

FINAL RECOMMENDATIONS

MELBOURNE STUDY AREA

**LAND CONSERVATION COUNCIL, VICTORIA
MELBOURNE, JANUARY, 1977**

CORRIGENDA

1. Map A and Map 9
H13 (two blocks, near Anglesea) incorrectly shown as H3.
2. Map 3
Q1—the area shown on the map (in the Parish of Yea) is incorrect. The description (Schedule 1, p97) is correct.
3. Map 7
Streamside Reserves K41A, K41B, and K41C (described in the list on p77) are not shown on the map.
4. Map 11 and Map A
C18—the area at Cape Woolamai (Phillip Is.) marked C19 (Wildlife Reserve) should be marked C18.
5. Text
Insert the following in the list of Bushland Reserves on p66:
I55 48 ha—being allotment 48, and the adjacent water supply reserve, and water supply and public purposes reserve, (but not including the aqueduct easement) Parish of Sutton.

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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 Conservation with respect to the use of public land, in order to provide for the balanced use of land in Victoria. This report contains the Council's final recommendations concerning the public land in the Melbourne study area. Notices showing the boundary of the study area and advising that an investigation was to be carried out were published in the *Victoria Government Gazette* of June 23 1971, and in local and Victorian newspapers in June and July 1971. A descriptive report was published on April 8 1974. The Council received 408 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 most feasible forms of land use for the district. Extracts from the *Land Conservation Act 1970* covering the procedure to be followed in formulating recommendations were included in the descriptive report.

After considering these submissions, and having visited the area, the Council formulated its proposed recommendations, which were published on February 7 1975. The Council subsequently received 1,014 submissions commenting on the proposed recommendations. After due consideration, the Council now presents its final recommendations.

Layout

The recommendations in the text are grouped under major use headings, such as Parks, Hardwood Production, and so on. The text is accompanied by 17 maps. Map A, at the scale of 1 : 250,000, covers the whole study area and gives a broad view of the recommended land uses. It includes a key to twelve of the other sheets, which together cover the study area at a scale of 1 : 100,000, and which show the areas concerned in greater detail. The remaining four sheets show detailed zoning for two parks and for two other areas. More detailed information on many of the boundaries is held by the Land Conservation Council.

Land Uses

Table 1 summarizes the proposed recommendations in terms of the major forms of use. It is important to realise 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.

The Council recommends the establishment of: a comprehensive system of 27 national, State, and regional parks (to serve the population centres of Melbourne, Geelong, and the western Latrobe Valley); a large multi-purpose park (containing all the public land in the Yarra Valley); reference areas and education areas (covering the wide range of land types found in the study area); and wildlife reserves for a number of sites containing valuable faunal habitats. Large tracts are recommended for timber production.

TABLE 1
RECOMMENDED PUBLIC LAND USE

Major recommended land use.	Area.	Percentage of all land in study area.	Percentage of the public land.
	(ha)		
National park	13,300	<1	2
State parks	102,000	4	12
Regional parks	23,200	<1	3
Multi-purpose park	113,000	4	13
Reference areas	8,800	<1	1
Wildlife, flora and fauna reserves	12,300	<1	1
Wildlife management co-operative areas (marine)	35,000	..	..
Water production*	24,000	<1	3
Hardwood production	337,000	13	39
Softwood production	35,600	1	4
Forest area	4,300	<1	<1
Education areas	3,100	<1	<1
Mineral and stone production	8,100	<1	<1
Uncommitted	185,000	7	21

All other land uses collectively make up the balance. Figures are rounded.

(*This is a minimum figure, exact area as yet undetermined.)

Where demands from competing uses vie for a given area of land, it is not possible to satisfy them all. However, 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, and by placing areas into the "uncommitted land" category. 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 still 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. The Council is aware that review will be necessary to ensure that future land use is in the best long-term interests of the community.

General Recommendations

The following seven 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 managing authority. Unless these resources are provided, the Council's recommendations cannot be effectively implemented. There is an urgent need to make additional field staff and finance available and the Council therefore recommends :

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

The Council has previously proposed certain additional arrangements for protecting the public land from fire. These arrangements have now been incorporated into an amendment to the *Forests Act 1958*. The amendment creates 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. In national parks and protected public land, the Commission's fire prevention works are subject to the agreement of the managing authority or, if agreement is not reached, to determination by the Governor in Council. In State forests, which comprise reserved forest and protected forest as defined in the *Forests Act 1958*, the Forests Commission is also responsible for the control and management of the vegetation. 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*.

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

III. That, when significant new discoveries are made on land within their administration, government agencies enlist the best advice available on the importance of such features and on any measures that should be taken to conserve them. 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 recommendations in this volume. The Council is aware that this may result in a delay, in some cases 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 management authority, management efficiency could be reduced during the delay period. The Council believes that the government should direct departments that their responsibilities for management must continue in all areas presently under their control until such time as the recommendations are implemented. The Council therefore recommends :

IV. That the present legal status and management of public land in each case be retained until the recommended authorities have the capacity to manage each area.

The Council further recommends :

V. That, as many of them have not been precisely surveyed, the boundaries of the areas referred to in the recommendations be subject to minor modification, road excisions, easements, and other adjustments that may be necessary.

VI. 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 *Country Roads Act 1958*.

VII. That, where areas of public land are not specifically referred to in these recommendations, present legal uses and tenure continue.

A. 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.

A park is here defined 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 purpose 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 to maintain or enhance special values associated with flora and fauna. Management policies for the conservation of wildlife values in parks should be developed jointly by the managing authority and the Fisheries and Wildlife Division. 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.

The categories are not to be confused with the existing terminology of national park, forest park, etc., which mainly denotes tenure and the managing body rather than the types of purpose for which they are to be used. For instance, some of the present national parks are more akin in character to a State or regional park than to the national park of nation-wide significance outlined in the classification.

Road-making materials

Road construction authorities may use deposits of road-making materials that occur in parks to construct and maintain roads in the parks, subject to the agreement of the managing authority, or other authority as set out in the Minerals and Stone Production chapter.

Youth camps

Some areas of public land that the Council recommends become parks contain sites held under licence by schools, church groups, and scouts, and are used as youth camps.

The sites chosen for camps are usually in attractive environments near streams, with good access, and not exposed to high fire danger. Such sites are scarce, and their occupation by one organization conflicts with their use by the general public for recreation. The camps may also have a considerable impact on the site, due to the erection of buildings and the provision of car-parking areas.

The Council believes that while parks should cater for group camps and associated adventure and educational activities, the allocation of permanent sites to single groups in national, State, and regional parks should be phased out. It recognizes, however, that on some sites a great deal of time and effort has been expended in erecting buildings and other improvements, and that phasing out these camps may not be practicable. As an alternative, such camps should be more fully utilized throughout the year, as suggested in the chapter on Recreation, rather than their use being confined to particular groups.

The Council believes that in future the demand for youth camps should be met by the organizations involved which should purchase or lease private land nearby for the actual camp site and erection of buildings, and use the land in the park for adventure and other activities that do not conflict with park management.

PARK CATEGORIES

National park

An extensive area of public land, of nation-wide 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, fauna, and other features would be an essential part of national park management. Interpretative services would be provided. Development of facilities would be minimal and confined to a very small portion of the park. Activities would largely consist of sightseeing and the observation of flora, fauna, and other 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. It is envisaged that Victoria would contain only a few national parks.

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 each major land type 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. Regardless of which authority is the manager, the 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, fossicking, and stone extraction—may be permitted where they are compatible with the primary use.

Multi-purpose park

An area of public land set aside to provide recreation and education in natural surroundings, in which other activities such as water production, hardwood timber production, stone extraction, hunting, or grazing, are permitted where these form a part of, do not substantially conflict with, or supplement the primary object.

Victoria contains areas where, although recreation is an appropriate primary use of land, it is not desirable, economically possible, or necessary to wholly exclude other uses that would be unacceptable in national or State parks. (In the Melbourne study area, the only park in this category is the Yarra Valley Multi-purpose Park, where water production is a most important use.)

LIST OF PROPOSED PARKS

A1	National park	..	..	..	..	..	Baw Baw
A2	State park	..	..	..	..	..	Angahook
A3	”	..	..	..	..	..	Brisbane Ranges
A4	”	..	..	..	..	..	Lerderderg
A5	”	..	..	..	..	..	Fryers Ridge
A6	”	..	..	..	..	..	Kinglake
A7	”	..	..	..	..	..	Cathedral Range
A8	”	..	..	..	..	..	Lake Mountain
A9	”	..	..	..	..	..	Eildon
A10	”	..	..	..	..	..	Moondarra
A11	”	..	..	..	..	..	Bunyip
A12	”	..	..	..	..	..	French Island
A13	Regional park	..	..	..	..	..	You Yangs
A14	”	..	..	..	..	..	Steiglitz
A15	”	..	..	..	..	..	Hepburn
A16	”	..	..	..	..	..	Macedon
A17	”	..	..	..	..	..	Wandong
A18	”	..	..	..	..	..	Yea River
A19	”	..	..	..	..	..	Fraser
A20	”	..	..	..	..	..	Tyers
A21	”	..	..	..	..	..	Crossover
A22	”	..	..	..	..	..	Mount Worth
A23	”	..	..	..	..	..	Ferntree Gully
A24	”	..	..	..	..	..	Dandenongs
A25	”	..	..	..	..	..	Gembrook
A26	”	..	..	..	..	..	Warrandyte
A27	”	..	..	..	..	..	Cape Schanck— Arthurs Seat
A28	Geological monument	..	..	..	..	..	Organ Pipes
A29	Multi-purpose park	..	..	..	..	..	Yarra Valley

Recommendations

National park

A1 Baw Baw National Park

That the land (13,300 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 the natural ecosystems
- (c) supply water and protect water catchments
and that
- (d) grazing by domestic stock be phased out over five years
- (e) no further villages be developed on the plateau
- (f) no skiing facilities be developed on the Thomson side of the plateau
- (g) the Nordic ski trails (St. Phillack Loop Trail and the Tullicoutty Cup route) associated with the Baw Baw Alpine Resort be maintained
- (h) the proposed road from Rocky Knob to Baw Baw village not be built
- (i) the habitat of the endemic Baw Baw frog be protected
- (j) access to the Upper Thomson Valley continue to be provided via the Thomson Valley road

and that it be reserved under section 14 of the *Land Act* 1958 pending reservation under the *National Parks Act* 1975, and be managed by the National Parks Service.

The Baw Baw plateau has high botanical significance and exceptional opportunities for bushwalking and cross-country skiing. The park includes the granite plateau areas, steep slopes of Mount Erica, and examples of the steeply dissected terrain of the Thomson and Aberfeldy valleys. It supports a complex of sub-alpine vegetation and a range of open forest types in which alpine ash, mountain ash, messmate stringybark, red stringybark, silvertop, and their associated species are prominent.

Recommendations concerning the Baw Baw Alpine Resort have been made in the Recreation chapter.

The Council notes that the State Electricity Commission is considering the possibility of installing a pumped-storage power generation scheme on the Cascade Creeks.

State parks

A2 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

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

Most of the important landscape features occurring between Anglesea and Lorne are represented in this park. It contains typical examples of open forest and heathy woodland occurring in the eastern Otways, particularly those that have developed on a variety of parent materials in the zone receiving more than 700 mm of rainfall.

Maintenance of the mature red ironbark stands that are a feature of the park may yield small quantities of minor forest produce from time to time.

Note : The adjoining land in the Corangamite study area is of similar nature, and will be considered for addition to the park.

A3 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 (see descriptive report)
- (e) the catchments of the Upper and Lower Stony Creek reservoirs be proclaimed, and that the National Parks Service consult and co-operate with the Soil Conservation Authority and the water supply authority regarding the location, timing, and type of management activities in the catchments (with the exception of the land in the buffer strips to be defined around diversion works and the full-supply level of the reservoirs—see the Water Production chapter)
- (f) the slate quarries located in the north-east of the park be phased out of operation over five years

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

This park includes the steeply dissected slopes of the Rowsley fault scarp (a prominent landscape feature visible from many areas west of Melbourne) and remnants of flat plateau terrain. It supports a rich flora, in which open forest I-II of messmate stringybark, red stringybark, broad-leaf peppermint, red ironbark, and their associated species are prominent. The park includes 450 ha of land at the Werribee Gorge, 7 km to the north of the Brisbane Ranges and this gorge, cut by the Werribee River in the scarp of the Rowsley fault, contains several features of geological interest. Contact between Permian glacial sediments overlying tightly folded Ordovician sediments is very well exposed. Contact between Devonian granite and the Ordovician sediments, with associated metamorphism, is also well exposed.

Many secondary- and tertiary-level students undertake geological excursions to this area, and its geological features should receive special attention.

Due to their past use, the forests in the Brisbane Ranges are not in a natural condition. It is envisaged that, to change the vegetation to a form and composition closer to the original condition of the forests, some timber-harvesting will be necessary, and minor forest produce will be available. This applies to parks A4 and A5 also.

A4 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

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

The main feature here is the gorge of the Lerderderg River. The park includes open forest I-III in which messmate stringybark, narrow-leaf peppermint, red stringybark, broad-leaf peppermint, red ironbark, and their associated species are prominent.

The quarry referred to in A4 (e) above could be screened from public view by making a small change in alignment of the track leading past it.

The comments concerning the condition of the forests made under A3 apply here also.

A5 Fryers Ridge State Park

That the land (1,400 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 conserving the park's rich flora (see descriptive report)
 - (e) existing mining exploration licences held over the area continue

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission, at least until such time as this Council makes recommendations for the land in the adjoining North Central study area.

This park contains examples of the land types found in the northern foothills of the Divide where they have developed on Ordovician sediments. It supports open forest I-II in which red stringybark, broad-leaf peppermint, and their associated species predominate. The park includes many historic relics of past gold-mining activities.

Note : The adjoining land of a similar nature in the North Central study area will be considered for addition to the park.

A6 Kinglake State Park

That the land (10,300 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 the natural ecosystems
- (c) supply water and protect catchments

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

The chief features of this park are fern gullies, waterfalls, and panoramic views across the cleared lowlands. It includes plateau and dissected terrain supporting open forest I-IV, in which mountain ash, messmate stringybark, red stringybark, broad-leaf peppermint, and associated species are prominent.

A7 Cathedral Range State Park

That the land (3,600 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
- and that
- (c) during periods of high fire danger the managing authority close the Little River Gorge area to the public

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

The rocky razor-back ridge of the Cathedral Range is the main feature of this park. Other features include the gorge of the Little River as it drops from the Cerberean Plateau, and the river flats downstream. The park supports open forest I-IV, in which mountain ash, messmate stringybark, manna gum, red stringybark, broad-leaf peppermint, and their associated species are prominent.

A8 Lake Mountain State Park

That the land (2,400 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 water catchments and that
- (d) emphasis be placed on the conservation of the park's rich flora
- (e) the area continue to be developed as a day-visitor area for snow sports such as snow play, cross-country skiing, and limited downhill skiing
- (f) nature conservation values, particularly those in Echo Flat, be protected and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

This park is the closest sub-alpine area to Melbourne and supports a rich flora of typical alpine and sub-alpine species, a number of which occur no further west on the Australian mainland.

Development of Lake Mountain for snow sports should continue in preference to commencing development at Mount Torbreck. The slopes at Mount Torbreck provide only short runs for downhill skiing, the area is not suitable for cross-country skiing, snow reliability there is low, and the cost of providing access would be high.

A9 Eildon State Park

That the land (29,500 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 placed on maintaining this area's diverse mammal fauna
- (e) existing mining exploration leases held over the area continue and that future activity be in accordance with the guidelines set out in the Minerals and Stone Production chapter
- (f) the pine plantations on allotment 7 of the parish of Howqua West be harvested and consideration be given to revegetating with local native species, and the road leading to the area be closed unless it is required for park management purposes

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

The steeply dissected Enterprise Range and Rocky Spur, together with the scenic and recreational attractions of the Eildon water storage, are the main features of this park. It supports open forest I-III, in which messmate stringybark, narrow-leaf peppermint, red stringybark, broad-leaf peppermint, and their associated species are prominent.

Notes : Under the Council's recommendations for water production, a 200 m buffer strip between this park and the waters of Lake Eildon will be reserved for water supply purposes. Council recognizes that the State Rivers and Water Supply

Commission has ultimate responsibility for the quality of the water, and agreement must be reached between the Commission and the National Parks Service regarding the management policies for the buffer. These policies should be implemented by the National Parks Service.

The Shire of Alexandra should be consulted if the National Parks Service considers that development of the Jerusalem Creek area is desirable.

A10 Moondarra State Park

That the land (8,500 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) the small softwood plantations (total area about 500 ha) near the Moondarra Reservoir not be extended, and the future use of the land be reviewed when the stands are harvested
 - (e) the habitat of the onion orchid (*Microtis biloba*) be preserved
- and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

The chief features of this park are the heathy woodlands and other examples of land types that have developed on the Tertiary and Palaeozoic sediments of the Moondarra Plateau. It supports heathy woodlands of broad-leaf peppermint and yertchuk, and open forest I-III in which silvertop, messmate stringybark, and their associated species are prominent.

It is recognized that, because of the location of the park in relation to the brown-coal open cuts, special fire-protection plans will have to be drawn up and implemented by the National Parks Service, Forests Commission, and the State Electricity Commission.

A11 Bunyip State Park

That the land (13,500 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) conserve wildlife populations, in particular the rich mammal fauna
 - (d) supply water and protect catchments
- and that
- (e) gravel extraction in the park cease
 - (f) the significant plants listed in the descriptive report be protected

(g) extraction of forest products from the mixed-species forests in the park be permitted to continue at the current level of production until 1990

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission

and that a wildlife management plan be prepared by the Forests Commission and submitted to the Fisheries and Wildlife Division for their agreement.

Note: That logging should be excluded from the existing wildflower reserves, which will now be included in the park.

This park contains a wide range of land types and a rich fauna and flora, including a number of species endemic in the Melbourne study area. It supports heathy woodland of broad-leaf peppermint and silver-leaf stringybark, and open forest II-IV in which mountain ash, messmate stringybark, silvertop, and associated species are prominent.

A12 French Island State Park

That the land (7,700 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) conserve wildlife populations, in particular the potoroo, and the rookeries of the Australian pelican and short-tailed shearwater

and that

(d) the park be zoned to protect swamp, saltmarsh, heathy woodland, and messmate stringybark open forest I plant communities

(e) consideration be given to leasing the area of pasture on the former prison farm for grazing until the managing authority requires the area for wildlife habitat, or other purposes associated with management of the State park

(f) the National Fitness Council have access to and use of the upper dam on Brella Creek to provide an emergency water supply to the youth and family camp on the former prison farm

(g) access to the island be by boat, and the use of motor vehicles be limited to the provision of management and essential services

(h) gravel and sand resources on public land be exploited for local use only and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

French Island has outstanding significance for nature conservation and recreation, as it contains large areas of public land, relatively free from human influence, that have a diverse flora and fauna. On the mainland, very little of the formerly widespread heath woodland remains, and the saltmarsh and mangrove communities are under threat from industrial development and recreation pressure. Viable examples of all three communities occur on the island, however, and contain a diverse fauna. Birds are well represented, with many waders and one of the two permanent Victorian pelican rookeries on the northern shore. Differences between the mammal fauna of the

island and that of the mainland are of scientific interest. The shores of the island form ideal boundaries for a park, with the waters of Western Port forming a natural buffer zone.

The Fisheries and Wildlife Division should consult the National Fitness Council with respect to the management of the land adjacent to the proposed youth and family camp on the former McLeod Prison Farm (see the Recreation chapter).

Regional Parks

A13 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

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

Isolated granite peaks offering panoramic views of the surrounding plains are the main feature of this park, which is readily accessible from both Geelong and Melbourne.

The You Yangs have suffered from the impact of large numbers of visitors, and special measures will be needed to reclaim damaged areas.

A14 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

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

This area of moderately dissected stringybark forest with heathy understorey lies close to Geelong and Melbourne. Its features include early mining relics, an old cemetery, spring wildflower displays, and Sutherlands Creek.

A15 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

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

This area of grassy to heathy forest adjoins Hepburn Springs and is close to Ballarat and Melbourne. Features include mineral springs, early mining relics, and Sailors Creek, Sailors Falls, and Mount Franklin.

A16 Macedon Regional Park

That the land (3,000 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) water catchments in the park be protected
- (d) emphasis be placed on protection of the mountain ash, alpine ash, silver-leaf stringybark, and white sallee stands and their associated species
- (e) continued utilization of timber from existing softwood plantations be permitted where methods, intensity, and locality do not conflict with primary uses
- (f) the landscape values of the range as viewed from the surrounding lowlands be protected
- (g) the park be zoned by the managing authority as set out in the guidelines in Appendix 1 and as indicated in general terms on Map B.

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

The main Macedon Range forms headwater areas for fifteen proclaimed water-supply catchments, from which domestic water is reticulated to Macedon, Mount Macedon, Gisborne, Sunbury, Riddells Creek, Romsey, Lancefield, and Woodend. For the most part, these domestic water supplies are not treated at present, and the supply authorities are therefore concerned that no health hazard should result from any recreational developments in the catchments. Although not legally restricted, public access to parts of these catchments, particularly reservoirs and offtakes, is discouraged by the water trusts. For instance, the Macedon Waterworks Trust fenced an area around McDonald and Turritable reservoirs two years ago, and has recently sought to have the fence extended. This indicates the growing conflict between water production and recreation.

The Macedon area is a popular destination for day tourists from Melbourne, the main attraction being the Memorial Cross and the Camels Hump, and adjacent picnic and barbecue areas. Most of the visitors to these areas engage in pleasure driving, picnicking, and sightseeing. However, bush-walking, orienteering, horse-riding, and rock-climbing are increasing in popularity. It was estimated that about 140,000 people would visit this area in 1975. Overcrowding already occurs near the Memorial Cross and the Camels Hump.

On and around the Macedon Range there is a wide diversity of both natural and man-made environments. The natural environments, which vary from foothill mixed-species forests through mountain ash forests to sub-alpine woodland, support a variety of recreational uses. Many sightseers are attracted by the ornamental gardens in and around Macedon, and orienteering, horse-riding, and picnicking are popular in the mature pine plantations.

A17 Wandong Regional Park

That the land (700 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) timber-harvesting continue as an aid to the primary objectives

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

The dissected forested country on the steep western slopes of the Disappointment Plateau affords good views out across the plains to Mount Macedon and the Mount William Range. It is easily accessible from Wandong and the Hume Highway, and contains scenic drives to Mount Disappointment and Strath Creek Falls.

A18 Yea River Regional Park

That the land (200 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 it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

The Yea River and forested flats and slopes are the chief features of this park, which adjoins the Yea-Yarra Glen Road.

A19 Fraser Regional Park

That the land (3,900 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 it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

This park overlooks Lake Eildon and offers views of the Alps. It includes farmland that was once cleared, and supports a large population of kangaroos. It is readily accessible from the Maroondah and Goulburn Valley Highways.

Note : Under the Council's recommendations for water production, a 200 m buffer strip between this park and the waters of Lake Eildon will be reserved for water supply purposes. Council recognizes that the State Rivers and Water Supply Commission has ultimate responsibility for the quality of the water, and agreement must be reached between the Commission and the National Parks Service regarding the management policies for the buffer. These policies should be implemented by the National Parks Service.

A20 Tyers Regional Park

That the land (1,200 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) the regional park be developed so as to encourage high-intensity use at suitable localities away from the Tyers Gorge area
 - (e) protection of water supply installations receive particular attention from the management authority
 - (f) the Wirilda Environmental Park company be consulted regarding its development. (This company, with the assistance of the Commonwealth government has recently acquired private land adjoining the southern boundary of the recommended regional park ; it intends to develop its own area, but would like to provide opportunities for its visitors to take walks

or perhaps horseback rides along and across the Tyers Gorge area ; adequate provision for these activities should be made when planning the use of the regional park.)

- (g) the Connan Park area held under lease by the Boy Scouts Association be added to the park on expiration of the lease, but that the Association continue to have rights of occupancy and access to this area

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

This area of shrubby forest bordering the Tyers River Gorge is close to the Latrobe Valley population centres. Features include the Moondarra Reservoir, the Tyers River, and views across the Latrobe Valley. Council recognizes that most of the public land held by the State Electricity Commission and recommended for inclusion in the regional park falls outside the study area ; its inclusion in the regional park, however, will facilitate planning and management of the whole area.

A21 Crossover Regional Park

That the land (340 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 it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

This area of shrubby forest lies close to Melbourne and the Latrobe Valley and the main Melbourne access to the Baw Baw Plateau. Features include pleasant bushland, tree-fern gullies, the old Noojee railway, popular fishing streams, and proximity to the Tarago River.

A22 Mount Worth Regional Park

That the land (200 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) emphasis be given to protecting the remnants of the natural vegetation, particularly the mountain ash stands

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

This public land forms the nucleus of a regional park close to Warragul. Features include waterfalls, fern gullies, and scenic views across the Latrobe Valley and the dissected terrain of the Strzeleckis to the sea. Council reiterates the following recommendation :

That 400 ha in the Parish of Tong Bong be considered for future exchange for lands currently held by APM Forests Pty. Ltd. adjacent to the Morwell National Park and the proposed Mount Worth regional park.

This was recommendation 3c in "South Gippsland Study Area (District 1) Final Recommendations", published in October 1973, and the area of public land involved was shown on Plan 2 of that publication. The land at Mount Worth held by APM Forests Pty. Ltd. is allotment 61A and parts of 61B and 21 in the Parish of Allambee.

A23 Ferntree Gully Regional Park

That the land (400 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) special prescriptions for fire protection be drawn up for this park

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

This park is representative of the drier parts of the Dandenong Ranges, and supports open forest III and IV of messmate, narrow-leaved peppermint, long-leaved box, mountain grey gum, and manna gum. It has no mountain ash, but the main gully contains tree-fern and blackwood. The park carries a good range of native plants, including about 20 ferns and 30 orchids, and is the habitat of more than 100 species of native birds and 20 species of native mammals. The park is 35 km from Melbourne and has well-developed visitor facilities ; almost 500,000 people visit it annually. It also serves as a training ground for the ranger staff of the National Parks Service.

A24 Dandenongs Regional Park

That the land (3,000 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) special prescriptions for fire protection be drawn up for this park

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

The site of the proposed Silvan No. 2 reservoir should be included in the regional park until the area is required for water supply purposes.

This major recreation area lies right on the edge of Melbourne. It comprises a diverse landscape of urban, rural, and bushland elements. The high peaks and ridgelines offer views in many directions—towards the mountains, the Yarra Valley, Melbourne, and Port Phillip Bay. The park itself consists of many blocks of public land, mostly forested, and varying from peppermint stringybark open forest II—III to mountain ash open

forest IV and dense fern gullies. The steep escarpment in Devonian volcanics at Mount Dandenong is included, as is the undulating and hilly forested country on the plateau. The park contains a number of places of public interest—including the William Ricketts Sanctuary, the National Rhododendron Garden, and the Olinda Golf Course. The availability of restaurants, nurseries, market gardens, art galleries, and craft shops further adds to the attraction of the area.

A25 Gembrook Regional Park

That the land (2,300 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) low-intensity timber harvesting be permitted

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

This park contains forests of messmate stringybark, and woodlands of broad-leaf peppermint and silver leaf stringybark. It includes popular picnic areas along Diamond Creek. It is readily accessible from Melbourne's eastern suburbs via the Dandenongs and Gembrook, and from the Prince's Highway. It is close to areas to be used for urban development in the Berwick-Pakenham corridor, and the managing authority should consult the Shire of Pakenham with respect to plans for developing this park for a variety of recreational activities.

A26 Warrandyte Regional Park

That the land (100 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 the land be permanently reserved under section 14 of the *Land Act* 1958, added to the existing Warrandyte Park, and managed by the National Parks Service.

This park includes the following :

- (i) Jumping Creek Reserve (the part that falls within the study area)
- (ii) Jumping Creek Scout Reserve—unreserved Crown land to the north-west of (i)
- (iii) the Public Purposes Reserve on the western bank of the Yarra River, north of Crown allotment 24 of section 4A, Parish of Nillumbik
- (iv) the Public Purposes Reserves comprising the river frontages on the north bank of the Yarra River, between allotment 5 of section 7, and the southern extremity of allotment 21A of section 4, Parish of Nillumbik ; and on both sides of Stony Creek between the Research-Warrandyte Road and the Yarra River.

A27 Cape Schanck–Arthurs Seat Regional Park

That the land (2,300 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) the managing authority take particular care to protect the localities on the coast listed in Appendix 2
- (d) the coast from Point Nepean to Cape Schanck be a Scenic Coast (see recommendations on Scenic Coasts in the Coasts chapter)

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

Currently comprising scattered blocks in the southern part of the Mornington Peninsula, this park will be augmented by a land-acquisition programme now in progress. It includes the steep timbered slopes of Arthurs Seat with commanding views out over Port Phillip Bay, and the outstanding scenic coast from London Bridge, Gunnamatta, and Cape Schanck to Flinders. The areas acquired, together with the several small blocks already included, will connect these two major areas by linking them down the undulating spine of the Peninsula through a predominantly rural landscape.

Geological Monument

Geological monuments are areas that contain features of great geological interest, and are reserved primarily to preserve these features for the education and enjoyment of the people.

Such areas often have high recreation, nature conservation, and landscape values in addition to geological features.

A28 Organ Pipes Geological Monument

That the area of about 65 ha south of allotment 10, Parish of Tullamarine, and shown on the maps be reserved to provide opportunities for education and recreation associated with understanding and enjoying natural features

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

The principle feature of this area is the “ Organ Pipes ”, a particularly good example of columns in Pliocene–Pleistocene basalt, which have been exposed in the valley cut by Jacksons Creek.

The area is of additional importance as it includes some of the best remnants of the native flora that formerly covered the basaltic plains and gorges west of Melbourne.

YARRA VALLEY MULTI-PURPOSE PARK

Planning policy for the Yarra Valley adopted by the government in September 1971, states that the whole of the catchment upstream from Warrandyte " shall be planned as an open-space system for nature conservation and recreation, with provision, where appropriate, for primary production and forestry " and that planning of the area " shall take account of the potential of the area for water catchment purposes ".

The Council believes that all public land in the Yarra Valley should be reserved and ultimately used as a multi-purpose park under unified management. This belief depends on the achievement of this aim without detriment to the vital use of the area as a water supply catchment. The Council has considered in particular the aspects discussed below.

Water

Catchments covering 76,325 ha in the headwaters of the Yarra River supply Melbourne with about 245,000ML of water each year—about 70 per cent of its current consumption. When necessary the water is chlorinated before entering the suburban reticulation system. In addition, seven catchments covering about 4,800 ha (including some 1,600 ha of private property) supply water for the townships of Gembrook, Cockatoo, Emerald, Menzies Creek, Clematis, Healesville, Warburton, Millgrove, Warburton East, Woori Yallock, Launching Place, Yarra Junction, and Wesburn. Water from the Don River (whose catchment includes a large proportion of private farmland) is clarified before use in Launching Place. When necessary, water from all of the catchments is chlorinated.

The government's decision to build the Yering Weir and Sugarloaf storage will mean that prior to 1980 about 213,300 ha (including 124,400 ha of public land) upstream from Yering, will become a catchment supplying Melbourne with water. Present land use in this catchment includes residential, intensive agriculture, grazing, timber production, recreation, and quarrying. Water from the catchment will be fully treated (clarification, filtration, and chlorination) before entering the reticulation system.

Recreation

The Yarra Valley has a diverse landscape that provides some of the finest scenery and opportunities for inland recreation close to Melbourne. Its value for recreation is enhanced by its close proximity to the northern and eastern suburbs and ready access from the Maroondah and Warburton Highways.

Popular recreation activities in the Valley include driving for pleasure, picnicking, bushwalking, fishing, fossicking, canoeing, nature study, photography, camping, sightseeing, horse-riding, trail-riding, and adventure camps. The popularity of the area is clearly reflected in the large numbers who use the Melbourne and Metropolitan Board of Works picnic grounds (about 525,000 annually) and visit the Healesville Sanctuary (about 350,000 annually). The policy of keeping Melbourne's catchments closed has given much of the Yarra Valley a very high value for recreational activities requiring solitude and environments free from the obvious hand of Man. The catchment areas contain the most extensive virgin stands of mountain ash (the world's tallest hardwood tree species) on the Australian mainland. These stands are an attraction of international appeal, and are only 70 km from Melbourne.

Nature conservation

The Yarra Valley has a very high value for nature conservation, as it contains a wide range of vegetation types that have developed on plateau and dissected terrain formed on a number of different igneous and sedimentary rocks. These vegetation types support a rich flora and correspondingly rich fauna.

Of particular importance are the mountain ash forests, five species of plants endemic or almost endemic in the Melbourne study area (*Carex alsophila*, *Persoonia arborea*, *Astelia australiana*, *Acacia nano-dealbata*, and *Wittsteinia vacciniaceae*), and two species with very localized distribution in Victoria (*Ghania grandis* and *Lepidosperma tortuosum*). Leadbeaters possum (*Gymnobelidus leadbeateri*), a species thought to be extinct until it was rediscovered in 1961, is found throughout the open forest IV areas of the Yarra Valley. A number of other animals closely associated with the ash forests are well-represented (see descriptive report).

The Maroondah and O'Shannassy catchments (which have been closed to public access and to timber utilization since the late 1880s, and to a lesser extent the Upper Yarra catchment (the last sections of which were closed in the late 1950s) offer unique opportunities to create reference areas of forested land types that elsewhere have been utilized, mainly for timber but also for agriculture and recreation.

Timber

The importance to the State's timber industry of the ash forests, and in particular the regrowth resulting from the 1926 and 1939 wildfires, was stressed in the descriptive report. The Yarra Valley contains about 25 per cent of these forests and 35,000 ha (22 per cent) of the State's ash regrowth.

Only a limited volume of timber is produced from the Yarra Valley at present (about 20,000 m³ per year). The limitation is due partly to the policy of not permitting logging in the catchments supplying water to Melbourne, and partly to the fact that large areas of regenerating forests have not yet reached merchantable age. These catchments support 45,000 ha of ash-type forest, including 26,000 ha of regrowth (about 16 per cent of the State's total).

If used primarily for timber production, the Yarra Valley could produce a sustained annual yield of about 1.0 million m³—more than half the current hardwood production from the whole State. In addition to this high capability, the ash forests of the Yarra Valley have considerably enhanced value for timber production because they occur on relatively flat terrain and are close to Melbourne. Eventually, utilization of the forests may prove possible, provided it can be carefully planned and controlled to avoid conflict with recreation, conservation and water values.

Other uses

Public land within the Yarra Valley is currently used for many other purposes, such as quarrying, rubbish disposal, organized sport, etc. It is not the intention of the following recommendations to exclude any existing uses.

Catchment management

At present 62,000 ha of public land supplying Melbourne with water is reserved solely for water harvesting (with nature conservation being a very valuable incidental use). It undoubtedly has a very high value for water production; it also has very high values for recreation and for timber production.

The principal water-production areas of Victoria are also its principal timber-producing areas, and so the Yarra Valley is not unique in this regard. Harvesting of timber in accordance with prescriptions approved by the Soil Conservation Authority, in consultation with the land management authority and the water supply authority, is common practice in catchments throughout the State, including those supplying water to Geelong, Bendigo, the Latrobe Valley, the Mornington Peninsula, and many smaller towns such as those mentioned above in the Yarra Valley. The Council's policy with respect to the use and management of water catchments is given in the Water Production chapter.

The Melbourne and Metropolitan Board of Works, while not considering that the concept of multiple use is wrong (particularly in relation to timber production), believes that research is needed to provide the scientific facts upon which to base a sound policy before any marked change from the current situation is applied.

The Board has begun publishing results of its hydrological work at Coranderrk, which started in 1954. It is also engaged in a 14-catchment study at North Maroondah and associated work. The Soil Conservation Authority, the Forests Commission, and the State Rivers and Water Supply Commission are engaged in a joint project at Reefton. In 1968, the government directed that these bodies pursue the hydrology research they are currently undertaking with the aim of producing results by 1979, as a basis for decisions on catchment management policy for Melbourne.

The Board of Works has maintained that increased recreational use of the catchments would increase the likelihood of disease being spread through the water supply. It is unwilling to take this risk until comprehensive treatment facilities are available throughout the integrated system, to replace the current system of limited sterilization by chlorination.

Common practice in other catchments in the State is to allow free access to the outer catchment areas. The Council's policy is that multiple use should be permitted, with safeguards and controls, on the State's catchments.

In view of the ultimate need for comprehensive treatment of the water supply in the future, plus the imminence of results from hydrological research, the ability of areas outside the catchments (and outside the Yarra Valley) to provide most of the immediate timber and recreational needs, and the varied tenure and control of the public land, the Council believes that progress towards the unified management of the Yarra Valley can only be achieved in a number of stages.

The first stage, as recommended below, should be implemented as soon as possible. Council will make recommendations for the second stage when the research results are available and after suitable investigation and consideration of submissions as indicated in the *Land Conservation Act 1970*.

Recommendations

- A29 1.0** That the land (113,000 ha) in the Yarra Valley indicated on the maps be a multi-purpose park used to :
- (a) provide opportunities for recreation and education in natural environments
 - (b) conserve and protect the native animals and plants and landscape
 - (c) produce hardwood timber.

- 1.1 That use and management of this park ensure that these aims are achieved without detriment to the vital use of the area as a water supply catchment.

The above recommendations for use are based on the Statement of Planning Policy for the Yarra Valley adopted by the government in September 1971.

Note : The Council proposes that the catchments within the study area be investigated by the Soil Conservation Authority, and where appropriate recommended for proclamation.

- 1.2 That the park eventually be under unified management.
- 1.3 That the whole park be permanently reserved under section 14 of the *Land Act* 1958.
- 2.0 That, pending unified management of the park, the areas shown on the map be managed by the Melbourne and Metropolitan Board of Works and the Forests Commission respectively, and that the co-operative management arrangements between the Board and the Commission that have applied to the four leased catchments since June 1969 continue.
- 2.1 That an interim advisory committee be formed consisting of one representative from each of the Soil Conservation Authority (to be the Chairman), Department of Crown Lands and Survey, Fisheries and Wildlife Division, Forests Commission, Melbourne and Metropolitan Board of Works, and National Parks Service. The advice of the Health Department should be sought where appropriate.
- 2.2 That the functions of the committee be :
 - (i) to advise the managing authorities and other bodies concerned with the park, in order to ensure that management is consistent with the aims of the park
 - (ii) to liaise with the proposed Yarra Valley Planning Authority on matters of mutual concern, especially with respect to landscape preservation and development of recreation.
- 3.0 That the feasibility study outlined below be conducted. Council supports the proposal of the Melbourne and Metropolitan Board of Works to conduct a feasibility study leading to a short-term investigation of the effects that low-intensity recreational use would have on water quality. Council also supports participation of private-interest groups and appropriate government departments in this work.
- 4.0 That the land in the park be used as set out in the zones described below and indicated in general terms on Map C, having regard at all times to the protection of domestic water supply catchments and the quality of water coming from them. This zoning is to apply until the Council reviews land use in the park following evaluation of the results of various catchment hydrology research projects, and when more is known about the effects of recreational use of catchments on water quality.
- 4.1 Reference area

That the land within this zone be used to maintain the ecosystem (permitting natural processes to continue with a minimum of human interference) for scientific study related to the impact of Man's activities on similar ecosystems.

4.2 Intensive recreation

That the land within this zone be used to :

- (a) provide 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 the existing use of part of this zone at Gilwell Park for scouting activities should continue.

4.3 Recreation and hardwood

That the land within this zone be used to :

- (a) provide informal recreation, especially along the roads and tracks
- (b) produce hardwood timber and other forest produce as defined in the *Forests Act* 1958, in a manner that would not reduce landscape values, as seen from main roads through the forests and from the major roads outside the forests
- (c) conserve native animals and plants.

Note : Parts of this zone would be closed to recreation and logging while water is being harvested by the Melbourne and Metropolitan Board of Works.

4.4 Intensive hardwood production

That the land within this zone be used to :

- (a) produce hardwood timber
- (b) conserve native animals and plants, and provide informal recreation to the extent compatible with (a) above.

Note : Parts of this zone would be closed to recreation and logging while water is being harvested by the Melbourne and Metropolitan Board of Works.

4.5 Restricted recreation

That the land within this zone be used to :

- (a) provide opportunities for recreation such as walking, but not camping
- (b) conserve native animals and plants, and protect the landscape.

4.6 Education area

That the land within this zone be used to provide opportunities for field teaching aimed at promoting an understanding of natural environments.

4.7 Scenic landscape

That the land within this zone be used to protect outstanding parts of the Yarra Valley landscape, and produce hardwood timber and provide recreation only when this can be done with due regard to landscape values.

Note : The inclusion of the O'Shannassy aqueduct in this zone depends on its withdrawal from service within the next few years. This will be possible when the water it now carries is diverted into the new Yarra Valley Conduit. The aqueduct could then be converted into a magnificent scenic road with associated recreation areas.

4.8 Bushland area

That the isolated parcels of land within this zone be used to :

- (a) maintain the local character and quality of the landscape
- (b) provide opportunities for passive recreation such as picnicking and walking.

4.9 Hydrological research area

That the land within this zone be used to investigate the relative effects of different types of silvicultural and timber utilization techniques on the volume and timing of water yield under various conditions of soil, climate, and topography, and to provide a venue and opportunity for public education.

4.10 Storage and diversion works

That the land within this zone be used to store and distribute water and to provide the associated services and buildings.

4.11 Restricted zone

That the land within this zone continues to be managed in accordance with government policy, in order to :

- (a) protect water catchments
- (b) maintain the stability of the land and its usefulness for possible future uses
- (c) conserve native flora and fauna.

4.12 Healesville Sanctuary

That the land within this zone continue to be used for education and recreation related to observing native fauna.

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 would normally be typical examples of land types that have been extensively developed elsewhere for productive uses such as agriculture or softwood production. The course and effects of human alteration and utilization of the land can be measured against these relatively stable natural areas. Most developed regions have few areas remaining that are suitable as reference 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 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 reference area from damaging or potentially damaging activities on surrounding land. It will also protect important values in the surrounding land from potentially damaging natural processes occurring on the reference area.

Access should be restricted, and experimental manipulation should not be permitted. Reference areas will enable continued study of natural features and processes, for example fauna, flora, hydrology, and nutrition. These studies are important in increasing our knowledge of the ecological laws and processes on which Man'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 the land). These areas preserve a valuable pool of genetic material. Man often uses wild species to genetically strengthen inbred races of domestic plants and animals—and the future use of gene pools will probably expand far beyond this.

In recommending the creation of reference areas, the Council foresees the need for new legislation to specify their status. An advisory committee has been established to determine the broad policies for the management of reference areas and their buffers.

Note: 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 become available.

Recommendations

- B1-B22 (a)** That the areas listed below and shown on the maps be used to maintain natural ecosystems as a reference to which those concerned with studying land for particular comparative purposes may be permitted to refer, especially when attempting to solve problems arising from the use of land.

- (b) That each reference area be surrounded by a buffer ; that the authority currently managing the recommended buffer be responsible for the management of the enclosed reference area ; and that the delineation of buffer zones be by joint agreement between the managing authority and the advisory committee.

- B1** Durdidwarrah (125 ha)
Tertiary sediments ; flat. Elevation 360–380 m. Approximate annual rainfall 700 mm. Open forest I–II manna gum, white sallee.
- B2** Stony Creek (270 ha)
Ordovician sediments ; strongly dissected. Elevation 260–380 m. Approximate annual rainfall 60 mm. Open forest I–II brown stringybark, messmate stringybark, broad-leaf peppermint.
- B3** Musk Creek (125 ha)
Ordovician sediments ; moderately dissected. Elevation 640–700 m. Approximate annual rainfall 1,000–1,100 mm. Open forest I–III messmate stringybark, narrow-leaf peppermint, broad-leaf peppermint, manna gum.
- B4** Ruths Gully (200 ha)
Ordovician sediments ; strongly dissected. Elevation 425–640 m. Approximate annual rainfall 900–1,000 mm. Open forest II–III messmate stringybark, narrow-leaf peppermint, broad-leaf peppermint.
- B5** Ah Kows Gully (440 ha)
Ordovician sediments ; strongly dissected. Elevation 270–580 m. Approximate annual rainfall 700 mm. Open forest I–II broad-leaf peppermint, red stringybark, messmate stringybark, eurabbie.
- B6** Pyrete Range (360 ha)
Ordovician sediments ; strongly dissected. Elevation 250–360 m. Approximate annual rainfall 700 mm. Open forest I–II broad-leaf peppermint, red stringybark.
- B7** Stony Creek (420 ha)
Devonian granite ; plateau and slopes. Elevation 240–750 m. Approximate annual rainfall 1,000–1,200 mm. Open forest III–IV mountain ash.
- B8** Disappointment (1,090 ha)
Devonian granite ; plateau and slopes. Elevation 240–750 m. Approximate annual rainfall 1,000–1,200 mm. Open forest IV mountain ash.
- B9** Joey Creek (250 ha)
Devonian sediments ; plateau and slopes. Elevation 300–520 m. Approximate annual rainfall 1,000 mm. Open forest II–III messmate stringybark, narrow-leaf peppermint.
- B10** Yan Yean (north) (100 ha)
Silurian sediments ; moderate slopes. Elevation 220–260 m. Approximate annual rainfall 700 mm. Open forest I candlebark, red stringybark.

- B11** Yan Yean (south) (300 ha)
Quaternary sediments ; flat. Elevation 200–220m. Approximate annual rainfall 700 mm. Open forest I–II grassy woodland, white sallee, swamp gum.
- B12** Watts River (240 ha)
Devonian volcanics ; plateau. Elevation 790–1,200 m. Approximate annual rainfall 1,200–1,400 mm. Open forest IV mountain ash (mature).
- B13** Deep Creek (720 ha)
Devonian volcanics ; plateau and slopes. Elevation 670–1,370 m. Approximate annual rainfall 1,400 mm. Open forest IV mountain ash (regrowth and mature).
- B14** Walsh Creek (1,050 ha)
Devonian sediments ; strongly dissected. Elevation 400–930 m. Approximate annual rainfall 1,600 mm. Open forest I–III broad-leaf peppermint, silvertop, messmate stringybark.
- B15** Mount Gregory (770 ha)
Devonian sediments ; plateau. Elevation 475–1,050 m. Approximate annual rainfall 1,400 mm. Open forest IV alpine ash (regrowth).
- B16** Bennie Creek (130 ha)
Devonian granite ; plateau and slopes. Elevation 720–920 m. Approximate annual rainfall 1,000–1,200 mm. Open forest IV mountain ash (regrowth).
- B17** Diamond Creek (330 ha)
Devonian granite ; moderate slopes. Elevation 90–499 m. Approximate annual rainfall 1,000 mm. Heathy woodland, silver-leaf stringybark, broad-leaf peppermint.
- B18** Hawthorn Creek (470 ha)
Devonian sediments ; moderate slopes. Elevation 270–580 m. Approximate annual rainfall 1,200 mm. Open forest III silvertop, brown stringybark, messmate stringybark, mountain ash.
- B19** Baw Baw (80 ha)
Devonian granite ; plateau. Elevation 1,370–1,430 m. Approximate annual rainfall 1,400 mm. Sub-alpine complex.
- B20** Eaglehawk Creek (460 ha)
Tertiary sediments–Silurian sediments ; plateau and slopes. Elevation 180–360 m. Approximate annual rainfall 1,000 mm. Open forest II–III silvertop, brown stringybark, yertchuk, eurabbie.
- B21** French Island (north) (570 ha)
Quaternary sediments ; flat. Elevation sea level–15 m. Approximate annual rainfall 700–1,000 mm. Heathy woodland (wet)–mangroves–salt marsh.
- B22** French Island (east) (290 ha)
Quaternary sediments ; flat. Elevation sea level–75 m. Approximate annual rainfall 700–1,000 mm. Heathy woodland (dry).

Note : Areas are approximate.

C. WILDLIFE

While some of Australia's animals have adapted to the changes in the environment brought by European Man, the populations of many have seriously declined, and a few have become extinct.

The conservation of fauna depends on conservation of habitat, and in Victoria the public lands contain large areas of diverse natural habitats.

The Council believes that, in areas with particular wildlife values, the authorities managing public land should note the need for both research into and application of wildlife management techniques, and should actively collaborate with the Fisheries and Wildlife Division regarding these aspects of wildlife conservation.

WILDLIFE RESERVES

Although some forms of land use do not have marked detrimental effects on habitat, it is necessary to set some areas aside specifically for conserving fish and wildlife, and for developing wildlife conservation techniques.

These areas may be selected for conservation of species that the community harvests or directly utilizes. They may contain the habitat of endangered species or areas with particular wildlife values such as specialized breeding grounds, a high species diversity, or educational 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.

Recommendations

C1 Browns Swamp

That the area of 30 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

This shallow lake on the basalt plains provides habitat for waterbirds.

C2 Lake Connearre

That the area of 3,100 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that particular care be taken to protect the sites of special conservation significance on the coast, as listed in Appendix 2, that are within this reserve

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

This area on the flood-plain of the lower Barwon River enlarges an existing reserve, and includes Lake Connearre, Reedy Lake, and Lake Murtnagurt. It is a very important link in the chain of swamps along the east-west flight line of migratory waterfowl.

Note : The waters of this reserve are to remain as part of the Port of Barwon Heads, and control of the waters (provided for under the *Marine Act* 1958 and the *Motor Boating Act* 1961) is to remain with the Ports and Harbors Division of the Public Works Department. The Ports and Harbors Division should consult with the Fisheries and Wildlife Division before undertaking any works or before zoning boating activities on the Lake.

C3 Lonsdale Lakes

That the area of 150 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

Lake Victoria and several small areas of wetland here have a high value as feeding and breeding areas for waterfowl.

C4 Swan Bay-Edwards Point

That the area of 250 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that particular care be taken to protect the sites of special conservation significance on the coast, as listed in Appendix 2, that are within this reserve

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

This reserve includes two existing reserves and, together with those at Mud Islands and the Spit, forms a particularly valuable feeding and resting area for waterfowl and inter-continental migratory waders. Saltmarsh and dune vegetation at Edwards Point is one of the few known winter refuges of the endangered orange-bellied parrot.

C5 Mud Islands

That the area of 56 ha indicated on the maps continue to be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

These three low islands some 10 km off the Queenscliff coast already comprise a reserve. Together with the Swan Bay and Spit reserves, it forms a very important feeding and resting area for waterfowl and intercontinental migratory waders. The islands support one of the two breeding colonies of white-faced storm petrels in Victoria.

C6 St. Leonards

That the area of 24 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that tipping of rubbish be stopped

and that it be permanently reserved under section 14 of the *Land Act 1958*, and be managed by the Fisheries and Wildlife Division.

This reserve consists of a small lake and surrounding saltmarsh. It has a high value as a feeding and resting area for waders.

C7 The Spit

That the area of 300 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that the Melbourne and Metropolitan Board of Works be consulted on matters affecting the security of the adjoining sewerage farm

and that it be permanently reserved under section 14 of the *Land Act 1958*, and managed by the Fisheries and Wildlife Division.

The Spit and adjacent foreshore is regarded as being the most important feeding ground for migratory waders in Victoria. It is also one of the few known winter refuges of the endangered orange-bellied parrot.

C8 Serendip

That the area of 250 ha indicated on the maps continue to be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act 1958*, and managed by the Fisheries and Wildlife Division.

Serendip is Victoria's principal wildlife research station.

C9 Freshwater Swamp

That the area of 8 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act 1958*, and managed by the Fisheries and Wildlife Division.

Although small, this reserve supports some river red gums and lignum, and could be managed to provide valuable wetland habitat for waterfowl.

C10 Homewood

That the area of 30 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act 1958*, and managed by the Fisheries and Wildlife Division.

This small island in the Goulburn River, together with the adjacent old course of the river, supports river red gums and could be managed to provide a sheltered breeding area for waterfowl and other fauna.

C11 Molesworth

That the area of 30 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

The river red gums and billabongs adjoining the Goulburn River could be managed to provide wetland habitat and breeding areas for waterfowl.

C12 Snobs Creek

That the area of 200 ha indicated on the maps be used primarily for the production of native and sporting fish, and for public education and recreation where this does not conflict with the primary aim

and that reasonable public access to the Snobs Creek Falls be maintained

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

This reserve includes the Snobs Creek Fish Hatchery and Research Station, together with a buffer strip 200 m wide extending about 6 km upstream along both banks of Snob Creek. The buffer has been included in the reserve in order to safeguard the water supply to the Hatchery.

C13 Yellingbo

That the area of 160 ha indicated on the maps continue to be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

The existing reserve within this area supports the only remaining colonies of the helmeted honeyeater—Victoria's only endemic bird species. A number of arboreal mammal species are also found here.

C14 Western Port

That the area of 1,650 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

Quail and Chinaman Islands are already wildlife reserves ; Barallier, Pelican, and Ram Islands and the mangrove-lined foreshores between Tyabb and Yallock Creek also form part of this reserve. It provides feeding and resting areas for large numbers of waterfowl and migratory waders. The mangrove swamps are a very important part of the bay ecosystem, while Quail Island supports good examples of manna gum woodlands.

Note : Council is aware of the potential for development of portion of French Island. If this development takes place, it may be necessary to review the use of Barallier Island.

C15 Phillip Island (inland)

That the area of 130 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

These three isolated blocks of public land support good populations of koala. They have great tourist value, as they are readily accessible to the public.

C16 Rhyll Swamp

That the area of 250 ha indicated on the maps continue to be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that particular care be taken to protect the sites of special conservation significance on the coast, as listed in Appendix 2, that are within this reserve

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

The Rhyll Swamp is an important waterfowl area, supporting breeding colonies of spoonbills, ibis, and cormorants. It is also a feeding and resting area for migratory waders.

Note : The waters of this reserve are to remain as part of the Port of Western Port and control of these waters (provided for under the *Marine Act* 1958 and the *Motor Boating Act* 1961) is to remain with the Ports and Harbors Division of the Public Works Department. The Ports and Harbors Division should consult with the Fisheries and Wildlife Division before undertaking any works or before zoning boating activities in this portion of the reserve.

C17 Seal Rocks

That the area of 2 ha indicated on the maps continue to be used primarily to conserve native animals, and for public education where this does not conflict with the primary aim

and that particular care be taken to protect the sites of special conservation significance on the coast, as listed in Appendix 2, that are within this reserve

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

This small rocky outcrop at the mouth of Western Port is the site of one of the Victorian breeding colonies of the Australian fur seal.

C18 Phillip Island (coastal)

That the area of 450 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

This includes an existing reserve, and contains a number of flourishing colonies of the little penguin and short-tailed shearwater. It has great tourist value, as it is readily accessible to the public.

The Cat Bay–Flynn Reef area is of particular value for surfing, and appropriate facilities and access should be provided.

C19 Newhaven Swamp

That the area of approximately 45 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

The Newhaven Swamp is an important area for native animals, and especially for waterbirds. This proposed reserve does not include the caravan park in the east of the area.

Note: The Shire of Phillip Island has requested that a small area of land adjoining the highway be made available for the establishment of an interpretation centre. The Fisheries and Wildlife Division should consult with the Shire regarding the most appropriate location for this centre.

C20 Reef Island–Bass River

That the area of 150 ha indicated on the maps be used primarily to conserve native animals, and for public education and recreation where this does not conflict with the primary aim

and that it be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Fisheries and Wildlife Division.

Reef Island is an important high-tide roost for birds, and the mangrove and saltmarsh wetlands around the mouth of the Bass River are also important for birds.

Council notes that the Fisheries and Wildlife Division considers a site at the base of Eildon Dam (between the State Electricity Commission tailrace and the spillway) to be highly suitable for future development by that Division as a fish hatchery. Until a decision is made on the matter the area should be managed in a way that would not prejudice its suitability for that purpose.

WILDLIFE MANAGEMENT CO-OPERATIVE AREAS

Some areas have values for wildlife conservation that overlap with capabilities for other uses. Where land tenure and management are oriented towards other major uses, special consideration will need to be given to the protection of the wildlife values. This will require some modification of the primary aims of management and can be achieved by co-operation between the responsible authorities and the Fisheries and Wildlife Division.

Parts of Port Phillip Bay and Western Port have particular value for wildlife because of the special characteristics they possess. For example, the mangroves and seagrass flats of Western Port support many forms of life and provide shelter and breeding grounds for juvenile and adult fish. They also play an important role in the cycling of nutrient materials and energy for the whole bay. However, the waters of these bays are also used for recreation and for commercial and industrial purposes.

Both bays are proclaimed ports and consequently the responsibility for navigational matters lies with the Ports and Harbors Division of the Public Works Department. Other departments and government agencies also have jurisdiction over various aspects of use associated with the bed and waters of these bays, and these responsibilities should continue. In order to provide for the best use and management of certain areas that are important for wildlife it is proposed that these areas be declared wildlife management co-operative areas, under the provisions of the *Wildlife Act 1975*.

A management plan for wildlife management co-operative areas will be required in order to ensure that the wildlife values are adequately protected, while maintaining the jurisdiction of the Ports and Harbors Division and other government departments and agencies over the areas.

Research is in progress to identify areas that have outstanding wildlife values or are in need of special protection. These will be considered for reservation as Marine Reserves when more information is available. Parts of some Wildlife Management Co-operative Areas may eventually be included in these Marine Reserves.

Recommendations

C21-C28 That the areas described below and indicated on the maps be used for the conservation of wildlife and for commercial and recreational activities and that, in order to protect the wildlife values associated with these areas, the Fisheries and Wildlife Division should prepare management plans in consultation with the appropriate government departments with responsibility for various activities associated with either the sea bed or the waters of the bays, and then submit the plans to them for agreement and that these areas be declared Wildlife Management Co-operative Areas under the *Wildlife Act 1975*.

C21 Swan Bay

An area of 2,800 ha indicated on the maps, being part of the Port of Port Phillip. Swan Bay supports a rich fauna and provides a sheltered breeding ground for many marine species. It is also an important habitat for waterfowl.

C22 Mud Islands

An area of 600 ha indicated on the maps, being part of the Port of Port Phillip.

The Mud Islands are an important roosting and breeding site for sea birds and have been recommended as a Wildlife Reserve (Recommendation C5). The waters around the islands are shallow and include extensive sea-grass communities—used by the birds as feeding grounds and by marine invertebrates and fishes as a breeding area.

C23 Popes Eye Annulus

An area of 3 ha indicated on the maps, being part of the Port of Port Phillip. The Popes Eye Annulus is a man-made island that has been densely colonised by an extremely rich community of marine organisms. It has become a study area for scientists, and supports a number of rare marine species, two of which are not known elsewhere in Victorian waters.

C24 Point Lonsdale

An area of 37 ha indicated on the maps, being part of the Port of Port Phillip. During low tides the marine flora and fauna of the inter-tidal rock platform at Point Lonsdale, with its associated tide-pools, outer gutters and offshore rocky outcrops become exposed and amenable to investigation by marine scientists and students. Point Lonsdale is the “type locality” for over 30 species of opisthobranch molluscs and other marine fauna. Over 150 species of opisthobranch molluscs have been recorded from this platform including several rare species which have only been recorded once in Victoria.

C25 Point Nepean

An area of 90 ha indicated on the maps, being partly in the Port of Port Phillip. The rock platforms at Point Nepean have remained relatively undisturbed due to limited access. This is an area of great beauty, has considerable interest for scientists, and is a habitat for some rare species of algae and molluscs. The submerged reefs on both sides of Point Nepean offer spectacular diving for recreational divers including underwater photographers and naturalists.

C26 Western Port

An area of 28,400 ha indicated on the maps, being part of the Port of Western Port. This area includes most of the intertidal mud flats of Western Port, which are important as a feeding area for waterfowl and migratory waders, and also are a vital part of the marine ecosystem of the bay.

C27 Rhyll–Newhaven

An area of 2,500 ha indicated on the maps, being part of the Port of Western Port. This area of intertidal mudflats supports a sea-grass community that is important for birds and marine animals.

C28 Reef Island–Bass River

An area of 700 ha indicated on the maps, being part of the Port of Western Port. This area of intertidal mudflats supports a sea-grass community that is important for birds and marine animals.

Note : Areas are approximate.

D. WATER PRODUCTION

Catchments in the study area are vital to the well-being of the State. They provide all the water used in Melbourne and the Latrobe Valley, and much of that used in Bendigo and Geelong. These centres include more than 80 per cent of Victoria's population and a large proportion of its industry. In addition, the catchments provide all the water used in Bacchus Marsh and Werribee irrigation districts and contribute much of that used in the Goulburn and Gippsland irrigation districts.

Current management

Despite their importance, these water catchments are subject to long-standing inconsistencies in management policies, particularly with respect to timber production and public access.

In relation to public access, the Melbourne and Metropolitan Board of Works has, within the catchments it specifically controls, a general policy of total exclusion of the public in order to prevent pollution of Melbourne's water supply.

This exclusion is by no means total, however. For example, a number of roads open to the public run through the Board's catchments: these include the Maroondah Highway, the Acheron Way, Cumberland Road, Muddy Creek Road, and Reefton Spur Road. The Board does not exclude the public from the Cumberland Scenic Reserve, nor from the portion of the Lake Mountain Reserve within the Armstrong Creek catchment.

It operates the Fernshaw recreation reserve (open to the general public) within the Maroondah catchment, which also contains open-access defined walking tracks. The Board has approximately 130 km of open aqueducts, of which 30 km are located between storage reservoirs and the metropolitan area. The latter pass through agricultural land and some pollution is unavoidable. Action has been and will continue to be taken by the Board to modify the impact of these situations.

In the case of the Thomson catchment, where the Board is the water supply authority but not the land management body, restrictions on public access to the Stage 1 catchment are current, and similar restrictions are likely to apply to the Stage 2 catchment. These restrictions have been applied as conditions under section 23 (1) (c) of the *Soil Conservation and Land Utilization Act 1958*.

The Council has considered all submissions on the various uses in the catchment and—consistent with its views on multiple use in the Thomson catchment and in accordance with the provisions of the *Land Conservation Act 1970*—has advised the Soil Conservation Authority that regulated use of the catchment by drivers, campers, and walkers should be continued, provided water quality can be protected.

Monitoring of recreation usage and water quality in these catchments (and in the Stage 3 catchment where no restrictions on access are current) will provide information that will assist in determining levels of recreational access to the entire catchment. By the time conditions of access to the Stage 3 catchment are formulated, it may be that some of the access restrictions to Stages 1 and 2 could be lifted.

The Moondarra catchment, which supplies the Latrobe Valley with water, has no restrictions on public access to the catchment. Nevertheless, the controlling water supply body (the Latrobe Valley Water and Sewerage Board) excludes the public from the reservoir itself and from its environs. By contrast, in the Tarago catchment—which supplies the Mornington peninsula—the catchment, reservoirs, and environs are all open to the public. In fact, the Tarago Reservoir itself is largely surrounded by farmland. At present, however, the State Rivers and Water Supply Commission (the responsible water supply authority) is considering excluding the public from the environs of the reservoir.

Land use planning

The Council notes that the degree of land use planning varies between catchments. Detailed land use prescriptions exist for nearly all catchments within the study area that have been proclaimed under the *Land Conservation Act 1970* and/or the *Soil Conservation and Land Utilization Act 1958*. Concern for the adverse effects caused by undesirable changes in land use has resulted in 33 of the 97 water supply catchments in the study area being proclaimed under section 22 (1) of the *Soil Conservation and Land Utilization Act 1958*, and in the preparation of land use determinations for parts or all of 27 of these. The use of all land within proclaimed catchments is subject to specification by notice issued by the Soil Conservation Authority or by determination made by the Authority after consultation with the Land Conservation Council.

The Council maintains that all domestic water supply catchments within the study area should be investigated by the Soil Conservation Authority and, where appropriate, recommended for proclamation by the Land Conservation Council, in order to ensure a uniform procedure for land use planning within these areas.

Multiple use

Recognizing that the prime water-producing areas of the State coincide with the principal mountain and forested areas, and that inland water bodies are a major attraction for recreation—the Council believes that wherever possible there should be multiple use of catchments. Where recreational use of storages is permitted it must be carefully controlled to ensure adequate protection of water supply, and responsibility for this must remain with the water supply authority.

The Council realizes that the optimum combination of land uses for catchments must vary from one land type to another, depending on the manner in which the environmental variables of climate, parent material, topography, soils, and organisms are inter-related. The Council is aware that a particular use may not impair the quantity, frequency, or quality of water yield in one instance, but may have a profound effect in another.

Where a number of other products are required from a catchment supplying water used for domestic, industrial, or irrigation purposes, the catchment should be proclaimed, under section 22 (1) of the *Soil Conservation and Land Utilization Act 1958* and section 5 (1) (b) of the *Land Conservation Act 1970*.

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. Public authorities managing land within a proclaimed catchment should, however, consult and co-operate with

the water supply authority and the Soil Conservation Authority regarding location, timing, and type of management activities in the catchment. This is the current practice in most areas.

On the other hand, the water supply authority should control and manage the buffer strip (defined in the land use determination) around storages and diversion works in addition to the actual waterworks area. Although the primary object of management in the buffer must always be to protect water quality, there are situations where secondary uses (such as recreation and timber production) can be accommodated. In such circumstances, the principles of management must be agreed upon by the water supply authority and any other authorities concerned.

Water quality, yield, and regulation

The Council is aware that it is possible to improve the quality of water by treatment at a cost. It must, however, be recognized that the higher the quality of raw water, the cheaper and more efficient the treatment is and, in most cases, the more acceptable the end-product. It is also vital to safeguard the quantity and timing of yield. Catchments must be protected from soil erosion, soil compaction, and contamination from chemical or biological sources.

Within the Melbourne study area, a highly simplified classification of water source areas can be defined, as follows :

- (a) sub-alpine, e.g. the Baw Baws
- (b) mountain, e.g. Healesville
- (c) wet foothill, e.g. Hurstbridge
- (d) dry foothill, e.g. Malmsbury

Management prescriptions for other land uses within these catchments must differ from one class to another. Activities that have little impact on the physical quality of water in one class of catchment may in another seriously impair water quality and must therefore be strictly controlled. For example, the range and intensity of activities that could be permitted in (b) and (c) is considerably greater than that permissible in (a) and (d).

The implementation of proper management of land uses within catchments is extremely important, and recognition must be given to the greater-than-normal need for high levels of protection. Implementation of any recommendations for public land within catchments will require recognition that values such as water yield, quality, and flow regime are of prime concern. The Council recognizes the need for research to provide guidelines for such management. The Council considers that sterilization of drinking water is ultimately inevitable, even with controlled land use in catchments.

Where multiple land use in catchments is increasing in intensity, water supply authorities should provide, at the earliest possible time, facilities for sterilization of all drinking water in accordance with established standards. The Council notes that the Commission of Public Health and the Melbourne and Metropolitan Board of Works believe that the standards for water quality adopted by the World Health Organization should be the long-term goals for domestic water supply systems.

Additional water needs

Future water needs for domestic purposes and for stock and irrigation may require the construction of additional water storages. No specific areas can be reserved for this purpose until the need has been reasonably established and possible sites are investigated. The Council notes the deliberations currently taking place on proposals for additional water storages in the Yarra basin at Watson's Creek, in the Latrobe basin at Willow Grove and Blue Rock, and in the Bunyip basin at Longwarry North and Heath Hill.

Note : The Melbourne study area includes parts of the catchments of four storages that are situated outside its boundary. These are Cairn Curran reservoir on the Loddon River, Lake Eppalock on the Campaspe, Lake Nagambie on the Goulburn, and Cowwarr Weir on the Thomson. The catchments of Cairn Curran and Eppalock have been proclaimed.

Recommendations

D1-D27 That in the case of the locations listed below and shown on the maps (all these locations being within catchments that have been proclaimed and for which land use determinations have been made), the following areas :

- (i) the storage areas
 - (ii) diversion works
 - (iii) associated facilities
 - (iv) the buffer strips around diversion works and storages, as defined in the land use determination
 - (v) any other allotments as specified below
- be used for
- (a) water supply purposes
 - (b) other activities permitted by the water supply authority after consultation with the Soil Conservation Authority and the Environment Protection Authority

and that these areas be permanently reserved under section 14 of the *Land Act* 1958 for water supply purposes, and be managed by the water supply authority named.

Note : (i) The primary object of management of the buffer must be to protect water quality. Subject to this principle, the water supply authority may permit other secondary uses on the buffer. In such cases, the principles of management must be agreed upon by that authority and any other authorities concerned.

(ii) In cases where the above recommendations cause the control and management of an area to pass to a land management authority from a water supply authority, which thus loses income, Council believes that the new management authority should pay adequate compensation or negotiate some other mutually acceptable arrangement.

- D1** Upper and Lower Tylden reservoirs, Kyneton Waterworks Trust ; 40 m buffer.
- D2** Kitty English and Bowden Road reservoirs, Macedon Waterworks Trust ; 40 m buffer
- D3** North-west Macedon offtakes and storages, Woodend Waterworks Trust ; 20 m buffer.
- D4** Turritable and Macdonalds reservoirs and Turritable Creek offtake, Mount Macedon Waterworks Trust ; 40 m buffer.

- D5 Stony reservoir, Macedon Waterworks Trust ; 40 m buffer ; the reserve to include the following Crown Reserves : Parish of Kerrie (*Government Gazette*—1929 : 4098 ; 1969 ; 34).
- D6 Stony Creek offtake, Mount Macedon Waterworks Trust ; 40 m buffer.
- D7 Smokers and Falls Creeks offtakes, Woodend Waterworks Trust ; 20 m buffer.
- D8 Barringo Creek offtake, Sunbury and Gisborne Waterworks Trust ; 20 m buffer.
- D9 Upper Main Creek offtake, Riddells Creek Waterworks Trust ; 20 m buffer.
- D10 Charlies Creek, Sunbury Waterworks Trust ; 40 m buffer.
- D11 Lower Main Creek, Sunbury Waterworks Trust ; 40 m buffer.
- D12 Garden Hut reservoir, Lancefield Waterworks Trust ; 20 m buffer.
- D13 Upper Bolinda Creek offtake and storage, Romsey Waterworks Trust ; 20 m buffer.
- D14 Lower Bolinda Creek offtake, Sunbury Waterworks Trust ; 40 m buffer.
- D15 Hazel and Harpers Creeks offtakes, Kilmore Waterworks Trust ; 40 m buffer.
- D16 Goodmans Creek diversion, State Rivers and Water Supply Commission ; 100 m buffer.
- D17 Merrimu reservoir, State Rivers and Water Supply Commission ; 100 m buffer ; the reserve to include the following allotments of public land : Parish of Merrimu east of 4, north of 17 ; Parish of Coimadai—north of 83 and 87, south of 86 ; and other land at present owned by the State Rivers and Water Supply Commission.
- D18 Djerrivarrah reservoir, Melton Waterworks Trust ; 20 m buffer ; the reserve to include the following allotments—Parish of Yangardook 59k and 59t.
- D19 Micks Creek offtake, Healesville Waterworks Trust ; 20 m buffer.
- D20 Bunyip River offtake, State Rivers and Water Supply Commission ; 20 m buffer.
- D21 Upper Tarago diversion, Warragul Waterworks Trust ; 100 m buffer.
- D22 Tarago reservoir, State Rivers and Water Supply Commission ; 100 m buffer.
- D23 Healesville diversion, Healesville Waterworks Trust ; 60 m buffer.
- D24 McCreas Creek offtake, Gembrook Cockatoo and Emerald Waterworks Trust ; 60 m buffer.
- D25 Thomson (stages 1 and 2 diversions) Melbourne and Metropolitan Board of Works ; 200 m buffer.
- D26 Trigger Creek diversion, Erica Waterworks Trust ; 200 m buffer.
- D27 Moondarra Reservoir, Latrobe Valley Water and Sewerage Board ; 200 m buffer.

D28–D95 That in the case of the locations listed below and shown on the maps (all these locations being within catchments for which no land use determinations have been made) the present tenure and management of public land continue for the time being

and that once a land use determination has been made, the following areas :

- (i) the storage areas
- (ii) diversion works
- (iii) associated facilities
- (iv) the buffer strips around diversion works and storages, as defined in the land-use determination
- (v) any other allotments as specified below

be used for

- (a) water supply purposes
- (b) other activities permitted by the water supply authority after consultation with the Soil Conservation Authority and the Environment Protection Authority

and that these areas be permanently reserved under section 14 of the *Land Act* 1958 for water supply purposes, and be managed by the water supply authority named.

Note : (i) The buffer should be wide enough to prevent direct pollution, to filter overland flow of water, and to control access. Its width will vary to suit differences in ground slope, soil type, vegetative cover, adjoining land use, and type of facilities available for treating the water.

(ii) The primary object of management of the buffer must be to protect water quality. Subject to this principle the water supply authority may permit other secondary uses on the buffer. In such cases, the principles of management must be agreed upon by that authority and any other authorities concerned.

(iii) In cases where the above recommendations cause the control and management of an area to pass to a land management authority from a water supply authority, which thus loses income, Council believes that the new management authority should pay adequate compensation or negotiate some other mutually acceptable arrangement.

- D28 Jim Crow diversion, Newstead Waterworks Trust.
- D29 Wombat reservoir, Daylesford Waterworks Trust.
- D30 Bullarto reservoir, Daylesford Waterworks Trust.
- D31 Coliban River diversion, Malmsbury Waterworks Trust.
- D32 Malmsbury reservoir, State Rivers and Water Supply Commission; the reserve to include the following: Parish of Burke—*Government Gazette* 1868: 321, north of allotment 9A of 3; *Government Gazette* 1941: 4286, east of allotment 10q; *Government Gazette* 1888: 2304, adjoining and east of the Reserve, 1941: 4286; Parish of Lauriston—*Government Gazette* 1968: 321, west of 291.
- D33 Lauriston reservoir, State Rivers and Water Supply Commission.
- D34 Upper Coliban reservoir, State Rivers and Water Supply Commission; the reserve to include the following: Parish of Burke—*Government Gazette* 1956: 4268.
- D35 Rosslynne reservoir, State Rivers and Water Supply Commission.
- D36 Mollisons Creek diversion, Pyalong Waterworks Trust.
- D37 Goulburn River diversion, Seymour Waterworks Trust.
- D38 Falls Creek reservoir, Seymour Waterworks Trust.
- D39 Sunday Creek diversion, Broadford Waterworks Trust.
- D40 Hellhole diversion, Melbourne and Metropolitan Board of Works.
- D41 Mud Creek diversion, Melbourne and Metropolitan Board of Works.
- D42 Stony Creek diversion, Melbourne and Metropolitan Board of Works.
- D43 Silver Creek diversion, Melbourne and Metropolitan Board of Works.
- D44 Wallaby Creek diversion, Melbourne and Metropolitan Board of Works.
- D45 Yea River diversion, Yea Waterworks Trust.
- D46 Goulburn River diversion, Alexandra Waterworks Trust.
- D47 Rubicon River diversion, Thornton Waterworks Trust.
- D48 Eildon reservoir, State Rivers and Water Supply Commission; the reserve to include the following allotments: 1.5 ha north-west of allotment 59A, Parish of Howqua and that part of allotment 33, Parish of Howqua West above the water level.
- Note: Under these recommendations, a 200 m buffer strip from the waters of Lake Eildon will be reserved for water supply purposes. Council recognizes that the State Rivers and Water Supply Commission has ultimate responsibility for the quality of the water, and agreement must be reached between that Commission and the National Parks Service (Eildon State Park and Fraser Regional Park) or Forests Commission (Reserved Forest) regarding the management policies for the buffer. These policies should be implemented by the National Parks Service or the Forests Commission as the case may be.
- D49 Delatite River diversion, Mansfield Waterworks Trust.
- D50 Mooroolbool River diversion, Bannockburn Waterworks Trust.
- D51 Upper and Lower Stony Creek reservoirs, Geelong Waterworks and Sewerage Trust.
- D52 Bostock reservoir, Geelong Waterworks and Sewerage Trust; the reserve to include the following: Parish of Mooroolbool West, east of allotment 8A, east and south of allotment 4A of section 1.
- D53 Korweinguboorra reservoir, Geelong Waterworks and Sewerage Trust.
- D54 Colbrook reservoir, Ballan Waterworks Trust.
- D55 Pykes Creek reservoir, State Rivers and Water Supply Commission.
- D56 Lerderderg diversion, State Rivers and Water Supply Commission.
- D57 Melton reservoir, State Rivers and Water Supply Commission.
- D58 Yan Yean reservoir, Melbourne and Metropolitan Board of Works.
- D59 Running Creek reservoir, Hurstbridge Waterworks Trust.
- D60 Toorourrong reservoir, Melbourne and Metropolitan Board of Works.
- D61 Yering Weir, Melbourne and Metropolitan Board of Works.
- D62 Beauty Spot reservoir, Marysville Waterworks Trust.
- D63 Steavenson River diversion, Marysville Waterworks Trust.

- D64 Labertouche Creek offtake, Drouin Waterworks Trust.
- D65 Beaconsfield reservoir, State Rivers and Water Supply Commission ; the reserve to include the following allotments : Parish of Pakenham—*Government Gazette* 1878 : 313, 1125 ; and 1879 : 2814.
- D66 Lysterfield reservoir, State Rivers and Water Supply Commission.
- D67 Donnellys Creek diversion, Melbourne and Metropolitan Board of Works.
- D68 Sawpit Creek diversion, Melbourne and Metropolitan Board of Works.
- D69 Maroondah reservoir, Melbourne and Metropolitan Board of Works.
- D70 Grace Burn diversion, Melbourne and Metropolitan Board of Works.
- D71 Coranderrk Creek diversion, Melbourne and Metropolitan Board of Works.
- D72 Don River diversion, Woori Yallock—Launching Place Waterworks Trust.
- D73 Yannathan Creek diversion, Warburton Waterworks Trust.
- D74 Cement Creek diversion, Melbourne and Metropolitan Board of Works.
- D75 O'Shannassy reservoir, Melbourne and Metropolitan Board of Works.
- D76 Armstrong (West) diversion, Melbourne and Metropolitan Board of Works.
- D77 Armstrong (East) diversion, Melbourne and Metropolitan Board of Works.
- D78 Upper Yarra reservoir, Melbourne and Metropolitan Board of Works.
- D79 McMahons Creek diversion, Melbourne and Metropolitan Board of Works.
- D80 Starvation Creek diversion, Melbourne and Metropolitan Board of Works.
- D81 Four mile Creek diversion, Warburton Waterworks Trust.
- D82 Britannia Creek diversion, Yarra Junction Waterworks Trust.
- D83 Deep Creek diversion, Noojee Waterworks Trust.
- D84 Brewery Creek diversion, Woods Point Waterworks Trust.
- D85 Thomson (stage 3), Melbourne and Metropolitan Board of Works.
- D86 Bunyip River diversion, Koo-wee-rup Waterworks Trust.
- D87 Tennants Creek reservoir, Westernport Waterworks Trust.
- D88 Lance Creek reservoir, State Rivers and Water Supply Commission.
- D89 Bellview and Coalition Creek storages, Korumburra Waterworks Trust.
- D90 Ruby Creek reservoir, Leongatha Waterworks Trust.
- D91 Rollo Creek reservoir, Yarragon Waterworks Trust.
- D92 Sunny Creek diversion, Trafalgar Waterworks Trust.
- D93 Narracan Creek diversion, Moe Waterworks Trust.
- D94 Little Narracan Creek diversion, Thorpdale Waterworks Trust.
- D95 Yallourn storage, State Electricity Commission.

D96–D100 That in the case of the following off-river storages, the storages and their associated reserves remain under their existing tenure and control. In these cases no proclamation is necessary.

- D96 Greendale reservoir, Melbourne and Metropolitan Board of Works.
- D97 Sugarloaf reservoir, Melbourne and Metropolitan Board of Works.
- D98 Silvan reservoir, Melbourne and Metropolitan Board of Works.
- D99 Cardinia reservoir, Melbourne and Metropolitan Board of Works.
- D100 Devil Bend reservoir, State Rivers and Water Supply Commission.

D101–D103 That the following areas be used to provide watering points for stock and that they be reserved under section 14 of the *Land Act* 1958 as water reserves, and managed by the Department of Crown Lands and Survey. These areas include springs and waterholes in predominantly grazing districts.

- D101 2 ha—being spring reserves east of allotment 7 of section 18A, Parish of Avenel.
- D102 6 ha—being departmental water reserve north of allotment 11 of section 18A, Parish of Avenel.
- D103 1 ha—being departmental water reserve allotment 43c, Parish of Yea.

Note: Areas are approximate.

E. HARDWOOD PRODUCTION

Timber from the hardwood forests of the study area has played an important part in the State's development since the earliest days of European settlement. About two-thirds of Victoria's high-quality forests are found here, and their proximity to the major markets and the relatively flat terrain on which they occur considerably enhance their value.

The most important species are mountain ash, alpine ash, and messmate stringybark. Other species include shining gum, mountain grey gum, narrow-leaf peppermint, and silvertop. The hardwood industry based on the study area currently utilizes about 650,000 m³ of timber annually, and directly employs more than 3,000 persons in its harvesting and initial processing. Sawlogs and pulpwood in roughly equal quantities account for more than 95 per cent of this volume, the remainder being veneer logs, poles, and other minor products. Forests in the study area must provide all the timber required for Hardboards Australia Limited under the *Forests (Pulpwood) Agreement Act 1959* and the bulk of that required for Australian Paper Manufacturers under the *Forests (Pulpwood Agreement) Acts 1961 and 1966*.

Historically all of the forested lands in the study area (with the exception of the catchment areas at Wallaby Creek, Maroondah, and O'Shannassy) have been exploited for timber.

On the scale at which it has traditionally been practised, hardwood production is compatible with many other uses, such as conservation of flora and fauna and many types of outdoor recreation. It has also been a flexible use, allowing the possibility of later adaptation.

Constraints are, however, placed on timber production in order to protect floral, faunal, recreational, water catchment, and landscape values when intensive silvicultural techniques such as clear-felling are employed, and as the community becomes increasingly aware of other forest values. Logging is excluded from reference areas and from many parks; furthermore, management prescriptions normally apply restrictions in areas close to streams, on steep slopes, or of special landscape significance.

The net area available for timber production thus decreases, and it may therefore be necessary to increase the productivity of areas to be used for timber production, despite the fact that their capability for non-timber uses may well decline as a consequence.

The Council believes that most of Victoria's timber requirements could be produced from intensively managed forests located in the areas of highest productivity. Intensive management is the accepted practice with softwood and other forms of primary production; in the case of hardwood it has the advantage of reducing the costs involved in roading, harvesting, regeneration, protection, and management. Although there would still be a general constraint to maintain the productivity of these areas, short rotations, changes in species or genetic strains, application of fertilizers, and extensive clearing would be appropriate in some instances.

Areas of relatively flat terrain with a high capability for hardwood timber production (such as the Black Range and Cerberean and Gregory plateaux), where conflict with landscape, recreational, and catchment values would be minimal, would be suitable

for intensive management. The Council realizes that, although some areas of ash-type species are intensively managed at present, the extension of this type of management to significant areas of forest can be achieved only in the long term. Thus many existing forests—which have generally resulted from past fires and logging activity and whose productivity is far below their potential—must continue to be used to meet existing and foreseeable needs, and in these recommendations hardwood timber production remains the primary use of large parts of the study area.

The Council also realises that the recommended hardwood production area contains a mosaic of forests of varying productivity, including some parts that are unsuitable for timber production. These are nevertheless included for ease of management. The hardwood production area also includes some areas of productive forest with significant water production, landscape, or conservation values. Constraints are therefore imposed in some cases and the Council has defined areas where particular non-timber values must be protected.

Recommendations

E1–E16 That the areas listed below and shown on the maps be used :

- (a) primarily to produce hardwood timber in a manner having due regard for landscape values as seen from the main roads outside the forest

that :

- (b) major secondary uses be to :

- (i) provide opportunities for open-space recreation and education
- (ii) conserve native plants and animals, and provide opportunities for the development of wildlife conservation techniques
- (iii) produce honey, forage, gravel, sand, and other forest produce as defined in the *Forests Act 1958*

- (c) water production values be recognized

- (d) particular values as listed below be protected by means of reserves under section 50 of the *Forests Act 1958*, or by management prescriptions prepared (in the case of fauna) in consultation with the Fisheries and Wildlife Division

and that the areas remain or become reserved forest under the provisions of the *Forests Act 1958*, and be managed by the Forests Commission.

E1 Bungal Forest (400 ha)

E2 Wombat Forest (38,000 ha)

- (a) That the Fisheries and Wildlife Division should be consulted with regard to conservation of the varied fauna of this forest.

- (b) Conservation of *Grevillea repens*, *Pultenaea weindorferi*, and *P. muelleri* var. *reflexifolia* should be provided for in management prescriptions.

- (c) Lyonville mineral springs and its environs be reserved for recreation under section 50 of the *Forests Act 1958*.

- (d) The natural environment of the Blue Mountain Lookout should be preserved.

- (e) The Council has no objection to the proposal made by the Trentham Tourist Development and Secondary Industry Development Committee to use 35 ha in this forest as a "colonial park".

E3 Cobaw Forest (2,500 ha)

E4 Tallarook Forest (4,900 ha)

- (a) Conservation of the eastern grey kangaroo should be provided for in management prescriptions in consultation with the Fisheries and Wildlife Division.
- (b) Landscape values of the forested escarpments as viewed from the Hume Highway should be maintained.

E5 Mount Disappointment Forest (16,000 ha)

- (a) Murchison Falls and Strath Falls and their environs should be reserved for recreation under section 50 of the *Forests Act* 1958.
- (b) The natural environment of the Mt. Disappointment lookout should be preserved.
- (c) Landscape values of the forested escarpments as viewed from the Hume Highway should be maintained.

E6 Toolangi Forest (9,000 ha)

- (a) Sylvia Falls and environs should be reserved for recreation under section 50 of the *Forests Act* 1958.
- (b) The western half of Crown allotment 54A (Crown land) should be exchanged for the eastern half of the freehold allotments 54B and 54C, Parish of Tarrawarra North (50 ha).

E7 Murrindindi Forest (16,400 ha)

- (a) Murrindindi Falls and Wilhelmina Falls and their environs should be reserved for recreation under section 50 of the *Forests Act* 1958.
- (b) The natural environs of the Murrindindi Road and Mt. Despair lookout should be protected.

E8 Black Range Forest (7,200 ha)

E9 Marysville Forest (22,300 ha)

- (a) The conservation of leadbeaters possum and other species closely associated with mountain ash forest should be provided for in management prescriptions, in agreement with the Fisheries and Wildlife Division.

- (b) Keppels Falls, Steavenson Falls, Keppels Lookout, De La Rues Lookout, and Red Hill, and their environs should be reserved for recreation under section 50 of the *Forests Act* 1958.
- (c) The natural environs of the Talbot Drive and Acheron Way should be protected.
- (d) Landscape values of the forested escarpments as viewed from the Maroonah Highway should be maintained.

E10 Rubicon Forest (31,800 ha)

- (a) Conservation of leadbeaters possum and other species closely associated with mountain ash forest should be provided for in management prescriptions in agreement with the Fisheries and Wildlife Division.
- (b) The scenic features and environs of Mt. Torbreck should be maintained.
- (c) Landscape values of the forested escarpments as viewed from the Maroonah and Goulburn Valley Highways should be maintained.

E11 Big River Forest (36,200 ha)

Conservation of stands of *Eucalyptus neglecta* in Frenchmans Creek should be provided for in management prescriptions.

E12 Thomson Forest (45,600 ha)

- (a) Within the zone indicated on the map, the conservation of leadbeaters possum should be provided for in Forests Commission management prescriptions, which should be submitted to the Fisheries and Wildlife Division for agreement.
- (b) The relics of mining in the Jordan River Valley should be preserved.
- (c) The environs of north and south Cascade Creeks should be protected.
- (d) The landscape seen from Cast Iron Point should be maintained.
- (e) Fossil sites at McAdams Gap should be preserved.

E13 Tarago–Latrobe Forest (46,000 ha)

- (a) Conservation of leadbeaters possum, the broad-toothed rat, and other species closely associated with mountain ash forest should be provided for in management prescriptions in agreement with the Fisheries and Wildlife Division.
- (b) Conservation of *Carex alsophila*, *Persoonia arborea*, and *Tetratheca stenocarpa* should be provided for in management prescriptions.
- (c) The open grassland on the Toorong Plateau bordering the Toorong Road and the track to Mt. Toorong should be maintained for its scenic value.
- (d) Toorong Falls and Cascade Creek Falls should be reserved for recreation under section 50 of the *Forests Act* 1958.

- (e) The natural environment of the Spion Kop and Mt. Toorong Lookouts, and Mt. Beenak and Seven Acre Rock should be preserved.
- (f) The historically interesting timber tramways in the Ada River Valley should be preserved.
- (g) The Labertouche Granite Cave and its environs should be preserved. This cave and its associated sinkhole are of geomorphological significance and the cave fauna is also important.

E14 Neerim East Forest (9,200 ha)

E15 Tanjil-Tyers Forest (33,400 ha)

- (a) Conservation of the tiger cats in the Willow Grove area should be provided for in management prescriptions, in consultation with the Fisheries and Wildlife Division.
- (b) The natural environs of the Mt. Baw Baw road should be protected.

E16 Boola Boola Forest (18,100 ha)

Landscape values of the Thomson River and Tyers River gorges should be protected.

This area includes public land outside the Melbourne study area in the Parishes of Toongabbie North and Boola Boola, about which Council deferred making a recommendation when considering the South Gippsland study area district 1.

Note : In addition to the areas mentioned above, 30,000 ha of forest in the Yarra Valley Multi-purpose Park are zoned for hardwood production or recreation and hardwood production.

F. SOFTWOOD PRODUCTION

The report on the Melbourne study area briefly summarized benefits derived from softwood plantations, industry requirements for the plantation resource, and forecasts of future demand. It also outlined the provisions of the *Commonwealth-State Softwood Forestry Agreement*. Under this Agreement which is currently under review the Commonwealth provides finance to help the States meet target softwood planting rates.

The study area includes the central development zone and parts of three other zones selected by the Forests Commission of Victoria within which sufficient wood resources are to be provided to supply perpetual and efficient wood-based industries.

Since the proposed recommendations were published, the Forests Commission has continued its softwood-planting programme within the recommended areas. The areas planted have now been included in recommendation F1. Some changes have also been made as a result of the assessment of second submissions. In particular, an area in the central zone (see Map 3) proposed as uncommitted has now been recommended for softwoods. This was necessary to ensure that the permitted net planted area remains available after making adequate allowance for areas that will be left unplanted as a result of the constraints imposed by the Plantation Planning Guidelines. In each planting zone, the total net area recommended for planting—up to and including 1983—remains the same as that proposed previously.

Industry and Plantation Requirements

Ballarat zone

The softwood plantations in this zone provide wood for local sawmilling and wood-preserving industries, as well as a particle-board factory operated by A. V. Wehl Industries Ltd. at Ballarat. Legislation passed in 1969 guarantees that the Forests Commission will meet the supply requirements of the particle-board industry (i.e. 18,000 m³ of softwood in 1974 increasing to 48,000 m³ by 1989). A. V. Wehl is planning for further expansion of its softwood-based industry. At present, available softwood supplies in the Ballarat zone are augmented from the Otways zone.

Up to December 1975, approximately 9,820 ha had been planted to softwoods. The Forests Commission has a requirement to plant a further 14,460 ha in the zone to meet its target of 24,280 ha net. Accordingly it requested that sufficient public land to carry 3,400 ha net of softwood plantings (to be established by 1983) be set aside in the Melbourne study area. The proposed recommendations allocated sufficient land to plant 1,616 ha net (47.5 per cent). As 421 ha net of softwoods have since been planted the balance of 1,195 ha net is now recommended for future plantings of softwoods. The Council believes that the remainder of the total Commission requirement to 1983 (1,784 ha net) should be met by purchase of private property.

Central and Benalla-Mansfield zones

The softwood plantings in the combined zones are planned to support a large integrated industry, including a pulp mill and sawmills. The establishment of a planned resource of 60,000 ha of softwood is still in the early stages, and no commitments to industry

have been made. To date (December 1976) approximately 12,000 ha have been planted, leaving a requirement for a further 48,000 ha net. The Forests Commission requested that sufficient land in the North-eastern study area (district 2), be made available to meet its present planting rates at Warrenbayne and Wrightley from 1974 to 1983 inclusive. The final recommendations for that study district met this requirement in full, and delineated an area sufficient to establish 7,400 ha net of plantation. This included some land purchased by the Forests Commission.

In its proposed recommendations, the Council allocated enough land in the Melbourne study area to establish a further 3,950 ha net to 1983. Plantings since have reduced this requirement to 3,555 ha. The combined areas in the Melbourne and Benalla-Mansfield zones enable the Forests Commission to achieve 74 per cent of its proposed plantings to 1983. The Council believes that the remainder (approximately 4,000 ha net) should be met by purchase of private property.

Latrobe zone

The softwood plantings in this zone will supplement wood supplies from the large plantation resource of Australian Paper Manufacturers Ltd. (A.P.M.) and the large State eucalypt resource in eastern Victoria. Major expansion of pulp and paper manufacture at A.P.M.'s Maryvale mill has been assured by the *Forests (Wood Pulp Agreement) Act 1974*, which guarantees long-term supplies of both softwood and hardwood pulpwood by the Forests Commission. Under this Act, the softwood supply commitment will increase from the present level of 8,500 m³ per annum to 100,000 m³ in the year 2000.

In order to meet this commitment and provide for sawmilling and other associated industries in the Latrobe Valley, the Forests Commission requires a total of at least 28,000 ha of softwood plantation to be established within the zone.

At present (December 1976) approximately 7,760 ha net of plantations have been established. In its submission, the Forests Commission requested that sufficient land to meet a planned expansion rate of 160 ha net per annum for the nine years 1975 to 1983 inclusive (1,440 ha net) be made available in the combined Shady Creek and Mount Tanjil areas. Plantings in 1975 have reduced this requirement to 1,300 ha net, which the recommendations meet in full from public land.

Planning Period

Provision is made in these recommendations for land for planting of softwoods in the area until 1983, thus allowing a planning period of eight years for the establishment of softwoods. Finance for softwood plantings, however, depends to some extent on the Commonwealth-State Softwood Forestry Agreement, which is scheduled for review in 1976 and possibly again in 1981. If substantial changes are made in the Agreement, it will be necessary to review these recommendations, particularly the area of land provided for softwood planting in 1982 and 1983. The Council will consider making land available for softwood planting after 1983 in sufficient time to allow reasonable preparation for such planting.

Land Purchased for Plantations

The Council has studied the economics of using available public land or purchased private land of various productivity classes for softwood production in the Ballarat zone. (Costs and returns used in this study were those prevailing in 1974.)

Suitable private land of significantly higher productivity, purchased at prices up to or even slightly exceeding the market price, could be expected to provide an internal rate of return generally the same as or slightly greater than that expected from the public land currently being planted.

The Council believes that the balance of Forests Commission requirements within the planning period, not provided for in the recommendations (approximately 5,780 ha), should be met by purchase of private property. Funds should be made available to the Commission for the purchase of suitable freehold land.

Non-government Plantation

The Council believes that private softwood plantings should be substantially based on private property. Public land may be made available to companies for softwood plantings, where its use would serve to consolidate the project. Such land should remain in public ownership, with the rights to and conditions of its use covered by a lease.

The Council has not provided any land in the study area for non-government plantations.

Plantation Planning Guidelines

The Council believes that the impact large plantations of softwoods have on the natural environment can be lessened by retaining selected areas of native vegetation, and by adhering to catchment prescriptions laid down by the relevant management authorities, where applicable. The guidelines set out below apply to the establishment of plantations on public land in this study area.

No continuous plantation unit should exceed 1,400 ha without obvious break-up areas retained as native forest. Large samples (100–200 ha) of all vegetation types in the area should be retained. Where possible, several types 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 recreational values.

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 40 m from each bank along minor streams and 80 m from each bank along major streams, and such areas should be kept free of exotic vegetation. This is in line with other Council recommendations that all wetlands on public land be conserved. These strips of retained native vegetation should be kept free of bulldozed material, and windrows should be swept back from them to protect them from hot burns. They should be linked to areas of native forest wherever possible, to allow movement of wildlife.

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 swaths of cleared country, during both the establishment phase and the final felling of the mature crop.

This may be achieved by :

- (i) retaining uncleared foreground reserves
- (ii) breaking up areas to be cleared with strategically located strips or blocks of vegetation
- (iii) 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.

The above guidelines have been adapted from those prepared and used by the Forests Commission. Obviously planning plantations in this way increases their gross area. Allowances for this have been made in calculating the areas allocated to softwoods.

Recommendations

F1 That the present plantations of 29,570 ha gross as indicated on the maps continue to be used for the production of softwood products and the provision of other goods and services compatible with the primary use, as well as providing opportunities for education and recreation

and that they be reserved forest under the provisions of the *Forests Act* 1958, and managed by the Forests Commission.

F2–F16 That the areas indicated on the maps be used for softwood production in accordance with the above plantation planning guidelines

and that they be reserved forest under the provisions of the *Forests Act* 1958, and managed by the Forests Commission.

Ballarat zone

F2 Spargo Creek

100 ha, within which 85 ha net may be planted to softwoods.

F3 Bells Reef

435 ha, within which 335 ha net may be planted to softwoods.

F4 Basalt

1,050 ha, within which 700 ha net may be planted to softwoods.

F5 Macedon

75 ha net may be planted to softwoods.

Central and Benalla–Mansfield zones

- F6** Kinglake West
65 ha net may be planted to softwoods.
- F7** Pheasant Creek
290 ha, within which 220 ha net may be planted to softwoods.
- F8** Mt. Robertson
1,585 ha, within which 1,190 ha net may be planted to softwoods.
- F9** Acheron 1
230 ha, within which 210 ha net may be planted to softwoods.
- F10** Acheron 2
850 ha, within which 640 ha net may be planted to softwoods.
- F11** Acheron 3
950 ha, within which 720 ha net may be planted to softwoods.
- F12** Acheron 4
420 ha, within which 350 ha net may be planted to softwoods.
- F13** Acheron 5
210 ha, within which 160 ha net may be planted to softwoods.

Latrobe zone

- F14** Neerim East
320 ha, within which 250 ha net may be planted to softwoods.
- F15** Shady Creek
820 ha, within which 550 ha net may be planted to softwoods.
- F16** Mr. Carmel
630 ha, within which 500 ha net may be planted to softwoods.

Proposed plantation areas in the Ballarat zone (F2–F5) are in proclaimed water catchment areas, and are subject to specification by notice or determination made by the Soil Conservation Authority.

G. FOREST AREA

When making recommendations on land for softwood plantations, the Council has recognized that their establishment constitutes a major change from any natural ecosystems they replace. Further, it realizes that softwood production is a long-term endeavour and that restoring the plantation areas to a natural condition may be difficult. Adjacent areas of public land that have high nature conservation and/or landscape values thus play an important role in maintaining a local balance in land use. Because of their locations, these areas are also important for protecting the softwood resource from fire, and therefore must also be managed for their purpose. Such land has been designated forest area.

Recommendation

G1 That the area of 4,300 ha indicated on the map be used for :

- (a) conservation of fauna and flora, and preservation of scenic values
- (b) protection of the adjacent area recommended for softwood production
- (c) low-intensity hardwood production, recreation, education, forest grazing, honey production, and mining, where these activities do not conflict with (a) above
- (d) water supply and catchment protection where these areas lie within water supply catchments

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

H. FLORA RESERVES AND FLORA AND FAUNA RESERVES

FLORA RESERVES

These reserves are significant because they contain examples of native vegetation with considerable floristic value in a natural or near natural state. They are set aside primarily to conserve species that may be rare or endangered and associations of native plants that are poorly represented on public land. Council recognizes that all flora reserves have an associated fauna, and where these values are known they have been referred to in the following recommendations.

Recommendations

H1–H19 That the areas indicated on the maps and described below be used to conserve particular species or associations of native plants

and that they be permanently reserved under section 14 of the *Land Act* 1958.

Map 2

- H1** 25 ha—north of allotment 3 of section A, Parish of Langley—to be managed by the Department of Crown Lands and Survey.
- H2** 220 ha—being allotments 19 and 19A, Parish of Goldie—to be managed by the Department of Crown Lands and Survey. Grazing should not be permitted.
- H3** 70 ha—west of allotment 27, Parish of Mangalore—to be managed by the Department of Crown Lands and Survey. Gravel extraction and grazing should not be permitted.

Map 3

- H4** 110 ha—being allotment 16E, Parish of Worrhough—to be managed by the Department of Crown Lands and Survey.
- H5** 490 ha—being allotments 32A, 33, 34 and 34A, section B, Parish of Switzerland—to be managed by the Department of Crown Lands and Survey.
- H6** 580 ha—being allotments 31, 31A, 32, 32A, and 47, Parish of Yarck—to be managed by the Department of Crown Lands and Survey.
- H7** 400 ha—being allotments 30C and 68B of section C, Parish of Gobur, together with the timber reserve to the north—to be managed by the Department of Crown Lands and Survey.
- H8** 40 ha—being the temporary recreation reserve and the temporary reserve for native flora north of allotments 4 and 5, Parish of Alexandra—to be managed by the Department of Crown Lands and Survey. Horse-riding should be kept to defined pathways and grazing should not be permitted.

Map 5

- H9** Inverleigh Common—see section below.

Map 6

- H10** 65 ha—north of section 15, Parish of Holden—to be managed by the National Parks Service. This area adjacent to Jacksons Creek contains remnant flora of the Keilor plains, including kangaroo grass and several species of saltbush. Mammals include the platypus and eastern water rat. Grazing should cease, but stock should be permitted access to defined watering points on the creek.
- H11** 7 ha—on the Plenty River adjacent to allotments 8A and 7A, Parish of Morang—to be managed by the Department of Crown Lands and Survey. Quarrying is to be terminated and the site revegetated with species native to the area.

Map 7

- H12** 35 ha—comprising the State forest adjoining allotment 70, Parish of Pakenham—to be managed by the Forests Commission.

Map 9

- H13** 50 ha—adjoining the Alcoa lease area north of allotments 20A, 20B, 12A, 12, and 13, Parish of Angahook—to be managed by the Forests Commission. (See Anglesea lease area, Recommendations R25–28.)
- H14** 1,000 ha—adjoining the Alcoa lease area west and south of allotments 41A, 40A, 39A, 38, 37, 36, 47, 49A, 49B, and 49C, Parish of Jan Juc, including the 69 ha water reserve but excluding the proposed 140 ha education area—to be managed by the Forests Commission. (See Anglesea lease area, Recommendations R25–28.)

This reserve provides habitat for the rufous bristle bird, which has a relatively limited distribution. The pine fertilizer-trial area should be retained only until the experiment is completed. Invading pine seedlings should be removed from the reserve.

Map 10

- H15** 60 ha—being the 102nd section reserve, allotments 5A and 5B, Parish of Flinders—to be managed by the National Parks Service.
- H16** 30 ha—being the public purposes reserve north of allotment 15B, Parish of Kangerong—to be managed by the National Parks Service.
- H17** 30 ha—adjoining allotments 107 and 108A, Parish of Bittern—to be reserved for the preservation of native flora and fauna and managed by the National Parks Service.

Map 11

- H18** 160 ha—being the Botanic Gardens and Public Recreation Reserve, allotment 22A, Parish of Sherwood—to be managed by the Department of Crown Lands and Survey. Sand removal from the area is to cease and excavated areas are to be revegetated with species native to the site. Native mammals in this reserve include the New Holland mouse, swamp rat, and the short-nosed and long-nosed bandicoots.
- H19** 4 ha—being the temporary reserve bordered by allotments 25A, 25B, and 25C, Parish of Kongwak—to be used to preserve bog mallee (*Eucalyptus kitsoniana*) and managed by the Department of Crown Lands and Survey. The area used for cemetery purposes should be maintained, and grazing should not be permitted.

Note : Areas are approximate.

Inverleigh

The 1,050 ha block of public land at Inverleigh supports the only viable remnant of the region's original vegetation of manna gum and river red gum woodlands. At least 24 orchid and 13 lily species, as well as the little sword-sedge (a very uncommon and localized Victorian plant), grow on this relatively small tract of land. The eastern grey kangaroo and koala inhabit the area.

The block has a high value for conserving the natural character of the landscape, as it is surrounded by cleared agricultural land. Recreational potential lies mainly in nature study—viewing the wildflower displays in spring and the kangaroos and koalas.

Recreational pressures are likely to increase in this region because of the proximity to Geelong, and for this reason the large area of land at Bannockburn has been reserved for recreation (see Recommendation O44).

Shallow deposits of sands and ferruginous sand and gravel occur in the area, and these materials have been stripped from approximately 65 ha of the public land. Half of this area has been rehabilitated and planted with eucalyptus species not indigenous to the area. Deposits of sand and gravel are also found outside the area of public land.

About one hectare in the south-east is used as a rubbish depot, but the dumping of rubbish in the vicinity is not fully controlled. Firewood, posts, and poles are cut from the areas of native woodland.

The conservation value of the land type remaining in this area is extremely high, and the Council believes that the area should be retained in a natural state.

Recommendation

H9 That the land (1,050 ha) shown on the maps be used to conserve the native plants and animals

and that :

- (a) the 1.2 ha temporary rubbish depot on the southern boundary of the reserve be phased out of use and the area rehabilitated and revegetated with local native species

- (b) gravel and sand extraction be continued in the designated area of 8 ha on the southern boundary of the reserve but that this area not be extended ; upon completion of the sand and gravel extraction, the area should be rehabilitated and revegetated with local native species
- (c) the eucalypt plantations on areas already rehabilitated be used for timber products and the areas eventually revegetated with local native species
- (d) an area of 50 ha in the south-east of the reserve be used to establish a golf course (see Recommendation O43)

and that the remainder of the area be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service.

Note : Council emphasizes the importance of this flora reserve and strongly believes that no further areas of the Inverleigh Common should be developed for recreation.

FLORA AND FAUNA RESERVES

These reserves are significant because they contain flora and fauna communities in a natural or near-natural state on small blocks of public land.

Recommendations

H20–H26 That the areas shown on the maps and described below be used to conserve native plants and animals

and that they be permanently reserved under section 14 of the *Land Act* 1958.

Map 2

H20 40 ha—on the Goulburn River adjacent to allotments 46, 11B, and 12C, Parish of Ghin Ghin—to be used to conserve a remnant of river red gum woodland and associated waterfowl habitat, and managed by the Fisheries and Wildlife Division. Grazing should not be permitted.

Map 5

H21 30 ha—west of allotments, 33, 34, and 35, adjacent to Hovells Creek, Parish of Moranghurk—to be managed by the Fisheries and Wildlife Division. This salt marsh represents one of the few remaining areas of white mangrove around Port Phillip Bay, and is important for wading birds.

Map 9

H22 120 ha—north-east of the township of Breamlea, including the recreation reserve extension—to be used for the conservation of coastal wetland flora and fauna and managed by the Fisheries and Wildlife Division. (See Appendix 2 : Sites of Special Conservation Significance on the Coast.)

Map 10

H23 50 ha—comprising the southern portion of the temporary recreation and public purposes reserve, township of Port-arlington—to be used for the conservation of coastal flora and fauna, including the habitat of the short-nosed bandicoot, and managed by the Fisheries and Wildlife Division. (See Appendix 2—Sites of Special Conservation Significance on the Coast).

Map 11

H24 120 ha—being the Crown land and adjoining unmade and unused roads, east of the Bass Highway and west of allotments 216B, 216C, and 169A, Parish of Corinella—to be managed by the Fisheries and Wildlife Division.

H25 200 ha—being allotments 219B, 96B, and 96C, Parish of Corinella, except for 40 ha comprising the gravel reserve and part of the gravel reserve extension north and east to 20 m from the creek, plus the area covered by extractive industries lease No. 16—to be managed by the Fisheries and Wildlife Division.

H26 35 ha—along the Hurdy Gurdy Creek adjacent to allotments 1, 100, 100A, 103, and 103A on the north side and allotments 102, 96A, and 108 on the south side, Parish of Corinella—to be managed by the Fisheries and Wildlife Division.

Note : Areas are approximate.

I. BUSHLAND RESERVES

Throughout the predominantly agricultural regions of the study area, a number of relatively small areas 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 still 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.

The Council recommends that many of these small remnants of the native vegetation should become bushland reserves. Their major use is to maintain the distinctive Australian character of the countryside, and to provide diversity in the landscape. They may also provide some opportunities for passive recreation in relatively natural surroundings. The areas are generally too small to be significant 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. Low-intensity grazing, timber production, and gravel extraction 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, railway lines, and lookout points. These uses may not be appropriate to all reserves, however, and the management authority may have to exclude them from some reserves, at least temporarily, in order to permit regeneration of tree species.

Recommendations

II-II05 That the areas indicated on the maps and described below be used to :

(a) maintain the local character and quality of the landscape
and

(b) provide opportunities for passive recreation such as picnicking and walking and that they be permanently reserved under section 14 of the *Land Act 1958* and that—except where otherwise indicated—they be managed by the Department of Crown Lands and Survey.

Expansion of any existing recreational facilities or new development should be permitted only where this does not conflict with the primary aim.

Map 1

- 11 3 ha—north of allotment 6x, Parish of Bullarto—to be managed by the Forests Commission.
- 12 1 ha—east of allotment 2c of section 17, Parish of Wombat—to be managed by the Forests Commission.
- 13 6 ha—on Leitchs Creek, south of allotment 18f, Parish of Holcombe.
- 14 5 ha—north of allotment Y3, Parish of Holcombe.
- 15 6 ha—being allotment 8c, east of allotment 3A of section A, Parish of Holcombe.
- 16 0.4 ha—being that part of allotment 31 of section 6, Parish of Franklin, east of the road.
- 17 3.8 ha—being the permanent water reserve east of allotment 59, Parish of Coliban—to be managed by the Forests Commission
- 18 3.6 ha—adjacent to allotments 38 and 39A, Parish of Coliban—to be managed by the Forests Commission.
- 19 2.4 ha—adjacent to allotment 29c, Parish of Coliban—to be managed by the Forests Commission.

- I10 1.6 ha—adjacent to allotment 2A of section 1A, Parish of Burke.
 I11 2.6 ha—on Kangaroo Creek, east of allotment 12A of section 3, Parish of Burke.
 I12 47 ha—south of allotment 10B, Parish of Langley.
 I13 4.2 ha—adjacent to allotment 2A of section D, Parish of Woodend—to be managed by the Forests Commission.

Map 2

- I14 8 ha—adjacent to allotments 61A and 63, and Deep Creek, Parish of Rochford.
 I15 1.2 ha—adjacent to allotments 3C and 3E, Parish of Cobaw—to be managed by the Forests Commission.
 I16 3.2 ha—north of allotment 32, Parish of Baynton.
 I17 1.9 ha—east of allotment 73L of section 1, Parish of Baynton.
 I18 0.8 ha—south-west of allotment 5 of section 11, Parish of Baynton.
 I19 6 ha—on the Northern Highway adjacent to allotments 9D, 9B, and 13, of section B, Parish of Tooborac.
 I20 7.3 ha—east of allotment 93B, Parish of Goldie.
 I21 4 ha—abutting the Wallan—Romsey road west of allotment 62C, Parish of Wallan Wallan.
 I22 2.8 ha—west of allotment 100G, Parish of Moranding.
 I23 2 ha—adjacent to allotments 126 and 127, Parish of Moranding.
 I24 168 ha—west of allotment 10A, Parish of Kerisdale, and adjacent to allotments 129, 130A, 130B, 131, 132, 132A, 145F, 145C, 144B, and 145L, Parish of Broadford—to be managed by the Forests Commission.
 I25 9.3 ha—in allotment 27A, Parish of Lowry.
 I26 18 ha—west of allotment 38A, Parish of Northwood. Regeneration of native vegetation should be encouraged on the parts now cleared.

Map 3

- I27 32 ha—adjacent to allotments 43, 44, 42C, 45, 47, and 46A, Parish of Murindindi.
 I28 7 ha—east of allotment 91, Parish of Yea.
 I29 35 ha—on Hughes Creek in allotment 5, Parish of Dropmore.
 I30 113 ha—being allotments 19 and 20, Parish of Switzerland.
 I31 6 ha—being allotment 7C of section E, Parish of Dropmore.
 I32 125 ha—being allotment 12, Parish of Dropmore.
 I33 124 ha—being allotment 41A of section 1, Parish of Molesworth.
 I34 1 ha—west of the cemetery north of allotment 10B, Parish of Gobur.
 I35 2.4 ha—south of the Cathkin—Alexandra railway, west of allotment 66, Parish of Alexandra.
 I36 27 ha—being allotments 19C, township of Alexandra. The areas used for the sanitary and rubbish depots are not to be expanded, and these areas should be eventually rehabilitated.
 I37 22 ha—being allotment 11 of section A, Parish of Maintongoon.

Map 4

- I38 24 ha—south-east of allotment 82A, B2, Parish of Loyola.
 I39 160 ha—being allotments 150 and 150B, other than the transmission-line easement, Parish of Loyola; and allotment 26, Parish of Delatite.

Map 5

- I40 9 ha—adjacent to allotments 1, 2, and 3, of section G, Parish of Wabdallah.
 I41 2 ha—south of allotment G1, and north of allotments B16 and H2, Parish of Durdiwarrah—to be managed by the National Parks Service.
 I42 70 ha—adjoining the Yarrowee River west of allotments 30C, 30G, 29C, 24B1, 23A, 6A, 6B, 5A, 5B2, 2A, and 2B, Parish of Cargerie.
 I43 15 ha—north of allotment 23 of section B, Parish of Cargerie. Regeneration of native vegetation should be encouraged on the parts now cleared.
 I44 24 ha—south of allotment 14 of section A, Parish of Moreep.
 I45 10 ha—north of allotments 13 and 15, Parish of Moreep—to be managed by the National Parks Service.
 I46 1.2 ha—adjacent to allotments 1 and 1A of section 5, Parish of Moorabool West.
 I47 2 ha—adjacent to allotments 7 and 10 of section 11, Parish of Wurdí Youyang—to be managed by the Forests Commission.

Map 6

- I48 87 ha—being that part of the permanent reserve for the Janefield Colony east of the Plenty River, Parish of Nillumbik.

Map 7

- I49 23 ha—being the public land on the west side of Diamond Creek within the Township of Queenstown plus the public land adjacent to allotment 2 of section 6, and allotments 2 and 3 of section 10, Township of Queenstown.

- I50** 13 ha—being allotments 3, 3A, 4, 8, 9, 10, 11, 12, and 13 of section 4A, Township of Queenstown.
- I51** 21 ha—being allotments 8–15 of section 10, 1–5, 7–12, and 22–25 of section 9, and the land adjoining the north-west of allotment 12 of section 9, Township of Queenstown.
- I52** 20 ha—adjacent to allotments 33 and 40A of section C, and allotments 36, 36D, and 44, of section A, Parish of Queenstown. The permissive occupancy should be cancelled.
- I53** 122 ha—east of Smiths Gully, west of allotment 12 of section A, Parish of Queenstown. Exploration and underground mining on One-tree Hill may continue; gravel extraction is not to extend beyond the area already disturbed.
- I54** 45 ha—being allotment 48 and the adjacent water supply reserve and water supply and public purposes reserve (but not including the aqueduct easement), Parish of Sutton.
- I56** 33 ha—within the township of Toolangi, north and west of allotment 65, Parish of Tarrawarra North, and the adjoining permanent public purposes reserve on both banks of the Yea River (except for an area of approximately 2.5 ha east of and adjoining allotments 24, 25, 26, 27, and 28, within the township of Toolangi)—to be managed by the Forests Commission.
- I57** 6.3 ha—adjacent to allotment 19 (including the temporary Mechanics Institute and Free Library Reserve), Parish of Tarrawarra.
- I58** 3.8 ha—on the Yarra River adjacent to allotment 123, Parish of Gruyere; and allotments 10 and 12, Parish of Tarrawarra.
- I59** 8.5 ha—being the temporary quarry reserve north-east of allotment 33, Parish of Mooroolbark (except for an area of approximately 0.8 ha occupied by the quarry in the south-east of the proposed reserve).
- I60** 4 ha—being the public recreation reserve in the south of the Township of Wandin Yallock.
- I61** 3 ha—adjacent to allotment 100, Parish of Wandin Yallock.
- I62** 7.3 ha—comprising the public purposes reserve north of allotments 20 and 56 of section D, and the public purposes and road reserve east of allotment 13B of section D, Parish of Gembrook.
- I63** 20 ha—being the public purposes reserve adjoining Cardinia Creek, west of the Beaconsfield–Emerald road.
- I64** 11 ha—south-east of allotment 149, Parish of Pakenham.
- I65** 12.5 ha—on the old Gembrook road, west of allotments 17N and 17s, Parish of Nar Nar Goon.
- I66** 20 ha—adjacent to allotments 100, 114, and A22, Parish of Gembrook.
- I67** 9.5 ha—being the temporary reserve for the preservation of native flora adjoining allotments 24, 25, and 21K, Parish of Gembrook.
- I68** 4 ha—north of allotment 16A, Parish of Gembrook.
- I69** 3.8 ha—bordered by allotments 132J and 132G, Parish of Nar Nar Goon.
- I70** 8 ha—north-west of allotment 195 (except for the water channel easement), Parish of Nar Nar Goon.
- I71** 20 ha—adjacent to allotment 132K, Parish of Nar Nar Goon. The permissive occupancy should be terminated.
- I72** 1 ha—being the departmental quarry reserve and the adjoining unused road west of allotment 50 of section U, Parish of Koo-wee-rup East. Rubbish dumping should be stopped.
- I73** 19 ha—being the water frontage on both sides of Labertouche Creek and to the west of allotment 122B, Parish of Jindivick. Regeneration of native vegetation should be encouraged on the parts now cleared.
- I74** 2.8 ha—being the western part of the cemetery reserve east of the Township of Whiskey Creek, adjacent to allotment 50A, Parish of Drouin West.
- I75** 1.6 ha—south of Rokeby adjacent to allotment 31D, Parish of Drouin East.
- I76** 4.6 ha—being allotment 87A, Parish of Jindivick—to be managed by the Forest Commission.
- I77** 3.6 ha—being the recreation reserve north-east of allotment 36A, Parish of Nayook—to be managed by the Forests Commission.

Map 8

- I78** 27 ha—to the south-east of allotment 162, and adjoining allotments 163F and 164B, Parish of Neerim—to be managed by the Forests Commission. The walking track from Noojee to the historic railway bridge and the railway bridge are to be maintained.
- I79** 9 ha—being allotment 33B of section A, Parish of Neerim East.
- I80** 22 ha—adjacent to allotments 1, 2, 3, 3B, and 6, of section C, Parish of Moondarra—to be managed by the Forests Commission.

Map 9

- I81** 1.6 ha—being the State school reserve east of allotment 19F, Parish of Angahook—to be managed by the Forests Commission.
- I82** 3.6 ha—being allotment 54A, Parish of Paraparap.

Map 10

- I83** 2 ha—being allotment 17C, Parish of Flinders—to be managed by the National Parks Service.
- I84** 2.4 ha—south-west of allotment 66A, Parish of Balnarring—to be managed by the National Parks Service.
- I85** 3.6 ha—adjacent to allotments 19 and 20C, Parish of Kangerong—to be managed by the National Parks Service.
- I86** 4 ha—adjacent to allotment 78B2, Parish of Balnarring—to be managed by the National Parks Service.
- I87** 6.5 ha—north of allotment 39, Parish of Balnarring—to be managed by the National Parks Service.
- I88** 0.8 ha—being the water reserve adjacent to allotment 30A, Parish of Moorooduc.

- I89** 4 ha—comprising the southern portion of the recreation reserve adjacent to allotments 33A and 34A, Parish of Bittern.
I90 3.2 ha—known as Kirton Reserve, on the Mornington-Tyabb road, north of allotment 10 of section 23, Parish of Moorooduc.
I91 2 ha—adjacent to allotment 32, Parish of Langwarrin.
I92 5.6 ha—adjacent to allotments 37, 39, 40, 41, and 42, Parish of Phillip Island.

Map 11

- I93** 3.2 ha—on the Bass Highway south of the cemetery reserve and allotment 212A, Parish of Corinella, plus the unused sections of the adjoining cemetery reserve and unused road reserve to the north.
I94 28 ha—in the Township of Grantville, plus the adjacent unused roads south of allotments 176A and 176, Parish of Corinella, plus the adjacent water frontages on both sides of Colbert Creek.
I95 117 ha—east of allotment 89B, excluding the recreation reserve (O40) and garbage depot (S11), Parish of Lang Lang. Removal of sand and gravel is to cease. The area occupied by the scout camp is not to be enlarged, and no further vegetation should be destroyed.
I96 11 ha—adjoining allotments 78A, 78c, and 45, Parish of Lang Lang. Regeneration of native vegetation should be encouraged on the parts now cleared.
I97 10 ha—adjacent to allotment 60, Parish of Yannathan.
I98 14 ha—on King Parrot Creek adjacent to allotments 123 and 72, Parish of Drouin West. The permissive occupancy should be terminated.
I99 1.2 ha—on the King Parrot Creek adjacent to allotments 143 and 130, Parish of Drouin West.
I100 8 ha—adjacent to the railway reserve south of allotments 146, 64, 65, and 66, Parish of Drouin West.
I101 6.9 ha—being the southern two-thirds of the gravel reserve west of allotment 25B, Parish of Kongwak. Regeneration of native vegetation should be encouraged on the parts now cleared.

Map 12.

- I102** 6.5 ha—on the Tarwin River west branch, being the public purposes reserve west of allotment 17, Parish of Allambee East—to be managed by the Forests Commission.
I103 7.3 ha—adjacent to allotments 117E, and 117c, Parish of Warragul—to be managed by the Forests Commission.
I104 4 ha—being the bush covered part of the park and recreation reserve north of allotments 3, 4, 5, 6, 7, 8, 9, and 10, of section 14, Township of Trafalgar, Parish of Yarragon.
I105 14 ha—at the intersection of Anderson and Kaye Roads, Parish of Tanjil East.

Note : Areas are approximate.

J. COASTS

The coastal zone within the study area extends for 500 km, comprising one-third of the State's total. This resource will come under vastly increased recreation pressures. In formulating the following recommendations for public land along the coast, the Council is aware that coasts represent a dynamic zone of interaction between land and sea encompassing fragile environments. It notes that the present system of management of coastal areas leaves much to be desired, being fragmented and often disorganized. In some cases, management is contributing to deterioration of coastal land.

Many small committees are currently concerned with coastal management—for example, more than 30 exist around Port Phillip Bay. The Council considers that it would be beneficial if the number of such committees was reduced.

All works to be implemented by Committees of Management on the coastal reserve should be approved (prior to implementation) by the Department of Crown Lands and Survey, or the Department and the Port Phillip Authority in the case of Port Phillip Bay.

Other government agencies concerned with coastal development (such as the Ministry for Tourism and the Department of Youth, Sport and Recreation) or with coastal maintenance (such as the Ports and Harbors Division of the Public Works Department) should also consult with the management authority before authorizing any expenditure for the implementation of coastal works.

In making the following recommendations, the Council recognizes that the land within a city, town, or borough is outside its jurisdiction; it suggests, however, that they are appropriate for all public land that abuts the sea and is used for recreation.

The recommendations are based on present requirements. Future changes may possibly become necessary—for example new sites may eventually be required for major port development.

COASTAL RESERVES

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 purpose (State parks, wildlife reserves, or major ports) would not be included in the coastal reserve.

Recommendations

J1–J4 That the areas listed below and shown on the maps

(a) be used to :

- (i) provide opportunities for informal recreation for large numbers of people, and also for recreation related to enjoying and understanding nature
- (ii) protect and conserve natural coastal landscapes and ecosystems—and geomorphological, archaeological, and historic features—for public enjoyment and inspiration and for education and scientific study

- (iii) ensure the conservation of both aquatic and terrestrial fauna and flora
- (iv) provide facilities for shipping, fishing, and boating (including harbor facilities), together with the necessary navigation aids

and that the management authorities :

- (b) zone the areas in order to provide for the range of uses outlined above
- (c) take particular care to protect the localities listed in Appendix 2 for their geological, floral, faunal, archaeological, historical, or landscape significance
- (d) manage the areas according to policies they develop in consultation with the Ports and Harbors Division, Soil Conservation Authority, and the municipalities or Committees of Management
- (e) in their policies for the coastal reserve, recognize the following principles :
 - (i) new roads should not be sited along the coast, but rather should be located far enough back in the hinterland to avoid damaging sensitive environments or impairing the scenic qualities of coastal landscape
 - (ii) any major coastal development projects should be subject to a detailed environmental study prior to commencement by the body proposing such development. Examples of such projects would include proposals for jetties, marinas, mining, sea walls, etc.
 - (iii) occupation of coastal public land by private individuals or organizations should be phased out. No new occupation leases should be granted. Providing they are properly maintained, structures on existing leases need not be demolished until their presence conflicts with public use of the area. For example, bathing boxes obstructing access or occupying valuable space at a heavily used beach should be demolished immediately, whereas it may be some years before a private jetty at a secluded cove conflicts with some future public need such as a greatly increased demand for boat havens or moorings. Certain coast-oriented uses such as yacht clubs and surf clubs should be permitted, subject to conditions laid down by the management authority
 - (iv) if camp sites and car parks are to be established on coastal reserves, the managing authority should avoid locating these on sensitive areas or on areas of importance for nature conservation. Consideration should be given to relocating some existing camp sites and car parks
 - (v) where public rights-of-way are obstructed by privately constructed walls, buildings, fences, etc., such obstructions should be removed

that

- (f) in order to rectify or prevent soil erosion on coastal public land, the Soil Conservation Authority should, after consultation with the managing authority and the Ports and Harbors Division, recommend that the Governor-in-Council proclaim certain sections of the coast—with a view to carrying out such reclamation and stabilization measures as are necessary and determining appropriate land uses and management practices

and that

- (g) the areas J1–J3 be permanently reserved and J4 be temporarily reserved under section 14 of the *Land Act* 1958 as Coastal Reserve (their seaward boundaries being low-water mark) and managed by the authorities listed below :

- J1** Lorne to Queenscliff—to be managed by the Department of Crown Lands and Survey.
 - J2** Port Phillip Bay—to be managed by the Department of Crown Lands and Survey in consultation with the Port Phillip Authority.
 - J3** Flinders to Hanns Inlet, Phillip Island, and Watsons Inlet to Cape Patterson—to be managed by the Department of Crown Lands and Survey.
 - J4** Hanns Inlet to Watsons Inlet—to be managed by the Department of Crown Lands and Survey.
- Note : This area is also subject to Recommendation S19, under the Ports section of the Utilities and Survey chapter.

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.

Several stretches of the coastline within the study area fit this definition, and are important components in the State's coastal heritage. The Council believes that it is important to protect the natural 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.

In making these recommendations for the Melbourne study area, the Council has taken into account the landscape qualities of the coastline elsewhere in the State.

Recommendations

- J5–J8** That the coastlines listed below and shown on the maps be designated as scenic coast, and that planning and management in the areas concerned give special emphasis to protecting their outstanding natural landscape qualities.
- J5** Lorne to Point Roadknight.
- J6** Point Addis to Bells Beach.
- J7** Point Nepean to West Head, Flinders.
- J8** Griffith Point, San Remo, to Black Head, Kilcunda.

K. RIVERS AND STREAMS

PUBLIC-LAND WATER FRONTAGES

Along numerous rivers and streams in the study area a strip of public land has been retained between the water and adjacent alienated land. No public-land strip adjoins land alienated before 1881, and a large number of properties in the study area have titles that extend to the 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 frontages.

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 Crown Lands and Survey. These frontages may have a surveyed boundary of short irregular lines or be of a specified width (varying in particular instances from 20 m to 60 m) 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. In all cases the land usually comes under the control of the Department of Crown Lands and Survey, while the State Rivers and Water Supply Commission controls the water.

Each of these authorities may delegate some of its responsibility to local bodies. The Department of Crown Lands and Survey may form committees of management for public purposes reserves, and river improvement or drainage trusts under the guidance of the State Rivers and Water Supply 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 management authority that controls the water.

Adjoining occupiers frequently 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 licence-holders 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, and legal public use is limited to through travel. The licensee often discourages public access, because of an understandable fear of damage, intentional or otherwise, to his property. Vandalism and littering are problems in many areas open to the public, and firm action by management authorities 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 streams and lake shores. As mentioned above, the public are legally entitled only to walk through a licensed frontage. Licences for previously unlicensed public water frontages, now being issued by the Department of Crown Lands and Survey, require the licensee to erect a stile or gate in any fence

erected across the frontage, where appropriate, to facilitate public access. 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 nomadic and migratory species, or support native plants and animals that are no longer found in surrounding 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. Examples of public-land water frontages with particular value for nature conservation include parts of those along Cardinia Creek and Cannibal Creek. Some with special value for uses such as protection of water supplies, recreation, or nature conservation have been designated as water, streamside, flora and fauna, or bushland reserves, as appropriate in the particular case.

Public-land water frontage reserves

Water frontage reserves are defined for the purposes of these recommendations as being all existing water frontage reserves and other reserved or unreserved public land adjoining streams, except for those areas that have been set aside elsewhere in these recommendations, either as part of a large reserve (such as a national park or reserved forest) or for some special purpose (such as a wildlife, flora, recreation, or streamside reserve).

Recommendation

K1 That the public land defined above

(a) be used to :

- (i) protect adjoining land from erosion by the maintenance of an adequate vegetation cover
- (ii) maintain the local character and quality of the landscape
- (iii) conserve native flora and fauna
- (iv) provide opportunities for low-intensity recreation
- (v) allow access to water and for grazing of stock by adjoining landholders under licence where appropriate

that

- (b) (i) where a licence has been issued for a public-land water frontage as in (a) (v) above, restricted recreation use by the public should be permitted (non-damaging activities such as walking, observing nature, fishing,

or just relaxing should be allowed, but potentially damaging activities such as camping, lighting fires, or using motor or motorized recreation vehicles should be prohibited)

- (ii) licensees be required to provide stiles in any fences erected across their licence area if requested to do so by the management authority
- (iii) cultivation not be permitted (except with the approval of the Department of Crown Lands and Survey) and that, in proclaimed water supply catchments, the Soil Conservation Authority be consulted to ensure that approval to cultivate is in accordance with land-use determinations affecting the water frontage made under the *Soil Conservation and Land Utilization Act 1958*
- (iv) in particular cases, licensees may be required to fence off and exclude stock temporarily from some parts of the licence area where, in the opinion of the management authority, special measures are necessary to protect water supplies, to rehabilitate eroding areas, or to permit regeneration of native plants that have particular value for nature conservation

that

- (c) the Department of Crown Lands and Survey be consulted prior to the proclamation of roads, the construction of roadways, or the erection of buildings on public-land water frontages

that

- (d) (i) public-land water-frontages be permanently reserved under section 14 of the *Land Act 1958*
- (ii) where it is adjacent to or within a proposed national, State, or regional park, reserved forest or education area, or reference, bushland, stream-side, scenic, flora or fauna, or wildlife reserve, it be managed by the authority responsible for the adjoining or surrounding land
- (iii) where it is not adjacent to a park or reserve described in (d) (ii) above, it be managed by the Department of Crown Lands and Survey or by a committee of management where one is appointed.

RIVER IMPROVEMENT

River improvement trusts have been constituted under the *River Improvement Act 1958* for sections of the Goulburn and Yarra Rivers in the study area.

Improvement works in these rivers are designed to maintain the carrying capacity (for water supply or drainage purposes), to protect adjoining land from flooding and erosion, to maintain the security of structures such as bridges on the flood plain, and to prevent siltation of the lower reaches by control of upstream erosion.

The works carried out include :

- * erosion-prevention works on the banks—for example, construction of wire-mesh fencing, planting of trees, the use of various materials for bank protection, and the felling of trees that may be undermined (to prevent loss of bank material)
- * clearing of waterways by removal of snags within the bed of the channel to maintain or improve discharge capacity

- * realigning and altering a stream by the use of wire-mesh fencing and log or concrete barriers.

Such work is often made necessary by the changes that Man has made to land use in the river catchments and on the flood plain. The following changes have generally reduced the value of the rivers for nature conservation :

- * Clearing of vegetation has increased run-off and reduced time of concentration of storm flows. The situation is sometimes aggravated by overgrazing and unwise cultivation in the catchment and along the river banks, permitting soil erosion and transport of sediment to the stream. Increases in urban development—with disposal of storm water directly to streams—have also altered flow regimes.
- * Regulation of stream flow by water storages and use of streams to transport water for irrigation and domestic use also change the natural flow regime.
- * The construction of barriers such as road embankments and bridges, through which the river must pass, has often resulted in substantial modification of the bed and banks. Present policy, however, is that all proposed replacement or new structures across waterways, flood plains, and depressions are referred to the State Rivers and Water Supply Commission and to the River Improvement Trust, where one is involved, for approval.

River improvement authorities, in attempting to cope with the consequences of these changes, carry out works that sometimes adversely affect landscape and nature conservation values but sometimes ultimately enhance these values.

Removal of snags from the centres of wide streams damages fish habitat, but the tethering of these snags against the banks may provide alternative fish habitat as well as protecting the banks from erosion. Realigning and regrading of eroding beds and banks often removes holes and backwaters of value as fish habitat and for angling and swimming at a particular location. On the other hand these operations, in preventing erosion, reduce transportation of silt.

River improvement works are sometimes aesthetically displeasing, particularly during construction and in the early stages after completion, but their ultimate aim is to prevent erosion and to allow re-establishment of vegetative cover along the stream banks. Construction of mesh fencing or log barriers frequently make access to the river difficult, but are an integral part of preventing stream erosion.

River improvement trusts are at present limited in their responsibility under the *River Improvement Act 1958* to the stream environs within the districts under their control. They are therefore frequently able to treat only the symptoms of problems, as the causes may lie in the catchments beyond the area of their responsibility. Works that they carry out are often limited by lack of funds and frequently amount to little more than stop-gap measures. There is thus little opportunity in the design and implementation of works for consideration of their likely impact on areas outside the trusts' districts.

The flow regimes of some rivers must of course be modified and flood plains used for agriculture, but it is appropriate to look to the principles of the natural system in seeking solutions to the problems that thus arise rather than to move further from those principles.

The Council believes that the following principles should be applied in determining the need for and design of river improvement works :

- * Where problems in river management arise, the whole catchment should be considered in seeking a solution.
- * Works designed primarily for flood control should aim at reducing the rate of run-off of the catchment.
- * The degree to which minor flooding can be tolerated by the community should be determined in each case. It may often be more appropriate to take action to minimize the consequences of flooding than to attempt to prevent it.
- * An adequate vegetation cover should be maintained along stream frontages to stabilize the banks and to reduce the velocity of flood waters as they leave and re-enter the stream course.
- * Structures such as road embankments and bridges on flood plains are a variation of the natural situation, and consideration should be given in their design to their effect on the flood pattern.
- * Works carried out within the bed and banks of a stream to change the alignment, gradient, and cross-section should be kept to the minimum necessary.
- * Consideration should be given in the design of works to maintaining or enhancing landscape values and the value of the stream for recreation and as a habitat for wildlife.

Recommendations

- K2** That the assessment of the need for, and the planning and implementation of, any works involving changes to the beds and banks of streams be based on the principles set out above.
- K3** That plans for all works (other than those of a minor nature), together with an assessment of their environmental consequences, be submitted to the *Standing Consultative Committee on River Improvement* for consideration prior to the commencement of works.
- K4** That detailed guidelines based on the principles set out above be prepared by the *Standing Consultative Committee on River Improvement* to ensure that an optimum balance is achieved between the purpose and implementation of works on the one hand and the maintenance or enhancement of the stream's landscape values and its value as a habitat for wildlife and for recreation on the other.

The abovementioned Standing Consultative Committee on River Improvement now in existence comprises representatives from the following :

- Ministry for Conservation
- Conservation Council of Victoria
- Soil Conservation Authority
- Fisheries and Wildlife Division
- Forests Commission
- Department of Crown Lands and Survey
- Association of Victorian River Improvement Trusts
- State Rivers and Water Supply Commission

STREAMSIDE RESERVES

Throughout the study area, numerous 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 of them are currently reserved either under section 14 of the *Land Act* 1958, or as reserved forest. Others are unreserved Crown land, although they may be licensed for grazing. Vegetation on these areas varies from relatively dense red gum forest to open 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 management authority 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 streamside reserves be managed by the authority responsible for the streamside reserve.

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

Recommendations

K5–K49 That the areas shown on the maps and described below be used to :

- (a) provide passive recreation such as picnicking, walking, angling, and, where permitted by the managing authority, camping
- (b) conserve flora and fauna
- (c) maintain the local quality and character of the landscape
- (d) provide grazing, at the discretion of the management authority, if this use does not conflict with the maintenance of the water quality of the adjacent stream or with (a), (b), and (c)

and that they be reserved under section 14 of the *Land Act* 1958 and managed by the Department of Crown Lands and Survey, except where otherwise indicated.

Map 1

- K5** 6.5 ha—south of allotments 38, 43A, and 45, Parish of Wombat—to be managed by the Forests Commission.
- K6** 4.5 ha—being that part of allotment 31 of section 6 west of the road, plus the adjacent unreserved water frontage to the west and south, Parish of Franklin.
- K7** 7 ha—being allotment M and land adjacent to allotments, J, O, and N, Township of Franklinford, Parish of Franklin.
- K8** 1 ha—being the departmental water reserve adjoining the Midland Highway west of allotment 19 of section 7A, Parish of Yandoit.
- K9** 1.2 ha—north-east of allotment 12F of section 4, Parish of Burke.
- K10** 9 ha—on the Campaspe River, being the water reserve north-west of allotment J of section 56, Parish of Lauriston.

K11 1.6 ha—being temporary park and garden and water and camping reserves on the Campaspe River south-west of allotment 1 of section 48, Parish of Lauriston.

K12 5 ha—on the Campaspe River west of section 15, Township of Carlsruhe.

K13 1.3 ha—on Milkingyard Creek adjacent to allotment 80F, Parish of Tylden.

K14 7 ha—being the camping and water reserve on the Coliban River east of allotment 73c, Parish of Coliban.

Map 2

K15 2 ha—on Bolinda Creek adjacent to allotments 10 and 11 of Section A, Parish of Monegetta.

K16 6 ha—on Deep Creek, being the temporary water reserve east of allotment 50, Parish of Lancefield.

K17 4 ha—on Deep Creek east of allotments 25 and 38, Parish of Lancefield.

K18 7 ha—on Deep Creek, being temporary water reserve east of allotment 5, Parish of Lancefield, on the Kilmore-Lancefield road.

K19 4 ha—being the road and water reserve south of allotments 74B and 74E, Parish of Broadford.

K20 4.5 ha—on Hamilton's Creek, and adjacent to allotment 170, Parish of Moranding.

K21 6.5 ha—on Mollison Creek adjacent to allotments 9A, 8, and 4E, of section F, Parish of Glenaroua.

K22 2.4 ha—on Gardiners Creek adjacent to allotment 4 of section 1, and allotments 6 and 7 of section 2, Parish of Panyule.

K23 22 ha—being the Departmental water reserve adjacent to allotments 12 and 13, Parish of Puckapunyal.

Map 3

K24 1.6 ha—on Spring Creek adjacent to allotments 215A and 215B, Parish of Yea.

K25 3.2 ha—on Break O'Day Creek, being allotment 34A, Parish of Flowerdale.

K26 8 ha—being allotment 10B and land west of allotment 1A, Parish of Windham.

K27 17.5 ha—being the temporary public recreation reserve and the adjoining water frontage south of allotments 67A, 67B, 68A, and 69A, Parish of Killingworth.

K28 2 ha—east of allotment 61 and 61A, Parish of Yea.

K29 2.8 ha—on Home Creek adjacent to allotments 23, 33, 30A, 30, 29, and 28 of section B, Township of Yarck, Parish of Yarck.

K30 5 ha—being vacant Crown land fronting Godfreys Creek in the Township of Gobur.

Map 5

K31 10 ha—on Parwan Creek, being the temporary water reserve and the adjoining Public Park and Recreation Reserve and water frontage south and west of allotments 5 and 6 of section 13, Parish of Corrockburghap.

K32 3 ha—on the Little River, being the temporary camping and watering reserve, Parish of Balliang, west of the Geelong-Bacchus Marsh road and north of the Township of Ripley.

Map 6

K33 24 ha—being the watering and public recreation reserve east of allotments A, B, E, and F, of section 27, Parish of Tarnet.

K34 8.5 ha—on the Werribee River west of allotment B1, Parish of Pywheatjorrk.

K35 5 ha—on Kororoit Creek adjacent to allotment D of section 2, and allotment A of section 3, Parish of Maribrnong.

K36 2.4 ha—on Kororoit Creek west of allotment A of section 21, Parish of Kororoit.

K37 15 ha—on Kororoit Creek east of allotments 10, 10A, and 9, Parish of Yangardook.

K38 1.5 ha—on Riddells Creek south of the Township of Riddell and adjacent to allotments 97A, 97B, 97C, 97D, 97E, and 97F, Parish of Kerrie.

K39 11 ha—on Jacksons Creek (including the State School Reserve) east of allotment A of section 5, Parish of Holden.

K40 5.5 ha—on the Plenty River in the Township of Mernda, west of allotments 1 and 2 of section 4, Parish of Yan Yean.

Map 7

K41 2.2 ha—south-west of allotments 7, 8, and 9, of section 6, Township of Queenstown.

K41A 100 ha—being part of allotment A of section 3, Parish of Yering.

K41B 115 ha—being lots 1-18 and 20-21 (LP 59020) in allotment 7B, lot 1 (LP 58880) in allotment 7A, and the public land adjoining the Witton Reserve in the east of allotment 6, Parish of Warrandyte, together with lots 2-4 (LP 78421) and 21-23 (LP 12366) in allotment 43, Parish of Sutton.

K41C 4 ha—in two parcels of public land, one being the western portion of lot 6 (LP 25089), the other being in allotment 40, adjacent to the south-east of lot 6, Parish of Sutton.

K42 1.2 ha—north of allotment 18, Township of Toolangi—to be managed by the Forests Commission.

K43 5.8 ha—south west of allotment 32 of section 1, Parish of Gracedale.

K44 1.2 ha—on the Woori Yallock Creek and adjacent to allotments 14 and 15, Parish of Gruyere.

K45 5.7 ha—being the camping and water reserve south-east of allotment 39, Parish of Bunyip.

Map 9

K46 10 ha—on the Barwon River and the south-west corner of section 1, Parish of Gheringhap.

K47 7 ha—being the watering and camping reserve west of allotments A and A1 of section 25, Parish of Conewarre.

K48 0·8 ha—being the camping and watering reserve south of allotment F of section 18, Parish of Conewarre.

Map 10

K49 1·2 ha—being the Public Purposes Reserve on Warrengine Creek, north of allotment 83A, Parish of Bittern. This area should not be licensed for grazing.

Note : Areas are approximate.

L. ROADSIDE CONSERVATION AND HIGHWAY PARKS

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.

Nature Conservation

Vegetation on roads is important for nature conservation because it often contains the only remnants of the region's native plant associations. Such remnants are valuable for preserving species with restricted distributions, 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 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.

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.

In the study area a number of regions can be identified where roadside remnants of vegetation are of particular importance for nature conservation. These include, for example, river red gum on the basaltic plains around Wollert, grey box and bullock in the Sydenham–Exford district, grey box and yellow box in the Glenaroua area, bull mallee west of Melton, manna gum and sheoak on the Bellarine Peninsula, white sallee in the Tylden area, and eurabbie and mountain ash in the Strzeleckis.

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, in some instances, shady areas for rest and relaxation, especially where wayside stops have been established.

Pleasure driving has become a major recreational activity, which is of particular importance in the day-trip zone around Melbourne.

Pleasure drives often have no definite destination—driving and viewing the landscape from the car is the essence of the activity. Even so, loop roads that have scenic value and those that lead to picnic facilities or to places of historic interest are the most popular. Clearly the needs of pleasure drivers are best met by retaining or creating visually diverse environments along roads of different standards. The Council therefore wishes to draw attention to two particular types: main recreation roads and back roads.

Main Recreation Roads

A number of roads in the study area receive particularly heavy recreational use. They include the Maroondah, Warburton, and Nepean Highways, Mount Dandenong tourist road, and the Great Ocean Road. Council believes that it is important to maintain or improve the diversity and attractiveness of the landscape viewed from such roads. This requires concern for the landscape values of adjoining private and public land as well as proper management of the road reserve.

The Whittlesea–Kinglake–Toolangi–Healesville–Yarra Junction–Gembrook–Pakenham road could also fit into this category. This road, ringing the northern and eastern suburbs, provides access between a number of sites that already have popular recreational facilities or at which development for recreation has been recommended by the Council.

Back Roads

With increasing population and use of cars, a tendency has developed for all through roads in the study area 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 realignment is being considered. The Acheron Way, Donna Buang–Pantons Gap road, and parts of the Old Sale road are examples of this type.

In some cases attractive back roads can be created when long sections of former main roads are by-passed. A good example is the Whittlesea–Kinglake road through Humevale.

Management

Responsibility for the management of vegetation on roads is vested in several authorities, depending on the category of road.

The most important roads in Victoria—State highways, freeways, and tourist and forest roads (9,000 km throughout the State)—are declared under the *Country Roads Act* 1958 and are completely under the control of the Country Roads Board. Main roads (14,500 km in Victoria) are also declared, but are controlled jointly by the Country Roads Board and local municipal councils.

Vegetation on unclassified roads (about 98,000 km in Victoria, mostly minor roads) is generally under the care and management of municipal councils, although it is owned by the Crown. The Forests Commission has the control of vegetation on unclassified roads that pass through or adjoin State forest.

Unused roads constitute another category. 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. The Forests Commission controls the vegetation on unused roads that have been formally declared as such.

Recommendation

L1 That road reserves throughout the study area continue to be used for communication, transport, access, surveys, and utilities. Landscape, recreation, and nature conservation values can best be protected by observing the following guidelines. The Council recognizes that many of these are already being implemented by the Country Roads Board.

General

- (a) 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.
- (b) Major works to re-align minor roads carrying trees and shrubs should not be undertaken unless clearly warranted by the nature and volume of the traffic carried.
- (c) Where a road carrying a healthy stand of trees is to be duplicated, the new carriageways should be located, where feasible, on purchased private land, and the trees be retained as a median strip.
- (d) Where re-alignment of a road results in a section of the old road being cut off from the new alignment, wherever possible that section should not be sold but used as a recreation and rest area or incorporated into an adjacent appropriate reserve.
- (e) Where a pipeline or overhead wires are to follow a road carrying trees and shrubs in a rural district, the easements for these utilities should be located on private land alongside the road if this is already cleared, rather than roadside vegetation being cleared to accommodate them.
- (f) Plantings of trees and shrubs native to the area should be established along roads from which trees and shrubs have been cleared.
- (g) If gravel, sand, and earth for roadworks must be taken from the road verges, then this should be done in such a manner 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.
- (h) The practice of burning off roadside vegetation should be kept to a minimum consistent with providing adequate fire protection.
- (i) Grazing of domestic stock should be discouraged on roadsides in areas that have a predominantly native ground flora or where it is necessary to encourage regeneration of native species.
- (j) Weeds and vermin on roads should be controlled by means that do not conflict with the uses given above.

Main Recreation Roads

- (k) 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 recreation facilities.

Back Roads

- (l) Where a through road—with high landscape and recreational values because of its narrow winding alignment—must be upgraded, the new alignment should be sited on cleared land, so that the original road is preserved.

Unused Roads

- (m) The clearing of native trees and shrubs other than noxious weeds should continue to be clearly prohibited in the conditions of unused-road licences.
- (n) A condition permitting public use of licensed unused roads should be written into unused-roads licences where necessary to provide practical access to public land.
- (o) 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.

HIGHWAY PARKS

There is a need for areas to be set aside primarily to provide rest and relaxation for travellers on major highways. Such areas should be sufficiently large to enable travellers to picnic or relax in a pleasant and semi-natural environment away from the noise and tension of the highway. Basic facilities, such as toilets, would be provided, but it is not intended that these reserves should be developed into overnight camping areas. The proximity of the Melbourne metropolitan area and its predominance as a source and destination for motorists in Victoria probably means that the requirement for parks of this type is less in the Melbourne study area than in some others. It is not intended that these reserves be established to provide picnic areas for day trippers, and for this reason they should be located adjacent to major highways and several hours' travel from Melbourne. It is realized, however, that some local usage will undoubtedly occur.

Recommendation

- L2** That the area of approximately 8 ha adjacent to allotments 80B, 81E, and the highway, Parish of Merton, shown on Map 3, be used :
- (a) for picnicking and to provide relaxation for the travelling public
- (b) to maintain the local character and quality of the landscape that
- (c) facilities in keeping with the nature of the reserve be provided
- and that it be reserved under section 14 of the *Land Act* 1958, and managed by the Department of Crown Lands and Survey.

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 hardwood production areas) 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 use 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 would include long-term studies, collection of biological material, biomass studies, and the establishment of growth plots.

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 hazards.

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.

Council believes that the land management of education areas should be the responsibility of the authority managing the adjacent or surrounding public land, while the Ministry for Conservation (in consultation with representatives of the Education Department, other user organizations, and the land manager) should be responsible for implementing educational aspects, and for co-ordinating usage of the areas.

Recommendations

M1-M15 That the areas of public land listed below and shown on the maps 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 is practicable
- (b) compare the ecosystems within education areas with other nearby natural and modified systems
- (c) observe and practise 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 they be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission except where otherwise specified.

M1 Eumeralla (313 ha). It is also recommended that :

- (a) scouting activities be permitted to continue
- (b) any additional buildings constructed be confined to the existing developed area
- (c) in order to maintain disturbance of the natural environment at an absolute minimum, camping activities should be strictly controlled.

This area is floristically rich and is similar to the adjoining area, which has been recommended as a fauna and flora reserve. Thus it should serve as an ideal locality for studying the composition and dynamics of natural ecosystems represented in that reserve.

Note : The Council points out that the interests of the Scout Association should be adequately protected in the future management of the Eumeralla education area.

M2 Ocean Grove Nature Reserve (143 ha)—to be managed by the Department of Crown Lands and Survey.

This sensitive remnant of the region's native vegetation contains some rare plants and animals, which should be conserved. In particular the habitat requirements of the small ant blue butterfly should be maintained.

M3 Meredith (236 ha)—to be managed by the National Parks Service.

M4 Korjamunip (240 ha). The location of accommodation facilities to serve this area will require special consideration because of the bushfire hazard in this region.

M5 Tylden South (115 ha).

M6 Mount Piper (45 ha).

M7 Kinglake West (280 ha).

M8 Kinglake (60 ha)—to be managed by the National Parks Service.

M9 Andrews Hill (210 ha)—to be managed by the National Parks Service.

M10 Castella (50 ha).

M11 Tonimbuk (250 ha).

M12 Crossover (60 ha).

M13 Fumina South (170 ha).

M14 Tanjil (756 ha).

M15 Boggy Creek (160 ha)—to be managed by the National Parks Service.

Note : Areas are approximate.

In addition to these education areas, four areas lie within the education zone of the Yarra Valley Multi-purpose Park, as follows :

Gembrook (65 ha)

Hoddles Creek (285 ha)

Glenewart (130 ha)

Haining (65 ha)

The latter two areas are at present owned by the Victoria Conservation Trust and managed by the National Parks Service.

SCHOOL PLANTATIONS

Throughout the study area, numerous areas of public land have been set aside as school endowment plantations as part of various schools' education 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 school plantations have been planted to radiata pine and the revenue from the sale of produce has been used to provide amenities required by the school. In some cases, however, these plantations have not been very successful in providing revenue as the sites are unsuitable for economic growth or the plantations are too small or the location too far from processing centres to allow economic harvesting. In some instances, radiata pine plantations have failed due to 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 unsuitable 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 public 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 land is used.

Recommendations

M16 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.

M17 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 Forests Commission and the Department of Crown Lands and Survey, where appropriate—and that the use of those considered unsuitable or no longer required be terminated.

M18 That new school plantations not be established on public land unless they would clearly enhance conservation values—for example, by the rehabilitation or reforestation of cleared or eroded areas.

N. HISTORIC AREAS

These areas of land contain Aboriginal relics or have historical or archaeological significance.

Recommendations

N1 Walhalla

That the area (2,500 ha) indicated on the maps be used to preserve the various sites (and the surrounding environment) that are associated with Victoria's early mining history

and that the public land be permanently reserved under section 14 of the *Land Act* 1958, and managed by the National Parks Service in consultation with the Department of Crown Lands and Survey.

In addition, it is recommended that :

- (a) mineral exploration and mining, in accordance with the policy recommendations set out in the Minerals and Stone Production chapter, be permitted
- (b) co-ordinated planning of both public and private land be undertaken to ensure the preservation of this part of Victoria's history, and to create an atmosphere that will allow visitors to appreciate the historical significance of the town
- (c) timber-harvesting in sympathy with the prime objective as an historic area be conducted by the Forests Commission subject to agreement with the managing authority.

The main features associated with this area are the townships of Walhalla and Coopers Creek, numerous old mine sites, miners' tracks, and remnants of tramways systems.

N2 Bungal

That the area (20 ha) indicated on the maps be used to preserve the sites (and the surrounding environment) associated with Victoria's early history, and that timber-harvesting in sympathy with the re-creation of the original atmosphere be permitted

and that it be reserved under section 14 of the *Land Act* 1958, and managed by the Forests Commission.

This area is located on the Moorabool River, near the Bungal Reservoir, adjacent to the historic Lal Lal iron-ore mine and early blast furnaces and several other features of historic interest.

In making this recommendation, the Council realizes that the study area boundary is arbitrary and thus, in order to obtain a balanced picture of capabilities and resources, has necessarily considered adjoining land in the Ballarat study 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 (or inactivities) 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 recreation 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 absorbing 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 some mastery of physical forces in order to satisfy his particular recreational needs. Examples are playing organized sport, bushwalking, and rock-climbing.
- * 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, areas such as picnic grounds and beaches near Melbourne 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 much public land should be available for recreational uses of some sort. Accordingly, it has set aside a variety of reserves that will provide 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 bushwalking, rock-climbing, 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 managers.

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 managers 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 any 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 in sub-alpine, coastal, and low-rainfall areas, and where the natural environment or special natural features are being preserved.

Three particular forms of recreation that may pose a problem for the land managers, whether now or in the future, are further discussed below.

Motorized Recreation

Much of our outdoor recreation depends on motor vehicles. These may be conventional cars, four-wheel-drive vehicles, or motor-bikes. 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—when they are driven in competitive rallies or in adverse but challenging road conditions—as a source of recreation in themselves.

Any vehicle registered under the *Motor Car Act 1958* has access to any legally open road anywhere on public land. Roads are defined in the *Land Conservation (Vehicle Control) Regulations* as being “any road formed for the passage of vehicles having four or more wheels”. The land management authorities can close roads when traffic exceeds their physical capacity, or when vehicular access or its associated activities seriously conflict with the area’s primary purpose. Seasonal closure of some roads may be necessary to avoid erosion and excessive maintenance, or because of extreme fire hazard. As the intensity of recreational use on public land increases, it is inevitable that more roads and tracks will be closed to vehicular access, particularly in areas with erodible soils. Council believes that these closures will not significantly reduce the many hundreds of kilometres of roads and tracks currently open to the public.

Motor vehicles leaving roads on public land without the written permission of the land management authority contravene the provisions of the *Land Conservation (Vehicle Control) Act 1972* and *Regulations*. Moreover they can, and do, cause extreme damage to vegetation and soils.

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 hardwood or softwood 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.

See recommendations O2 and O3 below.

Youth Camps

There are many permanent camp sites used by scouts, schools, church groups, and the like on public land in the study area, and demand for new sites is continuing.

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 or general camping.

Camps on public land vary greatly—in the purpose for which they are constructed, in their standard 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 this trend should be encouraged. While recognizing that a variety of types of camp 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 tenure over a minimum area at any individual camp site, under the control of the land management authority. Council believes, however, that these camps should still be used as fully as possible consistent with avoiding damage to the environment. The wider use of 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.

It is likely that, in some cases, the land management authority will need to phase out or relocate existing camps if these conflict with the primary use of the surrounding land, or if they are in particularly hazardous areas from the point of view of pollution, erosion, or wildfire.

See recommendation O4 below.

Skiing

Although the alpine and sub-alpine environments are sensitive to disturbance in spring, summer, and autumn, *this is not the case during the winter, when the ground surface is covered by snow.* During the thaw, however, soil erosion and damage to vegetation can occur.

Council recognizes that a wide range of recreational demands is made on alpine and sub-alpine areas, particularly during the winter. In the case of downhill skiing, specialized facilities involving substantial expenditure are required.

The Council believes that ski villages—and their ski runs, chair lifts, and associated areas—should be reserved by special legislation as alpine resorts. Each resort should be managed by a committee of management—comprising representatives of the people or bodies that use the area, have investments there, or have responsibility for some aspect of management.

The Council considers that the committee could contain representatives of each of the following :

Government

- * the department managing the surrounding public land, whose nominee should be the chairman
- * those of the following departments whose experience is required in that resort :

Soil Conservation Authority
Country Roads Board
Public Works Department

- * the appropriate Shire Council

Commercial

- * ski-lift interests
- * other commercial interests

User groups

- * the Victorian Ski Association (chosen from a panel nominated by that Association)
- * lessees in the area

plus a member with special knowledge of or interest in all aspects of alpine recreation over the whole year.

Council also believes that the means for effective co-ordination of the management of alpine resorts should be established. This co-ordination should include :

- (a) preparation of a planning policy statement for all ski resorts, prescribing :
 - (i) minimum standards for building
 - (ii) standards for slope development
 - (iii) standards for provision of services
 - (iv) guidelines for occupancy, tenure, franchises for new development, and statutory rules
 - (v) standards for the conservation of the environment
- (b) consideration of broad schemes for major development at alpine resorts and priorities for disbursement of public funds for major capital works.

In the Melbourne study area, several sites have been recommended for development for snow sports or skiing. The Council considers that snow sport development should be continued on Lake Mountain rather than that any development take place on Mount Torbreck ; and that developments on the Baw Baw plateau be confined to the vicinity of the current resort area. Refer to recommendations O5–O7 below. Recommendations concerning skiing at Mount Baw Baw, and further development at Lake Mountain, are also given in Recommendations A1 and A8.

Recommendations

Recreation

O1 That public land continue to be available for a wide range of recreational uses where these can be accommodated without detriment to other values. Land management authorities should 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.

Motorized Recreation

O2 That vehicular use of roads (within the meaning of the *Land Conservation (Vehicle Control) Regulations*) 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.

O3 The land management authorities endeavour to provide some areas for off-road vehicular use within land under their control.

Youth Camps

O4 That the area of 40 ha shown on the maps (being part of the former McLeod Prison Farm) be used as a youth and family camp and that it be reserved under the *Land Act 1958*, and managed by the Department of Crown Lands and Survey.

The National Fitness Council is to be appointed as Committee of Management for this reserve.

Skiing

O5 That the area directly affected by recreation and commercial development at each alpine resort be reserved by special legislation as an alpine resort.

O6 That each alpine resort be managed, under the relevant legislation, by a committee appointed by the appropriate Minister.

O7 That the area of 180 ha shown on the maps, which includes the land directly affected by recreation and commercial development in the Baw Baw Ski Village, be reserved as an alpine resort

that it

be managed by a committee appointed by the appropriate Minister, which should include representatives of government departments, commercial interests, and user groups, as set out in detail in the section on Skiing above

and that a representative of the National Parks Service should be Chairman.

The area to be reserved contains the village, parking areas, the ski runs, chair lifts, and services (water supply and sewerage), and includes areas on which additional ski runs could be located.

Recreation Reserves

O8–O42 That the following areas be used for organized sports (football, horse-racing, golf, etc.) and informal recreation (picnicking, camping etc.), as permitted by the managing authority

and that native trees be conserved where possible, and except where otherwise stated below, they be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Department of Crown Lands and Survey.

Map 2

- O8** 18 ha, being the recreation reserve and water reserve north of allotment 20A of section C, Parish of Lancefield.
- O9** 150 ha, being the public park and gardens reserve and extension, and the cricket and recreation reserve, in the Parish of Bylands, east of Kilmore ; also the adjoining racecourse and recreation reserve in the south-west corner of the Parish of Glenburnie. The forest plantation is not to be expanded.
- O10** 35 ha, being the Wallan Wallan park and recreation reserve and the enclosed quarry reserve north of allotment 22, Parish of Wallan Wallan.
- O11** 2 ha, being the public hall reserve and public purposes reserve east of allotment 2 of section B, Parish of Northwood.

Map 5

- O12** 12 ha, being 3 areas in the south of the Township of Lara, Parish of Woornyalook, on both sides of the Princes Highway and on both sides of Hovell's Creek.

Map 6

- O13** 16 ha, being the reserves for public recreation (Rs 3426), camping and water (Rs 1286), drainage and recreation (Rs 1287), and cricket and recreation (Rs 1287) (together with its extension), in the Township of Gisborne.
- O14** 8 ha, being the quarry reserve north of allotments 1 and 3A, the recreation reserve north of allotments 4, 5, and 6, and the land north of allotment 2A, Parish of Kororoit, and the public purposes reserve east of section 20, Township of Melton.
- O15** 0.8 ha to the north of allotment 5 of section 3, Township of Sunbury (Parish of Buttlejork) (to be added to the existing recreation reserve to the east).
- O16** 101 ha south of allotments R and Q of section 10, Parish of Yuroke, and the adjoining 8-ha recreation reserve.
- O17** 6.5 ha east of allotments 7 and 7A of section 7, and allotments 26, 27, 28, 29, and 30, Township of Epping.
- O18** 25 ha, being the recreation reserve north of allotments 3A, 4A, 5A, and 6A (no section), and the departmental quarry reserve adjoining allotment 1 of section 15, Township of Eltham.
- O19** 1 ha, being the temporary water reserve adjoining Diamond Creek, east of Watkins Road, Township of Diamond Creek, Parish of Nillumbik.
- O20** Approximately 0.8 ha, being allotment 8A of section 21, Parish of Nillumbik.

Map 7

- O21** 16 ha in the Parish of Yering, being the temporary recreation reserve, plus approximately 3.2 ha, being that part of allotment B2 of section 4 north of and adjacent to the above recreation reserve.
- O22** 0.3 ha to the west of section 13, Township of Lilydale, adjoining Olinda Creek.
- O23** 9 ha, being allotments 21 and 22 of section F, Parish of Gembrook.
- O24** 65 ha on the western boundary of the Parish of Tonimbuk, to be used as a golf course, reserved under section 136 of the *Land Act* 1958, and managed by the Department of Crown Lands and Survey. The Shire of Pakenham should be consulted in the nomination of a Committee of Management for this reserve.
- O25** 40 ha adjoining allotment 29, Parish of Tonimbuk (to be used as a rifle range).

Map 9

- O26** 2 ha, being the State School reserve south of allotment H3 of section 3, Parish of Murgheboluc.
- O27** 500 ha at Lake Modewarre being the existing public purposes reserve. This reserve is an important recreation area for Geelong and surrounding districts. It is a popular fishing and duck-hunting area, and the management authority should consult with the Fisheries and Wildlife Division to ensure protection of these values.
- O28** 40 ha in the Township of Anglesea, east of the Great Ocean Road, south of Ellimatta Road, and west of the coastal reserve.
- O29** 2 ha adjoining the flora and fauna reserve, near the western end of the Township of Breamlea.
- O30** 44 ha, comprising allotments M, N, and O, of section 21, Parish of Duneed, except the cemetery. The quarry licence over part of the area is to be revoked.
- O31** 22 ha, locally known as "Lake Lorne" being the temporary public purposes reserve south of Drysdale station, and vacant Crown land south-east of Drysdale station, Parish of Bellarine.

Map 10

- O32** 65 ha, comprising most of the temporary recreation and public purposes reserves to the north-west of the Township of Portarlington.
- O33** Rosebud recreation reserve—66 ha, including the existing temporary public park and recreation reserve, and the cemetery reserve south of allotment 2c, Parish of Wannaeue.
- O34** 9 ha east of allotment 1, Parish of Balnarring.
- O35** 16 ha, being the public park and recreation reserve, and unreserved Crown land, south-west of allotment 2 of section B, Parish of Langwarrin.
- O36** Approximately 5 ha, being vacant Crown land comprising sections IX., X., XI., and XII., Township of Ventnor.

Map 11

- O37** 73 ha, being the racecourse and recreation reserves south of the Township of Cranbourne. The bushland within the reserve is to be conserved.
- O38** 12 ha, being the public recreation reserve known as Bayles Station Ground and the unreserved Crown land to the south, Parish of Yallock.
- O39** 38 ha, being the racecourse and public recreation reserve and the reserve for rubbish depot and supply of sand east of allotment 13A, Parish of Lang Lang.
- O40** 57 ha occupied by the Lang Lang Golf Club east of allotment 89b, Parish of Lang Lang.
- O41** 10 ha west of allotments 1, 2, 3, and 4, of section C, Township of Grantville.

Map 12

- O42** 9 ha, comprising part of allotment 4 of section B, Parish of Narracan.

Note : Areas are approximate.

Inverleigh

O43 That approximately 50 ha in the southern portion of the Inverleigh Common adjacent to allotments 14c, 14b, and 15b, Parish of Carrah, be leased under section 134 of the *Land Act* 1958, and used as a golf course, subject to the following conditions :

- (a) that in the design and development of the golf course and clubhouse, due regard be taken of the high conservation values of the adjacent flora reserve
- (b) that, wherever possible, the planting of trees and shrubs be of species native to the adjacent flora reserve.

Bannockburn

The 470 ha parcel of public land at Bannockburn includes a 57 ha golf course, 38 ha of school plantations, 12 ha used for rubbish disposal and as a sanitary depot, and 150 ha from which gravel has been extracted and which, for the most part, has been replanted with eucalypt species not indigenous to the area. The remaining 220 ha carries natural vegetation.

Remnants of bush on public land in the Geelong region are very scarce and consequently come under considerable pressure for recreation—a pressure that will increase as the city grows.

These same remnants have a very high value for nature conservation, being the only examples of once-widespread habitats. The conflict between nature conservation and recreational use of these areas is very real.

In the case of Bannockburn, much of the public land has been considerably altered from its natural condition, and could be developed for a number of types of recreation, including the existing golf course, without decreasing its conservation value. The fact that the land is bisected by the main Teasdale road enhances its value for recreation.

The relatively undisturbed areas have particularly high conservation value, as they support a woodland of yellow gum and manna gum over a grassy understorey that includes several rare orchids (dwarf spider-orchid, crimson sun-orchid, plain sun-orchid, green leek-orchid) and the rare and localized little sword-sedge. It is important that these areas be protected from heavy recreational use.

Council believes the public land should be managed as a single unit by one authority, and therefore makes the following recommendation.

- O44** That the area of 470 ha shown on the map be used for recreation and that the existing golf course be leased under section 134 of the *Land Act* 1958, and the remainder permanently reserved under section 14 of the *Land Act* 1958, and managed by the Department of Crown Lands and Survey and that
- (a) the area be zoned to protect the native flora and fauna in those parts that remain relatively undisturbed
 - (b) gravel and sand extraction be terminated and the current sites revegetated with species native to the area
 - (c) timber-harvesting continue in existing eucalypt plantations, to provide fence posts and poles and as an aid to creating an attractive environment for picnicking and other recreational activities
 - (d) the existing school plantations not be extended and the future of the sites be reviewed after harvesting
 - (e) rubbish dumping continue to be permitted in the 4 ha currently being used for this purpose and that, when full, the area be rehabilitated for recreational uses.

Existing Recreation Reserves

- O45** That these areas, which are currently reserved for recreational purposes, continue to be used for organized sports (football, horse-racing, golf, etc.) and informal recreation (picnicking, camping, etc.), as permitted by the managing authority, and that the present reservations and management continue.

P. SCENIC RESERVES

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

Recommendations

P1-P8 That the areas shown on the maps and described below be used to preserve scenic features or lookouts

and that they be permanently reserved under section 14 of the *Land Act* 1958, and managed by the Department of Crown Lands and Survey.

- 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.
- P4** 4 ha reserved for the Pulpit Rock, adjacent to allotment 40, Parish of Trawool.
- P5** 208 ha west of allotments 2A and 2C of section A, Parish of Doolam, known as "The Paps". Gravel extraction may continue in the existing gravel reserves and all pits are to be eventually rehabilitated. Infill with rubbish may be a suitable first stage in rehabilitating some of these excavations. Any future gravel extraction from this proposed scenic reserve that necessitates opening new pits is to be reviewed by the management authority at the appropriate time.
- P6** 0.8 ha adjacent to allotment 12B of section A, Parish of Moorabool East.
- P7** 24 ha, being allotment 86, Parish of Anakie.
- P8** 2.8 ha adjacent to allotment 15, Parish of Yarragon.

Note : Areas are approximate.

Q. AGRICULTURE

Most alienated land in the study area has been used for agriculture since the days of early settlement, but subsequent urban development has replaced their use in some centres, particularly around Melbourne and Geelong. The Council recognizes the trend for commercial agriculture to be replaced by the expansion of metropolitan Melbourne and the development of surrounding population growth centres. If this loss of agricultural land through urban growth should result in shortages of particular agricultural products, then further consideration would be given to allocating suitable uncommitted land for agricultural production. (For example, suitable uncommitted land in the Toolangi-Kinglake area could be made available for berry-growing.)

It is emphasized, however, that the uncommitted land lies mainly in forested mountainous areas and in most instances would be better used for water supply, timber production, and recreation.

Agricultural Research

Public land in several parts of the study area is used for agricultural research purposes. The Council does not propose any change of use for these areas.

Recommendations

Q1 That, at this stage, no additional large areas of public land be developed for agriculture and that only small areas of suitable land, described in Schedule 1 below and shown on the maps, be made available for agriculture to improve the viability of existing and adjoining farms.

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 land described in Schedule 1 below be made available for agriculture in accordance with the provisions of the *Land Act* 1958.

SCHEDULE 1.

LAND RECOMMENDED FOR AGRICULTURE, Q1

Parish.	Location.	Area (ha).
Boorolite	North-west part of allotment 28B of section A (leaving access to the public land)	8.0
Bungal	Allotment 2A of section 17, Township of Egerton	0.4
Jindivick	Unused road north of allotment 59c of section A	2.4
Lauriston	South of allotment 21 of section 33, Township of Malmesbury..	1.6
Moe	Adjoining allotment 122B	1.2
Neerim	Adjoining allotments 88, 90, 92, and 93	4.0
Neerim	Adjoining allotments 6 and 100B	1.3
Neerim	East of allotment 78A	40.0
Wombat	Allotment 2 of section A, Township of Leonards Hill..	4.0
Yallock	Adjoining allotments 10A, 10B, and 10D	4.8
Yea	Adjoining allotment 214B	0.6
Yering	Eastern part of road reserve adjoining allotment B of section 11	1.0
	Total	69.3

Q2 That the State Electricity Commission's land described in Schedule 2 below, and shown on the maps, be made available for agriculture if required.

SCHEDULE 2.
LAND RECOMMENDED FOR AGRICULTURE, Q2

Parish.	Location.	Area (ha).
Tanjil East	Adjoining the north of the Narracan Shire rubbish tip ..	5
Narracan	Part of allotment 4 of section B	28*

*Note: This land is also subject to recommendation T2.

Q3-Q7 That the areas of land listed below, and shown on the maps, be used for agricultural research purposes ; and that the areas remain or become (as the case may be) permanently reserved under section 14 of the *Land Act* 1958 for this purpose, and be managed by the Department of Agriculture.

Q3 State Research Farm, Werribee (850 ha)

Q4 Attwood Veterinary Research Station, Westmeadows (60 ha)

Q5 Potato Research Station, Toolangi (250 ha)

Q6 Vegetable Research Station, Frankston (part) (30 ha)

Q7 Dairy Research Station, Ellinbank (210 ha)

R. MINERALS AND STONE PRODUCTION

The continued existence of our technological society will depend on the availability of minerals. The Melbourne study area is already known to contain deposits of "gold" and "minerals" as defined in the *Mines Act 1958* and as subsequently gazetted (metallic minerals, coal, etc.), and exploration permits for "petroleum" as defined in the *Petroleum Act 1958* are held for parts of the area. Nevertheless, knowledge of the location of our mineral resources is far from complete and new deposits of commercial significance will undoubtedly be found. Furthermore, uneconomic deposits of currently important minerals may become economically exploitable, and other minerals that are not used at present may become important. Government has the responsibility to establish the existence and extent of the State's mineral resources. When a new deposit is discovered in an area where mineral extraction is not a currently approved land use, it may be of such importance that a change of the land use is required in the national 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 alternative sources of the particular mineral.

It is important therefore that the reservation of conservation areas should not automatically exclude exploration for minerals or fossil fuel resources, either by exploration companies under strict supervision or by the Mines Department itself. Attention should be directed towards ensuring that other values and interests are protected, rather than attempting to prevent exploration activities.

Recent legislation has improved control of operations by holders of miner's rights, and some areas in the State are excepted under the *Mines Act 1958* and the *Land Act 1958* from occupation for mining purposes. Before such operations are authorized, the Department of Mines should consult the public authority or Department that manages the land.

Materials covered by the definition of "stone" in the *Extractive Industries Act 1966* are widespread in the area. These materials include rock, gravel, clay, sand, and soil. There is a strong community demand for new and better roads and buildings, and so for the materials necessary for their construction. Many of these materials are provided from private land, but public land is also an important source.

The Council is concerned by the complexity of legislation and procedures governing extraction of "stone", and by the lack of control accompanying some of these procedures, whether in theory or in practice. (For example the Country Roads Board and municipal councils are not bound by many provisions of the *Extractive Industries Act 1966*.) A substantial number of unwise excavations have been made upon public land, and in some instances the rehabilitation of excavated land is lagging.

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

The Council believes that :

- (i) All exploration for and extraction of "gold", "minerals", and/or "petroleum" on public land should be subject to the approval of, and to conditions imposed and enforced by, the Department of Mines, in consultation with the authority managing the public land.

In considering an application, the Department of Mines should apply the guidelines listed below and should consult with the managing authority—and, where necessary, with the Soil Conservation Authority—with a view to agreeing on reasonable conditions to be enforced by the Department.

- (ii) There should be co-operation and consultation between the land managing authorities, the Mines Department, and 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 be subject to the approval of the appropriate managing authority.

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

- (iii) A system should be established that would guarantee available funds for progressive and final reclamation for any excavation or operation before work commences. This is already the case in progressive reclamation operations where the *Extractive Industries Act 1966* applies.
- (iv) 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.
- (v) The following guidelines should apply to all extraction from public land :

- * No sites for the extraction of “gold”, “minerals”, or “petroleum” should be opened in areas that the Mines Department, after consultation with the land management authority, considers to be of greater value for their aesthetic or nature conservation values.

The Mines Department should not permit any extraction of “gold” or “minerals” unless satisfied as to the reasonable economic viability of the proposed extraction. The Department should also require, as far as is reasonably possible, the lodgement of mining plans that show the expected post-mining state of the land.

No sites for the extraction of “stone” should be opened in areas considered by the managing authority to be of greater value for their aesthetic or nature conservation values.

- * Extraction of “stone” should generally be concentrated on the fewest possible sites in an area, and any one site should be completely worked out and where possible rehabilitation ensured before a new site is exploited. 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 granitic sand occurring as shallow deposits in the weathered profile should not be permitted until 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.

- * Where an application for the removal of “stone” from a stream-bed is considered, the land management authority must 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. Before giving approval, the authority should consult with the State Rivers and Water Supply Commission, the Soil Conservation Authority, the Environment Protection Authority, and the Fisheries and Wildlife Division, 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 bed of stream.

- * All extraction sites should be fully rehabilitated where possible. Rehabilitation should follow extraction progressively when possible, but otherwise should begin immediately extraction is completed. The requirements for rehabilitation should be included in the conditions of the lease or licence before any approval to extract is granted. The rehabilitation may include, for example, replacing topsoil, revegetating the site with plantation forest, filling a quarry 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 rehabilitation, or restoring the site as closely as possible to its original topography and revegetating it with species native to the site.

Recommendations

R1 That public land in the study area (other than land excepted from occupation for mining purposes under the *Mines Act* 1958 and the *Land Act* 1958) continue to be available for exploration and extraction of “gold”, “minerals”, “petroleum”, and “stone”, subject to the principles and guidelines set out above. Some deposits of “stone” are specifically identified in Recommendations R2–R24 below.

R2–R24 That the areas listed below and shown on the maps be used for the extraction of “stone”, subject to the principles and guidelines set out above and that they be temporarily reserved under section 14 of the *Land Act* 1958, and managed by the Department of Crown Lands and Survey.

Map 1

R2 95 ha—adjacent to allotments 2 and 3 of section 1c, and 4j and 4d of section 1b, Parish of Yandoit, the southern boundary corresponding to the existing irrigation channel. Reclamation of worked areas—aimed at restoring the terrain, as far as possible, to its original form and revegetating it with appropriate species native to the locality—should proceed progressively as areas are worked out.

R3 1 ha—north of allotment 8 of section 12 and to the west of allotment 9 of section 11, Parish of Wombat.

R4 2 ha—adjacent to allotments 5, 3A, and 6, of section 14, Parish of Wombat.

Map 2

R5 1 ha—being the gravel reserve, allotment 74d, Parish of Broadford.

Map 3

R6 10 ha—located south of allotment 14 of section A, in the east of the Parish of Maintongoon.

Map 4

R7 10 ha—in the north-east of allotment 99D, Parish of Howqua West.

Map 5

R8 2 ha—being the 102nd section reserve adjacent to allotment 32A, Parish of Bungal.

R9 4 ha—being the gravel reserve east of allotment 27C, Parish of Durdidwarrah.

R10 4 ha—being the gravel reserve east of allotment 74, Parish of Durdidwarrah.

R11 2 ha—north-east of allotment 40P, Parish of Durdidwarrah.

Map 6

R12 2 ha—in the centre of allotment 1C of section 18, Parish of Yangardook. Reclamation of worked areas should aim at restoring the terrain, as far as possible, to its original form and at revegetating it with appropriate species to the locality.

Map 7

R13 1 ha—to include the existing quarry at the north-eastern corner of allotment 33, Parish of Mooroolbark—the Warburton Highway and Victoria Road being the boundaries in the north and east.

R14 12 ha—north of allotment 111A, Parish of Jindivik—to be used for extraction of granite rock by the Country Roads Board.

Yarra Valley Multi-purpose Park Map

R15 2 ha—south-west of Warburton adjacent to allotments 207 and 209, Parish of Warburton—to be managed by the Forests Commission as part of the Yarra Valley Multi-purpose Park. (See recommendation A29.)

Map 7

R16 0.4 ha—being allotment 12B, Parish of Nar Nar Goon.

Map 9

R17 Stingaree Bay : 300 ha—to be made available under lease for the extraction of salt.

Map 10

R18 2 ha—being the departmental quarry reserve between allotment 8A of section 3, and allotment 7, Parish of Kangerong.

Map 11

R19 5 ha—adjacent to allotments 27H, 27J, and 27D, Parish of Woolamai.

R20 100 ha—in allotment 214, Parish of Corinella. Reclamation of worked areas—aimed at restoring the terrain, as far as possible, to its original form and at revegetating it with appropriate species native to the locality—should proceed progressively as areas are worked out. Care should be taken to ensure the worked areas are adequately screened from the Bass Highway, Stanley Road, and the subdivision to the east.

R21 40 ha—north of Grantville in allotments 96B and 96C, Parish of Corinella ; and 4 ha, being the temporary gravel reserve, also that part of the temporary gravel reserve extension north and east from the gravel reserve to 20 m south of the creek, and the areas covered by Extractive Industries Lease No. 16. Reclamation of worked areas should aim at restoring the terrain, as far as possible, to its original form and at revegetating it with appropriate species native to the locality. The gully running through this reserve has high value for nature conservation and should be protected from disturbance as far as possible.

R22 300 ha—being allotments 77H, 77J, and part of allotment 74C, Parish of Lang Lang; and allotment 123, Parish of Lang Lang East. Reclamation of worked areas should aim at restoring the terrain, as far as possible, to its original form and at revegetating it with species native to the locality.

R23 5 ha (to include the existing quarry)—to the north and north-west of the Outtrim sanitary depot, in the Parish of Kongwak.

Map 12

R24 7.3 ha—adjacent to allotments 34, 35B, and 35, Parish of Tanjil.

Note : Areas are approximate.

ANGLESEA LEASE AREA

In the vicinity 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 for 50 years with the right of renewal. Within the lease area some 1,300 ha marked A on Map D is considered to contain sufficient reserves of brown coal to last for at least 50 years, based on current predictions of the future level of use. The area marked B and the remainder of the lease area shown on Map D are known to contain brown coal, but the extent of these reserves has not yet been fully determined.

In addition, land within the Alcoa lease area has high capabilities for other uses, including conservation of flora and fauna, some forms of recreation, and the production of sand and gravel.

Recommendations

- R25** That the areas marked A and B on Map D continue to be used by Alcoa of Australia Pty. Ltd. for the mining of brown coal, exploration, and associated works, as provided for under the *Mines (Aluminium Agreement) Act 1961*.
- R26** That the Government enter into negotiations with Alcoa of Australia Pty. Ltd. with a view to providing for the following uses within the remainder of the lease area :
- (a) In view of the large volume of known reserves of sand and gravel in overburden covering the brown coal deposits, and the favourable location of these reserves in relation to the growth centre of Geelong, it is suggested that the Mines Department and Alcoa investigate a procedure that, while safeguarding the rights of Alcoa under the Agreement, would enable sand and gravel (if required) to be extracted prior to working the area for coal. If sand and gravel are taken from an area that is not to be mined for coal in the near future, then the area should be rehabilitated according to the recommendations for Minerals and Stone.
 - (b) The above refers to the extraction of sand and gravel associated with mining an area for brown coal. However, the area marked C on Map D has been investigated by the Mines Department, which considers that it should be used for the production of sand and gravel, not necessarily as a preliminary to mining it for brown coal. Those portions of the area used for this purpose should be rehabilitated according to the recommendations for Minerals and Stone contained in this chapter. Council realizes that part of the land referred to lies outside the arbitrarily established boundary of the study area but must consider this land in order to adopt a balanced view of the capability of land within the study area.
 - (c) The areas adjacent to the Anglesea and Mt. Ingoldsby flora reserves respectively marked as D and E on Map D contain natural environments not represented in the Angahook State Park and provide corridors for the movement of animals. While the Council recognizes that the area adjoining the Mt. Ingoldsby flora reserve is probably of particular value for brown coal, this area is also of botanic importance because of the diversity of the flora it contains.

It is suggested that these areas be managed as part of the Anglesea and Mt. Ingoldsby flora reserves, but that the rights of Alcoa to search for and mine brown coal should continue to be recognized. However, attempts should be made to reach agreement with Alcoa that those parts of area A containing economic coal deposits be mined before commencing to mine in area E.

- (d) The area marked F on map D is currently used for trail-bike-riding. The Council suggests that use of the area for this purpose continue to be permitted. The land proposed to be used for the production of sand and gravel (area C) should also be available for recreation vehicles. Council recognizes that most of this land falls outside the study area boundary ; inclusion of these areas, however, has allowed the suggested uses to be considered for the whole of the area held under lease by Alcoa.
 - (e) It is the intention of Alcoa to progressively rehabilitate areas from which brown coal has been removed. Because of the proximity of the lease area to the township of Anglesea, consideration should be given to using rehabilitated areas within the lease for urban recreation activities.
 - (f) Alcoa should attempt to minimize the intrusive effects of mining operations near the township of Anglesea.
- R27** That, most importantly in view of the high fire hazard that exists in the lease area and its location immediately to the north and west of the Anglesea township, the management authority and the Country Fire Authority continue to implement an adequate fire-protection policy for this area.
- R28** 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 Crown Lands and Survey.

S. UTILITIES AND SURVEY

Many utilities occupy public land. They include roads, pipelines, powerlines, power stations, hospitals, churches, public halls, shire offices and depots, garbage depots, sanitary depots, cemeteries, and sewage 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.

It is not possible at present to provide for future requirements of land for survey and utilities, in the absence of firm planning proposals accompanied by the necessary detailed information. The use of land for these purposes will need to be considered when particular projects are firmly proposed. The various recommendations in the report are not intended to preclude such use of the land, and would be subject to review at the appropriate time.

Council believes that government agencies concerned with provision and installation of communication equipment, transmission lines, pumped storage sites, power stations, port facilities, pipelines, roads, etc. should be requested to submit to the Council during the early planning stages any major proposals that would involve occupation agreements or the setting aside of sites on public land. This would assist in achieving co-ordinated planning, and perhaps avoid the necessity for costly resurveys.

Recommendations

General Utilities

- S1** That existing easements continue to be used to provide access and services.
- S2** That new powerlines, pipelines, 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 managing authority, and that new pipelines and powerlines follow existing easements if possible (this may require widening some easements).

Garbage and Sanitary Depots

Council believes that sites on public land used for the disposal of garbage and sanitary material should be located to cause minimal conflict with nature conservation values. Facilities on public land should be shared by municipalities wherever practical to minimize the number of sites required. At the same time, sites should be provided in reasonable proximity to users to minimize transport costs and illegal dumping of rubbish.

The Council notes the submission from the City of Doncaster and Templestowe concerning a regional garbage depot of approximately 200 ha about 6 km north-north-west of Narbethong. Council believes, however, that no further public land should be made available for the disposal of metropolitan garbage by the land-fill method. The Council considers that the land-fill method must be regarded as an interim means of garbage disposal because eventually, if continued as the main method, it will require too much public land and clearing of native vegetation.

On the other hand, some of the many disused quarry sites in and around Melbourne could be used in the immediate future. Before these areas are used for garbage disposal, the possibility of polluting groundwater should be adequately assessed. Disused quarries, however, have a limited capacity to meet the demand beyond the immediate future and Council considers that the question of metropolitan garbage disposal is one requiring urgent attention by the government.

- S3** 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 to those used legally. Where the user or users are known, rehabilitation should be at their expense.
- S4** That 8 ha within allotment 29 of section C, Parish of Flowerdale, be used as a garbage depot, and that adequate native vegetation be retained to screen the garbage depot from the adjacent road and cleared land.
- S5** That 2 ha to the north of allotment 8B, Parish of Yuonga, be used as a garbage depot and sanitary depot, and that adequate native vegetation be retained to screen the area from adjacent cleared land. The area should be managed by the Forests Commission as part of the Yarra Valley Multi-purpose Park. (See Recommendation A29.)
- S6** That 8 ha in the south-western corner of allotment 14A of section C, Parish of Flowerdale, be used as a garbage depot, and that adequate native vegetation be retained to screen the area from adjacent cleared land.
- S7** That 4 ha east of allotment 2 of section 40, Parish of Kerrit Bareet, be used as a garbage depot, and that removal of trees be confined to the minimum area possible and adequate native vegetation be retained to screen the area from adjacent land.
- S8** That 11 ha north of Purvis Road, Parish of Tanjil East, be used as a rubbish tip and as a general municipal depot.

Note : Reference is also made to the disposal of garbage in the chapters on scenic reserves, bushland reserves, recreation reserves, flora and fauna reserves, wildlife reserves, and minerals and stone production.

Railway Lines

- S9** That, where isolated remnants of the original vegetation remain on land associated with railway lines, every effort be made to protect that vegetation consistent with management practices.
- S10** That disused railway land within the study area be retained as public land where it may have value for use as cycling or walking tracks and may eventually be needed again as routes for public transport.

S11 That the Victorian Railways continue to maintain native vegetation beside the railway line in the following localities :

- (a) about 5 km north-east of Lara. This area supports a valuable remnant of the original grassland vegetation, including the rare brittle greenhood, the uncommon swamp diuris, and several other orchid species, as well as unusual forms of rosemary grevillea and silver banksia
- (b) about 2 km west of Riddell. This area supports a valuable remnant of the original grassland vegetation, including the rare purple diuris. (Similar grassland vegetation occurs beside the railway line between Tottenham and Sydenham, within the metropolitan area. The very rare white diuris occurs here.)
- (c) between Beaconsfield and Pakenham. This area supports a valuable remnant of the original native vegetation, including the very rare white diuris
- (d) about 1.5 km south of Woodend. This is the only known occurrence of black gum (*Eucalyptus aggregata*) in Victoria.

Note : The above list of five areas with great botanical importance on railway land should not be considered exhaustive—many other areas of railway land also support valuable stands of native vegetation.

Electricity

The State Electricity Commission has investigated a number of sites and regions for their suitability as thermal power stations, pumped storage schemes, and pondages. It has made no firm proposals for their development (including associated easements) at this time, but Council notes the Commission's desire to keep options open for their possible future use for power generation, transmission, and distribution. In some cases it has acquired sites for possible future use.

Three sites and three investigation regions for possible thermal power stations involve public land in the Melbourne study area :

1. Tyabb site
2. Red Bluff site (French Island)
3. Penal Settlement site (French Island)
4. Breamlea region
5. M.M.B.W. Sewerage farm region
6. Corinella-San Remo-Cape Patterson region

Council notes that, in each instance, service corridors through proposed foreshore reserve areas could be required to permit access to the sea to obtain condenser-cooling water or for other purposes.

The State Electricity Commission has investigated five regions for possible future pumped storage schemes. These are listed below. In each case the name of the stream on which the upper storage is proposed is followed by that of the stream on which the lower storage is proposed.

1. Ferris Creek-Goulburn River (at Trawool)
2. Falls Creek/Yellowdindi Creek-Murrindindi River

3. Ada River–Big Creek/Latrobe River
4. Upper North Cascade Creek–Lower North Cascade Creek
5. North Cascade Creek–Thompson River

In addition, sites at Blue Rock and Willow Grove on the Tanjil and Latrobe Rivers respectively are being investigated as dam sites in connection with water supply for proposed future power generation in the Latrobe Valley and for industrial and other uses.

A number of easement routes for future transmission lines associated with possible future power stations and pumped storage schemes are also being investigated.

S12 That areas of land shown on the map, north-east of Tyabb, and at Red Bluff, French Island, continue to be held by the State Electricity Commission. In the event that the area at Red Bluff is not required for a thermal power station, it should be added to the proposed French Island State Park (A12) ; The high nature conservation values within 102 ha on the eastern area should be adequately protected.

Land in the Yallourn area owned by the State Electricity Commission is public land, although this was not mapped in the proposed recommendations. Parcels of this land appear under Recommendations A20, I105, O42, Q2, S8, T2, and U3 elsewhere in this volume.

Sewerage Farm

S13 That the Melbourne and Metropolitan Board of Works sewerage farm at Werribee continue to be used for its present purposes. In view of the value of the farm as a habitat for waterfowl, and the presence of the fat-tailed dunnart in some grassland areas, the Board should continue to consult with the Fisheries and Wildlife Division on matters affecting wildlife. In the event of full treatment, the area should remain as public open space. Council endorses the Board's proposed pilot tree-planting scheme, which is aimed at improving sewerage treatment and which recognizes the possible commercial and aesthetic value of plantations.

Hospitals

S14 That 264 ha south of Sunbury continue to be used for mental hospital purposes.

S15 That 160 ha in the south-west of the Parish of Yuroke reserved for sanatorium purposes continue to be used for hospital purposes, and that protection of the valuable remnant of grassy woodland vegetation continue.

S16 That the area of public land west of Watsonia continue to be used for mental hospital purposes.

Social Welfare

S17 That 120 ha—being allotment 4 of section 25, Parish of Holden—be temporarily reserved for social welfare purposes, and that protection of the valuable remnants of native vegetation continue.

Trigonometrical Stations

The Council recognizes the necessity to reserve sites in the future for new trigonometrical stations.

S18 That the minimum area necessary for survey purposes be temporarily reserved around trigonometrical stations on public land where it would otherwise remain as unreserved Crown land and, where other forms of public land tenure apply, that the Department of Crown Lands and Survey have the right to occupy a minimum area around the station and provide lines of sight.

Ports

Foreshores along the northern arm of Western Port between Hanns Inlet and Watsons Inlet have high values for port development where the deep-water channel approaches close inshore. Development for port purposes already exists at some localities such as Stony Point and Crib Point. Some foreshore areas also have high nature conservation and recreation values. They are part of a larger area on the mainland that is covered by the Revised Statement of Planning Policy No. 1 (Western Port).

Council recognizes the policies formulated in this document and makes the following recommendations for the coastal public land.

- S19** (i) That the areas shown on the map be used in such a way as to preserve their value for selected port sites and service corridors for industries that depend upon or gain significant economic advantage from the natural deep-water channels of Westernport Bay.
- (ii) That in planning and future management of areas for port and industrial purposes, particular attention be paid to nature conservation and recreation values along the foreshores (these values are known to be high in the areas north of Yaringa Boat Harbour and between Golden Point and Warrengine Creek).

and that the areas be temporarily reserved under section 14 of the *Land Act* 1958 as coastal reserve, their seaward boundaries being low-water mark, and be managed by the Department of Crown Lands and Survey.

Note : Reference is also made to these areas under Recommendation J4 in the Coasts chapter.

Navigation Aids

S20 That the minimum area necessary for access to and maintenance of navigation aids be temporarily reserved on public land where it would otherwise remain as unreserved Crown land and, where other forms of public land tenure apply, that the Ports and Harbors Division have the right to occupy a minimum area around the aid and provide lines of sight.

Other Utility Areas

S21 That existing legal uses and tenure continue for areas that are at present reserved and used for utility purposes such as public buildings, municipal depots, cemeteries, schools, etc.

Note : Areas are approximate.

T. TOWNSHIP LAND

Public land in townships is currently used for a wide range of purposes. The Council has not generally 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 a specific recommendation for township land to be used for recreation. These recommendations are included in the section on recreation reserves.

In general, public land in townships other than those areas which have been specifically reserved should remain as unreserved Crown land to meet future requirements. The Council, however, recommends that a few small areas of public land be released for urban purposes.

Recommendations

T1 That the land described in Schedule 3 below (approximately 10 ha) and shown on the maps, be made available for urban purposes.

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

SCHEDULE 3

LAND RECOMMENDED FOR URBAN PURPOSES, T1

Parish.	Township.	Location.	Area (ha).
Alexandra ..	Alexandra ..	Allotment 5B of section 10	0.2
Narracan ..	Coalville ..	Allotments 2, 3, 4, 5, 6, 9, and 16, of section 1	0.5
Wombat ..	..	South of allotment 26 of section 10	1.0
Neerim ..	Noojee ..	Land within sections 2, 3, and 4, and land to the south of these sections	8.0
		Total	9.7

T2 That the State Electricity Commission's land described in Schedule 4 below, and shown on the maps, be made available for urban purposes if required.

SCHEDULE 4

LAND RECOMMENDED FOR URBAN PURPOSES, T2

Parish.	Township.	Location.	Area (ha).
Narracan	Part of allotment 4 of section B	28*

*Note : This land is also subject to recommendation Q2.

T3 Walhalla

That the public land indicated on the maps be used for township purposes in such a way that the historical significance of the area may be fully appreciated and that this area be re-gazetted as a township area and managed by the Department of Crown Lands and Survey.

All development of the public land either within the township or the surrounding historic area (N1) should be in sympathy with the aim to create an environment reminiscent of early mining and associated activities in the Walhalla area.

U. UNCOMMITTED LAND

In planning for balanced land use, known resources are allocated to meet known or predicted demands. The Council is aware that many changes in demand cannot be foreseen, and that the value of resources to the community will inevitably change. Similarly, knowledge of resources will change as exploration, research, and technology progress. For these reasons, it is desirable that planning be reviewed periodically, and it must be expected that resources will be re-allocated or adapted to meet changed demands. In addition, to satisfy such future requirements, it is desirable that land not be committed unnecessarily to relatively inflexible forms of land use. The Council therefore considers it necessary to recommend that substantial areas of public land remain uncommitted to any primary use at this stage.

Land classed as uncommitted includes :

- * Areas that, although not needed to satisfy any known demand, are retained to meet future demands as yet undefined.
- * Land known to have a high capability to satisfy one or more particular demands, but not at present committed to any one use, as foreseeable requirements can readily be met from other areas.
- * Areas on which further study is required to determine the capability of the land to satisfy particular present or future demands.

Uncommitted land is to be securely retained as public land, although changes in its status may be required if these are recommended following a review by this Council. It may be used to satisfy present needs, provided this does not cause changes that would be difficult to reverse.

The Council wishes to emphasize that sufficient resources should be made available to the managing authorities to enable careful management of uncommitted land. Funds and personnel are essential for conservation of specific features and values, for protection of the land and adjacent areas from soil erosion, wildfire, vermin and noxious weeds, and for silvicultural treatment of forests.

Yan Yean

The catchments in the Yan Yean system supplying water to Melbourne comprise another category within uncommitted land. These catchments have been closed to public access since last century and contain some magnificent stands of mountain ash. The land in them has potential for many uses, but at present our knowledge of the interactions between these uses and water production is incomplete. Results from timber-harvesting experiments in the Yarra Valley, some of which will be available in 1979, will enable some decisions on the future use of the catchment to be made. Until then the land has been placed in the uncommitted category—it will continue to produce water, and its potential for other forms of use will be safeguarded.

Recommendation

U1 That the land indicated on the maps be used to :

- (a) maintain the capability of the land to meet future demands

(b) produce those goods and services required by the community (such as forest produce, grazing, and military training) that can be supplied without seriously reducing the long-term ability of the land to meet future demands

and that

(c) the special features and values listed below be protected

and that the land be Crown land withheld from sale and be protected forest under the provisions of the *Forests Act* 1958.

U2 That the land in the Yan Yean system (10,800 ha) indicated on the maps be used to :

(a) maintain the stability of the land and its usefulness for all possible future uses

(b) protect water catchments

(c) conserve native fauna and flora

and that it be uncommitted land and remain under present tenure and management.

U3 That the areas of land shown on the maps become uncommitted land as for U1 above.

This land lies within an area subject to planning with respect to the development of the brown coal resource. It is expected that these matters will be resolved by the time that the Council prepares recommendations for the South Gippsland study area, district 2. At that time, recommendations will be made for the areas of uncommitted land referred to in U3. This uncommitted land within the Melbourne study area has various values for public open space, urban development, environmental education, coal production, and natural areas. The options for all these values should continue to be maintained.

V. MILITARY TRAINING

The Council believes that military training is a legitimate use of public land. Military training should not occur in reference areas, and only under special circumstances in parks and other recreation and conservation areas.

Recommendation

- VI** That the following conditions apply to military training conducted on public land :
- (a) The types of activities, and their timing and location, should be subject to agreement between the Army, the managing authority, and other relevant bodies such as the Soil Conservation Authority.
 - (b) The training activities should be carried out under conditions specified by the managing and relevant authorities, to minimize any detrimental effects.
 - (c) The Forests Commission should be consulted (for fire-protection purposes) with respect to training activities in protected forest, and protected public land.

W. OTHER RESERVES AND PUBLIC LAND

Numerous small areas of both reserved and unreserved Crown land in the study area that are used for various purposes such as water, grazing, camping, and so on have not been specifically mentioned in these recommendations.

Others (both reserved and unreserved) receive little active use at present even though they may once have been reserved for some specific purpose. These areas are generally cleared and although their present value for recreation or conservation is limited, they may have considerable value in the future for as-yet-unknown public purposes. In the short term these areas could be used for grazing or perhaps in a particular instance, as a temporary depot for a statutory authority. Some of these areas lie in the path of future urban development and could be suitable for public open space or as the sites for public buildings.

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

Recommendation

W1 That for small areas of public land not specifically mentioned in these recommendations, existing legal uses and tenure continue

that where the land is not used 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

and that they be managed by the Department of Crown Lands and Survey as if they were uncommitted land.

APPENDIX 1

MACEDON REGIONAL PARK ZONING GUIDELINES

The recommendations made under Water Production propose that all water supply storages and diversion works, together with surrounding buffer zones as determined by the Soil Conservation Authority, will not form part of the park, but will be water supply reserves permanently reserved under section 14 of the *Land Act* 1958. These reserves will be managed by the water supply authorities.

All activities in park areas that are within proclaimed catchments will be carried out in accordance with land use determinations made by the Soil Conservation Authority.

1. Intensive Recreation

The land within this zone should be used to :

- (a) provide open-space recreation and education for large numbers of people
- (b) protect and conserve the environment to the extent that this is consistent with (a) above

and

- (c) timber-harvesting should be permitted where appropriate to enhance the recreational value of the area.

Walking tracks, picnic facilities, and other amenities would be provided in this zone.

2. Conservation, Low-intensity Recreation, and Hardwood Production

The land within this zone should be used to :

- (a) provide low-intensity open-space recreation with limited facilities
- (b) produce water
- (c) protect and conserve native flora and fauna
- (d) produce hardwood timber on a low-intensity basis.

3. Recreation and Softwood Production

The land within this zone should be used to :

- (a) provide low-intensity open-space recreation with limited facilities
- (b) produce water
- (c) produce softwood timber.

Consideration should be given to converting some minor areas of existing softwood plantations to hardwoods native to the area.

4. Nature Conservation

The land within this zone should be used to :

- (a) protect and conserve native flora and fauna
- (b) produce water
- (c) provide limited open-space recreation to the extent that this is consistent with (a) and (b) above.

APPENDIX 2

SITES OF SPECIAL CONSERVATION SIGNIFICANCE
ON THE COAST

The following list contains all known sites of special conservation significance on the coast between Lorne and Wonthaggi. Recommendations made under Coasts, Wildlife Reserves, Parks, and Flora and Fauna Reserves state that particular care should be taken to protect these sites. As well as sites on public land (as defined in the *Land Conservation Act 1970*), the list includes those on private land, Commonwealth land, and land within cities and boroughs. These latter are included for the sake of completeness, and are not referred to in recommendations in the body of the report. (Land in the City of South Barwon is an exception—see Introduction). In the table below, the right-hand column gives the recommended status of sites on public land, and the present status of sites not on public land.

LOCALITY AND SIGNIFICANCE	PRESENT OR RECOMMENDED STATUS
Eastern View The geological contact of the Otways Mesozoic rocks with the Tertiary rocks to the east.	Coastal Reserve (see recommendation J1)
Moggs Creek The coastal heathland habitat of the rufous bristle-bird (near the eastern limit of its restricted range) and the uncommon beautiful firetail (confined to a restricted range of coastal habitats).	Coastal Reserve (see recommendation J1)
Aireys Inlet to Eagles Nest The cliffs exposing a volcanic structure overlain by limestone; the rare ramphobranch polychaete worm on the intertidal rocks; and the distinctive landscape of the rocky promontory, cliffs, and sea stacks.	Coastal Reserve (see recommendation J1)
Urquharts Bluff The moonah trees on the bluff and the rare fungus <i>Underwoodia beatonii</i> , which occurs beneath them.	Coastal Reserve (see recommendation J1)
Hutt Gully The coastal heathland habitat of <i>Antechinus minimus</i> (this locality is one of very few Victorian records for this species.)	Coastal Reserve (see recommendation J1)
Point Roadknight The calcarenite headland, with its well-developed shore platforms and other interesting geomorphic features.	Coastal Reserve (see recommendation J1)
Anglesea River Mouth The grove of moonah trees beside the river and the rare fungus <i>Underwoodia beatonii</i> , which occurs beneath the trees.	Coastal Reserve (see recommendation J1)
Demons Bluff The receding cliffs in carbonaceous clays, and the breeding site of the rather rare peregrine falcon.	Coastal Reserve (see recommendation J1)
Point Addis The cliffs, the fossils they contain (particularly molluscs), and the coastal heathland habitat of the rufous bristle-bird (at the eastern limit of its range), together with the distinctive landscape of the headland and sheltered crescent beaches backed by cliffs.	Coastal Reserve (see recommendation J1)
Half Moon Bay The fossil locality in the cliffs and the rich littoral communities of its waters.	Coastal Reserve (see recommendation J1)

- Breamlea
Coastal wetland habitat of international migratory waders and waterbirds.
- Point Flinders
The basalt and calcarenite bluff, and the uncommon metallic skink that inhabits it.
- Barwon Estuary
The white mangrove (westernmost occurrence) and saltmarsh vegetation; international migratory waders and waterbirds; and aquatic fauna adapted to extremes of estuarine salinity.
- Ocean Grove to Point Lonsdale
The sand dune vegetation with moonah and tea tree, and the aboriginal middens.
- Salt Lakes
Habitat of waders, shrimps, and shellfish.
- Point Lonsdale
Calcarenite cliffs with well-developed stone platform and other coastal land-forms; rich marine algae; rich littoral fauna, particularly opisthobranch molluscs; and a distinctive cliff and headland landscape.
- Mud Island
Coastal saltmarsh and shrub vegetation; one of few breeding areas of the white-faced storm petrel; and feeding grounds of international migratory waders.
- Swan Island
A highly dynamic sandy shore with excellent examples of sandy coast landforms; saltmarsh, moonah and tea tree.
- Swan Bay
The extensive shell beds; saltmarsh, marine angiosperms and algae; fish, shellfish, and other fauna of sheltered marine environments; international migratory waders and waterbirds.
- Edwards Point
The complex sand spit; saltmarsh, dune and strandline flora; international migratory waders, waterbirds, and the endangered orange-bellied parrot.
- St. Leonards Lagoon
International migratory waders, and waterbirds.
- Point Richards
Short-nosed bandicoot, in grassland.
- Point Henry
The saltmarsh habitat of international migratory waders and waterbirds.
- Stingaree Bay
The saltmarsh habitat of international migratory waders and waterbirds.
- Limeburner's Bay
The white mangroves (only occurrence in Port Phillip Bay), and saltmarsh habitat of international migratory waders and waterbirds.
- The Spit
Saltmarsh and tidal flats habitat of international migratory waders and waterbirds; the endangered orange-bellied parrot.
- Point Cook
King Quail and aboriginal middens.
- Williamstown
Lava blister in foreshore basalts
- Flora and Fauna Reserve (see recommendation H22)
- Coastal Reserve (see recommendation J1)
- Wildlife Reserve (see recommendation C2)
- Coastal Reserve (see recommendation J1)
- Wildlife Reserve (see recommendation C3)
- Borough of Queenscliff (not public land)
- Wildlife Reserve and Wildlife Management Co-operative Area (recommendations C5 and C22)
- Commonwealth land (not public land)
- Wildlife Reserve and Wildlife Management Co-operative Area (see recommendations C4 and C21) and Borough of Queenscliff (not public land)
- Wildlife Reserve (see recommendation C4)
- Wildlife Reserve (see recommendation C5)
- Flora and Fauna Reserve (see H23)
- Coastal Reserve (see recommendation J2)
- Coastal Reserve (see recommendation J2)
- Flora and Fauna Reserve, and Coastal Reserve (see recommendations H21 and J2)
- Wildlife Reserve (see C7)
- Freehold (not public land)
- City (not public land)

Red Bluff	City (not public land)
The cliff in sands and sandstone, with rain-washed hills and gullies ; an Aboriginal well at the cliff base.	
Black Rock Point	City (not public land)
Receding cliffs in sands with sandstone shore platforms.	
Ricketts Point	City (not public land)
Extensive sandstone shore platforms with algae and littoral fauna.	
Beaumaris	City (not public land)
Sandstone cliffs with abundant fossils.	
Fossil Beach	Coastal Reserve (see recommendation J2)
The Upper Tertiary formation containing many fossils, and the site of an early cement works.	
Sunnyside	Coastal Reserve (see recommendation J2)
The junction of the Devonian granites with Mesozoic and Tertiary rocks, the excellent examples of coastal landforms, and the Aboriginal middens.	
Martha Point	Coastal Reserve (see recommendation J2)
The rocky granite coast with characteristic land forms and cliffs.	
Point Nepean	Commonwealth land (not public land)
Calcarenite cliffs, extensive shore platforms and offshore reefs ; marine algae, sand dune flora, and the rare <i>Adriana quadripartita</i> ; rich littoral fauna and Aboriginal middens.	
London Bridge	Regional Park (see recommendation A27)
The natural arch in dune calcarenite and well-developed coastal landforms.	
Nepean Ocean Coast	Regional Park (see recommendation A27)
The landscape of cliffs and shore platforms in dune calcarenite and extensive sand dunes, and the Aboriginal middens.	
Rowley Cove and Rowley Rocks	Regional Park (see recommendation A27)
The exposure of the Selwyn Fault in calcarenite and basalt, and the Aboriginal middens.	
Cape Schanck	Regional Park (see recommendation A27)
The calcarenite and Tertiary basalts comprising a landscape of a rugged promontory with cliffs, shore platforms, boulder beaches, stacks and caves, with extensive views. The marine algae and dune scrub, including the rare bush pea <i>Pultenaea canaliculata</i> ; the rich littoral fauna ; and the pelagic birds.	
Cape Schanck to West Head, Flinders	Regional Park (see recommendation A27)
The cliffs and shore platforms in basalt and limestone with fossils and zeolites, and the particularly rich littoral fauna.	
Honeysuckle Point, Shoreham	Coastal Reserve (see recommendation J3)
The rock platform with its rich littoral fauna.	
Sandy Point and Hann's Inlet	Commonwealth Land (not public land)
Complex sand-pit formation ; coastal banksia and manna gum woodland, sand dune vegetation, saltmarsh, and white mangroves.	
Crib Point and Jacks Beach to Warrengine Creek	Coastal Reserve (see recommendation J4/S19)
The saltmarsh and white mangrove habitat with its associated intertidal fauna, waders and waterbirds, and the manna gum heathy woodland and coastal heathland.	
Tyabb	Freehold (not public land)
New Holland Mouse in coastal vegetation.	
Sandstone Island	Coastal Reserve (see recommendation J4/S19)
The structural exposures in the Silurian rocks and the saltmarsh and white mangroves habitat, with its associated waders and water- birds.	

Tyabb to Tooradin	Wildlife Reserve and Wildlife Management Co-operative Area (see recommendations C14 and C26)
The saltmarsh and white mangrove habitat with its associated intertidal fauna, waders, and waterbirds.	
Quail and Chinaman Islands	Wildlife Reserve (see recommendation C14)
The saltmarsh, white mangrove, and manna gum heathy woodland, echidnas and koalas.	
Barrallier Island	Wildlife Reserve (see recommendation C14)
The intertidal fauna and international migratory waders.	
Crawfish Rock	Wildlife Management Co-operative Area (see recommendation C26)
The intertidal and benthic fauna.	
French Island	State Park (see recommendation A12)
White mangroves and saltmarsh vegetation.	
Tortoise Head	State Park (see recommendation A12)
The basalt promontory ; saltmarsh and white mangroves ; and breeding colony of short-tailed shearwaters.	
Bass Landing	Wildlife Reserve (see recommendation C20)
The saltmarsh and white mangrove habitat, with its associated waders and waterbirds and estuarine fauna.	
Cape Woolamai	Wildlife Reserve (see recommendation C19)
The bold promontory connected to Phillip Island by a sand dune isthmus, the Aboriginal middens, the breeding colonies of short-tailed shearwaters and little penguins, the rare bush <i>Cyathodes juniperinum</i> , and very rare littoral fern <i>Asplenium obtusatum</i> .	
Pyramid Rock	Wildlife Reserve (see recommendation C18)
The prominent shore stack of columnar basalt on a granite base and the breeding colonies of short-tailed shearwaters.	
The Nobbies/Seal Rocks/Cat Bay area	Wildlife Reserve (see recommendations C17 and C18)
The basalt headland, cliffs, shore platforms, stacks, and blowholes ; the Aboriginal middens ; and the breeding colonies of short-tailed shearwaters, little penguin and Australian fur seal.	
Rhyll Swamp	Wildlife Reserve (see recommendation C16)
The international migratory waders ; breeding colonies of spoonbills, ibis, and cormorants ; and the littoral fauna.	
San Remo to Kilcunda	Coastal Reserve (see recommendation J3)
The numerous bluffs, cliffs and headlands, and small beaches, in Jurassic rocks with thin coal seams.	
Powlett River Mouth	Coastal Reserve (see recommendation J3)
The landscape of long-exposed beach backed by high dunes, and the saltmarsh and sand dune vegetation with <i>Antechinus minimus</i> .	