or enhanced, with preference given to landscapes carrying native forests. The aim should be to avoid as far as practicable views of continuous swathes of cleared country, during both the establishment phase and the final felling of the mature crop.

This may be achieved by:

- retaining uncleared foreground reserves
- breaking up areas to be cleared with strategically located strips or blocks of vegetation
- retaining native forests as a backdrop on higher slopes and ridges.

On minor through roads, an interesting environment should be maintained by amenity plantings (preferably of native and local species). Where plantations are to be established adjacent to private property, consideration should be given to reasonable requests by the landholders for the retention of native vegetation along boundaries.

Clearing prior to planting makes the soil more liable to erosion until a new vegetation cover forms. Special care must be taken to ensure that soil erosion does not begin or increase during this period, and that water catchment values are not impaired. Clearing is to be confined to areas with a ground slope generally less than

20 degrees. Other factors that influence the extent of erosion—such as aspect, soil type and parent material, length of slope, and the amount of rainfall—should also be considered prior to clearing operations.

Roading is a major cause of concentration of water flows and a major source of sediment. In some plantations, special criteria in respect of road location, design, and maintenance may be necessary.

Prior to the commencement of clearing operations, the Soil Conservation Authority should be consulted on matters affecting soil stability and water quality, and the Fisheries and Wildlife Service on matters concerning wildlife conservation.

Existing plantation

Recommendation

- F1 That the present plantation area, shown on Map A, continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977.

Plantation extension

The following recommendation covers an area of cleared land specifically purchased for plantation establishment.

Recommendation

- F2 That the area of 327 ha, Parish of Bungal and shown on Map A be used for softwood production in accordance with the above plantation guidelines.

and that it be reserved forest under the provisions of the *Forests Act* 1958 and be managed by the Department of Conservation, Forests and Lands.

Note:

Some 18 ha of this area are currently being planted for softwood production.

G. Flora reserves

In addition to the floristic values of the parks that have been recommended in this study area, a number of areas contain native vegetation of considerable floristic importance and in a relatively natural state.

Council has recognized the special conservation significance of these areas and has accordingly recommended their reservation as flora reserves. They are set aside primarily to conserve species that may be rare or endangered, and also other plant associations that have particular conservation significance. Timber production from these areas would not be permitted.

In all such reserves, suppression of fires remains the responsibility of the Forests Commission. Appropriate fire-prevention measures such as maintenance of fire access tracks and protective burning will be carried out where necessary as will the control of vermin and noxious weeds.

During the review of the Melbourne area, District 1, areas and sites of special botanical value and significance were identified by consulting botanists. Some of these have been recommended for inclusion in the State's system of conservation reserves, where appropriate. Others have been recommended to be included in broader land use categories such as State forest. In such cases attention has been drawn to the existence of these sites so that the land management can make suitable provision for the protection and maintenance of the sites' botanical values

Recommendations

Existing flora reserves

- G1-** That the flora reserves shown on Map A
G15 continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977

Note:

Following the publication of Final Recommendations for the North Central area (1981) Fryers Ridge was accepted as a Flora reserve.

Additional flora reserves

- G16-** That the areas shown on Map A and
G19 described below be used to:

(a) conserve particular species or associations of native plants

that

- (b) honey production be permitted
(c) passive recreation such as nature study and picnicking be permitted
(d) grazing not be permitted
(e) hunting and use of firearms not be permitted.

and that they be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed by the Department of Conservation, Forests and Lands.

- G16** Upper Loddon Flora Reserve (820 ha)

To be used to preserve the open forests and woodlands of red stringybark, red box, long-leaf box, and narrow-leaf peppermint, the extensive stands of the rare *Pultenaea graveolens*, the occurrence of the recently described and rare *Grevillea obtecta*, and the scattered areas comprising *Eucalyptus melliodora*, *E. rubida*, and *E. radiata* forests and woodlands.

The understorey here is particularly species-rich and includes examples of understoreies atypical of the area, such as open heath with sub-dominant *Lomandra* spp. rather than wallaby or tussock grass. The extensive stands of *Pultenaea graveolens* (scented bush-pea) are of particular importance in the total distribution of this rare species.

The open forests of narrow-leaf peppermint, yellow box, and candlebark here mainly occur along the drainage lines, where individual trees have attained impressive size. In addition, this alliance of eucalypts, which represents a transition from the woodlands to the forests, is not well represented on public land, mainly having been cleared for agriculture.

- G17** Gisborne Racecourse Reserve—15 ha, being the southern portion of allotment 19B, Parish of Gisborne

To be used to preserve the marshland community dominated by *Juncus* spp. and associated marshland flora.

G18 Mount Charlie (360 ha)

To be used to preserve one of the largest areas of undisturbed peppermint messmate forests found in the Macedon area. Some 191 species of native plants have been recorded here, including *Eucalyptus cinerea* (silver-leaf stringybark) and a number of other species that have their only known occurrence in these regions.

G19 T Hill (80 ha)

T Hill has similar vegetation character-

istics to those of Mount Charlie and some 82 species of native flora have been recorded, including three species—*Convolvulus erubescens* (pink bindweed), *Cotula coronopifolia* (water buttons), and *Vittadinia gracilis* (woolly New Holland daisy)—that have not been recorded elsewhere in the Macedon Range area.

Note:

Both Mount Charlie and T Hill were previously recommended by Council to be part of the Macedon Regional Park and were zoned for nature conservation.

H. Flora and fauna reserves

Throughout the study area, a number of locations provide valuable habitat for populations of native fauna and contain examples of native vegetation with considerable floristic importance.

Council has recognized the special conservation significance of two of these areas and has accordingly recommended their reservation as flora and fauna reserves.

In such reserves, suppression of fires remains the responsibility of the Forests Commission. Appropriate fire-prevention measures such as maintenance of fire access tracks and protective burning will be carried out where necessary, as will the control of vermin and noxious weeds.

Existing flora and fauna reserves

Recommendations

- H1- That the flora and fauna reserves shown on Map A continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977.
- H2

Additional flora and fauna reserve

Recommendation

- H3 That the area indicated on Map A and described below to be used to
 - (a) conserve native plants and animals that

- (b) honey production be permitted
- (c) passive recreation such as nature study and picnicking be permitted
- (d) grazing not be permitted
- (e) hunting and use of firearms not be permitted

and that it be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed by the Department of Conservation Forests and Lands.

H3 Long Forest (240 ha)

This reserve consists of a number of small dispersed parcels of government-purchased public land, which contain portions of the only occurrence of bull mallee (*Eucalyptus behriana*) south of the Divide—the closest mallee scrubs to here being in the Whipstick State Park near Bendigo. Associated with the bull mallee are yellow box, yellow gum, long-leaf box, grey gum, and a species normally found in East Gippsland, blue box. Some 200 bird species have been observed in the area, a number of which are common in the Victorian mallee. Mammals include kangaroos, wallabies, koalas, echidnas, possums, and gliders. The white-footed dunnart has recently been recorded here. In addition, there is a wide range of insects. Of the 12 species of bull ants found here, two occur nowhere else in Victoria.

I. Bushland reserves

Throughout the predominantly agricultural regions of the study area, a number of parcels of public land carry remnants of native vegetation. This vegetation, particularly the ground flora, has often been modified from the original by grazing and invasion of weeds. The native tree species remain, however, and these areas provide landscape diversity, particularly where more intensive agriculture is resulting in a gradual reduction in the numbers of trees on freehold land.

Council recommends that several of these small remnants of the native vegetation should become bushland reserves. Their major uses are to maintain the distinctive Australian character of the countryside and to provide diversity in the landscape. When accessible, they may also provide some opportunities for passive recreation in relatively natural surroundings, but it is not intended that they be developed for recreation. For some the only access is via an unused road covered by an unused-road licence, which should continue subject to the approval of the Department of Conservation, Forests and Lands. These bushland reserves are generally too small to have major significance for fauna conservation, although some may be important for migratory birds.

Management should aim at the maintenance of the native flora, particularly the tree species. Limited gravel extraction, low-intensity grazing, and the cutting of small amounts of firewood and an occasional post and pole are not necessarily incompatible with this primary aim, provided they are carefully planned and controlled and do not spoil the appearance of the reserves, particularly as viewed from roads and lookout points. These uses may not be appropriate to all reserves. In some instances the land manager may have to exclude them, at least temporarily, in order to permit regeneration of tree species.

In all bushland reserves the suppression of fires remains the responsibility of the Forests Commission. Appropriate fire-prevention measures will be carried out where necessary.

Existing bushland reserves

Recommendations

- I1-** That the bushland reserves shown on **I80**, Map A continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area, January 1977.

Note:

Council has made a subsequent recommendation for bushland reserve **I81**—see Recommendation 07.

Additional bushland reserves

Recommendation

- I83-** That the areas indicated on Map A and **I113** described below be used to:
- (a) maintain the local character and quality of the landscape that
 - (b) passive recreation such as picnicking and walking be permitted
 - (c) honey production be permitted
 - (d) grazing be permitted subject to the approval of the land manager and that they be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed by the Department of Conservation, Forests and Lands.
- I83** 5 ha, comprising the areas south of allotments 7A and 12, section 1A, Parish of Yandoit
- I84** 3 ha, north of allotment 2, section 4, Parish of Holcombe
- I85** 4 ha, north of allotment 2D, section 4, Parish of Holcombe
- I86** 2 ha, being allotment 41, section 6, Parish of Glenlyon
- I87** 2 ha, west of allotment 12M, section 4, Parish of Burke
- I88** 6 ha, adjacent to allotment 1C, section 6, Parish of Burke

- I89** 4 ha, being the Recreation and Watering Purposes Reserve adjoining allotment 3A, section 2, Parish of Burke
- I90** 5 ha, north of allotment 4, section 2, Parish of Burke
- I91** 5 ha, being allotment 53E, section 3, Parish of Burke
- I92** 163 ha, being the Timber Reserve south of allotment 10S, section 3, Parish of Burke
- I93** 1 ha, being the Stone Reserve within allotment 2B, section 6, Parish of Burke
- I94** 1 ha, being the Water Reserve, north of allotment 42A, Parish of Carlsruhe
- I95** 2 ha, south of the Cemetery Reserve, Parish of Woodend
- I96** 80 ha, being allotment S24, section A, Parish of Langley
- I97** 32 ha, west of allotment 28, Parish of Langley
- I98** 2 ha, comprising the temporary Railway Reserve and State School Reserve, adjoining allotment 10D, section B, Parish of Tooborac
- I99** 2 ha, being the Water Reserve, adjoining allotment 8P, Parish of Tooborac
- I100** 4 ha, being the Water Reserve, south of allotment 155, Parish of Moranding
- I101** 3 ha, being the Water Reserve, north of allotment 134B, Parish of Moranding
- I102** 1 ha north of allotment 137A, Parish of Moranding
- I103** 3 ha, being allotment 20G, Parish of Glenburnie
- I104** 4 ha south of allotment 15N, Parish of Glenburnie
- I105** 3 ha, being allotment 4E, section 5, Parish of Moorarbool West
- I106** 4 ha, being the Public Purposes Reserve, allotment 2A, section 13, Parish of Gorong
- I107** 1 ha, being allotment 69A, Parish of Coimadai
- I108** 60 ha, being the Timber Reserve north of allotments 81B and 81A, Parish of Yangardook
- I109** 20 ha, being the Water Reserve allotment 39, Parish of Meredith
- I110** 8 ha, being allotment 78D, Parish of Anakie
- I111** 0.5 ha, being the Departmental Water Reserve adjacent to allotment 1A of section 173, Parish of Bellarine
- I112** 2 ha south-west of allotment 6, section B, Parish of Bellarine
- I113** 4 ha in the north-east of allotment 44A, section 2, Parish of Bellarine

J. The coast

The coastline of the State is a resource of great value for recreation, for nature conservation, and for the preservation of features of historical interest.

In formulating recommendations for public land along the coast, Council is aware that coasts represent a dynamic zone of interaction between land and sea, encompassing fragile environments.

The various management authorities of coastal land are required to ensure that their management is consistent with the State-wide coastal policies and strategies prepared by the Ministry for Planning and Environment.

All works proposed by committees of management or government agencies on coastal lands require prior consents or approval of management plans by either the Minister for Planning and Environment, for areas within Port Phillip Bay, or by the Coastal Management and Coordination Committee, for the coastline outside Port Phillip Bay.

Coastal reserve

A coastal reserve is an area of public land on the coast set aside primarily for public recreation, education, and inspiration in coastal environments. Coastal areas specifically reserved for some other purposes (parks, wildlife reserves, sites for navigational aids, or major ports) would not be included in the coastal reserve.

Aboriginal middens occur frequently along the coastline.

Existing coastal reserves

Recommendations

J1-J2 That the areas indicated on Map A and listed below continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area, January 1977.

J1 Lorne to Queenscliff

J2 Port Phillip Bay

Additions to the coastal reserve

J3 That 14 ha, being the southern portion of a parcel of unreserved Crown land, east of the Sewerage Treatment Works Reserve, Township of Anglesea, should be added to the existing adjacent Coastal Reserve and used accordingly.

Note:

Council is aware that an area of freehold land near Anglesea, known as the Ironbark Basin, is currently the subject of negotiations between the Department of Conservation, Forests and Lands and the Shire of Barrabool. It is envisaged that these negotiations will result in the inclusion of the Ironbark Basin in the public land estate.

Scenic coasts

A scenic coast is defined for the purpose of these recommendations as a coastline of outstanding beauty that remains in a relatively unspoilt state. This quality is derived primarily from natural attributes, but may be supplemented or enhanced by man-made features such as lighthouses that serve to dramatize the landscape, or by pleasant rural-landscape elements.

Some of the coastline in this area fits this description, and is an important component in the State's coastal landscape heritage. The Council believes that it is important to protect the landscape qualities of such coastlines, and that such areas should be used primarily for public enjoyment, education, and inspiration in coastal surroundings in a manner that will leave landscape values unimpaired.

Recommendation

J4-J5 That those portions of the coastline indicated on Map A continue to be designated scenic coast and that planning and management be carried out in these areas as approved by the government following publication of the final recommendations for the Melbourne area, January 1977.

K. Rivers and streams

Public land water frontages

Along a number of rivers and streams in the study area, a strip of public land has been reserved between the water and adjacent public land or alienated land. No public land strip adjoins land alienated before 1881, and some properties in the study area have titles that extend to the banks or even incorporate the bed and banks of a stream. Thus some streams and rivers have either no public land water frontage or a discontinuous one. The recommendations that follow do not apply to privately owned frontage.

The locations of public land water frontages are shown on parish plans, which are available to the public from the Central Plan Office in the Department of Conservation, Forests and Lands. These frontages may have a surveyed boundary of short irregular lines or be of specified width (varying in particular instances from 20m to 60m) along each bank. In some cases this land has been reserved for public purposes under the *Land Act* 1958 and in others it is unreserved. The land usually comes under the control of the State Forests and Lands Service in the Department of Conservation, Forests and Lands while in all cases the Rural Water Commission controls the water.

Each of these authorities may delegate some of its responsibility to local bodies. The State Forests and Lands Service may form committees of management for public purposes, while river improvement or drainage trusts under the guidance of the Rural Water Commission may be formed in certain areas. The Forests Commission controls forest produce on public land water frontages except where a committee of management has been formed. Public land frontages alongside artificial water storages and aqueducts are often controlled by the water supply authority that controls the water.

Adjoining occupiers often hold public land water frontages under licence for grazing purposes. Special conditions may apply to the licences—for example, to permit cultivation. The licence system has advantages in that licenceholders are required to control noxious weeds and vermin on the frontage. This control would be extremely difficult and expensive to achieve

in any other way. When a frontage is held under licence, boundary fences are normally extended to the water's edge. In the past, licensees often discouraged public access because of an understandable fear of damage, intentional or otherwise, to property. Vandalism and littering are problems in many areas open to the public, and firm action by authorities with management responsibilities is often required. Control is obtained through the normal exercise of fire, litter, firearms, and other regulations, although it is evident that more effective policing is required, particularly at weekends. Education of the public to understand the rural environment is perhaps the best solution in the long run.

These licensed river frontages are, however, public land; they are often valuable for low-intensity forms of recreation such as walking, fishing and observing nature, and provide access to extensive lengths of streambank. Following the *Land (Amendment) Act* 1983, members of the public may 'enter and remain for recreational purposes' onto licensed frontages. Licensees are required to erect and maintain a suitable means of pedestrian access to the water frontage.

This condition has not been applied to the majority of existing licences and Council believes that in some situations, for example along popular fishing streams, the provision of stiles would facilitate pedestrian access along public land water frontages and would reduce damage to fences and avoid gates being left open.

Public land frontages that are unlicensed have no restriction on public access, although use of vehicles is controlled by the *Land Conservation (Vehicle Control) Act* 1973. They are, however, normally fenced off from adjacent freehold land. The landholder has no obligation to provide access through freehold land to the frontage, and nothing in these recommendations suggests that this situation should change.

The maintenance of a vegetation cover along stream banks is important in preventing soil erosion and in preserving the local landscape. Public land water frontages are sometimes valuable for nature conservation as well, as they may provide corridors for movement of no-

madic and migratory species, or support native plants and animals that are no longer found in surroundings areas. In too many cases, however, the provisions of the relevant Acts have not been enforced effectively, and such public land water frontages have been progressively cleared of native vegetation.

Public land water frontage reserves

Water frontage reserves are defined for the purpose of these recommendations as being all existing water frontages and other reserves or unreserved public land adjoining streams except for those areas, not currently reserved as a water frontage, that have been set aside elsewhere in these recommendations whether as part of a large reserve (such as national park or State forest) or for some special purpose (such as a flora, recreation or streamside reserve).

Recommendation

- K1** That public land water frontage reserves continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area, January 1977.

Streamside reserves

In many instances, small blocks of public land adjoin streams but are not included in the public land water frontage.

These blocks have, where appropriate, been designated streamside reserves. Some are currently reserved under section 4 of the *Crown Land (Reserves) Act 1978*; others are unreserved Crown land, although they may be licensed for grazing. Vegetation on these areas varies from open woodlands to grassland. Every effort should be made to conserve native trees on these reserves, where they exist, and to encourage regeneration or restoration where the vegetation has been depleted or destroyed.

Blocks of public land such as this have values for nature conservation and recreation. They allow public access to the river or stream, especially where access along the public land water frontage is difficult. The land manager may provide facilities for activities such as camping on streamside reserves in areas where conflict with nature conservation values are minimal.

It is intended that public land water frontages adjacent to or within a streamside reserve be managed by the authority for that reserve.

Stream reserves are separate and distinct from the public land water frontages described earlier in these recommendations.

Recommendations

Existing streamside reserves

- K5-** That the streamside reserves shown on Map A continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977.

Additional streamside reserves

- K47-** That the areas shown on Map A and **K56** described below to be used to:
- provide passive recreation such as picnicking, walking, and angling
 - provide opportunities for camping at the discretion of the land manager if this use does not conflict with the maintenance of the water quality of the adjacent stream
 - conserve flora and fauna
 - maintain the quality and character of the local landscape
 - provide grazing, at the discretion of the land manager, if this use does not conflict with the maintenance of the water quality of the adjacent stream or with the protection of riparian vegetation, bank stability and areas identified as having special values in need of protection.

and that they be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and be managed by the Department of Conservation, Forests and Lands.

- K47** 1 ha, being the Departmental Water Reserve adjoining allotment 11, section 2A, Parish of Yandoit
- K48** 4 ha, being the Water Reserve west of allotment 14, no section, Parish of Edgcombe
- K49** 4 ha, being the Departmental Reserve, west of allotment 18, Parish of Glenarou
- K50** 3 ha south-east of allotment 12A, Parish of Chintin

- K51** 2 ha south of allotment 27, Parish of Chintin
- K52** 2 ha adjoining allotments A and B, section 7, Parish of Bulla Bulla
- K53** 2 ha east of allotment 15A, section C, Parish of Monegeetta
- K54** Gallaghers Ford—10 ha north of allotment 1, section B, Parish of Monegeetta

- K55** 4 ha adjoining allotments 1 and 11, section 10, and allotments 7 and 2, section 11, Parish of Moorarbool West.

Note:

This reserve requires revegetation with tree species native to the area.

- K56** 10 ha adjoining allotments 112T and 112Q, parish of Coolebarchurk

L. Roadside conservation

The primary purpose of road reserves is obviously to provide for communication, transport, and access. However, vegetation along the road verges can have particularly high conservation, recreation, and landscape values, especially in agricultural districts where most of the native vegetation has been cleared. Geological features exposed in roadside cuttings are a useful adjunct to more detailed work involved in mapping the geology of an area and are often used as an educational resource.

Nature conservation

Vegetation on roads is important for nature conservation because in some parts of the State it often contains the only remnants of the region's native plant associations. Such remnants are valuable for preserving species with restricted distribution and genetically interesting variants of widespread species. They are often useful in land studies, as they may permit the original pattern of the vegetation to be pieced together. They also provide habitat (particularly in tree hollows) for some native animals, and have special significance as pathways permitting birds to move through the countryside on annual migration, or in search of food or nesting sites. While some roads retain wide strips of native vegetation, many are mostly cleared or otherwise greatly altered. Valuable remnants of native vegetation growing on the verges of some roads should be protected where possible.

The Arthur Rylah Institute for Environmental Research, Technical Report Series No. 11, September 1984. 'Conservation of Roadsides and Roadside Vegetation', gives a comprehensive review of values, methods of assessment, and management of roadsides for the purposes of nature conservation.

Accumulation of fuel along roadsides is a fire hazard of concern to fire-control authorities and it must often be reduced by burning off during cool weather. This burning off sometimes conflicts with scenic and conservation values and the Council believes that such burning should be restricted to strategically important areas and kept to the minimum consistent with efficient fire protection.

The Roadsides Conservation Committee, which comprises representatives from various interest groups and government departments, has prepared a set of guidelines that provide for both conservation and fire protection.

Recreation and landscape

In rural districts, vegetation along roads is often a major component of the landscape, breaking the monotony of cleared paddocks and accentuating the contours of the land. It provides a pleasant, variable road environment for motorists, and shady areas for rest and relaxation. The Council believes that as much roadside vegetation as possible should be retained when roads are being upgraded. If a major upgrading is being planned, the feasibility of purchasing a strip of private land should be considered in order to preserve good stands of roadside vegetation.

Management

Responsibility for the management of roadside vegetation is vested in various authorities, depending on the status of the road. The most important roads of the State (State highways, tourist and forest roads, and freeways) declared under the *Transport Act 1983* are completely under the control of the Road Construction Authority (9 000 km). Main roads (14 500 km) are also declared, but are controlled jointly by the Road Construction Authority and local municipal councils. Vegetation on unclassified roads (about 98 000 km of mostly minor roads) is under the care and management of municipal councils, although it is owned by the Crown. The Department of Conservation, Forests and Lands has the control of vegetation on classified roads that pass through or adjoin State forests. (Note: these figures are for all Victoria).

Back roads

With increasing population and use of cars, a tendency has developed for through-roads in the State to be continually upgraded. Tree-lined back roads with gravel surfaces on narrow winding alignments are becoming increasingly uncommon. Yet for many people such roads

best fulfil their need for contact with rural environments. The Council believes that a conscious effort must be made to maintain the character of these roads, particularly when upgrading or realigning is being considered.

Recommendation

L1 That road reserves throughout the study area continue to be used for communication, transport, access, surveys and utilities.

Landscape, recreation, and conservation values can best be protected by observing the following guidelines. The Council recognizes that many of these are already being implemented by the bodies responsible for the construction and maintenance of roads.

- When improvements to a road are being carried out, trees and shrubs on the road reserve should be disturbed to the minimum extent consistent with the safe and efficient design and use of the road.
- Major works to realign minor roads carrying trees and shrubs should not be undertaken unless clearly warranted by the nature and volume of the traffic carried, and the managers of adjacent public land should be consulted regarding such works.
- Where re-alignment of a road results in a section of the old road being cut off, wherever possible that section should not be sold but used as a recreation and rest area or incorporated into an adjacent appropriate reserve.
- Where a pipeline or overhead wires are to follow a road carrying trees and shrubs in a rural district, every effort should be made to locate the easements on private land alongside the road if this is already cleared, rather than clearing roadside vegetation to accommodate them.
- While recognizing the need for clearing or pruning vegetation close to power lines to reduce the associated fire risk, the State Electricity Commission should consult the Department of Conservation, Forests and Lands regarding the manner in which the risk posed by vegetation can be reduced, while at the same time reducing the environmental impact to a minimum.
- Road-making materials should not be taken from road reserves unless no suitable alter-

native sources are available. Any such removal should be done so as to ensure a minimum disturbance of the native vegetation, and the disturbed area should be rehabilitated, where possible, with vegetation native to the area.

- Burning off, slashing, or clearing of roadside vegetation should be kept to a minimum consistent with providing adequate fire protection.
- Weeds and vermin on roads should be controlled by means that do not conflict with the uses given above.
- The various road management authorities, when planning to upgrade roads that have heavy recreational use, should give due consideration to recreational requirements, and give priority along such roads (when funds are available) to the development of roadside recreational facilities.
- On soils of moderate to high erosion hazard, road management authorities should ensure that pre-planning, design, construction, and funding of roads cater adequately for erosion prevention and control. Advice should be sought from the Land Protection Service.

Note:

The Road Construction Authority has indicated to Council that at some time in the future the alignment of the following declared roads may be altered:

- Greendale—Trentham road
- Drummond—Vaughan road
- Midland Highway—Daylesford
- Cameron Drive tourists' road
- Daylesford—Trentham road
- Ballan—Daylesford road.

Council believes that should these road alignments be changed then the above guidelines should be followed.

Roadside sites of botanical importance or historical significance

Recommendations

- L2-** That, when widening or re-alignment of roads is proposed, sites of historical, habitat, or botanical significance that may
- L7**

be affected be investigated and every effort made to retain and preserve them.

A number of important sites along road reserves should be protected and these are listed below.

- L2** Glenluce road
The occurrence of the small-leaved form of *Grevillea obtecta* here should be protected.
- L3** Hume Freeway; Broadford—Seymour
Scenic and substantive stands of river red gum, red box, red stringybark, and yellow box, with their associated understorey floras, occur both along the highway and on the median strip.
- L4** The various occurrences of *Eucalyptus aggregata* in the vicinity of Woodend.
- L5** Road bridge
Sunbury road over Jackson's Creek, Bulla
- L6** Djerriwarrh Creek bridge, Western Highway, Bacchus Marsh
A sandstone bridge, still intact, built in 1858 by the Road and Bridges Department of the Board of Land and Works.
- L7** Memorial avenue of trees, Bacchus Marsh
This avenue of elm trees is one of the finest in the State.

Unused roads

When the State was being settled, surveyors provided access to every block by means of a surveyed Crown road. Many of these have never been used as roads, and they are usually held by the occupiers of the adjoining land under an unused-road licence.

Recommendation

- L8** That the following guidelines, approved by the government following publication of the final recommendations for the Melbourne area, January 1977, continue to apply to unused roads:
- The clearing of native trees and shrubs other than noxious weeds should continue to be clearly prohibited in the conditions of unused-road licences.
 - A condition permitting public use of licensed unused roads should be written into unused-road licences where necessary to provide practical access to public land.
 - Unused roads or easements should not be alienated if there is any likelihood that they will have value for future traffic, nature conservation, recreation, or other public use.

Roadside picnic areas

Along some roads, the reserve carries picnic areas and wayside stops. Council considers there is a need for additional areas in attractive locations off the road reserves, that could be used for relaxation and picnicking. Some picnic facilities should be provided.

Recommendation

- L9** That the land management authorities establish picnic areas in suitable locations adjacent to the road reserves. One such suggested site being the 4 ha recreation reserve and adjoining public land south of allotment 3D, Parish of Franklin in which abuts the Castlemaine–Daylesford road.

M. Education areas and school plantations

Education areas

Environmental education is a fundamental step in the conservation of natural resources; it has become an important part of school curricula, and forms the basis of courses for tertiary and adult students.

Environmental education is indispensably linked with field studies. It is concerned with studying and appreciating all sorts of environments—natural ones undisturbed by man's activities, natural ones manipulated to produce particular products such as hardwood timber, or drastically altered ones such as are found in urban and agricultural areas. One of its basic requirements is access to land.

Council, realizing that public land provides excellent opportunities for studies of a wide range of environments, has recommended that almost all public land (including parks, wildlife reserves, and State forest) be available for educational uses. Council believes that in most situations educational studies can take place without conflicting with the primary use for which an area is set aside. Indeed in some cases it is the manipulation of the land for the primary use that makes the area of value for environmental education. Council believes, however, that it is necessary for some relatively undisturbed land to be set aside specifically for educational uses, as unless this is consciously done, such environments will tend to be changed by other uses. In these areas education would be the primary use and other uses would only be permitted when not in conflict with the educational use. Activities permitted in education areas that may not be appropriate elsewhere should include long-term studies, collection of biological material, biomass studies, and the establishment of growth plots. They may also provide opportunities to demonstrate techniques of erosion control and the restoration of native vegetation and stream conditions to a more natural state.

In selecting land for education areas, the Council has sought to provide areas:

- giving examples of major land types
- with maximum diversity of vegetation types, soils, etc., and with natural boundaries

- located with consideration of ready access by users
- located so as to minimize the danger that wildfires present to users
- located in proximity to other land types and to a variety of other land uses
- large enough to prevent over-use and to allow for zoning to protect areas of special value
- selected so as to minimize erosion and pollution hazard

No one organization should have the exclusive right to use a particular education area, as it is important that students have the opportunity to visit a number of education areas in various land types throughout the State rather than visiting the one site several times. Minimum facilities such as toilets and shelters would be required at each education area, and it would be desirable to have accommodation either on the area or at some nearby locality. Whether or not accommodation facilities are located on the education area will depend on its proximity to other areas of educational value in the region and also on the availability and location of existing accommodation. In forested areas accommodation and other permanent facilities should only be provided where adequate safeguards against fire can be made.

The Council believes that management plans for education areas should be prepared by the Service within the Department of Conservation, Forests and Lands with planning responsibilities for the adjacent or surrounding public land. Planning and implementing the education aspects together with co-ordinating the use of areas should be done in consultation with the Education Department, other user groups in the education system, and with community bodies with an interest in environmental education.

Existing education areas

Recommendations

- M1-** That the areas indicated on Map A and
- M3,** listed below continue to be used for those
- M5-** purposes approved by the government

- M6** following publication of the final recommendations for the Melbourne area in January 1977.
- M1** Eumeralla (313 ha)
- M2** Ocean Grove Nature Reserve (143 ha)
- M3** Meredith (236 ha)
- M5** Tylden South (115 ha)
- M6** Mount Piper (45 ha)

Notes:

1. Council notes the presence of historical mine tunnels on Mount Piper (M6), and they should be preserved for educational purposes. In addition, use of these tunnels should be such as to ensure the safety of visitors (in matters of public safety nothing in these recommendations affects the powers of Inspectors under the *Mines Act* 1958 and the *Extractive Industries Act* 1966; it is understood that in exercising these powers the land manager would be consulted).
2. The former M4, Korjamunip educational area
Council now proposes to recommend that this education area become State forest (Recommendation E1). Council believes that its location, access, and particularly the steep topography detract from its value as an education area.

Additional education area Recommendation

- M7** That area of public land described below and shown on Map A be used to provide opportunities for students of all ages to:
 - (a) study the nature and functioning of reasonably natural ecosystems in a manner such that the integrity of these ecosystems is maintained as far as practicable.
 - (b) compare the ecosystems within education areas with other nearby natural and modified systems.
 - (c) observe and practise the methods of environmental analysis, and the field techniques of the natural sciences.
 - (d) conduct simple long-term experiments aimed at giving an understanding of the changes occurring in an area with time and

that it be permanently reserved under section 4 of the *Crown Land (Reserves) Act* 1978, and be managed by the Department of Conservation, Forests and Lands.

- M7** Spargo Creek (290 ha)

Ordovician shale and sandstone, newer volcanic basalt; low hills; some steep; open forest II-III messate stringybark in association with broad-leaf and narrow-leaf peppermint and manna gum; elevation approximately 600 m; annual rainfall approximately 1 000 mm.

Notes:

1. Council is aware that this area is currently being used for the study of arboreal animals, particularly the greater glider.
2. This area does not include any part of the Blakeville Fire Effects study area, but its proximity to the reserve adds educational value.

School plantations

Throughout the study area, numerous areas of public land have been set aside as school endowment plantations as part of various school's educational resources. The plantations were initially established to instil, through community involvement, a love of forests and an appreciation of their value; and in fact many of them are well suited for regular use as a teaching resource of this nature. It is expected that this use will increase as courses embracing various aspects of environmental science are developed. Many schools have planted their plantations to radiata pine, and used revenue from the sale of produce to provide amenities they required. In some cases, however, these plantations have not been very successful in providing revenue, as the sites proved unsuitable for economic growth or the plantations were too small or the location too far from processing centres to allow economic harvesting. In some instances, radiata pine plantations have failed because of poor management.

Council believes that all the existing plantations should be assessed in order to establish their value as a teaching resource. The use of those that are not now needed or that are un-

suitable for teaching purposes for some reason, such as their location, should be terminated. Those planted to radiata pine that have limited value as a teaching resource although satisfactory for wood production may continue to be used for such production, but should be reviewed when the pines are harvested.

Unused sand or gravel pits, or cleared areas such as former school sites, require rehabilitation or revegetation. Council considers that, in some instances, such areas could be used as school plantations. Their rehabilitation not only could be used to demonstrate various aspects of *environmental science* but also could provide an opportunity to involve pupils in projects that are clearly in the public interest.

It should be realized that most of the land in the State is available for some form of educational use, and education areas have been recommended specifically for this purpose. While, as indicated in the section on youth camps, the Council is not in favour of setting aside land exclusively for the use of any one organization, schools wishing to use an area of nearby bushland for teaching purposes should consult with the appropriate managing authority. Their use of such an area should be in harmony with the manner in which the surrounding public area is used.

Recommendations

- M8** That areas set aside for school plantations be primarily used as a teaching resource and utilized to foster awareness and knowledge of the trees and other living organisms that comprise a forest.

Note:

This recommendation does not exclude the use of school plantations as a means of raising revenue for schools. Such use, however, should be secondary to the educational use.

- M9** That the value of each existing school plantation as a teaching resource or for revenue production be assessed by the Education Department—in consultation with the Department of Conservation, Forests and Lands.

and that the use of those considered unsuitable or no longer required be terminated.

- M10** That new school plantations only be established on public land for educational purposes and where their establishment allows the rehabilitation or reforestation of cleared or eroded areas.

N. Historic areas

In the Melbourne Area, District 1, relics associated with the history of the area occur on many sites on both public and private land. Aspects or themes of Australian history found include sites and relics related to early exploration, pastoral development, mining, transport and education and to the development of secondary industries and services.

The discovery of gold in Central Victoria had a major influence on development there. The study area contains a large number of gold-mining sites that provide examples of different mining techniques, ranging from small alluvial hand workings to large deep lead mines. The relics of the settlements and developments associated with the goldfields also provide information on the social environment of that period.

There is considerable interest in the community about the State's history. This interest is likely to increase, particularly as more becomes known about historical relics located on public land. Council considers that sites of historical interest should be protected as far as possible from progressive deterioration due to exposure to the weather and from damage by the public.

Council conducted a study to identify the major historical themes representative of past uses of the sites and areas of greatest historical significance. Information on historical sites was also provided in submissions received. Where sites were identified that are not currently protected by reservation or mentioned in the following recommendations, their location has been drawn to the attention of the land managers, for appropriate protection by prescriptions and in management plans (see chapters E—State forest and L—Roadside conservation).

Council believes that several of the mining sites should be reserved to protect the artefacts within them.

Management of historic areas

The recommended historic areas include portions of the major goldfields of the region. Council recognizes that there is interest in the exploration and possible mining of these goldfields. Council believes that such activities should be permitted in historic areas, as speci-

fied in the recommendations below, and that a balance should be achieved between these activities and the protection of historical relics. Areas to be excluded from exploration and mining should be agreed upon jointly by the Department of Industry, Technology and Resources and the land manager.

The management of historic areas should take into account the need for public safety in the vicinity of old mines and other relics. The Department of Industry, Technology and Resources has a statutory function with respect to the safety of mines, and nothing in these recommendations affects the powers of Inspectors of Mines as defined under the *Mines Act 1958* and *Extractive Industries Act 1966*.

Recommendations

Existing historic area

- N1 That the Bungal Historic Area continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977.

Additional historic area

- N2 That the area of 180 ha indicated on Map A and described below be used to—
- (a) protect specific sites that carry or contain relics of buildings, equipment, construction works, and artefacts associated with the history of the locality
 - (b) provide opportunities for recreation and education associated with the enjoyment and understanding of their history
- that
- (c) use of this area be such as to ensure the safety of visitors (in matters of public safety nothing in these recommendations affects the powers of Inspectors under the *Mines Act 1958* and the *Extractive Industries Act 1966*; it is understood that in exercising these powers the land manager would be consulted)
 - (d) exploration for and the extraction of 'gold' and 'minerals'—including

fossicking and prospecting under a Miner's Right—be permitted in accordance with Recommendations R1-R4 and the principles and guidelines contained in the Mineral and stone Chapter

- (e) low-intensity harvesting of timber be permitted except where this would have an impact on the historic features or their surroundings
- (f) removal and treatment of material from mine dumps only be permitted in areas agreed to by the Department of Industry, Technology and Resources and the land manager (safety, the availability of material from other sources, and the historical importance of the dump should be taken into account)
- (g) honey production be permitted

and that it be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed by the Department of Conservation, Forests and Lands.

N2 Castlemaine—Chewton (Sebastopol Diggings)

The majority of the Sebastopol Creek diggings are located here. These diggings contain examples of a variety of gold-mining techniques, the remains of engineering works such as water races, dams, and mining structures. They have not been worked since early this century.

Council has previously suggested, in the North Central area final recommendations, that this parcel of land should be considered as part of the Castlemaine—Chewton Historic Area.

O. Recreation

The term recreation includes the multitude of different activities that people undertake during their leisure time. In fact, the distinguishing characteristic of recreation is not the activity itself so much as the attitude with which it is undertaken—activities undertaken with little or no feeling of compulsion are almost certainly recreation.

Outdoor recreation is of particular interest to Council, as the public land of the study area provides important opportunities for it. Throughout, these recommendations refer to the countless forms of outdoor recreation in a number of ways:

- Formal recreational activities include all organized sports and other group activities, while activities such as picnicking, fishing and hiking are grouped as informal.
- Passive recreation covers situations where the individual obtains his recreation through enjoying the sights, sounds and atmosphere of the surrounding environment while expending little physical effort. Examples are picnicking, nature observation, and strolling.
- Active recreation covers situations where the individual must expend considerable physical effort to obtain more mastery of physical forces in order to satisfy his particular recreational needs. Examples are playing organized sport, bushwalking, and water-skiing.
- Open-space recreation includes all recreational activities that require spacious outdoor surroundings, whether the activities be active or passive, formal or informal.
- Intensive recreation involves large numbers of people per unit area. For example, parts of coastal foreshore would be considered to be intensively used.

In view of the predicted increase in demand for outdoor recreation and the high capability of some public land to meet this demand, the Council, in making its recommendations, has suggested that the majority of public land should be available for recreational uses of some sort. Accordingly, it has set aside a variety of reserves that will provide for a wide range of opportunities. Council could not, however, make recommendations covering in detail all

the forms of recreation currently pursued on public land. These include activities such as swimming, bushwalking, orienteering, canoeing, fishing, hunting, fossicking, picnicking, horse-riding, boating, trail-bike riding, and pleasure driving. Council believes that activities such as these can be accommodated, without detriment to other values, somewhere on public land. Consequently, Council points out that outdoor recreation in general is an acceptable primary or secondary use of much public land (except reference areas and some water storages and their buffers) and has left the details of recreational use to the land manager.

The various recreation activities differ in their requirements for types of land, size of area, and site location. They also differ in their impact on the land and on other activities (including other forms of recreation). Generally, any one activity pursued at a low level of intensity poses little threat to the environment and seldom conflicts with other activities. With increasing intensity, conflicts and problems can arise. There is always the problem of recreation damaging the environment it seeks to use.

Council therefore believes that the land manager should aim at controlling the levels and patterns of recreational use according to the capability of the area to sustain such use without irreversible damage or significant conflict with the primary purposes of the area, while at the same time avoiding unnecessary restrictions on usage. Special care will be required in the location and management of areas zoned for intensive recreation, to prevent environmental damage. Thus, more stringent restrictions can be expected in areas where the vegetation and soils are sensitive to damage (such as those occurring on granite soils), and where the natural environment or special nature features are being preserved.

Four particular forms of recreation that may require consideration by the land manager, whether now or in the future, are further discussed below.

Motorized recreation

Much outdoor recreation depends on motor vehicles. These may be conventional cars, four-wheel-drive vehicles, or motor cycles.

They may be used for touring and sightseeing, as a means of obtaining access to a particular area where other forms of recreation will be undertaken, or—where they are driven in competitive rallies or in adverse but challenging road conditions—as a source of recreation in themselves.

Most visitors to the area use conventional two-wheel-drive vehicles and keep to the major through routes. Others use four-wheel-drive vehicles or motor-cycles to gain access to the more isolated areas via the secondary system of roads that supplement the major ones. This system was constructed mainly for timber harvesting, forest management, and fire protection. The roads are frequently rough and sometimes steep and have not been designed to cope with increasing use by recreation vehicles.

Consequently, even legal use of roads can pose maintenance problems for the land manager. Authorities responsible for their construction and maintenance on public land may close roads temporarily or permanently when traffic exceeds their physical capacity, for safety reasons, or when use by vehicles is in unacceptable conflict with the area's primary uses. Erosion hazard areas may be proclaimed according to the provisions of the *Land Conservation (Vehicle Control) Act 1972* and regulations, enabling strict control to be enforced.

If the increased recreational use of roads is to be catered for, adequate funding should be provided for road maintenance, otherwise deterioration leading to erosion is inevitable.

A number of four-wheel-drive clubs have acknowledged the need for restrictions on motorized recreation in certain areas and during some periods of the year, and generally support the use of existing legislation to control undesirable activities. Clubs also recognize the need to inform and educate participants in motorized recreation of the environmental consequence of improper use of four-wheel-drive vehicles. Authorities with management responsibilities should continue to promote responsible attitudes to the use of four-wheel-drive vehicles and trail-bikes.

A significant and growing proportion of the population is becoming involved in recreational touring, which depends on the use of

roads on public land. Drivers of motor vehicles, including motor-cycles, who leave the roads on public land contravene the provisions of the above *Act*. (Limited exceptions are given in the *Act*.)

The demand exists for the provision of some areas of public land to accommodate and relocate the off-road activities of motor vehicles, particularly trail-bikes. Such areas could, for example, take the form of defined trails in some State forests or could include disused quarries or parts of some recreation reserves close to urban centres. Where possible, the alternative use of suitable private land should be considered. Areas chosen, whether public land or freehold, would have to be in situations where damage to soil and vegetation would be minimal, and where noise would not cause undue disturbance to other people using, or living in, nearby areas. Council points out that there is a serious and growing problem of damage to soils and vegetation by spectators attracted to these activities.

Hunting

Public land in the Melbourne District 1 offers opportunities for the hunting of water-fowl game species and vermin such as rabbits, foxes, and goats.

These recommendations provide for hunting on most of the public land subject to various legal requirements. Hunting would not, however, be permitted in State parks, regional parks, flora or flora and fauna reserves, reference areas, and education areas. Some small areas such as licensed water frontages would also be unavailable for hunting.

Hunters both individually and collectively, through organizations like the Victoria Field and Game Association, have contributed significantly to the conservation of wildlife habitats in the area by tree planting programs and erection of nesting boxes, and through their support for the preservation of swamps and wetlands. These activities have benefited not only water-fowl game species but also non-game species.

Hunters also exert pressure on vermin and feral animal populations.

Youth camps

Currently the study area contains few permanent youth camp sites. Demand is likely to increase, however, for sites for use by scouts, schools, church groups, and the like. Users have generally preferred sites situated in pleasant bushland, close to a permanent stream, readily accessible by road, and in areas where the safety of the camp and its occupants can be ensured during periods of high fire danger. Such sites are relatively scarce and their use for youth camps is in direct competition with their use for less-restrictive public activities, such as picnicking and general camping.

Camps on public land vary greatly—in the purpose for which they are constructed, in their standards of maintenance, and in the degree to which they are used. Some are designed to provide full accommodation, with campers living in huts that have electricity and hot water provided; others have only minimal facilities, with campers living in tents. Some have considerable amounts of money and volunteers' time and effort put into their construction and maintenance; others have been built and are maintained at very low standards. Some are used for much of the year, with the owner organization allowing use by other groups. Others are used only occasionally and exclusively by one group.

User groups have an increasing tendency to acquire freehold land for their actual camp site, while using adjacent public land for their outdoor activities, and Council believes that this trend should be encouraged. While recognizing that a variety of types of camps may be needed, Council believes that any camps permitted on public land should be properly located, constructed, and maintained. For efficient management of camps, it may be necessary for a single organization to be given limited tenure over a minimum area at any individual camp site, under the control of the land manager. Council believes, however, that these camps should still be used as fully as possible consistent with avoiding damage to the environment.

The greater use of existing camps on public land is desirable in order to avoid proliferation of camp sites, and there is a need for co-ordination of information regarding the availability of those camps that could be used by groups who do not have tenure of their own.

Fossicking or prospecting

Fossicking, or prospecting (prospecting as defined by the *Mines Act 1958* means operations conducted in the course of exploring for gold or minerals), is a popular recreational activity in parts of the study area. Most people are seeking gold, but there is also an interest in gemstones.

It is necessary to obtain a Miner's Right before prospecting for gold or other minerals (including gemstones) can be undertaken on public land.

Guidelines and recommendations relating to fossicking and prospecting are given in Chapter R, Mineral and stone production.

Recommendations

- 01 That public land continue to be available for a wide range of recreational uses where these can be accommodated without detriment to other values, and that land managing authorities aim at controlling the types, levels, and patterns of recreational use according to the capability of particular areas to sustain such use without irreversible change or significant conflict with the primary purpose of the area.
- 02 That vehicular use of roads within the meaning of the *Land Conservation (Vehicle Control) Regulations 1973* continue to be permitted on public land except where closure is necessary because of erodible soils, seasonal conditions, excessive maintenance, or conflict with the primary use of the area.
- 03 That land managers endeavour to provide some areas for off-road vehicular use for land under their control.

Existing recreation reserves

- 04–06 That the areas indicated on Map A and listed below continue to be used for those purposes approved by government following publication of the final recommendations for the Melbourne area in January 1977.
- 04 Various recreation reserves
- 05 Inverleigh
- 06 Bannockburn

Notes:

1. The existing recreation reserve, Parish of Newham, encompasses Hanging Rock. The significant geological, scenic, historical and floristic values of Hanging Rock should be protected.
2. The existing recreation reserve and parks and gardens reserve, Township of Woodend, encompass significant floristic and scenic values. In particular, the occurrence of *Themeda australis* grasslands within the racecourse, the scattered occurrence of *Eucalyptus aggregata* along Five Mile Creek, and the narrow-leaf peppermint forest in the east of the reserve should be protected.
3. The existing public park and gardens reserve (Final Recommendation 09, Melbourne area, January 1977) includes an area of native forest known locally as the 'Monument Bush'. Council believes that any use and management plan prepared for the area should make provision for conservation of the Monument Bush bushland values.

Additional recreation reserves

- 07- That the areas described below and shown on Map A be used for organized sports (football, horse-racing, golf, etc.) and informal recreation (picnicking, camping, etc.) as permitted by the land manager
- that native vegetation be conserved where possible

and that these areas be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978*.

- 07 1.6 ha east of Allotment 19F, Parish of Angahook. It is planned to use this area, previously recommended in 1977 as Bushland Reserve I81, as a community recreation area for the Airey's Inlet community. To be managed by the Department of Conservation, Forests and Lands.

- 08 Point Cook (447 ha)

The Melbourne and Metropolitan Board of Works is currently developing this area as a metropolitan park. Council notes that it has important international values for the protection of waterfowl and migratory waders—in particular, Spectacle Lake and RAAF Lake. Council believes that the development plan should make adequate provision for the protection of these faunal values. In addition, the historical values, associated with the area should be protected. To be managed by the Melbourne Metropolitan Board of Works.

- 09 Werribee Park (131 ha)

The Melbourne and Metropolitan Board of Works is currently developing this area as a metropolitan park. Council notes that it has historical values that should be protected. To be managed by the Melbourne Metropolitan Board of Works.

P. Scenic reserves

These are set aside to preserve scenic features and lookouts of particular significance.

Aims of management of these areas should be to maintain the character and quality of the landscape and to maintain native vegetation.

Existing scenic reserves

Recommendations

P1- That the areas listed below and shown on Map A continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area January 1977.

- P1** 13 ha adjoining the Loddon River, adjacent to allotments A40 and 16H, Parish of Holcombe, and the adjoining 18.6 ha public park, Parish of Glenlyon.
- P2** 3.7 ha adjoining Dyers Creek, south of allotment A10, Parish of Holcombe.
- P3** 17.4 ha adjoining the Coliban River, being allotment 73A1, Parish of Coliban, and the adjacent 6.8 ha, allotment 12A, Parish of Trentham.
- P6** 0.8 ha adjacent to allotment 12B of section A, Parish of Moorabool East.
- P7** 24 ha, being allotment 86, Parish of Anakie.

Q. Agriculture

The Council recommends that, at this stage, no additional large areas of public land be developed for agriculture and that only a small area of suitable land on the perimeter of public land be made available.

Grazing on public land

Licensed grazing on public land is practised throughout the study area, both as forest grazing and grazing on public land water frontages (see Chapter K). The availability of this public land is not of great significance in the economy of the grazing industry in the region. It is, however, of considerable importance to the individual licensees, for whom the forest grazing often forms an integral part of their enterprise.

Situations also arise where graziers who do not normally depend on forest grazing do require additional areas to provide short-term feed for livestock. These situations include drought, fire, and flooding. Council believes that areas of public land could be available to meet such emergency situations, and that such grazing could be controlled by the issue of agistment rights commensurate with the management goals of the particular areas of public land.

The Council believes that, for the areas available for grazing, an important management goal must be to maintain the vegetative cover and, where the cover is inadequate, to ensure its recovery.

Apiculture

The Council considers that apiary sites should continue to be permitted on public land other than in Reference Areas.

Recommendations

Agricultural land

- Q1- That the land described below and shown on the map be used for agriculture.
Q2

It is intended that this land should form additions to present farms rather than be developed as new units.

With reference to section 5 (3) of the *Land Conservation Act* 1970, the Council recommends that the land described below be made available for agriculture in accordance with the provisions of the *Land Act* 1958.

Q1 Areas previously recommended for agriculture

- 0.4 ha, being allotment 2A of section 17, Township of Egerton
- 1.6 ha south of allotment 21, section 33, Township of Malmsbury
- 4.0 ha, being allotment 2, section A, Township of Leonards Hill

Q2 Additional area recommended for agriculture

- 0.45 ha north-east of Allotment 1A, section 3, Parish of Lara

Agricultural research

Recommendations

- Q3- That the areas listed below and shown on Map A continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area, January 1977.
Q4
Q3 State Research Farm, Werribee (850 ha)
Q4 Attwood Veterinary Research Station, Westmeadows (60 ha)

R. Mineral and stone production

The continued existence of our technological society will depend on the availability of minerals. The study area contains known deposits of 'gold' and 'minerals' as defined in the *Mines Act 1958* and as subsequently gazetted (metallic minerals, coal, etc.). Nevertheless, knowledge of the location of our mineral resources is far from complete and new deposits of commercial significance will undoubtedly be found. Furthermore, currently uneconomic deposits of important minerals may become economically exploitable, and other minerals that are not used at present may become important.

Exploration for gold and minerals

The government has the responsibility to establish the existence and extent of the State's mineral resources. The government, in the main meets this responsibility through the provisions in the *Mines Act 1958* that provide the tenure under which private enterprise is encouraged at its own cost to locate new deposits of gold or minerals. When a new deposit is discovered in an area where mining is not a currently approved land use, it may be of such importance that a change of the land use is required in the State interest. The decision on whether such a change is in fact necessary can only be made against a background of the best available knowledge of the location and extent of the particular mineral deposit. It is important therefore that the reservation of conservation areas should not automatically exclude exploration for mineral and fossil fuel resources. Attention should be directed towards ensuring that other values and interest are protected, rather than preventing exploration activities.

The protection of other values—particularly those historical values around old mine sites—should never be enforced to the point that it places human life at risk. In relation to public safety, nothing in the recommendations affects the powers of Inspectors under the *Mines Act 1958* and the *Extractive Industries Act 1966*.

Gold

Increases in the price of gold have resulted in a significant upturn in exploration activity in recent years. The interest of individual prospectors has also increased, as seen by the in-

creased number of claims being registered. A number of attempts are being made to re-open previously uneconomic mines on existing leases.

The substantial rise in the gold price has also stimulated a renewed interest in general prospecting (fossicking), evidenced by the number of Miner's Rights issued.

This increased interest in prospecting and mining has not been confined to the large-scale operations being planned and undertaken by the corporate sector. Many individual miners and prospectors are operating in Victoria—some professionally (that is, they rely on these activities for their sole source of income), some on a part-time, semi-professional basis, but many as a form of recreation encouraged by the possibility of 'striking it rich'. In terms of the number of people involved, this latter group has experienced the most substantial growth, especially since the increased use of the metal detector.

Fossicking and prospecting

Fossicking and prospecting are often taken to mean one and the same thing. In mining terms a fossicker is a person who casually works over old mine workings and waste rock heaps in the hope of finding small amounts of gold and minerals. Unlike prospecting, the term 'fossicking' has no basis in legislation under the *Mines Act 1958*. Fossicking is also accepted as a wider term that embraces not only the search for gold and minerals, but also for other items such as bottles or coins.

Prospecting is a systematic activity, defined in the *Mines Act 1958* as 'all operations conducted for the purpose of discovering or establishing the presence or extent of mineralization of a mineral'. It is necessary to hold either an exploration or search licence, or a Miner's Right, before prospecting may be undertaken. Most individual miners and prospectors operate under a Miner's Right, which does not permit prospecting on private land.

Under current legislation there is a small percentage of public land in the State where prospecting under a Miner's Right is not permitted.

This includes areas used for various community purposes such as golf courses, cemeteries, and flora reserves.

Council considers fossicking and prospecting to be legitimate uses of public land and as such should not be unduly restricted or regulated. There are some areas, however, where these activities may not be permitted or may require limitation and these have been specifically nominated in the recommendations (see Chapter B—Reference areas and Chapter D—Water production).

In addition to these, there may be other limited areas of land surface that, because of their special public importance or inherent instability, warrant either permanent or temporary exclusion from fossicking and prospecting. These areas may include, for example:

- land that, if disturbed, may detrimentally affect water quality, especially where the water is used for domestic consumption.
- important habitats for plant species or fauna
- important historic relics that could be damaged
- sites of high erosion hazard
- community assets such as recreation areas and water or sewerage installations
- important geological formations

These limited areas of land surface have not been specified in the recommendations, but will be determined by the land manager and the Department of Industry, Technology and Resources together. Fossicking and prospecting, where they involve minimal disturbance to soil or vegetation, will be permitted on public land other than these limited areas and those specifically nominated in the recommendations. Areas currently exempted or excepted under existing legislation should remain so, unless otherwise specified in these recommendations or unless the land manager and the Department of Industry, Technology and Resources together determine that such exemptions or exceptions should no longer apply.

Stone

Materials covered by the definition of 'stone' in the *Extractive Industries Act 1966* (including rock, gravel, clay, sand, and soil) are wide-

spread in the State. There is a strong community demand for new and better roads and buildings, and so for the materials necessary for their construction. Most of these materials are provided from private land, but public land is also an important source—particularly for road-making material.

The Council is concerned by the complexity of legislation and procedures governing extraction of 'stone'. (For example, the Road Construction Authority and municipal councils are not bound by many provisions of the *Extractive Industries Act 1966*.)

There is need for:

- review of existing legislation and procedures to enable more rational use of the 'stone' resource of the State
- provision of adequate resources of the reclamation of old extraction sites on public land.

Poorly planned and located excavations can affect surrounding land through noise, dust, unsightliness, and erosion and can diminish the value of the land. With care, however, these effects can be avoided or minimized.

Principles and guidelines

The terms 'exploration and extraction', referred to below, do not relate to the forms of these activities described above under fossicking and prospecting.

The Council believes that the following principles should apply.

1. Some areas of land surface—because of their inherent instability or special public significance (for example, community assets or areas with important scenic, archaeological, historical, recreation, or nature conservation values)—warrant permanent or temporary exclusion from exploration and/or extraction of 'gold' and 'minerals'. The Department of Industry, Technology and Resources and the land manager should together determine these areas. Consultations take place as required between officers of the Department of Industry, Technology and Resources and the Department of Conservation, Forests and Lands to determine those areas that should be excluded and the conditions under which

particular areas of public land are used for exploration for and production of, minerals and stone.

2. When tenure is issued for operations under the *Mines Act* 1958 on public land, the land manager should be consulted regarding the conditions to apply and the supervision should be in accordance with the agreed conditions as specified in the claim, licence, or lease and with the requirements of the *Act*.
3. Consultation should continue between the land manager, the Department of Industry, Technology and Resources, the Land Protection Service, and the other relevant authorities with respect to the procedures to be adopted for the exploration and extraction of 'stone' on public land. Any operations on public land should continue to be subject to the approval of the land manager.

In all cases, the procedures that are established should apply to municipal councils, the Road Construction Authority, and other public authorities as well as to commercial operators. To ensure this, the relevant *Acts* may have to be amended.

4. A system should be established that would ensure, before work commences, the availability of funds for progressive and final reclamation of any excavation or operation. Provision should also be made to enable the acceleration of the rehabilitation of all existing extraction areas on public land.
5. Royalties for materials extracted from public land, including site rental when appropriate, should be more closely related to the market value of the material. This would eliminate the temptation to use public land purely on the grounds of the nominal royalties often levied in the past.
6. The following guidelines should apply to all extraction from public land:
 - (a) The Department of Industry, Technology and Resources should not issue leases for mining of 'gold', 'minerals', or 'petroleum' unless satisfied with the program submitted by the applicant. In the

case of Miner's Right claims, prior assessment is impractical and the Department should require the lodgement of a bond as surety for adequate rehabilitation. Wherever practical, the Department should seek the lodgement of mining plans that show the expected post-mining state of the land and should state operating conditions to achieve an appropriate standard of rehabilitation acceptable to the land manager.

- (b) No sites for the extraction of 'stone' should be opened in areas that the land manager, in consultation with the Department of Industry, Technology and Resources, considers to be of greater value for other uses including aesthetic or nature conservation values. The advice of the Department should also be sought as to the desirability of proposed excavations, having regard to alternative sources of 'stone'.
- (c) Extraction of 'stone' should generally be concentrated on the fewest possible sites in an area, and any one site should be substantially worked out and where possible reclamation ensured before a new site is exploited. The type of excavation to be carried out should be that with the lowest environmental impact consistent with the effective use of the resource. In general, and where the nature of the resource permits, excavations for 'stone' should be deep and limited in area in preference to shallow excavations over a wide area. The extraction of granite sand occurring as shallow deposits in the weathered profile should be discouraged unless it has been established that no suitable alternatives are available. In the special circumstances where approval is given for this form of extraction, particular attention should be given to the prevention of soil erosion.
- (d) Where an application for the removal of 'stone' from a stream-

bed is considered, the land manager should take particular care to ensure that the operations will not directly or indirectly cause erosion of the bed or banks, or undue pollution of the stream. In addition to the arrangements outlined above for 'stone', the land manager should also consult with the relevant water supply and conservation authorities, and should consider the scenic and recreation values of the area.

Alternative sources with a lower environmental impact should be used where they are available. The environmental effect of extraction may be reduced if alluvial stone is obtained from properly managed quarries on the river terraces, rather than from the present stream-bed.

- (e) All extraction sites should be fully reclaimed where possible. Reclamation should follow extraction progressively when possible, but otherwise should begin immediately extraction is completed. The requirements for reclamation should be included in the conditions of the lease or licence before any approval to extract is granted. The reclamation may include, for example, replacing topsoil, revegetating the site with plantation forest, allowing a quarry to fill with water and developing the site as a park, using a gravel pit for off-road vehicles, using a quarry for garbage disposal prior to reclamation, or restoring the site as closely as possible to its original topography and revegetating it with species native to the site.

In addition to the above, the approval of the Soil Conservation Authority should continue to be sought for the exploration or extraction operations for 'gold', 'minerals', 'petroleum', or 'stone', where the subject land is within a proclaimed water supply catchment.

Recommendations

- R1** That fossicking and prospecting under Miner's Right, involving minimal dis-

turbance of soil or vegetation, be permitted on public land other than:

- (i) those areas specifically excluded in the recommendations (see the chapters on reference areas and water production)
- (ii) those areas that the land manager and the Department of Industry, Technology and Resources together may determine (see the guidelines in the section on fossicking and prospecting)
- (iii) the areas referred to in R2 below.

- R2** That those areas of public land currently exempted or excepted from occupation for mining purposes under a Miner's Right or from being leased under a mining lease, remain so excepted or exempted unless the land manager and the Department of Industry, Technology and Resources together determine that such exemption or exception should no longer apply.

- R3** That public land in the study area (other than reference areas and other areas as determined by the government) continue to be available for exploration under licence and for extraction of 'gold', 'mineral', 'petroleum' and groundwater, subject to Recommendation R2 and the principles and guidelines set out above.

Note:

This recommendation does not refer to exploration under a Miner's Right, which is covered by Recommendation R1.

- R4** That public land in the study area (other than reference areas and other areas as determined by the government) continue to be available for exploration for 'stone' subject to the principles and guidelines set out above.

Stone production areas

Recommendation

- R5** That the areas shown on Map A continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area in January 1977.

Note:

Stingaree Bay (Previously Recommendation R17, Melbourne area final recommendations January 1977). This area is leased for salt extraction, and the extraction process results in the provision of suitable habitat for many migratory waders. Council believes that the Fisheries and Wildlife Service should be consulted regarding the management of the area and the continuation of the resulting habitat values.

Additional stone production area

- R6** 12 ha of reserved forest, Parish of Bullengarook
and that the area be temporarily reserved under section 4 of the *Crown Land (Reserves) Act 1978* and be managed by the Department of Conservation, Forests and Lands.

Alcoa lease area

Adjacent to the township of Anglesea, Alcoa of Australia Pty Ltd holds 7 350 ha of public land under the provisions of the *Mines (Aluminium Agreement) Act 1961*, which grants the company a lease of 50 years with the right of renewal for up to another 50 years.

The company mines brown coal here to fuel the on-site electric generators and transmit the electricity to its aluminium smelting operations at Point Henry near Geelong. It has an open cut in the south-eastern section of the lease area from which it extracts approximately a million tonnes of brown coal per year. The known, economically winnable coal resource is confined to this south-eastern section, which contains reserves to last about 75 years at the current rate of extraction. The extent of the coal resource over the remainder of the lease area has not yet been fully determined.

In its 1977 recommendations for the Melbourne study area, Council recognized that the Alcoa lease area also had high capabilities for nature conservation, trail-bike riding, and the production of sand and gravel.

Since then little work has been done to precisely document the nature conservation values, to formally designate areas for trial-bike use, or to examine the extent of and demand for road-making materials from the lease area.

While Council maintains its view that the area should be used for all these purposes, as well as coal-mining, currently available information does not allow it to assess whether the land use plan included in its earlier recommendations is still the most appropriate.

Before making its final recommendations Council intends to further investigate these matters. In particular, it will investigate three possibilities:

confining trail-bikes to the gravel-stripped areas in the north of the lease (around Gum Flat road)

extending the areas to be protected because of their nature conservation values to the central and south-western (north and south of Bald Hills road) sections of the lease area.

utilizing the sand and gravel resource produced as overburden from the coal winning operations in order to meet local gravel requirements.

Recommendation

- R7** That, subject to the rights conferred by the *Mines (Aluminium Agreement) Act 1961*, the Alcoa lease area continue to be managed by the Department of Conservation, Forests and Lands.

S. Utilities and survey

Many utilities occupy public land. They include roads, pipelines, power lines, hospitals, churches, cemeteries, public halls, shire offices and depots, garbage depots, sanitary depots, and sewerage-treatment works. These recommendations do not specifically refer to many of the small areas used for the purposes listed above, as no change of use is proposed. It is intended that for such areas existing legal uses and tenure should continue.

In the absence of firm planning proposals, accompanied by the necessary detailed information, it is not possible for the Council to provide for future requirements of land for survey and utilities. The use of land for these purposes will be considered when the need arises.

Government agencies concerned with provision and installation of communications equipment, transmission lines, pumped storage sites, power stations, port facilities, pipelines, roads, etc. are requested to submit proposals involving occupation agreements or the setting aside of sites on public land to the appropriate land managers at an early planning stage. This would assist in achieving co-ordinated planning, and perhaps avoid the necessity for costly resurveys.

Existing utilities

Recommendations

- S1- S9 That the areas listed below, some being indicated on Map A, continue to be used for those purposes approved by the government following publication of the final recommendations for the Melbourne area January 1977.
- S1 Various existing utilities
- S2 Werribee sewerage farm
- S3- S4 Hospitals
- S5 Social Welfare, Sunbury
- S6 Garbage tip
- S7 Navigation aids
- S8 Trigonometrical stations
- S9 Other utility areas

Note:

Werribee sewerage farm is important for the conservation of waterfowl and migrating waders, and has particular importance for the survival of the endangered orange-bellied parrot. Council endorses the Board's current action to form a consultative committee of expert and interested government, local government, conservation and wildlife groups in order to ensure the effectiveness of wildlife management in the future. Development of a management plan for the conservation of wildlife here will be the prime goal of the committee.

Garbage and sanitary depots

Council considers that sites on public land for the disposal of garbage and sanitary materials should be located so as to cause minimal conflict with conservation values.

Facilities on public land should be shared by municipalities wherever practicable to minimize the number of sites required. At the same time, it is appreciated that locating sites reasonably close to users minimizes transport costs and the illegal dumping of rubbish. Areas used on a temporary basis (such as garbage depots and sanitary depots) should be fully rehabilitated at the operator's expense.

Within areas used as garbage depots, disposal of waste should be confined to small sections of the site at any one time, and there should be tighter supervision to ensure that garbage is dumped only in the designated areas.

Recommendations

- S10 That existing legal garbage depots (including those approved by the relevant authorities but not yet operating) continue to be available for garbage disposal.
- S11 That areas used on a temporary basis (such as garbage depots and sanitary depots) be fully rehabilitated. This should apply to sites used illegally as well as those used legally. Where the user or users are known, rehabilitation should be at their expense.

- S12** That, within areas reserved as garbage depots, disposal of waste be confined to small sections of the site at any one time, and that steps be taken to prevent the dumping of garbage other than in the designated areas.
- S13** That existing licensed waste-disposal depots in State forest continue to operate.

Railway land

Disused railway lines and other railway land often carry significant remnants of native vegetation, contain buildings and structures of historical importance, or may be suitable for walking, horse-riding, or cycling tracks. Accordingly the potential of railway land for uses such as these should be carefully examined before arrangements are made for its disposal.

Railway land often supports remnants of native grassland vegetation and arrangements should be made to protect such occurrences wherever this is possible.

Recommendation

- S14** That, where isolated remnants of the original vegetation remain on land associated with railways lines, every effort be made to protect that vegetation consistent with management practices. Such sites are broadly indicated on the schedule below.
- Bendigo line between Calder Raceway and Sunbury: species-rich *Themeda* grasslands here include such significant species as *Senecio macrocarpus*, *Rutidosia leptohynchoides*, *Myoporum insulare* and *Comesperma polygaloides*.
 - Bendigo line between Clarkfield and Riddells Creek: *Themeda* grasslands occur and of particular importance is the occurrence of *Diuris punctata* var. *punctata*, which is believed to be the last stand of this species in the study area.
 - Seymour line, north of Seymour, where *Themeda* grasslands occur
 - Melbourne-Geelong line
 - relict *Themeda* grasslands containing *Rutidosia leptohynchoides*
 - relict *Themeda* grasslands between Werribee and Lara and contain many species of significance

- Ballarat-Geelong line—relict *Themeda* grasslands
- Port Fairy-Geelong line—*Themeda* grasslands north of Lake Melbourne
- Melbourne-Ballarat line—relict *Themeda* grasslands between Sunshine and Bacchus Marsh, Ballan and Werribee Gorge, and Wallace and Ballan
- Melbourne-Bendigo line—some 1.5 km south of Woodend—the occurrence of *Eucalyptus aggregata* (black gum)

In addition, sites of historical significance occur in land associated with railways, and every effort should be made to protect these sites. Such sites are indicated on the schedule below.

- Moorabool viaduct—Ballarat-Geelong railway line, Moorabool River—one of the largest 19th century railway bridges in Victoria
- Kismet Creek Railway viaduct—Melbourne-Bendigo railway line
- Malmsbury viaduct—Melbourne-Bendigo railway line, Coliban River—almost certainly the finest arched bluestone bridge in the State
- Melton viaduct—Melbourne-Ballarat railway line, Werribee River—one of four important large 19th century railway viaducts in Victoria and the most significant because of its all-iron construction.

- S15** That disused railway land within the study area be retained as public land where it may have historical, recreational, or educational value

Proposed utilities

- S16** That new power lines, pipelines, communications equipment, and other utilities be planned to minimize disturbance to public land and protect the values associated with this land, that they not be sited on public land without the agreement of the land manager, and that new pipelines and power lines follow existing easements if possible (this may require widening of some easements).

Lara prison site

- S17** That the area shown on Map A be permanently reserved for social welfare purposes.

T. Township land

Public land in townships is currently used for a wide range of purposes. The Council has not proposed any change of use for such public land where the present use is for schools, public halls, sports grounds, and the like. In some cases, however, Council has made specific recommendations for township land to be set aside as bushland reserves and recreation reserves; these recommendations are included in the appropriate sections. Other areas of public land in townships should remain as unreserved Crown land—to be used, if required, for township purposes in the future.

Recommendation

T1 That public land in townships, other

than those areas that have been specifically reserved, should remain as unreserved Crown land to meet future requirements.

Note:

At the mapping scale used (1:250 000), it is generally not possible to define the boundaries of public land in townships accurately. Reference should be made to the appropriate township plan to determine the accurate boundaries and form of reservation for those townships where public land is not shown on the map or referred to in these recommendations.

U. Military training

Council believes that military training is a legitimate use for public land, but is aware of the possibility of conflicts arising with some forms of recreation. It is Council's view that military training should not occur in reference areas or wilderness areas, and only under special circumstances in parks and other areas of recreation and conservation significance.

Recommendation

U1 That, where military training is conducted on public land:

- (a) the types of activities, and their timing and location, be subject to agreement between the Defence Department, the land manager, and the other relevant government

bodies such as the Land Protection Service in the Department of Conservation, Forests and Lands

- (b) the training activities be carried out under conditions specified by the land manager and other relevant authorities, to minimize any detrimental effects
- (c) the Forests Commission be consulted (for fire-protection purposes) with respect to training activities in protected public land
- (d) it be excluded from reference areas, and, except under special circumstances, from parks and other areas of recreation and conservation significance.

V. Other reserves and public land

Some small areas of public land in the study area that are used for various purposes, such as water production, grazing, camping, public utilities, and so on, have not been specifically mentioned in these recommendations. Others (both reserved and unreserved) received little active use at present, even though they may once have been reserved for some specific purpose.

The Council intends that existing legal uses and tenure of these small areas of public land should continue, and that those not currently used for any particular purposes be used in a way that will not preclude their commitments in the future to some specific public use.

Recommendation

- V1 That, for small areas of public land not specifically mentioned in these recommendations, existing legal use and tenure continue

and that

where the land is not reserved for a specific purpose at present, such areas be used in a way that will not preclude their reservation in the future for as-yet-unknown public purposes.

Soil conservation area

In 1979, the Crown purchased 222 ha of land in the Parish of Yaloak and reserved it for soil conservation purposes.

Extremely severe tunnel, sheet, and gully erosion—together with siltation, landslips, and an extensive, highly erodible clay quarry—occur within this denuded ridge of land, which is also prone to rabbit and weed infestation. It is known locally as the White Elephant because of the predominance of exposed subsoil.

The area is used as a reference and educational resource with respect to soil erosion and techniques of reclamation.

Recommendation

- V2 White Elephant Soil Conservation Area (222 ha)

That the area shown on the map be used to:

- (a) demonstrate the consequence of land mismanagement as well as the types and processes of erosion
- (b) support research into agronomic, afforestation, engineering and soil stability aspects of erosion control and reclamation
- (c) maintain the Parwan Hydrological Research Station, which is located within the reserve, including all-weather access.

Mineral springs

A large number of mineral springs are found in the Melbourne area, District 1, chiefly in the north-west. Of those located on public land here, 22 (listed below) are considered to be suitable for tourist development and nearly all of these areas are managed by Committees of Management.

Many of the springs shown on the list are located within reserves set aside for mineral springs, while others fall within other Crown land reserves such as recreation reserves.

Recommendation

- V3 That, for those mineral springs shown on the list, existing legal uses and tenure of the reserve in which they are located should continue, and that if no specific reserved yet exists, a small area of a size sufficient to fulfil management requirements be set aside.

Note:

Other springs are only minimally developed or have not been subject to modification. Many of these are in the Hepburn Regional Park or State forest. Works in and around the following springs should be kept to a minimum to provide an indication of the nature of naturally occurring springs.

Argyle	Locarno
Blackwood	Lyonville
Central (Hard Hills)	Lyonville Township
Central No. 2	Pavilion
Glenlyon	Sailors Falls
Golden	Spargo Creek
Jubilee Lake (Soda Spring)	Sulphur
Kyneton	Suttons

Leitches Creek	Tipperary
Liberty	Wagga
Lithia	Wyuna

Commonwealth land

Within the Melbourne area, District 1, various parcels of land are controlled or owned by the Commonwealth of Australia. These parcels, while not public land as defined in the Land Conservation Act 1970, do have floristic values of conservation significance. Although it has no power under the 1970 Act to make recommendations on Commonwealth land the Council believes that the conservation values of these areas should be recognized and the areas managed so that these values are protected. The swamp at Laverton RAAF Base is one such area.

This 2 ha lignum (*Muehlenbeckia cunningh-*

amii) swamp is one of the few remaining lignum swamps in the district and has vegetation affinities with swamps found in the Wimmera and Murray Valley areas. It contains a number of significant species, such as *Panicum decompositum*, *Goodenia gracilis*, *Marsilea drummondii*, *Eryngium vesiculosum*, *Juncus* sp. 'O' and *Eragrostis infecunda*.

Point Nepean

An agreement in principle has been reached between the Commonwealth and State governments to transfer part of the Commonwealth land at Point Nepean to State ownership. It is intended that this land will form part of the Cape Schanck Park. A Commonwealth-State working group has been formed to facilitate the land transfer.

Appendix 1

Final recommendations for parks in the previous Melbourne area investigation— January 1977

Park recommendations

State parks

A1 Angahook State Park

That the land (3 300 ha) shown on the maps be used to:

- (a) provide opportunities for recreation and education associated with the enjoyment and understanding of natural environments
- (b) conserve and protect natural ecosystems

and that

- (c) the following roads in the park remain open to traffic—Breakfast Creek No. 2, Distillery Creek, and Bambra
- (d) the stone quarry on Bambra Road be permitted to continue operating at the present level of production, that it be kept tidy, and that a programme of planting local native plants be undertaken to screen the quarry from the road.

A2 Brisbane Ranges State Park

That the land (9 500 ha) shown on the maps be used to:

- (a) provide opportunities for recreation and education associated with the enjoyment and understanding of natural environments
- (b) conserve and protect the natural ecosystems
- (c) supply water and protect catchments

and that

- (d) emphasis be given to the conservation of the park's rich flora.

A3 Lerderderg State Park

That the land (12 700 ha) shown on the maps be used to:

- (a) provide opportunities for recreation and education associated with the enjoyment and understanding of natural environments
- (b) conserve and protect the natural ecosystems
- (c) supply water and protect catchments

and that

- (d) special emphasis be placed on maintaining this area's diverse mammal fauna
- (e) the slate quarry near the south-eastern boundary of the park be permitted to continue operating at its present level of production until the present licensee ceases operations.

Regional parks

A7 You Yangs Regional Park

That the land (1 900 ha) shown on the maps be used to:

- (a) provide opportunities for informal recreation for large numbers of people
- (b) conserve and protect the natural ecosystems to the extent that this is consistent with (a) above

and that

- (c) honey production be permitted in the park
- (d) emphasis be placed on maintaining the present rich avifauna and protecting the remaining colonies of the brittle greenhood (*Pterostylis truncata*)

- (e) production of poles, fencing material, firewood, and other minor forest produce be permitted where this does not conflict with (a), (b) and (d)
- (f) sand and gravel extraction be restricted to the areas currently zoned for this purpose
- (g) control of boneseed be given urgent attention by the management authority
- (h) reclaimed gravel and sand pits be revegetated, preferably with local native species.

A8 Steiglitz Regional Park

That the land (800 ha) shown on the maps be used to:

- (a) provide opportunities for informal recreation for large numbers of people
- (b) conserve and protect the natural ecosystems to the extent that this is consistent with (a) above

and that

- (c) buildings and other features of historic interest be preserved

- (d) fossicking in the areas used at present be permitted to continue, after consultation with the relevant authorities.

A9 Hepburn Regional Park

That the land (2 900 ha) shown on the maps be used to:

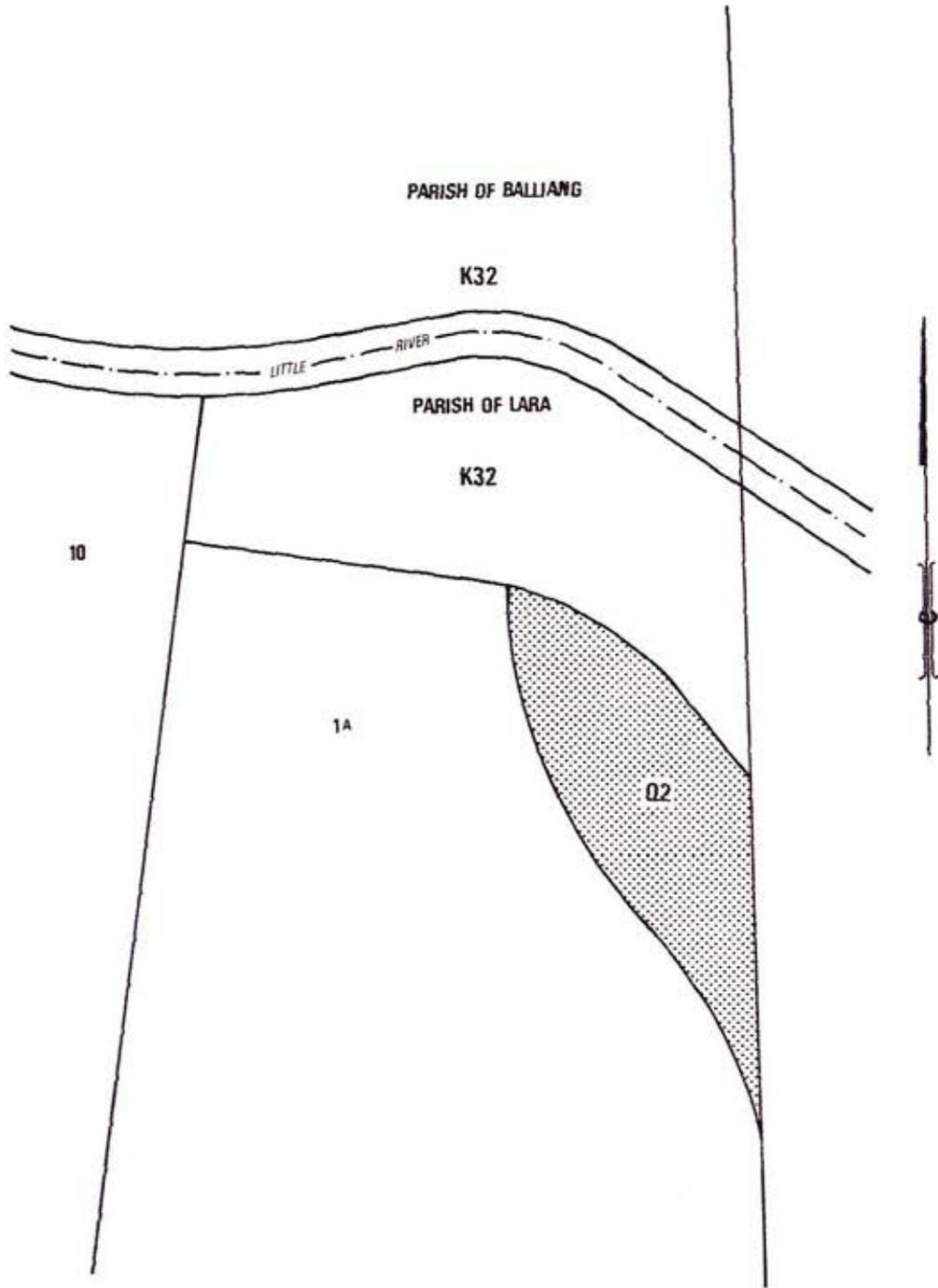
- (a) provide opportunities for informal recreation for large numbers of people
- (b) conserve and protect the natural ecosystems to the extent that this is consistent with (a) above
- (c) supply water and protect catchments

and that

- (d) timber harvesting be permitted in the hardwood forests, in order to enhance the recreational value of the area by creating a diversity of age classes within these forests
- (e) utilization of timber from existing softwood plantations be permitted
- (f) special prescriptions for fire protection be drawn up for this park because of its location.

**AGRICULTURE Q2
LARA**

MAP 1



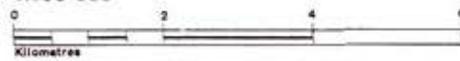
PUBLIC LAND RECOMMENDED FOR ALIENATION

SCALE 1: 2000

A11 MACEDON REGIONAL PARK - LOCATION OF FEATURES

Melbourne Area District 1 - Review

1:100 000



Land Conservation Council
Victoria

LEGEND

(See note 1)

-  Macedon Regional Park
-  Water supply purposes
-  Softwood production (approximate)
-  Areas for recreational development
-  Location of mountain ash, alpine ash and snow gum stands.

Note 1: Refer to the text for a detailed description of features.
Location of areas shown on this map are approximate.

Map No. 2