

LAND CONSERVATION COUNCIL

WILDERNESS SPECIAL INVESTIGATION

FINAL RECOMMENDATIONS

November 1991

This text is a facsimile of the former Land Conservation Council's Wilderness Special Investigation Final Recommendations. It has been edited to incorporate Government decisions on the recommendations made by Order in Council dated 12 May 1992, and subsequent formal amendments.

Added text is shown underlined; deleted text is shown ~~struck through~~.

Annotations [in brackets] explain the origins of the changes.

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SUMMARY OF FINAL RECOMMENDATIONS

Council has identified those few large relatively unmodified areas remaining in Victoria.

To provide for the specific protection of wilderness values, in Victoria, Council has recommended:

- endorsement of the two existing wilderness areas (other than a minor adjustment to the boundary of the Avon Wilderness Area)
- 15 new wilderness areas two additions to the existing Big Desert Wilderness Area
- three additions, in Victoria, to the Pilot and Byadbo Wilderness Areas of New South Wales

Together these areas in Victoria encompass 786 000 ha or 3.5% of Victoria (9.4% of public land). In terms of existing land tenure, 94% of the land recommended as wilderness area is within existing national or wilderness parks.

Council has outlined management principles to guide the management of wilderness areas and has also recognised the remote and natural attributes of 24 other areas across the State.

The recommendations are the result of a three-year project following a structured process involving extensive community consultations.

1. INTRODUCTION

Land-use issues are often distinguished by their extraordinary complexity, polarisation of opinion and the diverse and frequently highly technical matters that must be addressed. Accurate and accessible data are often lacking, debates are frequently unstructured and superficial, and the terms used, such as conservation, development and sustainability, lack precise, widely understood meanings.

Certain sections of the community reject any decision with which they disagree, and some even reject the authority of any institution or agency responsible for such decisions. The fact that the Council has recognised policies, standard principles and a structured process involving community participation establishes the legitimacy of its decisions.

As the Fitzgerald Inquiry Report on Fraser Island (May 1991) points out ‘there can be no outcome to this Inquiry or any other process which does not have disadvantages as well as advantages, and which will not result in dissatisfaction and complaints. Ultimately, the decisions which must be made are political and the decisions to be made are about competing values and interests’.

Mr Fitzgerald also stated that ‘this report cannot establish indisputable, immutable, factual or scientific findings or apply recognised principles to make recommendations which satisfy every need. Zero-based planning is impossible; the slate is not perfectly clean; the status quo includes not only the present natural environment, but also the lives, activities, and aspirations of communities and individuals. Although future options should not be foreclosed where that can be avoided, governments have to make essential decisions, despite uncertainties, on the basis of available information and advice’.

These comments apply equally to these final recommendations which, although they draw largely on the available information base, including that provided by the community in discussions and submissions, inevitably involve some value judgements. It is for the government to determine whether to adopt Council’s recommendations.

The Land Conservation Council

The Land Conservation Council was established by the *Land Conservation Act 1970*. One of its three functions as defined by the Act, is to carry out investigations for, and make recommendations to, the Minister for Conservation and Environment on the use of public land in order to provide for the balanced use of land in Victoria. In making its recommendations, Council is required to have regard to both the present and future needs of the people of Victoria in relation to the creation and preservation of areas of conservation and recreation value.

Council must also, under its legislation, have regard to the social and economic implications of its recommendations, and has taken the view that it must achieve a balance between community needs of public land as seen from local, regional, State, and national perspectives. As such, it provides for a wide range of uses on public land, including the harvesting of forest produce, grazing, apiculture, and mineral and stone extraction.

Wilderness Special Investigation

In August 1988, the government directed the Land Conservation Council to conduct a special investigation of wilderness in Victoria, in accordance with an Order in Council made under Section 8 of the *Land Conservation Act 1970*. The purpose of the investigation is to make recommendations on the identification, reservation and use of wilderness areas and other areas of high wilderness quality. The specific terms of reference of the investigation are outlined in Table 1.

The recommendations in this report apply solely to public land within Council's jurisdiction - that is, public land outside cities and rural cities. Council is not empowered to make recommendations for private land.

Table 1: Terms of Reference

The Council's investigation will address the terms of reference below:

1. Identify:
 - those parts of Victoria that should be protected and managed as wilderness areas
 - other areas of high wilderness quality that should be protected
 - areas with potentially high wilderness quality subject to minor changes in management.
 2. Specify the uses that would be permitted and identify guidelines for management of these areas as well as adjoining land where this is considered necessary to protect wilderness quality.
 3. Recommend any additional requirements (including legislation) for the protection and management of wilderness.
 4. Take into account the economic and social implications and the environmental benefits of its recommendations.
 5. In making its recommendations, the Council is to have regard to the following attributes of wilderness:
 - remoteness from settlement
 - remoteness from access
 - aesthetic naturalness
 - biophysical naturalness
 - size
 - ecological viability
 - capability for appropriate recreational activities
 6. The Council is also to have regard to the following values of wilderness:
 - preservation and maintenance of ecological processes and natural gene pools
 - the opportunity for native species and ecosystems, which have their intrinsic values, to exist without human interference
 - opportunities for non-mechanised self-reliant forms of recreation, inspiration, and solitude in essentially natural environments
 - the existence value of wilderness to humans; although many people may never visit such areas, many derive satisfaction simply from knowing that wilderness exists.
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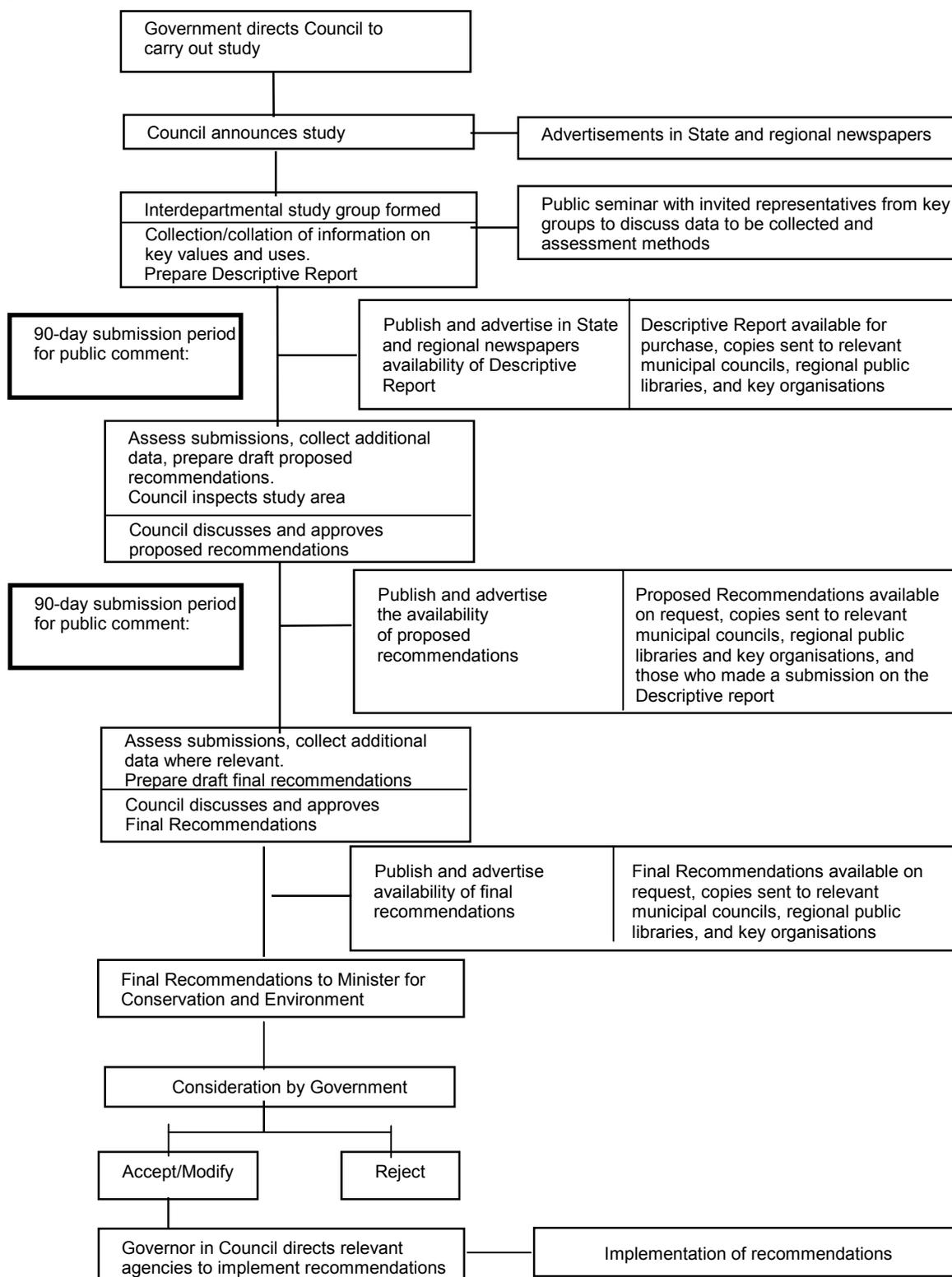
Investigation Process

The investigation process is shown diagrammatically in Figure 1.

Notices announcing the commencement of the investigation were published in the Victorian Government Gazette, in State-wide and regional newspapers in August 1988.

A seminar involving a cross-section of agencies, and interest groups was conducted using the theme 'Understanding and Investigating Wilderness' in October 1988.

Figure 1: Investigation Process



In February 1990, the Council published the 'Wilderness Special Investigation Descriptive Report'. The report describes the concept of wilderness and its values, wilderness quality and

the factors that influence it, the characteristics of areas of higher wilderness quality in Victoria, and the current and alternative land uses of such areas. The report provides a factual basis upon which members of the community could base their submissions to the Council.

A wide range of media organisations, libraries, parliamentarians, municipal councils, State government departments, and interested groups was notified of the availability of the report, with many also receiving a complimentary copy. Copies were made available for viewing and purchase in a number of city and country locations. A brochure describing the report was also prepared and widely distributed.

Submissions were sought for a period of 90 days following the publication of the report. In addition, formal briefings and discussions were held with relevant municipal councils as well as with major industry, recreation, and conservation groups. A general invitation was made for any person to contact the Council.

Prior to the formulation of its proposed recommendations, Council sought additional resource information, inspected a number of the areas of high wilderness quality with a range of values and potential conflicts, obtained the detailed comments of public land managers, and considered an independently prepared social and economic assessment.

The Proposed Recommendations were published in April 1991 to enable public comment to take place. Submissions were invited until 24 July 1991 and were forwarded to all Council members for their consideration. In addition, comments and issues raised during meetings with individuals and groups were made available to Council members.

All submissions received by the Council are also available for public inspection at the Council's offices. Author confidentiality may be requested.

Following the close of the second submission period in July 1991, it became apparent that the Council would not be able to adequately assess and evaluate all the issues raised in submissions and consider and publish its final recommendations by the 30 September 1991 deadline. The Council therefore sought an extension of time until 30 November 1991 to complete the investigation. This was approved by the Governor in Council on 20 August 1991.

These Final Recommendations are the next stage of the process followed by the Council in accordance with the *Land Conservation Act 1970*. They are presented to the Minister for Conservation and Environment for consideration by the Government.

What is Wilderness?

The concept of wilderness has evolved over a long period and many people and organisations have provided a range of definitions. The unifying theme of all such definitions has, however, been relatively consistent - a distinct environmental setting characterised by being remote and, more particularly, natural and essentially unmodified.

For the purposes of this investigation wilderness is defined as:

‘a large area with landforms and native plant and animal communities relatively unaltered or unaffected by the influence of the European settlement of Australia’.

Wilderness in Context

The dominant observable cultural influences on Victoria's landscape arise from the activities of the predominantly European settlers and their modern technological society.

The most obvious change to the landscape is the dramatic decline of the area of naturally vegetated lands. For instance, analysis of Landsat images by Woodgate and Black in 1988 showed that while 88% of the State was estimated as being covered by forests and woodlands in 1869, this had been reduced to 36% by 1972 (and to 35% by 1987). Most of these changes are the product of clearing as a result of alienation for agricultural development. Much of remaining naturally vegetated lands of the State have also been altered to varying extents, with gold mining and timber production being major contributors to change in particular areas. While all these land-uses formed the basis of an expanding Victorian economy in the nineteenth and twentieth century from which many have benefited, they have had a significant impact on the natural environment.

By the turn of the century the only remaining unsettled areas of the State were restricted to marginally productive areas of rugged terrain, extreme climate, poor soils, dense scrub and remote forest. However, following the destruction of extensive timber resources in the 1939 bushfires, and in particular after World War II as the population and demand for timber products rapidly increased, there was an expansion of settlement, roading and timber utilisation into the more remote parts of the State. Participation in many forms of outdoor recreation activity also grew rapidly and community based conservation groups became established.

In recent decades, there has been a growing awareness that the area of wilderness is limited and that a conscious effort was required if any wilderness was to be retained. Bushwalking groups were at the forefront of the concern about the diminishing areas of wilderness. Perhaps, as a result, in the 1970s the emphasis of interest in wilderness in Victoria was to retain large undisturbed areas for recreational use. The first areas set aside specifically for wilderness protection by the Land Conservation Council in the late 1970s and early 1980s were largely based on the desire to provide some areas for self-reliant forms of open space recreation and to provide for wilderness experience opportunities.

Conflicts about land use options in the remaining unmodified areas of Australia in the 1980s, such as in the northern Blue Mountains, parts of the Victorian Alps, the Franklin River, and the Daintree rainforests, have focussed the debate on the more fundamental element of wilderness - that of unaltered areas of natural land undisturbed by modern society. Groups such as the Australian Conservation Foundation and the Wilderness Society have raised the level of community awareness about wilderness.

In recent years community and government interest about wilderness has increased. In Victoria, the government has included the protection of wilderness as an integral part of its Conservation Strategy and Parliament has enacted legislation to provide secure protection, and for the control and management, of designated wilderness parks and wilderness zones.

Elsewhere in Australia the first area was set aside specifically for wilderness protection in 1943 (in New South Wales) and now most States and Territories have made, or foreshadowed, legislative provision for the protection and management of wilderness. Wilderness programs have also been developed in many other countries including the United States of America (particularly since its *Wilderness Act* of 1964), Canada, New Zealand, Zimbabwe and South Africa, all of whom have specifically designated wilderness protection areas and/or zones. A number of other countries are also developing wilderness programs.

An expanded discussion of the development of the concept in North America and Australia is provided in the Descriptive Report.

Values of Wilderness

Most of the advantages of maintaining wilderness relate to direct use of such areas by individuals - largely for self-reliant recreational use including solitude, inspiration and challenging activity; and use by society as a whole - contributing to nature conservation, scientific and educational, and water resource uses. While many of these values can be derived from a range of natural areas, many of them are maximised in wilderness.

In addition, there is value in retaining some areas at a minimal level of development to maintain the spectrum of environmental settings from highly developed through to undisturbed and to ensure that future generations can enjoy wilderness if they wish. Wilderness also has values arising from its intrinsic worth - that areas of wilderness be kept for their own sake. A more comprehensive discussion of the values of wilderness is provided in the Descriptive Report.

Why Protect Wilderness?

Probably no areas totally unaffected by our modern society remain today in Australia. A previous survey of Victoria (Feller *et al.* 1979) identified that less than 3% of the State could be considered as wilderness of highest quality according to specified criteria and, as noted in the State Conservation Strategy (Victorian Government 1987), this area is still decreasing.

Data from the Survey of Wilderness Quality in Victoria (Preece and Lesslie 1987) also illustrates the dramatic changes that have occurred in Victoria. There are now only nine localities in the whole of the State that are more than 15 km from settlement and only three localities are now more than 15 km from a road. Even more dramatically, only four localities are greater than five kilometres from a formed vehicular track (none of which are in the Alps), with the Sunset Country and Big Desert being the only two localities in the State that are greater than five kilometres from any kind of track or structure.

The largest trackless and structure free area, outside the Sunset and Big Desert areas, is in the Mount Darling/Snowy Bluff area in the Wonnangatta River catchment, an area of about 40 000 ha. Only the Sunset, Big Desert, the Avon, Wilsons Promontory, and the upper Genoa River, contain areas greater than 10 000 ha without any tracks, structures, or obvious past use. These appear to be the least modified areas of any appreciable size remaining in the State.

Victoria's landscape has clearly changed, and is continuing to change. Since the Preece and Lesslie survey of 1987, vehicular tracks have been upgraded and new roads constructed and timber has been extracted from previously undisturbed areas.

Even where relatively undisturbed areas are included within national parks, they are still subject to pressures of increased recreational activity and pressures for an incremental upgrading of track networks and facilities. In the absence of specific recognition of their wilderness values and corresponding management action, these special qualities may become degraded in the longer term. The protection of wilderness values is, however, an appropriate function of national parks; as is reflected in international criteria for national parks, in Victoria's national park legislation, and in Council's national park policy which has long stated that wilderness zones could be designated within a national park.

The protection and management of some relatively large areas of the State in a way which minimises the extent of disturbance provides a balance to the extensively developed areas elsewhere. It also helps to halt the trend of incremental development in some parts of the State. Council therefore considers that it is appropriate to undertake a State-wide investigation of

wilderness to ensure that such a balance is maintained, and to concurrently review Council's present wilderness policy which has been virtually unchanged since its adoption 15 years ago. This policy is described in the Descriptive Report.

New Information

The Council in its previous regional studies, which have now covered all of the State, has recommended specific wilderness areas, and recognised the wilderness value of other areas. In these previous studies, however, the Council has considered wilderness primarily as a recreational setting.

New information, notably the Survey of Wilderness Quality in Victoria (Preece and Lesslie 1987) is now available, as are national guidelines for the reservation and management of wilderness areas and inter-national definitions and criteria. These consider wilderness as a condition of the land, generally characterised by remoteness and naturalness, rather than by the consideration of recreational value.

Preece and Lesslie's survey provided, for the first time, a basis for the quantitative comparison of the wilderness quality of lands throughout Victoria. Its underlying premise is that there is a continuum of wilderness quality, where wilderness quality is defined as 'the extent to which land is remote from and undisturbed by the influence of modern technological society'.

The survey assessed wilderness quality by the variation in measurement of four indicators: remoteness from settlement, remoteness from access, aesthetic naturalness (that is the degree to which an area is free from the presence of structures), and biophysical naturalness. The results of the Preece and Lesslie survey have provided an important input into the Council's wilderness investigation.

The Major Government Strategies

The Victorian Government has developed three integrated strategies. These relate to social justice, economic development, and conservation. The Social Justice Strategy provides for equity through fairness of access to goods and services, opportunities for people to participate in decisions that affect them, and the protection of people's rights. The Economic Strategy aims at improving Victoria's competitiveness through improvement of the State's economic environment, and the identification and development of its competitive strengths.

In its Conservation Strategy for Victoria, the Government outlines a philosophy and a program of actions designed to protect and enhance our natural and cultural heritage and to achieve sustainable development through conservation. It also includes a number of specific references to wilderness. The document states that one of the Government's objectives for protecting flora and fauna is to 'preserve remaining areas of high wilderness quality'. It further states that 'the few remaining tracts of wilderness will be identified with a view to ensuring their protection in reserves'.

To further this aim, the Strategy notes that the management of wilderness areas will be guided by the principles and guidelines adopted by the Australian Council of Nature Conservation Ministers but that the principles will be further refined. These have subsequently been reflected in amendments to the *National Parks Act 1975*.

The Strategy is also concerned to limit the effects of fire, logging, grazing and road construction on, among other things, forest wilderness ... which it aims to protect, and that 'non-consumptive uses such as wilderness protection will be given greater priority than ever before'.

Council's Wilderness Special Investigation addresses these aspects of the Strategy, while also taking into account social and economic considerations, as required under the *Land Conservation Act 1970* and the Conservation Strategy for Victoria (Victorian Government 1987).

Information Sources

In formulating its recommendations Council has used information from a range of sources.

The results of the first stage of the Investigation, as published in the 'Wilderness Investigation Descriptive Report' (LCC 1990) provide much of the required basic information. The report was compiled by Council officers in conjunction with a study group using a range of government and non-government sources, including both published and unpublished references. The report provides information on:

- the concept of wilderness
- the identification and protection of wilderness in Australia and overseas
- wilderness values
- current approaches to wilderness in Victoria
- the remaining areas of high wilderness quality in the Victorian context
- uses that have and are likely to influence wilderness quality
- an overview of wilderness quality in Victoria
- the wilderness quality of special areas, such as off-shore islands
- possible approaches to wilderness protection.

The report also includes detailed descriptions and maps of 23 study blocks which include areas of high wilderness quality. The report can be inspected at the Department of Planning and Housing Library, as well as many regional libraries. It can also be obtained by inter-library loan.

The study group, consisting of Council staff, Governor in Council appointees to Council, and officers nominated by the other Council members, assisted in the collection and review of detailed material on existing and potential uses in areas of identified higher wilderness quality, and assisted in the preparation of the Proposed Recommendations.

Following the publication of the Descriptive Report and the Proposed Recommendations, the Council's Chairman and research staff met with representatives from many rural municipal councils in and around the areas studied in detail. Meetings were also arranged with a number of interest groups, including conservation groups, industry groups, and a range of recreation groups. In all over 40 meetings were held. Field inspections were also undertaken by Council members and research staff.

Numerous government departments, public authorities, community and industry groups and individuals have provided much information about the values and uses of such areas, in their submissions to Council, and have thus expanded Council's information base. A list of issues raised in each meeting, as well as those identified in submissions was forwarded to all Council members for their information and consideration. An outline of the issues raised is given in the following section of the Introduction.

In response to these submissions, Council sought additional information on specific issues from published literature and other sources including a number of government departments.

Information from two specially commissioned consultancies was also utilised. The results of the first study, a survey to obtain an indication of society's perception of wilderness and its attitudes towards, and expectations of, wilderness (Roy Morgan Research Centre Pty Ltd 1989) are outlined in the Descriptive Report.

The second commissioned study was a social and economic assessment of candidate wilderness areas undertaken by Econsult (Australia) Pty Ltd (1990). An outline of this study and its conclusions is provided below.

The full report of both studies are available for inspection at the Department of Planning and Housing Library or through inter-library loan.

Issues Raised in Submissions

Following publication in 1990 of the Descriptive Report, Council received 605 submissions and letters; a further 2045 were received following publication of the Proposed Recommendations. These provided information, opinions and comments which were considered by Council prior to the preparation of these Final Recommendations. They have not, however, been treated as if they were responding to a poll or referendum.

Submissions were received from a cross-section of the community. They indicated the large number of individuals that have an interest in the State's public lands, and included a wide range of interest groups and organisations, as well as many municipal and State government bodies. A significant number of the submissions were from individuals who had first-hand knowledge of the respective areas. About half the submissions came from country areas.

Table 2 summarises the sources and types of submissions received in response to the Proposed Recommendations. A complete list of all those who made submissions, in response to both the Descriptive Report and the Proposed Recommendations, is provided in Appendix I.

All of the submissions are available for inspection at the Council's office.

Table 2: Source and type of second submissions (as at 3/10/91)

	No. of submissions
Number of Submissions:	
Total number received	2045
Submission Type:	
Standard response	1167
Other	878
Place of Origin:	
Melbourne	952
Country	837
Interstate	162
Other	94
Type of Group Making Submission:	
Government departments	12
Municipal councils	17
Individual	1843
Interest group (see below)	173
Breakdown of Interest Group:	
Academic	1
Conservation	44
Industry	25
Recreational	62
Other - e.g. commercial business, local fire brigade	41

Note: The table includes the letters received after the closing date for submissions.

The first round of submissions contained a diversity of views about the wilderness concept itself, the need for wilderness areas and their benefits, methods of reservation, size, potential uses, and

management, and they suggested specific areas to be managed as wilderness, as well as canvassed other issues and conflicts related to the investigation.

In the second round of submissions, some also discussed these issues, but most focussed on the Proposed Recommendations in terms of the areas proposed (or not proposed) as wilderness and in terms of their uses and provisions for management.

Council appreciates the significant time and effort put into the preparation of the submissions.

The majority of submissions and comments received supported the need to maintain some areas in the State in an essentially natural condition; and there was general agreement that such areas are special. However, suggestions on their location, extent, management, appropriate uses, and the need for their restoration varied considerably.

The differing views raised in the submissions are summarised in the next section. An overview of the issues raised is provided in Table 3. A more comprehensive breakdown is available from the Council.

Outline of Issues Raised

The inclusion of issues in the following outline does not necessarily imply Council endorsement or rejection of the opinions expressed. Council is also aware that some statements made in submissions are factually incorrect.

Although the following outline is drawn principally from the submissions to the Proposed Recommendations, information from those in response to the Descriptive Report is also included, as the Council has considered information from both sets in formulating these Final Recommendations. Comments received about specific areas of land are mentioned where relevant in Chapter 3: Wilderness Areas and in Chapter 5: Other Areas with Remote and Natural Attributes.

Need for and benefit of wilderness

The view was maintained that wilderness is an uncommon and diminishing feature in Victoria that should be protected now so that future generations may experience such areas in an undeveloped state. It was also stated that a balance of land use had long passed and, as no wilderness remains on private land, all that found on public land must be protected and enhanced.

Some considered that the areas proposed were inadequate to achieve protection of their values. Others held the view that wilderness is part of our natural and cultural heritage and that it has an intrinsic right to exist, irrespective of any human benefit.

In contrast, other submissions expressed the view that there was no need for special wilderness protection, that the nature of the terrain already protected the highest quality areas, and that the form of protection provided in national parks is sufficient.

Benefits seen from setting aside land as wilderness areas included the preservation and maintenance of natural systems, protection of water supplies, combating the greenhouse effect, or the provision of educational and recreational opportunities. Others felt that they provided an outlet for stress from modern society, or that they should be preserved so that future generations may decide their uses.

Table 3: Overview of issues raised in second submissions (as at 3/10/91)

Major issues raised in submissions	Number commenting
Need for and benefit of wilderness	274
Definition and criteria	250
Areas suggested for protection:	
Mallee area	69
Alpine area	169
East Gippsland	87
other areas	224
Activities in areas proposed:	
grazing	299
mining, exploration	371
commercial tours	124
vehicular access	613
horse-riding	252
hunting	1177
structures	55
other activities	59
Management and legislation	104
Fire issues	93
Introduced species	67
Resources and cost implications	42
Other issues	122

Notes:

1. This list includes the letters received after the closing date for submissions.
2. Most of the submissions and letters commented on more than one issue.
3. Opinions related to the above issues varied considerably.

There was concern that access to wilderness areas was discriminatory. Opinions were also expressed that many of the perceived benefits of wilderness can be derived from any substantially unaltered natural area and that the quality of life is not dependent on just self-reliance and solitude, rather, it is dependent on a range of recreational activities. It was believed by some that these values and benefits will remain, regardless of the designation of the land, provided sensible management is applied.

Definition and criteria

In the first submissions, the suggested definitions of wilderness ranged from the philosophical to the empirical, but it was generally held that the concept concerned large, natural and little modified areas.

Whereas, in the first submissions, there was some confusion about the terminology of the wilderness concepts, the second submissions were more able to focus on the application of the philosophies and concepts to particular areas.

There was little dispute about the definition of wilderness proposed by the Council, although some people believed that freehold land should have also been considered. There remained, however, many differences in opinion on how this definition might be interpreted so as to incorporate or exclude certain areas of land that have been altered to varying extents by past or present uses, or that lie close to conflicting influences.

Discussion about the nature and levels of existing disturbances that would determine the inclusion or exclusion of an area as wilderness revolved around the ability of the land to recover its natural condition or the amount of extra management that would be required to achieve this. The inclusion of disturbed land was opposed in some cases on the proposition that, by definition, disturbance disqualified the land from consideration.

Some submissions considered it necessary to not only exclude some activities but to actively remove features incompatible with wilderness, such as structures or vehicular tracks, to enhance those areas set aside. Others considered that the land is already irreversibly compromised by past activities and by the presence of exotic species, and that wilderness cannot be created.

Observations about roads and tracks and the need to retain or eliminate them were submitted by a large number of people. The principle concern of many was to retain existing access for fire protection, safety and recreation. Others were concerned that any track within a wilderness would compromise its values even if maintained for management purposes only.

As in the first submissions, some did not recognise the differences in definition and purpose between reference areas, national parks, nature conservation reserves, general bushland, and wilderness areas.

Without the focus of proposals from the Council about specific wilderness areas, views in the first submissions about the appropriate size for wilderness areas varied and, while some were based on consideration of the ability of an area to survive as an ecological entity, others were concerned about the sustainability of uses or the impacts of adjoining land uses. Some suggested minimum sizes while others considered that they should be as large as possible.

The preambles to the specific recommendations made in Chapter 3 include comments made in the second submissions about the sizes of individual areas and suggestions on how to extend or reduce them. In general terms, there were varying views that either too much or too little of the State was proposed for wilderness protection, or that the individual areas were too large or too small. It was also suggested that no area of the State was large enough to escape the influences of outside pressures, and, alternatively, even the smaller unaltered areas should be protected to prevent incremental change.

The desirability of using natural boundaries or permanent features such as roads as the boundary to wilderness areas and the use of a setback to separate protected wilderness from freehold land was generally recognised, although some felt that wilderness should extend to the public land/private land boundary.

The issues of set-backs or buffers between wilderness areas and roads, tracks, freehold or other structures were raised principally in terms of the management of fire and introduced and native plants and animals. The suggested sizes of the buffers varied, principally in terms of the forms of activities under discussion, and their proposed locations ranged from within the boundary of the wilderness areas to their delineation over adjoining land, including freehold land.

Areas proposed for protection

Many of the submissions to the Descriptive Report made general suggestions on the need to designate wilderness areas in various parts of the State, while some made specific comments on particular areas.

The Proposed Recommendations enabled people to focus on those that the Council considered contained the requisite wilderness values. Some supported Council's proposed areas, others

suggested boundary amendments to either avoid conflicting uses or to extend the areas, or nominated other areas in the State that should likewise be protected. Others were concerned about the principle of some or all of the areas' inclusion as wilderness. Much of this concern was based on the impact that wilderness designation would have on existing uses or were considered not to meet wilderness criteria.

About 50 further areas were suggested for wilderness designation. Their range included most that the Council had described as 'other areas with remote and natural attributes', areas of rainforest, those that become remote in winter, and some that are modified or close to settlement. In many cases their suggestion indicated a concern about how the land is or might be managed or, as noted previously, uncertainty about the differences between wilderness designation and other land-use categories.

Activities in wilderness

The suggested uses reflected the particular interests that the correspondents had in the areas under discussion. These included almost all of the activities now carried out on the respective areas of public land. Most supported at least some form of recreational use of wilderness, particularly non-mechanised types such as those involving walking. Cross-country skiing or canoeing were also seen as appropriate uses within their respective environments. Other interest groups variously suggested that four-wheel-driving, horse-riding, use of helicopters, and fishing, were appropriate, whereas others disagreed.

Many submissions highlighted hunting, particularly deer-hunting, as an issue. These discussed the principle of hunting as a wilderness activity, its use as a management tool, and the specific areas of value for the activity, as well as the impact that deer have on the natural environment. Concern was expressed about the presence and use of weapons and hounds.

There was general concern that most commercial activities would place too much pressure on the features that they sought to use.

The need for, or potential loss of, vehicular access, either as a principle or to specific areas, received considerable comment in the second submissions. Some focussed on the impacts of the tracks themselves, while others discussed the benefits of being able to gain access to certain areas or the need to retain the tracks for management or emergency. Submissions also proposed additional track closures to public vehicles.

Similarly, the issue of grazing received considerable comment. Some focussed on environmental matters, either in aesthetic or biological terms, while others considered the potential impacts on the cattlemen, or the suggested forms of licensing or phase-out of grazing.

Mineral exploration was also suggested by some as an appropriate use based on its demonstrated low impact and the importance of learning about the potential resources of the State. Others were concerned that exploration in an area could lead to mining and that such activities are currently excluded from wilderness areas by Acts of Parliament. The economic importance of mining was discussed by both the protagonists and those in opposition, as were the environmental impacts.

Timber harvesting was generally considered to be an inappropriate use of wilderness. It was stated that the delineation of the areas should not reduce the availability of timber. It was also stated that the current requirements of the timber industry should not determine the delineation of wilderness because of the suggestion that, in the future, the industry will depend on plantations.

The corollary to discussion of those uses which should be permitted in a wilderness is consideration of facilities allied to such uses. The majority of those who addressed this issue considered that any artificial structures either not be permitted or kept to a minimum, and any practice that affected the natural environment be excluded. There was concern that even minor impacts could have a cumulative deleterious effect and that any human use has an impact.

For land surrounding the wilderness 'cores', it was suggested that activities could be staged to permit increasing utilisation with increased distance from the core. These 'buffer' areas were seen as providing the opportunity to undertake fire, vermin, and weed control activities without compromising the values of the core. Nevertheless, it was considered that the land outside a wilderness area should be managed to enhance the opportunities for activities that are incompatible with wilderness, thereby reducing the pressure on the wilderness area itself.

There was also the suggestion each activity should be treated on its merits; with the understanding that none would be automatically excluded to protect recognised wilderness values.

Management and legislation

Many submissions considered that the major thrust of management should be directed towards enhancing wilderness values - particularly those associated with nature conservation. It was also suggested that protection could be gained by public education rather than by the imposition of management or regulations. While some concentrated on the need to manage specific activities, others expressed concern that the level of management that would be afforded the areas would be insufficient. The development of management plans, including fire protection plans, was considered important.

While not opposing the need to protect wilderness values, some submissions put the view that there was no need for special legislation as the existing provisions for national parks would suffice. In addition, not all submissions advocating wilderness were necessarily seeking more areas for incorporation into protective categories. The alternative view was that protection was needed beyond that offered by the national parks legislation.

Whereas the methods of designating the protected areas, as suggested in the first submissions, ranged from a single category for all areas, with management aiming to enhance wilderness values, up to a variety of four-tier systems, there was general consensus that the Council's proposal of a single category of wilderness protection was acceptable. With respect to the identification of 'other areas', it was considered important by many to prevent the further deterioration of these areas. Some felt that the provisions for such areas should be strengthened, whereas others feared that they could become wilderness areas in the future.

Fire issues

Concerns about fire were raised in a large number of submissions, in terms of the effects that wildfire or fire management could have on the environment, as well as the need to protect public and private property.

The submissions discussed wildfires, the desirability or otherwise of letting naturally caused fires burn; fuel-reduction burning; the effects of grazing on reducing fire hazard; different levels of public access; and the fire history of specific areas. Fire-control activities in the buffers to wilderness areas were seen by many as integral to management.

Introduced species

The presence, control, and uses of introduced animal species in relation to wilderness, particularly brumbies and deer, were mentioned in many submissions as were, to a lesser extent, trout and bees.

Some suggested that wilderness would always harbour vermin and weeds. Others considered that the removal of conflicting activities, such as grazing and vehicular access, and the restoration of native vegetation would preclude invasion by exotic species. Hunting was advocated by some as a way of controlling introduced animal species, including deer. Buffer areas were also seen as important areas in which to carry out control activities.

Resources and cost implications

There was general agreement that if areas are designated for wilderness protection then adequate resources should be provided to manage such land.

Some considered that effective management of the areas would be at significant cost, whereas others considered that it would reduce the cost. Some considered that cost considerations should reflect the value of the economic development (such as mining, grazing, local tourist activities) that would be foregone and there was concern that, although the impacts of the wilderness proposals alone on local economies are not great, the combined impact of these and other land-use decisions that remove resources from utilisation could cause further closure of businesses and further loss of people from rural communities.

Various submissions suggested that the costs and benefits to the community of either having or not having wilderness areas should be determined. On the other hand, it was suggested that decisions based on social and economic considerations are the task of government and that the Council's task is only to identify the areas. Comment was also made that there are considerable difficulties in attempting to place monetary values on intangible benefits.

Other issues

A number of the first submissions commented on the Roy Morgan Research survey on attitudes to wilderness. Concern was expressed about the nature of the questions and the ability of the respondents to provide meaningful answers, given their possibly limited knowledge of wilderness.

Some suggested that the relative impacts on user groups had not been fully considered, especially the impacts on those local people that derive income from the land.

It was suggested that where uses recommended by Council require legislative change such as to permit deer-hunting, that it was critical that the appropriate changes to the relevant Acts be passed prior to the declaration of the wilderness areas.

Development of the Recommendations

Having read and considered the submissions to the Descriptive Report and the Proposed Recommendations, the responses obtained from direct contact with interest groups and municipalities, and the indications of community attitudes outlined in the Morgan Research, Council believes that it is appropriate to identify and protect a number of wilderness areas and other areas of high wilderness quality.

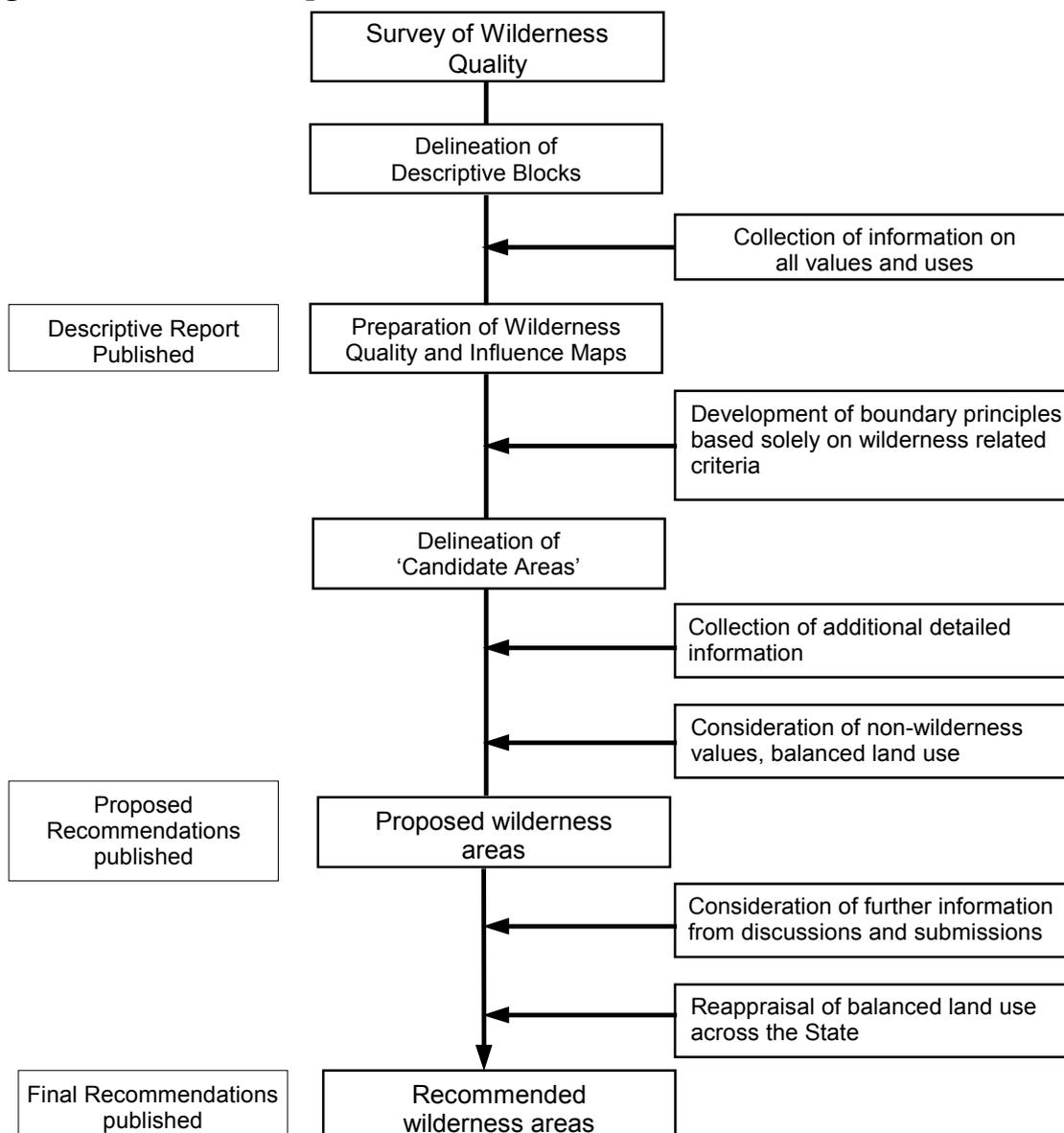
Council also concluded that, subject to the consideration of the social and economic implications of such protection:

- it is appropriate that areas of highest wilderness quality and associated relatively undisturbed areas be given highest protection, and that areas of lower but still relatively high value be given protection to at least maintain their present condition and that
- it is not appropriate for this special investigation to attempt to identify and protect all relatively unmodified or natural areas, or to attempt to protect all areas that may provide a sense of remoteness or a wilderness experience, as public perceptions of these vary widely.

Identification Process

Figure 2 outlines the process used by Council to assist in identifying those parts of Victoria to be managed specifically for the protection of their wilderness values.

Figure 2: Generalised process of identification



Council's approach was to focus on nodes of highest wilderness quality (generally corresponding to class 5 and above as measured by Preece and Lesslie, and as mapped in the Descriptive

Report) and move outwards across land of similar physical condition (or naturalness) towards the edges of major disturbance (being areas intensively grazed or logged as well as major structural boundaries such as roads or the edge of settled land). The wilderness quality values recorded in the Preece and Lesslie survey were thus used to provide the focus of the area to be protected, but not to define the boundaries to them.

Boundaries were defined by the application of a set of principles to detailed plans (at a scale of 1:100 000) of the physiography and land uses of the descriptive blocks. The set of principles used for establishing boundaries accord with the more general criteria of the Council of Nature Conservation Ministers (CONCOM) and the International Union for Conservation of Nature and Natural Resources (IUCN) which are, respectively, the recognised national and international standards - see Appendix II.

The principles used are listed below:

Boundary lines

- Boundaries should reflect natural boundaries, such as catchment divides or rivers, wherever possible. In some circumstances, for instance, where disturbance on a divide could result in impact, it may be appropriate for the protective area boundary to be a specified distance beyond the natural boundary. The break of slope of an escarpment may in some circumstances also be an appropriate boundary.
- Where natural boundaries are not obvious (for instance in contiguous areas of semi-arid vegetation without disturbance changes) or inappropriate (for instance where major disturbance is present between the natural boundary and the area of highest quality) other boundaries such as roads or the edge of settled land should be used. Boundaries could correspond directly to these features or preferably, and where practicable, be a defined distance from that feature.

Size and shape

- No absolute minimum size requirement is defined. It is assumed that the relationship between the area of high value and the adjoining land use is the critical factor. That is, whether it is surrounded by settled land (cleared farmland) or by natural lands (State forest or national park) is of greater relevance to defining the effective size of a protected area, than the size of the area itself. It is clear, however, that the larger the protected area the more ecologically secure it will be. See Appendix III for further information on size from an ecological viewpoint.
- The 25 000 ha guideline, proposed by CONCOM (1986), is used as a guide for the minimum size of a protected area. It is expected that only in exceptional circumstances would an area protecting wilderness be less than 10 000 ha (which also reflects the inclusion threshold used in the Preece and Lesslie survey).
- Protected areas should ideally have a low perimeter-to-area ratio (a circular shape being the theoretical ideal).

Buffers

- Unless otherwise impracticable, all areas requiring specific management to maintain or enhance wilderness quality should be included within the boundary of the designated protected area. That is, in most instances, any buffer required to protect the areas of highest wilderness quality should be included within the protected area boundary. It is not envisaged that there would be any specific restrictions on land use on adjacent public land.

- To avoid ‘edge effects’ which might reduce the naturalness of a protected area and to permit more intensive management practices in adjacent areas, boundaries should not abut (cleared) freehold land.

Restoration

- Wilderness area boundaries should be defined with an awareness that restoration, or techniques to enhance wilderness quality could be carried out within the area identified.
- Generally a minor disturbance, such as that arising from low intensity grazing, or a low density of vehicular tracks or minor structures, is not considered to be necessarily limiting. There may also be some circumstances, for example where required size, shape or buffer criteria would otherwise not be met, where small areas of major disturbance may be included in a protected area, in order to provide a more appropriate protective area boundary.

The next step in the identification process was a mapping exercise which applied the boundary principles consistently across all areas of each descriptive block and which led to the exclusion of large parts of many blocks. The remaining areas were reviewed, and a number were considered marginal and deleted. Such areas were generally at the limits of size or shape criteria, or had several major disturbances within the natural boundary. (Excluded areas, nonetheless, may contain important wilderness-related values. Such areas are discussed further in Chapter 5).

As a result of this process, those areas which met the established criteria described above, were identified. For the purpose of further investigation, these areas were termed candidate areas. They were delineated solely on the basis of their wilderness values. In all, Council delineated 22 candidate areas.

Further detailed information was sought on the candidate areas including information on their condition, the other values they possessed, and the possible socio-economic cost and benefits of the range of activities occurring within them. A major part of this task was met through a socio-economic assessment which is described in the next section of the Introduction.

In many instances it was possible, by making minor adjustments to the ‘candidate area’ boundaries, to avoid conflicts with other non-wilderness values while still ensuring the protection of the areas of highest wilderness quality. In other instances Council has had to choose between the protection of wilderness values or provision for other land use activities.

Major portions of many of the candidate areas have now been proposed by Council to be wilderness areas. The other areas were excluded because of their smaller size, their comparatively greater disturbance relative to their size, or because of competing land uses. Nonetheless, most of the excluded areas have important wilderness-related attributes, and have been included in the listing of other Areas with Remote and Natural Attributes in Chapter 5.

In preparing its final recommendations, the Council has responded to many of the points made in discussions and written submissions received since the publication of the Proposed Recommendations.

In its consideration of detailed boundaries, Council has also been aware of the desirability of boundaries to be conducive to management. To this end, boundaries should be easily identifiable and avoid bisecting non-conforming existing use patterns. The use of natural boundaries (one of the candidate area boundary criteria) has generally facilitated the attainment of this objective.

Approach to Uses in Wilderness Areas

Council has considered that uses of wilderness areas be determined according to their compatibility with the primary aim of maintaining or enhancing wilderness quality. It is also aware that the consideration of uses needs to be put in the context of a 50- to 100-year period.

Uses affecting wilderness quality

All those features that influence wilderness quality, as measured in the Preece and Lesslie survey, are listed in Table 4 (which is reproduced from page 115 of the Descriptive Report).

Table 4: Features influencing wilderness quality

1.	Urban areas where natural vegetation has been largely or completely replaced
2.	Agricultural areas where natural vegetation has been largely or completely replaced
3.	Timber plantations where natural vegetation has been largely or completely replaced
4.	Pastoral areas where natural vegetation has been largely or completely replaced
5.	Recreational areas where natural vegetation has been largely or completely replaced
6.	Water reservoirs where natural vegetation has been largely or completely replaced
7.	Towns
8.	Houses
9.	Resort developments
10.	Homesteads
11.	Operating mines
12.	Operating sawmills
13.	Lighthouses, both those occupied and unoccupied
14.	Electricity generation facilities, whether occupied or unoccupied
15.	Communication installations, whether occupied or unoccupied
16.	Major two-wheel-drive roads
17.	Minor two-wheel-drive roads/tracks
18.	Constructed and maintained airstrips
19.	Railways, both those operating and disused
20.	Four-wheel-drive tracks
21.	Huts
22.	Ruins
23.	Windmills
24.	Yards (and fencelines)
25.	Bridges
26.	Helipads
27.	Towers
28.	Quarries
29.	Camping grounds
30.	Small dams
31.	Jetties
32.	Channels
33.	Pipelines
34.	Aqueducts
35.	Powerlines (major and minor)
36.	Snow pole lines
37.	Abandoned equipment
38.	Selectively logged areas
39.	Clear-felled areas
40.	Areas grazed at low and high intensity
41.	Bee-keeping sites
42.	Brush-cutting areas
43.	Past mining operations in river valleys
44.	Areas of frequent fuel-reduction burning

Source : Preece and Lesslie (1987)

To meet the objective of maintaining wilderness quality, at a minimum, no additional examples of those features listed in the table should be permitted within a protected area. Similarly, the most obvious method of enhancing the wilderness quality of an area is to attempt to remove or rehabilitate ('revert') the evidence of any such feature.

Any use reliant on the creation of additional features would be incompatible with an objective of maintaining or enhancing wilderness quality, as would most uses reliant on the continuing presence of these features.

Of the four indicators used to measure the remoteness and naturalness attributes of wilderness, Preece and Lesslie had difficulty in defining features which gave a true and simple measure of biophysical naturalness - which they defined as 'the degree to which the natural environment is free of biophysical disturbance due to the influence of modern technological society'. (Biophysical is a term used to encompass biological features, such as plants and animals, as well as physical features, such as soils and land forms). As such, the features listed in Table 4 only give a general picture of those which affect biophysical naturalness.

The continuation of any resource utilisation activity, such as timber extraction and mining or the introduction of non-native animals through grazing of livestock would be incompatible with the maintenance or enhancement of biophysical naturalness and thus the maintenance or enhancement of wilderness quality. Other uses, including various recreational activities, will also have some impact. The degree of impact of such uses varies and often is more related to the manner and intensity of use, rather than to the use itself.

It cannot be assumed however that an existing use, even at current levels, will necessarily mean that the existing condition of the natural environment of a given area will be maintained.

Uses affecting derived benefits

In addition to considering those uses which directly affect wilderness quality, Council considers it appropriate to give particular attention to those uses which derive special benefits from such areas.

For instance, wilderness environments are particularly important as settings for various types of recreation and for the attainment of a wilderness experience by visitors to such areas. The uses which appear to relate specifically to this are usually defined in terms of non-mechanised, self-reliant forms of recreation, inspiration and solitude (see also pages 39–42 of the Descriptive Report).

While wilderness experience needs are considered met if the natural systems are little disturbed, other recreational uses, such as those involving use of firearms or those generating excessive noise, may be in direct conflict.

As well as giving consideration to use and management based on providing for wilderness experience, Council considers it is appropriate to give specific consideration to the derived benefits of other uses of wilderness. For example, protection of scientific reference or nature conservation values, particularly where they occur in sensitive environments or in the environs of rare species or fragile communities, may require that recreational use be limited.

Socio-economic Consultancy

As mentioned previously, Council commissioned a consultancy into the social and economic benefits and costs that could arise if certain land use activities were precluded from the candidate

areas described earlier. This consultancy was undertaken by Econsult (Australia) Pty Ltd. In seeking an independent appraisal, Council requested that the consultants assess the implications of all known resource and development issues. Each candidate area was examined by the consultants, and their analysis assisted Council in clarifying any implications prior to its making a decision about the proposed recommendations.

Government agencies with responsibilities for water, timber and mineral resources, and agricultural and industrial developments provided information to assist the consultants, who also had access to a systematic description of the available timber resources within each candidate area.

The study process used by the consultants involved four stages; a desk top review, quantitative analysis, qualitative analysis and comparison and summary:

Stage 1 - Desktop review

This stage involved an initial review of background material to the wilderness investigation, a literature review and the collection and collation of relevant statistics from government and industry sources.

Stage 2 - Quantitative analysis

Where appropriate, the likely costs and benefits accruing to each candidate area were analysed in monetary terms. The bases for analysis were government and industry statistics and information obtained from mail-out questionnaires. Questionnaire data formed an important information base for the analysis of livestock production, apiculture and tourism sectors.

Stage 3 - Qualitative analysis

For a number of issues, the likely costs and benefits could not reasonably be analysed in monetary terms. In particular, wilderness and recreation values required a more qualitative analysis. Peak bodies representing key recreation groups were consulted, while wilderness values were considered in the light of the results obtained from a literature review. Appropriate government and industry officials were consulted for all identified issues. They also provided insights into broader issues and provided access to relevant statistical information.

Stage 4 - Comparison and summary

The information obtained from the study was then synthesised. The social and economic implications of the implied land use change were assessed for each candidate area and, where appropriate, associated regions. Wilderness values were assessed separately. A comparative summary of the issues was then developed for candidate areas using qualitative and quantitative assessment.

Conclusions

The consultants concluded that the contribution of the candidate areas to State-wide or regional production or activity was generally low, other than for the contribution that five candidate areas make to timber production. However, some individual enterprises involved in apicultural production, livestock production and commercial tours are reliant on parts of one or more candidate areas for a significant portion of their income.

Such implications were taken into account in the framing of the Proposed Recommendations.

The consultant's summary of the findings of their social and economic assessment report for the candidate areas is included in Appendix IV. As indicated previously the full report can be inspected at the Department of Planning and Housing library and is available through this library for inter-library loan.

The Council subsequently met to formulate its proposed recommendations and then the consultants were asked to provide an assessment of the possible socio-economic impact of the proposed recommendations. The consultants' findings are included in the following summary of the final recommendations and further detail is contained in the descriptions of each of the recommended wilderness areas in Chapter 3. They have been modified to take account of the changes made between proposed and final recommendations and in the light of more detailed information.

Final Recommendations - Overview

Having considered submissions arising from the publication of the Descriptive Report and the Proposed Recommendations and all other available information including the results of the social and economic assessment consultancy, discussions with numerous individuals and groups, both in Melbourne and country Victoria, and inspection of a number of areas, Council has formulated these final recommendations.

The final recommendations are divided into three types: general, area specific, and those related to the management of wilderness areas.

The general recommendations (in the following chapter) concern implementation of the specific recommendations made in the remaining chapters of this document (Chapters 3, 4 and 5).

The area-specific recommendations relate to particular defined areas of higher wilderness quality. Chapter 3 identifies areas recommended to be wilderness areas. Chapter 5 identifies other areas of important wilderness-related values across the State.

Recommendations covering principles of management (Chapter 4) relate specifically to the management of wilderness areas.

Wilderness Areas

A number of approaches to the protection of areas of high wilderness quality were discussed by Council. In particular, it considered the desirability or otherwise of having more than one level or category of wilderness protection. However, Council was concerned that having more than one category to protect wilderness would be undesirable, as there is already concern in the community regarding the large number of land-use categories and the Council is investigating possible approaches to rationalise existing categories.

Council has therefore adopted a single land use category (wilderness areas) to encompass areas of high wilderness quality that should be protected. Such areas would be managed to maintain and enhance wilderness quality. No utilisation would be permitted and recreational use would be limited to self-reliant, non-mechanised forms.

Council has identified 15 areas in Victoria to be protected and managed as new wilderness areas, in addition to the two existing areas of Big Desert and Avon. It has also recommended three additions in Victoria to existing wilderness areas of New South Wales, as well as additions and

minor amendments to the boundaries of the two existing Victorian wilderness areas. All include areas of high wilderness quality. In some instances, however, they also include small parts that have been disturbed but which in time will be restored following rehabilitation or minor changes in management.

An assessment of the implications of the recommended wilderness areas in these final recommendations is provided below. As indicated earlier, the following assessment is based on the consultants' findings for the proposed recommendations, modified to take account of changes in the final recommendations, and other more detailed information.

Summary of Implications for Recommended Wilderness Areas

Table 5, below, summarises the implications and their level of significance for each recommended wilderness area - see also Appendix V.

Table 5: Summary of implications - recommended wilderness areas

Recommended wilderness area	Timber	Livestock Production	Apiculture	Water resource development	Mining potential	Tour operations	Recreation activities
A1 Sunset	0	0	0	0	0	0	0
A2 Minook	0	0	0	0	0	0	0
A3 Gulpunga	0	0	0	0	0	0	0
A4 Big Desert	0	0	0	0	+	0	0
A5 North Wyperfeld	0	0	0	0	0	0	0
A6 South Wyperfeld	0	0	0	0	0	0	0
A7 Avon	0	0	0	0	0	0	0
A8 Mt Darling/ Snowy Bluff	0	+	0	0	0	+ (horse riding)	+ (deer hunting, 4WD)
A9 Razor/Viking	0	0	0	0	0	0	0
A10 Wabba	+	0	0	0	+	0	0
A11 Indi addition	0	0	0	0	0	0	+ (horse riding)
A12 Cobberas addition	0	+	0	0	0	+ (horse-riding)	* (4WD) + (horse riding)
A13 Buchan Headwaters	0	x	0	0	0	0	+ (4WD, horse riding)
A14 Tingaringy addition	0	0	0	0	0	0	+ (horse riding)
A15 Snowy River	0	0	0	0	0	0	+ (4WD)
A16 Bowen	0	0	0	0	0	0	+ (4WD)
A17 Genoa	0	0	0	0	0	0	0
A18 Sandpatch	0	0	0	0	0	0	+ (4WD)
A19 Cape Howe	0	0	0	0	0	0	0
A20 Wilsons Promontory	0	0	0	0	0	0	0

Significance of Implication (over and above existing land-use decisions):

- | | | | |
|---|-------|---|-----------------------------------|
| 0 | Nil | * | Significant 'community' effects |
| + | Minor | x | Significant effect on individuals |

In a State-wide or regional context the contribution that the wilderness areas make to those forms of commercial activity that are precluded under the Proposed Recommendations, was considered by the consultants in their social and economic assessment report to be nil in some areas and very low in others. While the consultants have not reappraised the changes in the Final Recommendations, the conclusion still applies. In no areas are there significant State or regional implications for existing uses as are presently permitted. The same applies to excluded recreation activities such as four-wheel-drive touring and horse-riding. At a local scale, however, a number of specific implications are identified.

The Wabba area (A10) is the only recommended wilderness area encompassing State forest that contains timber resources that have been included in current sustainable-yield estimates. It

contains 6350 cu.m of mature ash and mixed species and limited areas of logging regrowth which comprises less than 0.3% of the sustainable yield for the Wodonga Forest Management Area.

In relation to livestock production, five individual licensees, involving three recommended wilderness areas, would be affected. The actual level of impact varies considerably. The recommendations have significant implications for only one licensee, who uses the A13 Buchan Headwaters Wilderness Area.

Three other grazing licensees are affected, to a minor extent; one in the A8 Mount Darling/Snowy Bluff, one in the A12 Cobberas addition to the Pilot Wilderness Area, and one in the A13 Buchan Headwaters. The remaining licensee is affected to a negligible extent.

One of the recommended wilderness areas includes an apiary site, and the forage areas of eight other apiary sites extend into three other wilderness areas. There is some scope for relocating these and Council is recommending that they be relocated to other suitable sites in consultation with the apiculture industry and the individual beekeepers affected.

The two areas of State forest recommended for addition to the existing Big Desert Wilderness Area and a third area, the recommended A10 Wabba Wilderness Area are regarded as being prospective for fossil fuels, and minerals, respectively. However, the remaining areas of State forest in the Big Desert, and extensive areas of adjoining private land in Victoria and South Australia, are also prospective. The impact of the Wabba Wilderness Area is likely to be minor given its size compared to the total area perspective for minerals in the north-east.

Two of the recommended wilderness areas (A8 Mt Darling/Snowy Bluff, and A12 Cobberas addition to Pilot) will have some impact on existing licensed tour operators. None of the affected operators relies totally on the routes affected. An alternative exists for the main route used by operators using the A8 Mt Darling/Snowy Bluff Wilderness Area, and the operator who uses the A12 Cobberas Wilderness Area, particularly the Cowombat Flat, has only recently been granted a permit subject to the recommendations of the LCC investigation on wilderness.

A number of the recommended wilderness areas include tracks used for four-wheel-drive recreation; a use that would be precluded under the recommendations. The most significant of these is the Cowombat Flat Track, in A12 Cobberas addition to the Pilot Wilderness Area, which provides access to Cowombat Flat which is a major destination for vehicle-based camping; it is a recreational focus, being part of the headwaters of the Murray River. The Cobberas addition to the Pilot also includes part of the Cobberas Trail - which is also considered important for four-wheel-drive recreation. Three other wilderness areas include tracks of importance for four-wheel-drive recreation. These are A8 Mount Darling/Snowy Bluff (Moroka Glen Track), A13 Buchan Headwaters (Forlorn Hope Track), and A15 Snowy River (Moonkan Track).

The majority and the most important destination point access routes and through-routes in the State have, however, been specifically avoided, and an extensive network of through-routes remain in the Alps and elsewhere.

In relation to recreational horse-riding, parts of some general riding areas and a number of bridle tracks would be precluded in five of the wilderness areas. In addition, access to Cowombat Flat in A12 Cobberas addition to Pilot, one of three horse-riding camps utilised in the Cobberas region, would be precluded. However, the most important trails and most of the general areas used by horse riders are not affected by the recommended wilderness areas and would still be available.

Table 6 provides some public land statistics for the recommended wilderness areas and for Victoria as a whole. It also shows that the length of tracks currently available for four-wheel-drive use has been minimally affected by the Council's recommendations.

Table 6: Public Land Statistics

National Parks	Percentage of park recommended as wilderness area (%)
Murray—Sunset	34
Wyperfeld	55
Alpine	18
Snowy River	46
Coopracambra—Kaye ¹	50
Croajingolong	26
Wilson's Promontory	44
All national parks ²	26

Size, by region ['+' refers to additions to interstate wilderness]	Area of recommended wilderness (ha)	Percentage of national parks in region ³ (%)	Percentage of all recommended wilderness areas (%)
Mallee (6 areas)	501 300	37	64
Alps (5+2 areas)	168 400	18	21
East Gippsland (5+1 areas)	94 500	39	12
South Gippsland (1 area)	21 800	44	3
Total Victoria (17+3 areas)	786 000	26	100

Vehicular tracks		Total length of track (km)	Length of tracks presently unavailable (km)	Available tracks affected (%)
Mallee	Major public land blocks	1 396	76	n/a
	Recommended wilderness areas	39	0	3
Alps	All public land	9 000	300	n/a
	Alpine National Park	2 773	227	n/a
	Recommended wilderness areas	214	83	1.5
East Gippsland	All public land	3 007	55	n/a
	Recommended wilderness areas	157	18	4.5
South Gippsland	Wilson's Prom.	129	88	n/a
	Recommended wilderness areas	21	21	0
Total	Recommended wilderness areas	431	122	2.3

Notes:

1. Calculations include the recent addition to the national park.
2. Seven of the 32 national parks in Victoria include a recommended wilderness area.
3. Excludes recommended wilderness areas in wilderness parks, State forest or flora and fauna reserve.

Other Areas with Remote and Natural Attributes

Council also considers that there are other areas of the State whose wilderness-related attributes of remoteness and naturalness should be recognised and maintained and protected while still providing for existing permitted uses. Twenty-four such areas have been identified.

As the Council's recommendations for these areas do not preclude any existing permitted use they do not have any detrimental socio-economic impact.

Management Principles

Council has also outlined principles to guide the management of wilderness areas. They cover a range of issues, including existing modification, introduced species, fire management, and recreation and other uses.

Relevant Legislation

Until recently, there were no specific legislative provisions relating to wilderness areas in Victoria. Amendments in 1989 to the *National Parks Act 1975* created a separate schedule for wilderness parks. It provides specific principles for the management of scheduled wilderness parks, prohibits development in them (other than for limited exceptions for necessary management purposes), and provides for the proclamation of wilderness zones within other parks to be managed as if they were wilderness parks. It is intended that land recommended in these recommendations as wilderness areas be covered by these provisions.

Some of the land recommended for wilderness protection includes areas that Council has previously recommended to be reference areas. Such areas are to 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. Conflicting activities are not permitted in these areas and access is restricted. The *Reference Areas Act 1978* provides for reference areas to be proclaimed by the Governor in Council. Existing practice is for such proclamations to be made as an overlay to existing land tenure (generally State forest or land managed under the *National Parks Act 1975*).

It is intended that, where reference areas fall within wilderness areas recommended in these recommendations, the reference area provisions remain.

The Council is also aware that if these recommendations are adopted, by the Government, it will be necessary to modify the wilderness provisions of the *National Parks Act 1975* to allow deer hunting in three of the recommended wilderness areas. The Council believes that the necessary amendments to the legislation should be made prior to, or at least at the same time as the new wilderness areas are considered by Parliament.

Management Responsibilities

The majority of Victoria's public land, including all land encompassed by these recommendations, is managed by the Department of Conservation and Environment through its 16 regional offices. Eight of the offices cover land referred to in these recommendations.

Each regional office is responsible for the management of all public land in that region, irrespective of whether it is national or State park, State forest, a reserve set aside for community use, or unreserved Crown land. Particular attention is given to fire prevention and suppression, which is, likewise, carried out in the region irrespective of the area's particular land use tenure. Responsibilities for the *Vermin and Noxious Weeds Act 1958* are also implemented through the regional organisation irrespective of public land tenure.

Management Planning

Council provides broad scale public land use planning. This gives focus and direction to subsequent management planning, which concentrates on more detailed issues relating to the day to day management of public land.

Management plans are prepared by staff of the Department of Conservation and Environment in consultation with the relevant policy divisions. Such plans have appropriate regard to other Government and Departmental policies and plans, including, for example, Regional Strategy Plans and Fire Protection Plans, which, in turn, will have appropriate regard to Park Management Plans whether proposed or approved. The *National Parks Act 1975* states that a management plan must be prepared for each wilderness park within two years of its formal proclamation.

All park management plans specify the purpose for which the park was established, park management objectives, a zoning plan and management strategies and actions. The required level of planning varies according to the complexity of the issues involved. Separate planning teams are sometimes formed. One such is the Alpine Planning Project team, which has prepared management plans for the Alpine National Park.

Public participation in the management planning process is encouraged at all stages; a proposed plan is released for public comment prior to the preparation of a final plan.

In most instances, final park management plans are approved by the Director of National Parks and Wildlife after consideration by the respective regional manager and the Minister for Conservation and Environment. Under the 1989 amendment to the *National Parks Act 1975*, management plans for the Alpine National Park are also required to be tabled in Parliament and may be disallowed by resolution of both Houses of Parliament. In addition, any proclaimed wilderness zone within a park must be approved by both Houses of Parliament, under a provision of the *National Parks Act 1975*.

Planning processes are presently underway in a number of national and wilderness parks affected by the recommended wilderness areas. These include; the Big Desert Wilderness Park, the Alpine National Park and the Avon Wilderness Park, the Snowy River National Park and the Croajingolong National Park.

Council has maintained close contact with the Department of Conservation and Environment about these plans.

The wilderness special investigation is, unlike a management plan process, a State-wide study, and its recommendations consider wilderness from a State-wide perspective. Like all Council investigations, its final recommendations, if adopted by government, will provide the framework for more detailed planning and management, including the preparation or finalisation of management plans (including those listed above). Management plans, it should be noted, also address a whole range of issues and needs in addition to the consideration of wilderness.

Wilderness zones identified in finalised management plans will reflect and be consistent with the Final Recommendations of the Council's Wilderness Special Investigation, as accepted by government and approved by Parliament.

Where an area which comes under the auspices of the *National Parks Act 1975* is not yet subject to an approved management plan, it is managed in accordance with the Act and its regulations, Departmental policies and guidelines, Council recommendations (including those in this special investigation) and other relevant Government strategies. All proposals which involve development or modification of the Park environment require the approval-in-principle of the Director of National Parks and Wildlife, and the respective regional manager.

2. GENERAL RECOMMENDATIONS

The following general recommendations qualify those in subsequent Chapters.

Council wishes to stress the need for adequate resourcing for management and protection of public land, as it has made its recommendations on the assumption that sufficient staff and finance will be provided for the appropriate detailed planning and management. Unless these resources are provided, Council's recommendations cannot be effectively implemented.

Areas that have been previously disturbed pose problems in the management of public land, particularly with respect to pest plants and animals. Finance and staff are required to research and implement appropriate methods of rehabilitating such areas and controlling introduced species. When recreation use increases to the extent that it conflicts with wilderness values it will also require active management. As with most public land, fire protection and suppression measures will be necessary from time to time and, in particular, aerial suppression capability needs to be assured in remote areas.

Council therefore recommends:

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

Council expects that, as a result of further study and investigation, additional areas with special values may be identified. New mineral resources or alternative uses of existing resources may also be discovered. New forms of recreational use may evolve and new management techniques become available. Community expectation and demands on public land changes over time. It is difficult for present planning to take into account all such circumstances.

Council therefore recommends:

- II** That, when significant new information becomes available about the values, resources and demands on land within their administration, government agencies enlist the best advice available from relevant organisations on the importance of such information and how their management should respond. In some instances it may be appropriate for the Council to review its recommendations for wilderness protection.

Council recognises that in some cases existing legislation may have to be amended, or new legislation passed, in order to effectively implement the recommendations. It is aware that this may result in a delay, perhaps of several years, before some of its recommendations can be implemented. It is concerned that, where implementation of the recommendations would involve a change of land tenure, that identified values and management efficiency could be reduced during the delay period.

Council therefore recommends:

- III** That, until the formal procedures are completed for the implementation of those recommendations approved by government, present legal status and management responsibilities continue, except that the land be managed in accordance with the approved recommendations.

Council has generally used features such as catchment divides to form the boundaries of the recommended wilderness areas. However, in some instances a vehicular track or a section of a

track within a catchment contained by a wilderness area has been used to define part of the boundary. Where such a track is re-routed to the catchment divide, or outside the catchment, the wilderness area boundary should be redefined to coincide with the catchment divide. In addition, Council recognises that when the boundaries of many of the areas are precisely surveyed that minor modifications and other adjustments may be necessary.

Council therefore recommends:

- IV** That, where necessary or where a vehicular track forming part of a boundary is re-routed, recommended boundaries be subject to minor adjustment.

During the course of the wilderness investigation and other recent land use reviews, particularly those for East Gippsland and the Alpine area, the Council consulted with many local groups and individuals. Most have expressed concern about the number of government studies, reviews, strategies and plans, including those of the Land Conservation Council, which have occurred in recent years. This situation has resulted in uncertainty about future land use and management in the region and a significant increase in the amount of time and other resources that have had to be devoted to preparing submissions, attending meetings and consulting with other groups or people.

The Council recognises that this has placed considerable pressure on many people but greatly appreciates the time and effort of these people. Many local people are also concerned about the pace at which change is occurring and the impact on their way of life.

One objective of land use planning is to give a degree of certainty. Such a benefit should not be undermined by ongoing re-views relating to the use and protection of public land.

For these reasons, the Council believes that further reviews of the East Gippsland or Alpine areas dealing with further expansion of parks, wilderness or other conservation reserves are not warranted for at least 10 years unless a compelling reason of State-wide importance is established. This does not include a future investigation of Victorian marine and coastal areas.

3. WILDERNESS AREAS

The submissions that Council received were generally supportive of the need and desirability of ensuring that those relatively few areas of Victoria that have been little affected by European settlement are protected in the future.

The results of the Victoria-wide survey commissioned by the Council were also consistent with this response and indicated that the majority of people considered wilderness as natural, unspoiled, wild and remote areas which are beautiful, free, inspiring, and exciting, and that such areas of Victoria are important to protect as wilderness.

Council takes the view that it is indeed important to specifically designate those few large, relatively unmodified, areas remaining in Victoria for specific protection of their wilderness attributes. That is, Council considers that their intrinsic values, over and above Council's representative criteria used for the protection of nature conservation values in the establishment of national parks and other conservation reserves, are important enough for specific protection in their own right.

As noted in Chapter 1: Introduction, Victoria's landscape has clearly changed, and is continuing to change. Even where relatively undisturbed areas are included within national parks, they are still subject to pressures of increased recreational activity and pressures for incremental upgrading of track networks and facilities.

If some large, relatively undisturbed areas are to persist in this State they require specific designation, protection, and management: harsh climates, rugged terrain, and remoteness from settled land are no longer sufficient forms of protection. The designation, protection, and management of such areas will ensure that a balance is provided to the extensively developed areas elsewhere; to enable people to enjoy them both now and in the future, and in recognition of their intrinsic values. Council agrees with the proposition that if such areas are not identified and protected in the next few years, the choices available for future generations will be severely reduced. The recommendations for wilderness protection should be considered, not only in the context of their immediate impact on the aspirations for conflicting land uses, but in the context of the impact on the options available for the community in 50 or 100 year's time if areas are not designated now.

Council has adopted the following definition of a wilderness area:

'A large area with landforms and native plant and animal communities relatively unaltered or unaffected by the influence of the European settlement of Australia, and of sufficient size and shape and location with respect to adjacent land uses to make practicable the long-term protection of its natural systems and primitive condition; which is managed to maintain and enhance wilderness quality values.'

A large area, for the purpose of this definition, was considered to be about 25 000 ha. Actually, nine of the 17 recommended areas (excluding additions to existing areas in Victoria or New South Wales) are considerably larger. Six of them are smaller than 20 000 ha. Two of these, however, abut undisturbed public lands in NSW. Most of the remainder form the core of a national park, have rugged topography or are located adjacent to Bass Strait; all of which mitigates their smaller size.

The definition outlined above is compatible with that used in current national (CONCOM) and international (IUCN) guide-lines - see Appendix II.

Identification Process

A consistent approach was used to identify areas with potential for wilderness protection. This approach is outlined in Chapter 1: Introduction.

All the recommended wilderness areas meet the recognised national and international identification criteria for such areas - see Appendix II. They are of large size (ranging up to 142 300 ha) and essentially undisturbed, with only relatively localised areas of disturbance occurring.

Use

As indicated in the Descriptive Report and Chapter 1: Introduction of this report, wilderness areas have value for a range of uses, which include recreation, particular experiences (such as solitude and inspiration), nature conservation, scientific study, education, and water production. Different areas of wilderness may have different capabilities to provide for each such use.

All such uses are, however, dependent upon and arise from the condition of the land, that is, the substantially unmodified natural setting described in Council's definition of wilderness. As such, the primary management objective of land set aside as a wilderness area is to conserve and enhance wilderness quality. Consideration of the appropriateness of any specific use or activity must reflect the need to ensure that the condition of the land and its natural systems are maintained and where possible, enhanced.

As noted in the Descriptive Report, virtually all human activity would affect such areas to at least some extent, although certain activities have greater potential for modifying natural systems than others. Council has therefore adopted an approach, which considers use in such areas primarily from a position of the extent to which any given use modifies the natural condition of the land.

The major forms of human activity that have modified natural lands in Victoria are resource utilisation and the construction of vehicular tracks and other structures. Council considers that any activity that results in similar disturbances to the environment, or which is dependant on the continuation of such disturbance, is incompatible with the maintenance or enhancement of wilderness quality and, hence, the purpose of wilderness areas.

Consequently, and in line with the national and international guidelines, Council is recommending that resource utilisation not be permitted in wilderness areas and that no new vehicular tracks and structures be allowed. Only those existing vehicular tracks and structures required for essential management purposes will be permitted to remain.

Recreational uses dependent on the continuance of formed vehicular tracks, such as four-wheel-drive touring, trail-bike riding or mountain-bike riding; activities reliant on the use of non-native animals, such as horse riding or deer hunting with hounds; or those reliant on the stocking of fish, are all also considered incompatible and will not be permitted.

The use of vehicles, other than for essential management purposes, is not permitted in wilderness areas throughout the world. The key issue is that Council considers the use of vehicles to be incompatible with the primary management objectives of wilderness areas: to maximise the extent to which they are undisturbed by the influences of the European settlement of Australia. In addition, vehicle use reduces wilderness values due to its ecological and physical impacts (as described in Chapter 4: Management Principles for Wilderness Areas), and its impact on the experience of other users.

Most of the recommended wilderness areas have few tracks. Indeed their boundaries have been drawn to specifically exclude most tracks. There is scope for rehabilitating some of the included tracks, but a number of tracks will need to be retained for essential management purposes. Their impact can, however, be reduced by ensuring that they experience minimal use. Essential management requirements may result in a track with-in a wilderness area being traversed up to six times a year (subject to fire season requirements), whereas recreational use of a track may involve use by hundreds and, in some instances, thousands of vehicles per year.

The key issue with respect to horse riding is that Council considers the use of animals as a form of transport (particularly a hard-hoofed animal) to be incompatible with the primary management objective of wilderness areas: to maximise the extent to which they are undisturbed by the influences of the European settlement of Australia. In addition wilderness values are reduced due to ecological and physical impacts - which the limited research available indicates is similar to, but of a lesser degree than, those of feral horses (as described in Chapter 4: Management Principles for Wilderness Areas), as well as its impacts on the experience of other users. Most impacts and conflicts are at campsites and, as with most forms of recreational activity, the impact increases with the level of use.

Most recreational horse-riding is associated with club activities or undertaken in and around the vicinity of freehold land. Horses are also floated into more remote areas, or hired from commercial stables. Increasing use is made of defined trails, the most notable of which is the Bicentennial National Trail which extends for about 6000 km from Cook-town (Queensland) to Healesville. The boundaries of the recommended wilderness areas have, however, been drawn to specifically avoid most existing horse-riding areas.

Brumby running, or the rounding up of feral horses, is undertaken in the eastern highlands, particularly towards the New South Wales border. It is carried out in a number of recommended Wilderness areas: A11 Indi addition, A12 Cobberas addition, A13 Buchan Headwaters and A14 Tingaringy addition. It involves horse-riders, assisted by dogs, chasing and rounding up brumbies into constructed yards. They are then used as farm pets or sold to knackeries. This activity would be permitted provided it is part of a feral horse control program, as is outlined in the section on management principles for introduced plants and animals in Chapter 4.

As noted in the recreational use section of Chapter 4: Management Principles for Wilderness Areas, Council considers that vehicular use and horse-riding are both appropriate uses of other public land and has, in its previous recommendations for other land-use categories, provided extensive opportunities for these activities elsewhere in the State. With respect to vehicular access, over 97% of existing tracks in the Mallee, Alps, and East Gippsland will continue to be available for this use under these recommendations.

Deer hunting by stalking, in itself, appears unlikely to have a significant impact on the condition of the land. It is, however, dependent on the continued presence of introduced animals. Council is also aware that, for many people, the real or perceived hazard of firearm presence and use significantly reduces their enjoyment of an area. Therefore, Council is recommending that deer hunting by stalking be permitted in three wilderness areas only, to provide some opportunity for this recreational activity in a wilderness setting. The three wilderness areas (A7 Avon, A8 Mt Darling/Snowy Bluff, and A9 Razor/Viking) contain the largest sambar deer populations, and are the only areas recommended for wilderness protection presently available for deer hunting. Council does not consider recreational hunting to be an appropriate use of all wilderness areas. The control of non-native species is covered in the management principles described in Chapter 4.

Uses such as downstream water resource utilisation, nature conservation, bushwalking, skiing (non-facility dependant forms), canoeing, rock climbing, fishing, camping, survival training, search and rescue training, scientific study including environmental monitoring and baseline studies, education, and nature study, are all considered by Council to be appropriate uses if carried out in a manner consistent with the management principles described in Chapter 4. Such permitted uses are considered appropriate by Council irrespective of whether they are carried out by private individuals, members of organised clubs, participants in commercial tours, or as part of training programmes.

Social Justice and Balanced Land Use

Many submissions, in a variety of contexts, have raised social justice issues and the issue of balance. As stated in the Government's Social Justice Strategy, one of the key concepts of social justice is that all people should be assured of equal basic rights, and that the ability to exercise these rights should not depend on social and economic circumstances. However, social justice does not necessarily mean that all land should be available for all people for all activities.

If the Council was recommending that a substantial proportion of the public land in the State, or in a region, would be unavailable for a wide range of uses, then perhaps it could be argued that certain uses or user groups, including the elderly or disabled groups, are being discriminated against. There are, however, substantial areas of public land, both inside and outside parks, where activities that are incompatible with wilderness are permitted. This is particularly so for the Alpine and East Gippsland areas where the Council has been very careful to ensure a balance between the protection of wilderness and other activities or forms of access such as horse-riding and four-wheel-driving. Uses or activities have only been excluded where they are incompatible with the land use objectives of wilderness areas or with other permitted uses. It is important to realise that extensive opportunities for these groups are maintained and that the excluded user groups and other members of the community can still experience a feeling of remoteness in many areas outside the recommended wilderness areas, for example, those areas identified as having remote and natural attributes in Chapter 5 of these recommendations. It is important that in the preparation of management plans that such opportunities are provided.

While many interest groups were concerned that the Council's recommendations discriminated against their particular activity, it was interesting to note that some of these groups or their members opposed the use of areas by other groups. For example some horse-riding groups and deer hunters were concerned about commercial operators using a number of important areas, while four-wheel-drive groups do not want access to be upgraded to two-wheel standard, which would create the opportunity for many more people to experience Victoria's remote areas.

It is clear from these statements that not all land can be available for all people for all activities, and it is the task of the Council and the land manager to plan for the use of public land to ensure that user groups have an opportunity to carry out their activities and where there is potential conflict, to separate those activities in space and/or time.

Council is legislatively required to consider the balanced use of land. It considers that to provide specific designation and protection of 3.5% of Victoria for wilderness protection is consistent with balanced use, particularly given that it has very little impact on other existing uses. As noted in Chapter 1: Introduction, less than 2.5 percent of presently available vehicle tracks are affected, and less than 1.0 percent, if any, of the area presently available for all other incompatible uses are affected. The protection of wilderness areas is not primarily for the so-called hardy bushwalker, but to ensure that the values of the remaining relatively undisturbed natural areas of the State are not further diminished by incremental changes in land use.

While wilderness areas provide one of the highest levels of protection for ecosystems possible in Victoria, and are thus of special value for their protection, they should not be regarded as the only form of land use that is capable of protecting ecosystems, rare species or gene pools. Victoria has an extensive park and reserve system which is designed to achieve these aims; wilderness is only one, albeit an important, component of the system. Council has not, however, limited its identification of areas of high or potentially high wilderness quality to the park and reserve system. It has comprehensively assessed all of the public lands of the State, including State forest.

In addition, Council does not believe that all areas of high or potentially high wilderness quality should necessarily be included in a designated wilderness area - a balance of land use requires that social and economic factors also be taken into account.

The Council is also aware of the need for Victoria's park system to provide a wide range of opportunities for recreation and to be managed so that people can use and enjoy the natural environment. It has also long been part of the Council's national park policy that it was appropriate to designate wilderness zones within national parks. There is a need to provide a range of access opportunities, including that for disabled and other groups, but this does not mean that wilderness areas should provide for such opportunities. The Council also understands that long term protection of the environment and wilderness relies on community support and education, which recognises the need to balance community aspirations for the use and enjoyment of public land.

Alpine Grazing and Wilderness

In formulating its recommendations for wilderness, the Council recognised that domestic stock grazing in the Victorian Alps is a significant issue requiring particular attention. Stock grazing is carried out in parts of all of the wilderness areas proposed in the Alps in Council's Proposed Recommendations. While all such areas have been identified as having high wilderness quality, parts have been, or are currently grazed, thereby resulting in a reduction in wilderness quality. However, in a State-wide context they still have high wilderness value.

The Council believes that grazing by introduced herbivores, such as cattle, is incompatible with the concept of wilderness. The issue with respect to grazing is that activities involving non-indigenous animals are contrary to the primary objective of maximising the extent to which wilderness areas are undisturbed by the influences of the European settlement of Australia.

Council considers that, in many circumstances, grazing is an acceptable use of some other public land and has, in its previous recommendations for other land-use categories, provided opportunities for the continuation of this activity elsewhere in the State.

With respect to Council's recommendations for wilderness, the issue is essentially that, if wilderness areas of any reasonable size are to be established in the Alps, in addition to the existing Avon Wilderness, it is virtually impossible to avoid some conflict with existing grazing use.

In recognition of the importance of this issue, the Council sought community views in response to its Proposed Recommendations on a range of options aimed at reducing or eliminating the impact on individual grazing licensees of designating additional wilderness areas in the Victorian Alps. The Council also had discussions with individual licensees who may have been affected.

Current situation

During the Council's investigation of the Alpine Area in the late 1970s and early 1980s it was recommended that grazing be phased out of a number of defined areas within the Alpine Park System. Both the former Liberal Government and current Labor Government accepted these recommendations and grazing has now ceased on a consolidated portion of the Bogong High Plains and the Bluff this year (1991). Some 10 families out of approximately 95 are affected (to varying degrees) by this phase out.

In addition, the government, in an amendment to Council's Alpine Area Special Investigation Final Recommendations (LCC 1983), stated that future decisions about grazing in parks and reserves will be made in the light of government policies, taking into account its economic significance for individual graziers, information arising from research, environmental and recreational factors, and the traditional associations of families with the high country.

Subsequently the government has not reissued grazing licences - encompassing the Wonnangatta valley (and Howitt Plains) and the northern part of Davies Plain. These decisions arose from the sale of the freehold properties previously associated with the licences.

At the time of the creation of the Alpine National Park in 1989, an 'Agreement on provisions for grazing licences in the Alpine National Park' was framed and incorporated into the legislation for the park. In essence, the Alpine Agreement gives the current grazing licensees the right to obtain a seven-year licence which, subject to good performance, is renewable. A licence may be transferred or assigned, with the consent of the Minister for Conservation and Environment after consultation with the Alpine Advisory Committee, to a member of a family of mountain cattlemen or any other approved person. The Department of Conservation and Environment is currently issuing the seven-year licences.

The Council appreciates that this agreement has been ratified by Parliament and is part of the legislation establishing the Alpine National Park.

Recommended wilderness areas

Council, in its Proposed Recommendations, outlined a number of options to help reduce the impact on individual licensees. The Council has since reviewed the applicability of the above options with both the Mountain Cattleman's Association and the individual graziers affected, and received comments on possible approaches from a number of interested people and groups. In particular, it has been able, with the assistance of the graziers concerned, to identify more precisely the areas preferentially grazed.

In the preparation of its final recommendations, Council has, after considering all submissions and alternative land uses, revised the boundaries of a number of the recommended wilderness areas, including a number used for licensed grazing.

In these final recommendations three wilderness areas recommended by Council have one or more licensees currently involved in grazing domestic stock. These are:

- A8 Mt Darling/Snowy Bluff
- A12 Cobberas addition to Pilot
- A13 Buchan Headwaters.

A total of about 2380 ha is affected, which represents 0.5% of the presently available and regularly grazed area in the Alps.

While licensed grazing in these recommended wilderness areas is not significant on a regional or State-wide scale, its exclusion would affect five licensees. One licensee is affected significantly, however, it is unlikely to make the whole farm operation unviable. The other licensees either use the affected area irregularly (in the instance of A8 and one operator in A13), or the affected area only forms a minor part of a much larger area grazed which is unaffected. Further details regarding stock grazing within and adjacent to the recommended wilderness areas is included in the consultant's Socio-economic Assessment Report, and the specific implications of Council's Final Recommendations on licensed grazing are provided below in the discussion of the individual wilderness areas.

Council does not consider the grazing of domestic stock to be compatible with the land use objectives of wilderness areas. Council has resolved to recommend that grazing should be phased out of the wilderness areas within 10 years. Council is aware that this will require amendments to the existing agreement relating to grazing in the Alpine National Park or to the area to which the agreement applies.

Council is also aware that most of the boundaries of licensed grazing blocks extend significantly beyond the main area grazed. As such, a number of licensed areas overlap with the recommended wilderness areas, even though the actual area grazed is unaffected. Council considers that in these cases the boundaries of the licensed block should be redrawn when licences are renewed to exclude areas not grazed.

Management

Wilderness areas will require active management because they are not completely isolated from outside influences (such as invasion by weeds and fire), and because modifications of some kind have occurred in certain areas in the past, requiring, at least in the short term, some rehabilitation. Where feral animals and introduced plants occur, the aim is to control them and to work towards their elimination. Given the flammable nature of Victoria's forested lands and their relative proximity to settled areas, fires must be controlled. Should recreational use of sensitive areas become focussed or intensive, this also may require active management in the future.

Council has developed broad guidelines for the management of designated wilderness areas. These are outlined in Chapter 4.

Recommended Wilderness Areas

The recommendations A1—A20 below, apply to all recommended wilderness areas as generally shown on Map A and listed in Table 7.

The recommendations are followed by a description of each area, a discussion of any resource implications, and a list of area-specific recommendations. Maps 1 to 16, included in this chapter, delineate the boundaries of the recommended wilderness areas more precisely. These maps also show the location of vehicle tracks in the vicinity.

Council has recommended 15 new wilderness areas in addition to the two existing ones (Big Desert and Avon). It is also recommending two additions to the existing Big Desert Wilderness Area; a minor adjustment to the boundary of the existing Avon Wilderness Area; and three additions in Victoria to the Pilot and Byadbo Wilderness areas of New South Wales. Five of the new wilderness areas recommended are in the Mallee, four in the Alps, five in East Gippsland, and one at Wilsons Promontory.

Table 7: Recommended Wilderness Areas

Rec. no	Wilderness area name	Map no.
A1	Sunset	1
A2	Minook	2
A3	Galpunga	2
A4	Big Desert	3
A5	North Wyperfeld	4
A6	South Wyperfeld	5
A7	Avon	6
A8	Mt Darling/Snowy Bluff	7
A9	Razor/Viking	7
A10	Wabba	8
A11	Indi addition to Pilot	9
A12	Cobberas addition to Pilot	9
A13	Buchan Headwaters	10
A14	Tingaringy addition to Byadbo	11
A15	Snowy River	12
A16	Bowen	12
A17	Genoa	13
A18	Sandpatch	14
A19	Cape Howe	15
A20	Wilsons Promontory	16

Note:

Recommendations A4 and A7 largely correspond to existing wilderness areas.

WILDERNESS AREAS

Recommendations

A1—A20 That the areas shown on Maps 1 to 16 and described below, be designated Wilderness Areas and be used to:

- (a) maximise the extent to which they are undisturbed by the influences of the European settlement of Australia

and

- (b) ensure the maintenance and protection of natural processes
(c) provide opportunities for the public to enjoy inspiration, solitude, and self-reliant recreation in undisturbed natural settings

that

- (d) resource utilisation not be permitted, including timber and broombush harvesting, exploration and extraction of earth resources, grazing of livestock, beekeeping, and impoundment of water
(e) additional vehicular tracks or roads, structures, or other facilities not be permitted within or on their boundaries
(f) upgrading of existing vehicular tracks or roads, structures or other facilities not be permitted within or on their boundaries
(g) motorised or mechanical transport, or transport reliant on animals not be permitted (unless required for an essential management purpose)

- (h) hunting not be permitted, except for deer hunting by stalking, which may be permitted seasonally, the timing and length of season to be determined by the Department of Conservation and Environment, in the areas specified below
- (i) scientific investigation involving minimal disturbance to the natural environment be permitted under permit by the land manager

that

- (j) measures required for
 - (i) fire management
 - (ii) the control and, where possible, eradication of non-indigenous flora and fauna
 - (iii) emergencies relating to the safety of visitors

be permitted, provided that the operational techniques used have due regard for the protection and maintenance of wilderness values

- (k) wherever possible, existing vehicular tracks or roads, structures or other facilities be removed, and areas of these and other disturbances be rehabilitated as soon as practicable

and that they be managed in accordance with the principles outlined in Chapter 4 and permanently protected under the provisions applying to Schedule 2A of the *National Parks Act 1975* and be managed by the Department of Conservation and Environment.

Notes:

1. Any area recommended by Council to be a wilderness area, would come under the legislative framework of the *National Parks Act 1975*, either as a wilderness park or a wilderness zone. Both have the same protection under the provisions of the Act.
2. Earth resources include minerals, stone, petroleum and groundwater.
3. The above recommendations do not affect present public vehicular access along tracks and minor roads on the boundaries of the wilderness areas.
4. ~~Council is aware that the provision allowing for deer hunting by stalking in three of the recommended wilderness areas will require amendment of the *National Parks Act 1975*. Such an amendment should be considered prior to, or in conjunction with, the proclamation of additional wilderness areas.~~

Deer hunting by stalking is permitted in three wilderness areas: Mt Darling/Snowy Bluff, Razor/Viking and Wongungarra. Amendment of the *National Parks Act 1975* is required and will occur prior to, or in conjunction with, the establishment of these wilderness areas.

(Order in Council 12/5/1992, Attachment 3)

A1 Sunset Wilderness Area

Bounded in the south, east and north respectively by the Sunset, Underbool and Pheenys Tracks, and in the west by the Millewa South Bore Track and the Berrook settlement, this is one of the largest undisturbed areas in the State, and indeed in south-east Australia.

The recommended wilderness area is part of and entirely surrounded by the Murray—Sunset National Park. It encompasses more than 125 000 ha of mallee dunefields in which there is virtually no evidence of human disturbance such as vehicular tracks, structures or resource utilisation activities.

The character of the area is varied. Low calcareous dunes, ranging from 2 m to 10 m high and between 0.5 km and 5 km long, dominate the northern half, while high irregular siliceous dunes predominate in the south - many being 12 m to 16 m high. The different vegetation communities between the crests and swales of the dunes reflect changes in the underlying soils

and the availability of water. The dunefield and other plant communities contain a number of rare species and support a diversity of mammals, birds, and reptiles; many of which are found only in the Mallee.

This wilderness is particularly significant because of the large area of undisturbed country. It encompasses areas that, together with those in the Big Desert, are as remote from settlement and roads as can be achieved in Victoria. This and areas in the Big Desert are the only ones in the State where it is possible to be more than 5 km from any structure, track or utilisation activity.

While parts of this area have been covered by grazing licences in the past, little has been regularly grazed, or indeed ever grazed by domestic stock. Feral goats are found, however. Except for one trig station near its margin, there are no structures. There are two irregularly used vehicular tracks on the western margin, and one on its southern margin.

The nature conservation values of the area are very high and are considerably enhanced by its remote and undisturbed qualities. Many landforms and vegetation types found here have been extensively modified elsewhere.

While the area has no surface water resources it provides an important recharge area for groundwater. The undisturbed vegetation cover is a major contributor to this value.

The recommended wilderness area also has a high capability for recreation dependent on remote settings, and its large expanse ensures extensive opportunities for experiencing solitude in an undisturbed natural setting. While opportunities for bushwalking, nature study, and other associated activities are high, they are limited by the lack of natural sources of drinking water and by high temperatures in summer. Consequently, most use, which is currently low, takes place in winter and spring. The higher dune crests provide expansive views, and isolated sandplains offer campsites. There are, however, no established traverse routes.

Views across the wilderness can be obtained by climbing dune crests adjacent to vehicular tracks near its boundary. Some of the tracks adjacent to the recommended wilderness area are already used by commercial tour operators offering safaris and wildlife tours.

Resource Implications

The whole of the recommended wilderness area lies within the Murray—Sunset National Park. One of this park's specific land-use objectives, as approved by the government following publication of the Council's Mallee Area Review Final Recommendations in August 1989, is to protect areas of high wilderness quality.

Mining and broombush cutting are precluded by previous Government decision and grazing is to be phased out. The consultants did not record any area currently grazed or used for apiculture and concluded that there are no specific resource implications arising from the recommendations for this wilderness area. A temporary beesite, however, has been recently licensed in the north-west of the recommended wilderness area. This will not be renewed under these recommendations, and the site, if required in the future, can be relocated outside the area.

Boundary Alternatives

One of the key issues considered by Council in determining possible boundaries was the relationship of any wilderness area with the Murray—Sunset National Park; in particular the importance of ensuring linkages between the eastern and western portions of the park. Council also considered the need to provide for a range of recreation activities appropriate to the National Park, including vehicle touring opportunities.

A number of submissions suggested that the areas of high wilderness quality to the north of Pheenys Track be included in this wilderness area. This would add an extensive area of little disturbed land and form what would be the largest wilderness area in the State. Its inclusion would, however, require the closure of a substantial part of Pheenys Track, which is an increasingly popular four-wheel-drive through-route and is also used by some horse-riding groups. While an alternative route through similar environments could be provided, by using South Bambil Track and a former mining survey track about 12 km to the north, the latter track would need to be upgraded. In addition, as major works have been recently undertaken on Pheenys Track, and as it is required for fire management purposes, it would be difficult to divert recreational traffic away from it. The Rural Water Commission also has a proposal to construct a groundwater observation bore on this section of Pheenys Track.

Council has, however, recognised the high wilderness quality of the areas north of Pheenys Track by recommending two separate wilderness areas there: A2 Minook and A3 Galpunga.

Another alternative suggested was to extend the recommended wilderness area south of Sunset Track. While much of this southern area has high wilderness quality, it includes some sites that have been cut for broombush, at least one vehicular track not previously mapped by Council ('Washing Machine Track'), and would significantly reduce the setback from freehold land. Sunset Track itself is well maintained, providing an attractive through-route and ready access for local communities and visitors to the national park. As it will be required for fire management it would be difficult to close to public use.

While not included in the recommended wilderness area, this area south of Sunset Track has been listed as an 'Other Area with Remote and Natural Attributes' - see Chapter 5: B1 South Sunset.

Recommendation

A1 Sunset Wilderness Area

That the area of 126 900 ha, shown on Map 1, be used in accordance with recommendations A1—A20(a) to (k) above

that

- (l) particular emphasis be given to the control of feral goats
- (m) the apiary site within the proposed wilderness area be relocated by the land manager to another suitable site, in consultation with the individual bee keeper affected

and that

- (n) unless inconsistent with (a) to (m) above, Council's previous recommendations for the Murray—Sunset National Park apply
- (o) Council's previous recommendations for Millewa South and Berrook Reference Areas apply.

Note:

The Rural Water Commission has a proposal to construct an additional groundwater monitoring bore adjacent to Pheenys Track and, if required, it should be constructed within the 100 m setback between the track and the recommended wilderness area.

(See also Mallee Review A6, C14, C15)

A2 Minook Wilderness Area

A3 Galpunga Wilderness Area

These two wilderness areas lie in the northern part of the Sunset country, north of Pheenys Track. Together they cover nearly 75 000 ha and are separated by the South Bambil Track which lies outside the wilderness area boundaries. Both include extensive areas of high wilderness quality. They have been named after the local parishes in which they are located.

The two wilderness areas have similar geomorphic features and vegetation, being characterised by extensive calcareous dunefields dominated by mallee vegetation. The particular mallee communities vary between the crests and swales of the dunes and, as with those of the Sunset Wilderness Area to the south, contain a number of rare plant species and support a diversity of mammals, birds, and reptiles.

The northern Sunset Country, like the larger wilderness areas designated in the southern Sunset Country and the Big Desert, encompass some of the more remote areas of the State. In particular the Minook and Galpunga Wilderness Areas complement the protection of the remote and undisturbed lands of the Sunset Country provided by the Sunset Wilderness Area (A1).

Parts of both wilderness areas have, in the past, been surveyed for possible alienation and parts have been covered by grazing licences. However, none has been sold or cleared and little, if any, has been regularly grazed. Some broombush has been cut on the margins, but no licensed cutting has been carried out within their boundaries. Indeed, the only disturbances are an unserviceable fenceline within the Minook Wilderness Area, and two rough, little used, vehicular tracks: one within the Minook Wilderness Area, and another on the margin of the Galpunga Wilderness Area.

The largely undisturbed condition of these two areas contributes to, and significantly enhances, their nature conservation values.

Like the Sunset Wilderness Area to the south, many of the landforms and vegetation types here have been extensively modified elsewhere.

The undisturbed vegetation cover is also a major contributor to their value as important recharge areas for groundwater.

The recommended wilderness areas have high capability for walking, nature study and other associated self-reliant activities, however, this capability is mitigated by lack of surface water and, in summer, high temperatures. Given their large size, opportunities for those seeking solitude are extensive.

Resource Implications

Both recommended wilderness areas lie entirely within the Murray—Sunset National Park. One of the specific land-use objectives of this park, as approved by the government following publication of the Council's Mallee Area Review Final Recommendations in August 1989, is to protect areas of high wilderness quality.

No areas are presently subject to utilisation activity, such as grazing, mining or broombush cutting, and these uses are precluded by previous government decision. Three temporary beesites have, however, been licensed adjacent to the eastern margin of the recommended Galpunga Wilderness Area and the forage areas associated with these beesites extend into the

area. There is some potential to relocate these beesites. Two minor vehicular tracks occur within the boundaries. They receive little use and do not provide access to sites of special recreational interest.

Given the existing land-use objectives for these areas, and the virtual absence of conflicting uses, the resource implications arising from their designation as wilderness areas are considered by Council to be insignificant.

Boundary Alternatives

One option considered but not adopted by Council was to join one or both of these wilderness areas to the recommended Sunset Wilderness Area (A1). This option was not adopted for the reasons outlined under the boundary alternatives section of A1 Sunset Wilderness Area. Council also considered joining the two wilderness areas. This would have necessitated the closure of South Bambil Track to four-wheel-drive vehicle-based recreational activity, and included an additional area of disturbance. This option was, for these reasons, not adopted by Council.

Recommendations

A2 Minook Wilderness Area

That the area of 38 700 ha, shown on Map 2, be used in accordance with recommendations A1—A20 (a) to (k) above

that

- (l) consideration be given, in accordance with the management principles outlined in Chapter 4, to the dismantling of the fenceline within the recommended area and the rehabilitation of the associated cleared line

and that

- (m) unless inconsistent with (a) to (l) above, Council's previous recommendations for the Murray—Sunset National Park apply.

Note:

The Rural Water Commission has a proposal to construct an additional groundwater monitoring bore adjacent to Pheenys Track and, if required, it should be constructed within the 100 m setback between the track and the recommended wilderness area.

(See also Mallee Review A6, C3)

A3 Galpunga Wilderness Area

That the area of 35 700 ha, shown on Map 2, be used in accordance with recommendations A1—A20 (a) to (k) above

that

- (m) the land manager, in consultation with the apiculture industry and the individual beekeepers affected, relocate those apiary sites with bee forage areas that overlap the wilderness area to other suitable sites

and that

- (n) unless inconsistent with (a) to (m) above, Council's previous recommendations for the Murray—Sunset National Park apply

- (o) Council's previous recommendations for the Sunset Reference Area apply.

Note:

Apiary licences permit the occupation of a site (the physical location of the hives) and an associated range (the area over which the bees actually forage). 'Permanent' (annual) apiary licences usually provide for a 1.6 km radius range, while 'temporary' (usually 3 monthly) apiary licences provide for a 0.8 km radius range.

(See also Mallee Review A6, C3)

A4 Big Desert Wilderness Area

This area abuts the South Australian border and lies west of the Murrayville Track (Nhill—Murrayville Road). It forms the largest wilderness area proposed by Council.

The major part coincides with the existing wilderness area as recommended by Council in its Final Recommendation of 1977 for the Mallee Area, as accepted by government and reaffirmed in its recommendations arising from the review of the Mallee area in 1989. It is currently a proclaimed wilderness area listed in Schedule 2A of the National Parks Act.

Two areas are recommended for addition to the existing Big Desert Wilderness Area. Both contain undisturbed areas of high wilderness quality that add to the values already found in the existing Wilderness.

In the north-west, the recommended addition extends from the north-eastern corner of the South Australian—Scorpion Springs Conservation Park to a vehicular track, then southward along the track to the northern boundary of the existing wilderness area. This adds some 9500 ha. In the south, the recommended addition extends the existing wilderness area by a further 19 300 ha. The boundary is set back 2 km from freehold land. No vehicular tracks or structures have been recorded in these areas and neither has been grazed or is known to have been subject to any other form of utilisation.

Wind-blown (Lowan) sands, with a relative relief of several metres, comprise the bulk of the dunefields of this area which is part of the flat to gently undulating expanse of the Murray Basin plains. Individual parabolic dunes may, however, attain heights of 20 to 40 m. North-south trending Parilla sand dunes underlie the Lowan Sands and are exposed in places as hardened sandstone outcrops.

The various plant communities include dense mallee scrubs, tree-heaths, broad flat heathlands, low woodlands of scrub cypress pine, and stands of broombush. The diversity of fauna reflects the variety in structure and species composition of the vegetation. This diversity, allied to its unmodified condition, contributes to the area's high potential for nature conservation.

While the area has no surface water, it provides an important recharge area for groundwater. The undisturbed vegetation cover is a major contributor to this value.

The area includes the most extensive tract of highest wilderness quality in south-eastern mainland Australia. The only vehicular track recorded was closed some time ago. No part of the area has been subject to utilisation activity. Overall it offers exceptional opportunities for solitude and inspiration in remote, undisturbed semi-arid environments.

Resource Implications

The existing wilderness area comprises 113 500 ha, for which, therefore there are no specific resource implications arising from these recommendations.

The proposed northern and southern additions, other than a portion of the Red Bluff Flora and Fauna Reserve, are presently within State forest. Council, in its Final Recommendations for the Mallee Area Review in August 1989, since approved by the government, recommended protection for areas of high wilderness quality in State forest, by their inclusion on a schedule of special values. Broombush cutting, the main potential forest product, is no longer permitted on public land in the Mallee. No grazing licences have been granted and no apicultural sites occur. However, the additions, like the whole region, are prospective for mineral sands, base metals and fossil fuels. The consultants concluded that the areas are highly prospective in relation to the extraction of fossil fuels. In proposing these additions, the Council took into account the prospectivity of the area but also recognised that the remaining areas of State Forest in the Big Desert and the extensive areas of freehold land throughout the Wimmera and Mallee are also equally prospective.

The forage area associated with one bee site overlaps the boundaries of the recommended wilderness area. The Department of Conservation and Environment proposes to relocate this site to assist in the control of vehicular use in the vicinity.

Boundary Alternatives

One option would be to retain the boundaries of the existing wilderness area as recommended by Council in 1977. However, in its Mallee Area Review Final Recommendations in 1989, Council noted that its approach to wilderness would be reconsidered in the context of a State-wide investigation of wilderness. This investigation has now taken place.

Council, in its recommendations for the Big Desert Wilderness Area in 1977, envisaged that the public land bordering the wilderness area be managed as an external buffer against conflicting activities. However, since that time, vehicular use of minor formed tracks and the number apiculture sites have increased, so that tracks have gradually encroached towards the boundary of the existing Wilderness area. In accordance with the approach taken in these recommendations to the delineation of boundaries for all proposed wilderness areas, separate buffer areas have not been identified, nor have uses of buffers been defined. Rather, the boundary of a proposed wilderness area includes all land required to ensure the protection of wilderness values.

The 3-km setback of the existing wilderness area boundary from the Murrayville Track has, however, been retained. Reduction in its width would require relocation of 4 apiculture sites (one being permanent); it is likely that it would be difficult to find alternative sites.

Council, in its Proposed Recommendations included a further area of 1700 ha to the northern addition now recommended. This additional area encompassed a number of fire trails, one of which the Department of Conservation and Environment considered desirable to make available for public recreational use to provide a link between two existing tracks in the adjacent State forest. Council believes that the creation of a loop track by the formation of a new track based on this firetrail is more desirable than the retained two dead-end tracks leading to the edge of the wilderness area. It now recommends that the northern boundary follow the alignment of this linking fire trail.

Recommendation

A4 Big Desert Wilderness Area

That the area shown on Map 3, being 113 500 ha approved by the government following publication of the Final Recommendations for the Mallee Area in 1977 and subsequently confirmed by the government following publication of the Final Recommendations for the Mallee Area Review in August 1989, continue to be a wilderness area

(See also Mallee Review B1)

that

A4(i) the 9500 ha area, shown on Map 3, to the north of the existing wilderness area become part of the Big Desert Wilderness Area

(See also Mallee Review S1)

and

A4(ii) the 19 300 ha area, shown on Map 3, to the south of the existing wilderness area, become part of the Big Desert Wilderness area

(See also Mallee Review G37, S1)

that all these areas be used in accordance with general recommendations A1—A20(a) to (k) above

and that

(l) particular emphasis be given to the control of vehicular access to the edges of the wilderness area

(m) the land manager, in consultation with the apiculture industry and the individual beekeepers affected, relocate that apiary site whose bee forage area overlaps the wilderness area to another suitable site.

Notes:

1. The recommended southern addition, A4(ii), will necessitate changes to the boundary of the Red Bluff Flora and Fauna Reserve.
2. Council is aware that it is difficult to manage vehicular use in Mallee country, given its remoteness and the open nature of much of the vegetation. Vehicular tracks in areas surrounding the wilderness area should ideally link to each other or provide a loop. Dead-end tracks, especially those leading to the edge of the wilderness should, wherever possible, be closed.
3. Council is aware of the concerns of the South Australian National Parks and Wildlife Service regarding damage being caused by four-wheel-drive vehicles along the Border Track, and in particular the creation of multiple tracks over the steep dunes. The Service is currently investigating this with recreational user groups. Options being considered are to retain a single track with rehabilitation of adjacent tracks and encouraging use of the alternative route further west through Scorpion Springs.
4. Apiary licences permit the occupation of a site (the physical location of the hives) and an associated range (the area over which the bees actually forage). 'Permanent' (annual) apiary licences usually provide for a 1.6-km radius range, while 'temporary' (usually 3 monthly) apiary licences provide for a 0.8-km radius range.
5. The Department of Conservation and Environment is currently preparing a management plan for the existing Big Desert Wilderness Park.

A5,A6 Wyperfeld Wilderness Areas

These two wilderness areas encompass a vast expanse of little-disturbed Mallee dunefield country in the eastern Big Desert. They include extensive areas of land of very high wilderness quality.

Similar to the Big Desert Wilderness, these areas are mantled with wind-blown Lowan sands and support a range of plant communities. Stunted brown stringybark and yellow mallee communities occupy the crests of the large, irregular parabolic dunes which may be 20 to 40 m high. Yellow mallee and slender-leaf mallee with heathy understoreys occur on the heavier soils of the swales and lower dunes. Vast open sandplains here are dominated by sand-plain heath -

an essentially treeless community of banksia and dwarf sheoak with a wide range of heath species. Pockets of broombush indicate the influence of underlying Parilla Sand ridges. The diversity of mallee fauna found here reflects the range and quality of the vegetation communities.

The recommended wilderness areas are largely undisturbed, with few structures or vehicular tracks, and virtually no utilisation activity. They also encompass portions of the most remote parts of the State. Like the Big Desert and the proposed Sunset Wilderness Areas, these areas contain places that are greater than 5 km from any form of structure, track or utilisation activity, a rarity in Victoria. They are also very remote (more than 15 km) from surrounding settlement or road access.

These wilderness attributes contribute to the high capability for nature conservation and offer exceptional opportunities for solitude and inspiration in a semi-arid environment. Opportunities for walking and nature study are extensive. Dune crests often provide broad views, as do elevated areas within the extensive sandplain heaths. Other sites of natural interest include occasional freshwater soaks and Parilla sandstone outcrops.

Visitors using four-wheel-drive vehicles can obtain extensive views of the undisturbed country from tracks on the margins of the wilderness area. Mid-summer recreation is limited, however, principally by the high temperatures and lack of water.

A5 North Wyperfeld Wilderness Area

This area, comprising 97 900 ha, lies north of Milmed Track, within the northern section of the Wyperfeld National Park.

Resource implications

The whole of the area is within the Wyperfeld National Park. Council's recommendations for this park in the Mallee Area Review 1989, as approved by the government, make specific reference to the protection of areas of high wilderness quality.

There are no licensed grazing or current broombush cutting operations in the area. In the north-east, two small areas have been previously harvested for broombush. No structures or formed vehicular tracks, nor other resource utilisation have been recorded.

The consultants concluded that there are no specific resource implications arising from the recommendations for the area.

Boundary alternatives

A number of submissions suggested that this wilderness area be joined to the South Wyperfeld Wilderness Area (A6) or extended across minor vehicular tracks to the north-east and/or to the east.

One of the key issues considered by Council in determining possible boundaries was the relationship of possible wilderness areas with the Wyperfeld National Park and, in particular, the importance of ensuring access to environments and features of the recently expanded park.

Council believes that vehicular access along the Milmed Track is an important recreational opportunity of the recent extensions to the Wyperfeld National Park. While acknowledging that the disturbances associated with this track are relatively minor and that its present use by vehicles is relatively low, Council considered that the closure of the track to recreational vehicular use, as

would be required if the North Wyperfeld and South Wyperfeld Wilderness Areas were combined into the one large wilderness area, would be inappropriate.

Another alternative considered in detail was to add an area of 21 200 ha along the north-eastern margin of the proposed wilderness area to the east of Underbool Track. (Also known as Tritter Track). This area has extensive tracts of high wilderness quality and no disturbances have been recorded. The Underbool Track has been used mainly for management purposes and to access a broom-bush cutting area. However, it also has the potential to provide recreational vehicular access in the north of Wyperfeld National Park. If this area were to be included, opportunities for vehicular access, would be substantially reduced, as would the setback from disturbed land to the east, which may also be a focus of other types of park recreation.

Another alternative considered in detail was the addition of a large little-disturbed area of 32 100 ha on the eastern margin of the recommended wilderness area, east of Nine Mile Square Track and its southerly extension, Archbold Track. These tracks, which are presently only available for use by management vehicles and walkers, and a former vehicular track, Hopping Mouse Hill Track, which is now managed as a walking track, are the only disturbances recorded in this area. There are no structures or evidence of past utilisation activity. The addition of this area would, however, bring the boundary of the wilderness close to the more intensively used portion of the Wyperfeld Park around Outlet Creek. This could reduce potential opportunities for other park activities. It would also include in the otherwise virtually trackless wilderness area a number of vehicular tracks which will need to be maintained for fire access. While not included in the recommended wilderness area, this area east of Nine Mile Square and Archbold Tracks has been listed as an 'Other Area with Remote and Natural Attributes' - see Chapter 5: B4 Hopping Mouse Hill.

Recommendation

A5 North Wyperfeld Wilderness Area

That the area of 97 900 ha, shown on Map 4, be used in accordance with recommendations A1—A20(a) to (k) above

and that

- (l) unless inconsistent with (a) to (k) above, Council's previous recommendations for the Wyperfeld National Park apply
- (m) Council's previous recommendations for the Broombush and Rudd Rocks Reference Areas apply.

Notes:

1. The Majorlock and Twelve Mile Soaks are not included in the recommended wilderness area.
2. The southern boundary of the recommended wilderness area has been set back 100 m from Milmed Track. It is important that Milmed Track and any campsites associated with its use be managed in a manner that minimises impact on the wilderness quality of the adjacent wilderness area and on the conservation values along the track. This may, in the future, involve controls on the number of groups using the track or campsites.

(See also Mallee Review A2, C21, C22)

A6 South Wyperfeld Wilderness Area

This little disturbed area of 61 300 ha lies between the Milmed Track and the Chinaman Well Track. No utilisation activity has been recorded and no tracks or structures, other than one trig station, occur.

Resource Implications

This area is within the 1989 addition to the Wyperfeld National Park. Council's recommendations for this park in the Mallee Area Review, as approved by the government, make specific reference to the protection of areas of high wilderness quality.

The western boundary of the proposed wilderness has been set back from the Murrayville Track a distance similar to the existing Big Desert Wilderness Area, with the purpose of excluding current apiculture sites.

The consultants concluded that there are no specific resource implications arising from the recommendations for the area.

The forage areas associated with four temporary beesites overlap the margins of this recommended wilderness area. As Council is recommending that these sites be relocated, this may have some impact on the licensees involved. The Department of Conservation and Environment has indicated that there is some scope for identifying alternative sites.

Boundary alternatives

One option considered was to extend the area south of Chinaman Well Track to include a further 32 900 ha of essentially undisturbed land. This area of high wilderness quality is presently in State forest. In its Mallee Area recommendations, the Council listed this area of high wilderness quality in the schedule of values to be protected.

The area is potentially prospective for mineral sands, base metals, and fossil fuels. While mineral exploration and mining are permitted in State forest, the inclusion of the portion south of Chinaman Well Track in a wilderness area would make it unavailable for mining.

The addition of this area would also involve the closure, at least to public vehicular access, of Chinaman Well Track. This provides one of the few opportunities for four-wheel-drive vehicle-based visitors to experience a wide range of environments in the Wyperfeld National Park and a feeling of Victoria's 'outback'. This form of recreational experience was considered by Council as a special value of the enlarged park. At least one commercial tour operator is known to use Chinaman Well Track as part of a Mallee four-wheel-drive trip, although Milmed Track would provide an alternative route. While present usage is relatively low, closure of Chinaman Well Track would place increasing pressure on Milmed Track for four-wheel-drive touring which may eventually require some regulation. While not included in the recommended wilderness area, the area south of Chinaman Well Track has been listed as an 'Other Area with Remote and Natural Attributes - see Chapter 5: Chinaman Flat.

Recommendation

A6 South Wyperfeld Wilderness Area

That the area of 61 300 ha, shown on Map 5, be used in accordance with recommendations A1—A20(a) to (k) above

that

- (1) the land manager, in consultation with the apiculture industry and the individual beekeepers affected, relocate those apiary sites with bee forage areas that overlap the wilderness area to other suitable sites

and that

(m) unless inconsistent with (a) to (l) above, Council's previous recommendations for the Wyperfeld National Park apply.

Notes:

1. The Chinaman Flat area is not included within the recommended wilderness area.
2. The northern boundary of the recommended wilderness area has been set back 100 m from the Milmed Track.
3. Apiary licences permit the occupation of a site (the physical location of the hives) and an associated range (the area over which the bees actually forage). 'Permanent' (annual) apiary licences usually provide for a 1.6-km radius range, while 'temporary' (usually 3 monthly), apiary licences provide for a 0.8-km radius range.

(See also Mallee Review A2)

A7 Avon Wilderness Area

This recommended wilderness area largely corresponds to that recommended by Council in its Final Recommendations of 1983 for the Gippsland Lakes Hinterland Area and the Alpine Area Special Investigation, as accepted by government. This area has been proclaimed and is on Schedule 2A of the *National Parks Act 1975*.

Council is recommending that a small part of the existing area, being a 350 ha section encompassing a number of campsites on the Avon River, be excised. This area has been excluded to provide camping opportunities for a wider range of users and in response to increased four-wheel-drive use in the general area. In particular, it enhances four-wheel-drive-based camping opportunities on a route with limited opportunities. Given that the excluded area is on the margin of the existing wilderness area, Council believed that protection of the core area of highest wilderness quality would be maintained.

The recommended wilderness area contains a portion of the Avon River catchment, including reaches of the Avon and Turton Rivers and McColl Creek, and the headwaters of Ben Cruachan Creek. Its deeply dissected, rugged terrain remains substantially unaltered, with environments ranging from dry foothill forests to tall wetter forests on protected aspects. Riparian vegetation is found along the major streams.

The Avon Wilderness includes extensive areas of little-disturbed land and is one of the largest areas of high wilderness quality in eastern Victoria. There is evidence of past low intensity grazing along some river valleys and a small area of logging regrowth occurs on its northern margin. A number of minor vehicular tracks are located along ridges. These minor disturbances were included in the wilderness area to provide a logical management boundary. The area is also quite remote, with parts 15 km or more distant from settlement, and up to 10 km or more from roads. A trig station on Gable End is the only structure recorded.

The area offers opportunities for solitude and for a range of challenging recreational activities. The untracked rugged divides such as the Razorback and Purgatory Spurs, and the major valleys, such as along the Avon and Turton Rivers, provide opportunities for experienced walkers. Gable End and the edges of Wellington Plateau provide some of the few opportunities for rock climbing in a remote setting to be found in Victoria. The area has been used to hunt sambar deer, although this use is now excluded under the wilderness provisions of the *National Parks Act 1975*. These recommendations allow deer hunting by stalking to continue in this area. While some of the higher parts may carry snow, its capability for cross-country skiing is low.

The undisturbed catchments of the recommended wilderness area contribute to the high water quality of the downstream water resource and are also important for *in situ* and downstream aquatic fauna and flora and riparian communities.

Resource implications

The entire area is within an existing proclaimed wilderness area. The consultants concluded that there are no specific resource implications arising from the recommendation for the area.

The recommended exclusion from the existing wilderness area of a number of campsites on the Avon River on its south-east margin will reduce, to some extent, opportunities for walker-only camping.

Boundary alternatives

A range of boundary alternatives were suggested in submissions and were considered but not adopted by Council. These included extending the wilderness eastwards to encompass the Valencia Creek catchment (part of which is disturbed); westwards to encompass contiguous areas around Tali Karng which, while of high wilderness quality, are intensively used for recreation; and to exclude the area to the east of the Turton Divide Track to enable four-wheel-drive vehicle access along this track. Another alternative was to retain the boundaries of the existing wilderness area. This would conform with Council's previous consideration of the wilderness values of the area, but would continue to restrict the range of four-wheel-drive-based camping opportunities available on the Avon River, and was not adopted.

Recommendation

A7 Avon Wilderness Area

That the area of 39 650 ha, shown on Map 6, which largely corresponds to the proclaimed Avon Wilderness Area, be used in accordance with recommendations A1—A20(a) to (k) above

that

~~(l) deer hunting by stalking be permitted, with the timing and length of season to be determined by the Department of Conservation and Environment~~

Note:

Variations to deer hunting by stalking: Recommendation A7(1), to permit deer hunting by stalking in the Avon Wilderness Area, is not accepted. Deer hunting by stalking will be permitted in the additional Wongungarra Wilderness Area

(See Order in Council 12/5/1992, Attachment 3)

and that

(m) where applicable, and unless inconsistent with (a) to (l) above, Council's previous recommendations for the Avon Wilderness Area, and the Avon, Turton and Dolodrook Rivers, and Ben Cruachan Creek Essentially Natural Catchments apply.

Notes:

1. This area, except for a 350 ha area excluded on the south-eastern margin, corresponds to that recommended by Council in its Gippsland Lakes Hinterland Area Study (1983) and its Alpine Area Special Investigation (1983), as approved by government.
2. The Council, in recommending an amendment to the boundaries of the existing Avon Wilderness Park, is aware that this excision will require legislative changes to the *National Parks Act 1975*. It believes that the excised area should revert to State forest.

3. Council is also aware that the amendment to the existing boundary will require active management to ensure vehicle access is not permitted on the Turton Divide Track beyond the confluence of the Turton and Avon Rivers. The new boundary, where it crosses the Turton Divide Track is, however, coincident with a deep hole in the river which may help mitigate problems of recreational vehicle use of the management vehicle tracks within the wilderness area.

4. Wellington Plateau, on the western margin of the wilderness area, is a sensitive alpine environment and provides an important part of the remote setting of Tali Karng, which is traditionally one of the most popular bushwalking destinations in the Victorian Alps. It is important that its remote and natural attributes are protected.

(See also Alpine SI B1, Gippsland Lakes and Hinterland B1, U1)

A8Mt Darling/Snowy Bluff Wilderness Area

The Mt Darling/Snowy Bluff Wilderness Area lies in the Victorian Alps. It covers an area of 40 400 hectares of the Wonnangatta and Moroka River catchments between the Howitt Road, the Moroka Road and the Wonnangatta valley. It consists of largely untracked and little-disturbed rugged mountainous terrain, which offers outstanding opportunities for solitude and inspiration in natural settings. It includes the largest unroaded area in the Alps. The recommended area is surrounded by the Alpine National Park.

The dominant landscape features include deeply incised valleys and steep escarpments surrounding the high plateaux of the Snowy Range, Mt Darling, Snowy Bluff and Mt Kent. The Moroka Gorge, on the southern margin, is also a significant feature. Many small waterfalls are active during the snow melt in spring. Vegetation comprises mainly wet- and dry-sclerophyll forest. There are alpine ash, broad-leaf peppermint and mountain gum forests on the higher slopes, with stringybark, swamp gum, and manna gum woodlands and forests at lower elevations and along the larger watercourses. Snow gum is found on the higher peaks and escarpment margins. The wide range of vegetation provides habitat for a diverse fauna, including many ground-dwelling and arboreal mammals.

Most of the deeply dissected valleys, precipitous escarpments, and forested slopes of the recommended wilderness area are essentially unmodified. It includes an extensive area free of structures and vehicular tracks. Not only is this the largest such area in eastern Victoria, but it is the fifth largest in the State. Outside this trackless area there are only a few dead-end vehicular tracks, and no structures have been recorded. However, there are three small areas on the margins which include logging regrowth and cattle have grazed some of the river valleys and higher country. These have been included to create a sensible management boundary, and comprise a small part of the total area.

The range of little-disturbed vegetation communities, contributes significantly to the wilderness area's very high value for nature conservation. A number of rare plant and animal species, and significant geological and geomorphological features are also recorded here.

The area is of moderate to high water production capability and its largely undisturbed catchments contribute to the high quality of the downstream water resource. They are also important for *in situ* and downstream aquatic fauna and flora and riparian communities.

The wilderness area has high capability for several recreational pursuits, particularly walking and deer hunting, and for those seeking solitude and inspiration in a little-disturbed environment. Some of the cliffs and escarpments are occasionally used by rock climbers.

Many of the spurs and valleys are untracked, as are elevated areas of the Mt Darling ridge and between Snowy Bluff and Mt Dawson. The Mt Darling range is one of only about half-a-dozen untracked snow gum woodland ridges remaining in the Victorian Alps. These are frequently used by experienced walkers and often include walking trips to the Wonnangatta River on the edge of the recommended wilderness area, which is a traditional focus for bushwalkers. The recently reopened McMillans Track, which passes through the southern portion of the area along the Moroka River, is also used by walkers. The Wonnangatta and Moroka River valleys are considered prime hunting areas for sambar deer.

Expansive views over the wilderness can be obtained from a number of points beyond its boundaries, primarily from the Howitt Plains Road near the western edge. Natural features on its edge such as Bryces Gorge and the adjacent Piemans Creek and Conglomerate Creek falls, Dimmick Lookout, Neilsons Crag, Moroka Gorge, Mt Dawson and Mt Kent, are readily accessible by relatively short walks from vehicular access outside the recommended wilderness area. The existing car park associated with Dimmick Lookout is outside the boundaries of the recommended wilderness.

Resource Implications

The whole of the recommended wilderness area is within the Alpine National Park. The area's use for wilderness recreation was one of the values recognised by Council in its 1979 recommendations for the Alpine Area.

Part of the area is used for livestock production. The main area grazed under licence extends along the Moroka River to the south of Snowy Bluff and encompasses some 610 ha. (An additional licensed grazing area, on the southern edge of the recommended wilderness area, shown on the maps accompanying the Descriptive Report is not now used for licensed grazing). The consultants concluded that livestock production is very minor, represented by one licensed grazing block used by one grazier as a reserve grazing area in times of drought, fire or other phenomenon which reduces production from other areas of the enterprise. The area is used infrequently to graze cattle in the winter months. There is some scope for identifying an alternative public land grazing area to help reduce the impact of the recommendations on the affected grazier.

A number of commercial horse-riding tours (up to 6 operators) use the Dry River—Bryces Plain Track in the north-western corner of the wilderness area as alternative access into the Wonnangatta Valley from the Snowy Range, and at least one operator makes occasional use of old bridle trails - including the McMillans Track. These routes would not be available for horse-riding under these recommendations.

The Dry River—Bryces Plain Track provides flexibility for the tour operators and provides, depending on the overnight camps chosen, a shorter trip to or from the Wonnangatta Valley. Council is also aware of the need to protect the significant plant species on Bryces Plain and the desire by managers to provide a horse-free walking track into the Wonnangatta valley. An alternative horse-riding route exists (immediately to the north) and subsequently the loss in flexibility arising from these recommendations is considered by Council as unlikely to have a significant impact on the viability of the operators. There are no obvious alternatives for the operator using McMillans Track.

The general area was identified by the consultants as being very important for deer hunting - a permitted activity in this area under these recommendations. The Moroka Glen Track provides vehicular access to part of the hunting area but this form of access would be precluded by the

recommendations. The consultants also identified that this track was considered important for four-wheel-drive recreation.

The Moroka Glen Track is on the western margin of the area and, while not a through-track, it presently provides vehicular access to a number of campsites on the Moroka River which, as the consultants identified, are mainly used by deer hunters. The exclusion of vehicular access via Moroka Glen Track does, however, permit the use of a more sensible management boundary along the edge of the Snowy Range.

Boundary Alternatives

A number of alternative boundaries were suggested in submissions. These included altering the boundary to permit vehicular access on the Moroka Glen Track, extending the wilderness area north to Zeka Spur Track, combining the Mt Darling/Snowy Bluff Wilderness Area with the Razor/Viking Wilderness Area, and extending the area west to include the abutting high plains.

The option to extend the wilderness area north to the Zeka Spur Track would add an area of about 4700 ha. It is mostly undisturbed and would provide a link to the recommended Razor/Viking Wilderness Area (A9) to the north, which encompasses the headwaters of the Wonnangatta River. It does, however, include a number of additional areas of logging regrowth and the major disturbance associated with the Zeka Spur Track, a heavily used recreational four-wheel-drive route. The Bicentennial National Trail, a focus for horse-based recreation, would also be included. Thus, both routes, for which no feasible alternative exist, would be closed. Discussions about the location and separation of the driving and riding routes in this area have already taken place and agreement reached between the land manager and the relevant recreation groups.

Another option considered in detail by Council was to include an area of 680 ha on the eastern margin between Mt McAdam and Snowy Bluff. In this instance the area contains sites used by campers, particularly deer hunters. Including this area in the recommended wilderness area would remove an intrusion into the central part of the wilderness, but would significantly reduce vehicle based camping opportunities on this section of the Wonnangatta River.

Council also considered excluding the Moroka Glen Track from the wilderness but this option was not adopted. It was aware that it will be difficult to physically restrict recreational vehicles from this track, especially as it will be required for fire protection purposes, but did not adopt this option as it was concerned about the impact the use of this track has on the integrity of the recommended wilderness area, and the deteriorating condition of the track and the associated areas.

Recommendation

A8 Mt Darling/Snowy Bluff Wilderness Area

That the area of 40 400 ha, shown in Map 7, be used in accordance with recommendations A1—A20(a) to (k) above

that

(l) deer hunting by stalking be permitted with the timing and length of season to be determined by the Department of Conservation and Environment

(m) grazing by livestock be phased out ~~within ten years~~ by 1 October 1998.

(Order in Council 12/5/1992, Attachment 3)

(n) the defined walking track along the route of McMillans Track be maintained but not upgraded

and that

(o) where applicable, and unless inconsistent with (a) to (n) above, Council's previous recommendations for the Alpine National Park and the Wonnangatta Heritage River apply.

Notes:

1. The western boundary of the recommended wilderness area generally coincides with the break of slope at the top of the escarpments. It does not extend to the actual catchment divide which is ill defined because of the flat-topped nature of the Howitt and Snowy Plains. It is important, however, that the area between the Howitt Road (which nominally follows the divide) and the boundary to the wilderness area is managed in a manner that does not reduce the wilderness values of the adjoining wilderness area.

2. The Snowy Range airstrip is located outside the recommended wilderness area beyond its western margin. It is used for management purposes associated mainly with fire protection activities and for search and rescue purposes. The recommendations for the Mt Darling/Snowy Bluff Wilderness Area do not preclude such uses. It is not available for recreational or charter use.

3. Council is aware of a proposal to construct a footbridge across the Moroka River, near its confluence with the Wonnangatta River, to facilitate access by deer hunters during high winter flows.

4. Council is aware that the licensed grazing in this area is subject to the 'Agreement on provisions for grazing licences' as referred to in the *National Parks Act 1975*.

5. The Department of Conservation and Environment is preparing a management plan for the Alpine National Park.

(See also Alpine SI A1)

A9 Razor/Viking Wilderness Area

The recommended Razor/Viking Wilderness Area straddles the Great Dividing Range in the western part of the Victorian Alps. It includes much of the dissected Catherine River valley, together with the wild, rugged headwaters of the Wonnangatta River. The distinctive landscape features of The Razor, The Viking and The Crosscut Saw, as well as the summit of Mt Speculation are also included. This wilderness area encompasses 15 700 ha of diverse environment and provides visitors with a wide range of experiences.

Much of the area consists of highly dissected Ordovician sediments which have formed a rugged mountainous terrain with steep hillsides and sharp ridges, incised by numerous streams. The elevation range between the ridgetops and adjacent valley floors is up to 800 m.

Tall open forests comprising narrow-leaf peppermint in association with manna gum and mountain gum predominate. Broad-leaf peppermint forests with heathy and tussock grass understoreys occupy the drier sites, with riparian forests along the major river valleys. Mature and regrowth alpine ash forests are found at higher elevations, with snow gum open forests on the higher ridges and spurs around Mt Speculation and towards Mt Howitt. These areas have alpine herbfields and heathlands on their summits. While the fauna of this part of Victoria has not been extensively surveyed, a wide range of species, reflecting the diversity of habitat, is known to exist.

The majority of the recommended wilderness area is little disturbed. It includes limited areas of logging regrowth on its margins east of Cobbler Lake and near Mt Speculation, but the great

majority of the forests elsewhere are mature. The Catherine River valley and areas around Mt Howitt have been grazed in the past, but no areas are still subject to licensed grazing. There are two vehicular fire tracks (a fire trail on the lower Catherine and a former logging track near Mt Speculation) but no structures have been recorded. The area is also very remote from settlement and major roads.

The nature conservation values of the recommended wilderness area are high, given its variety of plant communities, which range from alpine herbfields to riverine forests - all of which are largely undisturbed. Levels of introduced fauna and flora are low. The area also has high capability for water production. The little-modified mountainous catchments provide an important water resource to the downstream storage on the Buffalo River and are also important for *in situ* and downstream aquatic fauna and flora and riparian communities.

A wide range of recreational activity is undertaken; in particular, the area has a high capability for bushwalking and nature study. A number of walking routes and good camp-sites are available, although water sources are limited on the higher ridges. Both day trips and extended walking opportunities occur. Most of the ridges, spurs and minor peaks are untracked, as are sections of a number of the watercourses. The Alpine Walking Track along the Barry Mountains is an important focus for walkers. Other spectacular and popular walking venues include The Razor and The Viking, Mt Speculation with its alpine herbfields and magnificent 360 degree views, the steep escarpments of The Crosscut Saw, and the Blue Hills range.

The ridges and escarpments of the high country and the deeply incised streams, together with its remoteness and relatively undisturbed communities, all contribute to the area's high capability for providing opportunities for those seeking inspiration and solitude.

Opportunities for remote cross-country skiing for experienced skiers are found around Mt Howitt and Mt Speculation, and the cliffs of The Razor offer opportunities for remote rock climbing. The tributaries of the main river valleys are used by hunters of sambar deer.

Spectacular views across the southern sector of the wilderness area can be obtained at its edge from Mt Howitt and from nearby escarpments which are now a relatively short walk from two-wheel-drive access. Commercial horse-riding tours also overview the wilderness from this point. A four-wheel-drive track (Speculation Track) on the western boundary provides ready vehicular access to a short walking route to Mt Speculation. Several commercial walking tours include parts of the wilderness area in their itineraries.

Resource Implications

The recommended wilderness area is wholly within the Alpine National Park. Wilderness recreation values of the Catherine River—Viking area, and the remote and rugged qualities of the Catherine River valley and its attractiveness for bushwalking free of tracks, are values identified by Council in its previous recommendations for this park.

None of the wilderness area is used for, or available for utilisation activities and the only vehicular tracks included are not available for public use.

The consultants, in assessing the larger area originally proposed by Council, concluded that its inclusion would have a substantial impact on the one affected grazing enterprise. The area recommended by Council differs from that originally proposed and, as noted above, no area presently subject to licensed grazing is included in the boundaries of the wilderness area. Consequently, the impact identified by the consultants for the proposed recommendations no longer applies.

Boundary alternatives

In response to submissions, Council reviewed a number of boundary alternatives to this wilderness area. In particular, it gave detailed consideration to extending the recommended wilderness area further north to encompass the whole of the valley of the Catherine River, and to extend it to the north-west to encompass lands north of the Cobbler Lake—Abbeyard Track.

The lower part of the Catherine River (covering 4500 ha) is mostly little disturbed and offers opportunities for self-reliant recreation. While Council has previously identified the wilderness recreation values of this remote and rugged area, the valley itself is, however, subject to licensed grazing (affecting an area of 575 ha). Council, being aware of the importance of this area to the operation of the grazier involved and the limited scope for alternative public land grazing, considered that it was not appropriate to include this area within the recommended wilderness area.

The area north of the Cobbler Lake—Abbeyard Track encompasses 9000 ha of largely undisturbed dissected foothill forest. Within this area, two vehicular tracks occur along two of the catchment divides. These provide opportunities for recreational four-wheel-drive use and access for deer hunters, particularly hound hunting teams. Two small areas are grazed, and the forests of this area include sawlog resources equivalent to some 0.3% of the regional sustainable yield of the Wangaratta Forest Management Area. It is also prospective for minerals, such as gold. Such activities and resources would be unavailable if it were included in a wilderness area.

While neither of these options was adopted, owing to the factors described above, Council has recommended that these areas be listed as Other Areas with Remote and Natural Attributes - see Chapter 4: B13 Dandongadale.

Council also gave consideration to the inclusion of a 2600 ha area east of the Razor Track, part of which is subject to once-only, mainly selective, logging (not due for completion until 1996). Council, however, did not consider it appropriate to include this area given that a commitment has been made to timber harvesting here; a use which Council believed should continue.

Other alternatives suggested, but not adopted, included extending the wilderness area south to link with the Mt Darling/Snowy Bluff Wilderness Area (A8) and extending it west to include Mt Cobbler, the Speculation Track, the headwaters of the King River, and Mt Howitt. Such options would generally involve the inclusion of additional disturbances, locating boundaries away from natural features, and significant impact on existing uses.

Recommendation

A9 Razor/Viking Wilderness Area

That the area of 15 700 ha, shown on Map 7, be used in accordance with recommendations A1—A20(a) to (k) above

that

(l) deer hunting by stalking be permitted, with the timing and length of season to be determined by the Department of Conservation and Environment

(m) the defined walking track along the route of the Alpine Walking Track be maintained but not upgraded

and that

(n) where applicable, and unless inconsistent with (a) to (m) above, Council's previous recommendations for the Alpine National Park and the Wonnangatta Heritage River apply.

(o) grazing by livestock be phased out by 1 October 1998.

(Order in Council 12/5/1992)

Notes:

1. Council is aware that this area is relatively small in total size but considers that, given that it is entirely surrounded by forested lands, most of which are within the Alpine National Park, it is appropriate to recommend this area to be a wilderness area.
2. The fire trail along the Catherine River, immediately north of the wilderness area, is available only for management purposes and walkers.
3. In the future, it may be necessary to control the number of visitors on the more popular walking routes to ensure that opportunities for solitude are maintained and that campsites and walking routes are not degraded.
4. The Department of Conservation and Environment is preparing a management plan for the Alpine National Park.

(See also Alpine SI A1)

A10 Wabba Wilderness Area

The recommended Wabba Wilderness Area lies north of the Great Dividing Range in the north-east of the State between Lake Dartmouth and Cudgewa. It includes the foothill forests of the Wabba Creek catchment, and the essentially natural environs of Log Bridge Creek which rise to the montane environments of the Gibbo Range. The wilderness area encompasses 19 700 ha of mainly undisturbed foothill forests.

Most of the area comprises hilly terrain on metamorphic sediments, with less dissected granitic areas occurring in the Wabba Creek catchment to the north. The area rises sharply from the surrounding open valleys of Cudgewa and Nariel Creeks. Tall open forests dominated by narrow-leaf peppermint occur on the broad ridge tops, with open forests on the lower slopes of broad-leaf peppermint; on the drier slopes are red stringybark and long-leaf box forests with open understoreys. These forests provide habitat for a variety of fauna including a number of gliders, bats, and ground dwelling marsupials.

The entire area is virtually undisturbed, except for formed vehicular tracks, most of which follow divides. No other structures have been identified. The area is not subject to licensed grazing and, other than localised, mainly selective logging, has not been subject to timber utilisation; nor has any previous mining activity or gold field be recorded in the area. Localised infestations of blackberries are the only known introduced species recorded. It is remote from major roads and is relatively inaccessible to vehicles.

The nature conservation values of the area are high due to its undisturbed nature. No significant species have been recorded in the area, although surveys have been limited. It is of particular value as an example of little disturbed foothill forests and includes one of only six essentially natural catchments recorded north of the divide. The Log Bridge Creek has significant scenic values, as do the bordering hillslopes which form a scenic backdrop to the Nariel valley.

Capability for self-reliant recreation is high, particularly for remote walking and solitude. The open understoreys of the mature forests on the ridgelines enhance such recreational opportunities.

The area also has high water resource values - including the headwaters of Rawes Creek which is part of a proclaimed catchment and provides for the Corryong water supply.

Resource Implications

Council, in its 1973 study covering this area, noted that it is of considerable potential value for uses such as scientific reference or recreation in solitude, and that the undisturbed parts be maintained in a state that would allow such uses in the future. Council in its 1986 review of the area, specifically recommended that the significant scenic and nature conservation values of the stream environs of Log Bridge Creek be protected.

The area is prospective for base metal mineralisation and current exploration tenements are held over part. However, the site of possible stone potential identified by the consultants is not, as additional information has confirmed, within the recommended boundaries.

It includes sawlog resources corresponding to approximately 0.3% of the regional sustainable yield of the Wodonga Forest Management Area. These resources are located on its southern margin and comprise one stand of mature mixed species and two stands of mature alpine ash. Given its current status as State forest these are presently available, but such uses would be precluded under these recommendations. Council's recent Rivers and Streams Special Investigation's recommendation for the Log Bridge Creek - East Branch Essentially Natural Catchment, which is included within the recommended wilderness area, affects an additional 0.1% of the sustainable yield of this Forest Management Area.

A number of vehicle tracks occur within the area and, while available for public access, receive little use.

Boundary Alternatives

Council, as noted in its Proposed Recommendations, is aware that the area is of relatively small size and is thus on the lower limits of the criteria used by Council for wilderness areas. Council has now obtained additional information on the resources and use of this area and considers that, given its relatively undisturbed condition, it generally meets the other wilderness criteria and, as there are limited land-use conflicts, it is appropriate to set it aside as a wilderness area.

Recommendation

A10 Wabba Wilderness Area

That the area of 19 700 ha, shown on Map 8, be used in accordance with the recommendations A1—A20(a) to (k) above

and that

- (l) where applicable, and unless inconsistent with (a) to (k) above, Council's previous recommendation for the Log Bridge Creek—East Branch Essentially Natural Catchment apply.

Notes:

1. Some localised areas of blackberry infestation occur; priority will need to be given to their control.
2. Council believes that there may be scope for rationalising the track network.

(See also Alpine SI I1, NE 1,2&4R E1)

A11 Indi addition to Pilot Wilderness Area

This area forms a 13 800 ha addition to the 92 400 ha Pilot Wilderness Area within the adjoining Kosciusko National Park in New South Wales. The recommended addition lies to the south of Tom Groggin and encompasses a large part of the eastern fall of the Davies Plain Ridge. The area is of high wilderness quality and complements the protection afforded to the upper reaches of the Murray River provided by the adjoining Pilot Wilderness Area. The existing Pilot Wilderness Area in New South Wales, combined with the Indi and Cobberas (A12) additions now recommended in Victoria, together encompass a consolidated area of 116 200 ha, forming the largest mountainous wilderness area in mainland south-eastern Australia.

The recommended Indi addition consists of the remote and rugged valley of the Murray River, and part of the abutting elevated Davies Plain Ridge. The vegetation includes alpine and subalpine herbfields and heath-lands, with areas of snow gum woodland on the higher ridges and plateaux. At lower elevations, montane forests of alpine ash and wet- and dry-sclerophyll forests occur which provide a wide range of habitat for such wildlife as small ground-dwelling and arboreal mammals.

The addition is relatively undisturbed, with very few tracks. No structures have been recorded. Parts have, however, until recently, been subject to seasonal grazing by livestock, and feral horses are also present.

The area is surrounded by forested public land and is remote from settled areas. In fact, the eastern fall of the Davies Plain Ridge is the most remote area from settlement in eastern Victoria (being almost 15 km distant).

Its relatively undisturbed nature contributes to the maintenance of its high value for nature conservation. It also has significant water resource value. High rainfall and its relatively unmodified nature contribute to the overall high water quality, which is also important for *in situ* and downstream aquatic fauna and flora and riparian communities.

The recommended area also provides a range of recreational environments and has high capability for activities such as bushwalking, nature study, and to some extent remote cross-country skiing. There are untracked walking opportunities down the spurs leading into the Murray River and the open grassland and woodlands east of Davies Plain provide opportunities for remote walking against the spectacular backdrop of the Kosciusko Main Range. Trout are sought in the Murray River.

The ridge is also relatively accessible to four-wheel-drive vehicles from the Davies Plain Track, which forms its western boundary and extensive views across the wilderness are readily available within a short walking distance of this track.

Resource Implications

The recommended wilderness area is entirely within the Alpine National Park. Council, in its previous recommendations for this area, noted that the environs of the Davies Plain should remain in a relatively undisturbed condition, that they offer opportunities for remote, wilderness-style recreation, and complement the adjoining Pilot Wilderness Area.

The consultants, in their assessment of Council's proposed recommendations, concluded that three activities would have been adversely affected under the Council's earlier proposals for this area. These were livestock production, tour operations and four-wheel-drive recreation. However, the area now recommended by Council excludes, with the exception of a minor

vehicular track for which an alternative route exists, the areas utilised by these activities. (Additional licensed grazing areas shown on the maps accompanying the Descriptive Report in the northern half of the recommended wilderness area are no longer licensed for grazing.) Consequently, the impact of these recommendations on existing use, other than for the inclusion of part of a general riding area and a bridle trail used by local horse riders, is negligible. The main areas used for horse-riding in the vicinity are, however, outside the boundaries.

Boundary Alternatives

In formulating its recommendations for this area, Council considered several options for a wilderness area.

One option would have added the whole of the Davies Plain Ridge between Buckwong Creek and the Murray River. Such an area would meet the criteria adopted by Council for a wilderness area and provide maximum protection to its wilderness values and, in particular, enhance its capability for self-reliant recreation and conservation of natural features. It would, however, create impacts on existing horse-riding, four-wheel-drive vehicle use, livestock grazing, and vehicle based recreational fishing access. The consultant's social and economic assessment report concluded that the impact on recreational four-wheel-driving would be significant, as would the impact on the individual graziers affected and the horse-based, tour operator who uses the area. A local group also offers four-wheel-drive based educational tours, and other commercial tour operators occasionally use the area. An alternative four-wheel-drive through-route identified by Council was considered less desirable by many users, and there was strong local support to maintain a wider range of access to the outstanding natural features of this area.

Another option raised in submissions was to create two separate wilderness areas, either side of the Davies Plain Track. These would not, in their own right, meet the size and shape criteria adopted by Council. It would also not be possible, in this instance, to extend the area to the west of the track without including additional disturbed areas, and creating boundaries beyond the limits of natural boundaries or creating additional land-use conflicts.

Council also considered an option of including that part of the southern fall of the Davies Plain Ridge south of King Plain Track (also known as Videls Track) to McArthys Track. This would, together with the recommended Cobberas addition (A12), have provided the highest level of protection to the whole of the Murray River headwaters (except for the catchment of the Limestone Creek tributary), as well as provide protection for further areas of higher wilderness quality. It would also enhance the potential opportunities for self-reliant recreation. This option would have included parts of two areas subject to licensed grazing and, by encompassing a four-wheel-drive track accessing the Murray River, reduce access to this section of the river by vehicle-based anglers.

The impact on the affected grazier would be significant and, given the existing limitations of vehicle access to traditional angling streams in the adjacent Kosciusko National Park, the impact to anglers would also be locally significant. While not included in the recommended wilderness area, this area has been included in the listing of Other Areas with Remote and Natural Attributes - see Chapter 5: B20 Davies Plain.

Other options raised in submissions and discussions include extending the area south of McArthys Track to Round Mountain, or further south to link with the recommended Cobberas extension to the Pilot Wilderness Area (A12), to exclude the lower Buckwong Creek and Serpentine Creek catchment, and to not designate any portion of this area as a wilderness area.

Recommendation

A11 Indi addition to Pilot Wilderness Area

That the area of 13 800 ha, shown on Map 9, be used in accordance with recommendations A1—A20(a) to (k) above

that

(l) priority be given to the control of feral horses and other feral animals

(m) particular emphasis be given to the control of vehicle use on management vehicle only tracks

that

(n) the Victorian government continue liaison with the New South Wales government on the cooperative management of the adjacent wilderness areas in each State, as detailed in the Memorandum of Understanding on the Co-operative Management of the Australian Alps National parks, with a view of ensuring the maintenance of the wilderness values of both areas

and that

(o) unless inconsistent with (a) to (n) above, and where applicable, Council's previous recommendations for the Alpine National Park apply

(p) Council's previous recommendation for the Tom Groggin Reference Area apply.

Notes:

1. There is potential to reduce the number of existing vehicular tracks, subject to fire protection requirements.
2. Grazing licences covering most of the Davies Plain Ridge area have, since the mid 1950s, been associated with the freehold property to the north at Tom Groggin. Following the recent sale of this property, the licences covering the area east of Buckwong Creek were not transferred to the new property owner and this area will not be subject to grazing in the future.
3. The Department of Conservation and Environment is preparing a management plan for the Alpine National Park.

(See also Alpine SI A3, A25, C17)

A12 Cobberas addition to Pilot Wilderness Area

This area forms a 10 000 ha addition to the Pilot Wilderness Area which encompasses an adjoining area of 92 400 ha within the Kosciusko National Park in New South Wales. The recommended addition encompasses the Cobberas Range, which is one of the few remaining untracked mountain ranges in Victoria. The area is of relatively high wilderness quality and provides the highest level of protection to that part of the headwaters of the Murray River not included in the adjoining Pilot Wilderness Area. It forms a logical extension to the Pilot Wilderness Area, being a continuous part of the Great Dividing Range. The existing Pilot Wilderness Area in New South Wales, combined with the Indi (A11) and Cobberas additions now recommended in Victoria, jointly encompass a consolidated area of 116 200 ha, forming the largest mountainous wilderness area in mainland south-eastern Australia.

The Cobberas area consists of rugged mountainous country with prominent peaks, dissected valleys and complex geology. The catchment of the dry, rugged Suggan Buggan valley is composed largely of granite, whereas the peaks of the Cobberas are of volcanic origin. Small, grassy montane basins, such as Cowombat Flat, provide a contrasting environment. The vegetation includes small areas of alpine and subalpine heathlands and montane forest, with

extensive areas of snow gum woodland on the higher ridges and plateaux. At lower elevations, montane forests and woodlands are found, with rainshadow woodlands and open shrub-lands occurring further east. There is a wide range of habitats for wildlife including small ground-dwelling and arboreal mammals and several species of native fish occur in the streams.

The recommended addition is relatively undisturbed, with a sparse track network and few structures. The only structures recorded are a trig station and several minor border cairns. However, parts are, or have been, subject to seasonal grazing by livestock. Feral horses are also present.

The area is entirely within the Alpine National Park. It is remote from settled areas, other than for a small cleared, but uninhabited, block of freehold land beyond the boundaries of the wilderness on the Ingeegoodbee River.

The area has very high value for nature conservation as it contains a wide variety of geological formations, significant landforms and vegetation, and a number of rare plant and animal species. Its relatively undisturbed nature is an important contributor to the maintenance of such values. Water production values are moderate given the rainshadow associated with the Snowy River Valley.

The area has high capability for activities such as bushwalking, camping, nature study, and, to a lesser extent, rock-climbing. The Cobberas Ranges and Cowombat Flat are two main foci for visitors. The Alpine Walking Track follows a vehicular track on the western margin of the Cobberas Range into the montane basin at Cowombat Flat. This leads to The Pilot in New South Wales, which is a major destination of walkers. The prominent Cobberas Range, one of the highest mountain ranges in Victoria, rises to 1838 m and provides significant untracked walking opportunities. The grassy montane basin at Cowombat Flat provides excellent opportunities for camping.

Expansive views into the wilderness area and across the Cobberas Ranges can be obtained by short walks from the (two-wheel-drive) Benambra—Black Mountain Road from adjacent peaks such as Rams Horn.

Resource Implications

The recommended addition to the Pilot Wilderness Area forms part of an area that has been advocated for wilderness protection since 1935 and it is entirely within the Alpine National Park.

Livestock grazing is the only utilisation activity currently permitted in the area. The consultants, in their social and economic assessment of the proposed recommendations, concluded that two livestock producers would be significantly affected by Council's previously proposed wilderness area. However, the area now recommended affects only one grazier to a minor extent. The area grazed is on the western margin of the recommended addition and, while contiguous with the main areas grazed under the licence along the Limestone Creek, the latter would remain unaffected if cattle were excluded from the recommended addition. The recommended area also includes two vehicular tracks: most of the Cowombat Flat Track and a short section of the Cobberas Trail. Both of these tracks are presently available for recreational vehicle use and provide direct vehicular access to Cowombat Flat which has become a significant destination point for an increasing number of four-wheel-drivers. Council is aware that it will be difficult to restrict recreational vehicles from these tracks and is therefore recommending that consideration be given to the rehabilitation of these tracks within the wilderness area. Council has, however, ensured that a number of four-wheel-drive through-routes are still available in this vicinity. These include Macfarlanes Flat Track, Limestone Creek Track, and the Davies Plain Track. A

number of four-wheel-drive vehicle-based campsites, such as Macfarlanes Flat, The Playgrounds, Lime-stone Creek, and on the Murray River at the end of McArthys Track will also continue to be available.

The area also includes several bridle trails used by local horse-riders (including one along the Cowombat Flat Track) and two areas, the Bulley Creek ridge (off the western fall of Mt Cobberas No 1) and to a greater extent Cowombat Flat, that are used as general riding areas. The exclusion of these areas will have a significant impact on local horse riders. Council has, however, ensured that most of the bridle routes and general riding areas in the vicinity have been excluded from recommended wilderness areas, and the main horse-riding route providing access to the Mt Cobberas No 1 (which is the highest point of the range and the most popular destination of riders) has also been excluded from and lies outside the recommended boundary of this wilderness area.

One licensed tour operator includes the western part of the recommended addition, including Cowombat Flat, in the itinerary of one tour offered. As this would be precluded there will be an adverse impact on this operator, but not to the extent that would make the operation unviable. The operator has only recently been granted a permit to operate in this area on the understanding that there is no guarantee of future permits being issued as the Land Conservation Council's special investigation on wilderness may preclude this use. The major focus of the tours offered is the Davies Plain Ridge which remains available under these recommendations.

Boundary Alternatives

Council considered a number of options with respect to the protection of wilderness values in this area.

One was to extend the area to include the land south east of the Cobberas Trail and surrounding, and to the south of, MacFarlane Flat (encompassing the headwaters of the Buchan River - Native Dog Creek, the Rams Head Range, and a number of the major tributaries of the Suggan Buggan River) to the Benambra—Black Mountain Road. This option would have added a contiguous area of 16 200 ha of relatively little-disturbed and rugged land. Large parts are, however, subject to licensed seasonal grazing and, if this became unavailable, would have a significant impact on the operations of the two affected graziers. It is possible that their present operations would be made unviable. It would include three vehicular tracks - the Playgrounds Track, part of the Cobberas Trail and the MacFarlanes Flat Track (the latter two forming an important 'through-route'), and a four-wheel-drive vehicle based camping area at The Playgrounds. These areas are becoming important for recreational four-wheel-driving activity. It would also preclude access by horse to the southern end of the Cobberas Range and Rams Head Range and preclude use of a number of bridle trails and large parts of the general riding area used by locals.

Council also gave detailed consideration to excluding the western fall of the Cobberas Range, including Cowombat Flat Track. This option would significantly reduce the protection of the headwaters of the Murray River and the Pilot Wilderness Area in New South Wales. It would also reduce the quality of bushwalking opportunities by not precluding recreational vehicular and horse-riding use of Cowombat Flat, a traditional focus of walking activity. Cowombat Flat Track forms part of the route of the Alpine Walking Track. The Council also notes that *The headwaters of the Murray River are a recreational focus - Cowombat Flat* the existing uses of that part of the Cowombat Flat area within Victoria has led to conflict with the management and existing use of the abutting Pilot Wilderness Area. While Council is aware that the Cowombat Flat area is already a point of interest to significant numbers of four-wheel-drive users, horse riders and commercial tours, it believes that the increasing use of the area will significantly diminish its

values. It is therefore recommending that the highest level of protection be given to this area to ensure that its values can be maintained and enhanced in both the short and, more particularly, in the long term.

Other options suggested and considered, but also not adopted by Council, were: to exclude the whole of the Cobberas Range; to provide a wider addition to the areas of higher wilderness quality within New South Wales in the east by extending the boundary to MacFarlanes Flat (which would have had a significant impact on two licensed graziers and on local horse-riding), and to exclude Cowombat Flat Track and the whole of the Cobberas Trail to permit a loop four-wheel-drive trip to Cowombat Flat (which would have meant the separate areas would not meet the criteria adopted by Council for wilderness areas).

Recommendation

A12 Cobberas addition to Pilot Wilderness Area

That the areas totalling 10 000 ha, shown on Map 9, be used in accordance with recommendations A1—A20(a) to (k) above

that

(l) ~~grazing by livestock be phased out within 10 years~~

(l) grazing by livestock be phased out by 1 October 1998.

(Order in Council 12/5/1992)

(m) priority be given to the rehabilitation of vehicle tracks across Cowombat Flat

(n) priority be given to the control of feral horses and other feral animals

(o) consideration be given to the rehabilitation of those sections of Cowombat Flat Track and the Cobberas Trail within the recommended area to assist in preventing recreational vehicular access, while taking into account fire protection, public safety and other management requirements

that

(p) the Victorian government continue to liaise with the New South Wales Government on the cooperative management of the adjacent wilderness areas in each State, as detailed in the Memorandum of Understanding on the Co-operative Management of the Australian Alps National Parks, with a view to ensuring the maintenance of the wilderness values of both areas

and that

(q) where applicable, and unless inconsistent with (a) to (n) above, Council's previous recommendations for the Alpine National Park and the Berrima Heritage River apply

(r) Council's previous recommendation for the Forest Hill Reference Area apply.

Notes:

1. Council is aware that licensed grazing in this area is subject to the 'Agreement on provisions for grazing licences' as referred to in the *National Parks Act 1975*.
2. The Department of Conservation and Environment is preparing a Management Plan for the Alpine National park.

(See also Alpine SI A3, C18)

A13 Buchan Headwaters Wilderness Area

The Buchan Headwaters Wilderness Area encompasses most of the rugged and relatively undisturbed headwaters of the Buchan River - north of Mt Seldom Seen. It covers an area of 30 000 ha and is entirely within the Alpine National Park. It is bounded in the north by the break of slope south of the Benambra—Black Mountain Road, in the west by the Native Cat Track along the Great Dividing Range and Nunniong Road, to the south by the break of slope on the edge of the Nunniong Tablelands, and in the east by the Wulgulmerang Tablelands north of Mt Seldom Seen.

The Buchan River flows through deeply dissected topography in the centre of the area, with more undulating tableland sections found in its western sector. Natural features of particular interest include the steep rugged terrain falling into the Buchan River and, in particular, the escarpments, waterfalls, rapids and minor gorges of the streams which drain the plateau surrounding Reedy Creek, the Reedy Creek Chasm, and snow grass plains such as the Forlorn Hope Plain.

The elevated tableland areas carry snow gum woodlands with grassy understoreys. Occasional alpine wet heathlands, grasslands and herbfields occupy poorly-drained sites. In the more sheltered valleys, montane forests with patches of wet sclerophyll forest are found. The lower areas, which are generally drier, support extensive montane sclerophyll woodlands with a mixed eucalypt overstorey and heathy or grassy under-storeys. Riparian forests of manna gum occur along the Buchan River and the lower reaches of its major tributaries.

Most of these communities are little disturbed. However, logging regrowth in the headwaters of Reedy Creek, covering about 1600 ha, has been included to provide a logical catchment boundary. The Brumby Point spur on the southern edge of the area is seasonally grazed by livestock, and the lower reaches of the Buchan River near Mt Seldom Seen have also been grazed. Feral horses are also present. However, the dissected slopes and steep ridges which encompass the majority of the area are little grazed. It is traversed by four vehicular tracks, established for fire protection purposes. No structures have been recorded.

The recommended wilderness area has a high value for nature conservation. There is a range of environments, most of which have been little disturbed, a number of rare and significant plant species, and significant geological and geomorphological features. The relatively undisturbed mountainous catchment of the area provides reliable flows and high water quality. These water resources are utilised downstream for town-ship water supplies, and are also important for *in situ* and downstream aquatic fauna and flora and riparian communities. Walkers use the area for both day and overnight trips and parts have potential for remote cross-country skiing. High points on the Forlorn Hope Track and Brumby Point spur provide extensive views and together with the area's natural features, contribute to its high capability for solitude and inspiration in a little-disturbed environment.

Extensive views across the area can be obtained from a number of accessible points on its edges. These include high points on the Native Cat Track, which is accessible to four-wheel-drive vehicles and horse riders (being part of the Bicentennial National Trail), and Mt Seldom Seen. High points in its north are also accessible by short walks from the two-wheel-drive Benambra—Black Mountain Road.

Resource Implications

The recommended wilderness area is entirely within the Alpine National Park. Grazing is currently a permitted use.

Three livestock enterprises will be directly affected by this wilderness area. The consultants in their social and economic assessment of Council's Proposed Recommendations concluded that the impact on the individual enterprises would be significant but that the loss to State and regional production would be minor. The boundaries of the area now recommended by Council exclude much of the area of impact such that, of the three licensees, one will be affected to a minor degree and another negligibly. The third licensee utilises the Forlorn Hope Plain in the centre of the recommended wilderness area. While the licensee uses this area less frequently than in the past, its unavailability will still have a significant impact.

The consultants also identified that one track (Forlorn Hope Track) of local importance to recreational four-wheel-driving, lies within the wilderness area. It is used as a through-route. Council is aware that closure of this track for public vehicular use under these recommendations, together with the three other vehicular tracks included in the area, would reduce opportunities for recreational four-wheel-driving. They are presently subject to seasonal closure. Alternative links between the Benambra—Black Mountain Road and the Nunniong Plateau will, however, remain accessible outside the boundary of the wilderness area.

Part of the general riding area used by local horse riders has been included. However, the boundary has been specifically located to reduce this impact.

Boundary Alternatives

A number of different approaches to this area were suggested in submissions. One was that, given the number of vehicular tracks, the area not be a wilderness area (but rather it be listed as an Other Area with Remote and Natural Attributes). The density of tracks is, however, relatively low, particularly given that this recommended wilderness area is one of the largest such areas in the Alps. Impact on four-wheel-drive opportunities is mitigated by the boundary avoiding nearby alternative through tracks and access points to the Buchan River.

Another option considered, but not adopted, was to extend the boundary over a catchment divide to the north-west to include 6500 ha of the relatively little-disturbed headwaters of Limestone Creek. The entire area is, however, used for licensed grazing. Its inclusion would also involve the rerouting of the Bicentennial National Trail, the inclusion of another vehicular track, and a significant increase in the extent of perimeter roading (much of which may be subject to increased traffic associated with the Benambra Base Metal Project).

Council also considered the deletion of a 4200 ha section below the Sugarloaf Track. This would avoid the inclusion of one vehicular track, a bridle trail, and some grazed areas, but exclude a large area of little disturbed and rugged country at the base of Mt Seldom Seen.

Consideration was also given to using vehicular tracks as the boundary on the northern and southern margins, rather than the break of slope. However this would have involved a significant impact on the operations of three graziers, on local horse-riding use, and, to a lesser extent, one horse-based tour operator. The boundary adopted avoids such impacts while still maintaining protection of the core area.

Other approaches, suggested in submissions but not adopted by Council, were that some or all of the vehicular and/or bridle tracks be excluded from the area; and that the area be extended south.

Recommendation

A13 Buchan Headwaters Wilderness Area

That the area of 30 000 ha, shown on Map 10, be used in accordance with recommendations A1—A20(a) to (k) above

that

(l) grazing by livestock be phased out ~~within 10 years~~ by 1 October 1998.

(Order in Council 12/5/1992)

(m) priority be given to the control of feral horses and other feral animals

and that

(n) unless inconsistent with (a) to (m) above, and where applicable, Council's previous recommendations for the Alpine National Park and the Buchan Heritage River apply.

Notes:

1. The highest reaches of the Buchan River lie outside the recommended wilderness area to the north of the Benambra—Black Mountain Road. Council notes that the Proposed Management Plan for the Cobberas—Tingaringy Unit of the Alpine National Park envisages the development of defined camping areas in this area at Native Dog Flat for both vehicle - and horse-based campers. It is important that this area is managed in a manner which recognises its proximity to the wilderness area.
2. A proposed horse camp at Brumby Hill is not included in the recommended wilderness area.
3. Council is aware that, to exclude livestock from straying along Brumby Point Spur from the abutting licensed areas to the south, some fencing will need to be erected on the boundary of the recommended wilderness area.
4. Council is aware that the licensed grazing in this area is subject to the 'Agreement on provisions for grazing licences' as referred to in the *National Parks Act 1975*.
5. Council is aware that a temporary exploration camp has been established as part of the Benambra Base Metal Project, within 2 km of the western boundary of the recommended wilderness area, and that approval has been given to develop the associated 'Currawong' and 'Wilga' deposits (both about 7 km distant).
6. The Department of Conservation and Environment is preparing a management plan for the Alpine National Park. (See also Alpine SI A3)

A14 Tingaringy addition to the Byadbo Wilderness Area

The area covers 7900 ha along the Victoria—New South Wales border between the Snowy River and Mt Tingaringy. It forms an extension to the adjacent Byadbo Wilderness Area of the Kosciusko National Park in New South Wales. Together, these areas form an outstanding, essentially undisturbed area of over 75 000 ha, encompassing environments ranging from the dry cypress pine communities of the Snowy River corridor to a wide variety of montane communities towards Mt Tingaringy. In particular, these two areas, together with Council's recommended Snowy River Wilderness Area, provide wilderness protection for a substantial part of the Snowy River and ensure the maintenance of this remote and scenic nationally significant canoeing and rafting river.

All of the Victorian sector consists of deeply dissected sedimentary rock rising over 1000 m from its lowest point in the Snowy River valley to 1449 m at Mt Tingaringy - the highest mountain in East Gippsland. Other than a small area of snow gum woodland, and a few small pockets of montane sclerophyll forest on the higher peaks, the vegetation is dominated by dry sclerophyll forest or rainshadow woodland.

A variety of fauna has been recorded, with species of particular interest including the tiger quoll, the brush-tailed rock-wallaby, and the common wallaroo.

The area has been very little modified. A small (illegally constructed) shelter, a few minor border cairns, and a few short vehicular tracks (mostly closed to public use) are the only structures recorded. Parts have been previously grazed by livestock, and feral horses are present. No other forms of utilisation have been recorded. Introduced plants, largely brought in from sources in New South Wales upstream of the wilderness area, are found along the Snowy River, on its western margin.

The recommended addition complements the recreational opportunities of the adjoining Byadbo Wilderness Area to the north. The escarpments of Mt Tingaringy, the sandy beaches of the Snowy River, and the open untracked understoreys of the dry rainshadow vegetation are features of particular interest. Expansive views across the recommended wilderness area and the adjoining wilderness in New South Wales can be obtained from Mt Tingaringy and along parts of the Buchan—Jindabyne Road.

Resource Implications

The recommended addition is entirely within the Alpine National Park. Council, in its previous recommendations for this area (for the-then Tingaringy National Park), noted the importance of its rugged features for recreation and recommended that the area be managed in such a way as to maintain its wilderness values.

The open understoreys of the woodlands in the western part of the area are used by local residents for horse-riding. This would not be permitted to continue under these recommendations. The major part of the area used by local horse-riders is further south and lies outside the wilderness area. Its present use by members of a local brumby running club could continue if required as part of a feral horse control program - see Chapter 4: Management Principles for Wilderness Areas.

Boundary Alternatives

One option was to extend the wilderness area to the south of Snowy Track. This area of deeply dissected gorge country has only a few minor dead-end vehicular tracks and no structures. It is an area that is largely undisturbed and of high value for self reliant recreation, particularly canoeing, rafting, and walking.

This relatively narrow (between 5 and 7 km) extension of 11 800 ha would be, however, somewhat distant from the areas of highest wilderness quality which are in New South Wales. It would involve the boundaries of the wilderness area abutting freehold land and include an area subject to licensed grazing.

One grazing enterprise would be affected by this option. The consultants' social and economic assessment concluded that the overall production of the enterprise would be affected to a relatively minor degree but, as the block adjoins freehold land owned by the grazier, the block is strategically very important, particularly for winter management of breeding stock. Further detailed information indicates that this grazing occurs in the area west of the Snowy River, upstream of its confluence with the Suggan Buggan River. The grazing licence also covers adjoining areas outside this possible addition and it would be difficult to exclude grazing without fencing or removing grazing from the whole of the licensed block. The grazier involved is also adversely affected by Council's recommendations for the Buchan Headwaters Wilderness Area (A13).

This option would also impact on existing use of the area by local people for horse-riding. The dry open understoreys facilitates this traditional activity, with riders traversing the area from the abutting freehold to gain access to the Snowy River. The area also has relatively moderate wilderness quality and is at the lower margin of the criteria by Council for wilderness areas. It was for all these reasons that Council did not include this area in the recommended addition to the Byadbo Wilderness Area.

While not included in the recommended wilderness area, the area has been included in the listing of Other Areas with Remote and Natural Attributes - see Chapter 5: B21 - Upper Snowy.

Recommendation

A14 Tingaringy addition to Byadbo Wilderness Area

That the area of 7900 ha, shown on Map 11, be used in accordance with recommendations A1—A20(a) to (k) above

that

- (l) the Victorian government continue to liaise with the New South Wales Government, on the cooperative management of the adjacent Wilderness Areas in each State, as detailed in the Memorandum of Understanding on the Co-operative Management of the Australian Alps National Parks, with a view to ensuring the maintenance of the wilderness values of both areas

and that

- (m) where applicable, and subject to (a) to (l) above, Council's previous recommendations for this area, as accepted by government for the-then Tingaringy National Park and the Snowy Heritage River and Gattamurh and Wallaby Creek Essentially Natural Catchments, apply
- (n) Council's previous recommendation for the Beehive Creek (formerly Gattamurh Creek) Reference Area apply.

Notes:

1. Council is aware that occasional fuel-reduction burning of the dry northern slopes of this area is an important part of fire protection plans for this region.
2. Recreational use may need to be restricted to avoid conflict with peregrine falcon nesting sites.
3. The Department of Conservation and Environment is preparing a management plan for the Alpine National Park.

(See also East Gippsland Review A1, A2, E1)

A15 Snowy River Wilderness Area

A16 Bowen Wilderness Area

These recommended wilderness areas, which together cover an area of 44 500 ha, encompass two parts of one of the largest areas of high wilderness quality in eastern Victoria, and the largest area in East Gippsland. They include an area along the Snowy River, the entire catchment of Mountain Creek and New Country Creek, and the lower reaches of the Rodger River. The two recommended wilderness areas are separated by the Deddick Trail, a four-wheel-drive track which is external to the wilderness area boundaries.

The major geomorphic features are the Snowy River valley and the catchments of Mountain Creek and Rodger River, flanked by the isolated tableland remnants of the Gelantipy Plateau and

the Bowen Range. Peaks within the areas, such as Mounts Gelantipy, Tower, Bowen and Monkey Top, rise above 1200 m. Much of the wilderness areas are highly dissected. The Tulloch Ard Gorge north of the confluence of the Snowy River and Mountain Creek is a spectacular landscape feature. The deeply dissected Mountain Creek catchment and, to a lesser extent, the middle Rodger River catchment contain associated waterfalls, cascades and minor gorges.

The vegetation is diverse, ranging from dry rainshadow woodland in the Snowy valley to the alpine ash forests of the Gelantipy Plateau and snow gum woodlands on Mt Bowen. Dry and wet sclerophyll forests are the most extensive vegetation communities. The former include a range of eucalypt species, and the overstorey of the wet sclerophyll forests are dominated by alpine ash. Both typically have tall shrubby understoreys. A wide range of other plant communities occur: rainshadow woodland and patches of rocky outcrop open scrubland on dry slopes; snow gum woodlands on higher peaks; and riparian forests bordering the Rodger and Snowy Rivers and Mountain Creek. Isolated patches of rainforest are also present. These communities provide a diversity of habitat for a wide variety of fauna, including several rare or otherwise significant species.

Most of this extensive area of forest is little disturbed. Detailed flora and fauna surveys have recorded a range of species that are known to be particularly sensitive to disturbance. However, a number of introduced mammals occur and there are localised infestations of blackberry along Mountain Creek, New Country Creek, and the Snowy River. Other weeds along the Snowy River have been brought in from upstream. There are four vehicular tracks in the areas, but no structures have been recorded. While small portions have been grazed in the past, such usage has been sporadic and generally of low intensity.

Both recommended wilderness areas include extensive areas of essentially undisturbed land and are entirely surrounded by vegetated public land. They are remote from settlement and from major roads. The middle reach of Mountain Creek is the larger of only two areas in East Gippsland more than 10 km from a major or minor road. The area centred on Tulloch Ard Gorge is one of few areas in East Gippsland more than 3 km from any vehicular access.

Nature conservation values are high because of the diversity of vegetation and habitats and the variety of geological and geomorphological features such as the Snowy Gorge. They include significant plants such as spinning gum on Mounts Bowen and Tower; several rare plant species in the Snowy River Gorge; the habitat of the brush-tailed rock wallaby (including two of the four extant East Gippsland populations), and the tiger quoll; and a diverse range of native fish, including the vulnerable grayling. The essentially undisturbed state of both wilderness areas enhances their nature conservation values.

Both areas receive high rainfall which contributes to the downstream flow of the Snowy River and are important for *in situ* and downstream aquatic fauna and flora and riparian communities.

The recommended wilderness areas offer outstanding opportunities for a range of recreational activities in remote natural settings. A current focus of recreational activity is the Snowy River. It has spectacular scenic values and wild river recreation opportunities, and provides one of the most popular long-distance white-water canoe trips in Victoria. It has major gorge sections, rapids and sandy beach campsites. Although water levels vary, it is usually canoeable year-round. Entry and exit points are outside the boundary of the wilderness area.

Opportunities for experienced walkers occur along the river beds and smaller gorges and cascades of Mountain Creek, the lower Rodger River, along the Bowen Range on the boundary, and on the Moonkan divide. Off-track walking is hindered by dense understoreys in the east,

although walkers can traverse untracked spurs in the drier western portion of the area to gain views along the Snowy River valley or to gain access to its gorges.

A number of viewing points on their boundaries are readily accessible by four-wheel-drive vehicle, such as the Bowen Ridge, with the Tulloch Ard Road on the western edge and the Yalmy Road on the eastern edge providing good dry-weather two-wheel-drive access.

Resource Implications

Both recommended wilderness areas are included in the Snowy River National Park. Council's previous recommendations for this park have noted the opportunities for wilderness-style recreation in the essentially undisturbed environments of the Mountain Creek catchment, and that the northern portion of the park, because of its ruggedness and relative isolation, could be zoned for wilderness recreation.

The Moonkan Track was identified by the consultants as important for recreational four-wheel-driving. Under Council's recommendations such use of this, and the three other included tracks, would be precluded. The major through-route, the Deddick Trail, which is a regularly used four-wheel-drive track is excluded from the two recommended wilderness areas and will still be available. No four-wheel-drive or horse-based commercial tour operators are licensed to operate in the areas.

Boundary Alternatives

Council gave detailed consideration to a number of boundary alternatives to these two wilderness areas.

One option suggested in submissions, but not adopted by Council, was to combine the two recommended wilderness areas to establish a single wilderness area encompassing the whole of the Mountain Creek and Rodger River catchments. This combined area would embrace the largest area of highest wilderness quality in eastern Victoria, but would have a significant impact on recreational four-wheel-drive vehicle use. Council was mindful of its previous recommendations for the Snowy River National Park and considered that the Deddick Trail provides the best route through the national park for four-wheel-drive based visitors. It is a popular route through the park, accessing a diverse range of natural attractions and is on a relatively robust alignment.

Another option was to include the upper Rodger River, north of the Deddick Trail. It would add a further 9700 ha of essentially undisturbed land to the proposed wilderness area, and provide wilderness protection for the whole of the Rodger River catchment. While Council recognises the need to protect and divert intensive use from the sensitive and significant Waratah Flat, it believes that it is desirable to permit a wider range of public access opportunities to the multi-aged ash forests of the upper Rodger River, which are key features of this national park. Such use would not be consistent with the objectives of a wilderness area. Council does, however, believe that the wilderness-related attributes of this area should be protected - see Note 2, Recommendation A16.

Consideration was also given to extending the recommended Snowy River Wilderness Area further south to include all the land west of the Yalmy Road to Varneys Track, as well as the New Guinea Ridge. This would encompass an additional area of 4900 ha of high wilderness quality and include the lower Yalmy River and Calender Creek catchments and the limestone caves of New Guinea Ridge. It would however, also encompass a vehicular access point to the Snowy River (Beets Creek Track), an area used by horse-riding groups (the lower Moonkan

Track), and abut the cleared land at 'Hicks', which is an important visitor node for the Snowy River National Park. This area is also prospective for minerals and, in the State forest portion, includes presently available timber resources which represent 2.3% of the sustainable yield of the East Gippsland Forest Management Area. The Council considered that this area should be excluded.

Another option was to include an additional area of 2280 ha comprising the catchments of Swamp Creek and Good Hope Creek. These areas, while including mature forests in their headwaters, are outside the major catchment divide surrounding the areas of highest wilderness quality, and are separated from this area by a minor road. The government has added this area to the national park previously recommended by Council, however Council considered that this area should not be included to the wilderness areas.

Council also gave detailed consideration to including all the Snowy River corridor together with its associated tributary gorges. This corridor and the adjacent gorges form an important part of the remote canoeing and rafting experience and are rugged and little disturbed. Such an option would also ensure that a strong natural boundary, being the escarpment of the Wulgulmerang Tablelands, formed the boundary of the wilderness area. However, it is not possible to draw a boundary along the escarpment to include the adjacent tributary gorges as well as ensuring that the wilderness boundary does not abut freehold land in and around Gelantipy. Council did not believe it appropriate for the boundary of the wilderness area to abut freehold land. However, the need to ensure the protection of wilderness-related values of this area have been recognised by Council - see Recommendation A15(m).

Other options considered, but not adopted, by Council were: excluding the Gelantipy Plateau; extending the boundary to include the Bowen Range, and excluding the lower Rodger River (and the Moonkan Track).

Recommendations

A15 Snowy River Wilderness Area

That the area of 27 000 ha, shown on Map 12, be used in accordance with general recommendations A1—A20(a) to (k) above

that

- (l) remote canoeing and rafting experiences on the Snowy River be retained
- (m) that future management decisions for that portion of the Snowy River National Park between the western boundary of wilderness area A15 and, in the north, freehold land on the Wulgulmerang Tablelands and, in the south, the Tulloch Ard Road, ensure that its existing values, including landscape, remoteness and naturalness values and those of the adjoining wilderness area are not diminished

and that

- (n) unless inconsistent with (a) to (m) above, and where applicable, Council's previous recommendations for the Snowy River National Park apply
- (o) unless inconsistent with (a) to (m) above, and where applicable, Council's previous recommendations for the Mt Gelantipy Creek, Rodger River and Mountain Creek Essentially Natural Catchments and the Snowy Heritage River apply
- (p) Council's previous recommendation for the Mountain Creek Reference Area apply.

Notes:

1. The Deddick Trail, which lies between the Snowy River and Bowen (A16) Wilderness Areas,

is excluded from these recommendations. To ensure that usage remains within the carrying capacity of the existing standard of the track, and that opportunities for remote driving experiences are maintained, a permit system may be required in the future. Vehicle based camping at the crossing of Mountain Creek could be permitted at the discretion of the land manager.

2. The western boundary is set back 500 m from the western bank of the Snowy River except adjacent to Campbells Knob, where the western bank of the river forms the boundary - to provide for horse-riding access to this area; a traditional local use. Council does not believe, however, that this is an appropriate location for horse-based camping nor for recreational vehicular access.

3. The Department of Conservation and Environment is preparing a management plan for the Snowy River National Park.

(See also East Gippsland Review A3, A4, B3)

Recommendation

A16 Bowen Wilderness Area

That the area of 17 500 ha, shown on Map 12, be used in accordance with general recommendations A1—A20(a) to (k) above

and that

(m) unless inconsistent with (a) to (l) above, and where applicable, Council's previous recommendations for the Snowy River National Park apply

(n) unless inconsistent with (a) to (k) above, and where applicable, Council's previous recommendations for the Mountain Creek Essentially Natural Catchment apply

(o) Council's previous recommendation for the Gelantipy Plateau Reference Area apply.

Notes:

1. Although Council has not included the whole of the Bowen Range within the wilderness area, it reiterates its previous statements, made in its East Gippsland Review Final Recommendations, that this area offers excellent opportunities for bushwalking and remote camping. It believes that these opportunities for self-reliant recreation should be maintained.

2. While Council has not included the upper Rodger River catchment within the recommended wilderness area, it believes that the wilderness-related attributes of this abutting essentially undisturbed area should be protected. Council is aware of proposals to construct an interpretative walking track and formalise camping (approximately 6 sites) in the vicinity of Waratah Flat and considers these to be appropriate uses of this area.

3. The Department of Conservation and Environment is preparing a management plan for the Snowy River National Park. (See also East Gippsland Review A4, B2)

A17 Genoa Wilderness Area

This recommended wilderness area embraces 19 400 ha of remote country on Victoria's border in far East Gippsland. It includes part of the fall of the Genoa River from Mounts Coopracambra and Denmarsh, which encompasses one of the largest areas of high wilderness quality in East Gippsland. The area is contiguous with the 6100 ha Nungatta National Park in New South Wales, all of which has been approved by the New South Wales Government for declaration as a wilderness area.

Most of the area consists of mountainous terrain, with the prominent peak of Mt Coopracambra rising to over 900 m. A prominent escarpment extends from Mt Merragunegin, 15 km into New

South Wales. The untracked peaks, and the meandering gorge of the Genoa River, with its overhanging sandstone ledges, waterfalls and cascades, are all features of special interest.

The vegetation of the Genoa River catchment is dominated by dry sclerophyll forests with a range of eucalypts in the overstorey, and usually with sparse understoreys of grasses and low shrubs. To the south, the vegetation is dominated by lowland sclerophyll forest of silvertop and white stringybark. Patches of wet sclerophyll forest are found in more sheltered areas with riparian forests occurring along the Genoa River. Heath-lands rich in species occurs in the Black Jack Gully and Murmuring Creek catchments.

The recommended wilderness area has not been subject to timber harvesting, regular grazing or other forms of utilisation. Other than one minor vehicular track (which, except for its southern-most end, is closed to public vehicle use), there are no disturbances or structures recorded. Few introduced plants or animals have been recorded, although willows and some other species have self sown from sources in the headwaters of the Genoa River, upstream of the wilderness area in New South Wales.

The area is remote from both settlement and roads and, together with the totally unroaded Nungatta National Park in New South Wales, it forms the second largest untracked area in East Gippsland.

Nature conservation values are very high. It incorporates the site of international and national geological and geomorphological significance in the Genoa River Gorge, where fossils of great scientific interest have been located, and a major site of botanical significance - which includes the sandstone flora of the Genoa River valley. The protection of many of these nature conservation values is enhanced by the area's wilderness setting.

Given the area's spectacular scenery, the presence of permanent water and the virtual absence of vehicular tracks, the wilderness area has a high capability for self-reliant recreation and inspiration in remote natural settings. Opportunities for off-track walking are outstanding, with challenging walking routes to peaks such as Mt Coopracambra, and the walking route along the watercourse of the Genoa River (during low flows).

Dry-weather two-wheel-drive vehicular access outside the wilderness area provides ready access to Mealing Hill which provides spectacular views of the Genoa Valley into New South Wales to Nungatta Mountain, as well as southward across the headwaters of the Thurra River to Mt Kaye and Cooagalah Hill.

Resource Implications

The recommended wilderness area is entirely within the Coopracambra—Kaye National Park. Council, in its previous recommendations for this area, noted that the undisturbed nature of much of the park provides opportunities for wilderness-style recreation - in particular, the Genoa River Gorge and its surrounds, which also offers some spectacular scenery.

The consultants concluded that there are no resource implications arising from the recommendation for this area.

Boundary Alternatives

An alternative raised in submissions and considered by Council was to add an area of 8100 ha encompassing Mounts Kaye and Denmarsh, the west branch of the Thurra River and the western flank of Cooagalah Hill. This area includes untracked peaks, little disturbed riparian

forests, and populations of rare and uncommon species. It also offers outstanding opportunities for challenging off-track walking and would add an extensive contiguous area of little-disturbed land to the recommended wilderness. It would, however, involve the closure of the WB Line, which is a minor two-wheel-drive road currently open to public use. The road would, however, need to be maintained for access by management vehicles. While this option was not adopted, Council has recommended that this area be listed as an Other Area with Remote and Natural Attributes - see Chapter 5: B23 Mt. Kaye.

The area of State forest in the headwaters of the Thurra River - East Branch was also considered as a possible addition, but this would have necessitated the inclusion of three previously logged areas (covering 228 ha) and timber resources of 124 600 cu.m spread over 2603 ha, which represents 3000 cu.m per year or 1.7% of the sustainable yield of the East Gippsland Forest Management Area. The area also has some mineral potential.

Recommendation

A17 Genoa Wilderness Area

That the area of 19 400 ha, shown on Map 13, be used in accordance with the recommendations A1—A20(a) to (k) above.

that

(l) priority be given to the control of willows on the Genoa River

that

(m) the government pursue discussions with the New South Wales Government with a view to seeking agreement on the cooperative management of the abutting Nungatta National Park to ensure the maintenance of the wilderness values of both areas

and that

(o) unless inconsistent with (a) to (m) above, and where applicable, Council's previous recommendations for the Coopracambra—Kaye National Park and the Genoa Heritage River, apply

(p) Council's previous recommendations for the Yambulla, Merragunegin and Winnot Creek Reference Areas apply.

Notes:

1. Beehive Creek Falls is not included in the wilderness area.
2. The southern boundary of the recommended wilderness area has been set back from the WB line - a substantial vehicular track. It is important that this track be managed in a manner that minimises impact on the wilderness quality of the adjacent wilderness area.

(See East Gippsland Review A13, B9, B10, B15)

A18 Sandpatch Wilderness Area

This recommended wilderness area lies on the coast between Wingan Inlet and Shipwreck Creek near Mallacoota and forms part of the Croajingolong coast in far East Gippsland. It encompasses virtually the entire catchments of five coastal streams - Easby Creek, Red River, Benedore River, Seal Creek, and Shipwreck Creek - which are some of the least disturbed catchments in the State. The area also includes part of the eastern fall of the lower Wingan River. These watercourses are incised into granitic bedrock which rises to 300 m in the north.

The 23-km section of coastline is virtually undisturbed and includes the partially vegetated dunes at Sandpatch Point and Little Rame Head and coastal cliffs up to 80 m high cut into sedimentary

rock between Sandpatch Point and Shipwreck Creek. Small estuarine lagoons occur at the mouths of each of the coastal streams.

Lowland sclerophyll forests of silvertop and white stringybark with low, open understoreys occur through the area, grading into banksia woodlands and extensive heathlands towards the coast. There are patches of warm temperate rainforest, with riparian forests along most of the watercourses.

The entire area is virtually undisturbed, except for formed vehicular tracks which follow each major internal divide. One trig station is located in the area, and there is a small navigation light on its western margin. Where detailed surveys have been under-taken, very few introduced species have been recorded. The area is remote from major roads and settlement and it is surrounded by forested public land or the sea. It includes one of only two areas in East Gippsland further than 15 km from settled lands, and is part of one of the very few coastal areas with a substantial hinterland in Victoria that has not been subject to major disturbance or modification.

The nature conservation values of the area are very high, partly due to its lack of disturbance. For this reason, the area has particular value for study of intact, natural catchments and associated environments. The range of vegetation communities provides important habitat for a number of rare species of wildlife. The streams contain no introduced fish species, (which is a rarity in Victoria) and support good populations of native fish. The coastline and adjacent inlets have significant and diverse geological, geomorphic and landscape values, including the only major sector of cliffed coastline in East Gippsland. The values are enhanced by the area's remote and essentially natural setting.

Capability for self-reliant forms of recreation is also very high, particularly for remote walking. The walking route along the coastline of the Croajingolong National Park is one of the most popular remote walks in Victoria. Sea kayaking along the coast is enhanced by the natural backdrop of the area.

Council realises that this area is relatively small in size. However, given that it is one of the few areas on the Victorian coastline which is in an essentially undisturbed condition and that it meets other wilderness criteria, Council considered that it is appropriate to set it aside as a wilderness area. Although small in land area, it is buffered on the southern side by the waters of Bass Strait.

Resource Implications

The entire area is within the Croajingolong National Park. In its 1977 recommendations for this area Council made specific reference to its undisturbed condition.

The consultants concluded that there are no specific resource implications arising from the recommendation for this area. Given that a number of four-wheel-drive tracks are within the recommended wilderness area it will however, reduce opportunities for four-wheel-drive vehicle access to some of the more remote sections of the east Gippsland coastline. Two of these provide access to coastal campsites. There is, however, some scope for alternative campsites to be developed elsewhere in the national park.

Boundary Alternatives

One option raised in submissions was that the area not be a wilderness area because it was too small, because of the density of vehicular tracks, or because it would result in the loss of access to four-wheel-drive access to camp-sites on the coast. This area is, however, one of the few

sections of the Victorian coast that is little disturbed and receives increasing use by those wishing to experience its wilderness values. While Council is aware that opportunities for remote four-wheel-driving have been reduced by incremental upgrading of tracks and facilities, it believes that there are alternative four-wheel-drive campsites and access points elsewhere and that such opportunities should be provided.

Others suggested that the area be expanded to include the Betka River catchment. This would, however, encompass disturbed areas, further reduce four-wheel-drive opportunities, and result in a limited setback from adjacent freehold and leasehold lands.

Another option considered, but not adopted, by the Council was to use Hard to Seek Creek as the northern boundary of the wilderness area, thereby linking with the Wingan River which forms the area's western edge. This would encompass contiguous areas that are relatively little disturbed. However, within this 4200 ha area, timber resources covering some 630 ha have been previously harvested. The area also includes additional grade C+ sawlog resources, covering an area of 3500 ha, which contribute 1.1% to the regional sustainable yield of the East Gippsland Forest Management Area. While most of the merchantable stands lie to the north of the East Wingan track, timber resources also occur in the area abutting the Wingan River, and this area was also excluded from the recommended area.

Recommendation

A18 Sandpatch Wilderness Area

That the area of 15 600 ha, shown on Map 14, be used in accordance with recommendations A1—A20(a) to (k) above

that

(l) while required, the navigation light at Wingan Inlet be retained

and that

(m) unless inconsistent with (a) to (l) above, and where applicable, Council's previous recommendations for the Croajingolong National Park apply

(n) where applicable, and unless inconsistent with (a) to (l) above, Council's previous recommendations for the Red and Benedore Rivers, Shipwreck, Seal, and Easby Creeks Essentially Natural Catchments apply

(o) Council's previous recommendations for the Benedore River and Seal Creek Reference Areas apply.

Notes:

1. There is scope for rationalising the track network.
2. The fire regimes of the coastal heathland areas are presently manipulated to enhance their habitat value for the rare ground parrot.
3. Council is aware that the Commonwealth Department of Transport and Communications is, together with the Department of Conservation and Environment, investigating sites for establishment of a new navigation beacon to replace the Point Hicks lighthouse. The preferred site is on Little Rame Head, within the recommended wilderness area. If alternative sites are unsuitable, as appears likely, Council would support its construction at Little Rame Head, subject to access during construction and subsequent maintenance being by helicopter, and not by vehicular access across the wilderness.
4. The Department of Conservation and Environment is currently revising its draft management plan for the Croajingolong National Park.

(East Gippsland Review A6, B13, B14)

A19 Cape Howe Wilderness Area

This area encompasses the granitic Howe Range (rising to about 400 m above sea level) and the surrounding barrier complexes, extensive dune systems, wetlands and coastline at the easternmost extremity of Victoria. While small in area, being only 7100 ha, it is contiguous with a large undisturbed area in New South Wales, whose undisturbed condition is strictly protected in accordance with its tenure as a nature reserve (being the 17 100 ha Nadgee Nature Reserve). In addition, the New South Wales authorities are presently considering a proposal to designate all or most of this nature reserve as a wilderness area. This combined area is also buffered on the southern side by the waters of Bass Strait.

Most of the area supports lowland sclerophyll forests dominated by silvertop and white stringybark, with pockets of wet sclerophyll forests on the Howe Range. Coast tea-tree and banksia woodlands cover the coastal dunes, with the freshwater dune lakes of Lake Barracoota and Lake Wau Wauka providing a major landform contrast. These are complemented by the undisturbed clifftop coastal heathlands of the adjoining Nadgee Nature Reserve centred around estuarine lagoons, notably Nadgee Inlet, and the tall open forests of the reserve's north-westerly slopes.

The entire area is virtually undisturbed. It includes two trig stations, a few minor border cairns, the remnants of an old telegraph line and, towards its western boundary, a vehicular track and associated firebreak. The contiguous areas in New South Wales are also undisturbed other than for a few minor campsites. It is surrounded by vegetated public lands on one side and the South Pacific Ocean on the other. A few small cleared freehold blocks (one of which is occupied by a recently constructed school camp) are located to the north-west. The recommended wilderness area includes areas very remote from vehicular access and one of only two areas in Victoria, outside the Mallee, that are greater than 5 km from all forms of vehicular access.

The nature conservation values of the area are very high with a range of undisturbed communities and diverse geological, geomorphological and landscape values. All the streams and lakes are significant as they contain no introduced fish species, and a diversity of native fish species. Freshwater dune lakes are rare in Victoria and they are sensitive to disturbance. The area also has particularly high value for self-reliant forms of recreation and provides opportunities of both short and overnight untracked walking, with most use focussed along the coast. Off-shore canoeing is also conducted here. All such values are the result of or considerably enhanced by its remoteness and lack of disturbance. The forested Howe Range forms a dramatic backdrop to the Mallacoota township, on the opposite side of the Mallacoota Inlet.

Resource Implications

The area is entirely within the Croajingolong National Park and Council, in its 1977 recommendations, made specific reference to the park's undisturbed condition. No resource implications were identified by the consultants in their social and economic assessment of this area at the proposed recommendations stage, and their conclusions remain applicable to Council's Final Recommendations for this area. One minor vehicular track occurs within the boundaries, but receives little use.

Boundary Alternatives

Council considered including an additional area to the north-west of the recommended boundary to encompass the environs of Harrison Creek. This contiguous area includes patches of botanically significant rainforest. While parts have been subject to timber harvesting in the

past, it still retains high nature conservation values. Council believes that it is not appropriate to extend the wilderness area beyond the catchment divide which forms the recommended boundary, as well as the boundary of the adjoining Nadgee Nature Reserve. Its addition would also reduce the boundary setback from nearby freehold blocks.

Recommendation

A19 Cape Howe Wilderness Area

That the area of 7100 ha, shown on Map 15, be used in accordance with recommendations A1—A20(a) to (k) above

that

(l) the Barracoota Lake fire break be relocated, if required, to the western boundary of the recommended wilderness area

that

(m) the government pursue discussions with the New South Wales Government with a view to seeking agreement on the cooperative management of the abutting Nadgee Nature Reserve, to ensure the maintenance of the wilderness values of both areas

and that

(n) where applicable, and unless inconsistent with (a) to (k) above, Council's previous recommendations for the Croajingolong National Park apply

Notes:

1. Council is aware that the New South Wales Government has received a nomination under the *Wilderness Act 1987* for a wilderness area encompassing the Nadgee Nature Reserve and adjoining Nadgee State Forest. The assessment report has recently been completed and will now be subject to a determination.
2. The wilderness values of this area are complemented by the protection afforded to contiguous undisturbed lands of the Nadgee Nature Reserve in New South Wales. They would be enhanced, but not dependent upon, the proclamation of adjoining parts of the Nadgee Nature Reserve as wilderness.
3. The Department of Conservation and Environment is currently revising its draft management plan for the Croajingolong National Park.

(See East Gippsland Review A6)

A20 Wilsons Promontory Wilderness Area

The Wilsons Promontory Wilderness Area encompasses the remote, largely undisturbed north-eastern portion of the Wilsons Promontory National park beyond the Darby River plain and Mt Latrobe. It encompasses a major part of the largest undisturbed sector of the Victorian coast and includes 21 800 ha of remote beaches, wide expanses of low scrub and open heaths and granite mountains, including Mt Latrobe, the highest point on the Promontory. Wilderness quality values, as recorded by the Preece and Lesslie survey, are among the highest in the State, outside the Mallee.

The recommended wilderness area, like the remainder of Wilsons Promontory, consists of large granite outcrops surrounded by more recently deposited sediments derived from the granitic bedrock. The granite hills are steep and rugged and strewn with boulders, with many of the landscapes reflecting the weathering of granite. Such features are common on the Vereker and Latrobe Ranges on the western and southern boundaries, and Mounts Roundback, Margaret and Hunter in the north. The slopes are vegetated with messmate and yellow stringybark open forests, with the drier slopes carrying woodlands of brown stringybark, shining peppermint,

banksia and drooping sheoak. Small areas of mountain ash and blue gum, cool temperate rainforest, and lilly pilly and blackwood closed forests here are of special interest.

The prominent headlands on the eastern edge are separated by long sandy beaches, the largest being Five Mile Beach, which are often backed by swampland. The coastal dunes carry spinifex grasslands and coastal scrub, with drooping sheoak and coast banksia on the older dunes. The poorer soils in the north-west support low scrub and open heath, with mangrove and saltmarsh fringing the Corner Inlet shoreline.

A number of modifications have been recorded, including a small former tin-mining operation on the northern tip of the area (of which little observable evidence remains), three vehicular tracks including a short section of causeway (all of which are closed to public vehicular use), slashed firebreaks associated with the Five Mile Road, which bisects the area, and a few minor structures on its margins (a small navigation light, three designated coastal campsites and a trig station). Most of the 21 800 ha area has, however, been little modified by humans.

As well as being relatively undisturbed, the recommended wilderness area is remote. It includes areas more than 10 kilometres distant from roads and settled land, and is one of only two areas in Victoria, outside the Mallee, where it is possible to be greater than 5 km from all vehicular access.

The nature conservation values of the area are of national significance with a large variety of vegetation types ranging from tall open forests to coastal scrub, supporting a correspondingly diverse fauna. Many species found are significant and rare, and provide evidence of links between Tasmanian and Victorian species. Of particular scientific interest is the absence of any introduced fish species in the streams. The undisturbed sandy beaches are also of special interest. The maintenance of these values is largely due to the area's long period of protection.

The superb rugged granite land and seascapes of the Promontory, with its beaches and diversity of plant communities, and the virtual absence of structures all contribute to its high capability for those seeking inspiration in natural environments. Self-reliant recreational opportunities are also high. It offers a range of walking trips of up to several days' duration. Associated activities such as camping, nature study, swimming, or enjoying solitude or peace and quiet, are all pursued. While the main walking access is via the vehicular tracks, the area provides a variety of off-track walking opportunities (which under present park management require permits) - such as along the Vereker Range, and the east coast beaches. The untracked mountain peaks are of special value to those seeking challenging off-track walking and offer expansive views.

The undisturbed landscapes of the wilderness area can also be enjoyed by boat travellers from adjacent areas, and two lookouts involving relatively short walks from car parks enable car-based visitors to gain vistas over much of its western sector.

Resource Implications

The entire recommended wilderness area is within the Wilsons Promontory National Park. Opportunities for bike-riding in this part of the park, a minor use which has been permitted on the Five Mile Road in recent years, would no longer be permitted under these proposals.

Presently designated campsites and the Department of Transport's navigation light are generally maintained by vehicles. Their maintenance does not, however, depend on vehicular access and most are readily accessible by boat. Apart from the Barry Creek campsite, access in the future should, as far as possible, be by boat rather than vehicle.

Boundary Alternatives

Council has previously suggested that this area not be wilderness area, given the disturbance associated with the Five Mile Road, the reduced sense of remoteness given its proximity to surrounding boating activity and the use of the Five Mile Road by cyclists. However, in response to submissions, Council has reviewed this area. While it notes that there is limited scope for alternative cycle-riding areas in the vicinity, it believes that the disturbance associated with the Five Mile Road is localised and can be reduced to some extent, and that boating use is a seasonal activity and has minimal impact on the condition of the land.

Recommendation

A20 Wilsons Promontory

That the area of 21 800 ha, shown on Map 16, be used in accordance with recommendations A1—A20(a) to (k) above

that

- (l) its undisturbed coastline be protected by ensuring that any coastal engineering works proposed in surrounding areas minimise impact on coastal processes
- (m) no additional walking tracks be constructed
- (n) attention be given to reducing the visual impact of the Five Mile Road (within the wilderness area), to the extent possible, consistent with fire protection requirements
- (o) while required, the navigation light at Lighthouse Point be retained

and that

- (p) where applicable, and subject to (a) to (o) above, Council's previous recommendations for this area, as accepted by government for the Wilson's Promontory National Park, and the Mt Vereker Creek Essentially Natural Catchment, apply
- (q) Council's previous recommendation for the Sealers Creek and Entrance Point Reference Areas apply.

Notes:

1. A proposed lookout on the northern extremity of the Vereker Range is not included in the recommended wilderness area.
2. Council is aware of the areas that have been regularly slashed on either side of the Five Mile Road for fire prevention purposes. These fire breaks are proposed to be consolidated to a narrower slashed area abutting the northern edge of the Five Mile Road which together will provide a buffer for fire access. These fire protection works provide a major strategic break.
3. There is scope to reduce the number of other tracks maintained for management use.
4. In the future, it may be necessary for visitor numbers at the more popular campsites to be controlled to ensure that opportunities for solitude are maintained and that campsites are not degraded. There is a permit system presently operating for overnight camping in this area, as well as for off-track walking.
5. The southern and south-eastern sectors of Wilsons Promontory, while not within the recommended wilderness area, are also little disturbed with few vehicle tracks or structures. Council believes that it is important that these attributes be recognised and protected by land and water managers.

(See also South Gippsland 2 A1, B2, B3)

Additional Wilderness Areas (Variation, Order in Council 12/5/92)

Recommendations B2, B5 and B16, which propose land at Mt Cowra, Chinamans Flat and Wongungarra as 'Other Areas with Remote and Natural Attributes', are not accepted. The land generally encompassed by these recommendations is to be included within three additional wilderness areas.

The three additional wilderness areas to be established are listed below.

Additional Recommendations

A21 Mt Cowra Wilderness Area

That the area of 23 500 ha, (shown on Map 1, Order in Council 12/5/1992) be used in accordance with recommendations (a) to (k) applying to A1-A20

and that

(l) unless inconsistent with (a) to (k) above, the Council's previous recommendations, as accepted by Government, for the Murray—Sunset National Park apply.

(See also Mallee Review A6)

A22 Chinaman Flat Wilderness Area

That the area of 29 800 ha, (shown on Map 2, Order in Council 12/5/1992) be used in accordance with recommendations (a) to (k) applying to A1—A20.

Notes:

1. The northern boundary has been set back 100 m from Chinaman Well Track.
2. This area lies within the area to be added to Wyperfeld National Park.

(See also Mallee Review S1)

A23 Wongungarra Wilderness Area

That the area of 14 000 ha (shown on Map 3, Order in Council 12/5/1992) be used in accordance with recommendations (a) to (k) applying to A1—A20

that

(l) deer hunting by stalking be permitted with timing and length of season to be determined by the Department of Conservation and Environment

and that

(m) grazing by livestock be phased out by 1 October 1998.

Notes:

1. The designation of this wilderness area is in accordance with Recommendation B16 Note 5 of the Land Conservation Council's final recommendations, since the Government has decided that logging is not to proceed in the northern part of the Wongungarra River catchment.
2. The existing area of State forest within this additional wilderness area is to be added to the Alpine National Park.

(See also Alpine SI A13, A14, C5, I1)

Note: The proposed Wongungarra Wilderness Area was not approved by Parliament in debate on the Wilderness legislation in 1992.

4. MANAGEMENT PRINCIPLES FOR WILDERNESS AREAS

In addition to making recommendations on the use of specific areas, Council has developed broad guidelines for the management of its recommended wilderness areas, as required under the terms of reference for this investigation.

Accordingly, Council recommends that the following principles and broad guidelines be taken into account when planning for and managing these areas. They seek to provide clear directions for the preparation of specific management plans, so that the areas will be managed as near as possible to the ideal situation.

In an ideal situation, an area designated as wilderness should exhibit no signs of having been influenced by the effects of European settlement and should be large enough to enable the natural environment to respond to changes resulting from natural processes. However, as most of the recommended wilderness areas include at least some evidence of the influences of European settlement (such as weeds or vehicle tracks), and because of their relative proximity to settled land and their increasing exposure to human pressures, active management of the recommended wilderness areas is required.

Council therefore considers that the underlying approach to the management of wilderness should be to work towards maximising the extent to which wilderness areas are undisturbed by the influences of European settlement, but recognises that responsible management of these areas in Victoria may require certain compromises in relation to the ideal.

This is the approach underlying the wilderness provisions of the *National Parks Act 1975*. In the terms used by that legislation, a wilderness area, ideally, will not contain:

- roads, structures or installations
- commercial activity (other than recreation) or development
- use of any form of motorised or mechanical transport
- use of any non-indigenous animal
- hunting

However, in recognition of the practical realities of managing any area of public land in Victoria, the legislation also provides for certain activities or developments which would not otherwise be permitted in the ideal wilderness area, provided they are considered essential or necessary for the responsible management of the area. For example, any measure considered essential for the prevention and control of fire is permitted.

Likewise, Council has established principles covering the following key management issues. They apply to all wilderness areas across the State.

1. Existing vehicular tracks and structures
2. Previous utilisation activity
3. Introduced plants and animals
4. Fire management
5. Management of special nature conservation values
6. Scientific investigation and study
7. Recreational use
8. Other forms of direct use
9. Cultural associations

10. Air and water quality
11. Monitoring indicators

A discussion of each of these management issues is provided below together with an indication of relevant research work. A bibliography relevant to the issues is included at the end of this chapter.

The associated recommendations reflect the general land-use aims recommended for the wilderness areas described in Chapter 3. The underlying principle is that management should ensure that all activities are consistent with protecting the wilderness condition of the area and, where possible, enhancing wilderness quality.

1. Existing Vehicular Tracks and Structures

The increasingly sophisticated technology of our modern society has resulted in major and rapid changes to natural systems, through the clearing of extensive areas of land, alterations to hydrological systems, and large-scale earthworks. Historically, such changes were focussed on the more agriculturally productive areas, although mining tracks were established through previously untrafficked areas of public land, huts and yards were constructed in association with grazing, and surveyors built trigonometric stations and other survey markers.

More recently, as a result of the inquiry into the 1939 bushfires and the demand for timber products during the housing boom following World War II, extensive vehicular track networks were established through previously remote areas for fire-control purposes and timber extraction. Many of these tracks are still used for fire protection or survey, but now also provide for recreational use.

Some original tracks have become overgrown following their disuse, and some timber structures have been lost through bushfires or the effects of weathering. Nevertheless, there are few large natural areas of the State without some tracks and structures that remain as evidence of past use.

Existing Vehicular Tracks

Some of the recommended wilderness areas include vehicular tracks within their boundaries. The great majority were constructed for fire prevention or suppression purposes, although some were formed to facilitate resource utilisation or by the use of recreational vehicles on old bridle paths. Many have subsequently been maintained and provide for recreation, although most are only suitable for four-wheel-drive access.

Tracks are among the more important impacts of European settlement on natural areas. In addition to the direct physical effects of the construction and presence of vehicular tracks, their on-going maintenance and use has an ecological impact which affects wilderness values.

Physical impacts of tracks

Vehicular tracks can alter natural drainage patterns and they produce far more run-off than comparable natural surfaces. Depending on the environment, the standard of track formation, and the standard of maintenance they can also result in localised soil erosion and earth movement, and this can be exacerbated by high levels of use.

Erosion is particularly associated with gravel roads, earthen tracks constructed on steep grades, and tracks where little provision has been made for run-off. Research by the then Melbourne and Metropolitan Board of Works (now Melbourne Water) indicates that vehicular tracks may

cause long-term deleterious effects on stream quality. Increased sediment washed into streams can also have an adverse impact on invertebrates and the success of fish-breeding. It may also lead to the death of adult fish.

Crossings of small streams can act as filters or barriers to the movement of aquatic species, many of which are sensitive to changes such as the increase in the velocity of water as it passes through culverts or over fords.

A number of studies have shown that open areas, such as those associated with tracks, increase the efficiency of predators, and, therefore, are likely to enhance opportunities for predation. Tracks appear to be favoured by introduced predator species such as dogs and foxes as pathways for movement and hunting and may also facilitate their dispersal into otherwise remote country. In addition, at least one study has recorded native predators only along forest tracks, despite a more intensive survey effort away from the tracks.

Even long-unused and partly overgrown vehicular tracks are considered to restrict the movements of many species of small mammals, and may also have an adverse impact on lizards, terrestrial invertebrates, and sedentary understorey birds. The width of the gap between suitable habitat on either side of a track, the mobility and behaviour of a particular animal, and the degree to which the habitats of a track and the area adjoining it differ appear to be the major factors influencing the extent to which tracks isolate animal populations.

In some circumstances, the habitats provided by tracks may permit artificial increases in populations of certain species. Some bats, for instance, may benefit from the new flight paths and foraging space. Increased water run-off from a track may enhance the habitat of amphibians and can also lead to changes to plant communities along the its edge. In some places, an increase in the amount of light beside tracks, in areas otherwise shaded by a forest canopy, may cause changes in the understorey vegetation.

As well as their ecological impacts, vehicular tracks can have an aesthetic impact, especially where they are poorly sited, such as on ridge lines or down steep slopes (where they often require cross-drainage works), or where their construction has involved major cut and fill.

Generally, the level of impact increases with the size of track. Even pedestrian tracks can contribute some impact and the construction of these is not permitted in wilderness areas.

Physical impacts from the use of tracks

The level of use of a track may determine the condition of its surface, the amount of sediment run-off, and the need for maintenance.

Wheel ruts become a focus for run-off and erosion of the pavement. One study indicated that an unsurfaced road under high usage yielded about 30 tonnes of sediment per ha per year. This contrasts with about 300 kg per ha per year from natural surface erosion. Elsewhere, unmade roads with inadequate drainage or unstable batters have been found to produce some 140 to 250 tonnes of sediment per ha of road per year. Field experience indicates that many intensively used forest tracks need regular maintenance including, in some instances, re-grading every two or three years.

Most of the vehicular tracks included in the recommended wilderness areas receive moderate or low use, although some occasionally require substantial maintenance. Many of the adjacent roads, however, receive a greater level of use and the local impacts are greater, particularly through noise, sedimentation, and disruption to wildlife.

While soil disturbance associated with track maintenance can facilitate the establishment of weeds, the use of tracks can lead to their accidental translocation. Seeds, spores and vegetative parts of plants are regularly transported by attachment to vehicles. In one study, 259 different species of plants were germinated from seeds obtained from the sludge of a commercial car wash - a number of them were only found growing naturally some 100 km distant.

Vehicular transportation of fungal spores has also been documented and is cited as a major vector for the spread of *Phytophthora cinnamomi* - one of the agents responsible for forest dieback. Special precautions, such as washing of machinery, are observed to avoid such dispersal.

Road kills of animals occur mainly on major roads and highways where traffic moves fast; they have little relevance in the context of wilderness areas. However, vehicular use of tracks can lead to less obvious impacts on fauna. Overseas studies have indicated that traffic noise and movement can disrupt nesting patterns and the use of habitat by wildlife, and the effect can extend for more than one kilometre from heavily used roads.

Traffic noise can also reduce amenity of an area for other recreational users, but this is dependent on the level of use, the speed and type of vehicle, and the nature of the terrain.

Dumping of rubbish and littering as well as damage to vegetation and vandalism can occur with vehicular access. These are not major problems in the recommended wilderness areas, however, as the levels of access are relatively low.

Principles

In an ideal situation, a wilderness area would contain no vehicular tracks. However, Council considers that those tracks that are essential for fire protection purposes, including suppression, fuel reduction burning, and maintenance of helipads, should be permitted to remain. These are defined in regional fire plans and other relevant management plans.

Given the above-mentioned points, a major aim in the management of the wilderness areas is to minimise the number of vehicular tracks, and to reduce the length, width and influence of those retained.

The Council considers that the following principles should be applied in the review, rationalisation, and management of the existing track networks within wilderness areas. They are based on the principle, which underlies Recommendation A1—A20(g) in Chapter 3, that tracks should only be used for essential management purposes, and that public use would not be permitted.

Purpose

- Only those tracks which are demonstrably essential for fire-protection purposes should be retained.
- The retained tracks should also be suitable for other essential management purposes, such as the control of introduced species; or form part of strategic fire breaks or control lines for fuel-reduction burns.

Use

- Other than the use of tracks in the short-term for rehabilitation works, the only essential management uses should be fire protection, search and rescue, and control of introduced species.

- Vehicular use of retained tracks should be minimised and, where possible, any essential management tasks be under-taken concurrently.

Condition

- As far as possible, the retained tracks should be confined to suitable terrain, and be sited so as to minimise erosion potential and the need for maintenance.
- It is recognised that, in special circumstances, minor re-alignment of short sections of some tracks may be required to avoid damage to sensitive environments, and this may involve the use of machinery.

Maintenance

- The need, design and timing of maintenance of existing tracks should be subject to regular review and take account of:
 - research results indicating alternative fire-control technologies
 - relevant information about the ecological impacts of tracks
 - areas containing significant plant or animal species or habitats
 - the visual and noise impact of management vehicles on recreational visitors (to avoid periods of peak usage of the wilderness)
- The level of track maintenance should reflect the local environment and the priority for fire protection needs. Approaches could include some or all of the following:
 - allow revegetation, but mark the track alignment on a map or on the ground to permit re-opening if required
 - allow revegetation of undergrowth but periodically remove fallen trees or other major impediments to vehicular access
 - periodically clear both fallen trees and undergrowth
 - use machinery where essential for the maintenance of the track for strategic fire access
 but, in all instances, any alteration to the formation of a track or the surface of the batter should be minimised.

The following recommendation is made in accordance with Recommendation A1—A20(k), in Chapter 3, which states that:

‘wherever possible, existing vehicular tracks or roads, structures or other facilities be removed, and areas of these and other disturbances be rehabilitated as soon as practicable’.

Recommendation

M1 Existing Vehicular Tracks

That

- (a) the managing authority continue to review the existing track networks with a view to their minimisation

and that

- (b) this review and the subsequent management of vehicular tracks take into account the principles outlined above.

Existing Structures

The Descriptive Report briefly describes the impacts of a number of structures on wilderness quality. These include huts, trigonometric stations, communication and fire towers, dwellings, telephone lines, electricity transmission lines, gas and oil pipelines, railway lines, weirs and other impoundments, water pipelines and aqueducts, and engineering works at river gauging stations.

The impacts arise largely from the direct and indirect effects of physical modification of natural processes, as well as aesthetically and by the provision of evidence of European settlement.

Ideally, there should be no structures in wilderness areas. Some of the recommended areas, however, include trigonometric stations, huts, and navigation aids as well as minor signs, stockyards and fencing and other relics. The general recommendations above would preclude the development of new structures in the recommended wilderness areas but Council believes that there are certain circumstances in which existing structures may remain.

Trigonometric stations

The network of trigonometrical survey stations (trig stations) across the State is essential for the geodetic survey of Victoria. Their position and elevation are known precisely, and they provide the fundamental control system for all surveys, mapping, geographic data bases, land information systems, and major engineering projects.

The network has been intensified to provide control for the State's 1:25 000-scale and 1:50 000-scale mapping programs. Although there are few trig stations in the recommended wilderness areas, some of them are 'first-order' points; that is, their positions are known to the highest degree of accuracy and their preservation is of national significance.

Most trig stations are on mountain tops or other prominent features and each usually consists of a ground mark surmounted by a survey marker post. The survey markers can be seen from other, distant points and, as their positions are plotted on topographic maps, they provide reference points for a wide range of map users. They also indicate the location of, and protect, the ground mark. Maintenance of cleared sight-lines and a means of access are important for their operation, although vehicular access is not always necessary or possible.

Under the *National Parks (Amendment) Act 1989*, only permanent survey markers that existed on 23 August 1989 (the date on which the wilderness provisions of the Act were proclaimed) may remain in a wilderness park or zone declared under that Act. The Act also states that there should be no other structures or installations, except in certain circumstances considered essential by the Director of National Parks and Wildlife. The Department of Finance, which has responsibility for trig stations, has indicated that to dismantle and remove the survey markers in the recommended wilderness areas would be costly due to their remote locations. In addition, in the absence of a prominent marker and following regrowth of vegetation, the ground mark could be difficult to find. This, together with the closure of the access tracks, would render such trig stations virtually unusable.

The installation and maintenance of trig stations, maintenance of sight-lines, and the construction and maintenance of vehicular access result in some localised disturbance to the vegetation and soil. They may also interrupt the activities of some insects such as those butterfly species that seek elevated sites during breeding.

The major impact of trig stations, however, is probably aesthetic, because they are generally located on prominent points that are destinations for recreational trips and which can also be seen from a distance. Most prominent peaks have trig stations; those that do not are valuable for that reason.

As new technology becomes available, direct visual sighting of beacons or markers may become less necessary and it is unlikely that new trig stations will be required.

Huts

Huts have been constructed on public land by graziers, government authorities, recreational users, or in association with mining, engineering works or road building, logging, or vermin or weed control. Most are the property of the Crown.

The direct physical and ecological impacts of huts are usually localised. Their use can be accompanied by damage to vegetation by the collection of firewood, trampling, disposal of refuse and human waste, presence of vermin, compaction of soil, and to some degree, an increased fire risk. Disturbance around the huts may also encourage invasion by weeds. The aesthetic impact of a hut arises primarily from the contrast with the otherwise natural condition of its location.

Although Council has recommended that, wherever possible, all structures be removed, it recognises that some huts and other associated structures in the recommended wilderness areas are of particular cultural interest and that it is appropriate to provide for their retention.

Council considers that it is inappropriate for recreational users of wilderness areas to rely on huts for refuge, shelter or accommodation. Huts should be available for emergency refuge only (not accommodation), or as bases for essential management purposes (such as fire suppression or search and rescue operations).

Under Council's Final Recommendations only one illegally constructed hut occurs in the recommended wilderness areas.

Navigation aids

Coastal navigational lights are maintained by the Victorian Ministry of Transport and provide for hazard warning for ships sailing close to the shore. They are considered essential for safety. While vehicular access was required in the past for the regular servicing and replacement of fuel sources of navigation lights, modern solar-energy technology now means that most require only occasional maintenance. They are placed in locations which do not necessitate the clearing of sight-lines. Two of the Council's recommended wilderness areas (A18 Sandpatch and A20 Wilsons Promontory) each contains a navigation light. The Commonwealth department of Transport and Communications, which is responsible for providing navigation aids for off-shore shipping, has proposed an additional light within the recommended Sandpatch Wilderness Area.

Other structures

Other structures found in wilderness areas include minor fences, stock yards, cairns, route markers and signs and other relics of former use. While most are unlikely to have any major ecological impact, they are none the less not part of the natural environment and may detract from the experience of those visitors expecting an essentially natural setting. Some structures, such as cairns resulting from early surveys, or yards or water races may, however, be of cultural interest.

A number of Commonwealth agencies, such as Telecom Australia, the Department of Defence, the Department of Transport and Communications, and the Bureau of Meteorology, occasionally have the need to construct a range of structures in remote areas. While, in some instances, there is not a statutory requirement for such agencies to seek permission from the relevant State Government agencies, they are subject to a range of environmental assessment procedures, including the Commonwealth *Environment Protection (Impact of Proposals) Act 1974*, and they usually ensure that there is close inter-government liaison. None of the recommended

wilderness areas contain any facilities which are the responsibility of commonwealth agencies, nor, other than the proposed navigation light referred to above, are there any current proposals.

Principles

Council considers that the following principles should apply in determining the need for, and in the management of, existing structures:

- Wherever practicable, all structures should be removed unless they are determined to be of cultural significance, are essential for safety or site protection, or their removal would result in greater disturbance to the area.
- The principles outlined in Section 9 of this chapter - Cultural Associations - should apply in determining whether a structure has cultural significance and the nature of the management.
- Permanent survey markers and their associated survey beacons and markers are important parts of the State's geodetic survey, but there may be scope for rationalisation or limiting their prominence, particularly when new technologies are introduced.
- Only survey markers essential for the State's geodetic survey be retained. The 'first order' points will probably always be considered essential.
- A review of trig stations should seek to minimise the number that require cleared sight-lines for their operation; and, for those considered essential, consideration should be given to using temporary markers or constructing a higher marker on the site (which could, however, increase the visual impact).
- Navigation aids and associated structures important for maritime safety should be permitted to remain, but there may be scope for rationalisation. New navigation aids should, wherever possible, be located outside wilderness areas.
- A review of the need to retain existing trig stations and navigation aids should be considered as part of the preparation of management plans.
- It is inappropriate for recreational users of wilderness to rely on huts for refuge, shelter or accommodation.
- When huts or other structures are removed, all material should be removed from the site and the site itself rehabilitated.
- Unless otherwise required for essential purposes, any other disturbances associated with structures (such as tracks) should be closed and rehabilitated.

The following recommendation is made in accordance with Recommendations A1—A20(k) in Chapter 3, which states that:

‘wherever possible, existing vehicular tracks or roads, structures or other facilities be removed, and areas of these and other disturbances be rehabilitated as soon as practicable’.

Recommendation

M2 Existing Structures

That

- (a) the relevant authorities managing existing structures take into account the principles outlined above
- (b) a review of existing structures within wilderness areas be undertaken in the course of preparing management plans, and those proposed to be removed be dismantled as soon

as practicable (preferably within three years of proclamation of the wilderness area) and their sites rehabilitated

- (c) essential trigonometric stations, route markers, and navigation aids be permitted to remain and be maintained
- (d) huts and other structures of demonstrated special cultural interest be permitted to remain
- (e) if the removal of an otherwise unnecessary structure would result in greater damage to the wilderness area, it be permitted to remain, but not be maintained by the land manager and that
- (f) the government pursue discussions with the Commonwealth Government with a view to seeking their agreement that no structures are constructed by federal agencies within any proclaimed wilderness area.

2. Previous Utilisation Activity

In some instances, rehabilitation work may be necessary to restore areas disturbed by previous utilisation such as grazing by domestic stock, or the utilisation of timber, mineral or stone resources.

Few of the recommended wilderness areas have been subject to intensive utilisation in the past, although a number in the eastern highlands have been, or are currently being, grazed by stock. Some small previously logged areas have also been included in several of the wilderness areas to enable adoption of more logical boundaries (usually a catchment divide), but these comprise a minor proportion of the wilderness areas in which they occur.

Grazing by Domestic Stock

Council considers it important to review the effects of grazing by domestic stock on naturalness values to ascertain the extent of impact on natural systems and under what circumstances such areas could be restored to their previous condition.

The Australian natural environment has evolved over millions of years in the absence of hooved animals such as cattle, sheep, goats, horses and deer. Their presence in Victorian bushland is relatively recent and is incompatible with achieving one of the main objectives of wilderness management: maximising the extent to which wilderness areas are undisturbed by the influences of the European settlement of Australia. The aim, therefore, should be to remove (if possible) or control such animals in these areas.

The presence of livestock is often associated with other disturbances such as weeds, structures such as fencing and huts, and a network of tracks. In addition, the presence of the grazing activity itself was considered in the Preece and Lesslie survey as reducing biophysical values, and thus total wilderness quality.

Research into the effects of grazing by live-stock indicates that this activity generally results in changes to natural vegetation communities in Australia. These changes may be relatively minor in some areas, but, in some instances, they have been major. In turn, these changes would affect the habitat of the native animals in the ecosystem.

The available research has indicated that grazing by stock can damage soil, introduce and encourage exotic plant species, and change the relative abundance of native plant species.

Trampling by stock can compact the soil which can lose its organic content, making it less pervious to water and plant roots. Disturbed or cleared areas tend to favour the establishment of exotic species over native species and can also lead to soil erosion.

Seeds and other regenerative parts of introduced plant species may, as with other animals, be transported within the digestive tracts or on the hides of stock that are moved from improved pastures to bushland. While some of these introduced species are palatable, such as white clover, others are unpalatable to stock and are at an advantage when their competitors in the indigenous plant community are eaten. Native plant species also vary in their palatability, and selective grazing by stock has led to changes in the abundance of particular species.

The short native grasses of dry forest environments are frequently replaced through grazing pressure by introduced species that have an earlier growing season, grow taller, and die off earlier in summer. As a consequence, the introduced grasses have a strong competitive ability and present a greater fire hazard during summer than the former native vegetation. Such hazard is, however, reduced if the biomass is reduced by, for instance, grazing.

Browsing and grazing by stock, particularly sheep, has also been implicated in fostering rabbit populations. Browsing reduces the height of shrubs and encourages young shoots which can then be reached by rabbits. Frequent fires are considered to similarly encourage rabbits.

The overall impact of grazing in some areas of the State has been severe. Although not preferentially grazed by cattle, moss beds and snowpatch herbfields in the Alps appear to be particularly vulnerable, and even limited grazing and trampling are considered by some to cause considerable damage. A brief study of grasslands on the Bogong High Plains suggests that, from a soil conservation perspective, they are now relatively stable under the present grazing regime. Nevertheless, in areas fenced off or excluded from grazing there has generally been a substantial recovery of native vegetation.

Grazing in the high country has been implicated in increasing the amount of bare ground which has, in turn, favoured the regeneration of shrubs. Following removal of grazing, it is likely that the shrubby vegetation will proliferate further and persist to the end of the plants' lifecycles (perhaps 50 years or so). The herbs and grasses will then replace them, having been protected in their early growth by the shrubs. This issue is complex and appears inter-related with the role of other disturbances such as fire. Some concern has been expressed that this growth of shrubs increases fire hazard. However, alpine vegetation generally remains green and moist through most of the summer and only burns under extreme conditions. The native herbs and grasses rarely burn.

In other environments, grazing pressure, particularly by sheep, is strongly correlated to reduced regeneration of many tree species such as callitris pine, casuarina and other mallee woodland species. Regeneration of these species has occurred when stock has been removed and rabbits controlled.

It appears that, even where disturbance has been heavy, substantial (perhaps even complete) recovery can be expected following removal of stock. The process is slow, however, and the degree of recovery will depend on the period and intensity of the preceding grazing, the extent of damage, and environmental conditions. Research into these factors is incomplete, and the Council considers that further research should be a priority.

In the Kosciusko National Park, for instance, within some 20 years of the exclusion of cattle and sheep from heavily grazed areas, together with extensive rehabilitation works, the area of bare ground had substantially decreased, there had been a reduction of some weed species, there was

a substantial recovery of mossbeds, and some formally rare plants have become more widespread. It is estimated that it will take at least 50 years to achieve something resembling the original condition of alpine vegetation. For some severely disturbed and eroded sites here, complete natural recovery appeared impossible, and considerable work has been undertaken to rehabilitate them.

In Victoria's Alps, a number of plots from which cattle are excluded are showing similar recovery. Council considers it reasonable to assume from current information that, for those recommended wilderness areas which include grazed or formerly grazed land, the removal of stock coupled with control of feral horses, where they occur, can only lead to an improvement in their otherwise high wilderness qualities.

Many parcels of public land that are subject to grazing were excluded by the Council from further consideration for protection as wilderness areas. Such areas include those where the intensity of grazing appears to have significantly affected the structure of vegetation communities, such as in parts of the Mallee.

However, some areas that have been or are presently being grazed, are included in recommended wilderness areas. In these, most of the original plant species and the basic structure of vegetation communities generally appear to be still largely present and, because there are relatively few other factors which would reduce wilderness values, their overall values are high.

Timber Harvesting

The specific impact on natural values resulting from timber harvesting depends on the methods used for harvesting and regeneration. Any harvesting produces an immediate impact on both vegetation and fauna. The larger the coupe, the greater the impact on local fauna and the slower the rate of recolonisation. Changes from the original composition of plant species may also result from artificial seeding, depending on the source and mix of seed used. Soils may be compacted during snigging and at log landings. Logging activities may also disrupt local water movements, increase stream turbidity at least in the short term, and be associated with the introduction of weed species. Because logging roads are usually built to a reasonable standard for efficiency and safety, their impacts persist long after operations have moved elsewhere.

In Victoria, logging areas must be rehabilitated in accordance with the Code of Forest Practice. Timber harvesting impacts reduce over time as regeneration matures and the forest ecosystem stabilises. Not all regeneration may be successful, however, and it must be accepted that such areas may not recover their original complement of plant species in the short term.

To assist the adoption of logical boundaries, a few, small logged coupes are included in some of the recommended wilderness areas. However, these are small compared to the surrounding undisturbed areas and their impact should diminish with time.

Principles

The aim of rehabilitation of disturbed areas should be to re-establish, as far as is practicable, the pre-existing processes and previous condition. Different approaches will be required for different areas and situations; for example, where local natural seed sources have been lost.

With respect to previously logged areas, following the usual rehabilitation and revegetation work carried out under the Code of Forest Practice, natural processes should be permitted to prevail. Fertilisers, particularly phosphorus, lime and trace elements, should be avoided because of their persistence, possible toxicity to native species, and potential to favour pest plants. Only local provenances of indigenous species should be used.

Recommendation

M3 Previous Utilisation Activity

That, where rehabilitation is required, emphasis be on fostering natural processes but, where active management is necessary to facilitate these processes in the short term, the methods used be those that create least disruption to the natural system.

3. Introduced Plants and Animals

About a quarter of the vascular plants found in Victoria's natural lands are naturalised introduced species. A wide range of introduced animals is also found. For many, the absence of the predators and diseases found in their countries of origin means that their expansion has been controlled only by factors of environment. These naturalised species, and those native species which have extended beyond their normal distribution or abundance as a consequence of European settlement, have the greatest impact on natural systems.

The presence of non-indigenous species is not only incompatible with the management aims of wilderness, they also influence the development, composition and vitality of the indigenous vegetation and fauna.

Impact of Non-indigenous Plant Species

While it appears that little of Victoria's natural lands are completely free of non-indigenous species, those areas which are least affected are those where disturbing influences have been minor, have taken place long ago, or have occurred only once.

The areas now recommended for wilderness protection generally correspond to the areas least affected by weed invasion, that is - where the relative proportion of weeds to native species is less than 10% (as indicated on Map 7 - Weed Composition - in the Descriptive Report).

Introduced plant species can have major impacts on indigenous vegetation, both structurally and floristically. For instance, blackberry or furze can form dense thickets and lead to substantial alteration to the composition of plant communities. Over time, invasion or hybridisation by introduced species may eliminate indigenous vegetation, and can thus threaten individual populations of rare plants.

Alteration to the structure of vegetation communities by introduced plants may also impact on the habitat of animals, usually by affecting the availability of breeding sites. Such plants may also increase food supplies favourable to a particular animal species.

Through their rapid growth, many introduced species produce a significant build-up of bio-mass and thus, fuel loads, thereby increasing fire hazard. Recreational capability of an area can be lost when heavy infestations of plants impede access; and reduced species diversity can have a significant aesthetic impact.

Impact of Non-indigenous Animal Species

A wide range of introduced animals are found in the natural lands of Victoria. This includes 18 species of mammals, 13 species of fish, and 18 species of birds. Many were introduced over 100 years ago and have now established self-sustaining populations. Some species, such as sambar deer, appear to be still expanding in distribution. Each has a different impact on natural systems.

It is sometimes assumed that the long-term presence of introduced species in an area implies some form of equilibrium with native wildlife. This may not be the case. For example, in one area where foxes have been long established, the rock wallaby population was found to be declining and facing local extinction, but showed a pronounced increase following control of the foxes. This also appears to be the case with the relic populations of the long-footed potoroo. Even where the species complement appears to be stable, introduced species still produce adverse pressure, and active management may be required to maintain native species.

Exotic herbivores may browse selectively, leading to increased dominance of non-palatable plants. This may change native habitats to the extent that indigenous species may have difficulty finding food and shelter. Exotic predators (such as foxes, dogs, and cats) may prey on native species in a way and at a rate that the native species have not evolved to withstand. It is also thought that exotic predators out compete some of the indigenous ones such as the tiger quoll (which now has a restricted range within Victoria) and may have brought about the extinction in Victoria of the once-common eastern quoll.

Cattle, goats, pigs, horses and deer are susceptible to a number of exotic diseases, such as foot-and-mouth disease. Most native species of wildlife, in contrast, appear not to be susceptible to such diseases. An outbreak of such disease could have a major effect on the State's economy. Feral populations of these animals could become vectors for such diseases and their dispersion would cause difficulties for control work.

Cattle and other exotic herbivores and foxes can also be vectors for introduced plants such as the blackberry, as too can native birds, such as the emu, and other native animals.

Introduced mammals found in the recommended wilderness areas include rabbits, horses, foxes, wild dogs and feral cats. Feral horses (brumbies) are found in the eastern highlands towards the border with New South Wales, and sambar deer are now found throughout much of the eastern high-lands and are expanding eastward. Goats occur in the Mallee.

The impact of rabbits can be severe, particularly given their capacity to reproduce in large numbers rapidly. Rabbits can kill or severely retard the growth of shrubs and tree seedlings, reducing vegetative cover and thus increasing the amount of bare soil. Their selective browsing may result in the dominance of non-palatable plants which may produce a different vegetation structure and cause the loss of habitat for native wildlife. Rabbits, especially in high numbers, also compete directly with native animals for food.

Rabbits may form the staple diet of feral cats and foxes. If rabbits were eliminated, cats and foxes may become less prevalent in the longer term, but in the short term are likely to increase predation on native wildlife.

Foxes catch and eat many smaller birds and some of the larger ground-dwelling birds. They also eat and spread blackberries and, like feral cats, are carriers of bacterial and viral diseases. Native species form the major part of the diet of wild dogs, which may impact significantly on local animal populations as well as disturbing or maiming individuals.

Native animals also form a significant part of the diet of feral cats, particularly in the eastern highlands. It appears that feral cat populations in the more remote areas are self-sustaining.

Horses are relatively close-grazing animals compared to cattle and are known to graze certain areas preferentially. There are an estimated 2000 feral horses in Victoria, principally in the north-east. Their impacts include selective browsing and trampling of vegetation, particularly in alpine

areas; the establishment of tracks (usually on the contour); disturbance of soils, especially in steep country or pugging in areas subject to water logging; as well as nutrient input, spreading of exotic plant species, and a reduction in water quality.

Sambar deer feed as individuals or family groups and browse a range of shrubs and grasses. Stags form mud wallows to define their territories and, particularly when in rut, roll in the wallows and rub their bodies and antlers against trees, removing part of the bark. Other localised impacts include pugging of the soil of creek banks. Knowledge about impacts, if any, of deer on native species is unknown, however.

Goats are heavy browsers and have the potential to significantly alter vegetation communities. They have large home ranges, especially in semi-arid areas, can breed rapidly, and herd in groups of up to 200 individuals.

The effects of introduced fish species on indigenous aquatic fauna are difficult to determine as their introductions largely coincided with other artificial changes to Victorian waters. There is some evidence that certain introduced fish have caused changes in the species composition of aquatic fauna and may also have reduced the abundance of some of the smaller native fish.

Few introduced bird species have been re-corded in the recommended wilderness areas.

Control Strategies

Many introduced species can and have been controlled. Many common introduced plants which flourish in disturbed areas, for instance, often only require removal of the disturbance for them to fail to reproduce. Most active control strategies are species-specific, although some may adversely affect non-target species. Control may involve biological, physical or chemical techniques.

Often there is a need to link weed control with the control of pest animals, as the latter may facilitate re-invasion of weed species or prevent regeneration of indigenous plants.

Active revegetation is unlikely to be required in the recommended wilderness areas, as most areas of disturbance are localised. Introduced plants have not developed here to the extent that they totally out compete other plant species.

A wide range of techniques is available for the control of introduced animals and change over time. However, those suitable for use in agricultural areas are often not appropriate for nature conservation areas, and new approaches are being developed. More emphasis is now placed on biological control.

Most baits for terrestrial animals involve the use of *1080* (sodium monofluoroacetate), which is effective in the control of rabbits, wild dogs, cats and foxes. Many native animals are also susceptible but the impact on them is reduced to negligible levels by burying the baits. Uneaten *1080* breaks down in the soil although, in low rainfall areas, the uneaten ones must be collected and buried.

Even if a bait is all eaten by the target species, its carcass may subsequently be eaten by a predator. Native predators, such as tiger cats, are at risk as *1080* from consumption of a number of affected prey (notably rabbits) can concentrate in their body tissues. The normal policy in national parks is that *1080* be used only as part of the initial comprehensive knock-down of a population. Aerial baiting is not permitted in parks or wilderness areas.

Development of more species-specific materials aimed at reducing adverse impacts on native species is continuing; further research is essential.

A variety of traps and lures are used to capture wild dogs and, although labour intensive, trapping is a favoured and reasonably successful control measure in response to attacks on livestock. However, non-target animals are also caught. Treadle snares, now required in all trapping programs in Victoria, and alternative siting of traps can reduce this impact.

Electric fencing is a relatively cheap fencing method that has been used to reduce predation by wild dogs in farmland, while poison baits (usually 1080) appears the most effective measure for treating them in more inaccessible areas. Chemical attractants and repellents are being developed for use in both baiting and trapping, and may be used to make control more efficient as well as to assist in deterring non-target species.

Wild dogs (whose definition includes dingoes) are proclaimed vermin under the *Vermin and Noxious Weeds Act 1958*. The Department of Conservation and Environment policy for wild dog control in areas managed under the provisions of the *National Parks Act 1975* recognises that the pure dingo is an integral part of natural systems and provides for such control:

- to protect the primary production enterprises of nearby landholders in cases of confirmed 'dog attacks', where controls on private or other public land is not effective
- to protect a native species threatened in that area, where it can be clearly shown that dog predation is one of the significant pressures against its survival
- where the wild dogs are clearly domestic or hybrid dogs living in the wild

The department requires that control measures be concentrated in the periphery of pastoral land and be undertaken by its staff using shooting, treadle snares or, in some circumstances, buried poisoned bait or electric fences.

Where true dingoes are suspected of comprising a significant proportion of the wild dog population in the area, the policy requires that control programs concentrate on the edges of particular problem areas rather than extending deep into public land.

Council supports this policy, and notes that the need for control within the recommended wilderness areas is likely to be low as most are remote from settlement.

A number of methods are used to control populations of large feral animals such as pigs, goats, and horses. Depending on the requirements of the land manager, experienced hunters or members of brumby-running clubs can provide useful assistance. In semi-arid areas, the dependence of goats on water can be used to advantage, and traps around water points have been successful. The land manager should determine the most appropriate methods of control for the particular situation.

Control of rabbits by shooting does not appear to influence long-term population trends; it merely provides for sustained-yield harvesting. Effective control depends on regulating the number of juveniles. Fumigation, selective poisoning, and ripping of warrens combined with use of the myxomatosis virus and fencing appear to be the most effective control methods to date.

Control or eradication programs for introduced fish are not feasible at present and benefits would likely to be limited, as recolonisation can occur by the introduced species migrating upstream.

Invertebrate Species

There appear to be relatively few introduced species of invertebrates that have become naturalised in remote undisturbed areas. However, feral honey bees appear to be widespread throughout Victoria.

Possible ecological effects of honey bees include competition between bees and native insects, birds and mammals for nectar; changes to the behaviour of nectar-feeding birds; reduction in the density of native bees near hives; increased levels of cross-pollination and possible hybridisation between native plant species; and competition for nesting sites from swarming honey bees. Much of the evidence for these possible impacts is, however, tentative or inconclusive. More rigorous research into some of these aspects has been previously recommended by Council, and long-term research on their ecological impact is being carried out in South Australia.

Honey bees may aid in the pollination of weed species such as horehound. (Native bees cannot pollinate this species). Honey bees can also reduce visitors' enjoyment and experience of an area, particularly when water is limited.

While the impact of commercial honey bees, which are bred in captivity and managed to prevent swarming, can be reduced by ensuring that hives and water sources are located well outside a wilderness area boundary, the control of feral honey bees is much more difficult. Biological control may not be feasible given the economic importance of commercial apiculture. Removal of artificial water sources or fumigation with pesticides where populations are high may be useful techniques to explore.

European wasps also appear to be colonising some natural areas.

Principles of Control Programs

- All programs must be based on detailed assessments of the extent and nature of non-indigenous species and of their impacts relative to the impacts of the available control techniques on natural systems.
- An integrated control program is necessary to achieve long-term control of as many non-indigenous species as possible.
- Control techniques should be chosen to ensure maximum protection of non-target species, and to minimise disturbance to natural systems. To this end, they should be as site-specific and species-specific (or individual-specific) as possible.
- Where relevant, programs for control of non-indigenous plant species should be integrated with those for control of non-indigenous animal species.
- Emphasis on follow-up control should be on surrounding public land, particularly where weed problems occur upstream of wilderness areas; on vertebrate species such as feral dogs and horses that can readily migrate and recolonise; on roadside weeds; and on access routes used by introduced predator species.
- Monitoring is necessary in all control programs, and rehabilitation work should be carried out where required.
- Where follow-up control is required emphasis should be placed on using, where possible, those techniques that do not require vehicular access.
- Managers could use community groups and organisations to assist in the control or eradication of introduced species, where appropriate. This could involve the use of experienced hunters or brumby running clubs.

The following recommendation is made in accordance with Recommendation A1—A20(j) in Chapter 3 which states that:

‘measures required for the control and, where possible, eradication of non-indigenous flora and fauna be permitted, provided that the operational techniques used have due regard for the protection and maintenance of wilderness values.’

Recommendation

M4 Introduced Plants and Animals

That

(a) emphasis of control of non-indigenous plant and animal species be to prevent their establishment by minimising the factors that predispose their invasion

and, to this end

(b) strict hygiene practices, to avoid the spread of pathogens (such as *Phytophthora*) and the regenerative parts of plants be carried out as far as practicable, particularly on any management vehicles entering an area

(c) no non-indigenous animals be brought into an area unless required for essential management purposes, in which case strict food-hygiene practices be carried out

(d) all areas of disturbance be rehabilitated; including, to the extent consistent with their need for fire management, removal of structures such as watering points and vehicular tracks which provide artificial habitats

(e) high priority be given to the control of introduced plant species in upstream sectors of catchments where they are above, but not included in, wilderness areas

and that

(f) where non-indigenous species are found, specific and integrated control programs be instigated for each wilderness area according to the general principles outlined above and incorporated as integral parts of the management plans.

Note: It is not intended that these recommendations preclude use of dogs for bona fide search and rescue, security, or feral animal control operations, where other techniques are unsuitable.

4. Fire Management

The high flammability of Victoria’s vegetation and the history of very serious fires over the past century and a half justify public concern about measures to prevent, reduce the severity of, and suppress wildfire throughout the State. This concern was expressed in many of the submissions received by Council. It is also well recognised that fire is a natural occurrence in most Victorian ecosystems and is one essential component of their dynamics. However, when the frequency, intensity, or time of occurrence of fire and the area burned is changed significantly, as has occurred in Victoria since European settlement, ecosystems can be markedly altered.

There has been some debate on what, in fact, constitutes a ‘natural’ fire regime. Fire has been an important influence on Victoria’s vegetation long before humans arrived. In addition, major climatic changes induced changes in the vegetation, even after the arrival of humans.

Fire was an important part of Aboriginal culture, but little information is available about their burning practices in Victoria. Their impact is likely to have changed over time and varied according to each different environment. Research to date indicates that their impact would have been restricted to the most fire prone vegetation types. The impacts of Aboriginal use of fire are, however, extremely difficult to separate from climatic influences.

The changes brought about by European settlement are more readily observed, however. Research into pollen and charcoal deposits and studies of growth rings in trees indicate that in the High Country and wetter forests fire frequency has increased, while in some of the dry forests it has decreased.

Native vegetation in Victoria is much reduced in extent and is highly fragmented compared to pre-European time. As a result, it is not certain that a return to previous conditions will always be possible following wildfires, particularly if the present frequency was retained in the relatively small natural areas.

Much of the State has been burnt relatively frequently. It is therefore important to retain the remaining unburnt areas, especially the rainforests, old age forests, and in the Mallee. On the other hand, fire is an important ecological factor in those communities, such as heaths, that require fire for regeneration and active suppression of all fires in these communities will have a detrimental effect in the longer term.

Wildfire

It has been argued that extensive track networks are critical for fire management and that a neighbouring wilderness will become a major fire hazard to private property and adjoining public land.

Available data indicate that, since 1950, only about 5 to 30% of the wildfires with known causes in Australia, were started by lightning. This is also the case in Victoria where up to 75% of all wildfires on public land are started by people. In the Kosciusko National Park, 87% of wildfires in 1983 were found to have started beside public access points such as tracks and picnic areas. Conversely about 84% of the fires originating in the Melbourne water catchments, which are closed to public access, were due to lightning. The proportion of human-caused fires varies from region to region, but is lowest in remote areas. It appears that an increase in access to public land will result in a significantly higher proportion of wildfires caused by people, particularly where close to large centres of population.

With few or no tracks, and if the number of visitors remains relatively low (factors which are consistent with the aims of wilderness), the probability of human-induced wildfire starting in wilderness areas is likely to be lower than that of wildfire starting in other similarly vegetated areas of the State.

Indeed, surrounding land may constitute a fire hazard to wilderness; the Standing Committee on Environment and Conservation stated that: '...the major cause of fires since European settlement has been escapes from agricultural and pastoral burning off'.

Nevertheless many of the recommended wilderness areas are lightning strike prone and such naturally occurring fires are, and will remain, significant issues in the management of public land. In consideration of the proximity of settled land and of the changes in the past in the distribution of vegetation, fire frequency and intensity, Council believes that active fire management will be necessary in wilderness areas, as in other areas of the State.

However, Council is also aware that prevention and control measures can markedly alter the ecology of the natural communities in which they are practised.

The Council believes it important to examine the effects on natural ecosystems of the fire management strategies commonly used in Victoria and, for those strategies considered most appropriate for wilderness areas, whether any potential impacts can be minimised without compromising their effectiveness.

Appropriate techniques may include maintenance of a network of permanent fire access tracks (the use, management and ecological impacts of these were discussed earlier in this chapter), construction with machinery of temporary fire access tracks and control lines for back-burning (depending on the equipment used and the particular environment, impacts of these may be similar to the permanent tracks), fuel-reduction burning and aerial fire suppression.

Fuel Reduction Burning

As the name implies, fuel reduction burning seeks to reduce the amount of flammable material available for a potential wildfire by burning it at a safer and more convenient time. It does not necessarily reflect natural processes, nor does it aim to do this.

The appropriateness of fuel reduction burning varies with vegetation type. Conversely, the composition and structure of a plant community and associated fauna can be altered by the season of burning, and the frequency, intensity, and extent of the fires.

Fuel reduction fires are usually of low intensity to ensure their control and, as a result, are generally conducted in spring or late autumn rather than in mid to late summer. It is under the latter regime, when wildfires caused by lightning mainly occur, that native biota has evolved.

Particularly in spring, some plant species may not be at a suitable vegetative state to survive a fire or they may not have produced seed. If burnt too frequently at this time, they may suffer local extinction.

To meet the objective of reducing fuel loads, fuel reduction burning in Victoria is undertaken when fuel loads reach prescribed limits - which are generally reached in 3 to 12 years. If burning is too frequent many plant species may be unable to mature and set viable seed. (Almost all herb and shrub species produce seed within 7 years of a previous burn.) Many animal species such as soil invertebrates are adapted to recovering their normal population levels after occasional catastrophes such as wildfire. However, they may not be adapted to frequent population crashes such as might be caused by regular fuel reduction burns. On the other hand, populations of some common exotic species (like house mice and rats) recover more quickly after fire than some small native mammals. Frequent fuel reduction burns may, therefore, favour these rodents at the expense of indigenous species.

Reducing the width of prescribed burning zones, as has been suggested by some groups, may require more frequent burning to be effective. This may, in fact, be of greater detriment than undertaking prescribed burning over a broader zone, where the potential exists to provide a mosaic of burning intensities.

Although accumulation of fuel after fires in some areas is often initially very rapid and may reach pre-fire levels within three or four years, it is possible that, in long-unburnt forests, the rate of deposition and assimilation may reach a balance at acceptable fuel levels; a balance that cannot be achieved if interrupted by frequent fuel reduction burning.

As an example, about 2 to 4 tonnes per ha of litter falls from dry sclerophyll (open) forest canopies each year and, taking account of assimilation into the soil, can reach a total of some 27 tonnes per ha after 30 years. At some sites in this forest type in the Wombat State Forest, the fuel accumulated over 80 years totalled about 14 tonnes per ha; marginally greater than the limit set as necessary for fuel reduction burning and reached after 8 to 12 years. A major consideration in discussions of the effects on fuel accumulation and fire behaviour, however, is the vertical distribution of the fuel, including shrub and bark fuels.

Some sources have suggested that there is little or no evidence demonstrating that fuel reduction burning or other fire prevention methods have actually been successful in reducing the overall extent or severity of wildfires in Australia.

In a number of cases, however, wildfires have been easier to control when they passed through areas that had recently been fuel reduced; a benefit that should not be underestimated. Fuel reduction burning is one of the few tools available to a fire manager to reduce the severity and extent of wildfire, to protect assets and values, and to assist suppression operations. Its efficiency, is, however, dependent upon the nature of both the vegetation and the wildfire. There is a need for more research on the effectiveness of such burning.

The Department of Conservation and Environment is presently undertaking a fire effects study. This involves the comparison of different fire management regimes on various sites for which all biota are comprehensively sampled and climate and weather recorded. Preliminary findings indicate that recovery of the biota is rapid after the first fire, but less so after a subsequent one, and that climate may be important to both the effects of fire and the recovery of the biota. A progress report is expected late in 1991.

Little use is made of fuel reduction burning by the land managers in the Little Desert and Mallee. Government policy limits its use in mallee woodlands and heathlands to local, small-scale burns. Fire protection plans for the Little Desert, and those being developed for the Mallee, place emphasis on a twin-strip system of fuel reduction burns on the perimeter of public land and strategic internal 'corridors' - fuel reduced to present barriers to the spread of wildfires, reduce fire intensity, and to provide a base for suppression activities. The location of these internal corridors are not static but change over time to link wildfires or fires used for ecological purposes, and to ensure that areas are not burnt too frequently.

Existing tracks usually form the control lines for fuel reduction burns. Other controls used may be the differential in moisture levels of the fuel (as between gullies and ridges), small-scale burns linking previously burnt areas, or lines constructed with hand-tools, slasher or, as in the Mallee, rollers (which flatten vegetation without disturbing the soil).

The House of Representatives Standing Committee on Environment and Conservation stated that '...in locations far removed from inhabited places or from valued assets there may be no economic justification for carrying out control burning. It would be more effective and more environmentally acceptable to concentrate protection works closer to the assets to be protected'.

Aerial Fire Suppression

When resources permit, aircraft are used widely for reconnaissance, access and suppression. Such use should be encouraged to help reduce the need for new firetowers and, in particular, tracks. If fire prevention works are reduced in an area, however, suppression costs may increase. Aerial suppression is very expensive and requires nearby air support facilities like airstrips, helipads, and dams and, regardless of the aerial work, the fire edge usually must be held and made safe by people using either hand tools or machines.

Fixed-wing aircraft require substantial areas as landing strips. Helicopters, on the other hand, need relatively small clearings, provided the approach and departure corridors are sufficiently clear of obstacles. Such clearings in forested areas are usually found or constructed on hilltops or saddles. In some emergency situations, people are lowered from hovering helicopters and either walk out of the bush on completion of their work or construct temporary helipads using hand tools. For the most part, however, helipads in Victoria's forests are constructed and maintained during similar work on tracks, and are thus usually associated with vehicular access.

Although most Regions of the Department of Conservation and Environment have strategically located systems of permanent helipads, there is no guarantee that they will always be conveniently located for every requirement. The Council is aware that special circumstances may necessitate the construction of a limited number of new permanent helipads in some wilderness areas and the recommendations do not preclude this. However, temporary helipads could also be established in response to the particular emergency and allowed to regenerate following completion of the operations.

The impacts of permanent helipads on wilderness values are similar to those associated with clearings for trig points which were discussed earlier in this chapter.

Aerial suppression involves the use of fire retardants, foam or water. Chemical retardants frequently contain a compound of phosphorus, which is a limiting nutrient in many Australian ecosystems - excess amounts can adversely affect native plants. Foam is more effective as a retardant than water, thus enabling more efficient use of aircraft time, and appears to have relatively little ecological impact. There are many situations in which water is not effective or feasible.

Where a suitable, accessible, water body has been available, helicopters with 'buckets' slung below them have been used to dump water on fires. 'Helidams' have been constructed for this application, but these would be limited in number by the availability of suitable water bodies within sufficiently large clearings. Portable 'helidams' are now used in some areas and, where possible, should be used in preference to the construction of clearings and helidams in wilderness areas.

With additional research, more environmentally sensitive techniques and approaches could be developed.

However, for the foreseeable future, aerial suppression technology will complement rather than replace fire prevention work and ground access by crews and, if necessary, machinery.

Fire Management in Wilderness Areas

Existing fire management practices in some of the areas now recommended for wilderness protection include various regimes of fuel reduction burns, firebreaks and tracks. Such regimes may lead, in the longer term, to a change in the ecological character of an area. A principle of management of wilderness areas is to allow natural processes to proceed without interference. However, management of fire is required because of its potential impacts. Nevertheless, it is important that fire protection measures in wilderness areas do not become more intensive than at present. For some of the areas, it may be practical to undertake most of the preventative measures in the surrounding public land - depending on the values of that land.

As knowledge increases, the need for active manipulation in wilderness areas may be further reduced. Extensive research is required into the fire histories of the main forest types as well as the appropriate methods of control and their impacts. Such research may also indicate the circumstances where active manipulation of fire regimes for ecological purposes is appropriate.

Current Fire Management Policy

At present, the Department of Conservation and Environment has the duty, under Section 62(2) of the *Forests Act 1958*, to carry out proper and sufficient work for the prevention and suppression of fire on public land. This work is carried out in accordance with regional fire management plans and includes works in wilderness areas.

Regional fire management plans have been, or are being, prepared for all public land to ensure the protection of human life and assets, natural and cultural values, and significant plant and animal communities and species. The plans recognise that fire is a natural element in flora and fauna management and that not all fires are necessarily injurious to the land values but comprise a normal and essential part of land management.

The *National Parks Act 1975* sets out the responsibilities of the Director of National Parks and Wildlife for fire protection measures in land reserved under that Act. The Department of Conservation and Environment has an adopted policy on fire management for wilderness areas.

Key elements of this policy are:

- All wildfires will be suppressed.
- The officer in charge of suppression operations is to employ from the suppression techniques available those techniques, together with tactics, which least affect wilderness quality. In particular, control lines, if required, will be chosen to minimise physical disturbance to vegetation and soil.
- Fire protection planning is to ensure that, to the maximum extent possible and consistent with Departmental Fire Protection Instructions and the applicable management aims, fire protection measures are concentrated on adjacent public lands forming a buffer to a wilderness area.
- Fire protection planning should:
 - remove or reduce the possibility that a wildfire burns all or a major portion of the wilderness area
 - specify fire-protection measures which avoid or have low impact on wilderness quality; that is, use aerial suppression techniques and avoid construction of tracks and cleared fire breaks
 - locate any essential works in a way which minimises disturbance and visual impact
 - state appropriate procedures for the safety of visitors should they be threatened by fire
 - specify that areas disturbed by fire protection or suppression activities are to be rehabilitated

The policy also permits the use of fire for ecological purposes.

Council endorses the Department's policy on fire management for wilderness areas and recognises that some Regional Fire Protection Plans may require amendment to incorporate this policy in areas where new wilderness areas are recommended.

Council also considers that, given the complexities of fire management and the need for additional knowledge, further research work should be undertaken. As results of such work become available, consideration should be given to reviewing the extent and frequency of fuel reduction burning which is being carried out or proposed to be carried out in wilderness areas, especially where these coincide with those few areas of the State with long-unburnt native vegetation.

Recommendation

M5 Fire Management

That

- (a) the measures necessary to control wildfires be taken in wilderness areas

- (b) suppression operations employ, where practicable, those techniques which least affect wilderness quality, and any areas disturbed by such activities be rehabilitated provided that the works to be undertaken do not compound the disturbance to the area.
- (c) to the maximum extent possible, fire protection measures be concentrated on adjacent public land to prevent fire entering a wilderness as well as to protect property and natural resources outside the wilderness

and that

- (d) where fire protection measures are necessary within a wilderness area, their impacts on the natural condition of the land be minimised, particularly in relation to the upgrading and construction of tracks or other facilities such as helipads or water storages

5. Management of Specific Nature Conservation Values

The Descriptive Report notes that, because of its substantially undisturbed condition, wilderness contributes to the maintenance of the general nature conservation values of whole communities. Wilderness areas also make important contributions to the conservation of individual species. Some contain the last remaining habitats of particular species of flora and fauna.

The management required for the continued existence of most such species involves the protection of habitat and the maintenance of natural systems allied with the rehabilitation of any disturbed areas, control or eradication of any non-indigenous species, and ecologically compatible fire management.

Management of rare or threatened species and communities, however, may often involve additional action, such as manipulation of habitats, to enhance their long-term success.

Such programs may be based on limited research, as knowledge of much of Australia's biota is far from complete. Many species are still undescribed, and the importance and role of species within communities and ecosystems are often poorly understood. Much of this information can only be obtained where natural systems prevail.

Indeed, research into natural systems, ecological processes, evolutionary development, long-term climatic trends and geomorphic processes, and comparative research about modified environments require calibration against natural baselines. Areas with high degrees of wilderness quality can provide such baseline references.

Council considers that, for the management of the special nature conservation values of wilderness areas, active manipulation of natural systems should be used only when no other viable alternative is available to enhance the viability of rare or threatened species.

For instance, Council is aware that virtually every plant community in Victoria has been influenced to at least some extent by human-induced fires. Deliberate burning of vegetation has been used in various locations by Aborigines to flush kangaroos from scrublands, by graziers to encourage the growth of palatable grass species and in forestry operations to promote the regeneration of preferred tree species in logged areas. More recently, protective burning regimes have been established to reduce the fire hazard in areas adjacent to settlement or valuable timber stands. Areas that have remained unburnt for long periods are now rare in Victoria. Conversely, fire has been deliberately excluded from some areas for unnaturally long periods.

Council is aware that to identify and maintain ecologically favourable fire regimes requires substantial additional research and there will need to be an ongoing review of management planning to incorporate the results of such research.

No single natural catastrophe such as fire or drought is known to have eliminated an entire natural community on the broad scale. The criteria used in determining the boundaries of the recommended wilderness areas and their size and shape should preclude such an occurrence. However, there may be exceptional circumstances where local populations of indigenous species have been severely reduced and where some techniques may be required to restore nature conservation values.

Principles

Council considers that the management of special nature conservation values in wilderness areas should be carried out in accordance with the following principles:

- Protection of undisturbed habitat and maintenance of natural systems and processes should be the primary purpose of management.
- Active manipulation of plant or animal communities or their habitats (including manipulation of fire regimes or the restocking of areas) should only be undertaken to enhance the viability of particular nature species and communities, and be undertaken after full research, when no other viable alternatives are available.
- Any restocking should be restricted to indigenous or previously indigenous species; and only after full research on its potential impact on the total system.

Recommendation

M6 Management of Special Nature Conservation Values

That

- (a) management of special nature conservation values be carried out in accordance with the principles outlined above
 - (b) research be undertaken into appropriate fire regimes and into the total ecological requirements of those native species and communities occurring within wilderness areas
- and that
- (c) long-unburnt areas be afforded special protection.

Note:

Protection of some sensitive areas, such as reference areas or the habitat of particular species, may also involve restrictions on the use of the areas by visitors.

6. Scientific Investigation and Study

Wilderness areas are important potential sources of information about ecological and geomorphic processes, evolutionary development, and long-term climatic trends.

They may provide bench-mark environments against which some of the changes brought about by settlement, such as pollution levels and other environmental impacts, can be compared. Their value stems particularly from their more natural and undisturbed condition compared to modified environments in other parts of the State.

Wilderness areas, therefore, provide natural baselines which can be used to calibrate comparative research. Such baseline data is of immense value for all types of land management and planning, especially land-use planning, environmental impact assessment, forestry, agriculture, and wildlife management.

In addition, they may be important for basic research into Australia's biota. Many species are still undescribed, and the importance and role of species within communities and ecosystems are often poorly understood. Much of this information can only be obtained where natural systems and processes prevail.

The majority of these avenues of scientific activity are dependent on direct access to land. Scientific investigation may be undertaken in wilderness areas, subject to any required technical approvals, under the *National Parks (Amendment) Act 1989* with the approval of the Director of National Parks and Wildlife, where it does not affect the value of the area as wilderness. This may involve low-impact techniques such as setting out markers for survey quadrats, the taking of samples, establishing recording and monitoring stations, and laying of traps. Other techniques, such as biomass experiments (involving the removal of all biological matter from a specific site) and some fish survey techniques such as those utilising poisons are considered inappropriate in wilderness and are not permitted.

Scientific research to increase knowledge of the State's natural resources may include geological, geochemical, geophysical, geomorphological, stream sediment, and soil studies. Techniques such as remote sensing, field mapping and reconnaissance sampling could be compatible with the maintenance of wilderness values and would be subject to a research permit from the land manager. However, exploration for earth resources that requires a licence under the relevant legislation (as is discussed below in Section 8 - Other Forms of Direct Use), that is, exploration with a view to the extraction of earth resources, would not be permitted, as such extraction is considered to be incompatible with the aims of wilderness areas. Earth resources include minerals, stone, petroleum, and groundwater.

Observation bores to monitor the degree of utilisation of groundwater and the movement of saline groundwater are located throughout the Sunset Country and Big Desert, and more are planned. All are sited adjacent to existing tracks and none are planned to be within the recommended wilderness areas.

Public sector investigation of the biological and physical resources of these areas should be encouraged. With respect to the investigation of physical resources, bodies such as the Geological Survey of Victoria should be encouraged to undertake such research.

Principles

- Scientific investigation in a wilderness area should only be carried out under permit and would only be appropriate if it cannot be carried out elsewhere. Its aims should be dependent on the unique values of the particular area and be of a nature that does not conflict with protecting wilderness values.
- The research techniques employed should be subject to the discretion of the land manager and should not utilise non-indigenous species; require structures or other permanent markers to be established; or involve destructive forms of investigation.
- Limited sampling of material, selective trapping or netting, and the use of temporary markers or monitoring equipment, may be permitted subject to consultation with, and the agreement of, the land manager (to ensure that site location, density, and sample quantity avoids impact on wilderness values).
- All data collected as part of any scientific investigation or study should be placed on the public record and be available to other research workers.

Recommendation

M7 Scientific Investigation and Study

That appropriate forms of scientific investigation or study be permitted in wilderness areas in accordance with the principles outlined above.

7. Recreational Use

Recreation encompasses an extremely diverse range of both indoor and outdoor pursuits. It is an intrinsic feature of our way of life and has numerous and diverse social benefits. Participation in recreation and in providing opportunities for it are also of economic benefit, forming the basis of our tourism industry. With increasing population and increasing availability of leisure time, the demand for recreational venues is also increasing.

The bulk of public land is available for recreational uses of some sort and the variety of reserves recommended by the Council provide for a range of recreational opportunities. While specific reserves have not been set aside for each form of recreation, most activities can be accommodated somewhere on public land. Council has generally left the details, including the appropriate zoning and level of each activity, to the land and water managers.

Providing for a Particular Type of Recreational Experience

Outdoor recreational activities are undertaken in a variety of settings which vary according to the level of access, facilities, use and management. Camping, for example, takes different forms in various settings, from highly developed camping-grounds accommodating large numbers of people, through designated camp sites with few facilities, to remote areas without facilities where the emphasis is on self-sufficiency. Angling, hunting, canoeing, or fossicking can similarly be undertaken in a range of settings. Some activities may also require specific physical or environmental (including seasonal) requirements (such as swimming, caving or skiing). Few forms of recreational activity would be totally dependent on a single setting, although many are considerably enhanced by a particular one. Many people undertaking outdoor recreation may require different settings at different times, depending on the particular activity, or at different times of their lives.

Although it may be desirable to provide for all appropriate recreation activities across the full range of settings, the nature of the land and population of a region means that not all settings can be provided in all areas. In particular, few areas contain remote recreation settings and there is a trend for activities to encroach into them. (Most of Victoria's public land provides semi-remote or roaded—natural recreation settings - see Figure 4, p.65, of the Descriptive Report.)

Wilderness areas provide for a range of self-reliant recreational activities in remote settings; that is, recreational settings characterised by unmodified environments, little evidence of other users, restrictions or controls, and with no use of vehicles or introduced animals. The extent of these settings decreased markedly with the expansion of track networks since the 1950s.

It is important, however, to note that the recommended wilderness areas have not been defined by their capability for recreation, but rather by their relatively undisturbed condition. Notwithstanding this, most provide outstanding opportunities for some forms of self-reliant recreation.

Appropriate Uses

Council has considered that uses of wilderness be determined according to their compatibility with the primary aim of management, which is to maintain or enhance wilderness condition; but that it is also appropriate to give emphasis to those uses which derive special benefits from such areas.

With respect to recreational uses, Council believes that those which are dependent on the retention of formed vehicular tracks, such as four-wheel-drive touring, trail-bike riding or mountain-bike riding, and activities reliant on the use of non-native animals, such as horse-riding, are incompatible with the management objectives of wilderness areas and should not be permitted. This is further explained in the introduction to Chapter 3: Wilderness Areas.

As such, two major forms of recreational activity will not be provided for in wilderness - vehicular use and horse-riding. Notwithstanding this, Council considers that they both are appropriate uses of other public land and has, in its previous recommendations for other land use categories, provided extensive opportunities for these activities and experiences elsewhere in the State. In addition, some of the areas with remote and natural attributes listed in Chapter 5, tracks forming boundaries to some of the recommended wilderness areas, and many other parts of Victoria's park system can provide for these activities in remote and relatively undisturbed settings. Further, many of the recommended wilderness areas have relatively limited capability for these activities and their boundaries generally avoid important through routes such as the Bicentennial National Trail or existing access routes to popular features of special interest.

Recreational fossicking for minerals, such as metal-detecting and gold-panning, is not permitted under the *Mineral Resources Development Act 1990* in national or wilderness parks, and Council believes that this use not be permitted in the recommended wilderness area.

However, wilderness areas will continue to be used for a variety of other recreational pursuits. Depending on the nature of the environment, such activities would include bushwalking, camping, canoeing and rafting, cross-country skiing, sight-seeing, nature study, swimming, fishing, and rock climbing. In addition, deer hunting is recommended to continue in three areas where it is currently a significant activity.

All recreational activities impact to some extent on the environment and on other people, depending on the interaction of such factors as:

- the nature of the recreational activity
- the intensity of use of an area, as measured by the number of participants, size of group, and the frequency, timing, and duration of the use
- the sensitivity of the environment to change
- the degree of management intervention to make the environment less sensitive to recreational impacts

Generally, any one activity pursued at a low level of use poses little threat to the environment and seldom conflicts with other activities. With increasing level of use, however, conflicts and problems can arise, particularly that of damage to the environment and interactions between recreational activities.

Management activities which attempt to protect the physical environment in response to recreational use by making it less sensitive (typically by increasing the number and standard of access routes or facilities) may lead to increases in the use, as well as impact on the aesthetics and

naturalness of the area. Small incremental changes can also, over time, lead to major changes in the range and number of recreational settings available in Victoria.

Council, therefore, believes that the land managers should aim at managing the levels and patterns of appropriate recreational activities according to the capability of the area to sustain such use (without observable damage or significant conflict with its primary purposes), while at the same time avoiding unnecessary restrictions. Particular care will be required to prevent environmental damage. Thus, restrictions could be expected where vegetation and soils are sensitive to damage, where the level of use is excessively high or is conflicting with the provision of opportunities for solitude, or where natural and cultural values are to be protected.

A number of recreational activities and issues that may require specific consideration by the managers of wilderness areas, whether now or in the future, are discussed below.

Camping

Camping is generally associated with other recreational activities, such as bushwalking, fishing, canoeing, or hunting. A sheltered location and access to water supply are the main physical requirements.

Camping is permitted in most areas of public land including wilderness areas, although it may be restricted to designated sites. Impacts arise from soil compaction, loss of ground cover, damage to vegetation through firewood collection, increased risk of fire, and disposal of refuse and human waste. Camp sites near streams are often also sites of environmental sensitivity. Indirect effects arising from disturbance to vegetation include soil loss and increased potential for the establishment of weeds.

Studies of the use of wilderness areas in America, where only pedestrian access is permitted, and of a remote area on the Baw Baw Plateau, have indicated that the damage at camp sites is the key observable impact of human use of such areas.

Such impacts can be reduced by the use of modern equipment such as sleeping mats and fuel stoves; and through low impact practices such as camping, washing, and burying human waste away from watercourses, avoiding the digging of trenches, and the carrying out of all rubbish. Some of these, such as minimum siting distances from water bodies (20 m) and fire regulations, may be subject to regulations under the relevant Forests or National Parks Acts.

Council is not proposing any specific controls on this activity, although it may be necessary to temporarily close over-used sites to permit recovery or to ration their use.

Canoeing and Rafting

Most watercourses within the recommended wilderness areas are unsuitable for canoeing or rafting, mainly because they generally comprise headwater segments with limited water or because of snags and debris. Even those streams that are navigable in parts may become less so with low water levels. The major exception is the Snowy River which has outstanding capability for white-water touring.

Sea-kayaking is a form of canoeing that is growing in popularity and is often undertaken near-shore and for touring along the shore by those seeking more challenging recreation.

Damage arising from water-based activities is greatest at river access points and camp sites, or where portages are required. Access to entry and exit points is generally by vehicle, and the

boundaries of the recommended wilderness areas exclude the most popular points of access. Campsites are generally on sandy banks and impacts here are generally mitigated by the transitory nature of these features.

There are few existing restrictions on use, with the physical environment being the main limiting factor. Council is not proposing any specific controls on canoeing or rafting, although it may be necessary, particularly during periods of peak usage, to limit the number of river users at any one time to maintain the expectations of visitors to experience relative solitude. Preference should be given to the use of educational techniques to ensure the maintenance of such experiences.

Fishing

Fishing is permitted, subject to the holding of a licence, throughout most public land in the State. In the more remote areas, recreational fishing is mainly along mountain streams. It is usually undertaken in summer in conjunction with other activities such as camping. An undisturbed setting often enhances the enjoyment of fishing.

Recreational fishing in inland waters often depends on the introduced brown and rainbow trout, although native species such as the Macquarie perch and blackfish may also be important. Most stream systems in the State now carry self-supporting populations of brown trout and sometimes rainbow trout.

The removal of native species is contrary to the primary management objective of maintaining natural systems. Fishing of native species and the stocking of streams for recreational purposes may lead to alteration of natural population dynamics and to species competition. The overall impact of fishing is dependent on a range of factors including the type of equipment and technique used.

Fishing regulations provide limits to the number, type and size of fish taken or the type of equipment, technique or bait permitted, and prohibit fishing in defined waters. Some regulations, such as the closed seasons on the native river blackfish, are there to protect the fish; whereas others, such as limitations on netting and the number of rods and hooks that can be used, also aim to enhance recreational opportunities.

The Department of Conservation and Environment is preparing a policy on recreational fishing in inland waters, which will include policy for those areas managed under the *National Parks Act*.

In view of the general preference of recreational anglers to take introduced trout species Council considers that the only special condition required in these areas, over and above those that may generally apply to national parks, is the principle that there should be no stocking of fish for recreational purposes. However, in line with the principles for the management of specific nature conservation values, outlined in Section 5 above, restocking of streams with fish indigenous to a stream may be permitted.

Hunting

Four species of deer maintain viable populations in the wild in Victoria, three of which may be legally hunted. The sambar deer, found throughout much of the forested lands to the east of Melbourne, is present in a number of the recommended wilderness areas.

Sambar is the main species of deer sought by hunters. It is the largest deer found in Australia and is widespread. They have a keen sense of smell and hearing, and are very difficult to observe in the bush. Many hunters consider them to be the premier game species.

Both of the more common forms of deer hunting practised in Victoria - stalking, which is the most popular, and hunting with hounds, the more traditional form - involve the use of firearms. Some hunters may use bows and arrows. Stalking usually involves the tracking of animals for some distance, often along creeks, gullies and through more remote areas, and requires interpreting signs such as wallows, rubs and browse marks, tracks, and droppings. Deer are not, however, often sighted and kills are generally infrequent.

Hunters who use hounds rely on them to pick up and follow a scent until the deer is bailed up. Hound teams may consist of two or three dogs which need to be trained and used regularly. This form of hunting is not permitted in wilderness areas.

Most deer hunting is undertaken during the cooler months when the success rate is higher: in the Alpine National Park, one of only two national parks where hunting is permitted, hunting by stalking is presently permitted between February and 15 December inclusive. (Hunting is also permitted in part of the Mitchell River National Park.)

Other animals, such as feral goats and pigs, which occur in some of the more isolated parts of the State, are also hunted for recreation.

Any forms of hunting that rely on the use of vehicles or non-indigenous animals, such as horses or dogs, or require the taking of native game, are considered by Council to be inconsistent with the primary management objective of wilderness areas and are not permitted under these recommendations.

Recreational hunting of introduced species using firearms is, in itself, unlikely to have a significant impact on the condition of the land. It is, however, dependent on the continued presence of introduced animals. Council is also aware that, for many people, the real or perceived hazard presented by the presence or use of firearms can significantly reduce their enjoyment of an area and the knowledge that firearms are generally not permitted in National Parks is, for some visitors, a special attraction. It is particularly important that the use of firearms for hunting in wilderness areas is carried out responsibly, to ensure that the enjoyment of the areas by others is not impaired, and that hunting regulations and permit requirements are observed.

While hunting may help reduce the numbers of certain introduced species, it is not considered to be an effective control technique by itself. Managers may, however, seek the assistance of experienced hunters to assist in control programs - as discussed earlier in this chapter.

As stated in Chapter 3, Council recommends that deer hunting by stalking be permitted in three wilderness areas to provide some opportunity for this activity in a wilderness setting. Council does not consider recreational hunting to be an appropriate use of all wilderness areas.

Council recognises that to implement its recommendation that deer hunting by stalking be permitted in some wilderness areas would require changes to the *National Parks Act 1975* - which generally prohibits this activity, and has recommended that such changes occur.

Skiing

Skiing is an important winter recreation on public lands. Victoria's alpine zone (that land above the tree line - about 1400 m) has frequent winter snowfalls and the snow-covered landscapes are a major recreational attraction.

Downhill skiing depends for the most part on facilities which are incompatible with wilderness. Cross-country skiing requires different facilities and enjoys a longer season than downhill skiing. It may involve day trips, or overnight trips using huts or snow camps. The expectations of the skiers can range from those seeking totally unmodified environments to those seeking marked and groomed trails. Areas above 1500 m are generally suitable throughout winter and spring. Areas down to about 1200 m may also be suitable after heavy snowfalls. Flat to undulating country or ridge tops and spurs are usually preferred. However, any area of dependable snow may have potential to be used.

While some of the recommended wilderness areas meet the environmental requirements for cross-country and snow skiing, their remoteness and difficulty of access in winter means that they experience little use. For these reasons, however, they may have particular appeal to some skiers.

Council is not recommending any special management guidelines for cross-country skiing in wilderness areas over and above ensuring that no additional pole lines are constructed.

Walking and Bushwalking

Walking ranges from strolling and beach combing to bushwalking and snow walking.

Many people of all ages engage in some form of bushwalking, and virtually all public land is available for this activity. Bushwalking may involve short walks along established tracks and paths, to back-pack hiking through remote areas for long periods. Areas readily accessible to large population centres experience highest use. Long-distance defined walking routes, such as the Alpine Walking Track and, to a lesser extent, the McMillan Track, may provide foci for this activity.

Overnight bushwalking requires participants to be largely self-sufficient and usually relies on the presence of suitable water sources and campsites. Restrictions on camping are discussed earlier in this chapter.

Environmental impacts arising from pedestrian access include the trampling of vegetation and establishment of tracks, as well as increasing the risk of accidental fire and the possible introduction of non-indigenous plants. Impacts are often localised, arising from the provision of associated facilities such as tracks, toilets, and camp-sites. Walkers can minimise some of these impacts by travelling in small parties, staying on any tracks, and spreading out in open untracked country.

In intensively used areas, managers have often resorted to constructing walking tracks and elevated walkways, providing toilet facilities and designating campsites. Less-intrusive strategies would be to limit the numbers of users through a ballot or a permit system, to undertake intensive educational programs, and to encourage the observation of codes of practice. Such alternative strategies are appropriate and preferred in wilderness areas.

However, few of the recommended wilderness areas are intensively used for bushwalking, although many of them are ideally suited to this activity as they include a variety of destination points, potential routes or possible campsites. The impacts from bushwalkers are therefore limited. As a result, restrictive management practices, other than use of permits in some circumstances, are considered unlikely to be necessary.

Other Activities

Sightseeing and nature study may be pursued in their own right, but more often are ancillary to other forms of recreation. Participation, in the context of wilderness areas, may depend on the provision of information on features of interest and access routes. While ready access to facilities may be sought by some participants, others seek more unmodified settings.

While often vehicle-based, these activities can also be enjoyed without the use of vehicles. They are not necessarily excluded from the recommended wilderness areas as a number of readily accessible vantage points lie close to the boundaries and provide excellent views. No special guidelines are recommended by the Council for these activities.

Other, more specialised recreational activities are undertaken on public land. They include caving and rock climbing, much of which is club based. They occur throughout the State wherever the appropriate physical environments are found. Such activities may be subject to seasonal restrictions or limited from specific sites (such as some caves) due to the presence of environmentally sensitive features. Vehicular access may be important for the transportation of equipment, and this facility may be limited in some of the wilderness areas. On the other hand, the restrictions on vehicular access may enhance the recreational experience.

Impacts depend on intensity of use or on the techniques used. Permanent bolts or pitons installed for climbing, for instance, may damage rock faces and thereby reduce the experience available for subsequent climbers. Such fixed aids would not be permitted in wilderness areas. Other controls may be required in response to particular circumstances.

Requirement for Search and Rescue

Council's recommendations do not preclude search and rescue activities, however, it must be acknowledged by users of wilderness areas that experiencing nature on its own terms involves some element of risk, and that enjoyment depends on an individual's skill and preparedness.

A substantial increase in the recreational use of areas without ready access may lead to increased demands on search and rescue, enforcement, and management resources. Few inexperienced visitors would, however, be expected to use such areas, since the absence of defined tracks, track markers, or huts is likely to discourage use of more remote and hazardous areas by people who lack suitable equipment and experience.

Management can significantly reduce the potential requirement for increased search and rescue by influencing the location, intensity and timing of recreational use through the provision or otherwise of facilities, access, signs, the nature and amount of information provided, or the regulation of activity.

Recreational Use by Organised Groups

Organisations like schools, clubs, youth groups, and private companies involved in outdoor recreation have a valuable role in improving community access to public land and they may also contribute to the economy of the local region. Moreover, they may provide hire equipment, transport, skilled instruction, and interpretation of the environment in which the activity takes place, and set models for appropriate codes of conduct.

Organised activities of this nature may involve large numbers of people, both as participants and, in the case of competitive events, spectators. This may lead to overcrowding of some areas and

to demands for exclusive access to particular venues. Council believes that activities involving large numbers of people or competitive events are inappropriate in wilderness areas.

A large number of operators have been granted permits for commercial adventure tours within proclaimed national and other parks in Victoria. Tours offered include four-wheel-drive safaris, cross-country skiing, canoeing and rafting expeditions, bushwalks, vehicle-based sightseeing, fishing tours, horse-riding, snow-shoeing, nature study, bike-riding, history, photography, and hot-air ballooning. Some operators also offer drop-off and pick-up services for bush-walkers. The tours may be for a day, week-end, or up to a week's duration. Although predominantly in alpine areas, tours also operate in the Sunset Country in the Mallee, the Little Desert, in East Gippsland, and elsewhere.

Conflicts are often greatest where groups are attracted to a particular locality, notably a camp site, lookout point, historical artefact, hut, a significant natural feature, or where access is restricted to a single route.

The impact of commercial tours or similar structured activities on natural systems, and their compatibility with other user groups, is not necessarily different to any other similar form of recreational use. Impacts are associated rather with the size of the groups, frequency of use, and the behaviour of the individuals.

Under these recommendations those tours or group activities involving use of vehicles or horses, as with all other users, would not be permitted. Competitive events or activities involving the congregation of large groups of people are not appropriate.

As noted in Chapter 3: Wilderness Areas, the conduct of permitted uses is considered appropriate by Council irrespective of whether they are carried out by private individuals, members of organised clubs, participants in commercial tours, or as part of a military training program.

Public Participation

As recreation is the major direct use of wilderness areas, the involvement of peak recreation groups in the planning process is likely to lead to the early identification of key issues, and facilitate the development and implementation of management strategies and codes of conduct. Such recreation groups can also assist in the systematic documentation of recreation resources and in the development of acceptable methods of identifying and evaluating these.

Principles

- Wilderness areas should continue to be available for a range of appropriate recreational uses, but those requiring motorised vehicles, bicycles, or introduced animals, such as horses or dogs would be excluded.
- The type, intensity and patterns of a recreational use should not exceed the capacity of particular areas to sustain that use and should not conflict with the primary management aim of the respective areas.
- Where the use of an area approaches capacity, alternative areas should be encouraged, where appropriate; or other actions undertaken (such as permit systems) to limit the impact on wilderness areas.
- Special attention should be given to the cumulative impact of small changes that may affect recreational opportunities and the wilderness condition of the areas.

- Compatibility between various recreational activities should be monitored. Where conflicts arise between different activity groups, approaches such as the use of temporal zoning should be implemented, to ensure that opportunities for visitors to experience solitude are maintained.
- Relevant peak recreation groups and the Department of Sport and Recreation should be involved in the planning process, in the dissemination of education material, and the preparation of codes of conduct.
- The use of a code of conduct, rather than the promulgation of regulations, for responsible behaviour and the use of minimal-impact camping and bush-walking techniques should be encouraged in wilderness areas in consultation with user groups. This should encompass elements such as encouraging groups to limit their size, limiting the length of stay at campsites, scheduling trips to less busy periods, and defining hygiene practices to avoid the spreading of introduced plants.
- Use of wilderness areas by large groups or for competitive events is not appropriate.
- A balance is to be provided between commercial tours and other recreational groups.
- Unless essential for safety, or for the protection of sites, no additional recreational facilities, tracks or route markers should be provided, nor should any existing facilities or tracks be upgraded.
- Recreational fishing be permitted to the extent consistent with the maintenance through natural replenishment of native fish populations and in accordance with the management goals for the respective area.

Recommendation

M8 Recreational Use

That

- (a) recreation in wilderness areas be managed in accordance with the principles outlined above
- ~~(b) hunting for deer by stalking be permitted in three wilderness areas as specified by the Council (see Chapter 3: Wilderness Areas), to the extent consistent with visitor safety and minimal impact on other users~~
- (b) hunting for deer by stalking be permitted in the Mt Darling/ Snowy Bluff, Razor/Viking, and Wongungarra wilderness area, to the extent consistent with visitor safety and minimal impact on other users. (Order in Council 12/5/1992)

and that

- (c) a code of conduct for the recreational use of wilderness areas, encompassing the major elements discussed above, be developed by the managing authority in consultation with appropriate groups; and it be widely distributed.

8. Other Forms of Direct Use

Other activities that may involve the direct use of a wilderness area include commercial tour operations, education, and training exercises.

Commercial Tours

Earlier in this chapter (see Section 7 - Recreational Use), Council expressed the view that the recreational activities permitted in wilderness areas are appropriate irrespective of whether they

are carried out by private individuals, members of organised clubs, or as part of a commercial tour. Impacts on wilderness values are related rather to the size of the groups and the frequency of use.

Commercial operators are required to hold permits to use land reserved under the *National Parks Act 1975*. The Department of Conservation and Environment has recently completed a review of the licence system for commercial tours on all public land, including National Parks. Such use now requires a guided leisure and instruction permit. Such a permit will enable the land manager to determine where a tour operates and the numbers of people taking part. This is particularly relevant to the use of wilderness areas.

Where experienced guides are employed by commercial operators, visitors can be encouraged to use low impact camping techniques and assisted to interpret and appreciate wilderness values. Visitors who, because of a lack of suitable equipment or experience, would not otherwise be able to directly experience a wilderness area's features, may do so on a commercial tour.

However, some commercial operators are influenced by market requirements relating to time, transport, or the type of client, into seeking exclusive access to areas or into using a limited number of areas or routes. In the latter instance, this can lead to the over-use of areas and, where the land manager introduces restrictions on use to avoid degradation, may cause conflict to the tour operator or to other users.

The principles for the use of wilderness areas by commercial tours are considered to be similar to those outlined in Section 7 above for other recreational activities; those principles and the relevant recommendations should apply to commercial tours. However, a balance needs to be established between both groups of users.

Recommendation

M9 Commercial Tours

That commercial tours be permitted to use wilderness areas subject to the principles and recommendations outlined above for recreational use.

Education Activities

In common with other natural areas, wilderness areas provide a valuable educational resource. Council's recommendations across the State have provided for Education Areas for observation, the practice of methods of environmental analysis, as well as the conduct of simple long-term experiments. It recognised also that the value of such education is enhanced by comparison of ecosystems - between the education areas and other natural and modified ones.

By definition, a wilderness area contains a tract of land in a natural and undisturbed condition in which active management of habitat (other than to reduce the influences of European settlement or to enhance the viability of rare or threatened species) would not take place. Use of these areas for educational purposes would also, therefore, be passive.

The remoteness of wilderness areas and their philosophy of management would determine that their use for formal education purposes would be relatively low and usually more accessible areas could be favoured. Indeed, the use of alternative sites could be encouraged to protect the intrinsic values of wilderness.

Recommendation

M10 Education Activities

That use of wilderness areas for passive educational purposes be permitted subject to the principles outlined above for scientific investigation and recreation.

Training Exercises

The Australian defence forces undertake training on public land, including some areas now recommended as for wilderness protection. Training exercises range from simple bush survival and small-scale infantry manoeuvres to those involving large numbers of personnel. A variety of transport, including motorcycles, all-wheel-drive vehicles and heavy tracked vehicles may be used, both on and off-road.

Council believes that military training is a legitimate use of public land, but is aware of the possibility of it conflicting with some forms of recreation and the protection of natural values. It has been Council's view in the past that military training should not take place in reference areas or wilderness areas; and only under special circumstances in parks and other areas of recreation and conservation significance.

While the impact on the land may be high when large numbers of personnel are involved, base camps established and vehicles used, many of the training exercises are similar to, and of no greater impact than, the operations of other organisations providing skill training for outdoor activities.

Many such organisations, including the Victoria Police, the State Emergency Service, Outward Bound and a number of community groups, also provide training programs in search and rescue and survival techniques. Where an exercise is proposed in a wilderness area it should be undertaken in a manner consistent with the requirements placed on other users. That is, it should not involve vehicular or horse-based access, and should be carried out in a manner that does not impact on natural systems.

Although Council considers that most forms of military training should be excluded from wilderness areas, restrictions on those training activities that involve simple bush survival and navigation exercises on foot and in small groups should be the same for Department of Defence personnel as for other organisations. Nevertheless, alternative sites should be actively sought before the decision is made to utilise wilderness areas.

Military training areas may be declared by the respective Commonwealth Minister, but only with the approval of the land owner - which in the case of public land is the Victorian Government.

Recommendation

M11 Training Exercises

That

- (a) the principles outlined for recreational use of wilderness areas, which exclude the use of motorised or mechanical vehicles or equipment, apply equally to military, search and rescue training, and survival technique training

and that

- (b) where the training of military personnel is proposed, the size of group, types of activities, the timing and the location be subject to agreement between the Department of Defence

and the Department of Conservation and Environment, and be consistent with the protection of wilderness values.

Mineral Exploration

Mineral exploration encompasses the search for new mineral deposits. Exploration is a diverse, continually changing research activity, employing a number of different scientific techniques and methods. Mining embraces the extraction of the minerals. Although exploration and mining are part of the one process, exploration is not mining, and only rarely results in mining.

Council, in its Proposed Recommendations, viewed mineral exploration as a form of research and considered that, if it were carried out using techniques that caused minimal disturbance to the natural environment, exploration could be permitted in wilderness areas. It also stated that it believed that mining is incompatible with the protection of wilderness areas and would not be permitted. Before mining, if any, took place in an area designated as wilderness, therefore, a review of land use would be required.

Following the Proposed Recommendations, the Council reviewed its proposed policy on exploration and mining in wilderness areas as part of a broader review of its policy on exploration and extraction of earth resources throughout public land in the State. Council now believes that it is important to make a clearer distinction between scientific research for the purpose of increasing knowledge of the State's natural resources, and exploration with a view to the possible extraction of earth resources.

The Council considers that such scientific research, including those of a geological nature, may take place under permits issued by the land manager. Accordingly, management principles for such activities have been included under Section 6 - Scientific Investigation and Study - above. Exploration of earth resources with a view to their possible extraction, that is exploration requiring authority under the *Mineral Resources Development Act 1990*, however, would not be permitted in wilderness areas, as such extraction is incompatible with the aims of wilderness management.

In making its decision to exclude exploration and extraction of earth resources from wilderness areas, Council is aware that the areas recommended for wilderness protection affect some 3.5% of the State. Council is also aware of the incremental effect of making additional areas unavailable for mineral exploration and mining but noted that most of the recommended wilderness areas are within existing national or wilderness parks, where mineral exploration and mining is already precluded under existing National Parks and Mineral Resources Development legislation. These Acts do not however, specifically exclude any area from exploration for petroleum products.

The net effect of these recommendations is thus to increase the percentage of public land presently unavailable for mineral exploration and mining by 0.6% from 33.1% to 33.7%. This represents 12.4% of the State. It will also result in 3.5% of the State being unavailable for exploration of petroleum products. Council believes that this increase is justified to ensure that the highest level of protection is provided to the recommended wilderness areas.

9. Cultural Associations

Cultural associations with the areas now recommended for wilderness vary in their expression and significance. In a material form, their expression could range from stone artefacts illustrative of Aboriginal camps over past millennia, to the mullock heaps of a Nineteenth Century gold prospect, or a stone cairn established in this Century. Non-material associations may reflect the

way in which people feel about such areas. For instance, the attitudinal survey commissioned by Council indicates that Victorians value areas which contain wilderness attributes, although they may never visit them.

Features and sites of significance to Aboriginal communities may be identified from oral traditions or archaeology. Approaches to the protection of such features and the involvement of local Aboriginal communities in their management are detailed in the Victorian *Archaeological and Aboriginal Relics Preservation Act 1972* and the Commonwealth *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

In addition, Aboriginal communities have indicated a desire to regain access to public lands for traditional uses, including the hunting of native fauna, and to be more closely involved in the planning and management of traditional lands.

These issues affect all public land and not wilderness areas alone. The Department of Conservation and environment is developing a policy that will address these issues for all public land in the State. No additional measures are proposed by Council at present.

Under the umbrella of the International Charter for the Conservation and Restoration of Monuments and Sites a charter for the conservation of places of cultural significance - The Burra Charter - has been prepared. The Burra Charter provides broad principles for the maintenance of such places in terms of their preservation and restoration, and includes provision for reconstruction and adaptation.

The following principles and recommendations relate mainly to the material evidence of previous direct uses of wilderness areas, particularly structures such as huts, yards, and former access tracks.

Principles

- Although an object of management is to minimise the evidence of human modification, it is recognised that, where structures or other artefacts have been assessed according to the principles of the Burra Charter to be of significant cultural association, these should be retained.
- The significance of a site is not necessarily related to the age, condition, or even the presence of a structure.
- The significance of an extant structure may arise from its association with a previous land use or user, the nature of its construction, its age, or the period of continuous use.
- Assessments of any aspect of cultural heritage should include consultation with groups or individuals with an interest in that heritage.
- Extant structures or other artefacts of cultural significance should be conserved, interpreted and managed in a manner consistent with the maintenance of wilderness quality.

Recommendation

M12 Cultural Associations

That

(a) management of issues of cultural significance be in accordance with the above principles

that

(b) a detailed assessment of the significance of all extant structures be undertaken in accordance with the principles of the Burra Charter and in conjunction with the

preparation of management plans, and only those assessed to be of cultural significance be retained and managed to protect their identified values

- (c) those structures to be retained be managed to preserve their historic or intrinsic qualities and, to this end:
- (i) additions or alterations not relevant to those qualities be removed
 - (ii) they be available for public visitation to the extent consistent with protection of their historic value
 - (iii) the land manager maintain structures of significance but that they not be rebuilt
- and that
- (d) where structures or additions to structures are to be removed, the site be rehabilitated in line with Recommendation M2 above.

10. Air and Water Quality

In the survey undertaken for the Council by the Roy Morgan Research Centre, smog or air pollution were the factors most often suggested as potentially spoiling wilderness or its enjoyment. Extensive research in the United States of America has shown that diminished air quality, particularly from hazes or smoke plumes, reduces significantly the recreational experience obtained within a wilderness. The probability of such events affecting the recommended wilderness areas, given their remoteness, is at present very low, except perhaps for smoke from fires, notably prescribed burns.

The Morgan survey also indicated that water quality, particularly the potability of streams, was an important issue of concern in wilderness areas. Water quality may be reduced by point-source discharges and diffuse sources of pollution, such as that carried by run-off. In addition to affecting a person's experience, reduced water quality can adversely affect a wide range of the environmental values of streams.

The risk of reducing air or water quality can be minimised by ensuring that wilderness areas are as remote as possible from industrial and major urban centres, and land subject to intensive agriculture. While a reduction in the extent of fuel reduction burning may be of assistance in protecting air quality, Council believes that a greater benefit is served by the continuation of such a practice.

Water quality could be maintained at a level reflecting the natural conditions by the incorporation of the catchments of all streams entering wilderness areas into the protected area and can be maintained or improved by adopting specific practices, for example:

- elimination of stock grazing
- rehabilitation of disturbed areas
- encouragement of minimum impact camping and hygiene practices
- minimising water crossings by vehicles

State Environment Protection Policies (SEPP), developed under the *Environment Protection Act 1970*, set air and water quality standards for all areas of Victoria. The SEPP (The Air Environment) has as its objectives the protection of life, health and well-being of humans and, in other than designated buffer zones, the life, health and well-being of other forms of life, as well as ensuring good visibility and aesthetic enjoyment. It also provides for the designation of 'areas of special significance', where it is desirable to maintain very high levels of air quality.

The SEPP (Waters of Victoria) sets the highest level of protection for waters of the 'Aquatic Reserves Segment' and includes in its schedules reference areas, marine reserves and a number of national and State Parks.

Principles

- The quality of air and water associated with wilderness areas should be of the highest standard possible.

Recommendation

M13 Air and Water Quality

That

- (a) no 'buffer zones' be designated under the SEPP (The Air Environment) over wilderness areas

and that

- (b) all recommended wilderness areas be included in Schedule A1 of the SEPP (Waters of Victoria).

11. Monitoring Indicators

Council's recommendations for wilderness require that each area's natural condition be protected while, at the same time, it be available for use by the public. Human use, however, inevitably causes some changes to natural conditions. It is important that such changes be monitored to provide a factual base, so that management and usage levels can be modified to ensure the maintenance of natural conditions.

A project involving nearly 100 scientists who have worked in wilderness in the United States of America has been undertaken to identify and evaluate possible indicators of wilderness condition. The indicators were evaluated in relation to their responsiveness, feasibility and reliability.

Indicators that seemed to offer the best potential to monitor biological conditions included the loss of ground cover at campsites and track corridors, the number and distribution of campsites per unit area or the total area disturbed by campsites, and the abundance or population trends of particular wildlife species that are sensitive to human presence. Indicators with the best potential to monitor visitors and recreational experience included the number of visitors or groups per unit area per day, the distribution of visitor-use over a week or season, the number of other groups encountered while at a campsite, on tracks or each day, and the quantity and distribution of rubbish.

It would also be useful to establish baseline data and indicators to monitor ecological changes and the impact and success of management activities related to the control of fire and control of introduced plants and animals, as well as in relation to peoples' wilderness experience.

Recommendation

M14 Monitoring Indicators

That

- (a) the Department of Conservation and Environment establish a set of indicators to be incorporated into management plans against which the land use aims of wilderness areas be monitored

and that

- (b) following the establishment of base-line data, monitoring of wilderness areas be undertaken and be carried out in conjunction with other monitoring programs.

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5. OTHER AREAS WITH REMOTE AND NATURAL ATTRIBUTES

Council has recognised the special significance of the largest relatively undisturbed areas of the State in its recommendations for wilderness areas. Council notes, however, that these areas are not the only parts of the State in such condition, nor are they the only areas where people may experience the feeling of remoteness from settlement and undertake the more challenging forms of self-reliant recreation.

Victoria contains other, smaller areas of public land which remain in a relatively undisturbed condition. The number of people using these areas for recreation is increasing and will probably continue to do so. As well, pressures for the expansion of resource utilisation in some areas will also increase. These and other pressures would all be likely to lead to changes to the natural condition of such areas, thereby increasing the value of those that remain undisturbed.

Wilderness-related Attributes

This investigation has collected a large body of information about those areas of the State that have important wilderness-related attributes and the influences which affect them. The Descriptive Report documents much of this information, with additional information being provided in submissions, discussions, consultants' reports, and by analysis of Preece and Lesslie's original wilderness quality survey data. The information indicates that many areas which did not meet the criteria established for wilderness areas do, nonetheless, have important wilderness-related attributes.

These attributes include high remoteness from settlement or road access, absence or low density of vehicular tracks or structures, essentially or mostly natural condition (being areas not, or mostly not subject to past resource utilisation), and opportunities for self-reliant or remote-style recreation in natural environments.

Council wishes to reinforce the notion that many areas of public land across the State, other than the recommended wilderness areas, have important wilderness-related attributes. It believes that the identified remote and natural attributes of the areas listed in Table 8 and shown on Map A should be recognised, maintained, and protected as part of the normal process of public land management and in the preparation of management plans. Detailed descriptions and maps of these areas are included in this chapter. All the areas have been subject to minimal modification and most have at least relatively high wilderness quality values. All are larger than 5000 ha.

Uses

The following recommendations for the areas listed do not exclude any existing permitted uses, including vehicle-based and horse-based recreation, and resource utilisation activities such as timber harvesting or the grazing of livestock. While some of these activities do or could affect minor portions of the areas, none of the areas is known to be subject to major development proposals. Nor do these areas offer significant potential for new utilisation activity or other disturbance, given their land tenure (if within national parks), lack of resources, or rugged terrain. Where disturbance resulting from a permitted land use activity is likely to be extensive, as is the case for several areas also considered by Council, they have not been included in the listing of recommended areas below.

Council, in recommending that existing permitted uses be allowed to continue, recognises that this may result in some disturbance in parts of such areas. It considers, however, that in the overall context of each area, the identified values can be maintained.

Table 8: Other areas with remote and natural attributes

Rec no	Area	Map no	Rec no	Area	Map no
B1	South Sunset	17	B13	Dandongadale	27
B2	Mt Cowra	18	B14	Yarrarabula	27
B3	Annuello	19	B15	North Buffalo	28
B4	Hopping Mouse Hill	20	B16	Wongungarra	29
B5	Chinaman Flat	21	B17	Bundara/Cobungra	30
B6	Little Desert	22	B18	Bogong	31
B7	Victoria Range	23	B19	Mt Burrowa	32
B8	Serra Range	23	B20	Davies Plain	33
B9	Major Mitchell Plateau	23	B21	Upper Snowy	34
B10	Baw Baw Plateau	24	B22	Brodribb	35
B11	The Governors	25	B23	Mt Kaye	36
B12	Macalister	26	B24	Rame Head	37

The manner in which a permitted use is undertaken could be modified to assist in the protection of the identified remote and natural attributes. For instance, the management response to maintaining an identified attribute could be to avoid upgrading vehicular access routes from four-wheel-drive to two-wheel-drive, locating new access routes or facilities outside the area, or ensuring special care is taken to minimise disturbance in carrying out an activity.

‘Winter Wilderness’

Council has viewed wilderness as a condition of land, and thus has not specifically considered areas that may appear relatively undisturbed in winter when many disturbances become visually less obvious due to snow cover. Council recognises that such areas are however, important for certain snow-based self-reliant forms of recreation. Some of the areas listed in Table 8 (Recommendations B10, B15, B16, B17, and B18) are in this category, as are other areas such as the Howitt Plains.

Other Areas with Remote and Natural Attributes

The areas listed below are not wilderness areas. They either did not meet Council’s adopted criteria for wilderness areas or, after consideration of their other uses and values, Council believed that wilderness designation was not appropriate. Only those areas included in Chapter 3 are recommended to be wilderness areas.

Legislative Protection for Other Areas with Remote and Natural Attributes

Those ‘Other Areas with Remote and Natural Attributes’ currently managed under the *National Parks Act 1975* are to be added to a new schedule to that Act along with new provisions to provide an explicit and clear basis for the protection and management of the outstanding remote and natural values of these areas:

(Order in Council 12/5/1992)

OTHER AREAS WITH REMOTE AND NATURAL ATTRIBUTES

Recommendations

B1—B24 That the identified remote and natural attributes of the areas listed in Table 9 and described below

- (a) be recognised by land and water managers, and maintained and protected to ensure that these attributes are not diminished when decisions that may affect them are being made, and in the development of management plans, while still providing for existing permitted uses

and that

- (b) existing land use and tenure, as previously recommended by Council and approved by government, continue.

Those ‘Other Areas with Remote and Natural Attributes’ currently managed under the *National Parks Act 1975* are to be added to a new schedule to that Act along with new provisions to provide an explicit and clear bases for the protection and management of the outstanding remote and natural values of these areas:

- (c) those areas currently managed under the *National Parks Act 1975* be included on a schedule of Areas with Remote and Natural Attributes and that they be managed in accordance with the provisions of that Act.
(Order in Council 12/5/1992, Attachment 3)

Table 9: Schedule of attributes to be protected

Rec no.	Name of Area	Attribute					
		Remote from settlement	Remote from major road access	Absence or low density of vehicular tracks	Absence or low density of structures	Essentially or mostly natural condition 1	Opportunities for self-reliant or remote style recreation 2
B1	South Sunset		*	*	*	*	*
B2	Mt Cowra	*	*	*	*	*	*
B3	Annuello		*	*	*	*	*
B4	Hopping Mouse Hill	*	*	*	*	*	*
B5	Chinaman Flat	*				*	
B6	Little Desert		*	*	*	*	*
B7	Victoria Range			*	*	*	*
B8	Serra Range			*	*	*	*
B9	Major Mitchell Plateau			*	*	*	*
B10	Baw Baw Plateau			*	*	*	*
B11	The Governors			*	*	*	*
B12	Macalister	*	*	*	*		*
B13	Dandongadale			*	*	*	*
B14	Yarrarabula			*	*	*	*
B15	North Buffalo			*	*	*	*
B16	Wongungarra	*		*	*	*	*
B17	Bundara/Cobungra			*	*		*
B18	Bogong	*		*	*		*
B19	Mt Burrowa			*	*	*	*
B20	Davies Plain	*	*	*	*	*	*
B21	Upper Snowy			*	*	*	*
B22	Brodribb			*	*	*	
B23	Mt Kaye			*	*	*	*
B24	Rame Head	*		*	*	*	*

Notes:

1. ‘Essentially natural’ means very minor, if any, recent resource utilisation recorded; ‘mostly natural’ means portion subject to recent resource utilisation.
2. ‘Self-reliant recreation’ is not dependant on vehicle tracks, structures or introduced animals; ‘remote-style recreation’ includes vehicle- and horse-based recreation

B1 South Sunset

This area encompasses 24 000 ha of mallee dunefields in the Sunset Country south of the Sunset Track. It lies entirely within the Murray—Sunset National Park and abuts the southern boundary of the recommended Sunset Wilderness Area.

B1 That the following attributes be protected:

- (i) remoteness from major road access
- (ii) virtual absence of vehicular tracks and structures
- (iii) essentially natural condition

Notes:

1. Council's previous recommendations for the Murray—Sunset National Park are consistent with the above recommendations. One of this park's specific land-use objectives, as approved by the government following publication of the Council's Final Recommendations for the Mallee Area in 1989, is to protect areas of high wilderness quality.
2. This was part of one of the candidate areas (Sunset West) that Council investigated in detail as a possible wilderness area. It was not included in a wilderness area for the reasons outlined under the boundary alternatives section of A1 Sunset Wilderness Area - see Chapter 3.

(See also Mallee Review A6, C16(part))

B2 Mt Cowra

~~This area encompasses 26 600 ha of mallee dunefields in the Sunset Country to the north of Honeymoon Hut Track. It is centred around Mt Cowra and is entirely within the Murray—Sunset National Park.~~

~~**B2** That the following attributes be protected:~~

- ~~(i) remoteness from settlement and major road access~~
- ~~(ii) virtual absence of vehicular tracks and structures~~
- ~~(iii) essentially natural condition~~
- ~~(iv) opportunities for self-reliant recreation~~

Notes:

- ~~1. Council's previous recommendations for the Murray—Sunset National Park are consistent with the above recommendations. One of this park's specific land-use objectives, as approved by the government following publication of the Council's Final Recommendations for the Mallee Area Review in August 1989, is to protect areas of high wilderness quality.~~
- ~~2. This area corresponds to one of the candidate areas (Sunset East) that Council investigated in detail as a possible wilderness area. While encompassing 27 600 ha of undisturbed land, it was not recommended as a wilderness area as Council believes that opportunities for a wider range of visitors to enjoy this area, at Mt MacArthur and other points, should be maintained.~~
- ~~3. Council notes with concern that a new track was developed in the near vicinity of this area while the fire management plans, park management plans and the wilderness special investigation process were in progress.~~

(Not implemented, Order in Council 12/5/1992, now an additional Wilderness Area A21)

B3 Annuello

This little-disturbed area of about 17 500 ha is that part of the Annuello Flora and Fauna Reserve between Angle Track and the Kerang—Red Cliffs transmission line. It lies to the north-west of Ouyen and consists of low calcareous dunes typical of the Mallee.

B3 That the following attributes be protected:

- (i) remoteness from major road access
- (ii) low density of vehicular tracks
- (iii) absence of structures
- (iv) essentially natural condition

Notes:

1. The recommendations above are consistent with the protection of the flora and fauna values of the reserve previously identified by Council in its Final Recommendations for the Mallee Area Review, in August 1989. Council is aware that the manipulation of the plant and animal communities may be required to enhance those values in the future.
2. This area corresponds to one of the candidate areas (Annuello) that Council investigated in detail as a possible wilderness area. It was not recommended as a wilderness area because of its relatively small size, its close proximity to surrounding freehold land, and the presence of several vehicular tracks.

In the longer term there is potential to rationalise the track network, while providing for adequate access for fire protection and suppression.

(See also Mallee Review G48)

B4 Hopping Mouse Hill

This essentially undisturbed area of 32 100 ha is that part of the Wyperfeld National Park lying between the recommended North Wyperfeld Wilderness Area and the corridor of the Wimmera River Heritage River and is bordered by vehicular tracks to the north, west, and south: Nine Mile Square Track and Archbold Track. It consists almost entirely of undisturbed dunefields which support heathland and mallee vegetation.

B4 That the following attributes be protected:

- (i) remoteness from settlement and roads
- (ii) low density of vehicular tracks and structures
- (iii) essentially natural condition
- (iv) opportunities for self-reliant recreation

and that the vehicular tracks bordering this area, being Nine Mile Square Track and Archbold Track, not be upgraded and that the Nine Mile Square Track south of its junction with Underbool Track, and Archbold Track continue to be maintained for management vehicle access only.

Note:

This was part of one of the candidate areas (Big Desert East) that Council investigated in detail as a possible wilderness area. It was not included in or recommended as a wilderness area for the reasons outlined under the boundary alternatives section of A5 North Wyperfeld Wilderness Area - see Chapter 3.

(See also Mallee Review A1, A3)

B5 Chinaman Flat

This area encompasses 32 900 ha of mallee dunefields in the Big Desert, east of the Murrayville Track, and to the south and west of Chinaman Well Track. It forms part of the area of State forest in the Big Desert which lies beyond the southern boundary of the recommended South Wyperfeld Wilderness Area (A6).

~~B5~~ That the following attributes be ~~protected~~:

- ~~(i) remoteness from settlement and major road access~~
- ~~(ii) virtual absence of vehicular tracks~~
- ~~(iii) absence of structures~~
- ~~(iv) essentially natural condition~~

Notes:

1. Council's previous recommendations for State forest in its Final Recommendations for the Mallee Area Review in August 1989, as approved by government, stated that areas of relatively high wilderness quality outside the Big Desert Wilderness and national parks should be protected.
2. This was part of one of the candidate areas (Big Desert East) that
3. Council investigated in detail as a possible wilderness area. It was not included in or recommended as a wilderness area for the reasons outlined under the boundary alternative section of A6 - South Wyperfeld Wilderness Area - see Chapter 3.

(Not implemented, Order in Council 12/5/1992, now an additional Wilderness Area A22)

B6 Little Desert

This area encompasses 16 400 ha in the western block of the Little Desert National Park adjoining the South Australian border. It is bounded by vehicle tracks to the west, south and east: Mt Moffat Track, East—West Track, and Jacobs Tracks respectively. It consists of aeolian dunes and sandsheets covered with a mosaic of semi-arid shrub and woodland communities.

B6 That the following attributes be protected:

- (i) remoteness from major road access
- (ii) low density of structures
- (iii) low density of vehicular tracks
- (iv) essentially natural condition
- (v) opportunities for self-reliant recreation

Notes:

1. This area largely corresponds to one of the candidate areas (Little Desert) that Council investigated in detail as a possible wilderness area. It was not recommended by Council to be a wilderness area because of its small size, its close proximity to surrounding freehold land, and the density of tracks relative to its size.
2. The proposed management plan for the Little Desert National Park includes this area within 'Zone 1'. This zoning provides the highest level of protection (other than for Reference Areas) to sections of the Park. The recommended area coincides with the largest of the four 'Zone 1' areas proposed.

(See also Wimmera A1, B1)

B7 Victoria Range**B8 Serra Range****B9 Major Mitchell Plateau**

The significant remote and natural values of the Grampians have been reduced by the area's long history of utilisation, its road and vehicular track networks, and its proximity to surrounding settled land. The Grampians is, however, the only large consolidated natural area remaining in south-west Victoria, and the only part recording moderate wilderness quality.

The environs of the Victoria Range, the Serra Range (to the north of Green Gap) and its western fall, and the Major Mitchell Plateau, are the three largest (respectively 14 000 ha, 11 200 ha and 6800 ha) areas of little disturbance in the Grampians. They each provide for remote and challenging forms of self-reliant recreation.

B7,B8,B9 That the following attributes be protected:

- (i) low density of vehicular tracks and structures
- (ii) mostly natural condition
- (iii) opportunities for self-reliant recreation

Notes:

1. The approved plan of management for the Grampians National Park includes much of these three areas in 'Zone 1'. This zoning provides the highest level of protection to those large regions of the Park that have remained relatively unchanged.
2. There is potential to rationalise track networks and rehabilitate disturbed areas.

(See also South West 2 A1, C6)

B10 Baw Baw Plateau

This area of about 6500 ha encompasses most of the Baw Baw Plateau, extending from Mt Whitelaw southward to the Mt Erica car park and access road. It does not include the adjoining Mt Baw Baw Alpine Resort or the Mt St Gwinear car park and associated snow recreation area. The boundary follows the margin of the plateau, which is coincident with the Baw Baw National Park boundary. While of moderate wilderness quality, it is one of the few large untracked sub-alpine areas of the State.

B10 That the following attributes be protected:

- (i) absence of vehicular tracks
- (ii) virtual absence of structures
- (iii) essentially natural condition
- (iv) opportunities for self-reliant recreation, including snow-based activities

(See also Melbourne2 Review A7, B10, B11, E1, I4)

B11 The Governors

This 8100 ha area at the western edge of the Alpine National Park is bounded to the east and south by the north branch of the Jamieson River, to the west by Mitchell Creek and the boundary of the Howqua Hills Historic Area, with the northern edge following a ridge to the south of Brocks Road. The area straddles the divide of the Jamieson and Howqua Rivers to the south of Mt Buller.

B11 That the following attributes be protected:

- (i) absence of vehicular tracks and structures
- (ii) mostly natural condition
- (iii) opportunities for self-reliant recreation

(See also Alpine SI A7, G1)

B12 Macalister

This 33 300 ha area encompasses much of the headwaters of the Macalister River, to the south of the Great Dividing Range within the Alpine National Park. It extends from the confluence of the Macalister and Caledonia Rivers northwards to Mt Clear. It is bordered to the east by the escarpment of the Snowy Range, and in the west by the Macalister River and Grimme Creek.

B12 That the following attributes be protected:

- (i) remoteness from settlement and major roads
- (ii) low density of vehicular tracks
- (iii) absence of structures
- (iv) opportunities for self-reliant and remote-style recreation

Note:

This area is coincident with one of the candidate areas (Macalister Headwaters) that Council investigated in detail as a possible wilderness area. It was considered by Council that, given the disturbance by timber harvesting in its headwaters, the extent of current grazing (involving two licensees), and the present use of routes through the area for recreational horse-riding and four-wheel-driving, it was not appropriate to recommend the area to be a wilderness area.

(See also Alpine SI A1, A8, C1)

B13 Dandongadale

This area of 12 900 ha of State forest abuts the northern edge of the recommended Razor/Viking Wilderness Area. It encompasses the catchments of a number of tributaries of the Buffalo and Dandongadale Rivers, including the whole of the Long Jack Creek and Little Dandongadale River catchments, and the middle reaches of the Catherine River.

B13 That the following attributes be protected:

- (i) low density of vehicular tracks
- (ii) absence of structures
- (iii) mostly natural condition
- (iv) opportunities for self-reliant and remote style recreation

Notes:

1. This was part of one of the candidate areas (Catherine) that Council investigated in detail as a possible wilderness area. It was not included in a wilderness area for the reasons outlined under the boundary alternatives section of A9 Razor/Viking Wilderness Area - see Chapter 3.
2. The area is prospective for minerals such as gold; a small area is subject to licensed grazing; and the forests of the area include logging regrowth resources which contribute less than 0.3% to the regional sustainable yield of the Wangaratta Forest Management Area. The use of these

timber resources is not precluded by these recommendations.

3. There is potential to reduce the impact of a logging road which traverses the south-western margin of this area.

(See also Alpine SI A13, I1)

B14 Yarrarabula Creek

This area of 13 000 ha lies north of the Great Dividing Range between the Barry Mountains and the Mount Buffalo National Park. It encompasses the entire upper catchment of Yarrarabula Creek, and a number of tributaries of the Buffalo and Buckland Rivers between Abbeyard Road in the west and Buckland River Road to the east.

B14 That the following attributes be protected:

- (i) low density of vehicular tracks
- (ii) absence of structures
- (iii) mostly natural condition
- (iv) opportunities for self-reliant and remote style recreation

Note:

1. This area is based on one of the candidate areas (the 19 000 ha Yarrarabula area) that Council investigated in detail as a possible wilderness area. It was considered by Council that, because it was on the lower limit of the size and shape criteria adopted by Council, and because of its existing and inconsistent uses, it was not appropriate to recommend it as a wilderness area.

2. The area is prospective for gold and includes, on its southern margin, one coupe of mature sawlog resources which will continue to be available.

(See also North East 3,4 &5 S1)

B15 North Buffalo

The North Buffalo Plateau together with the dissected foothills on its north western margin form a relatively large undisturbed area of 6500 ha. The area is centred on Mt McLeod and is bounded by Buffalo Creek to the north and east, Sandy Creek to the south-east and, to the north-west, by the edge of the foothills beyond the plateau escarpment bordering the Buffalo River valley. It is entirely within the Mt Buffalo National Park.

B15 That the following attributes be protected:

- (i) low density of vehicular tracks
- (ii) absence of structures
- (iii) essentially natural condition
- (iv) opportunities for self-reliant recreation

Note:

Council is aware of a proposal to establish a remote campsite in this area. This could be permitted if required to reduce the impact of camping on natural values.

(See also NE 3,4&5 A1, B4)

B16 Wongungarra

This relatively undisturbed area of 12 200 ha is centred on the Blue Rag Range and encompasses a large part of the rugged and essentially undisturbed catchment of the Wongungarra River. The north-western boundary follows the Wongungarra River, with the other boundaries defined by ridges and spurs following, in the south-west, the Sarah Spur Track, in the south the Wongungarra Track, and in the east Ritchie Road, Basalt Knob Track, and a section of the Dargo High Plains Road.

B16 That the following attributes be protected:

- (i) remoteness from settlement
- (ii) low density of vehicular tracks and structures
- (iii) essentially natural condition
- (iv) opportunities for self-reliant recreation

Notes:

1. This area largely corresponds to one of the candidate areas (the 17 500 ha Wongungarra area) that Council investigated in detail as a possible wilderness area. It was not recommended as a wilderness area as it was on the lower limit of the size and shape criteria used by Council, has a range of other uses inconsistent with wilderness, and because it contains a significant timber resource.
2. The sawlog resources of the original candidate area represent approximately 0.1% of the sustainable yield of the Central Gippsland Forest Management Area (FMA) and, more particularly, approximately 4.4% of the sustainable yield of the Wangaratta FMA. That part of the available sawlog resource in the Wangaratta FMA consists of up to 60 000 cu.m of mature alpine ash and is a critical resource for the timber industry in the north-east. This is because the industry in this area is restructuring to ensure that the requirement that the cut is within the sustainable yield is met in the longer term. The presently available mature timber resources of the region are vital to ensure continued operation until regrowth timber becomes available. This would enable at least one mill involved in value adding to continue in the longer term as well as ensure that supply commitments are met over the next three years. The boundary of B16 excludes the majority of these timber resources.
3. The upper reaches of the Wongungarra River also contain habitat for one of only three known sites of the rare spotted tree frog. (The other two sites are in the Big and Taponga Rivers flowing into Lake Eildon). The boundary of B16 includes the site located on the Wongungarra River. This amphibian has only been recorded in fast-flowing streams in forested mountain catchments. The species appears to be on the decline, although the reason for this is presently unknown.
4. Timber harvesting plans are being reviewed because of concerns that activities in the Wongungarra catchment (external to the boundaries of B16) could adversely affect the habitat of the spotted tree frog. One of a number of options being considered is to harvest a smaller area of the Wongungarra catchment in order to avoid steeper slopes and areas adjacent to the sites known to contain spotted tree frog populations. This option would provide a volume of approximately 35 000 cu.m, which together with timber resources from East Kiewa catchment and the adjoining Wodonga Forest Management Area (Tallangatta District), would be sufficient to meet timber supply requirements until the regrowth ash resource becomes available. Another option is not to utilise these resources. Further information is being gathered by the Department of Conservation and Environment on the risk of impacts that logging may have on the spotted tree frog, to assist the government in its review of the timber harvesting plans in this area.
5. In the event that the government decides that logging is not to proceed in the northern part of the Wongungarra River catchment, Council considers that the area encompassed by the

original candidate area, excluding the main areas grazed on its northern, eastern and southern boundaries, should be a wilderness area; that deer hunting by stalking should be permitted; and that grazing by livestock should not be permitted (a wing fence would be required to prevent stock moving along Blue Rag Range). Council believes that possible change in status is a special case because of the uncertainty surrounding the future utilisation of timber resources in this area. However, it firmly believes that it is inappropriate to alter the recommended status of any other area listed in this chapter in this way.

6. If this area were to become a wilderness, the resource implications would include a minor impact on timber supplies (0.1% of the sustainable yield in the Central Gippsland FMA), a minor impact on one grazier (the main area grazed by the four affected licences would be mostly excluded), and the loss of: an area presently available for hunting deer with hounds; a popular four-wheel drive track providing access to the spectacular views available from the Blue Rag Range; access for mineral exploration; and four wheel drive access to a fishing locality and associated campsite on the Wongungarra River at the end of the Blue Rag Range Track.

Although not the direct result of a recommendation by Council, if the timber resources in that part of the area in the Wangaratta FMA became unavailable, this would have a significant impact on the timber industry in the north-east, and would probably mean that there would not be sufficient resource to maintain a value-adding saw mill until regrowth becomes available after the year 2000.

(Not implemented, Order in Council 12/5/1992, now an additional Wilderness Area A23)

B17 Bundara/Cobungra

Encompassing part of the Bogong High Plains and its southern fall within the Alpine National Park, this 13 700 ha area is bounded by the Bogong High Plains Road, the Mt Cope Divide and minor fire trails to the north. The Cobungra River and its head-waters form its western and southern edge, and the park boundary forms its eastern edge. It includes the largest area of untracked alpine vegetation and high plains in the State.

B17 That the following attributes be protected:

- (i) low density of vehicular tracks and structures
- (ii) opportunities for self-reliant recreation, including snow based activities

Note:

The Department of Conservation and Environment's proposed management plan for the Alpine National Park includes a large part of this area within a remote-walking area. Management aims are to retain the remote character of such areas.

(See also Alpine SI A2)

B18 Bogong

While much of the Bogong High Plains has been extensively modified by works associated with the Kiewa Power Scheme and has been subject to regular intensive grazing, the area centred on the Mt Bogong massif itself is relatively remote and natural.

The area encompasses 16 300 ha surrounding Mt Bogong, Victoria's highest mountain. It extends southward, encompassing the eastern fall of Timms Spur and Mt Nelse, to walking track No. 107 which links the Big River to Kelly Hut. The area is entirely within the Alpine National Park, the boundary of which forms the eastern edge of the area. The western boundary follows the Little Bogong and Big River Fire Tracks; the northern boundary is to the south of Mountain Creek.

B18 That the following attributes be protected:

- (i) remoteness from settlement
- (ii) virtual absence of vehicular tracks
- (iii) low density of structures
- (iv) opportunities for self-reliant recreation, including snow-based activities

Note:

The Department of Conservation and Environment's proposed management plan for the Alpine National Park includes most of this area within a remote-walking area. Management aims are to retain the remote character of such areas.

(See also Alpine SI A2, C10)

B19 Mt Burrowa

This area of 10 500 ha in the far north-east of the State is dominated by Mt Burrowa, which rises to 1300 m. It encompasses that part of the Burrowa—Pine Mountain National Park lying between the Cudgewa North—Walwa Road in the north and Black Mountain in the south, with its eastern and western edges following the edge of the massif.

B19 That the following attributes be protected:

- (i) absence of vehicular tracks and structures
- (ii) essentially natural condition
- (iii) opportunities for self-reliant recreation

(See also NE1,2&4R A1, B8)

B20 Davies Plain

This area of some 10 500 ha is centred on Davies Plain in the north-east of the Alpine National Park. It encompasses a relatively undisturbed area bounded by Buckwong Creek to the west and Davies Plain Track to the east with the south-eastern boundary defined by Kings Plain Track (also known as Videls Track), the Murray River, and McCarthys Track.

B20 That the following attributes be protected:

- (i) remoteness from settlement and major roads
- (ii) low density of tracks and structures
- (iii) mostly natural condition
- (iv) opportunities for self-reliant recreation

Note:

This area is part of one of the candidate areas (Upper Murray—Pilot) that Council investigated in detail as a possible wilderness area. It was not included in a wilderness area for the reasons outlined under the boundary alternatives section of A11 Indi addition to Pilot Wilderness Area - see Chapter A.

(See also Alpine SI A3, A25)

B21 Upper Snowy

This area of 11 800 ha encompasses the little disturbed rugged environs of the Snowy River corridor with its dry open cypress pine and dry sclerophyll forest communities, incised valleys, and occasional sandy beaches, between the State border (Snowy Track) and Mackillops Bridge.

B21 That the following attributes be protected:

- (i) virtual absence of vehicular tracks
- (ii) absence of structures
- (iii) mostly natural condition
- (iv) opportunities for self-reliant recreation

Note:

This area is part of one of the candidate areas (Tingaringy) that Council investigated in detail as a possible wilderness area. It was not included in a wilderness area for the reasons outlined under the boundary alternatives section of A14 Tingaringy addition to the Byadbo Wilderness Area - see Chapter 3.

(See also Alpine SI A3, East Gippsland R A1, A2, B1)

B22 Brodribb

This little-disturbed area of 7700 ha lies on the edge of the Errinundra Plateau and is entirely within the Errinundra National Park.

It encompasses the headwaters of the Brodribb River, falling from the steep escarpments of the plateau margin. The catchment divide, which forms the boundary of the area, is bounded by Postmans Track in the west, Errinundra Road in the north and east, and Greens Road and Ellery Creek Track in the south.

B22 That the following attributes be protected:

- (i) absence of vehicular tracks and structures
- (ii) essentially natural condition

Note:

This area is part of one of the candidate areas (Brodribb River) that Council investigated in detail as a possible wilderness area. Council did not recommend that this be a wilderness area principally because of its small size (13 300 ha). Those parts of the candidate area outside all the existing national park contain sawlog resources that contribute 1.1% of the sustainable yield of the East Gippsland Forest Management Area. While parts of this State forest area will not be harvested due to limited resource and the existence of sites of significance, most would be subject to timber harvesting and thus Council did not consider it appropriate to extend beyond the park boundary, as it would not be possible to protect the area's attribute of lack of disturbance in the parts presently available for timber harvesting.

(See also East Gippsland R A8, A8a)

B23 Mt Kaye

This 8100 ha area is centred on Mt Kaye. It extends from the WB Line in the north (which abuts the southern boundary of the recommended Genoa Wilderness Area), to Wombat Hill in the

south. It is bounded to the east by the divide of the west and east branches of the Thurra River (partly followed by the Mt Kaye Track), and to the west by minor divides set back from the Cann Valley Highway.

B23 That the following attributes be protected:

- (i) remoteness from settlement
- (ii) low density of vehicular tracks
- (iii) absence of structures
- (iv) essentially natural condition
- (v) opportunities for self-reliant recreation

Notes:

1. This area is within the recently expanded Coopracambra—Kaye National Park.
2. This area is part of one of the candidate areas (Upper Genoa—Thurra) that Council investigated in detail as a possible wilderness area. It was not included in a wilderness area for the reasons outlined under the boundary alternatives section of A17 Genoa Wilderness Area - see Chapter 3

(See also East Gippsland R A13, E1)

B24 Rame Head

This relatively unmodified area of 9800 ha is within the Croajingolong National Park. It lies on the East Gippsland coast between the Mueller River and Wingan Inlet. The inland boundary follows the edge of past logging areas to the west of the West Wingan Road.

B24 That the following attributes be protected:

- (i) remoteness from settlement
- (ii) low density of vehicular tracks
- (iii) absence of structures
- (iv) essentially natural condition
- (v) opportunities for self-reliant recreation

Notes:

There is potential to rationalise the track network consistent with fire protection requirements.

(See also East Gippsland R -A6, B12)

Additional Recommendation

Suggan Buggan River

This area encompasses 17 800 ha north of the Benambra—Black Mountain Road, including the Playgrounds, Rams Horn, McFarlane Flat and parts of the Suggan Buggan River valley and Suggan Buggan Range.

That the recommendations applying to B1—B24 apply

(see Map 4 Order in Council 12/5/1992)

That the following attributes be protected:

- (i) low density of vehicular tracks

- (ii) low density of structures
 - (iii) mostly natural condition
 - (iv) opportunities for remote style and self-reliant recreations
- (Order in Council 12/5/1992)
- (See also Alpine SI A3)

Offshore Islands

All of Victoria's offshore islands were briefly reviewed in the Descriptive Report. While a number appeared heavily disturbed or were near settlements, several were considered to have high remoteness and naturalness values. Those islands of apparent highest value were further evaluated.

Additional descriptive material was sought from primary sources and available literature on the general biophysical condition of the islands and the presence of any extant structures. Distances from the nearest settlement, shipping lanes, constructed boat ramps and navigation lights were recorded. Total wilderness quality values were measured for each island using similar criteria to those used by Preece and Lesslie in 1987 for terrestrial environments.

An unpublished report containing a detailed description of the evaluated islands and an outline of the approach used in calculating their wilderness quality was prepared for consideration by Council. Copies are available on request. This report also assessed the islands of the Nooramunga Marine and Coastal Park, many of which (notably Box Bank) are relatively undisturbed.

Detailed analyses shows that numerous Victorian offshore islands have very high remoteness and naturalness values, with a number scoring in the highest class of the individual wilderness attributes. Indeed, several of the islands, in addition to being essentially unmodified, had virtually no detracting activities occurring within a 9 km radius (the area within this radius being approximately 25 000 ha).

Table 10: Offshore islands with remote and natural attributes

B25: Wilsons Promontory Islands	B26: Seal Islands
Shellback Island	Rag Island
Norman Island	Notch Island
Glennie Group	Seal Island
Great Glennie	White Rock
Dannevig	
McHugh	
Anser Group	
Anser	
Kanowna	
Cleft	
Wattle Island	
Rabbit Island	
Rabbit Rock	

The ongoing remoteness and naturalness of the islands partly relies on the presence of a large surrounding marine zone being free of (or freed from) of detracting activities. While detailed information is available for many of these activities, information on the relationship between commercial fishing and other boating use and the conservation value of marine areas is not readily available nor been evaluated. In addition, the dependence of island fauna on surrounding waters is not known. Council is, therefore, not recommending that any island, or any island together with a surrounding marine zone, be specifically protected as a wilderness area.

However, as noted above, a number of the islands have high wilderness quality and are very little disturbed. These islands are listed in Table 10 (See page 159). Council considers that the wilderness-related attributes of these islands are of special value and that they should be recognised and protected by appropriate management. Further consideration could be given to the additional protection of these islands and their surrounding waters as wilderness areas if and when further information is available.

Recommendations

B25—B26 Offshore Islands

That the remote and natural attributes of the islands listed in Table 10 and described below

- (a) be recognised by the land and marine water managers, and be maintained and protected to ensure that these attributes are not diminished when decisions that may affect them are being made, and in the development of management plans, while still providing for existing permitted uses

that

- (b) existing land use and tenure, as previously recommended by Council and approved by government, continue

and that

- (c) the Victorian Government seek the cooperation of the Commonwealth Government to ensure that the management of Citadel and Clifty Islands is sympathetic to the values of the adjacent islands

- (d) those areas currently managed under the *National Parks Act 1975* be included on a schedule of Areas with Remote and Natural Attributes and that they be managed in accordance with the provisions of that Act.

(Order in Council 12/5/92, Attachment 3)

Notes:

1. Citadel Island (part of the Glennie Group off Wilsons Promontory) and Clifty Island (part of the Seal Island group) are Commonwealth freehold. Automatic navigation lights are maintained on each island. Some associated structures (now mainly derelict) dating back to the 1880s are of historical interest.
2. It is important that the nature conservation values of these islands, and in particular the breeding sites of seabirds, including those of the little penguin and short-tailed shearwater, and the colonies of Australian fur seal be protected.

B25 Wilsons Promontory Islands

The eleven identified islands are between 2 and 7 km from Wilsons Promontory and range in size from 1.3 ha to 138 ha. All are part of the Wilsons Promontory National Park and all are surrounded by at least 300 m of the Wilsons Promontory marine waters (being either the Wilsons Promontory Marine Park or Marine Reserve). Anser Island is also a reference area (which has not yet been proclaimed).

B25 That the following attributes be protected:

- (i) remoteness from settlement
- (ii) virtual absence of structures or other forms of modification
- (iii) essentially natural condition

Note:

A management plan for the Wilsons Promontory National Park defining specific controls on management and use of the park's islands was approved in June 1987. Management emphasis is on the protection of the natural environment due to these islands' fragility and ecological significance. The islands are mostly inaccessible and public access is generally not permitted.

B26 Seal Islands

The four identified islands are about 15 km off the east coast of Wilsons Promontory. They cover a total area of approximately 35 ha and are all within a wildlife reserve.

B26 That the following attributes be protected:

- (i) remoteness from settlement
- (ii) virtual absence of structures or other forms of modification
- (iii) essentially natural condition

Caves

Council's Descriptive Report made reference to caves as being a specialised environment that has the potential to meet the requirements of being remote from, and substantially undisturbed by, the influence of European settlement.

The greater majority of the State's 950 documented caves has not been subject to intensive use or the provision of facilities.

A report to the-then Cave Classification Committee of the Department of Conservation and Environment, by Davey and White in 1986, provides further information on these caves.

Council considers that many caves have the wilderness-related attributes of lack of disturbance and opportunities for self-reliant recreation, and that these should be recognised and protected by the land manager.

Recommendation

B27 Caves

That the naturalness and self-reliant recreation attributes of caves on public land be recognised by cave managers and protected when decisions that may affect them are being made and in the development of management plans.

Note:

The Department of Conservation and Environment has published a draft Strategy for the Management of Caves and Karst in Victoria, and a final strategy document is being prepared.

Trackless Areas

One of the major factors reducing wilderness quality of public land in Victoria is the relatively dense network of vehicular tracks. Trackless areas of any appreciable size are relatively scarce across the State and potentially vulnerable to encroachment by further track development.

Most large trackless areas are included in recommended wilderness areas or in the list of Other Areas with Remote and Natural Attributes. There are, however, other track-less areas that may be relatively undisturbed, have high value for nature conservation, provide opportunities for particular forms of recreation and be important regionally.

Recommendation

B28 Trackless Areas

That managers, wherever possible, protect other trackless areas of appreciable size