

PROPOSED RECOMMENDATIONS

**SOUTH GIPPSLAND AREA
DISTRICT 2**

**LAND CONSERVATION COUNCIL, VICTORIA
MELBOURNE, JUNE 1982**

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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 proposed recommendations concerning the public land in the South Gippsland area, district 2. Notices showing the boundary of the study area and advising that an investigation was to be carried out were published in the *Victorian Government Gazette* of 24 May 1978 and in local and other Victorian newspapers in May and June 1978. A descriptive report was published on 6 October 1980. Extracts from the *Land Conservation Act* 1970 covering the procedure to be followed in formulating recommendations were included in the descriptive report. The Council received 282 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 the most feasible forms of land use for the district.

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

The recommendations in the text are grouped under major headings, such as Parks, Hardwood Production, and so on. The text is accompanied by a map at the scale of 1:250,000, which covers the whole study area and gives a broad view of the recommended land uses. Other detailed maps show areas recommended for agriculture (by alienation). More detailed information on boundaries is held by the Land Conservation Council.

Land uses

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

The Council recommends the establishment of six parks in areas of particular importance for recreation and nature conservation; reference areas and education areas (covering part of the range of land types found in the study area); flora reserves for areas of value for conservation of habitat and representative plant communities; and wildlife reserves for several sites containing valuable faunal habitats. A number of areas are recommended as coastal and scenic reserves, and substantial areas are recommended for coal production and for hardwood and softwood production.

Where demands from competing uses vie for a given area of land, it is not possible to satisfy them all. Wherever possible, these recommendations attempt to achieve balance in providing for the present needs of most forms of use while retaining flexibility and the opportunity to adjust to future changes in such demands. It is desirable that as much of the public land as possible is placed under forms of use that do not have a major impact on the natural ecosystem, or into the 'uncommitted land' category, but, because of the study area's importance to Victorian industry, this has been difficult to achieve.

Flexibility in planning is essential. Our knowledge of many resources (for example, minerals) and of the distribution and ecology of plants is very imperfect. There must be many places in Victoria where special values remain unrecognized and for which no

special provision can be made in present planning. Furthermore, future demands for resources on public land may require alteration or modification of these recommendations, which are based on the best information presently available. The Council is aware that review will be necessary to ensure that future land use is in the best long-term interest of the community.

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

TABLE 1
RECOMMENDED PUBLIC LAND USE

Major recommended land use	Area (ha)	Percentage of all land covered by these recommendations	Percentage of all public land covered by these recommendations
National Parks	47,350	8	28
State Parks	960	<1	<1
Coastal Parks	3,900	<1	2
Regional Parks	2,010	<1	1
Reference Areas	1,600	<1	1
Wildlife Reserves	13,320	2	8
Hardwood Production	46,370	8	27
Softwood Production	21,190	3	12
Flora Reserves	5,170	<1	3
Bushland Reserves	500	<1	<1
Scenic Reserves	320	<1	<1
Coastal Reserve	1,050	<1	<1
Streamside Reserve	2,100	<1	1
Education Areas	160	<1	<1
Coal Production	15,000	2	9
Mineral and Stone Production	140	<1	<1
Uncommitted land	7,280	1	4

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

General Recommendations

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

The Council wishes to stress the need for adequate management and protection of public land, as it has made its recommendations on the assumption that sufficient manpower and finance will be provided for the appropriate managing authority. Unless these resources are provided, the Council's recommendations cannot be effectively implemented. Council recognizes that vermin and noxious weeds pose problems in the management of public land in the South Gippsland area, district 2. Finance and staff are required to research and implement methods for control of these pest species. Council therefore recommends:

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

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. The following statement outlines the responsibilities for fire protection on public land.

- (a) Under the provisions of the *Forests Act* 1958 and notwithstanding anything to the contrary in any other *Act*, it is the duty of the Forests Commission to suppress fires in every State forest and national park, and on all protected public land. This includes, for example, all land under the management and control of the National Parks Service.

- (b) In the event of fire in any area for which the Forests Commission has fire-suppression responsibility, the Forests Commission has powers of entry under both the *Forests Act 1958* and the *Country Fire Authority Act 1958*. Decisions as to the most appropriate course of action required to suppress the fire, and as to the most appropriate equipment to be used, are the responsibility of the Forests Commission alone.
- (c) The Forests Commission provides the State with an efficient fire-prevention and suppression organization. The fire-fighting resources of the National Parks Service are available to the Commission for fire-suppression operations, and are used as such under the direction of the Forests Commission. They are used in conjunction with, and not as a replacement for, the resources of the Commission.
- (d) Fire-prevention works in State forests are the sole responsibility of the Forests Commission. In parks, on land reserved under section 4 of the *Crown Land (Reserves) Act 1978*, and on protected public land, however, fire-prevention works are undertaken only with the agreement of the person or body managing the land.
- (e) To facilitate co-operative arrangements for fire prevention in areas under the management and control of the National Parks Service, the Service and the Forests Commission have established a joint fire-protection committee.
- (f) In addition, under the *National Parks Act 1975*, the Director of National Parks shall ensure that proper and sufficient measures are taken to protect each national park, and other parks managed by the National Parks Service, from injury by fire.
- (g) The two organizations that share the duty of fire prevention and suppression in rural Victoria — namely, the Forests Commission and the Country Fire Authority — have excellent arrangements for mutual co-operation that have operated successfully for many years.

Accordingly, the Council recommends:

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

Council recognizes that the coal deposits of Central Gippsland are of national importance, and recommends:

- III That mineral exploration licences held over the area continue, except in so far as they affect reference areas.

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

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

Council also recognizes that, in some cases, existing legislation will have to be amended in order to effectively implement the recommendations in this report. It 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 interim. 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. It therefore recommends:

- V** 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.
- VI** That, as the boundaries of many areas have not been precisely surveyed, they be subject to minor modification, road excisions, easements, and other adjustments that may be necessary.
- VII** That, in cases where occupation does not agree with title, the Department of Crown Lands and Survey may at its discretion make adjustments to boundaries of public land when implementing these recommendations.
- VIII** That the recommendations in this publication do not change the status of roads passing through or abutting public land that are at present declared roads under the *Country Roads Act 1958*.
- IX** 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.

South Gippsland area, district 2, has several areas that can remind us of the earlier landscape, flora, and fauna. Such lands are a valuable part of our heritage and must be protected for the benefit, education, and enjoyment of present and future generations. This principle of land use is a major consideration in determining that areas should be reserved as parks.

A park is defined here as 'an area of land in a natural or semi-natural condition, reserved because of its scenery, floral and faunal content, historical interest, or other features, which is used by the public primarily for open-space recreation and education'. This definition encompasses many different types of parks; they vary mainly in size and content and in the types and intensities 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 (including husbandry techniques and population manipulation) to enable species of particular interest to be studied and special values associated with flora and fauna to be maintained or enhanced. 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 intended uses. 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.

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

State park

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

State parks should include samples of major land types not already represented in national parks and, as in national parks, the conservation of native flora and fauna would be an essential feature of management. Interpretative services would be provided. Development of facilities would be limited to a very small portion of the park. Activities would largely consist of sightseeing and the observation of flora, fauna, and other natural features. 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 parks

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.

PARK MANAGEMENT

It should be emphasized that the parks recommended below will be available for public use. An essential aim in their reservation is to provide for the enjoyment of the public, and therefore public access will be maintained. Indeed, additional access may be provided to interesting areas by way of nature trails and walking tracks.

Council recognizes that wildfires, however caused, must be prevented from threatening life, property, and natural resources in the State. The measures necessary to control wildfires must be taken in parks as in other areas.

In the event of fire in any park, decisions as to the most appropriate course of action required to suppress the fire, and the most appropriate equipment to be used, are the responsibility of the Forests Commission alone. The fire-fighting resources of the park managing authority are available to the Commission for fire-suppression operations, and are used under the direction of the Forests Commission in conjunction with, and not as a replacement for, the resources of the Commission.

The classification of land as a park does not restrict the use of any necessary fire-suppression measures.

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

The particular measures to be taken in individual parks will be incorporated in fire-protection plans prepared by the Forests Commission in consultation with the park managing authority.

In all parks the suppression of fires remains the responsibility of the Forests Commission, even in those parks where the Commission is not the managing authority.

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

Vermin and noxious weeds within parks will be controlled. This will remain the responsibility of the Department of Crown Lands and Survey. Control measures will be taken by both the park managers and the Department, using methods decided upon jointly by the two parties.

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

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

MARINE PARKS

The Council is making an assessment of the coast and adjacent offshore waters with a view to defining areas with significant conservation values. Consideration will be given in the final recommendations to the inclusion of some important areas in a system of marine parks.

Recommendations

National Park

A1 Wilsons Promontory National Park

That the area of 47,350 ha shown on the map 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 that
- (c) quarrying of limestone from the existing leases on Yanakie isthmus continue under the present arrangements (but, should alternative sources of limestone be found, it would be preferable to transfer this activity)

and that it continue to be reserved under the *National Parks Act* 1975, and be managed by the National Parks Service.

The southernmost tip of the Australian mainland, Wilsons Promontory, is one of the oldest and best known of Victoria's national parks and includes some of the State's finest coastal scenery. The granitic massif of the promontory has eroded to produce a spectacular rugged landscape with huge bare rounded rock masses and tors. Its connection with the mainland is by a narrow bar of marine and non-marine sediments and dune deposits of Quaternary age.

In 1898 the Minister of Lands made a temporary reservation of 36,800 ha as a 'Site for a National Park'. In 1905 and 1908 some 40,500 ha were permanently reserved as a National Park. A further area of 7,500 ha, mainly on the Yanakie isthmus, was added in 1969, conditional upon the continued use of the area for grazing under the control of the National Parks Service.

The Promontory is of special biological interest. Several distinct elements can be recognized in the flora, including species characteristic of Tasmania, the east coast of Australia, and the warmer northern and western parts of Victoria. Varying sea levels over the Recent and Pleistocene epochs, which have periodically isolated Wilsons Promontory from the mainland, have been an important influence in the development of the flora, fauna, and landscape.

The diverse vegetation types include mangroves, coastal scrub, tussock grassland, closed heath, woodland, open forest (with a ferny understorey in sheltered gullies), closed forest of lilly-pilly (at lower elevations) and myrtle beech (in higher gullies), closed scrub, and wind-pruned open heaths and shrublands on exposed peaks.

The fauna is also diverse. Among the rarer mammals recorded are the swamp antechinus, broad-toothed rat and New Holland mouse. Of the mammals common in the forests in the rest of the study area, the greater glider and yellow-bellied glider are unknown on Wilsons Promontory. Lyrebirds are notable absentees from the list of native birds, but more than 180 other species have been recorded in the park, which forms an important route for birds migrating across Bass Strait. Many maritime species of birds and mammals frequent the waters offshore.

The dense forest, spectacular peaks, fine beaches, rocky headlands, and islands offer opportunities for bushwalking, fishing, surfing, boating, nature study, and camping. During each of the last 4 years visitors spent a total of about 350,000 days in the park. Most recreational activities are centred on Tidal River and adjacent beaches. Lodge accommodation and camping facilities are provided at Tidal River, but there are also opportunities for extended walking trips along a series of tracks and fire access roads throughout the park. Overnight camping on extended walks is permitted at various locations.

State Park

A2 Strzelecki State Park

That the area of 960 ha shown on the map be used to:

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

and that the area be reserved under Section 4 of the *Crown Land (Reserves) Act* 1978 and be managed by the National Parks Service.

Note:

The Tarra River water supply catchment has been proclaimed and a land use determination made. Recreation developments within that portion of the park should conform with the land use determination for the catchment.

The park is located in the eastern section of the Strzelecki Ranges and incorporates the two small existing national parks (Tarra and Bulga), which together total only 220 ha in area. Use by the community is already considerable and is increasing to the extent that some valuable areas are suffering degradation. The Council considers it essential that visitor pressure in some areas be reduced, that recreational opportunities expand, and that a representative example of the flora and fauna of the Strzelecki Ranges be preserved. These aims can be attained by linking the two existing parks and adding further areas of adjoining public land.

The Council has examined the possibility of linking the two parks, and considers this could best be achieved by the inclusion of portion of the freehold land owned by Australian Paper Manufacturers Pty Ltd that is located between the two parks on the southern side of the Grand Ridge road. A.P.M. uses this land to supply its Maryvale Mill with mountain ash sawlogs and pulpwood, and portion has been reforested. Following discussions with A.P.M., Council understands that the company would consider the possibility of exchanging this land, provided an area of equivalent wood-production capacity was made available to the company.

The proposed park contains several significant plant species, including two uncommon tree ferns (*Alsophila cunninghamii* and *A. marcescens*), which are restricted to wetter gullies in the Otways, Strzeleckis, and East Gippsland forests. Stands of mature mountain ash and myrtle beech occur in the Tarra River catchment and the Macks Creek catchment. These are important habitat areas for many species of native animals, including a variety of birds (such as the rare sooty owl) and several arboreal mammals. It is therefore important to preserve stands of mature native forest to maintain viable populations of the remaining species in the area.

The two existing national parks currently provide for short walks, limited picnicking, and nature study. These activities are centred around two gullies and the concentration of visitor pressure in these areas has resulted in some degradation of the floral values of the sensitive gully environments.

The proposed linking of the parks and the extension into the Macks Creek area will help to relieve some of the visitor pressure on these valuable areas, and will provide for an increased variety of recreational pursuits. Opportunities for more extended walking trips and overnight camping will be provided in the proposed park. In addition a number of scenic viewing points, waterfalls, and a variety of vegetation types (including mature wet sclerophyll forest, cool-temperate rainforest, and small stands of mixed stringybark forest) occur in the Macks Creek section of the park.

Coastal Park

A3 Venus Bay—Waratah Bay Coastal Park

That the area of 3,900 ha shown on the map adjacent to the coast, including offshore rock stacks, 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 features listed below
 - * diverse flora and fauna associated with the heaths and woodlands throughout the park
 - * historic relics associated with the lime-burning industry at Walkerville
 - * rugged cliffs and shore platforms between Walkerville South and Morgan Beach, which provide excellent exposures of a wide range of geological features (accessibility of these outcrops makes this area one of the most valuable field teaching sites for the study of various aspects of geology)
 - * the area presented to the Crown by the Boag family and known as the Janet Boag Reserve, which should remain undeveloped
 - * fauna associated with the beach and dune complex in Venus Bay
 - * archaeological relics associated with Aboriginal occupation of the Venus Bay area
- that
- (c) the management authority zone the park to accommodate the legal recreational activities traditionally associated with the area, such as surfing, fishing, gem-stone collecting, camping, walking, and horse-riding

- (d) grazing be phased out
 - (e) the Venus Bay Surf Lifesaving Club be permitted to continue to occupy the present clubhouse site
 - (f) camping be permitted to continue at sites approved by the managing authority
 - (g) because of the importance of the park for faunal conservation, the Fisheries and Wildlife Division contribute to the drafting of management plans
- and that it be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed by the Department of Crown Lands and Survey.

In recommending a coastal park along the study area's western coastline, Council has recognized the recreational use to which this coast is subject and its special values for landscape, nature conservation, and education.

The park varies from little more than a coastal strip to substantial expanses of hinterland stretching some 3 km from the sea. It contains both broad sandy beaches and steep rocky headlands. Very little of the park has been developed, apart from camping grounds at Walkerville North and Bear Gully and a surf lifesaving clubhouse at Venus Bay. Cape Liptrap lighthouse is an important navigational aid.

At Waratah Bay township, the hinterland changes from flat agricultural land to an extensive belt of public land with timbered cliffs and a narrow beach. Undulating heaths often cover the ridges above the forested cliffs.

This is one of the most appealing sections of the Victorian coastline. The heaths and forests on the Liptrap ridge and on the steep slopes above the shoreline comprise the only substantial area of native vegetation on Waratah Bay and complement the distant natural landscape of Wilsons Promontory. This section of the park is floristically rich, containing at least 270 species of flowering plants and ferns, including 27 orchids. The heaths are noteworthy because they occur on Palaeozoic sediments and are also significant because of the variety and abundance of mammals and birds associated with the area. Noteworthy species include the white-footed dunnart, swamp antechinus, and the powerful owl.

The two Walkerville settlements are associated with the lime-burning industry that operated there from 1878 to the 1920s. Relics of this industry remain in the park, notably the kilns near Walkerville South and the tramway tracks up the gullies that were once used for hauling firewood to the kilns.

Cape Liptrap itself is fringed with steep rugged cliffs. The Palaeozoic rocks exposed in the cliffs and the adjoining shore platform form one of the most interesting and complex geological sequences in the State. The strata range from metamorphic rocks originating during the Cambrian period to Recent sand deposits. Cambrian greenstones in Victoria are often associated with base metal occurrence.

West of Cape Liptrap is Venus Bay, which has further cliffs of Palaeozoic rock and then a stretch of attractive cliffs of Tertiary dune limestone with rock stacks (including Arch Rock) and shore platforms. Beyond Ten Mile Creek the coast changes to a broad beach and backshore dunes covered with marram grass, extending for 23 km to Point Smythe. Access to this section of the park is difficult, with exception of the vicinity of Point Smythe and the two Venus Bay estates.

This stretch of coastline is important for surfing, fishing, geological education, and gemstone fossicking near Cape Liptrap. It also contains many relics of Aboriginal occupation. The broad intact hinterland of native vegetation (apart from introduced marram grass on the dunes) is important for fauna conservation. Among other species, the tiger quoll has been reported on this section of the coast. The vegetation also forms a corridor for migratory birds.

Regional Parks

A4 Tyers Regional Park

That the land (520 ha) shown on the map 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
- that
- (d) the 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 managing authority
 - (f) the extraction of shale for brick manufacture continue at the existing quarry (but efforts be made to locate an equivalent resource outside the park, which could provide supplies in the long term)
 - (g) remains of the lime kiln on the Tyers River be preserved
 - (h) honey production be permitted

and that it be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed by the National Parks Service.

Notes:

1. A management plan is to be prepared by the managing authority in consultation with the Soil Conservation Authority and the Latrobe Valley Water and Sewerage Board. This plan should be implemented with the agreement of the Latrobe Valley Water and Sewerage Board.

2. It may be necessary for an additional 500-kV transmission line to cross the park.

The final recommendations for the Melbourne area proposed the establishment of the Tyers Regional Park below the Moondarra reservoir and adjacent to the Tyers River. It is now proposed to expand the park by the addition of adjoining land in the South Gippsland area district 2.

The park is close to, and readily accessible from, the major population centres in the Latrobe Valley. The proposed addition includes the northern side of the Tyers Gorge, where the River winds between steep slopes covered by open forest and woodland of yellow box, silvertop, and mountain grey gum, interspersed with outcrops of conglomerate and limestone. Other features include spring wildflower displays, extensive views over the Latrobe Valley, and the remains of lime kilns that operated earlier this century.

A5 Morwell Regional Park

That the area of 283 ha shown on the map be used to:

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

and that it be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed by the National Parks Service.

Notes:

1. The park should be zoned to allow for recreational activities and protection of conservation features.
2. The public buildings reserve within allotment 25, Parish of Yinnar, is included in the proposed park.

The park is located 15 km south of Morwell in the foothills of the Strzelecki Ranges. It receives some 10,000 visitors annually, mainly from the Latrobe Valley and Melbourne, and provides for a variety of recreational activities including walking, picnicking, and nature study. Tertiary sands supporting messmate, narrow-leaf peppermint, and yertchuk occur in the northern section of the park, while in the southern section outcrops of Cretaceous sediments predominate and blue gum is the major overstorey species. The park also contains the two rare fork-ferns (*Tmesipteris elongata* and *T. ovata*) and the uncommon butterfly orchid (*Sarochilus australis*).

Other features include magnificent panoramas extending across the park to the Latrobe Valley and the Baw Baw Plateau. The park also contains attractive landscapes along the major gullies.

A6 Mirboo Regional Park

That the areas totalling 1,210 ha shown on the map be used to:

- (a) provide opportunities for informal recreation for large numbers of people
- (b) conserve and protect ecosystems to the extent that this is consistent with (a) above
- (c) limited extraction of timber for fence posts and firewood be permitted from those areas indicated on the map
- (d) honey production be permitted

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

Note:

The land-owner currently licensed to water stock at the western corner of the Dickies Hill scenic reserve should retain access to this watering point.

This park, located at the western end of the Strzelecki Ranges, is close to major population centres in western and southern Gippsland and the Latrobe Valley. The four blocks of public land comprising it are among the few areas in the western Strzeleckis that remain under native forest.

Isolated pockets of mountain ash occur in the Hallston Bush area, but the major vegetation type represented is an open forest of messmate with associated species such as mountain grey gum, silvertop, and narrow-leaf peppermint, which has developed on Cretaceous sediments, Tertiary basalts, and alluvial gravels.

Features of the park include the Dickies Hill scenic reserve — a fine stand of gully vegetation on a tributary of the Tarwin River — and the Lyrebird forest walk, with its established picnic facilities adjoining the Morwell–Mirboo North Road and walking tracks along the Little Morwell River. These and other areas throughout the park provide opportunities for picnicking, walking, nature study, and pleasure driving.

Due to the shortage of hardwood forests in this locality, Council considers that sections of the park could continue to provide fencing timbers and firewood for the local community.

B. REFERENCE AREAS

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

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

Access should be restricted, and experimental manipulation should not be permitted. Setting aside such areas will enable continued study of natural features and processes — for example, fauna, hydrology, and 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.

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

South Gippsland's long history of utilization has meant the choice of reference areas that are undisturbed and can be adequately buffered is extremely limited, and very few of the land types can be represented. At this stage, Wilsons Promontory National Park is the only area containing land suitable for use as scientific reference.

Recommendations

B1–B3 That the areas listed below and shown on the map:

- (a) 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) be surrounded by a buffer, and that delineation of the buffer be by joint agreement between the advisory committee and the managing authorities of the area itself and of the land adjacent to the area
- and that
- (c) activities (such as grazing, exploration for minerals and gold mining, logging, and beekeeping) that conflict with the purposes of a reference area not be permitted, and any such activities in the reference areas listed below cease when these recommendations are adopted.

Note:

Reference areas constitute the only public land from which apiary sites are excluded. Council believes that no beekeepers are affected by these recommendations.

B1 Anser Island (80 ha)

Upper Devonian granite with Quaternary beach deposits, undulating offshore island; elevation sea level to 150 m; approximate average annual rainfall 900–1,000 mm; dwarf closed scrub, tussock grassland.

To be managed by the National Parks Service.

B2 Sealers Creek (770 ha)

Upper Devonian granite with Quaternary swamp deposits, strongly dissected; flat to steep; elevation sea level to 755m; approximate average annual rainfall 1,300 mm; closed forest of lilly-pilly in gullies with closed forest of southern beech at higher altitudes, open forest of messmate, gum-topped messmate, and yellow stringybark, closed scrub of swamp paperbark.

To be managed by the National Parks Service.

Note:

The trigonometrical station located on the summit of Mount Latrobe and the area required for survey purposes around the station are excluded from this reference area.

B3 Entrance Point (750 ha)

Quaternary beach deposits forming sets of parallel dunes, undulating; elevation sea level to 20 m; approximate average annual rainfall 800–900 mm; shows stages of succession from bare dunes to dunes covered with messmate woodland and includes coastal scrub and alkaline swamp vegetation.

To be managed by the National Parks Service.

C. WILDLIFE RESERVES

The conservation of fauna depends upon the conservation of habitat. Public land in South Gippsland area, district 2, is important for the conservation of fauna as it contains a diverse range of natural habitats, some of which do not occur elsewhere in Victoria. Council believes that in areas with particular wildlife values the authorities managing public land should note the need for both research into and the application of wildlife management techniques and should actively collaborate with the Fisheries and Wildlife Division regarding these aspects of wildlife conservation.

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 have specialized breeding grounds or a high species diversity, or they may be of 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.

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

Vermin and noxious weeds within wildlife reserves will be controlled and will remain the responsibility of the Department of Crown Lands and Survey.

Recommendations

C1-C7 That the areas indicated on the map and described below should be used:

- (a) primarily to conserve the habitat of native animals, particularly water birds and
- (b) for public recreation and education where this does not conflict with the primary aim that
- (c) grazing be permitted at the discretion of the managing authority and that they be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978*, and be managed by the Fisheries and Wildlife Division.

C1 Bald Hills Creek (110 ha), Parish of Tarwin South

Open heath, manna gum woodland, and stands of bog gum providing habitat for a variety of native animals, including the uncommon swamp antechinus, and offering potential for the formation of fresh-water swamps along Bald Hills Creek to encourage water birds to breed.

C2 Seal Islands (60 ha)

Several small islands and rock stacks that collectively support significant colonies of sea birds, including the little penguin, short-tailed shearwater, fairy prion, pacific gull, crested tern, common diving petrel, and black-faced shag. A small colony of Australian fur seal occurs on the islands and the tussock grasslands are breeding habitat for a small colony of Cape Barren geese.

Note:

Cliffy Island, one of the Seal Island group, is Commonwealth land and is therefore excluded from this wildlife reserve.

C3 Nooramunga (10,500 ha), Parishes of Alberton East, Alberton West, Balloong, Snake Island, St. Margaret, Sunday Island, and Yarram Yarram

Islands and shoals of Corner Inlet, and extensive onshore areas of salt-marsh at McLoughlins Beach and Tarraville that provide habitat for native mammals and hog deer and form one of the most important areas for migratory waders in Victoria.

Note:

Council is aware of the possibility of establishing a berthing facility on Snake Island, and an associated conveyor system from the mainland, as one option under consideration for movement of materials within the Port of Corner Inlet.

C4 Albert River (75 ha), Parish of Alberton West

Fresh-water swamps and salt-marshes on the estuary of Albert River that provide valuable habitat for water birds. Council notes the presence of brown coal under this land.

C5 Fresh-water Swamp (34 ha), Parish of Balloong

A small swamp fringed by swamp paperbark, which provides valuable habitat for water birds.

C6 Jack Smith Lake (2,465 ha), Parishes of Woodside and Darriman

Extensive lagoons and salt-marshes behind the Ninety Mile Beach providing valuable habitat for water birds, quail, and rare species such as the orange-bellied parrot, and offering great potential for management of hog deer.

Note:

Council is aware of the agreement entered into between neighbouring land-owners and Fisheries and Wildlife Division under the direction of the Chief Secretary in 1964, setting the maximum water level in the lake at 3.7 feet (1.13 m) at the outlet.

C7 Lake Denison (80 ha), Parish of Giffard

A coastal swamp with fringing salt-marsh that provides valuable habitat for water birds when Merrimans Creek floods.

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.

The Ports of Anderson's Inlet, Corner Inlet, and Port Albert, together with Shallow Inlet, have particular value for wildlife because of the special characteristics they possess. For example, the mangroves and seagrass flats in Corner Inlet 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 nutrients and energy for this inlet. The waters of these inlets are used for commercial and recreational fishing and are important for access to centres of commercial and industrial development situated along the coast. Port facilities at Barry Beach and Port Welshpool serve the existing oil- and gas-production activity in the Gippsland basin, and Corner Inlet has potential for further development both for the offshore oil and gas industry and also as a deep-water port. Such development could require dredging and reclamation, including disposal of dredge spoil.

Except for Shallow Inlet, these areas 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 the inlets, 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. The plan would maintain the jurisdiction of the Ports and Harbors Division and other government departments and agencies over the areas, and would need to provide for major commercial port development.

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

C8-C10 That the areas (their landward boundaries being low-water mark) described below and indicated on the map be used for the conservation of wildlife and for commercial and recreational activities

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.

C8 Cornet Inlet

An area of 51,500 ha consisting of intertidal flats and channels that together provide an important habitat for resident and migratory birds, particularly waders and a variety of marine fauna. In 1980, a State-wide coastal survey of wading birds revealed that Corner Inlet was supporting 25% of those present in Victoria, thus indicating its importance for wading birds. In addition, the area is an important non-breeding habitat for grey teal and chestnut teal. Corner Inlet is also valuable for commercial and recreational fishing and is an important breeding ground for many commercial fish species.

C9 Shallow Inlet

An area of 1,440 ha that is also a valuable habitat for many species of migratory birds, sea birds, and waterfowl. The inlet is also an important fish nursery area and fishing is a popular recreational pursuit.

C10 Anderson's Inlet

An area of 2,430 ha containing a variety of wildlife habitats, including sandy shorelines, intertidal flats, mangrove, and salt-marsh swamps, which are important to migratory waders and other water birds. The inlet is an important breeding and feeding ground for two native fish species, the bass and the estuary perch. It is also significant for recreational fishing. /

D. WATER PRODUCTION

Water utilization within the study area can be grouped into four categories:

- * the Latrobe River and its tributaries (including the Tyers River), which supply most of the water required for domestic and industrial use in the Latrobe Valley
- * streams flowing north into the Latrobe River from the Strzelecki Ranges; several of these are important for domestic water supplies and public diversions for domestic and stock irrigation (Morwell and the associated towns, Boolarra and Mirboo North)
- * streams flowing south into the sea from the Strzelecki Ranges; some of these are used for domestic water supplies (Yarram, Welshpool, Toora, and Foster districts and the towns of the Tarwin valley), and it is expected that additional water from the Albert, Franklin, Jack, Tarra, and Upper Tarwin Rivers and Merrimans Creek will be required for industrial and domestic use, for stock diversions, and for irrigation in the future
- * groundwater, an important source of low-grade water for industrial use in the Latrobe Valley; certain coastal settlements also rely on groundwater.

Future development of the coal resources of the Latrobe Valley and at Gelliondale is likely to require far greater water volumes than currently harvested. Indications are that the streams rising in the Strzeleckis will be among those utilized for this purpose.

Current management and use

The catchments are subject to a variety of land uses, including recreational activities, timber production, and agriculture on open farmlands.

No catchment in the study area is used solely for water production, although restrictions limit the type of activity permitted in some of the catchments.

Land use planning

The Council notes that the degree of land use planning varies between catchments. Detailed land use determinations exist only for Billy Creek, Little Morwell River, and Tarra River. The State Rivers and Water Supply Commission has asked the Soil Conservation Authority to investigate the catchments of the Agnes River, Battery Creek, Deep Creek, O'Grady Creek, and Ruby Creek with a view to eventual proclamation by the Land Conservation Council.

The largest water storages in the study area are those associated with electricity production in the Latrobe Valley (Lake Narracan, Hazelwood Pondage, and the Loy Yang high-level storage). Elsewhere the only water supply authorities with substantial storages are Leon-gatha Waterworks Trust and Foster Waterworks Trust. All other water trusts use offtakes and local service basins, or buy their water from other authorities.

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

A. Catchment land

Recognizing that the prime water-producing areas of the State coincide with the principal mountain and forested areas, and that these areas together with inland water bodies form major attractions for recreation, the Council believes that, in many areas, catchments can

be managed for a range of uses consistent with the provision of adequate protection of the water resources. Where recreational use of storages is permitted, it must be carefully controlled to ensure adequate protection of water quality, and responsibility for this must remain with the water supply authority.

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

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

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

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

B. Buffer zone

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

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

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

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

In those proclaimed catchments where land use determinations have been made prior to the publishing of recommendations, it may be necessary to review the buffer zones in accordance with the principles for defining buffer zones outlined above.

Water quality, yield, and regulation

It is possible to improve the quality of water by partial or complete treatment — at a cost. It must, however, be recognized that the higher the original quality of the water, the cheaper and more efficient is the treatment and, in most cases, the more acceptable the end product. In many catchments it is already difficult to maintain existing water quality. This problem is likely to become even greater as pressure to allow various forms of land development and use of natural resources increases. Even with properly planned and controlled land use in catchments, it is probable that many water supply authorities will consider it necessary to at least disinfect water supplied from their storages. Indeed, many authorities already employ such treatment. Council recognizes that a number of water supply systems need some form of treatment now and that the others will need to consider some form of treatment in the future. In order to provide for this requirement, Council believes it is important for the government to establish long-term policies that provide for the progressive installation of facilities required to supply water of a satisfactory quality.

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

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

Additional water needs

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

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

Recommendations

D1–D3 That in the case of the locations listed below and shown on the map (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 zones 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 4 of the *Crown Land (Reserves) Act 1978* for water supply purposes, and be managed by the water supply authority named.

Notes:

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

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

3. The Council considers that fossicking and prospecting under a Miner's Right should not be permitted on land reserved for water supply purposes around storages and facilities, etc.

4. When preparing or reviewing management plans for areas under their control, managing authorities should consult with the appropriate water supply authorities and the Soil Conservation Authority to ensure that due consideration is given to the protection of the water resources of the region.

D1 Offtake on Little Morwell River, Mirboo North Waterworks Trust; 100 m buffer.

D2 Offtake on Billy Creek, Morwell Waterworks Trust; 100 m buffer.

D3 Offtake on Tarra River, Yarram Waterworks Trust; 200 m buffer.

Note:

Figures above indicate the radius of the buffer zone.

D4-D9 That in the case of the locations listed below and shown on the map (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 zones around diversion works and storages, as defined in the land use determination

(v) any other allotments considered necessary

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 4 of the *Crown Land (Reserves) Act 1978* for water supply purposes, and be managed by the water supply authority named.

- D4** Three reservoirs on Ruby Creek, Leongatha Waterworks Trust.
- D5** Pumping Station on Tarwin River, Meeniyah Waterworks Trust.
- D6** Pumping station on Tarwin River, Dumbalk Waterworks Trust.
- D7** Reservoir on Battery Creek, Fish Creek Waterworks Trust; reserve to include all of allotment 51, Parish of Doomburrin.
- D8** Reservoir on Deep Creek, Foster Waterworks Trust; reserve to include 70-ha block, portion of allotment 15, section A, Parish of Wonga Wonga, currently owned by Trust.
- D9** Offtake weir and emergency weir on Agnes River, Toora Waterworks Trust.
- D10-D24** That in the case of off-river storages and water supply installations (not individually listed), these and their associated reserves remain under existing tenure and control unless stated otherwise. In these cases no proclamation is necessary.

Note:

The Council considers that fossicking and prospecting under a Miner's Right should not be permitted on land, under the control of water supply authorities, around storages and facilities, etc.

- D10** Inverloch service basin; Inverloch Waterworks Trust.
- D11** Leongatha filtration plant, storage basin; Leongatha Waterworks Trust.
- D12** Meeniyah settling basin, storage basin; Meeniyah Waterworks Trust.
- D13** Dumbalk water tower; Dumbalk Waterworks Trust.
- D14** Fish Creek service basin; Fish Creek Waterworks Trust.
- D15** Mountain Hut Road treatment plant, Mirboo North service basin; Mirboo North Waterworks Trust.
- D16** Foster service basins, filtration plant; Foster Waterworks Trust.
- D17** Boolarra service basin, high-level tanks; Boolarra Waterworks Trust.
- D18** Toora service basin, Welshpool service basin; Toora Waterworks Trust.
- D19** Billy Creek pumping station, S.E.C. Ridge Reservoir, Sanders Reservoir, Northways Reservoir, numerous small roadside tanks, Morwell treatment plant; Morwell Waterworks Trust.
- D20** Buckleys Hill basins, Pine Gully Reservoir, Nadenbousch Road storage, Loy Yang high-quality water storage; Latrobe Valley Water and Sewerage Board.
- D21** Hilltop Reservoir, Clarkes Road basin, Blacks Reservoir, Traralgon water treatment plant; Traralgon Waterworks Trust.
- D22** Calrossie service basin, Yarram water tower; Yarram Waterworks Trust.
- D23** Port Albert water tower; Alberton-Port Albert Waterworks Trust.

- D24** That the area listed below and shown on the map remain reserved under section 4 of the *Crown Land (Reserves) Act 1978* and be used for water supply purposes. and that it be managed by the Department of Crown Lands and Survey.
- 4 ha, being the Water Reserve adjacent to allotment 28a, Parish of Tarwin South, known as Fisher Lake.

Note:

A number of small stream diversions on public land are used to supply water to limited areas such as picnic sites or farms. Although not covered by specific recommendations, the current licences or other arrangements for these facilities should continue.

TIMBER PRODUCTION

The Strzelecki Reforestation Scheme

The Council considers it appropriate to refer to the success of the reforestation scheme that has been undertaken in the Strzelecki Ranges during the past 50 years. Almost the whole of the Ranges were alienated during the latter part of last century because the fertile soils and high rainfall held high promise for agriculture. The promise was not fulfilled — due to the rapid regrowth of scrub and weeds, the remoteness, and the steep terrain — and by the 1930s it became clearly evident that the closer settlement scheme could not succeed. What little remained of the original forest cover was concentrated in the headwaters of the Dingo, Franklin, and Agnes Rivers.

The need for reforestation was recognized in a report by the State Development Committee, which stated that 'this area, which once carried some of the finest white mountain ash forest of the State, presents a challenge to man to restore its beauty and productivity, which he so eagerly destroyed'.

Since the 1930s, some 50,000 ha of scrub-covered former farmland has been repurchased for reforestation through schemes undertaken jointly by the government and A.P.M. Forests Pty Ltd. All of the purchases are a result of voluntary sales, and in some cases funds were available from the Rural Finance and Settlement Commission. Some of the land was simply abandoned and has since reverted to the Crown.

About 25,000 ha has been purchased by the government, and about 9,000 ha was abandoned and resumed. Australian Paper Manufacturers Pty Ltd has purchased a further 25,000 ha approximately; so the area that will eventually be reforested totals about 60,000 ha. Further purchases are continuing, but on a reduced scale as most of the land that is clearly uneconomic for agriculture has already been purchased.

The reforestation is being organized by the Forests Commission and A.P.M. as a steady annual planting program and the total to date is about 24,000 ha of new forest, with about half being planted by the Forests Commission and the remainder by A.P.M.

Clearly, the incentive for the scheme is not solely to rehabilitate degraded land but also to produce economic wood supplies, and there is no doubt that the land is well suited to the purpose.

Mountain ash plantations now cover about 12,000 ha and radiata pine about 13,000 ha. *Mountain ash is replanted on almost all sites that originally carried that species, while radiata pine has been used on the drier foothill sites. In small areas, eucalypts such as manna gum and blue gum have also been used.*

The softwood plantings are taking place on purchased farmland and are thus in accord with recommendations the Council has made in the past.

The hardwood planting program is resulting in the restoration of a forest that will eventually have a similar structure to the original, and options for the future use of the land are being restored.

Council therefore endorses the reforestation scheme and believes that it should continue. The recommendations for hardwood production and softwood production are based on this scheme.

E. HARDWOOD PRODUCTION

Hardwood forests in the South Gippsland area, district 2, have played a significant part in the development of the region. Although only 2% of the State's hardwood sawlog production currently comes from the area, proximity to the major markets and the future contribution from reforested areas in the eastern Strzeleckis considerably enhances the value of the area's forests for timber production.

Areas of mature forest of highest productivity occur in the watersheds of the Agnes, Dingo, and Franklin Rivers and Macks and Greig Creeks in the eastern Strzeleckis, where the most important species is mountain ash. Yellow stringybark, used for poles, fence posts, and as a framing and heavy construction timber, is found in the southern portions of the Mullungdung and Boodyarn (Won Wron) forests. Blue gum, which also is suitable for heavy construction work, is found within the study area, as is messmate and mountain grey gum.

Currently hardwood production yields some 17,000 m³ of sawlogs and 30,000–40,000 m³ of pulpwood annually. There is a continuing demand for farm timbers, domestic firewood, and poles. Most of the pulpwood harvested from the study area comes from the Strzeleckis and partly services an Agreement to supply pulpwood under the *Wood Pulp Agreement Act* 1936, as subsequently amended in 1961, 1966, and 1974 by ratification of respective *Forests (Wood Pulp Agreement) Acts*. The Forests Commission expects that, while a higher level of pulpwood could be harvested from the study area, sawlog harvesting will be maintained at about present levels until mountain ash regrowth becomes available. The reforested areas in the Strzeleckis will not yield appreciable volumes of sawlog for some 15 to 20 years.

Environmental Considerations

On the scale at which it has been traditionally 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 adaptations.

Constraints are nevertheless placed on timber production in order to protect floral, faunal, recreational, water catchment, and landscape values. Logging is excluded from reference areas and from many parks; furthermore, management prescriptions within hardwood-production areas normally apply restrictions in areas close to streams, on steep slopes, or of special landscape significance. The net area available for hardwood production is thus decreased. Although it may be deemed necessary to increase the productivity of suitable portions of areas set aside for timber production, proper consideration should be given to non-timber values.

Hardwood forestry, over its full range of products, is essential for the well-being of the community. As the reforested areas in the eastern Strzeleckis date from the late 1940s onwards and the reforestation program is by no means complete, only a gradual increase in availability of produce can be expected.

The Council realizes 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 forests 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. Council endorses the Forests Commission practice of preparing detailed management plans for land under its control. The plans prescribe, by way of maps and text, the detailed implementation of the approved land uses.

Recommendations

E1–E8 That the areas listed below and shown on the map 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 and protected

Note:

When water supply catchments are included in hardwood-production areas, management should conform to the policies outlined in the Water Production chapter.

- (d) the special values located in portions of some of the hardwood areas listed below be protected (these values should be protected by the creation of reserves under section 50 of the *Forests Act* 1958 or by management prescriptions; where faunal values are of importance, the Fisheries and Wildlife Division should be consulted)

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 Eastern Strzeleckis (30,000 ha)

In accordance with (d) above, the following should be protected by management prescription: the attractive wet gully plant communities (including mountain ash, myrtle beech, blackwoods, and tree ferns) in the headwaters of the West Morwell, Dingo, Franklin, and Agnes Rivers,

Notes:

1. This area includes part of the Tarra River Proclaimed Water Supply Catchment.
2. This area contains land leased to A.P.M. Forests Pty Ltd.

E2 Boolarra–Darlimurla (580 ha)

Notes:

1. Excludes cemetery reserve and Boolarra Waterworks Trust storage site.
2. This area contains part of the Mirboo North Proclaimed Water Supply Catchment.

E3 Boola Boola (385 ha)

Note:

A notional 500-kV transmission line easement is indicated as passing through this area in the May 1980 'Latrobe Valley Power Station Siting' Task Force Report.

E4 Alberton West (1,840 ha)

E5 Mays Bush–Jack River (253 ha)

E6 Gormandale (63 ha)

Notes:

1. To be managed in conjunction with the adjoining land recommended for hardwood production in South Gippsland area, district 1, recommendations.
2. This area lies within the Gormandale Brown Coal Protection Area, and may be required for coal production in future.

E7 Wonwron (5,800 ha)

In accordance with (d) above, the following values should be protected:

- (i) the picnic area at White Woman's Waterhole and the mountain grey gum association in the adjoining gully, by section 50 reserve
- (ii) the area known as 'The Gums', which contains stands of blue gum (*Eucalyptus globulus* subsp. *globulus*), yellow stringybark, and mountain grey gum, by section 50 reserve
- (iii) the yellow stringybark-saw banksia association, by management prescriptions.

Note:

The area occupied by the Yarram Rifle Range is situated within the hardwood-production area.

E8 Mullungdung (7,700 ha)

In accordance with (d) above, stands of Gippsland grey box should be protected by management prescriptions.

F. SOFTWOOD PRODUCTION

The study area includes a substantial portion of the Latrobe Softwood Development Zone. Plantations in the zone are required in order to provide raw materials for a pulp mill, saw and veneer mills, and preservative treatment plants. Current saw and veneer log commitments exceed 40,000 m³ per annum. Pulpwood commitments are at present 30,000 m³ per annum, rising to 200,000 m³ by the year 2000.

The remainder of the Latrobe Softwood Plantation Development Zone lies within the Melbourne area, South Gippsland area district 1, and the Gippsland Lakes hinterland area. The Land Conservation Council published final recommendations for the Melbourne area in January 1977 and for the South Gippsland area, district 1, in October 1973, and made provision for softwood production in both these areas. The Council has commenced a special investigation of public land in the vicinity of Hill End, in the Melbourne area, and is currently preparing proposed recommendations for the Gippsland Lakes hinterland area.

The softwood plantings in the Latrobe Softwood Development Zone will supplement wood supplies from the large plantation resource of A.P.M. Forests Pty Ltd and the large State eucalypt resource in central, southern, and eastern Victoria.

Existing Plantations

Forests Commission, Victoria

A net total of 12,670 ha of softwoods (including 1981 plantings) has already been established by the Forests Commission in the Latrobe Softwood Plantation Development Zone. Total Forests Commission softwood plantings for the study area (8,670 ha net) have been on former farmland.

Australian Paper Manufacturers Ltd

A.P.M. ^{Forests} Pty Ltd, a subsidiary company of Australian Paper Manufacturers Ltd, has a softwood plantation resource in Gippsland totalling in excess of 40,000 ha net. Of this total, 2,975 ha net is established on leased land. A further estimated 1,500 ha net suitable for softwoods remains to be planted on land where leases are still to be finalized. The company is not currently actively seeking to purchase further areas of freehold land for softwood plantation establishment in the study area. Total company plantings for the study area comprise 12,400 ha net on freehold and 1,250 ha net on leased public land. On leased land, a further 100 ha net remains to be established to softwoods.

Land Requirements

Forests Commission, Victoria

The Forests Commission, at the direction of the government, has increased its planting rate for the Latrobe Softwood Plantation Development Zone from 600 to 1,300 ha net per annum. This direction to the Forests Commission results from the need to supply wood in the future for expansion of pulpwood processing facilities at Maryvale. To meet this target for the zone, the Commission will need to establish a further 27,330 ha net. This will result in a total net area of approximately 40,000 ha of Forests Commission plantations for the zone.

Taking into account the area of public land already allocated for softwood production in the Melbourne study area to 1983, but not yet planted (820 ha net), a further net 26,510 ha of land suitable for plantation establishment is required to permit the zone target to be achieved.

Australian Paper Manufacturers Ltd

It is the company's long-term object to have a net total of 40,000 ha of established softwood plantation at any one time, with additional areas in the process of re-establishment following clear-felling. However, the company has extensive plantation holdings on land that could be required for coal-field development over the next 50 years. Some of these fields have been reserved for future power generation projects of the State Electricity Commission, Victoria. Others could be used for non-S.E.C. projects, such as the production of oil from coal. Should these fields be brought into production, the plantation resource on the affected land will have to be harvested. Premature harvesting of existing plantations will disrupt supply schedules to processing plants, and the net softwood plantation estate will be reduced with regard to future crops.

The government has indicated that where A.P.M. forested land is required for coal extraction, power station, and other purposes, suitable other land will be made available to the company.

The Council notes that A.P.M. Forests Pty Ltd, on present indications, could lose as much as 12,000 to 13,000 ha of plantation lands, net, to coal-field and associated developments over the next 50 years. Of this area, 1,200 to 1,300 ha is leased land or land that has been recommended to be leased. Land required for the proposed S.E.C. Driffield project is reasonably well defined. The established plantations that will be required to be harvested as this project and associated works proceed will probably not exceed 1,100 ha net over the next 10–15 years.

Currently, there are no firm proposals for the development of coal-field resources associated with private projects. Should proposals be approved in the near future, however, it is unlikely that they would involve the loss of more than about 900 ha of plantation owned or leased by A.P.M. Forests Pty Ltd. Thus it is possible over the next 10 to 15 years that about 2,000 ha net could be required to replace land carrying plantations established by A.P.M. Forests Pty Ltd.

Land for Softwood Production

The Council recommends that a total of 7,150 ha net within this study area be available for softwood production. Some 2,100 ha net would be established on former farmland purchased by the Forests Commission or resumed by the Crown. Portion of the area in the Mullungdung forest lies within the Stradbroke Brown Coal Protection Area, but there are currently no firm proposals for the development of this resource. Provided the coal is not utilized before 15 to 20 years after pines are established, softwood production on this area would be economic. Should the State government at some future time decide to approve development of the brown coal underlying the plantation area, all trees planted would be removed as required. More than 400 ha, gross, of land in the eastern Strzeleckis recommended for softwood production lies within the Won Wron Brown Coal Protection Area. The Won Wron field is a relatively small one, and less likely to be developed in the near future.

Of the land recommended for softwood production, some 86% is former farmland, or land that will have its values substantially altered in future as a result of coal-field developments.

In recommending land for softwood production, sufficient for the establishment of 7,-150 ha net, the Council has not suggested the extent to which this land might be apportioned between the Forests Commission for the continuation of its softwood program and A.P.M. Forests Pty Ltd in exchange for land required by the government. Should some of this land be used to replace company plantations required for coal-field and associated development, the Council considers that the exchange should be on a hectare for hectare net planted area basis. Factors such as compensation for improvements, differences in site quality, and distance from the Maryvale Mill would need to be considered when exchange arrangements are discussed.

As an alternative to providing forested public land, the government should endeavour to provide some of the replacement land by purchase of less-productive agricultural land. Purchase of private land for softwood establishment would allow the retention of public land carrying native forests. It is also more likely that replacement plantations could be established by the company closer to processing centres than would be the case if only public land was used. Transport cost would thus be reduced.

Latrobe Zone

Softwood production land requirements may, in part, be met from other areas within the Latrobe Plantation Development Zone. The Forests Commission has indicated that areas of forested public land in the Gippsland Lakes hinterland study area also meet the site requirements for plantation establishment. The Council has published a descriptive report for the Gippsland Lakes hinterland area, and use of land in this area for softwood production is being considered during the current preparation of recommendations.

The government has directed the L.C.C. to conduct a special investigation of public land in the vicinity of Hill End, in the Melbourne area. This investigation arises from the direction by the government to the Forests Commission to increase the planting rate of softwoods in Gippsland by 700 ha per annum, and the government's undertaking to Australian Paper Manufacturers Ltd that, where company forested land is required for coal extraction, power station, and other purposes, suitable other land will be made available to the company. Recommendations must be made by 1st March, 1983, on the best use of this land, including the extent to which it might be used to fulfil the government's commitments to increased softwood establishment and to replacement of land acquired from Australian Paper Manufacturers Ltd.

Plantation Planting Guidelines

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

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

Native vegetation should be retained for at least 80 m from each bank along major streams and 40 m from each bank along minor streams. In order to maintain soil stability and water quality, it may be necessary to retain a strip of native vegetation of at least 20 m from the centreline along some other watercourses. This is in line with other Council recommendations that all wetlands on public land should be conserved. These strips of native vegetation should be kept free of exotic vegetation, and bulldozed material and windrows should be swept back to protect them from hot burns. The importance of ground cover and surface soil conditions in reducing the amount of sediment reaching streams should be recognized.

Landscape values of areas visible from main roads and major vantage points should be maintained or enhanced, with preference given to landscapes carrying native forests. The aims 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:

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

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

Clearing prior to planting makes the soil more liable to erosion until a new vegetation cover forms. Special care must be taken to ensure that soil erosion does not begin or increase during this period, and that water catchment values are not impaired. Clearing is to be confined to areas with a ground slope generally less than 20 degrees. Other factors that influence the extent of erosion hazard — such as aspect, soil type and parent material, length of slope, and the amount of rainfall — should also be considered prior to clearing operations.

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

Prior to the commencement of clearing operations, the Forests Commission should consult with the Soil Conservation Authority in relation to matters affecting soil stability and water quality, and with the Fisheries and Wildlife Division on matters concerning wildlife conservation.

Recommendations

- F1** That the present plantations of 9,920 ha net, shown on the map, continue to be used for the production of softwoods, and the provision of other goods and services compatible with the primary use, as well as providing opportunities for recreation and other uses, and that they remain or become reserved forest under the provisions of the *Forests Act* 1958 and, with the exception of those areas leased to A.P.M. Forests Pty Ltd, be managed by the Forests Commission.

Note:

Includes 1,250 ha net of softwoods established by A.P.M. Forests Pty Ltd on public land leased to the company; a further 100 ha, net, of leased land is yet to be planted to softwoods.

Note:

This area contains parts of the Mirboo North, Billys Creek, and Tarra River Proclaimed Water Supply Catchments.

F2–F4 That the land shown on the map and listed in the schedule below be available for softwood plantation establishment in accordance with the guidelines outlined in the recommendations, and that those areas to be used by the Forests Commission for plantation establishment be reserved forest under the provisions of the *Forests Act* 1958, and managed by the Forests Commission.

Note:

Should any of the areas be made available to A.P.M. Forests Pty Ltd as replacement for land acquired by the government for coal-field and associated development, these areas should be leased rather than alienated where they could be affected by such related development.

F2 Eastern Strzeleckis

3,460 ha, within which an area of approximately 2,130 ha net may be planted to softwoods.

Note:

Approximately 400 ha of the gross area lies within the Won Wron Brown Coal Protection Area.

F3 Boodyarn

1,680 ha, within which an area of approximately 1,200 ha net may be planted to softwoods.

Note:

The mountain grey gum associations in the stream-side buffer of the southern (McKenzie Road) area should be protected.

F4 Mullungdung

6,130 ha, within which an area of approximately 3,800 ha net may be planted to softwoods.

Note:

Council recognizes that most of this land overlies the Stradbroke coal-field, but that a minimum time of 15 to 20 years is required before an economic crop of softwood could be obtained from the area. Softwoods should only be established if a sufficient period of time would be available prior to the development of the coal resources.

F5 That State purchase of private land to supplement softwood plantation establishment on public land continue; and that, as well as meeting Forests Commission needs, some of this purchased land be used to replace land acquired by the government from A.P.M. Forests Pty Ltd.

G. FLORA RESERVES

Throughout the South Gippsland area, a number of areas contain examples of native vegetation with considerable floristic importance.

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

These reserves are significant because they contain examples of native vegetation with considerable floristic value in a natural or relatively natural state. They are set aside primarily to conserve species that may be rare or endangered, and other plant associations that are of particular conservation significance.

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

Vermin and noxious weeds within flora reserves will be controlled by and will remain the responsibility of the Department of Crown Lands and Survey.

Recommendations

G1-G13 That the areas indicated on the map and described below be used to:

- (a) conserve particular species or associations of native plants that
- (b) honey production be permitted
- (c) passive recreation such as nature study and picnicking be permitted
- (d) grazing be phased out and that they be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed as indicated in the schedule below.

G1 9 ha, being the existing reserves for the preservation of native fauna and flora adjoining allotment 84d, Township of Koonwarra, to be used to preserve the open forest of messmate and narrow-leaf peppermint, and gullies thickly vegetated with coral fern, developed on brown gradational soils derived from Mesozoic sediments.

To be managed by the Department of Crown Lands and Survey.

G2 6 ha, being the existing reserve for the preservation of native flora on allotment 12, section 3, Township of Tarwin Lower, to be used to preserve the open forest of manna gum, with its associated understorey, that has developed on Quaternary sands.

To be managed by the Department of Crown Lands and Survey.

G3 81 ha, being allotments 33 and 38a, Parish of Tarwin South, to be used to preserve the swamp vegetation, wet heath with bog gum, and open forest and woodland of messmate and manna gum, developed on Quaternary flood-plain deposits and sand dunes.

To be managed by the Department of Crown Lands and Survey.

- G4** 7 ha, being the existing native flora and public recreation reserve south-east of allotment 21, Parish of Yanakie, to be used to preserve heathland on a deposit of Tertiary sands and gravels that is representative of the extensive heaths that once covered the northern part of the Yanakie isthmus.

To be managed by the Department of Crown Lands and Survey.

- G5** 7 ha, being the existing public purposes reserve known as Cooks Gully, comprising allotment 47a, Parish of Jumbuk, to be used to preserve a fern gully within tall open forest of mountain ash.

To be managed by the Department of Crown Lands and Survey.

- G6** 12 ha, being the existing public purposes reserve known as Yerang Park east of allotment 38, Parish of Bulga, to be used to preserve a fern gully within tall open forest of mountain ash.

To be managed by the Department of Crown Lands and Survey.

Note:

These two reserves are connected by water frontage along Traralgon Creek.

- G7** 18 ha, being allotments 40a, 40c, and part of 40d, section A, Parish of Boodyarn, to be used to preserve open forest of blue gum and yellow stringybark with an understorey of sticky wattle growing alongside the Blackwarry Scenic Road. (Sticky wattle is confined to South Gippsland, apart from occurrences at Yarragon and in the Licola area.)

To be managed by the Forests Commission.

- G8** 11 ha, being the existing Forests Commission special purposes reserve within allotment 22, Parish of Bruthen, to be used to preserve open forest of yellow stringybark that is unusually rich in orchids, some 23 species having been recorded.

To be managed by the Forests Commission.

- G9** 8 ha, being the existing reserve for the preservation of native flora south-east of allotment 25, Parish of Bruthen, adjacent to the South Gippsland Highway, to be used to preserve low open forest of but-but, manna gum, swamp gum, and yellow stringybark. *Pterostylis fischii*, a species with a restricted distribution in Victoria, has been recorded in this reserve.

To be managed by the Forests Commission.

- G10** 110 ha in the Parish of Won Wron to be used to preserve an open forest and woodland of narrow-leaf peppermint, manna gum (rough-barked form), and yert-chuk, with a heathy understorey.

To be managed by the Forests Commission.

- G11** 40 ha in the township of Foster and Parish of Wonga Wonga South, to be used to preserve woodlands of messmate and narrow-leaf peppermint, closed scrub of bog gum, swamp paperbark, and prickly tea tree, and heathland, developed on Tertiary sands and gravels.

To be managed by the Department of Crown Lands and Survey.

- G12** 500 ha, being allotments 17 and 54b, Parish of Giffard, to be used to preserve open forests of white stringybark, but but, and yertchuk and open woodlands of silver-leaf stringybark, shining peppermint, narrow-leaf peppermint, and manna gum (rough-barked form) with saw banksia. A variety of native grasses and herbs forms the open forest understorey, while in the woodlands heath communities predominate. The reserve also contains intact aquatic communities around several fresh-water swamps, and is one of the few remaining localities where the range of vegetation types that formerly colonized the sandy coastal plains between Giffard and Longford is collectively represented.

To be managed by the Department of Crown Lands and Survey.

- G13** 2,710 ha in the Mullungdung Forest to be used to preserve open forests of yellow stringybark and Gippsland grey box. The reserve contains examples of four yellow stringybark associations typical of the lowland forests of South Gippsland. Much of this land type has been cleared for agriculture. The occurrence of the rare orchid (*Thelymitra mathewsii*) within the reserve is particularly important, as this species is in danger of extinction on an Australia-wide basis. The reserve also contains areas of silver-leaf stringybark open woodland with a wet heath understorey.

To be managed by the Forests Commission.

H. BUSHLAND RESERVES

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

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

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

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

Vermin and noxious weeds within bushland reserves will be controlled by, and will remain the responsibility of, the Department of Crown Lands and Survey.

Recommendations

H1-H42 That the areas indicated on the map and described below be used to:

- (a) maintain the local character and quality of the landscape that
- (b) passive recreation such as picnicking and walking be permitted
- (c) honey production be permitted
- (d) grazing be permitted subject to the approval of the management authority
- (e) gravel extraction could be considered in the future for portions of those reserves listed below, where reference to gravel extraction is made

and that they be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed by the Department of Crown Lands and Survey except where otherwise indicated.

Notes:

1. Some reserves specifically referred to in the list below contain gravel resources. The utilization of these deposits should only take place when other gravel resources — listed in Chapter R — have been exhausted, or when it can be established that a particular type or grade of deposit is not found elsewhere other than in a designated bushland reserve. Gravel extraction, if permitted, should proceed in accordance with the guidelines and recommendations set out in Chapter R, Mineral and Stone Production.

2. Certain bushland reserves contain dams used for fire-protection and municipal purposes; these uses should continue.

H1 2 ha on the eastern boundary of allotment 50c, Parish of Drumdlemara.

H2 3 ha at the south-eastern corner of allotment 50j, Parish of Drumdlemara.

H3 1 ha on the western boundary of allotment 96d, Parish of Leongatha.

H4 0.5 ha on Pound Creek adjacent to allotment 17, Parish of Drumdlemara.

H5 1 ha adjacent to allotment 55a, Parish of Tarwin.

Portion of this reserve contains road-making materials and the use of this resource could be considered in the future (see Note 1, above).

H6 1 ha adjacent to allotment 63b, Parish of Leongatha.

H7 4 ha, being allotments 1–15, section 1, and allotments 1–4 and 8–15, section 2, Township of Tarwin.

H8 35 ha, being allotment 85c and adjacent unoccupied Crown land, Parish of Drumdlemara.

Portion of this reserve contains road-making materials and the use of this resource could be considered in the future (see Note 1, above).

H9 3 ha, being allotment 40d, Parish of Tarwin South.

H10 5 ha south of allotment 24, Parish of Waratah.

H11 2 ha, being the former cemetery reserve adjacent to allotment 90h, Parish of Doomburrin.

H12 4 ha adjacent to allotment 123e, Parish of Allambee East.

H13 10 ha, being allotment 8c, section 8, and adjacent unoccupied Crown land, Township of Mirboo North.

H14 4 ha, being the former gravel reserve north-west of allotment 31b, section A, Parish of Wonga Wonga South.

H15 2 ha on Billy Creek south of allotments 8 and 9, section A, Parish of Binginwarri.

H16 5 ha on Nine Mile Creek south of allotment 24, section A, Parish of Welshpool.

H17 10 ha south of allotment 2a, section B, Parish of Welshpool.

H18 9 ha on Billy Creek east of allotment 5b, section B, Parish of Binginwarri.

H19 5 ha east of allotment 20, section B, Parish of Binginwarri

H20 2 ha north-west of allotment 91, Parish of Alberton West.

H21 16 ha, being the former proposed recreation reserve and adjacent unoccupied Crown land south of allotments 75a and 75b, Parish of Won Wron.

H22 13 ha east of allotment 61, Parish of Won Wron.

H23 2 ha north of allotment 1b, Parish of Carrajung.

- H24** 4 ha east of allotment 28, Parish of Tarra Tarra.
 - H25** 4 ha north of allotment 30c, Parish of Tarra Tarra.
 - H26** 2 ha west of allotments 11 and 12, section 14, Township of Woodside.
 - H27** 19 ha, comprising part of the former Woodside station ground and all public land in sections 11, 25, 26, and 30, Township of Woodside.
 - H28** 12 ha, being allotment 1, section 3, Parish of Woodside.
 - H29** 190 ha, comprising allotment 5, section 4, Parish of Woodside, and allotment 21a, Parish of Darriman.
- To be managed by the Forests Commission.

Note:

Gravel extraction, if required from the former allotment, should only be allowed from those areas utilized in the past.

- H30** 16 ha, being the former water reserve west of allotment 9d, section 3, Parish of Darriman.
 - H31** 4 ha west of allotment 1, section A, Parish of Giffard.
 - H32** 20 ha north of allotment 16, section B, Parish of Giffard.
 - H33** 2 ha, being the quarry reserve adjoining allotment 27, section A, Parish of Yinnar.
 - H34** 1 ha, being the former State school reserve and gravel reserve west of allotment 160A, Parish of Devon.
 - H35** 17.8 ha, being allotment 25A of section 5, Parish of Darriman.
- To be managed by the Forest Commission.
- H36** 2.8 ha, being the gravel reserve adjoining allotment 20, section 6, Parish of Woodside.
- To be managed by the Forests Commission.
- H37** 4 ha, being the water and camping reserve adjoining allotments 75A and 75C, Parish of Carrajung.
- To be managed by the Forests Commission.
- H38** 4 ha to the west of allotment 71C, Parish of Carrajung.
 - H39** 18.6 ha, being the timber and gravel reserve and gravel reserve east of allotment 52C, Parish of Devon.
- Portion of this reserve contains road-making materials and the use of this resource could be considered in the future (see Note 1, above).
- To be managed by the Forests Commission.
- H40** 40 ha, being the former Port Albert rifle range and adjoining public land in the Parish of Alberton East.
 - H41** 3.6 ha, being the public purposes reserve east of allotment 17A of section B, Parish of Toora.
 - H42** 2 ha east of allotment 11B, Parish of Woranga.

I. SCENIC RESERVES

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

An aim of management of these areas should be to maintain the character and quality of the landscape and to maintain the native vegetation and protect water quality.

Recommendations

I1–I5 That the areas shown on the map and described below be used to preserve scenic features and lookouts.

and that they be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and be managed as indicated in the schedule below.

I1 Turtons Creek

140 ha, comprising allotments 11 and 13 and the existing Livingstone Creek Mining Reserve, section A, Parish of Mirboo South.

To be managed by the Department of Crown Lands and Survey.

Note:

The managing authority may permit prospecting in the lower gullies of this reserve.

I2 Little Franklin River

15 ha, being unoccupied Crown Land adjacent to allotment 33, Parish of Woorarra.

To be managed by the Forests Commission.

Note:

Illegal dumping of rubbish on this reserve should cease.

I3 Mount Fatigue

13 ha, being the existing Mount Fatigue Reserve.

To be managed by the Forests Commission.

Note:

Mount Fatigue is important for the communications systems operated by certain public bodies and as a site used as a lookout in times of high fire danger by the Forests Commission (see Chapter S — Utilities). These uses should continue.

I4 Gunyah

145 ha, being the existing reserve for the growth and protection of timber along the Grand Ridge Road and the Toora–Gunyah Road, as well as a 100-metre-wide strip on the northern side of the Grand Ridge Road between Gunyah Junction and Gunyah Central.

To be managed by the Forests Commission.

I5 Agnes Falls

6 ha, being the existing Agnes Falls reserve.

To be managed by the Department of Crown Lands and Survey.

Note:

The Toora Waterworks Trust uses the Agnes River upstream from the falls as the site for its supply offtake.

J. THE COAST

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

In formulating recommendations for public land along the coast, Council is aware that coasts represent a dynamic zone of interaction between land and sea, encompassing fragile environments. The various management authorities of coastal land should take steps to ensure that management is co-ordinated.

All works to be implemented by committees of management or government agencies on the coastal reserve should be conducted in accordance with plans approved by the Coastal Management and Co-ordination Committee.

Coastal Reserve

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

Aboriginal middens occur frequently along this coastline.

Recommendation

J1 That the areas described below and shown on the map:

(a) be used to:

- (i) provide opportunities for informal recreation and also for recreation related to enjoying and understanding nature
- (ii) protect and conserve natural coastal landscapes and ecosystems — and geomorphological, archaeological, and historical 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 fishing and boating (including harbour facilities) together with the necessary navigation aids

that the managing authority:

- (b) zone the area in order to provide for the range of uses outlined above
- (c) manage the area according to the policies developed by the Coastal Management and Co-ordination Committee in conjunction with the municipalities or Committees of Management and the Fisheries and Wildlife Division
- (d) in its 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 the 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 waste-disposal pipelines, jetties, marinas, mining, sea walls, etc.)

- (iii) occupation of coastal public land by individuals or organizations should be phased out, and no new occupation leases should be granted; certain coast-oriented uses such as yacht clubs and surf clubs could be permitted, subject to conditions laid down by the managing authority
- (iv) when camp sites and car parks are to be established on the coastal reserve, the managing authority should avoid locating these on sensitive areas or areas of importance for nature conservation, or of archaeological significance

and that the areas be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* as coastal reserve, the seaward boundary being low-water mark, and be managed by the Department of Crown Lands and Survey.

(At the scale of mapping, the small areas along the coast controlled by the Ports and Harbours Division are not able to be delineated. However, present tenure and management of these areas should continue.)

J1 Cape Paterson–Point Smythe

J2 Waratah Bay–Shallow Inlet

J3 Corner Inlet–Seaspray

Notes:

1. In accordance with government policy, permissive occupancies at Sandy Point should be phased out by no later than 1990.
2. Coast crimson berry, a Tasmanian and New Zealand species rarely found in Victoria, occurs in the section of coastal reserve between Wilsons Promontory National Park and Point Townsend. This should be taken into account when management plans for this area are being prepared.
3. The cliffs west of Eagles Nest Rock are important for dinosaur fossils. No special reservation is proposed, but the managing authority should note this occurrence.
4. The section of coastal reserve between Old Hat Creek and Barrie Beach in Corner Inlet contains several roosting sites for international migratory wading birds, the significance of which is currently being investigated by the Fisheries and Wildlife Division. Management plans for the area should include provision to protect these wildlife values.

Crown land in the Borough of Wonthaggi

Council believes its recommendations for coastal public land should also apply to the coastal Crown land within the Borough of Wonthaggi. This Borough contains an extensive area of coastal land, including the former Wonthaggi rifle range reserve. This land is valuable for nature conservation and recreation, and Council believes that it should be managed by the Department of Crown Lands and Survey as part of the coastal reserve.

K. RIVERS AND STREAMS

PUBLIC LAND WATER FRONTAGES

Along a number of rivers and streams in the study area, a strip of public land has been reserved between the water and adjacent public land or alienated land. No public land strip adjoins land alienated before 1881, and some properties in the study area have titles that extend to the banks or even incorporate the bed and banks of a stream. Thus some streams and rivers have either no public land water frontage or a discontinuous one. The recommendations that follow do not apply to privately owned 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 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. The land usually comes under the control of the Department of Crown Lands and Survey, while in all cases 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, while 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 water supply authority that controls the water.

Adjoining occupiers often hold public land water frontages under licence for grazing purposes. Special conditions may apply to the licences — for example, to permit cultivation. The licence system has advantages in that 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, fire-arms, 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, members of the public are legally entitled 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.

Maintenance of a stable vegetative cover on frontages can contribute significantly to water quality by filtering overland flow and reducing soil contamination of water. Public land water frontages are frequently valuable for preserving local landscapes. They may also be valuable for nature conservation, 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.

Public land water frontage reserves

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

Recommendation

K1 That the public land water frontages:

- (a) be used to
 - (i) protect adjoining land from erosion by the maintenance of 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 be permitted (non-damaging activities such as walking, nature observation, fishing, or just relaxing should be allowed, while 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 Utilisation Act 1958*

- (iv) in particular cases, licensees be required to fence off and exclude stock temporarily from some parts of the licence area where, in the opinion of the managing 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 creation of buildings on public land water frontages

and that

- (d) (i) public land water frontages be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978*
- (ii) where an area currently reserved as a water frontage is adjacent to or within a State park, regional park, or other reserve, it be managed by the authority responsible for the adjoining or surrounding land
- (iii) where it is not within or adjacent to a reserve or park as 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.

Note:

Public land water frontage reserves cannot be accurately defined at the scale used on Map A (1:250,000); however, they have been indicated on the Map. The appropriate Parish plan should be referred to in order to determine the precise boundaries of these reserves.

STREAMSIDE RESERVES

Throughout the study area, small blocks of public land adjoin streams but are not included in the public land water frontage.

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

Blocks of public land such as this have values for nature conservation and recreation. They allow public access to the river or stream, especially where access along the public land water frontage is difficult. The managing 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 a streamside reserve be managed by the authority responsible for that reserve. Streamside reserves are separate and distinct from the public land water frontages described earlier in these recommendations.

Recommendations

K2-K9 That the areas shown on the map and described below be used to:

- (a) provide passive recreation such as picnicking, walking, and angling
- (b) provide opportunities for camping at the discretion of the managing authority if this does not conflict with the maintenance of the water quality of the adjacent stream.

- (c) provide a buffer zone for protection of water quality
- (d) conserve flora and fauna
- (e) maintain the local quality and character of the landscape
- (f) provide grazing, at the discretion of the managing authority, if this use does not conflict with the maintenance of the water quality of the adjacent stream or with (a), (b), (c), and (d) above

and that they be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978*, with the exception of K4, and be managed by the Department of Crown Lands and Survey except where otherwise indicated

- K2** 3 ha along Deep Creek, being the water reserve and camping reserve west of allotment 10, section B, Parish of Wonga Wonga.
- K3** 20 ha along the Franklin River, east of allotment 17, Parish of Wonga Wonga and west of allotment 6, Parish of Toora.

Note:

The southern part of this reserve could be suitable for development as a picnic area on the South Gippsland Highway.

- K4** 4 ha on the Latrobe River, south-west of allotment 6, section A, Parish of Tanjil East.

Note:

This reserve lies within the Yallourn–Morwell Brown Coal Protection Area and could be affected by future development associated with utilization of the brown coal resource. It is suggested therefore that the area be temporarily reserved until development plans are finalized.

- K5** 4 ha on the Jack River, being the camping and water reserve south-west of allotment 74b, Parish of Devon.

To be managed by the Forests Commission.

- K6** 2 ha on the Tarra River, being the water reserve west of allotment 61c, Parish of Yarram Yarram.
 - K7** 4 ha on Greig Creek, being the quarry reserve south-west of allotment 21a, section A, Parish of Boodyarn.
 - K8** 3 ha on Bruthen Creek, being the water reserve within allotment 73a, Parish of Carrajung.
- To be managed by the Forests Commission.
- K9** 30 ha along Warrigal Creek, south of allotments 13a, 13b, and 14b, Parish of Darriman.

RIVER IMPROVEMENT

River Improvement Trusts have been constituted under the *River Improvement Act 1958* for the Albion Shire and the Tarwin and Latrobe Rivers. 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-preventing works on the banks — for example, 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)
- * clearance of waterways, by removal of snags within the bed of the channel, to maintain or improve discharge capacity.

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, accelerating 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 legislation requires that all proposed replacement or new structures across waterways or other interference with the bed and banks of streams 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 in 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.

River Improvement Trusts are required to act within the District as defined under the *River Improvement Act 1958*. Where such Districts encompass only the stream environs, or part only of the stream, they may be 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. There is thus little opportunity in the design and implementation of works for consideration of their likely impact on areas outside the Trust's Districts. However, in examining a Trust's works program, the Standing Consultative Committee on River Improvement (an advisory committee formed by the State Rivers and Water Supply Commission) considers the effects of such works on the upstream and downstream regime.

The flow regimes of some rivers must of course be modified and flood plains used for agriculture, but it is appropriate to look at 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 apply 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.
- * Where flood control in a catchment is necessary, planning strategies should include consideration of ways of reducing run-off from the catchment.
- * Total flood control is seldom practicable. In the case of minor flooding it may often be more appropriate to take action to minimize the consequences of flooding rather than 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 of their effect on the flood pattern (see note 3).
- * Works carried out within the bed and banks of a stream to change the alignment, gradient, or 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.

Recommendation

K10 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.

Notes:

1. The State Rivers and Water Supply Commission has formed a Standing Consultative Committee to advise the Commission on river works. This committee comprises representatives from the following:

State Rivers and Water Supply Commission
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

The Committee is convened by a representative of the State Rivers and Water Supply Commission.

2. The State Rivers and Water Supply Commission, with the assistance of the Standing Consultative Committee, has prepared a document, 'Guidelines for River Management, 1979', that expands on the principles set out above. These guidelines require plans for all works (other than those of a minor nature), together with an assessment of their environmental consequences, to be submitted to all relevant agencies for consideration prior to the commencement of works. The aim of the guidelines is to ensure that an optimum balance is achieved between structural improvements 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.

3. Information relating to the works that may be undertaken on flood plains is included in the report 'Flood Plain Management in Victoria', produced by the Victorian Water Resources Council.

L. ROADSIDE CONSERVATION

Roadside Conservation

The primary purpose of road reserves is obviously to provide for communication, transport, and access. However, vegetation along 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 not only species with restricted distribution but also 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. While some roads retain wide strips of native vegetation, many are mostly cleared or otherwise greatly altered. Valuable remnants of native vegetation growing on the verges of some roads should be protected where possible. Of particular note is the vegetation along roadsides in the following areas: Lower Tarwin–Walkerville, Traralgon South–Koornalla, Hunterston, Hedley, and Nerrena and along the South Gippsland Highway between Foster and Stradbroke.

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.

Recreation and landscape

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

Management

Responsibility for the management of roadside vegetation is vested in various authorities, depending on the status of the road. The most important roads of the State (State highways, tourist and forest roads, and freeways) declared under the *Country Roads Act 1958* are completely under the control of the Country Roads Board (9,000 km). Main roads (14,500 km) are also declared, but are controlled jointly by the Country Roads Board and local municipal councils. Vegetation on unclassified roads (about 98,000 km of mostly minor roads) is under the care and management of municipal councils, although it is owned by the Crown. The Forests Commission has the control of vegetation on unclassified roads that pass through or adjoin State forests. (Note: These figures are for all Victoria.)

Unused roads constitute another category. When the State was being settled, surveyors provided access to blocks by means of surveyed Crown roads. Many of these have never been used as roads, and they are usually held by the occupiers of the adjoining land under unused-road licences. The Forests Commission controls the vegetation on unused roads that have been formally declared as such.

Back roads

With increasing population and use of cars, a tendency has developed for 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 fulfill 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 re-alignment is being considered.

Recommendations

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

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

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

- * The various road management authorities, when planning to upgrade roads that have heavy recreational use, should give due consideration to recreational requirements and give priority along such roads (when funds are available) to the development of roadside recreation facilities.
- * On soils of moderate to high erosion hazard, road management authorities should ensure that pre-planning, design, construction, and funding of roads cater adequately for erosion prevention and control. Advice should be sought from the Soil Conservation Authority.

L2 That the following guidelines be applied to unused roads:

1. The clearing of native trees and shrubs other than noxious weeds should continue to be clearly prohibited in the conditions of unused-road licences.
2. A condition permitting public use of licensed unused roads should be written into unused-road licences where necessary to provide practical access to public land.
3. 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.

L3–L8 That when widening or re-alignment of roads is proposed, sites of significance — because of geological, historical, vegetation, or landscape features that may be affected — be investigated and every effort made to retain or preserve them.

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

Sites of geological significance

- L3** The Devonian–Mesozoic contact exposed in a cutting 2 km north of Foster on the South Gippsland Highway.

To be managed by the Country Roads Board.

- L4** The example of deposition within stream channels in Mesozoic rocks exposed in a cutting on the Hyland Way near its junction with Grand Ridge Road.

To be managed by the Country Roads Board.

Sites of historical significance

- L5** Pattinson's Tree on the Grand Ridge Road between Gunyah Junction and Gunyah Central.

To be managed by the Country Roads Board.

Sites of significant vegetation

- L6** The stand of *Kunzea ambigua* some 9.5 km north of Promontory View Estate on the Walkerville–Fish Creek Road — this is the westernmost known occurrence of this species.

To be managed by the shire of South Gippsland.

- L7** The road reserves alongside the Princes Highway from Traralgon east to the bridge over Flynn Creek, which support numerous mature specimens of forest red gum as well as extensive stands of sapling-sized regeneration.

To be managed by the Country Roads Board.

- L8** *Eucalyptus kitsoniana* is found in the southern parts of the study area. Apart from occurrences at Wilsons Promontory it is uncommon on the larger blocks of public land, but many stands grow along roadsides in the Shires of South Gippsland and Woorayl. These stands deserve particular attention.

Roadside picnic areas

Smaller less-developed picnic areas should supplement the State-wide system of highway parks and major reserves. They should be in attractive locations, off the road reserve, and should have some picnic facilities provided.

Recommendations

- L9** That the 10-ha quarry reserve south of allotment 2e, section A, Parish of Boodjarn, adjacent to the Hyland Way, be developed as a roadside picnic area.

To be managed by the Country Roads Board.

Note:

The outcrops of Tertiary sandstone on this reserve are of geological and scenic interest. Native vegetation on the reserve should be protected.

- L10** That the land managing authorities establish picnic areas in suitable locations adjacent to the road reserves, in particular along the Grand Ridge road, which is one of the State's more scenic drives.

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 uses as, unless this is consciously done, such environments will tend to be changed by other uses. In these areas education would be the primary use and other uses would only be permitted when not in conflict with the educational use. Activities permitted in education areas that may not be appropriate elsewhere would include long-term studies, collection of biological material, biomass studies, the establishment of growth plots, and demonstrations of the techniques involved in erosion control and in restoration of native vegetation and stream conditions.

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

- * giving examples of major land types
- * with maximum diversity of vegetation types, soils, etc., and with natural boundaries
- * located with consideration of ready access by users
- * located so as to minimize the danger that wildfires present to users
- * located in proximity to other land types and to a variety of other land uses
- * large enough to prevent over-use and to allow for zoning to protect areas of special value
- * selected so as to minimize erosion and pollution hazard

No one organization should have the exclusive right to use a particular education area, as it is important that students have the opportunity to visit a number of education areas in various land types throughout the State rather than visiting the one site several times. Minimum facilities such as toilets and shelters would be required at each one, 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.

Recommendation

- M1** That the area of public land described below and shown on the map 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 it be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed as indicated in the schedule below.

M1 Jeeralang North (160 ha)

Haunted Hills gravel; flat to hilly; open forest II–III of messmate and yertchuk; elevation 260 m; rainfall 800 mm per annum.

To be managed by the Forests Commission.

SCHOOL PLANTATIONS

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

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

Recommendations

- M2** 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.

- M3** 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.
- M4** That new school plantations only be established on public land for education purposes and where their establishment allows the rehabilitation or reforestation of cleared or eroded areas.

N. GEOLOGICAL RESERVES

Geological reserves are areas that contain features of geological interest and are reserved primarily to preserve these features for public education and enjoyment. Such areas often have recreation, nature conservation, scenic and landscape values in addition to their geological features. One notable area that in part comprises public land is listed.

N1 That the area indicated on the map and described below be used to:

- (a) preserve features of geological interest
- (b) provide opportunities for recreation and education to the extent that this is consistent with (a) above.

Koonwarra Fish Beds

This is an outcrop of Mesozoic mudstone of lacustrine origin rich in invertebrate, bird, fish, and plant fossils. It is listed in the Register of the National Estate. Most of the outcrop is on freehold land; however, the following sections are on public land:

- * the road reserve of the South Gippsland Highway, managed by the Country Roads Board
- * the Melbourne–Yarram railway, vested in the Railways Board
- * unoccupied Crown land managed by the Department of Crown Lands and Survey
- * public land water frontage along the Tarwin River, managed by the Department of Crown Lands and Survey

The Council proposes that all of the public land be reserved as a geological reserve under section 4 of the *Crown Land (Reserves) Act 1978*. Current tenures could remain, but reservation of all the public land sections under the *Crown Land (Reserves) Act* would achieve a strong legislative backing for the protection of this important feature.

The Department of Minerals and Energy should be consulted regarding the management of this reserve.

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 in which it is undertaken — activities undertaken with little or no feeling of compulsion are almost certainly recreation.

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

- * Formal recreational activities include all organized sports and other group activities, while activities such as picnicking, fishing, and hiking are grouped as informal.
- * Passive recreation covers situations where the individual obtains his recreation through enjoying the sights, sounds, and atmosphere of the surrounding environment while expending little physical effort. It includes 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 include 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, the camping sites at Wilsons Promontory and on the Inverloch foreshore would be considered to be intensively used.

In view of the predicted increase in demand for outdoor recreation and the high capability of some public land to meet this demand, the Council, in making its recommendations, has suggested that the bulk of 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. It could not, however, make recommendations covering in detail all the forms of recreation currently pursued on public land. These include activities such as bushwalking, 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 unnecessary restrictions on usage. Special care will be required in the location and management of areas zoned for intensive recreation, to prevent environmental damage. Thus, more stringent restrictions can be expected in areas where the vegetation and soils are sensitive to damage, such as those occurring on granite soils

where water quality might be affected 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 outdoor recreation depends on motor vehicles. These may be conventional cars, four-wheel-drive vehicles, or motor-cycles.

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

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

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

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

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

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 spectators attracted to these activities are creating a serious and growing problem of damage to soils and vegetation.

Youth camps

Currently the study area contains few permanent youth camp sites. Demand is likely to increase, however, for sites for use by scouts, schools, church groups, and the like. Users have generally preferred sites situated in pleasant bushland, close to a permanent stream, readily accessible by road, and in areas where the safety of the camp and its occupants

can be ensured during periods of high fire danger. Such sites are relatively scarce, and their use for youth camps is in direct competition with their use for less-restrictive public activities such as picnicking and general camping.

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

User groups have an increasing tendency to acquire freehold land for their actual camp site, while using adjacent public land for their outdoor activities, and Council believes this trend should be encouraged. While recognizing that a variety of types of camps may be needed, Council believes that any camps permitted on public land should be properly located, constructed, and maintained. For efficient management of camps, it may be necessary for a single organization to be given limited tenure over a minimum area at any individual camp site, under the control of the land managing authority. Council believes, however, that these camps should still be used as fully as possible consistent with avoiding damage to the environment. The greater use of existing camps on public land is desirable in order to avoid proliferation of camp sites, and there is a need for co-operation 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 managing authority may 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 wildlife.

Fossicking or prospecting

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

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

Guidelines and recommendations relating to fossicking and prospecting are given in the chapter on Mineral and Stone Production.

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 and that land managing authorities aim at controlling the types, levels, and patterns of recreational use according to the capability of particular areas to sustain such use without irreversible change or significant conflict with the primary purpose of the area.

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

O4–O5 That the areas described below and shown on the map be used for organized sports (football, horse-racing, golf, etc.) and informal recreation (picnicking, camping, etc.) as permitted by the managing authority.

that native vegetation be conserved where possible.

and that these areas be permanently reserved under section 4 of the *Crown Land (Reserves) Act 1978* and, unless otherwise stated, be managed by the Department of Crown Lands and Survey.

O4 Existing recreation reserves.

Notes:

1. Where possible, the native vegetation on the recreation reserves at Stony Creek and Bennison and on the Port Albert Racing and Recreation Reserve should be preserved. In the case of the Port Albert Racing and Recreation Reserve, the native vegetation and wetlands have conservation significance, and use of exotic species for landscaping purposes should be avoided.

2. The Buckleys Island Reserve is used by the Yarram motor-bike club. Motor-bike riding should be restricted to the area within the reserve at present used for this purpose. Trees within the reserve should be protected.

O5 15 ha, comprising the southern portion of allotments 10, 11, and 12 of section A, Parish of Wonwron, to be made available according to the provisions of the *Land Act 1958* to the Yarram Golf Club.

Note:

In developing the area, native vegetation should be retained where possible.

P. COAL PRODUCTION

Brown coal is the major source of primary energy in Victoria. Present production from the Latrobe Valley coal-fields for power generation alone is about 34 million tonnes (Mt) per annum.

The total Victorian brown coal resource in the Latrobe Valley is estimated at 124,000 Mt, geological reserves, of which about 38,000 Mt is economically winnable within the criteria used when designating Brown Coal Protection Areas in central Gippsland.

In June, 1975, the Executive Council adopted Statement of Planning Policy No. 9 (Central Gippsland: Brown Coal Deposits in the Context of Overall Resources). The policy is directed primarily to the planning of land use and development necessary for the utilization and conservation of the Central Gippsland brown coal deposits. Nominal Coal Protection Boundaries, which define areas totalling 83,000 ha overlying the economically winnable coal, were identified. Interim Development Orders administered by the then Town and Country Planning Board, now the Department of Planning, were formally introduced on 12 April, 1978.

In June 1978 planning guidelines were issued, aimed primarily at minimizing future development over the coal and restricting land use to agriculture and forestry where possible. On 20 December, 1978, the Interim Development Orders were amended to create provisional S.E.C. (State Electricity Commission, Victoria) areas, embracing coal-fields required for electricity generation; other coal-fields were designed as non-S.E.C. areas.

The S.E.C. expected that it would require additional land outside its provisional coal areas — for power-station development and major ancillary works, including overburden dumps and stream diversions. This land has been partially protected by Orders in Council.

Freehold land required for S.E.C. projects is purchased under the provisions of the *State Electricity Commission Act* 1958. In addition, the government has indicated that where forest land belonging to A.P.M. Forests Pty Ltd is required for coal extraction, power station, and other purposes, suitable other land will be made available to the company. This is referred to in greater detail in the chapter on softwood production.

Most of the land required for coal-field and associated development has had its natural values substantially modified as a result of clearing for agriculture or establishment of softwoods. However, some areas of native vegetation remain on public land affected by development proposals, and these areas should be protected for as long as possible. They are identified in the recommendations in this chapter.

Coal-fields required for electricity generation and other purposes.

The State Electricity Commission has investigated a number of sites for future development of open-cut coal-fields and associated thermal power stations. Land for future power stations and major ancillary works was provisionally identified in its report 'Latrobe Valley Power Station Siting', issued in May 1980. It has since discarded or relocated some of the sites identified in the report, as a result of ongoing review and public comment.

In March 1982, Cabinet confirmed the allocation of brown coal protection areas in the western coal-fields for S.E.C. power-generation purposes. Eight power-station sites, in addition to the Driffield project currently under investigation by the Parliamentary Public Works Committee, were identified, with a view to concentrating initial development in the western field. Development has been planned so as to ensure the maximum use of existing power-station sites.

With regard to the Driffield power station proposal, the first stage of the Parliamentary Public Works Committee Inquiry has been completed. The Committee endorsed the need for a power project to follow Loy Yang and agreed that it should be based on brown coal.

Development of other coal-fields in the study area is currently under review as part of an extensive study into the most effective use of Victorian brown coal. The study, which should be completed by December 1982, is being co-ordinated by the Victorian Brown Coal Council. This Council was established in 1979 to undertake and promote research into and development of potential uses of Victoria's brown coal resources for purposes other than the generation of electricity and the production of gas fuel as specified in the *Gas and Fuel Corporation Act, 1958*. Such purposes include production of liquid fuels and chemical feedstocks and use in metallurgical processes.

Land currently under the control of the S.E.C. has been delineated as land for coal production. Public land in Mullungdung forest overlying part of the Stradbroke coal-field has been recommended for softwood production until such time as it is required for coal-field development, as has public land overlying the small Wonwron coal-field in part (see Chapter F, Softwood Production). The remainder of public land within the Brown Coal Protection Areas is recommended to be uncommitted land (see Chapter U, Uncommitted Land), or to be used for hardwood production until required for coal-field development.

The Gelliondale coal-field, located within the study area, was subject to a special investigation by the Council, which published its final recommendations for this area in May 1981. Although these recommendations are shown on the recommendation map, it is not the purpose of this report to review them.

Should some of the public land included in the recommendations in this chapter not be required in future for coal production and associated development, consideration should be given to whether this land can fulfill some public or community use such as public open space, softwood production, environmental education, or the retention of natural areas.

Recommendation

P1 That the areas totalling 15,000 ha indicated on the map be used for the production of brown coal, and associated necessary developments

and, where not immediately required, be used to:

- (a) provide for existing uses and produce those goods and services required by the community, including agriculture and forestry, where this can be done without seriously reducing the long-term ability of the land to meet future demands for coal production and associated developments
- (b) maintain natural features of the land, where appropriate, until such time as it is required for the winning of brown coal and related activities

that

- (c) in view of the shortage of deposits of sand and gravels suitable for road-making and general construction purposes in the Latrobe Valley, such deposits located within coal-production areas be worked where possible prior to development of the coal-fields

and that this land remain under existing tenure and be managed by the State Electricity Commission.

Notes:

1. Public land in the Melbourne area immediately north of Yallourn was recommended to be uncommitted (Recommendation U3), pending planning with respect to development of the brown coal resource. In general terms all these lands are being considered in relation to possible future coal-winning requirements, and the S.E.C. has indicated that it would wish to see them remain available for these purposes until such time as development requirements are known. The area has a number of existing uses; these should continue until development requirements are known, at which time land not required for coal production and associated development may be disposed of or present uses confirmed.
2. The S.E.C. has indicated that it may transfer the control and ownership of some land around Lake Narracan to the Shire of Narracan. Council would have no objection to this proposal.
3. Several notable or interesting stands of native vegetation are growing on land that will be required for coal-field and associated development. It may be possible when developing infrastructure that affects these areas to minimize the impact of developments.
 - * Sayers Trigonometric station — 20 ha of yertchuk woodland with heathy understorey typical of the stands that once covered much of the Haunted Hills
 - * Witts Gully — contains attractive stands of mountain grey gum with an understorey of ferns and sedges
 - * the slopes east of Haunted Hills Trigonometric station — these carry stands of messmate and narrow-leaf peppermint
 - * specimens of *Eucalyptus yarraensis* and snow gum in the Morwell–Hazelwood–Driffeld areas — these specimens have the potential to form a useful source of seed for local revegetation works

River diversions and landscape impacts

Within areas being used for coal-field development, the S.E.C. has successfully rehabilitated overburden dumps and has undertaken extensive stabilization and beautification works around power stations and major earthworks. The Council supports efforts designed to minimize the visual impact of major excavations and associated developments on the landscape. To this end, it is noted that the low overburden : coal ratio of the Latrobe Valley deposits will mean that, following coal removal, the landscape may comprise lakes and modified batters or other land forms.

The Council notes that a number of major river and stream diversions will be required if development of the current economically winnable brown coal resource within defined Brown Coal Protection Areas is to proceed. For example, development of the proposed Driffeld power station would require major diversion of the Morwell River by about the turn of the century.

Construction of new channels should, where possible, take the form of an open rather than a piped waterway. Council notes the requirement that such diversions be submitted to an evaluation procedure under the *Environment Effects Act* 1978 prior to approval. In addition, the Council considers that, where public land water frontage will be lost, frontages of equivalent width should be provided along the diversion, and that public access should be permitted where such usage does not conflict with other requirements.

Recommendation**P2** That

- (a) river diversions arising from coal-field and associated development make provision for a frontage of at least equivalent width to that applying to the previous course
 - (b) the construction of new channels should, where possible, take the form of open rather than piped waterways
- and
- (c) landscaping of the frontages be undertaken and public access be permitted where possible.

Q. AGRICULTURE

The Council recommends that, at this stage, no additional large areas of public land be developed for agriculture and that only small areas of public land be made available (see Recommendations Q1–Q4).

Most alienated land in the study area has been cleared for agriculture at some stage, although many areas in the eastern Strzeleckis have reverted to scrub and are in the process of being purchased and reforested. The Council notes that the creation of brown-coal protection areas affects use of land overlying the major coal deposits in South Gippsland. Development of the brown coal resource will result in a decrease in the amount of agricultural land in and adjoining the study area. Even so, the Council does not consider that additional public land should be allocated to agricultural production to make up for these losses.

The Council notes that land acquired by the State Electricity Commission within brown-coal protection areas is being retained under agricultural use where appropriate.

Grazing on public land

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

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

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

Apiculture

Honey production is an important industry in parts of the South Gippsland area, district 2. The Council considers that apiary sites should continue to be permitted on public land other than in reference areas.

Recommendations

Q1–Q4 That the land described below and shown on the map be used for agriculture. 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 below be made available for agriculture in accordance with the provisions of the *Land Act* 1958.

- Q1** 19 ha, being allotment 35, Parish of Waratah North.
- Q2** 0.3 ha, being allotment 5, section C, Parish of Binginwarri.
- Q3** 4 ha, being allotment 80d, section B, Parish of Binginwarri.
- Q4** 1.2 ha, being allotment 10C, Section C, Parish of Toora.

R. MINERAL AND STONE PRODUCTION

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

Exploration for gold and minerals

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

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

Gold

Council recognizes that only two localities within the South Gippsland area district 2 have yielded significant quantities of gold. Both gold-fields — at Turtons Creek and New Zealand Hill, near Foster — are mainly on public land. Since 1977, sharp rises in the price of gold have resulted in a significant upturn in exploration activity in the State. The interest of individual prospectors has also increased, as seen by the increased number of claims being registered.

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

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

Fossicking and prospecting

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

Prospecting is a systematic activity, defined in the *Mines Act* 1958 as 'all operations conducted in the course of exploring for gold and minerals' (including gemstones). It is necessary to hold either an exploration or search licence, or a Miner's Right, before prospecting may be undertaken. Most individual miners and prospectors operate under a Miner's Right, which does not permit prospecting on private land.

Under current legislation there is a small percentage of public land in the State where prospecting under a Miner's Right is not permitted. This includes areas used for various community purposes such as golf courses, cemeteries, and flora reserves.

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

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

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

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

Stone

Materials covered by the definition of 'stone' in the *Extractive Industries Act* 1966 (including rock, gravel, clay, sand, and soil) are widespread in the area. 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. Coal-related industrial development in the Latrobe Valley will continue to make heavy demands on stone resources, although, in the main, rock suitable for crushing is more readily available on private land.

The requirements of the shires and municipalities with regard to their needs for 'stone' production have been determined by a process of consultation, investigation, and exploration involving the shires, the Department of Minerals and Energy, and this Council.

Based on current knowledge, the Council believes that these recommendations allow the shires access to resources of gravels that, together with the resources located on private land, are sufficient to last well beyond the time when Council will next review the area.

Public land is the major source of road-making material for some shires. Although resources remain on areas of public land, they are not unlimited and Council believes that shires should be investigating now the extent to which private land could be used as a source of 'stone'.

The Council is concerned by the complexity of legislation and procedures governing extraction of 'stone'. (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 many instances, particularly with the older excavation sites, the rehabilitation of excavated land is lagging. There is need for:

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

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

Principles and guidelines

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

The Council believes that the principles and guidelines outlined below should be followed.

1. Some areas of land surface because of their inherent instability or special public significance (for example, community assets or areas with important scenic, archaeological, historical, recreation, or nature conservation values) — warrant permanent or temporary exclusion from exploration and/or extraction of 'gold', 'mineral', and 'petroleum'. The Department of Minerals and Energy and the managing authority should together determine these areas. An inter-departmental committee convened by the Department of Minerals and Energy is currently establishing the procedures to be followed by the Departments involved.
2. When tenure is issued for operations under the *Mines Act 1958* on public land, the managing authority should be consulted regarding the conditions to apply, and the supervision should be in accordance with the agreed conditions as specified in the claim, licence, or lease and with the requirements of the *Act*.
3. Consultation should continue between the land managing authorities, the Department of Minerals and Energy, the Soil Conservation Authority, and the other relevant authorities with respect to the procedures to be adopted for the exploration and extraction of 'stone' on public land. Any operations on public land should continue to be subject to the approval of the 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.

4. A system should be established that would ensure, before work commences, the availability of funds for progressive and final reclamation of any excavation or operation. Provision should also be made to enable the acceleration of the rehabilitation of all existing extraction areas on public land.
5. Royalties for materials extracted from public land, including site rental when appropriate, should be more closely related to the market value of the material. This would eliminate the temptation to use public land purely on the grounds of the nominal royalties often levied in the past.
6. The following guidelines should apply to all extraction from public land.
 - (a) The Department of Minerals and Energy should not issue leases for mining of 'gold', 'mineral', or 'petroleum' unless satisfied with the program submitted by the applicant. In the case of Miner's Right claims, prior assessment is impractical and the Department should require the lodgment of a bond as surety for adequate rehabilitation. Wherever practical, the Department should seek the lodgment of mining plans that show the expected post-mining state of the land and should state operating conditions to achieve an appropriate standard of rehabilitation acceptable to the land manager.
 - (b) No sites for the extraction of 'stone' should be opened in areas that the managing authority, in consultation with the Department of Minerals and Energy, considers to be of greater value for other uses, including aesthetic or nature conservation values. The advice of the Department of Minerals and Energy should also be sought as to the desirability of proposed excavations, having regard to alternative sources of 'stone'.
 - (c) Extraction of 'stone' should generally be concentrated on the fewest possible sites in an area, and any one site should be substantially worked out and where possible reclamation ensured before a new site is exploited. The type of excavation to be carried out should be that with the lowest environmental impact consistent with the effective use of the resource. In general, and where the nature of the resource permits, excavations for 'stone' should be deep and limited in area in preference to shallow excavations over a wide area. The extraction of granite sand occurring as shallow deposits in the weathered profile should be discouraged unless it has been established that no suitable alternatives are available. In the special circumstances where approval is given for this form of extraction, particular attention should be given to the prevention of soil erosion.
 - (d) All applications for the removal of stone from a stream-bed are submitted to the Department of Crown Lands and Survey. Before approving the application, the Department seeks agreement with the Soil Conservation Authority and the State Rivers and Water Supply Commission regarding particular measures that must be taken to prevent erosion, stream pollution, or permanent damage to the stream environment. It is also necessary that scenic and recreation values of the stream and adjacent frontages be considered.
 - (e) All extraction sites should be fully reclaimed where possible. Reclamation should follow extraction progressively when possible, but otherwise should begin immediately extraction is completed. The requirements for reclamation should be included in the conditions of the lease or licence before any approval to extract is granted. The reclamation may include, for example, replacing topsoil, revegetating the site with plantation forest, allowing a quarry to fill with water and developing the site as a park, using a gravel pit for off-road vehicles, using a quarry for garbage disposal prior to reclamation, or restoring the site as closely as possible to its original topography and revegetating it with species native to the site.

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

Recommendations

- R1** That fossicking and prospecting under Miner's Right, involving minimal disturbance of soil or vegetation, be permitted on public land other than:
- (i) those areas specifically excluded in the recommendations (see the chapters on Reference Areas and Water Production)
 - (ii) those areas that the managing authority and the Department of Minerals and Energy together may determine (see the guidelines in the section on fossicking and prospecting)
 - (iii) the areas referred to in R2 below

Note:

The Council is aware that some changes to existing legislation will probably be necessary to give effect to this and the following recommendation.

- R2** That those areas of public land currently exempted or excepted from prospecting and occupation for mining purposes under a Miner's Right, or from being leased under a mining lease, remain so excepted or exempted unless the land manager and the Department of Minerals and Energy together determine that such exemption or exception should no longer apply.
- R3** That public land in the study area (other than reference areas) continue to be available for exploration under licence and for extraction of 'gold', 'minerals', and 'petroleum', subject to Recommendation R2 and the principles and guidelines set out above.

Note:

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

- R4** That public land in the study area (other than reference areas) continue to be available for exploration for 'stone' subject to the principles and guidelines set out above.
- R5-R16** That the areas described below be used for the extraction of 'stone' in accordance with the guidelines outlined above, and if not already reserved for this purpose, be temporarily reserved under section 4 of the *Crown Land (Reserves) Act 1978* and managed by the Department of Crown Lands and Survey.

(These areas are additional to sites on larger blocks of public land that have gravel extraction as one of the recommended uses).

Note:

Portions of some of these areas are currently used for extraction of stone under an Extractive Industries Lease and those portions would not be reserved under section 4 of the *Crown Land (Reserves) Act 1978*.

- R5** 6 ha, being the gravel reserve north of allotment 53, Parish of Yanakie.
- R6** 70 ha, being the gravel reserve and adjacent unoccupied Crown Land to the east of allotment 53a, Parish of Yinnar.

Note:

The use of the eastern part of the reserve as a tip should be permitted to continue.

- R7** 2 ha, being the existing gravel reserve west of allotment 27e, section C, Parish of Boola Boola.

- R8** 4 ha, being allotment 10a and the adjacent Crown land to the north, section A, Parish of Binginwarri.

Note:

Gravel extraction should be confined to public land on the eastern side of the Albert River–Welshpool road and a screen of native vegetation should be retained along this road.

- R9** 4 ha, being the existing gravel reserve within allotment 82, section B, Parish of Binginwarri.
- R10** 7 ha, being the quarry reserve north of allotment 5a, section A, Parish of Bulga.
- R11** 8 ha, being the sand reserve north-east of allotment 4, section A, Parish of Wonwron.
- R12** 5 ha, being portion of allotments 152 and 153, and the former rifle range reserve, Parish of Alberton East.

Note:

This reserve covers the present sand pits and extends eastwards. When the deposits currently being worked are exhausted, they should be rehabilitated and any future workings should be east of the present operations.

- R13** 6 ha, being the existing quarry reserve south-west of allotment 1a, Parish of Woodside and currently the centre of operations for the Darriman Lime Quarry.
- R14** 26.7 ha, being allotment 19K, Parish of Toora.
- R15** 2.4 ha, being allotment 38B, Parish of Woorarra.
- R16** 2 ha north of allotment 37, Parish of Woorarra

Note:

In relation to public safety, nothing in the recommendations affects the powers of Inspectors under the *Mines Act* 1958 and *Extractive Industries Act* 1966. It is understood that these powers would be exercised in consultation with the managing authority.

S. UTILITIES AND SURVEY

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

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

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

Recommendations

General utilities

- S1** That existing easements continue to be used to provide access and services.
- S2** That new power lines, pipelines, communications equipment, and other utilities be planned to minimize disturbance to public land and protect the values associated with this land, that they not be sited on public land without the agreement of the management authority, and that new pipelines and power lines follow existing easements if possible (this may require widening of some easements).

Garbage and sanitary depots

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

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

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

Council notes that studies are under way in the Latrobe Valley to examine the feasibility of a waste-disposal system based on transfer stations and a large central garbage depot.

- S3** That existing legal garbage depots (including those approved by the relevant authorities but not yet operating) continue to be available for garbage disposal.

- S4 That areas used on a temporary basis (such as garbage depots and sanitary depots) be fully rehabilitated. This should apply to sites used illegally as well as those used legally. Where the user or users are known, rehabilitation should be at their expense.
- S5 That, within areas reserved as garbage depots, disposal of waste be confined to small sections of the site at any one time, and that steps be taken to prevent the dumping of garbage other than in the designated areas.

Social welfare

Two prison farms are situated within the study area, one at Morwell River and the other at Won Wron. No change is proposed for these areas.

- S6 That 63 ha, being allotment 64, Parish of Wonwron (the site of the Won Wron Reforestation Prison), continue to be temporarily reserved as a prison farm, and that protection of the native forest on this allotment continue.
- S7 That Morwell River Reforestation Prison continue to occupy its 30-ha site in Reserved Forest at Olsens Bridge.

Railway lines

Disused railway lines and railway land often carry significant remnants of native vegetation, contain buildings of historic importance, or may be suitable for cycling or walking tracks. Accordingly the potential of land for uses such as these should be carefully examined before arrangements are made for its disposal. One former railway line runs between Morwell and Mirboo North. This Crown land should be developed to provide opportunities for, and access suitable for, horse-riding or walking between Morwell and forested public land around Mirboo North.

- S8 That disused railway land within the study area be retained as public land where it may have historical, recreational, or educational value, or may eventually be needed again as routes for public transport.
- 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.

Trigonometrical stations

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

- S10 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

Andersons Inlet, Corner Inlet, and Port Albert are proclaimed ports under the control of the Ports and Harbors Division, Public Works Department. They are used by coastal shipping, commercial fishing vessels, and pleasure craft, and for the provision of services and construction facilities for offshore oil production. Additional development of these ports could occur in future if industries requiring the provision of facilities not presently available establish in the area. Because of the nature conservation values of the bodies

of water declared as ports, Wildlife Management Co-operative Areas have been recommended, with landward boundaries being low-water mark (see chapter on Wildlife Reserves).

Navigation aids and communication towers

- S11** That the minimum area necessary for access to and maintenance of navigation aids and communications towers 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 government utility have the right to occupy a minimum area around the aid and provide lines of sight.

Other utility areas

- S12** That existing legal use and tenure continue for areas that are at present reserved and used for utility purposes such as airports, public buildings, municipal depots, cemeteries, schools, etc.

T. TOWNSHIP LAND

Public land in townships is currently used for a wide range of purposes. The Council has not proposed any change of use for such public land where the present use is for schools, public halls, sports grounds, and the like. In general, public land in townships, other than those areas that have been specifically reserved, should remain as unreserved Crown land — to be used, if required, for township purposes in the future.

Recommendation

T1 That public land in townships, other than those areas that have been specifically reserved, remain as unreserved Crown land to meet future requirements.

Note:

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

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 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.

Recommendation

U1 That the land shown on the map 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.

that

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

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

Note:

The land designated as U3 (uncommitted land) in the Melbourne study area may be required for coal production in the future, and Council has included it with the land recommended for coal production.

Special features

(i) Monkey Creek Catchment

Land within this catchment is a valuable habitat for flora and fauna, and has therefore not been included in land recommended for softwood production. Council recognizes, however, that some of this land may be required for coal production in the future.

(ii) Yarram

Land to the west of Yarram golf course supports an open woodland of narrow-leaf peppermint, manna gum, yertchuk, and saw banksia with a heathy understorey, a relatively uncommon occurrence within the study area. The area has a history of utilization for sand and efforts should be made to rehabilitate areas from which sand has been extracted in the past.

(iii) Boodyarn Forest

This land contains excellent representations of shining peppermint, yertchuk, and saw banksia woodlands that do not currently overlie economically winnable brown coal resources. The floral and faunal values of this land should therefore be maintained.

(iv) Traralgon South

Council is aware of the potential of this land to supply large quantities of sand, the demand for which may increase significantly in the future. Council further recognizes that it may also be required for coal production, but believes that the native vegetation here should be protected until such time as the area is required for coal production. Consequently any extraction of sand from this land should be carefully controlled and every effort made to rehabilitate utilized areas.

Note:

Council would not oppose the approval of a current application for an Extractive Industries Lease over part of this area.

(v) Toora Tin Mines

Council is aware that this area has supplied and continues to provide large quantities of sand and gravel essential to the South Gippsland region. The Council believes that it should be carefully managed to ensure that worked-out sections are rehabilitated and reforested with species native to the area. Two Extractive Industry Leases are currently held over part of this land. The Lease areas should be fully utilized before consideration is given to approving new areas.

(vi) Gays Pit and Calrossie Pit

The Council recognizes the importance of these areas for supplies of sand, but it also considers that native vegetation makes an important contribution to the district landscape and should therefore be conserved. Council therefore recommends that the Department of Crown Lands and Survey continues its policy of restricting sand extraction to certain areas and of stockpiling materials for use by private contractors. Utilized areas should be revegetated according to the current policy of a systematic use of the resource and subsequent rehabilitation.

V. MILITARY TRAINING

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

Recommendation

- V1** That, where military training is conducted on public land:
- (a) the types of activities, and their timing and location, be subject to agreement between the Defence Department, the managing authority, and other relevant bodies such as the Soil Conservation Authority
 - (b) the training activities be carried out under conditions specified by the managing and relevant authorities, to minimize any detrimental effects
 - (c) the Forests Commission be consulted (for fire-protection purposes) with respect to training activities in protected forest and protected public land
 - (d) it be excluded from reference areas, and, except under special circumstances, from parks and other areas of recreation and conservation significance.

W. OTHER RESERVES AND PUBLIC LAND

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

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

Recommendation

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

and that

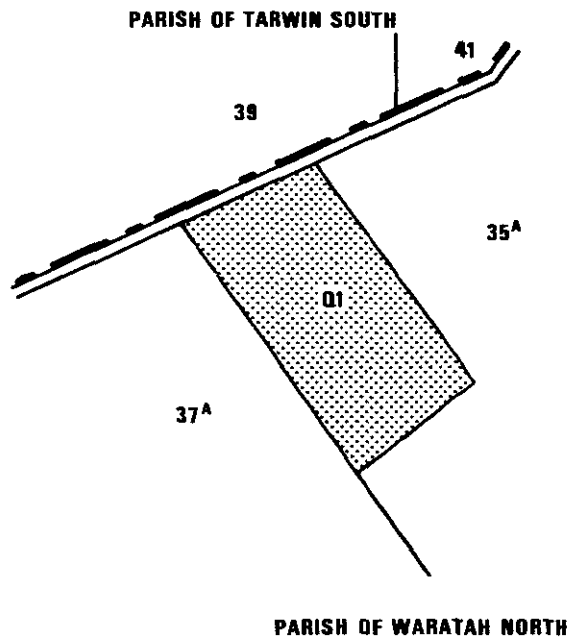
where the land is not reserved for a specific purpose at present, such areas be used in a way that will not preclude their reservation in the future for as-yet-unknown public purposes and be managed as if they were uncommitted land.

Note:

The areas designated as W2 and shown on the map need to be revegetated, and when this is completed consideration could be given to reserving them for various public uses.

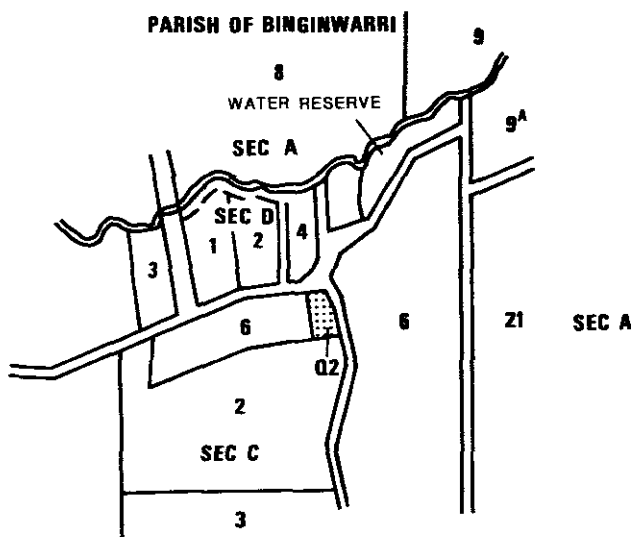
AGRICULTURE Q1
WARATAH NORTH

MAP 1



AGRICULTURE Q2
BINGINWARRI

MAP 2



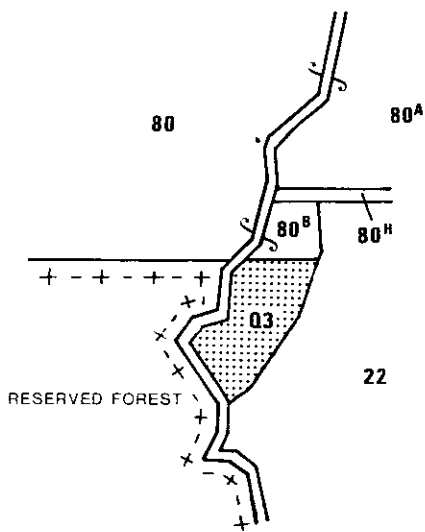
PUBLIC LAND RECOMMENDED FOR ALIENATION



SCALE 1 : 15,840

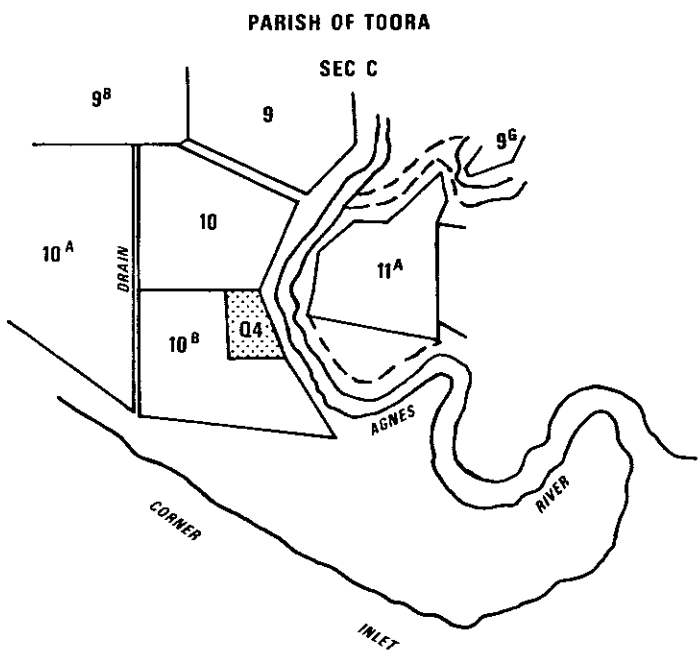
AGRICULTURE Q3
BINGINWARRI

MAP 3



AGRICULTURE Q4
TOORA

MAP 4



PUBLIC LAND RECOMMENDED FOR ALIENATION



SCALE 1 : 15,840