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CONSERVATION RESERVES

FOR WESTERN AUSTRALIA

**AS RECOMMENDED
BY THE**

**ENVIRONMENTAL
PROTECTION
AUTHORITY
1976**

SYSTEMS 1, 2, 3, 5



ENVIRONMENTAL PROTECTION AUTHORITY

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HON. MINISTER FOR CONSERVATION
AND THE ENVIRONMENT

Your Ref.

Our Ref.

9 July, 1976

INTRODUCTION

We transmit herewith our recommendations on national parks and nature reserves in Western Australia in Systems 1, 2, 3 and 5, and a further recommendation for System 11 (Fig. 0.0). So that this may be read as an entity, a short historical introduction is given. Further information is available elsewhere.¹

Shortly after it was established by statute in December 1971, the Environmental Protection Authority of Western Australia established a senior-level Conservation Through Reserves Committee (CTRC) with terms of reference --

"to review and update the 1962 recommendations of a subcommittee of the Australian Academy of Science (W.A.) with respect to National Parks and Nature Reserves of the State."

The CTRC divided the State for its deliberations¹ into twelve systems (Fig. 0.0). During 1972-74 CTRC and its Technical Committee received and assessed public submissions and comments, and reviewed most of the systems in depth. System 6 was acknowledged to be the most complex of all, and the EPA approved of deferral of its consideration. System 7, being the Kimberley, was given special attention due to its remoteness, and it is still being studied.

The report and recommendations of CTRC (the "green book") for all but Systems 6 and 7 were made public during the whole of 1975. Initially this received slow public response. But after a succession of country tours, and public meetings, the submissions and deputations that followed indicated its widespread dissemination and appraisal. A precis is given in Appendix II with a list of submissions in Appendix III.

It is appropriate here to pay tribute to the men who worked so diligently and so well on both the senior CTRC and on its Technical Sub-committee (see Appendix I). Their work has been pioneering in many ways, and subject to so much comment, criticism, appraisal and review, that sometimes the 'noise has obscured the light'. The EPA has a broader responsibility on land-use planning than the CTRC was given, the latter being charged with the task of identifying areas for reservation. But without the efforts of CTRC, planning for conservation in a land-use context would not have advanced nearly as far as it has.

The EPA, on reviewing both the CTRC report and recommendations and public comments thereon, was able to make recommendations on Systems 4, 8, 9, 10, 11 and 12 to you in December 1975. After due deliberation and a meeting between a Cabinet Subcommittee and the EPA, Cabinet endorsed on 9 February 1976 all 143 of the EPA recommendations on these six systems.

It is important to note that a number of those EPA recommendations did not tally with those of the CTRC, for reasons given elsewhere². Seldom were those reasons technical, rather they were of a management or policy nature, e.g. as regards land acquisition, or the role of a National Parks Board versus the Western Australian Wildlife Authority where reserves of scenic value were involved.

With regard to the remaining four systems, the EPA needed more time for technical appraisal of competitive land uses and consultation with local authorities in Systems 3 and 5, and for a whole new appraisal for Systems 1 and 2. In fact, so severe were many comments on the Systems 1 and 2 recommendations by the CTRC that the EPA appointed a Special Review Committee (Appendix I) to assess both the CTRC recommendations and the public comments thereon.

We are aware that there has been some public criticism of the appointment and membership of the Special Review Committee. It has been suggested that the Committee was biased in favour of commercial forestry, and that an unduly large proportion of its membership were officers of the Western Australian Forests Department. Since, as outlined herein, the area contains large areas of forest, managed by professional officers of that Department, we would have been remiss had we not ensured that their views were available to us before finalising recommendations presented here. Further, Department of Agriculture officers who were also members of the Committee were able to ensure that interests of owners of agricultural land, especially where they include wetlands, or where affected by public use, were considered.

In short, we wished to have presented to us by responsible Government officers, advocacies of conservation reserves in the light of major alternative potential land uses. This was deliberate on our part, and we see no cause to regret it.


The EPA released the report³ of the Special Review Committee in its turn for a period of over three months. Over 200 submissions have been received (Appendix IV) from private individuals, conservation groups, local authorities, mining interests and members of parliament*.

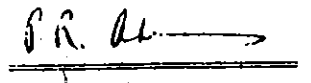
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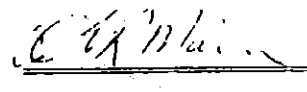
* Some submissions, of course, have come via the Minister for Conservation and the Environment, rather than direct to the EPA or the Department of Conservation and Environment. These are all included in Appendix 4.

The present report and recommendations therefore represent the considered opinion of the EPA derived not just from a purely conservation viewpoint but with an awareness of many points of view across the entire spectrum of the community. As we stated elsewhere², and as Cabinet, by its endorsement, accepted, and we here repeat --

"We consider that they are responsible recommendations and their prompt acceptance by the government is hereby recommended."


BRIAN J. O'BRIEN
CHAIRMAN


P.R. ADAMS, Q.C.


A.R. MAIN

ON 20TH OCTOBER 1976 THE STATE CABINET
ENDORSED ALL THE RECOMMENDATIONS HEREIN.

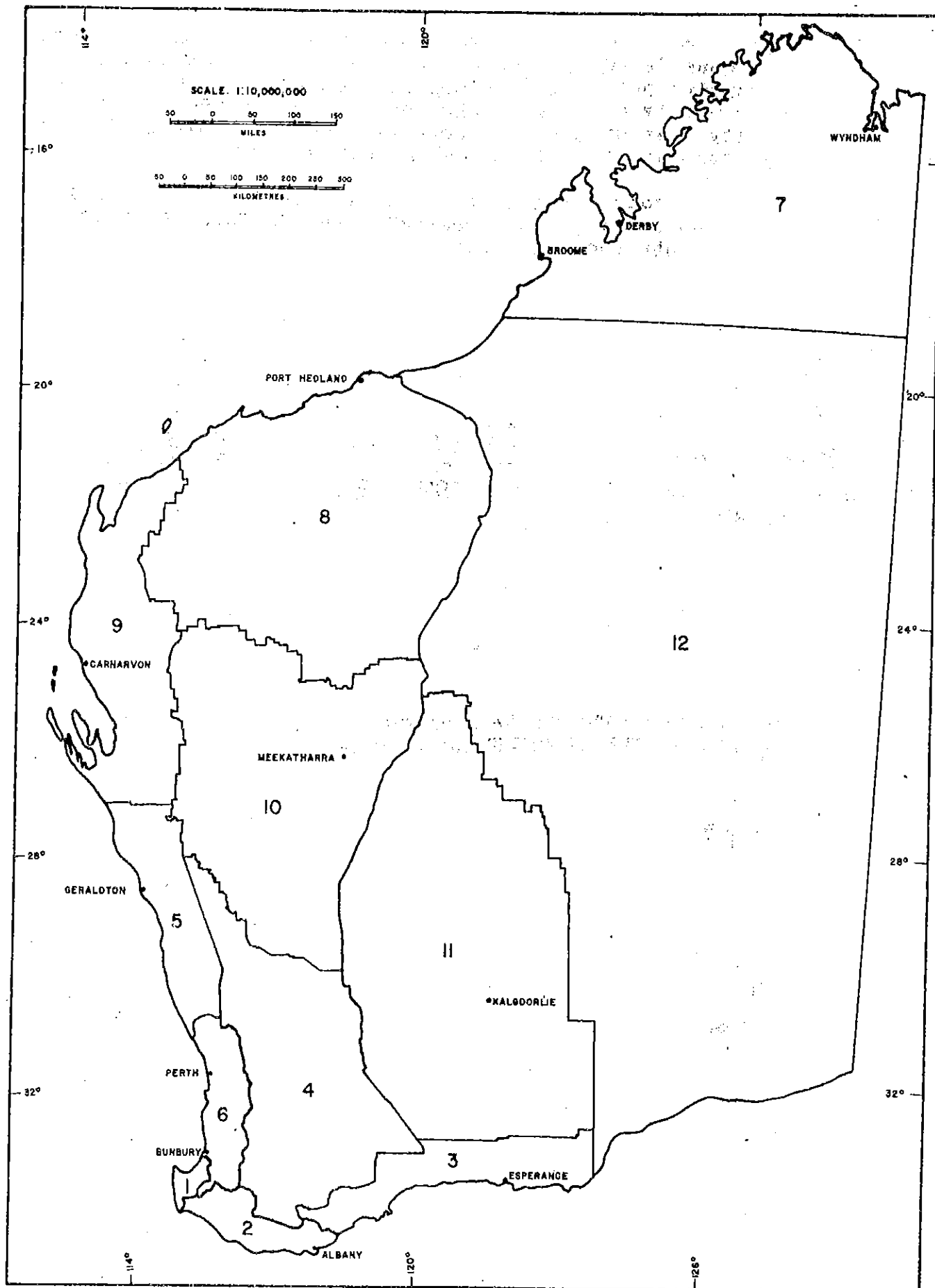


Figure O.O Systems

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PREAMBLE

General

As outlined below the conclusions and recommendations herein are the result of up to four years' work and review by professional and private groups and individuals, by companies and conservation groups, and by State Government departments and local authorities.

The general philosophy of the EPA towards national parks and nature reserves has not changed in the eight months' period since our previous recommendations. Indeed, the attitudes expressed then have been either maintained or strengthened.

Our attitude against any semblance of a 'land grab' has been consistent; and our attitude towards criteria and management has been reinforced.

In a similar vein the EPA believes that it must reasonably accept the present legal rights of individuals over areas of vacant Crown land, the subject of our deliberations. Therefore we consider that the rights of holders of mining and petroleum tenements as of the date of Cabinet approval of these recommendations, must be respected and that these areas be excised from the areas being subject of our recommendations which follow.

It is particularly pleasing to note in the legislation passed by Parliament to establish a National Parks Authority* that emphasis is placed both on the role of national parks as recreational facilities (as well as reserves) and on the role of local authorities in park management.

We stressed both these aspects in our earlier report, and submissions since then have considerably substantiated our views.

In considering the CTCRC Report, and public and other comments on it, the EPA has been aware that the areas which are the subject of the recommendations to follow pose problems of a different degree and scale to those on which recommendations have been already made and accepted by Cabinet on 9 February 1976.

The areas with which we are concerned here are the south-west and south coast areas (Systems 1 and 2 of the CTCRC report), the eastern south coast (System 3) and the northern sandheaths (System 5) (see Fig. 0.0):

In many respects the problems and difficulties encountered are similar to those which will arise when the question of reservation of land for conservation or recreation in the Darling Range and Swan Coastal Plain (System 6) is considered later**. While this last system, close to the Perth metropolitan area, has greater intensities of use and conflict, nevertheless many of the general ecological and land-use considerations outlined here will be relevant to it as well.

* The National Parks Authority Act as passed by Parliament and assented to by the Governor on 3 June 1976 but as of 9 July 1976 has not yet been proclaimed.

** While public submissions are being sought on System 6, a reconstituted committee will not be formed by the EPA until after August 1976.

The area of south Western Australia in which all these systems lie has a comparatively equable climate⁴, an extensive and scenically attractive coastline, and over a great deal of it the native hardwood forest, though much modified by man, is still present.

While a great deal of this preamble is concerned with management policies for forest areas, we would emphasise that development of policies for environmental management of coastal areas should have an equal if not greater priority. Indeed the EPA has already taken action to this end⁵.

It might well be said that we owe the retention of the native forest as much to inhibiting and inhospitable environmental characteristics which have prevented its destruction as to good management. Although the climate is equable and rainfall high, a long summer drought is normal, the soils are in the main extremely infertile, the ground vegetation of the forest and sandplain areas is of low grazing value, while clearing costs in big timber are considerable.

With improvements in modern technology, however, greater, more rapid, and more drastic alteration of the environment is becoming practicable and - at least in the short-term - economic. It is for this reason that prompt action on allocation of land for national parks and nature reserves, including forest parks,* is both so desirable and so opportune.

It is useful to note that one of the earliest land-use conflicts in the South-West, which had to be resolved in favour of conservation, was that between clearing for agriculture and conservation for water purity. Although forest clearing has taken place in water supply catchments in the South-West, early recognition of salinity problems tended to restrict areas cleared⁶.

However advances in fertiliser technology, availability of heavy equipment, and taxation concessions which offset high clearing costs, together with the recognition that certain of the infertile soils have a commercial value as a bauxite ore, have tended to increase the rate of clearing of forest country generally in later years.

Thus we have the combination of natural resources as yet unspoiled to a substantial degree, but delicately balanced and indeed fragile in many respects in relation to a difficult environment. At the same time, with industrial development and population growth, demands on the resources have increased, and will continue to do so, while an affluent and mobile society, and in particular the urban-centred sector of it, exerts strong pressures for reservations for conservation and recreational purposes. In such circumstances the planning and management of the use of natural ecosystems assumes considerable importance. In this context we wish to draw attention to some relevant characteristics of natural ecosystems.

*

See page (ix).

Some Characteristics of Ecosystems

The concept of an ecosystem is based on dynamic interactions, principally energy and nutrient flows, by which whole communities of plants and animals are held together in a stable way. However, definitions based on such a concept do not allow the existence of ecosystems which are self-contained and independent entities since all have inputs from and outputs to other systems, atmospheric, terrestrial and marine.

Ecosystems which become established on dune sands or disturbed areas, e.g. after fires, will with time usually contain increasing numbers of plant and animal species until they finally reach a stage beyond which no marked increase occurs. They are then said to be at a successional climax.

At climax an ecosystem is considered to be not only mature but also said to be more stable as an ecosystem because it is believed that at such a stage -

- (a) the system will recover more readily from perturbation, and
- (b) mature ecosystems lose less energy and nutrients than immature ecosystems.

Nevertheless, maturity in an ecosystem, though from a total environmental view a stable and perhaps long-lasting stage, particularly in forest systems, is not a static but a dynamic condition. Increasing quantities of nutrients may be held in unavailable and inaccessible forms leading to low levels of biological productivity, lack of vigour and incidence of disease. In a forest individual trees may age and deteriorate.

In nature, such a climax situation does not persist indefinitely. It frequently ends with a cataclysmic event such as a severe fire which destroys the old forest, and regenerates a new one, thus initiating once more the cycle of ecological succession. In many communities, including some eucalypt woodlands, fire is an important agent of regeneration, with effects on reduction of competition, encouragement of pioneer species, and nutrient inputs and release through the "ash-bed" effect^{7, 8}.

It is considered essential that those who speak of a virgin forest (or, as in one submission to the EPA, of an almost-virgin forest) understand that a natural ecosystem is a dynamic system. To borrow from the laws of physics, it may be said also to be in a state of *dynamic equilibrium* in its natural state or where undisturbed by man.

The problem of management of such a forest is then to determine the extent to which a forest can be used and exploited, whether for timber production or tourism, without throwing the total system into (such) an unstable state from which it will not recover for decades. Where it has been disturbed, it may be an objective of management to return it to something like its natural condition.

Management of Ecosystems

General. Here we wish to emphasise the management problems of areas where the natural vegetation is retained as a renewable resource, though it may be managed for commercial products such as timber or for grazing, rather than land-uses which can lead to the destruction of the natural plant communities. Consequently, agriculture and mining, for example, are not considered in this section, though the South-West area has significant potential for both, which are considered elsewhere³.

The public controversy over the reservation of Karri forest, the question of reservation of 'use' of the Shannon River Basin, and public reactions to recommendations made by CTRC and the Review Committee to facilitate access for recreation to coastal and near coastal areas shows a real and proper concern with management policies for natural areas.

The recommendations of the two Committees, and the reactions to them, have produced a wide range of proposals for alternative uses of the land in addition to the established timber industries, and agricultural and pastoral pursuits.

Proposals include the preservation of natural areas as "wilderness", biological reserves for scientific purposes, national parks and as water supply catchments. The degree of conflict between the uses varies, few completely exclude all others, and several of them actually complement each other. But all involve management* of some sort, and management has a cost.

These points, that apparent alternatives may be complementary to a degree, and that management --

- (a) is necessary, and*
- (b) bears a cost*

are extremely important. Indeed failure to recognise them may be behind much public criticism of forest management. Careful analysis of situations of apparent land-use conflict can result in the development of strategies in which potentially income-generating operations may support costs of management procedures which have conservation as their primary objective, provided this is adopted as policy at the outset.

The potential need for the Main Roads Department or local government authorities to seek road making materials from areas set aside as national parks or Class A reserves is recognised. This should occur only with the agreement of the vested authority which should, however, recognise the statutory responsibilities of the road building instrumentality.

* This applies even to so-called "wilderness" areas as experience elsewhere shows. For example, the United States' Wilderness Act⁹ permits activities such as road building for fire control purposes, measure for the control of insects and disease, and for the health and safety of persons.

While there is considerable diversity of habitat within the areas under consideration, we may, for convenience, discuss them under the headings of sandplain, coastal and forest communities.

Sandplains or sandheaths carry some of the most interesting and important ecosystems from the scientific point of view, and the Midland sandplains in System 5 and the Esperance sandplains in System 3 are two of the most extensive in south Western Australia. Their rolling treeless landscapes and blue distances are most attractive (to some eyes) and the plant communities adapted to their infertile soils, incapable of agricultural development without application of a wide range of trace elements, are famous for the beauty of their wildflowers.

In System 4 (the Wheatbelt), because of the widespread agricultural clearing and development there is little opportunity for reservation of sufficiently large continuous tracts of country. However, in Systems 3 and 5 the potential for such reservation does exist, although due recognition has to be given, and we believe in the following recommendations, has been given, to the need for present or subsequent expansion of agricultural holdings to maintain their operation and viability.

Forest areas are not only extensive in the South-West, but they have been under some form of deliberate Government management since 1918 when the Forests Act was proclaimed. Thus there is in existence a considerable body of expertise in forest management in the W.A. Forests Department. Traditionally this is largely orientated towards commercial production, but the same skills in ecosystem management are now being turned towards wider objectives¹⁰.

The concepts of maturity, of a persisting but not permanent climax in ecological succession, and of the part played by fire in regeneration are highly relevant for forest management. Where public access is desirable, or perhaps only possible, can uncontrolled fires, though leading to regeneration of a "natural" forest, be tolerated? If not, and while public access is retained, there is a need for a form of management for fire control purposes compatible with regeneration requirements. With modern methods of controlled burning by aerial bombing, there may not be a need for as many roads for this purpose as in the past. Indeed, we are advised that whereas fire-track maintenance costs for the Manjimup division were an average of \$46,040 during the 1966/68 period, they are only \$26,060 p.a. average since 1971/72.

In general, once the need for management is conceded, then its objectives must be defined with some degree of precision. This applies even where the objective is the maintenance of the forest in some sort of "natural" state, or a return to it where disturbed. The latter is the more common case, since most forest areas in south Western Australia have been logged, partially cleared, fire damaged or otherwise drastically affected by man long before, but especially since, European settlement began^{11,12}. Rehabilitation of such areas, of which the Shannon Basin Karri forest is a prime example, necessarily involves regeneration, by means of the established techniques of clearing, hot burning, and subsequent fire protection of the young regrowth forest. The removal of the marketable saw logs and chipwood at the clearing stage of this operation is not incompatible with rehabilitation, and income thus generated can offset the costs involved. This advantage should only be foregone if the objective of rehabilitation is prejudiced. Figure 1 summarises the management options involved.

KARRI & KARRI-MARRI FOREST

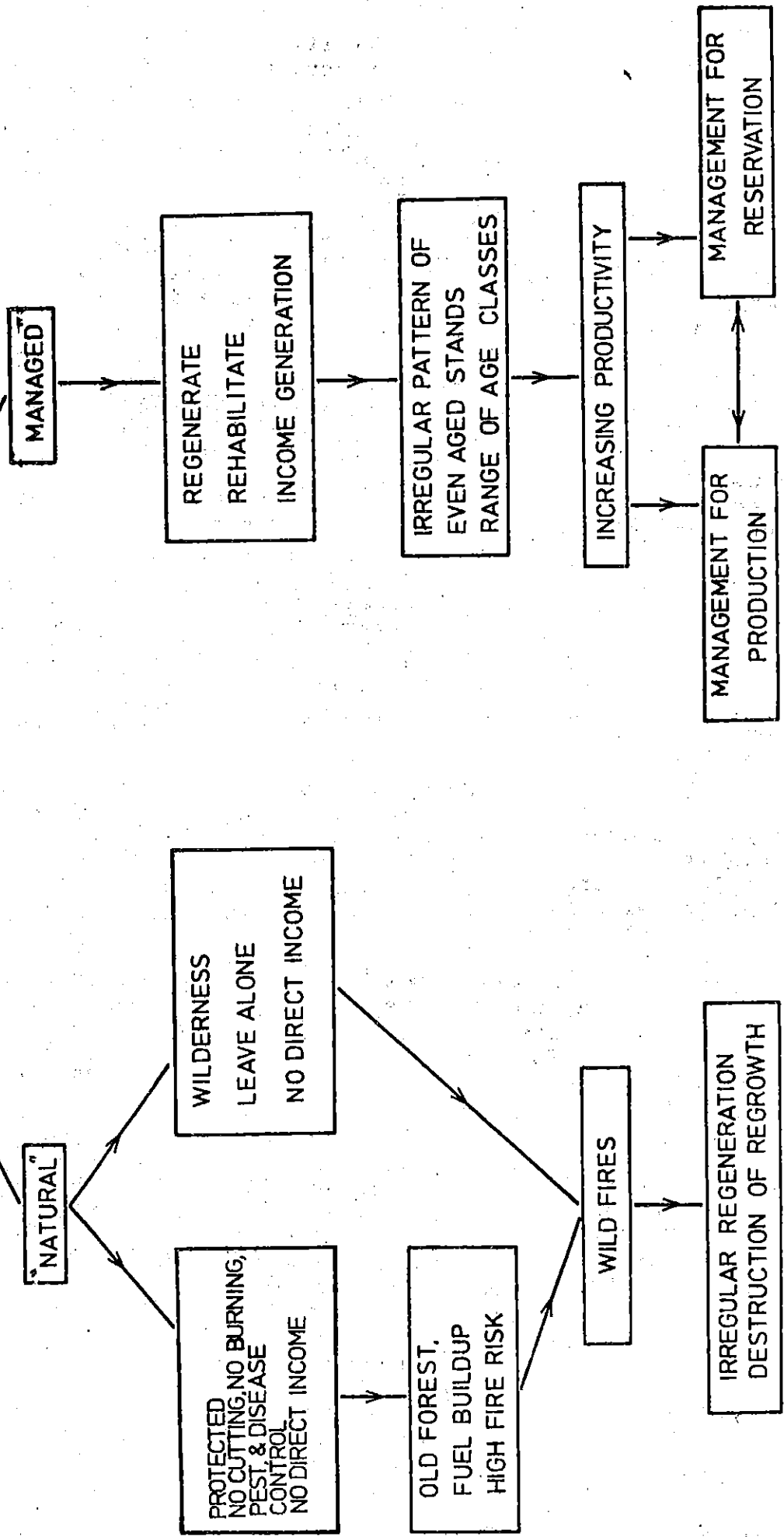


FIGURE 1

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Rehabilitation of forest areas, therefore, is not necessarily to be achieved by exclusion of clear-felling, as was proposed by the CTRC for the Shannon River Basin. To exclude this activity for fifteen years, as was recommended, is merely to postpone the beginning of rehabilitation.

It is important that the public should understand the extent to which certain other management objectives in forest areas complement each other in addition to those of rehabilitation and timber production. Thus conservation of water supplies from surface catchments may be seen to be compatible with management for production forestry, or even for recreation, as will be discussed below. Planting of pines in the Donnybrook Sunkland might be seen as a measure to provide timber for industrial purposes while conserving native forest elsewhere. What is required is an appreciation of general management strategies for forest areas, their objectives, and the nature of the forests which will result. This will provide a more rational basis for discussion than piecemeal criticism and response on particular issues.

Coastal areas pose a different set of management problems. Where they are uncleared the only commercial production is from pastoral leases and some minor products such as honey. However, the areas are more intensively used by the public than are the forests, and they pose one of the most difficult ecological management problems confronted by responsible planning authorities and private landowners in Western Australia.

In considering an adequate distribution of reserves relating to national parks and conservation of flora and fauna in coastal Systems 1, 2, 3 and 5 the EPA has been conscious that the needs of the public for access to coastal situations in these systems are likely to be of a different order to those in systems which do not have littoral boundaries. While at present public use of the dunes and shore-line is increasing, particularly with the use of all-terrain vehicles, the actual level to which the coastal situations can stand human usage is as yet undetermined.

Intensity of use has increased and made the problem worse, with the availability of cheaper four-wheel drive vehicles and trail bikes, thus generating a new and more damaging use in addition to transit to the coast, namely the sheer thrill of driving over rough country. The ecosystem is an extremely fragile one under such treatment, particularly the near-shore dunes. Again fire and its effects are important in maintenance of the ecosystem and is employed as a management tool by pastoralists.

It must be remembered that there are private landowners in the coastal areas whose interest may be adversely affected by uncontrolled access, especially when exercised by determined people equipped with four-wheel drive vehicles. The problem is essentially one of management which in the first instance will regulate access to prevent damage, not only to property but also, of course, to the ecosystem itself. It will be remembered that, as we have pointed out before in relation to forest areas, management has a cost. The difficulty as far as coastal areas is concerned is that there is little if any income generated by the users producing adverse effects which can be used to finance the management required. While there is a pressing problem here in Western Australia there are undoubtedly lessons in the management of such country to be learned from other parts of Australia and the world.

The major users are people seeking access to the beach, surf and river mouth areas; those doing so include traditional users, such as commercial fishermen, some of whom have legal rights to establish seine net fisheries on certain beaches. The traditional and legal rights of the population in Western Australia to utilise the recreational amenities and in the case of the professional fishermen the resource capabilities of the beaches has to be respected. The coastal zone is also used by beekeepers, whose interests have to be considered.

Public submissions to the Authority on the initial report of the Conservation Through Reserves Committee has made us aware of the great disquiet on the part of the public and local authorities. In particular those bodies are concerned that the allocation of reserves as national parks or fauna and flora reserves are likely to lead either to the exclusion of the public from highly desirable beach and coastal recreation areas or to levies and other constraints which they feel are unacceptable.

It seems to the Authority that the acceptance of management by the public will depend upon the absence of untoward obstruction on the part of the controlling authority, and the clear acceptance of the responsibility by local authorities for ensuring the regulation of acceptable camp conditions in recreational sites in coastal situations.

In this context the EPA RECOMMENDS to the Minister for Local Government that he considers ways and means by which local government authorities can appoint for liaison with the appropriate Government Departments professional reserve advisory officers in the same way as the local government authorities appoint, for example, health surveyors.

The EPA believes that these dual responsibilities can only be met if the vesting authority has power to lease areas which are jointly selected as being suitable for public recreation by both the controlling authority and the local govt. authorities. Already some suitable areas have been nominated, but no doubt other sites attractive for fishing, swimming or boating are known, and it is important that the public should feel that it will not be excluded from its enjoyment of such areas. The Fitzgerald River National Park was one of the first areas in which cognizance was taken of the public's need for special access, and in this report we have made particular suggestions on the matter of public access where we have felt it necessary.

In this context the submissions which the EPA is receiving from local authorities and other interested parties in connection with guidelines for a coastal policy will prove extremely valuable.

In summary, the coastal ecosystem is remarkably fragile, is one of the most attractive recreational resources in the State, and yet poses one of its greatest environmental management problems. It was indeed for this reason that the EPA chose the coastal zone as the first area of the State on which to declare an Environmental Protection Policy. We regard it as mandatory that that Policy take into account submissions from all interested parties, and result in recommendations and machinery for ensuring adequate and balanced management of the coastal ecosystem.

Selection of Forest Areas for Reservation

In selecting areas to be recommended for reservation for scientific purposes, we have been aware of principles outlined elsewhere^{1,2} involving considerations of the size of reserve, the degree to which it represents the range of environments and natural communities, and its location in relation to other land uses. In this last respect, it is desirable to have reserves forming a "core" within a "buffer" area of natural vegetation managed primarily for the protection of the former. In the case of forest areas this does not necessarily preclude management of the buffer area for timber production. We believe that the CTRC proposals, as modified by the Review Committee³ go some considerable way to achieving this ideal arrangement.

In supporting their proposals for reservation in the Shannon Basin the CTRC were influenced by a desire to preserve, in the form of a river catchment, a self-contained system as an undisturbed, or relatively undisturbed, reference area. The general concept of an ecosystem (see above) makes it clear that a natural landscape unit is not essential when selecting a representative area, and also it may conflict with the requirement to encompass genetic and environmental diversity, which is only possible in an array of reservations.

We have suggested earlier that there is a considerable degree of compatibility between management of forests for production, conservation and as water supply catchments. The role of the forest in catchment protection is now better understood due to research carried out in recent years, and it appears that its function in the upstream parts of the catchments may be more to prevent outflow of water and dissolved salts than to provide a yield of water.⁴ Where this is the case, i.e. where water yield is minimal, there may be no real reason for prevention of public access for the less intensive recreational uses. In this light, there may be good grounds for revision of the existing policies of the State's water supply authorities in respect of public use of some parts of water supply catchments.

Forest Parks

The CTRC recommended that areas described as multiple-purpose forest parks be set aside within State Forests principally for recreation and flora and fauna conservation as scientific reference areas. This was strongly supported by the Review Committee^{1,3}. We propose the establishment of "forest parks" in a number of areas in the recommendations which follow.

We do not agree with the detailed suggestions relating to the status of forest parks put forward by the CTRC and we define our concept below. However, this concept involves a significant departure from the role of the Forests Department as stated in the Forests Act, which will need to be amended to define and regulate the use and management of our concept of a forest park.

We suggest that a "forest park" should be an area of forest which is kept unavailable for the commercial production of timber except in the ordinary course of forest management and to such limited extent as would enable the Conservator for the betterment of the park to cut and remove timber for the purpose of tree regeneration in any areas containing trees which have been damaged or which have deteriorated through age, fire or disease.

With reference to the large areas of forest to be reserved as stream and road reserves (³ p.40), we consider that their management should be as for forest parks, with provision for their regeneration as it becomes necessary.

The Conservator would continue to have the care and management of forest parks which should be kept for such uses as the preservation of flora and fauna and the preservation of the forest for its aesthetic and scenic value as well as for its capacity for silvicultural study and research.

The Conservator should also be able to set aside areas of a forest park for the purpose of recreation with power to grant leases for the provision of tourist facilities.

The EPA RECOMMENDS that the Forests Act should be amended to provide that the provisions of a working plan so far as it relates to a forest park shall be deemed and take effect as if it were a regulation and so be unalterable except in the manner required in the Interpretation Act for the amendment of regulations made under an Act of Parliament.

Note that the Interpretation Act by Sections 36 and 37 requires that regulations shall be laid on the table of each House of Parliament within six sitting days of such House and may be disallowed by a resolution of either House. The security of a forest park will therefore lie in the requirement of the law that no change can be made in the status or purpose of a forest park without scrutiny by Parliament.

Particularly in Systems 1 and 2 many of the areas recommended as forest parks have some potential for development as a water resource, as discussed below, and the EPA recognises that the investigation and possible utilisation of such a resource should not be precluded.

Taking into account also the above considerations on the security of forest parks,

the EPA RECOMMENDS that development of working plans for forest parks should include a consideration of the implications for future water resource utilisation in full consultation with the Director of Engineering, Public Works Department.

Wetlands

The foregoing portion of this preamble has not elaborated on wetlands and their importance in Western Australia. It would be inappropriate to omit reference to them completely.

However, we dealt at some length with wetlands in our previous "red book"². We listed therein the many uses of wetlands, ranging from conservation to duckshooting and sanitary landfill. We are encouraged in our belief in the guiding principles we listed in that reference, by the acceptance by Cabinet of consequential recommendations, and by subsequent experience in the Department of Conservation and Environment with over a hundred wetland referrals.

The recommendations on wetlands in this volume, then, are based on essentially the same principles as those of the previous one, though in Systems 1,2,3 and 5 it has been necessary to give consideration to the potential of wetlands for agricultural production, and for development as local water supplies.

Water Resources

The place of water resources in the environment of Systems 1,2, 3 and 5, and later in System 6 deserves special reference. These systems between them contain the major surface and underground water resources of the southern half of the State.

Water is an essential resource in the natural and human environment and its responsible management for the total benefit of the region is of paramount importance. Water is, in effect THE critical mineral. The recommendations for national parks and forest parks in this "red book" embrace areas containing a major component of the region's water resources. However, responsible management and utilisation of water resources is to a considerable degree compatible with - and indeed a prerequisite to management of reserves for conservation purposes.

It is essential to the intent of this "red book" that the importance of water be recognised, and when new reserves and forest parks are proclaimed it is proposed that water use be listed as one of the purposes where appropriate. This would not exempt water supply development proposals from proper environmental assessment and review processes before decisions were made in respect of the utilisation of water resources.

Camping

In the context of our repeated advocacy that national parks should be largely devoted to meeting the needs of the community for relaxation and enjoyment it is appropriate to mention that in this State perhaps largely through the fear of uncontrolled wild fires caused by campers, perhaps in part through considerations of community health and also the desire to prevent litter, there is a surprising inhibition of personal tent-style camping. While recognising the potential hazards in releasing more areas to provide camping, the EPA having noted the extended public interest and needs for outdoor's recreation, including camping, considers that the present situation where camping is largely confined to overcrowded caravan park 'sprawls' is inadequate.

The EPA RECOMMENDS to the Minister for Health, that ways and means of permitting and encouraging safe individual 'tent-style' camping be investigated.

Educational

The EPA firmly believes that it is vitally important to the advancement of conservation to encourage wherever possible steps which can lead to a real understanding of the effects associated with conservation and wildlife activity generally. In this context the Department of Conservation and Environment has encouraged the development of what are called field study centres which provide the opportunity generally for school children to observe for varying periods wildlife in its natural surroundings, to make studies and with careful supervision seek to understand more about the manifold processes of the web of life.

The EPA therefore RECOMMENDS to the Director General of Education that, in liaison with the appropriate authorities, further steps be taken to create and manage field study centres.

Systems 6 and 7 - Future Problems

As discussed earlier, it is expected that CTCRC recommendations on System 7 (the Kimberley) will be received by the EPA in September, 1976. In this case, they will already have received considerable specific public input, with a series of public meetings in the area, before being presented to the EPA.

In the case of System 6 (see Fig. 0.0), public advertisements have been issued requesting submissions on desirable national parks, nature reserves and recreational areas in the region. These public submissions are being received up to 31 July 1976, with the Department of Conservation and Environment acting as a secretariat, and collating and distilling the recommendations coming forward. No committee has been appointed specifically at this stage for System 6 but it is envisaged that once the EPA has put forward to Cabinet the recommendations herein and the recommendations on System 7, a fresh start will be made with a new committee, representing other interested parties as befits areas of such high demographic density and tourist potential. An announcement will be made of the composition of the System 6 committee in August 1976.

While the emphasis in public and other discussions of reservations have so far been very largely concerned with the Karri forest, in System 6 the opportunity will be taken to give more consideration to the Jarrah forest, and the Wandoo and other woodland formations further inland. In comparison with Karri, which grows in a comparatively favourable environment, the Jarrah forest is uniquely adapted to infertile soils with a saline substrate and to summer drought, and is thus of considerable scientific interest and importance. Further, its role in preserving water and salt balances of actual and potential water supply catchments gives it a greater value than it has as a source of timber alone. It is a much less productive forest than Karri, and not as remote from centres of population. It is likely, therefore, that rational arguments for its reservation, both for scientific purposes, water conservation and as natural areas for public enjoyment will be stronger than for Karri. The question of compatibility of uses arises again in this context, since most areas to be considered lie within actual or potential water supply catchments, and are already protected, albeit only temporarily, by the quarantine regulations for dieback disease.

In short, the EPA is fully aware of just how difficult it was to conclude its recommendations on Systems 4, 8, 9, 10, 11 and 12, and still more difficult the recommendations of this "red book" on Systems 1, 2, 3 and 5. The EPA is under no illusions that it will be any easier to derive recommendations for System 6. It will be assisted, however, in this task by noting the response of Cabinet and the public to the recommendations which follow.

It has been suggested that there are technical problems in exactly implementing some of the EPA recommendations endorsed by Cabinet on 9 February 1976. It is therefore recommended that in regard to the EPA recommendations endorsed by Cabinet on 9 February 1976 in regard to Systems 4, 8, 9, 10, 11 and 12 and those of Systems 1, 2, 3 and 5 in this "red book" that the spirit of the recommendations endorsed by Cabinet be carried out as far as possible but if technical problems such as the definition of geographical boundaries or the matter of vesting and management should arise they can be resolved at permanent head level, knowing Cabinet's general policies.

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MEMBERSHIP OF COMMITTEES

Conservation Through Reserves Committee

Dr W.D.L. Ride (Chairman from February 1972 until resignation in December 1974)
Director, Western Australian Museum

Mr B. Beggs (Chairman from December 1974 until resignation in December 1975)
Conservator of Forests

Mr J.F. Morgan (Chairman since December 1975)
Surveyor General of Western Australia

Dr B.E. Balme, Reader in Geology, University of Western Australia

Professor R.T. Appleyard, Professor of Economic History,
University of Western Australia

CTRC Technical Sub-committee

R.T. Appleyard, M.A., Ph.D. F.A.S.S.A.,
Professor of Economic History, University of Western Australia
(Convenor)

A.A. Burbidge, B.Sc. (Hons.), Ph.D., Senior Research
Officer, Wildlife Research Branch, Department of
Fisheries and Wildlife

A.S. George, B.A., Western Australian Herbarium,
Department of Agriculture

B.W. Logan, B.Sc. (Hons.), Ph.D., Reader in Geology,
University of Western Australia
(Dr Logan resigned from the Sub-committee in 1975)

J.H. Lord, B.Sc., F.G.S., M.Aus.I.M.M., Director,
Geological Surveys Branch, Mines Department*

A full-time Secretary was appointed. Mr G. Rundle was seconded to fill this post in January 1972 and was succeeded by Mr L. Goodridge in April 1974. Mr G. Brown was appointed to assist Mr Goodridge from April 1975.

* Mr Lord was represented at most meetings of the Sub-committee by Mr R. Connolly, a Geologist of the Geological Surveys Branch, Mines Department.

Special Review Committee

A Special Committee was established by the Environmental Protection Authority in September 1975 to review proposals for reservation in the south-west and south coastal areas of Western Australia made by the Conservation Through Reserves Committee.

Membership of the Committee was as follows:

Dr M.J. Mulcahy (Chairman), Senior Principal Research Scientist, CSIRO, Division of Land Resources Management

Mr A.J. Clarke, Research Officer, Soils Division, Department of Agriculture

Mr A.S. George, Botanist, W.A. Herbarium

Mr J. Havel, Superintendent of Research, Forests Department

Mr P.C. Kimber, Senior Silviculturist, Forests Department

Dr F.H. McKinnell, Plantation Inspector, Forests Department

Mr R. Sprivulis, Acting Senior Agronomist, Department of Agriculture

Mr B.J. White, Senior Silviculturist, Forests Department

Mr L.G. Goodridge (Secretary)

APPENDIX II

"PUBLIC APPRAISAL"

The Conservation Through Reserves Committee's Report was released to the public by the Environmental Protection Authority early in 1975. Copies of the Report were placed in local libraries and shire council offices. A Notice inviting public comment was placed in the "Government Gazette" on 24 January 1975, and advertisements in the "West Australian" and a number of country newspapers. In addition a display showing large maps of the Systems and further details was shown in major country centres, and public meetings to discuss the Report were organised in Busselton and Manjimup.

Great interest was demonstrated, and following representations to the Environmental Protection Authority, the time for public comment was extended from 20 March to 30 June 1975.

Submissions on the Report were received from Members of Parliament, Government Departments, private individuals, professional groups, shire councils, conservation organisations and other interested bodies (see App. III). In addition delegations were received from several Shire Councils.

As most comments on and objections to the Conservation Through Reserves Committee's recommendations had come from System 1 (the south west) and System 2 (the south coast) public seminars were arranged at Busselton and Manjimup to assist those interested in preparing their submissions and also to encourage frank discussion on several contentious matters put forward in the Report.

So that the Environmental Protection Authority would have all available expert opinion to hand when deliberating on its recommendations in regard to the above areas, besides the comments, objections and submissions received, a Special Review Committee was formed in September 1975 under the chairmanship of Dr M.J. Mulcahy, with a membership consisting of officers of the Forests Department and of the Department of Agriculture who had considerable experience in the planning and management of the use of the land resources in the south west of this State and could be regarded as providing a necessary complement to the skills and expertise represented by the Conservation Through Reserves Committee and its Technical Sub-committee. The Special Review Committee reported back to the Environmental Protection Authority after reviewing recommendations of the Conservation Through Reserves Committee and the comments, objections and submissions received.

Comments and submissions were also invited until 31 May when the Special Review Committee's Report was made public in March 1976. As with the Conservation Through Reserves Committee's Report a large number of submissions were received from a wide cross-section of the community (see Appendix IV).

Representatives of conservation groups also met with the Environmental Protection Authority on two occasions to discuss the problem of conservation of Karri forest, particularly in the Shannon Basin.

The above sequence of events constitutes a logical and progressive involvement with interested groups and citizens in the task of identifying areas of importance in relation to conservation and the establishment of national parks.

The philosophy of the Environmental Protection Authority in regard to public participation and involvement is illustrated in the first "Red Book" Preamble in the words -

"conservation where success is so dependent upon a sympathetic body of public opinion".

It is assumed by us that a full public appraisal of such controversial issues is a necessary part of environmental planning.

LIST OF SUBMISSIONS ON
CONSERVATION THROUGH RESERVES COMMITTEE REPORT
(SYSTEMS 1, 2, 3 AND 5 ONLY)

Allan, B.M. & J.G.
Alldridge, L. & J.
Amax Exploration (Australia) Inc.
Anderson, J. & B.
Anderson, G.H. & B.
Anderson, H.M. & 115 others
Ashby, A.
Ashby, J.
Australian Conservation Foundation
Australian Institute of Parks & Recreation, West Australian
Division
Australian Speleological Federation
Baldwin, W.J.
Bartlett, B.
Batley, B.L.
Baynes, A. & Kirsch, J.A.W.
Beale, D.R.
Blake, P.
Blatchford, D.R.
Blatchford, T.
Brinton, E.
Bristow, M.
Broad, F.
Broke Inlet Fishermen's Association
Bumstead, H. & E.
Bunning Bros Pty Ltd
Busselton Tourist Bureau
Butcher, E.J. & M.R.
Butler, R.
Butler, W.H., M.B.E.
Caple, G.
Carroll, W.
Chamber of Mines of Western Australia (Inc)
Chapman, A.C.
Cherrington, W. & A.
Clayton, T.
Conservation Farming Society (Incorporated in Western Australia)
Cook, P.G.
Cook, W.
Cowaramup Book Club
Crappsley, D.F. & W.S.
C.S.I.R.O.
Cullen, K.J.
Curtis, A.G.
Curtis, J.
Cutts, D.G.
de Blecourt, C.W.
Department of Fisheries and Wildlife
Department of Industrial Development
Donnelly River Recreation Society
Doyle, T.W.
Dunsborough Progress Association

Efford, P.
Ellis, R.S. & D.M.
Ellis, W. & Son
Emmott, N.H. & H.
Evans, Hon. H.D., M.L.A.
Ewert, M.
Exploration Geophysics
Farrington, J.A.
Feilman, Margaret A. & Partners
Firns Investments Pty Ltd
Fischer, D.P.
Fischer, L.E.P.
Fitzgerald Progress Association
Forests Department
Forest Electors Association
Forest Products Association (W.A.)
Forrest, D.E.
Forrest, J.
Forrest, K.M.
Forward, H.L. & B.A.
Gallagher, J.
Gates, T. & Associates
Giles, R.
Gordon, D.L. & S.S.
Goss, A.R. & J.K.
Grewar, G., M.L.A.
Griggs, E.C. & D.M.
Grigson, N.R. & A.J.
Guthridge, A.J. and 4 others
Guthridge, I. and 2 others
Guthrie, C. & G.
Halpern, W. & Savage, J.
Hargett, B. & M.
Hartigan, T.M.
Hassell, Dr C.W.
Hastie, E.
Hay, M. and 5 others
Hemsley, F.
Hewitt, S. & Shenstone, R.
High, G.T.
Hill, S.
Hilton, R.N.
Hogg, K.
Home, B.
Hos, G.
Hull, B.
Hutton, M. & G.
Institute of Foresters of Australia Inc. (W.A. Division)
Janicke, S.
Jorgenson, C.
Kane, Mr and Mrs J.N.
Keen, G.E. & M.F.
Kelly, A.R.
Kings Park and Botanic Garden
Kohnert, G. & R. and 70 others
Konojup Environmental Ecological Protection Society
Langley, L.M.
Lawrence, A. & E.
Lee, A.G.
Leeuwin Conservation Group
Lumsden, D.I.
Luscombe, P.

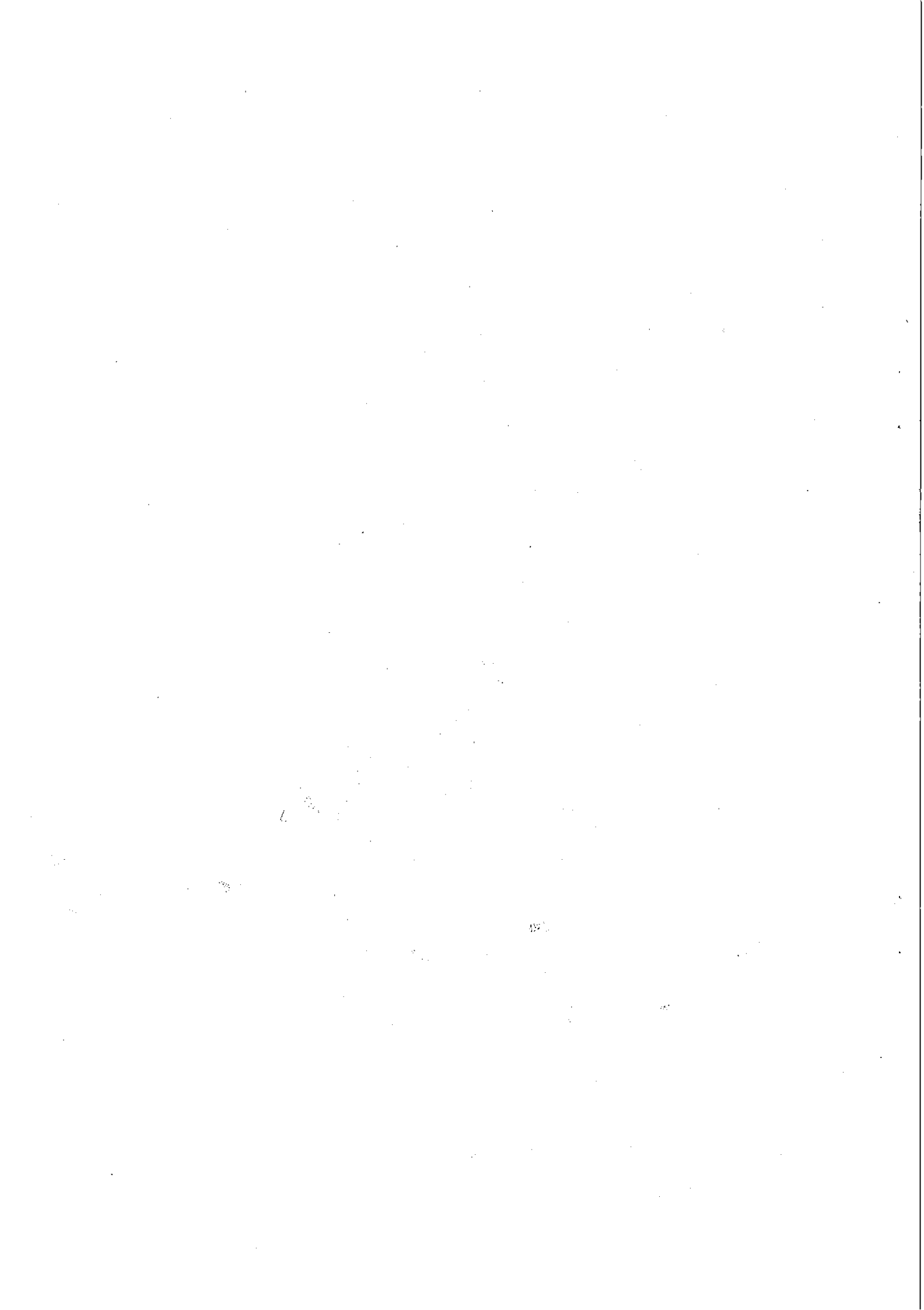
Mack, P.
 Manjimup Chamber of Commerce
 Manjimup Tourist Bureau
 Margaret River and Districts Wildflower Society
 Margaret River Conservation Farming Club
 Marshall, C.J.
 Masters, B.
 May, J.F.
 May, P.
 McCullon, L.J.
 McFarland, N.
 McGauran, D.J.
 McGregor, M.B.
 McKean, M.
 McLeary, R.N. & K.G.
 Menzel, C.H.
 Miles, A.
 Miles, J.G.
 Millars (W.A.) Pty Ltd
 Minchin, A. & R.S.
 Morris, P.J. & H.J.
 Nash, M.E. & N.J.
 National Parks Board of Western Australia
 Peacock, I.R.C. & P.M.P.
 Peirce, L.E. & B.A.
 Pemberton Angling Club
 Plantagenet Conservation Committee
 Pope, D.F.D.
 Price, W.
 Public Works Department
 Randall, R.A. & Y.M.
 Ronk, G.H.
 Royal Society of Western Australia
 Royce, C.H.
 Ryan, R.T.
 Sargent, C.
 Saunders, Dr B.
 Saunders, J.D.P.
 Scott, J.B.
 Scott, W.C.
 Sebbes, G. & J.A.
 Shepherd, M.
 Sherwood, M.
 Shire of Albany
 Shire of Augusta-Margaret River
 Shire of Busselton
 Shire of Capel
 Shire of Coorow
 Shire of Dandaragan
 Shire of Esperance
 Shire of Manjimup
 Shire of Nannup
 Shire of Ravensthorpe
 Siouler, E. & A.
 South Coast Cattlemen's Association
 Southern Regional Conservation Council
 Speleological Research Group
 Sprengel, F.A.
 Staples, C.
 Steen, D.H.
 Sweeney, V.
 Symonds, C.J.

Talbot, M.J.
 Thamo, A. & Thomas, J.L.
 The Australasian Institute of Mining & Metallurgy
 The Climbers' Association of W.A.
 The Farmers' Union of W.A. (Inc.)
 The Farmers' Union of W.A. (Inc.) Busselton Zone
 The Royal West Australian Historical Society (Inc.) Augusta
 Branch
 The Tree Society
 The West Australian Field and Game Association
 Thompson, B.J. & P.
 Tichbon, M.J.
 Timber, S.
 Tingay, A.
 Town Planning Department
 Union Miniere Development and Mining Corporation Ltd
 Vasse Conservation Committee
 W.A. Chip and Pulp Co Pty Ltd
 Waddington, D. & L.
 Waddington, H. and 17 others
 Waddington, K.J.
 Waddington, M.
 Wanson, B. & Ford, S.
 Watson, R.
 Webber, J.
 Weightman, D. & A.
 West, K.R.
 West Australian Natural Gas Pty Ltd
 West Australian Petroleum Pty Ltd
 West Australian Timber Industry Industrial Union of Workers South-
 West Land Division
 West Australian Wildflower Society (Inc.)
 Western Australian Naturalists Club
 Western Australian Speleological Group
 Western Mining Corporation
 Western Walking Club
 White, T. and 5 others
 Wilks, A.H.
 Willcox, S. & T.
 Williams, J.
 Winchester, A.C.
 Windy Harbour Board of Control
 Yates, M.J.

COMMENTS RECEIVED ON THE REPORT
"A REVIEW OF RECOMMENDATIONS FOR RESERVES
IN THE SOUTHWEST AND SOUTH COASTAL AREAS
OF WESTERN AUSTRALIA
SYSTEMS 1 & 2"

Agoco, N.
Allen, D.
Allen, P.B.
Alpers, M.
Alpers, W.J.
Amateur Canoe Association of W.A.
Ascher, A.
Australian Labor Party (W.A. Branch)
Bacon, J.
Black, A.
Blackett, J.
Blaikie, B., M.L.A.
Blakers, S.A.E.
Braine, R.
Bridgewater, P.
Broke Inlet Fishermen's Association
Brzezinski, D.
Buick, W.G. and 30 others
Campaign to Save Native Forests
Carlin, J.
Chamber of Mines
Chambers, M.
Conservation Council of Western Australia
Coppin, B.
Crawford, P.
Curtis, A.G.
Davies, R.H.
Department of Fisheries and Wildlife
Department of Lands and Surveys
de Rouffignac, U.H.
Devereux, L.D.B. & G. Ward
Donnelly River Association
Dorant, W.G.
Evans, Hon. H.D., M.L.A.
Falls, J.M.
Felan, D.
Fenton, E.
Fewster, B. & A.
Firclough, R.G.
Forests Department
Forrest, K.M. & D.E.
Gueho, C. and 11 others
Guthrie, C. & G.
Haime, A.L.
Hamilton, N.
Harmer, C.
Haskness, J.M.
Hastie, E.
Hatch, S.

Hilton, R.N.
Henderson, L.
Henderson, V.
Hopwood, J.
Ingleton, N. & P.
Jones, A.R.
Jones, L. and 9 others
Kane, J.A.
Kennett, S.
Kidd, L.B.
Korwill, F.L. & M.E.
Lacey, R.
Lambert, S. & E.M.
Locke, P.M. & J.I. Authers
McConnell, C.M.
Maley, S. & I.
Marshall, L.
May, P.M.
Miles, J.
Miller, A.W.
Mines Department
Mirkovic, M. & Sheppard, A.A.
National Parks Board of Western Australia
Parker, A.
Payne, A.J. & J.E.
Pemberton National Parks Board
Potter, W.J.
Public Works Department
Ridley, W.T.
Schultz, P.
Serventy, V. & Associates Pty Ltd
Shepherd, R.
Shire of Albany
Shire of Augusta-Margaret River
Shire of Busselton
Shire of Capel
Shire of Manjimup
Sidney Smith, E. & P.
Silvester, R.S.
Spoor, Dr & Mrs J.
Spurge, K.
Stockwell, R.F. and 15 others
South-West Forests Defence Foundation
Sundstrom, P.
Talbot, M.
Teaghe, C.A.
Thomson, J.A.
Thorman, D.
Thorman, R.
Tichbon, M.J.
Tilt, Mr & Mrs R.
Town Planning Department
Trouchet, A.P.
Waddington, L. and 3 others
Watterson, L.
Western Australian Naturalists' Club
Western Walking Club
Wilson, B.R.
Wilson, K.
Wilson, P. & J.
Wyatt Young, M.E.
Wyatt Young, R.



SYSTEM 1 -- SOUTH WEST

1.1 LUDLOW WONNERUP AREA

1.1.1 General

The EPA notes that following discussion with local authorities and landowners on the recommendations of the Conservation Through Reserves Committee and of the Special Review Committee arrangements have been made, on a voluntary basis, for the management of certain wetland areas. The EPA endorses this approach and looks forward to the development of this approach on a larger scale.

The EPA hopes that such developments would lead to local advisory committees as suggested by the Conservation Through Reserves Committee and the Special Review Committee. Where such committees are formed they should include a representative of the Public Works Department.

The EPA therefore recommends that subject to the voluntary involvement of the landowners concerned the Ludlow-Wonnerup area, as delineated in fig. 1.3, be managed for three main purposes:

- (i) preservation of the existing scenic, recreational and tourism values;
- (ii) improvement of wetland habitats;
- (iii) conservation of the Tuart (*E. gomphocephala*).

While the EPA concludes that the concept of multiple-purpose multiple-owner parks is not yet fully developed nor acceptable in Western Australia, nevertheless an approach to such an "English-style" National Park emphasising accessibility can begin on a trial basis using public lands.

The EPA therefore recommends that the Community Recreation Council, in conjunction with the National Parks Authority, consider ways and means of establishing a network of walking trails in the Leeuwin-Naturaliste area, utilising existing road, railway and other reserves in the public domain; taking cognisance of such potential problems as the management of such features as camping facilities, fire, weed and litter control.

There is no question that tourist demand in the Busselton-Augusta area will dramatically increase in the next several years due not so much to the increased population and mobility of Western Australians to perhaps more the expected influx of tourists from the Eastern States when the

Eyre Highway is sealed. In any event the tourist pressure will increase and it then becomes the responsibility of the State Government to ensure not only that from a conservation point of view the impact of the tourists is kept to a minimum but also that adequate provision is made to assist the tourists in enjoyment of the natural scenic beauties of the South-West generally. Presently it is fair to say that many of the roads are not adequately sign-posted and although there is an attractive tourist style map produced by the Department of Lands and Surveys it presently does not list all the roads which contain significant tourist attractions.

The EPA therefore recommends to the National Parks Authority, Forests Department and the W.A. Wildlife Authority, that they liaise with the Department of Lands and Surveys, to ensure that the Busselton-Augusta tourist-style map remains adequately updated to reflect the existing public access roads, and that steps be taken to adequately sign-post these roads.

1.1.2 Ludlow-Tuart Forest

The EPA endorses the present status of the Ludlow-Tuart Forest as a State Forest under the control of the Conservator of Forests and recommends that:

- (1) the State Forest be managed under a new working plan for multiple use, priority being given to recreation and conservation of the Tuart forest;
- (2) the Conservator of Forests does whatever is necessary to ensure that the existing pine plantations within the defined Tuart forest be progressively phased out and replaced by Tuart;

The EPA notes that mining tenements had been applied for in the area and that after the hearing of objections by the Mining Warden's Court in 1975, the Hon. Minister for Mines refused the applications.

The EPA concurs with these steps and in view of the importance of the area recommends that:

- (3) when and if Hon. Minister for Mines is called upon to make decisions on mining proposals in the forest he gives due consideration to the opinion of the EPA that conservation aspects of this forest be so important that he may wish to invoke Section 267(a) of the Mining Act to exclude such mining;

The EPA further recommends that:

- (4) while recognising that the Commissioner for Main Roads may need to remove nearby large trees for safety purposes, the Commissioner takes steps to ensure that Bussell Hwy from Ludlow to the Sabina River will retain its present character as a scenic drive;

The EPA further recommends that the Minninup forest block, part of State Forest 1, be included in the Ludlow State Forest and notes that with adequate management it will improve the representation within reserves of the shrub understorey of the Tuart forest.

1.1.3 Vasse and Wonnerup Estuaries

The EPA recognises that as a result of ill-defined high water mark boundaries, there is a management conflict between wetland reserves and adjacent farmlands. The EPA believes that the following recommendations will result in a mutually agreeable arrangement for fencing the areas concerned.

The EPA therefore recommends that:

- (1) the Director of Fisheries and Wildlife approaches the landholders in this area to gain their voluntary agreement to manage the appropriate areas for the protection and improvement of wetland habitats;
- (2) the Department of Fisheries and Wildlife provide technical advice for this purpose to the landowners, and consultants advice to the EPA;
- (3) where conservation of wetlands can be shown to inhibit the productive potential of farmland, the Minister for Agriculture recommends to the State that it provides monetary compensation in the event of the owner entering into a legally binding agreement protecting the State's investment;
- (4) the Mines Department not grant any mining claims in the area without prior consultation with the Environmental Protection Authority.

1.1.4 Geographe Bay Coast

The EPA endorses the present status of Class A reserves 385, 5217 and Class C reserve 22952 (all Camping and Recreation, Shire of Busselton) but recommends that:

- (1) the Shire of Busselton takes steps to ensure that any further intensification of usage be avoided and that the reserves be maintained in their present character;
- (2) reserve 31188 (Class C, Recreation, unvested), a narrow strip on the shore of the estuary, be declared a Class A reserve for the Conservation of Flora and Fauna vested in the W.A. Wildlife Authority.

1.2 THE BROADWATER

The EPA recognises that as a result of ill-defined high water mark boundaries, there is a management conflict between wetland reserves and adjacent farmlands. The EPA expects that the following recommendations will result in a mutually agreeable arrangement for fencing the areas concerned.

The EPA recommends that:

- (1) the Director of Fisheries and Wildlife approach the landholders in the area to gain their voluntary agreement to manage the appropriate areas for the protection and improvement of wetland habitats;
- (2) the Department of Fisheries and Wildlife provide technical advice for this purpose to the landowners, and consultants advice to the EPA;
- (3) where conservation of wetlands can be shown to inhibit the productive potential of farmland, the Hon. Minister for Agriculture recommends to the State that it provides monetary compensation in the event of the owner entering into a legally binding agreement protecting the State's investment.

1.3 WHICHER RANGE

The EPA recommends that:

- (1) the Conservator of Forests manages Whicher and part of Bovell forest blocks in State Forest 33, as shown in figure 1.5, as a multiple purpose "forest park" primarily for recreation and flora and fauna conservation. The EPA has been informed of potential coal deposits in this area and believes that this recommendation will preclude the granting of rights to mine the area;
- (2) should finance become available, the W.A. Herbarium carry out a more complete survey to determine whether several rare or new species of plants occur in State Forest 33 or elsewhere in nearby Crown land.

The EPA excludes McGregor block from recommendation (1) because of advice received that due to the incidence of the dieback disease (*Phytophthora cinnamomi*) the block will not prove useful.

As the EPA is of the opinion that all natural vegetation on road verges should be protected, it sees no reason to single out the road verges on the coastal plain road between Jalbarragup Road and Wonnerup Road, as recommended by the CTRC.

1.4 LEEUWIN NATURALISTE RIDGE

The EPA agrees with the concept of consolidation, where practicable, of all reserves within this area (figures 1.9 to 1.12) into a single Class A reserve for National Park. The EPA notes that certain reserves such as cemeteries, quarries and cave reserves, which were recommended by CTRC for inclusion in the park, have such diverse purposes and vestings that it would not be practicable to include them at this stage in the proposed National Park. We are of the opinion, however, that the following recommendations will make considerable practical progress towards achieving the aim of consolidating these coastal reserves in the sense desired by the CTRC.

The EPA therefore recommends that:

- (1) the reserves listed in Table 1.4 be declared a Class A reserve for National Parks, vested in the National Parks Authority.

TABLE 1.4

Class & No.	Purpose	Controlled by
A13404	Recreation - Ocean frontage	National Parks Auth. (portion only)
A8768	Protection and Preservation of Caves, Flora and Health and Pleasure Resort	National Parks Auth. (with power to lease)
C8427	ditto	National Parks Auth. (portion only)
C10922	ditto	Not vested
A15633	Park Land and Recreation	Not vested
C20455	Tourist Resort	National Parks Auth.
C26021	Recreation	Not vested
A12507	ditto	Not vested
C8428	Protection and Preservation of Caves, Flora and Health and Pleasure Resort	Not vested
C8429	ditto	
C9747	Excepted from Sale	Not vested
C23286	Flora & Fauna	Not vested
C20849	Common	Not vested
C8430	Protection and Preservation of Caves and for Health and Pleasure Resort	Not vested
C8694	ditto	Not vested

.../cont.

Class & No.	Purpose	Controlled by
C8431	Protection and Preservation of Caves and for Health and Pleasure Resort	Augusta-Margaret River Shire (portion only)
C8432	ditto	Not vested
C8433	ditto	Not vested
C20724	Recreation	Not vested
C19952	Excepted from Sale	Not vested
C8434	Protection and Preservation of Caves and for Health and Pleasure Resort	Augusta-Margaret River Tourist Board (portion only)
C8435	ditto	Not vested
C20547	Public Utility	Not vested
C20548	ditto	Not vested
C20848	Common	Not vested
C30826	Government Requirements	Not vested
A21451	Camping	National Parks Auth. (with power to lease)
C1214	Government Requirements	Not vested
C8438	Protection and Preservation of Caves and for Health and Pleasure Resort	National Parks Authority (portion only)
C14779	Government Requirements	Not vested

The above recommendation for inclusion in the proposed National Park applies to the portion or portions of reserves controlled by the National Parks Authority, or which are at present unvested.

- (2) reserve C7406, (Protection and Preservation of Caves, Flora, and Health and Pleasure Resort) should be declared an A Class reserve for National Park and Water;
- (3) discussions take place between the Dept of Conservation & Environment and the authorities in whom the remaining reserves delineated in figure 1.9 to 1.12 are vested with a view to examining the feasibility of incorporating them in the proposed National Park;
- (4) all vacant Crown Land as delineated in figure 1.9 to 1.12 be declared a Class A reserve for National Parks, vested in the National Parks Authority;
- (5) the Hon. Minister for Lands consult with the EPA regarding any application to alienate other vacant Crown Land on the Leeuwin Naturaliste Ridge;
- (6) the Conservator of Forests manages State Forest 45 (Boranup) as a "forest park" so that priority is given to the maintenance of Karri forest;

- (7) noting the three possible uses of caves, viz., commercial, recreational and archeological the Department of Conservation and Environment convene a meeting with the Conservator of Forests, the Director of the W.A. Museum and the Director of Tourism and cave exploration groups with a view to establishing liaison for adequate protection and management of commercial and non-commercial caves in the Leeuwin Naturaliste Ridge;
- (8) the National Parks Authority, in conjunction with a local advisory committee composed of representatives of the Shire of Busselton, the Shire of Augusta-Margaret River, Forests Department, W.A. Wildlife Authority and the Soil Conservation Service of the Department of Agriculture, prepare management plans for the proposed National Park, to be submitted to the Environmental Protection Authority for its approval before implementation.
- (9) the Department of Lands and Surveys be requested to attempt to purchase selected freehold land in the Leeuwin-Naturaliste Ridge should they come on the market, and that then the lands be included in the proposed National Park.

The EPA notes that Class C reserve 26493 (Minerals, Minister for Mines) is in an extremely unstable area which forms an integral part of the concept of the consolidated reservation on the Leeuwin-Naturaliste National Park. The EPA therefore requests the Hon. Minister for Mines to consider release of this reserve for inclusion in the National Park.

1.5 DONNYBROOK SUNKLANDS

Having evaluated the research studies carried out in the area, and having noted the Forests Department's proposals for afforestation, the EPA gives notice of its intention to accompany its recommendations on mining proposals in the vicinity of the Blackwood River and Hardy Inlet, with recommendations on the conservation and preservation of the Blackwood River between Nannup and Augusta, the islands and the foreshore.

The EPA accordingly recommends that:

- (1) the Blackwood River between Nannup and Augusta be maintained in its present, largely undisturbed, state and that any plans for utilisation of the water for extensive public water supplies, should be developed in consultation with the EPA;
- (2) noting the size of the area of forest involved in the sunkland area, Milyeannup block be managed by the Conservator of Forests as a "forest park", in this case as a 'benchmark' scientific reference area;
- (3) the Conservator of Forests carry out investigations to determine whether Layman block is suitable for management in a similar way;

- (4) that the Forests Department's proposal for "forest parks" for recreation and conservation purposes in the Rapids, Cambray, Oasis and Chester blocks be implemented.

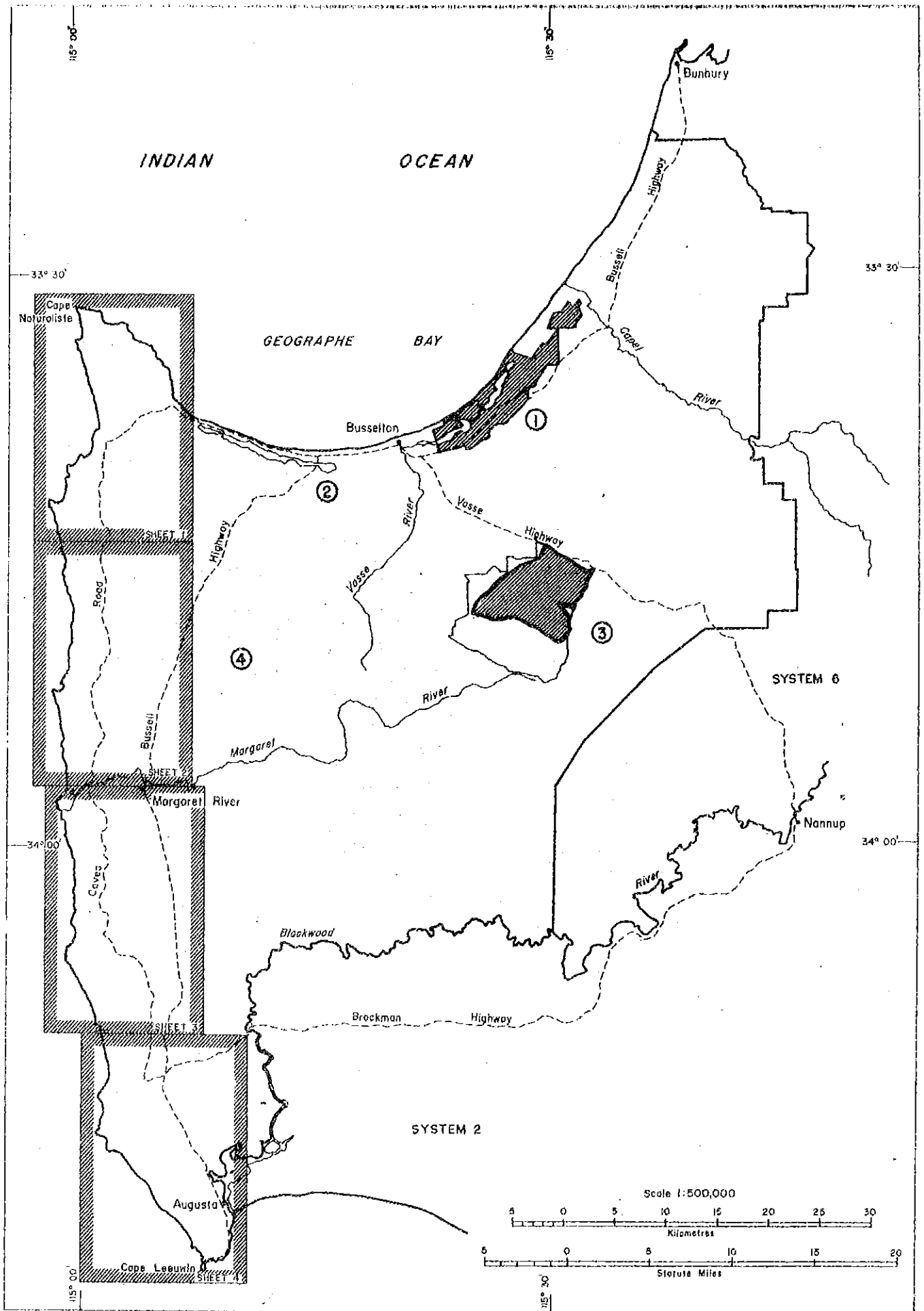


Figure 1-0 System map

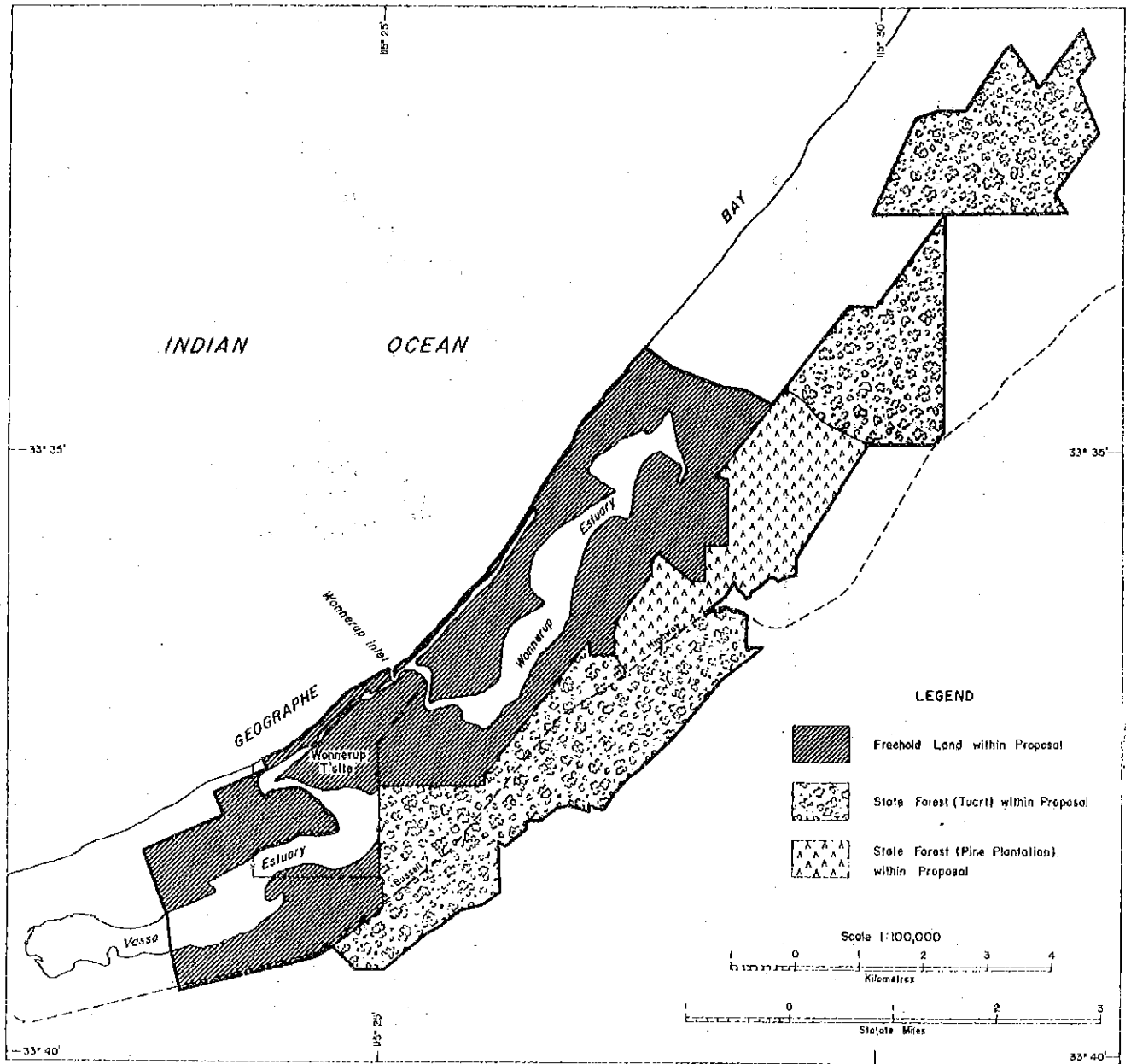


Figure 1.3 Ludlow - Wonnerup area map

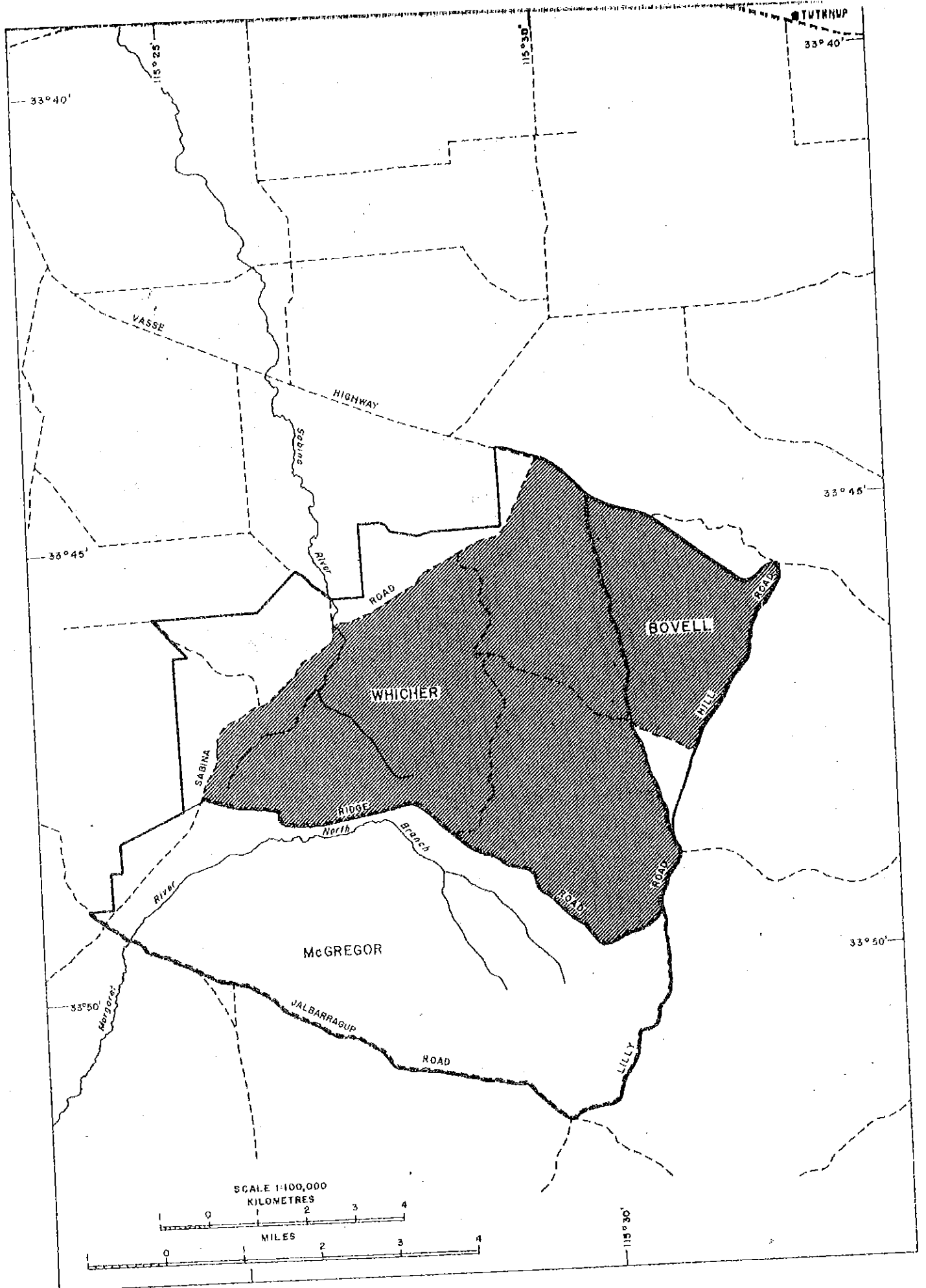


Figure 1-5 Area map of proposed Whicher Range reserve

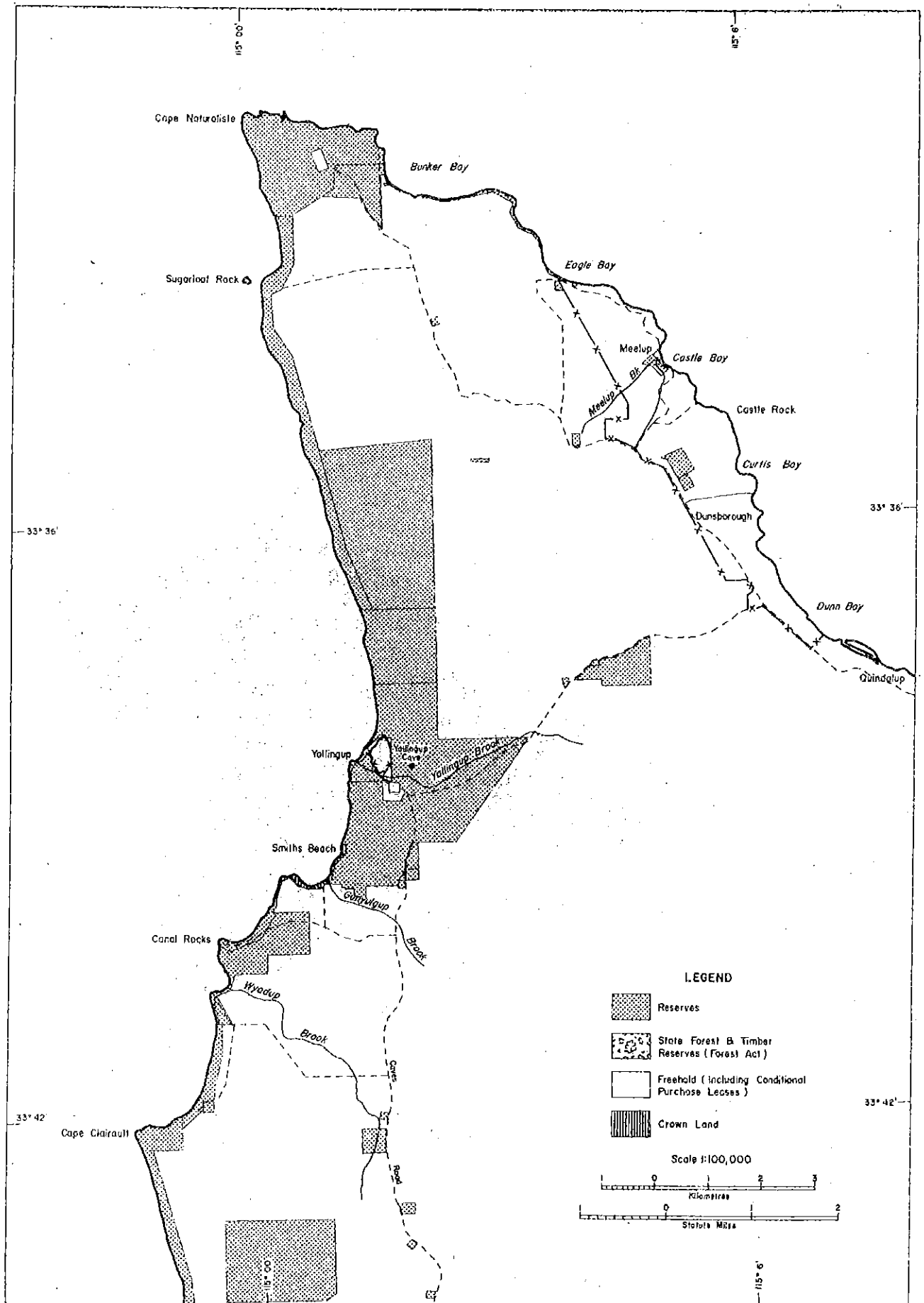


Figure 1-9 Leeuwin-Naturaliste area map 1.

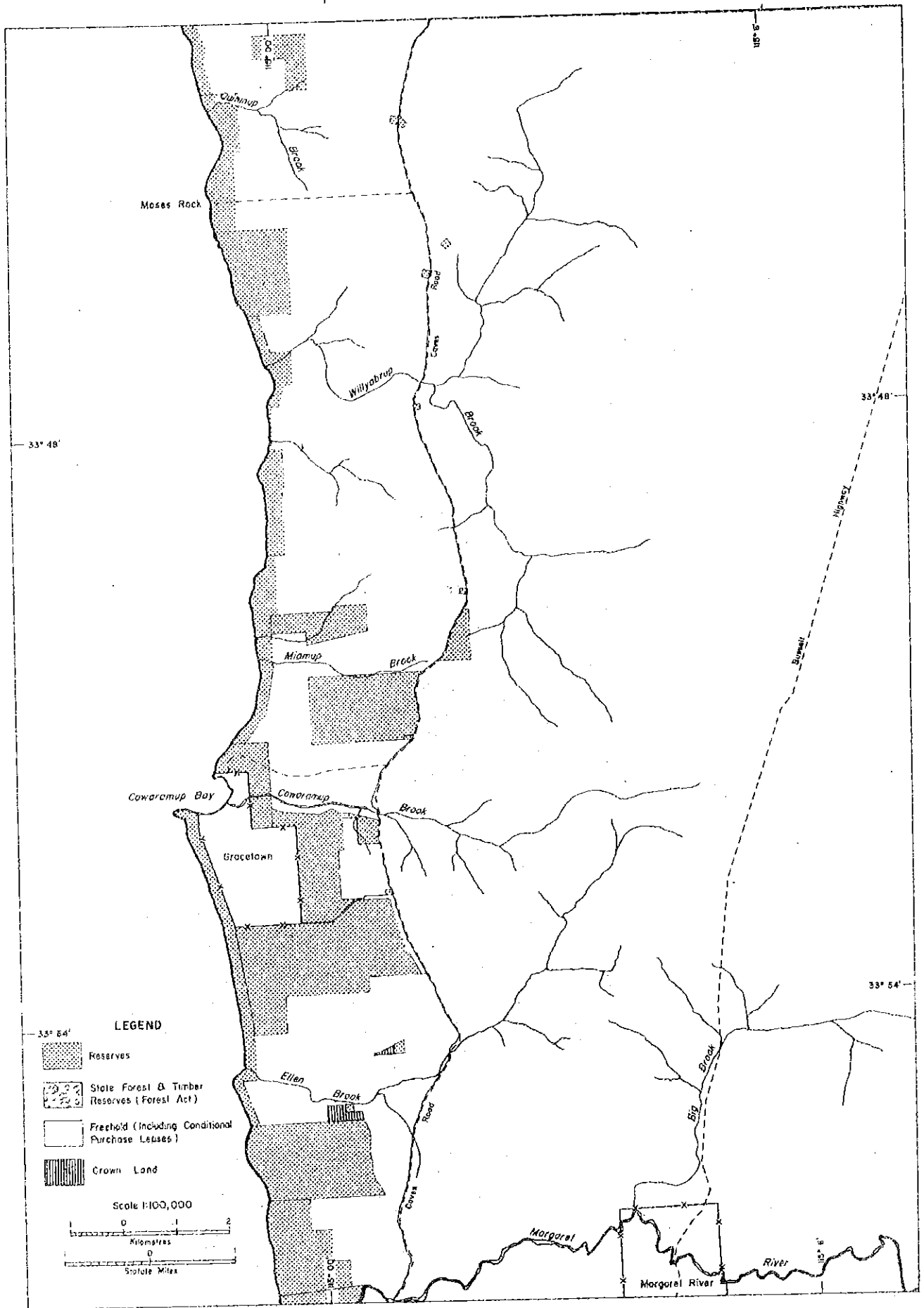


Figure I-10 Leeuwin - Naturaliste area map - 2

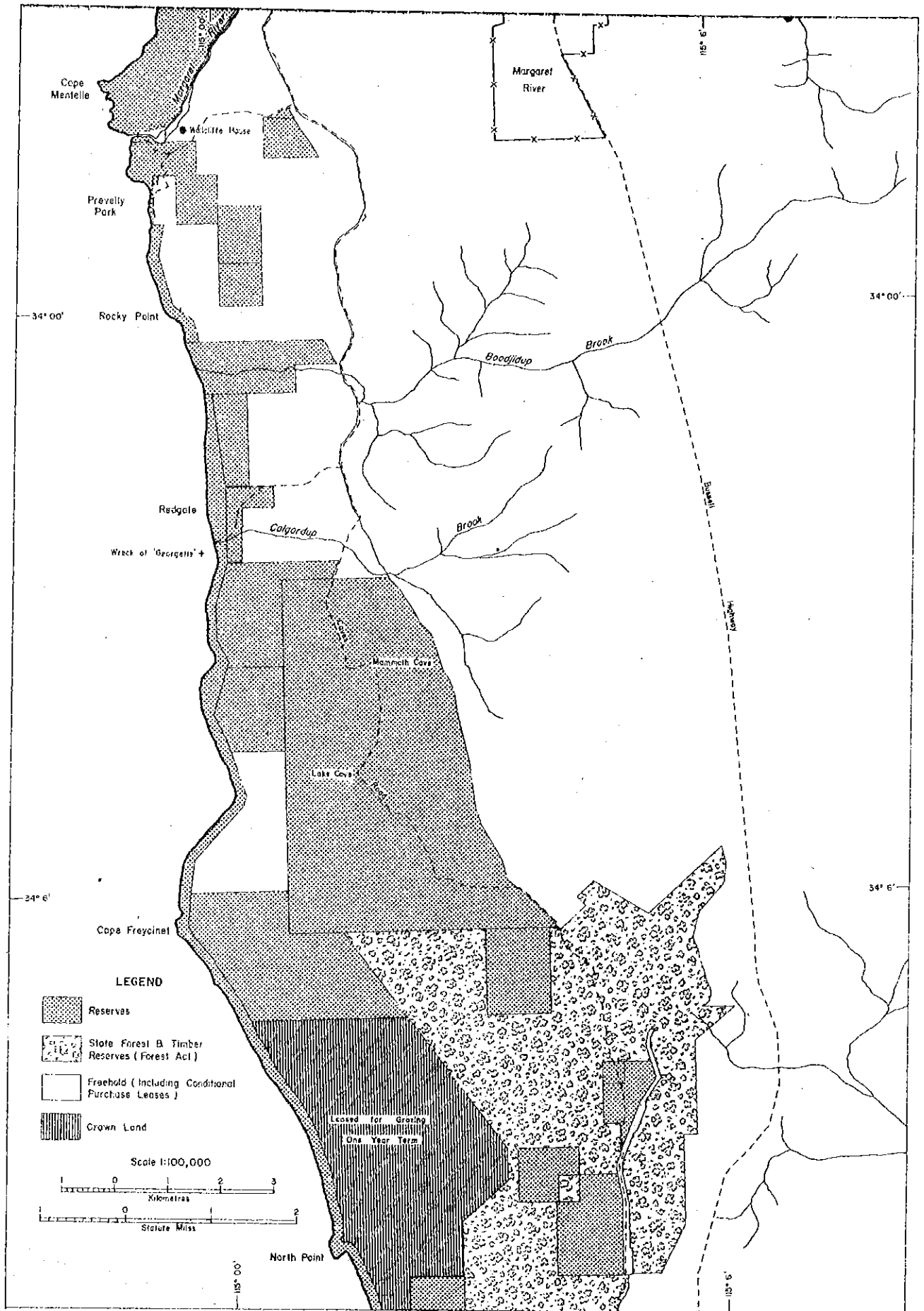


Figure 1-11 Leeuwin - Naturaliste area map - 3

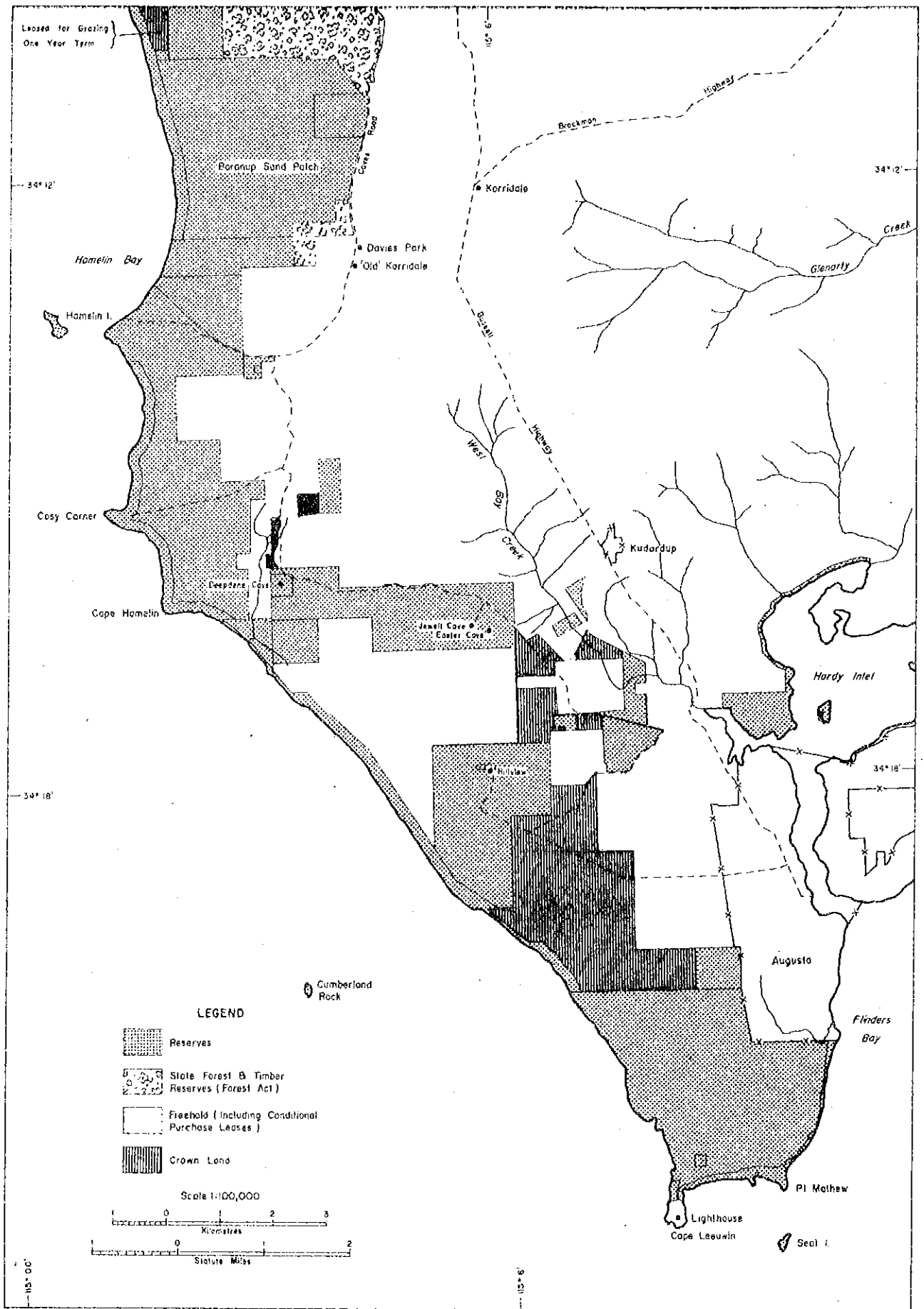


Figure 1-12 Leeuwin - Naturaliste area map - 4

SYSTEM 2 - SOUTH COAST

2.1 SCOTT NATIONAL PARK

The EPA endorses the present status, purpose and vesting of the Scott National Park (Class A reserve 25373, National Park, National Parks Authority) and notes that the Department of Lands and Surveys has had negotiations with the Mines Department in respect of Class C reserve 25856 (Mining purposes, not vested) and recommends that:

- (1) if and when reserve 25856 is no longer required for mining purposes, it be cancelled and its area added to reserve A25373;
- (2) if a decision not to mine in reserve 18644 (timber, unvested) is made, it be cancelled and its area added to reserve A25373.

2.2 PEMBERTON NATIONAL PARK

The EPA notes the submission made by the Pemberton National Parks Board that the Beedelup National Park, the Warren National Park and the other reserves administered by the Pemberton National Parks Board be transferred to the newly created National Parks Authority, and notes also that if the Pemberton National Parks Board is to continue a new Board will have to be appointed.

The EPA recommends that the reserves administered by the Pemberton National Parks Board be transferred to the National Parks Authority, but that the date of transfer be taken into account in the negotiations. The EPA also recommends that arrangements be made for preserving the strong local involvement in the planning and management of the parks.

2.3 PROPOSED SOUTH COAST NATIONAL PARK

The EPA recommends that:

- (1) subject to existing rights a new South Coast National Park be proclaimed between the Scott River area and Nornalup and be declared a Class A reserve, for the purpose of National Parks and Water, vested in the National Parks Authority, with power to lease;
- (2) the proposed National Park should extend to low water mark;
- (3) the external boundaries of the proposed national park be as shown in figs. 2.2 and 2.3;
- (4) the Department of Lands and Surveys be requested to attempt to purchase selected freehold land within the boundaries of the proposed national park should they come on the market and that then the lands be included in the proposed National Park;

- (5) having regard to established fishermen's cottages along the mouth of the Donnelly River and Broke Inlet, as at June 1976, the holders be given every consideration with regard to continuing tenure and right of access, and that the National Parks Authority issues leases on an annual basis;
- (6) the National Parks Authority confer with holders of grazing leases with a view to ensuring that management is consistent with the conservation of the resource;
- (7) until legislation is enacted to allow conservation reserves to include submarine lands, the Fisheries Act be employed to protect the Broke and Walpole-Nornalup Inlets and the Director of Fisheries and Wildlife be made responsible for their protection;
- (8) that portion of reserve A17495 (Camping & Recreation, Shire of Manjimup) not vested in the Shire of Manjimup be added to the South Coast National Park and that Class C reserve 19787 (Camping, not vested) be vested in the Shire of Manjimup.
- (9) all other reserves included in Table 2.3, including the Walpole-Nornalup National Park (Class A reserve 31362, National Park, National Parks Authority) and all vacant Crown land within the boundaries of the proposed National Park, be included in the proposed National Park.

TABLE 2.3

Class & No.	Purpose	Controlled by
115979	Timber for Government Requirement	Not vested
126628	Water and Recreation	Not vested
19537	Exempted from Sale	Not vested
115976	Timber for Government Requirement	Not vested
128479	Recreation and Camping and Preservation of the Red Flowering River Banksia	Not vested
128478	Recreation and Camping	Not vested
118119	Camping	Not vested
119787	Camping	Not vested
114145	Timber	Not vested
113356	Public Utility	Not vested
117072	Public Utility	Not vested
121712	Exempted from Sale	Not vested
111182	Exempted from Sale	Available for leasing
19539	Exempted from Sale	Available for leasing

.../contd.

Table 2.3 contd.

Class & No.	Purpose	Controlled by
A24158	Camping and Water	Not vested
A30523	Conservation of Flora and Fauna	Not vested
C25784	Water	Not vested
C33495	Government Requirements	Not vested
C33496	Government Requirements	Not vested
C13356	Public Utility	Not vested
C29681	Conservation of Flora and Fauna	W.A. Wildlife Auth.
C33993	Government Requirements	Not vested
C24080	Water	Not vested
C14325	Water	Not vested
A19176	National Park	National Parks Auth.
C13045	Parklands	Not vested

2.4 SHANNON RIVER DRAINAGE BASIN AND RESERVATION OF KARRI

The EPA made a visit of several days to the Karri forest areas for an air and ground inspection in May 1976, during which we saw representative areas and paid particular attention to those parts of the Shannon Basin drawn to our notice in public and other submissions. The appearance of parts of the mature forest in the Donnelly and Pemberton areas to the west, and in such areas as the Johnston and O'Donnell blocks to the east is far superior, and conforms more to the idea of "the sombre magnificence of uncut timber" as expressed by the CTRC. As a result we have concluded, from the aesthetic point of view at least, that the CTRC recommendations for the Shannon Basin could not be supported in toto.

However, the northern end of the Shannon Basin, north and east of South-Western Highway contains some inspiring uncut mature forest, and includes the Shannon townsite, now a golf course, and the Shannon dam. This part of the Shannon is a most attractive area, and has considerable prospects for tourism and tourist development.

The Review Committee has proposed part of the adjoining Curtin block as a forest park, and the Forests Department already has drawn up plans for extensive stream and road reservations in this area. However, near the northern limits of the basin the soils are laterite and carry mixed forest of Jarrah and Karri and apart from stream reserves, the area of pure Karri forest has been extensively fire damaged.

The lower part of the Shannon Karri forest from Dog Pool south to the boundary of the proposed South Coast National Park, which includes Broke Inlet, has good forest, and, of course, has considerable attractions for public recreation and tourism.

These two better areas of forest in the Shannon Basin.
viz.

- (a) part of Curtin block north of South-Western Highway, and
- (b) south of Dog Pool

we recommend as "forest parks", the lower boundary of the latter being the proposed South Coast National Park.

The EPA is satisfied that all relevant purposes of reservation of a substantial area of the Karri forest towards the end of the first licence period can be better met by setting apart now, as "forest parks", the two sections of the Shannon Karri forest to which we have referred, together with other areas suggested for reservation by the Review Committee.

This leaves the central section of the Shannon. Unfortunately much of this part of the Shannon Basin suffered considerable fire damage some years ago. Gaunt grey "stags" rising above the forest canopy over miles of country are mute evidence of the severe damage which the forest has suffered in this area. The forest here is badly in need of rehabilitation and regeneration if it is ever to become suitable for reservation. For this reason, in our view, this and other areas of forest needing rehabilitation should be managed for regeneration purposes, using established techniques, with a view to reservation of the rehabilitated forest at some time in the future. In the meantime, the river stream and road reserves will ensure that for canoeists and travellers the attractive characteristics of the Shannon will be preserved.

In addition, the Conservator of Forests has already agreed that no more than 9% of the Shannon Basin would be cut without the approval of the EPA during the first five years of the licence agreement. Following our more recent review, although we now see the need for management, and hence some cutting and regeneration in the Shannon, we nevertheless regard this agreement between the EPA and the Conservator of Forests as so important to conservation in the public mind that this agreement must continue to be honoured.

With the three-fold approach viz.

- (i) reservation of selected areas as "forest parks";
- (ii) regeneration of other areas as necessary with a view to ultimate reservation, and still
- (iii) restriction of cutting to less than 9% without the approval of the EPA

we believe that in the future the Karri forest of the Shannon will be of a quality suitable for reservation as a "forest park".

We were very impressed by the forest areas proposed for reserves by the Special Review Committee in the Donnelly and in the forest country to the east of the Shannon, namely, the Johnston and O'Donnell blocks and on to Mt Frankland. All these areas contain magnificent stands of mature Karri forest. The grandeur of the forest and country-side in these areas is outstanding, and far superior to the middle area of the Shannon. In our opinion they have considerable importance for conservation for scientific purposes as well as for tourism. In addition the scenic panorama viewed from the summit of Mt Frankland, is magnificent.

We recommend these areas also as forest parks.

The EPA therefore recommends that the parts of the State Forest listed in Table 2.4 and shown on figure 2.7 be set aside as "forest parks" (as defined in the preamble) and be so designated by the Conservator of Forests in a working plan prepared pursuant to Section 31 of the Forests Act 1918:

TABLE 2.4

<u>NAME</u>	<u>AREA HECTARES</u>
Dickson	261
Iffley	341
One Tree Bridge	429
Brockman	690
Dombakup	144
Lindsay	1,086
Johnston & O'Donnell	9,078
Soho	5,668
* Beavis	1,755
Strickland	1,485
* Giblett	2,849
Hawke Treen	1,840
Boorara	587
Curtin	1,108
Wattle	2,953
Lower Shannon	17,054
Mitchell Crossing	10,990
Muirillup Rock	353
Total	<u>58,361</u>

* These blocks are to be added to the Forest Park System following cutting and regeneration.

The EPA further recommends that the Forests Department's Road Reserves, amounting to 59,747 hectares, should be managed as for forest parks, with priority given to the preservation of aesthetic values, and that the Forests Department's Stream Reserves, amounting to 42,465 hectares, should also be managed as for forest parks, with priority given to the preservation of the water resource.

2.5 TONE-PERUP RIVER AREA

The EPA recommends that:

- (1) on the understanding that the Forests Department intends to manage the area for the conservation of fauna, the entire area delineated in figure 2.9 be declared a "forest park" and be managed by the Forests Department as though it were a reserve for flora and fauna;
- (2) if at any time the area is relinquished by the Forests Department it be made a Class A reserve for Conservation of Flora and Fauna, vested in the W.A. Wildlife Authority.

2.6 LAKE MUIR

The EPA recommends that:

- (1) the following Class C reserves, for the Conservation of Flora and Fauna and vested in the W.A. Wildlife Authority, be declared Class A reserves with the same purposes and vesting:

26677 Kulunilup Lake
26678 Kodjinup Lake
26679 Pindicup Lake & Bodginup Swamp
26680 Noobijup Lake
26681 Cobertup Swamps
26682 Pinticup Swamp;

- (2) Yarnup Swamp (Class C reserve 29601, Conservation of Flora and Fauna, unvested) be declared a Class A reserve for Conservation of Flora and Fauna and vested in the W.A. Wildlife Authority;
- (3) Galamup Swamp (Class C reserve 6549, Water, unvested) and Bokarup Swamp (Class C reserve 14739, Water, unvested) be declared Class A reserves for the Conservation of Flora and Fauna and vested in the W.A. Wildlife Authority;

The EPA endorses the present status, purpose and vesting of Lake Unicup and Little Unicup (Class C reserve 25798, Conservation of Flora and Fauna, W.A. Wildlife Authority) and Lake Muir (including Byenup Lagoon, Tordit-Gurrup Lagoon, Neeranup Swamp, Poorginup Swamp and Coorinup Swamp) (Class C reserve 31880, Conservation of Flora and Fauna, W.A. Wildlife Authority) and recommends that:

- (4) the temporary reserve to the north-east of Lake Muir (Nelson Loc. 12694) and the vacant Crown land south-east of Neeranup and Coorinup Swamps (Nelson Locs. 12566, 12567 and 12568) be added to reserve 31880.

The EPA further recommends that:

- (5) the Director of Engineering of PWD and the Director of Geological Survey discuss interdepartmentally the requirements for continuing hydrological studies on the effects of agriculture and mining on the area.
- (6) the Minister for Mines critically reviews any extension of the peat cutting operations in the light of the conditions endorsed by the EPA at its meeting of 20 July 1973;
- (7) the Minister for Agriculture delays any further drainage for agricultural purposes until the hydrology of the wetland complex is more fully understood;
- (8) prior to declaring any of the reserves listed above within the Lake Muir complex, the Director of Engineering, Public Works Department, investigate and advise whether the purpose of vesting needs to include water supply.

2.7 PORONGERUP NATIONAL PARK

The EPA endorses the present status, purpose and vesting of the Porongerup National Park (Class A reserve 18987, National Park, National Parks Authority).

2.8 MILLBROOK RESERVE

The EPA recommends that Millbrook Reserve (for Protection of Flora, not vested) remain a Class C reserve (18739) but that its purpose be changed to Conservation of Flora and Fauna, and that it be vested in the W.A. Wildlife Authority.

2.9 WEST CAPE HOWE

The EPA agreed with CTRC that the West Cape Howe area has the scenic grandeur that one would expect to include in a National Park. However, since it is now vested in the Albany Shire, which has spent some money on developing access to the area, the Authority does not propose to recommend a change in vesting.

It does recommend to the Shire that any increase in accessibility or other development in this region be done in such a way that the scenic attractiveness is retained and the plant and animal assemblages on this most southern part of Western Australia are not unduly disturbed.

2.10 TORNDIRUP NATIONAL PARK

The EPA endorses the present status, purpose and vesting of the Torndirrup National Park (Class A reserve 24258, National Park and Recreation, National Parks Authority) and the Qūaranup Youth Camp (Class A reserve 30360, Recreation, and Holiday Resort, Shire of Albany) noting that reserve 28232 has been incorporated into the Torndirrup National Park, recommends that:

- (1) Class A reserve 25295, for Recreation currently not vested, be vested in the Shire of Albany; (Vesting as recommended was submitted to Executive Council on 11.8.1976 by the Department of Lands and Surveys).

- (2) a portion of Class A reserve 25295 be excised and added to reserve 30360 to provide access facilities for the Quaranup Youth Camp (Class A reserve 30360, Recreation and Holiday Resort, Shire of Albany).

2.11 TWO PEOPLES BAY WILDLIFE SANCTUARY

The EPA endorses the present status, purpose and vesting of the Two Peoples Bay Wildlife Sanctuary (Class A reserve 27956, Conservation of Fauna, W.A. Wildlife Authority).

2.12 WETLANDS

The EPA recommends that:

- (1) Class C reserve 30626 (Conservation of Flora and Fauna, unvested) be changed to a Class A reserve for the Conservation of Flora and Fauna, vested in the W.A. Wildlife Authority and that it be enlarged by the incorporation of vacant Crown land to the size as shown in figure 2.1;
- (2) a Class A reserve for the Conservation of Flora and Fauna vested in the W.A. Wildlife Authority, be declared at Owingup Swamp. The reserve should include the open waters of Owingup Lake and part of the surrounding and adjoining swamps. Boundaries are to be determined by the Environmental Protection Authority following consultation between the Departments of Agriculture, Fisheries and Wildlife and Lands and Surveys;
- (3) the Public Works Department refer all proposals for drainage schemes to the Department of Conservation and Environment for evaluation for possible implications for wetland areas;
- (4) and the Department of Conservation and Environment refer all proposals for Wetlands reserves and policies to the Public Works Department for evaluation of the broad implications related to water resources and drainage.

The EPA notes that the CTRC did not make recommendations regarding Wetland Complex 11 (see figure 0-1) and recommends that the Department of Fisheries and Wildlife, when resources for a survey are available, advise the EPA as to its recommendations for these wetland areas and in so doing should consult with the Director of Engineering, PWD with respect to water resource potential and future utilisation.

2.13 ISLANDS

The EPA notes the recommendations of CTRC with regard to the small islands within System 2 and in accordance with its recommendations endorsed by Cabinet on 9 February 1976, recommends that:

- (1) unless there are sufficient reasons otherwise, these islands be reserved as Class B for Flora and Fauna and that the boundaries extend to low water mark;

2.14 THE SOUTH COAST

The EPA notes the CTRC recommendation relating to effective control and management of Crown Lands on the south coast within System 2. However, the EPA sees this matter as falling within the scope of a coastal management policy. The EPA has already issued "Preliminary Draft Guidelines for an Environmental Protection Policy on Coastal Management" and has sought, and is receiving, preliminary comments from professional groups, local and State Government authorities for its guidance in further development of the policy. It will issue in September Draft Guidelines for public comment.

The EPA however gives notice of its intention to set up a working group consisting of representatives of local government authorities, State Government departments and instrumentalities and the public, to deal with the spirit of the CTRC recommendation.

The terms of reference of this working group will be to make recommendations on the future control and management of Crown Lands on the south coast within System 2, including those areas listed in Table 2.14.

The EPA does not believe it proper that this working group should report on the financial implications of creating a special authority to manage these Crown Lands.

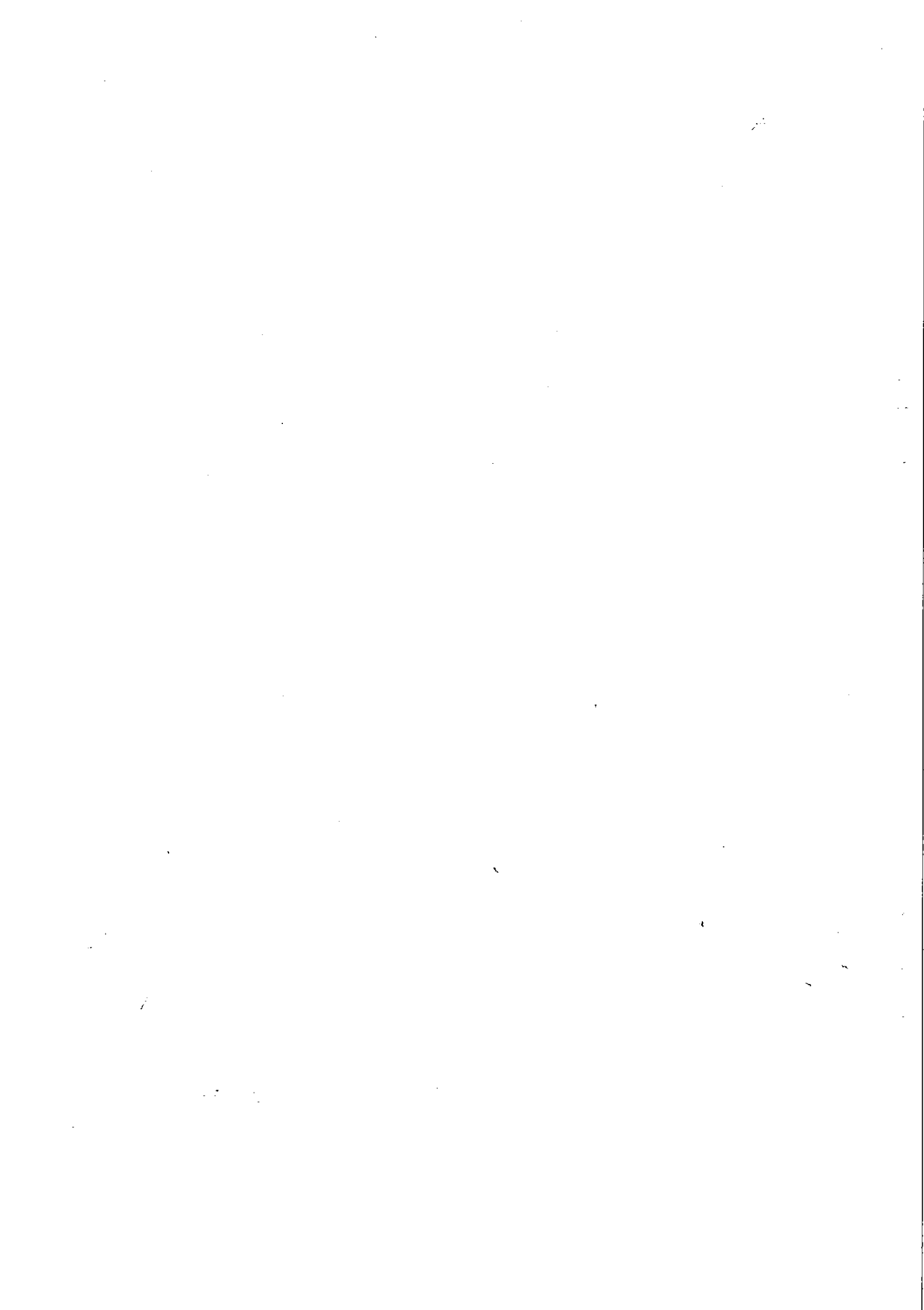
TABLE 2.14

C19787	Camping
A15677	Inspection of Flora
C22975	Camping and Protection of Flora
C7723	Government Requirements
C2010	Public Utility
A20928	Recreation and Camping
A24913	Park Lands and Recreation
A30883	Recreation
C17464	Common
A24514	Recreation and Camping
C20367	Common
C2217	Public Utility and Camping
C4732	Common
C13773	Pine Plantation
A24547	Camping and Recreation
A24548	Camping and Recreation
A22998	Camping and Recreation
C2903	Quarantine Station for Stock
C22698	Residences Business Area, Public Utility
A27107	National Park
A33842	Conservation of Flora and Fauna

2.15 KENT AND DENMARK RIVER CATCHMENTS

The EPA notes the relative dearth of conservation reserves in the eastern portion of System 2 and further the necessity to manage these catchment areas for conservation of the water resource. The latter does not conflict with other conservation values. The EPA therefore recommends that:

- (1) consideration be given to the establishment of a State Forest on the Kent and Denmark catchment reserves;
- (2) in drawing up a Working Plan for the proposed State Forest the Conservator of Forests consult with the Director of Engineering, Public Works Department to ensure that management is compatible with protection of the water resource.



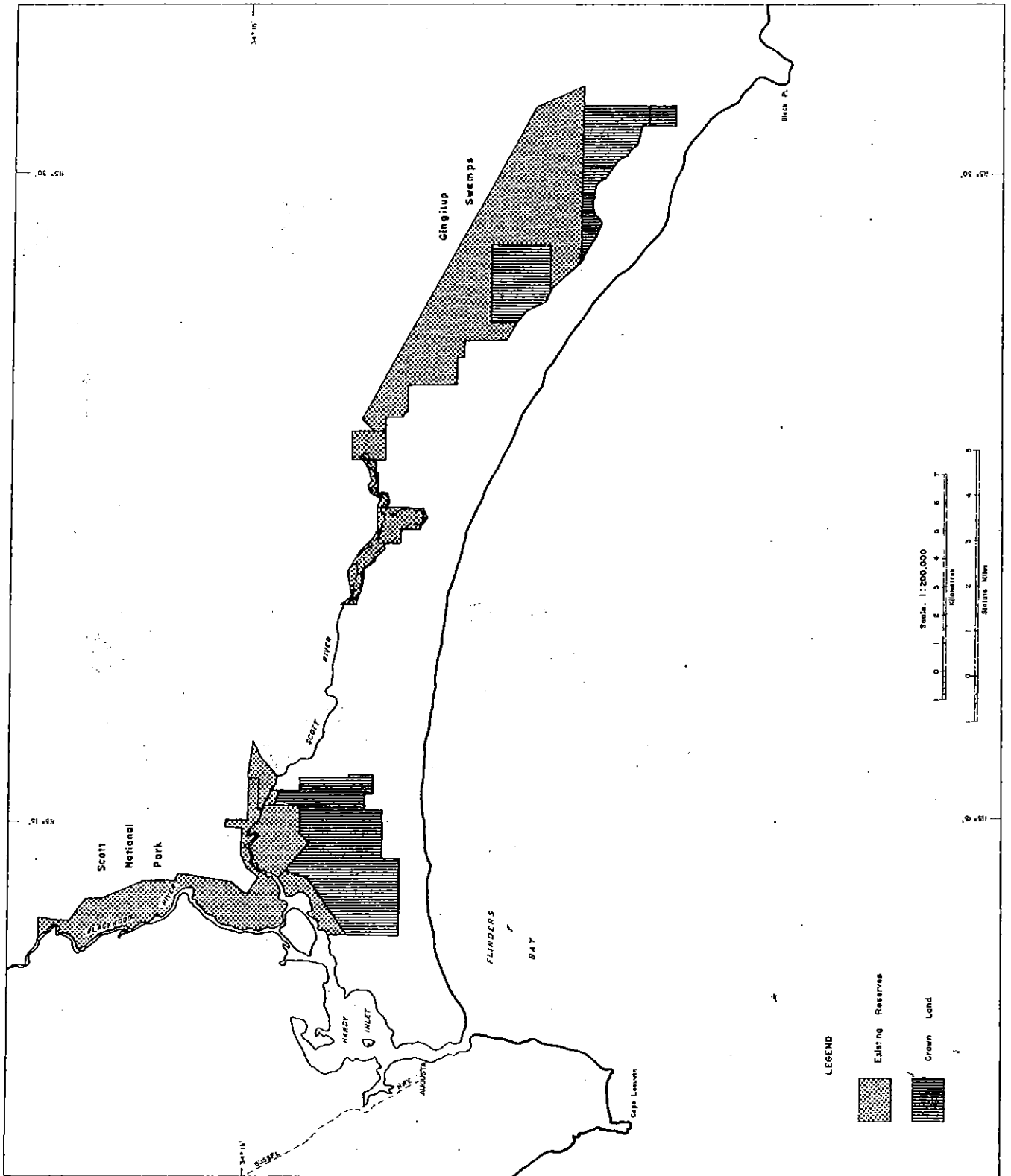


Figure 2-1. Scott National Park and Gingilup Swamps - area map

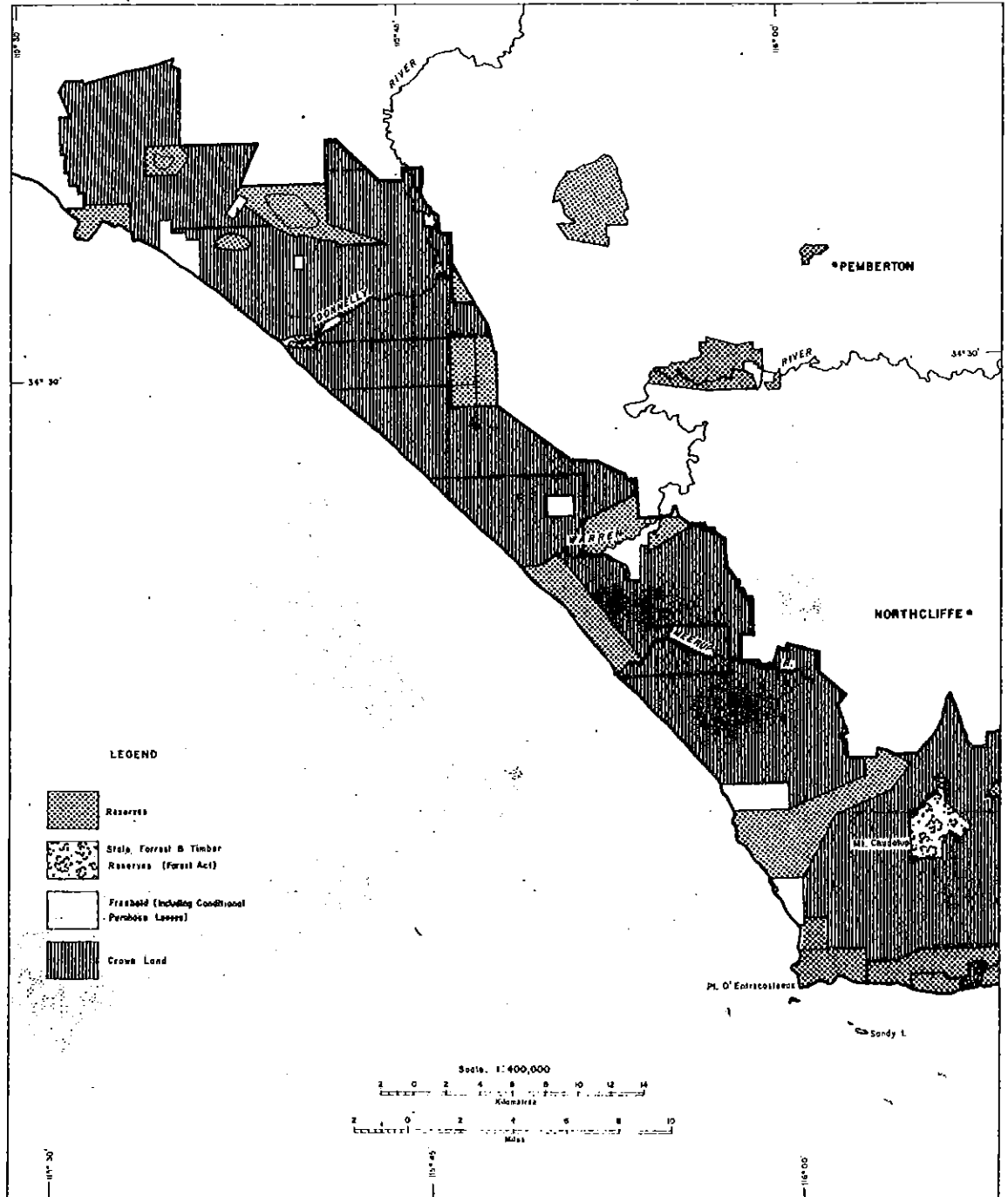


Figure 2.2 Proposed South Coast Park I - Western Section

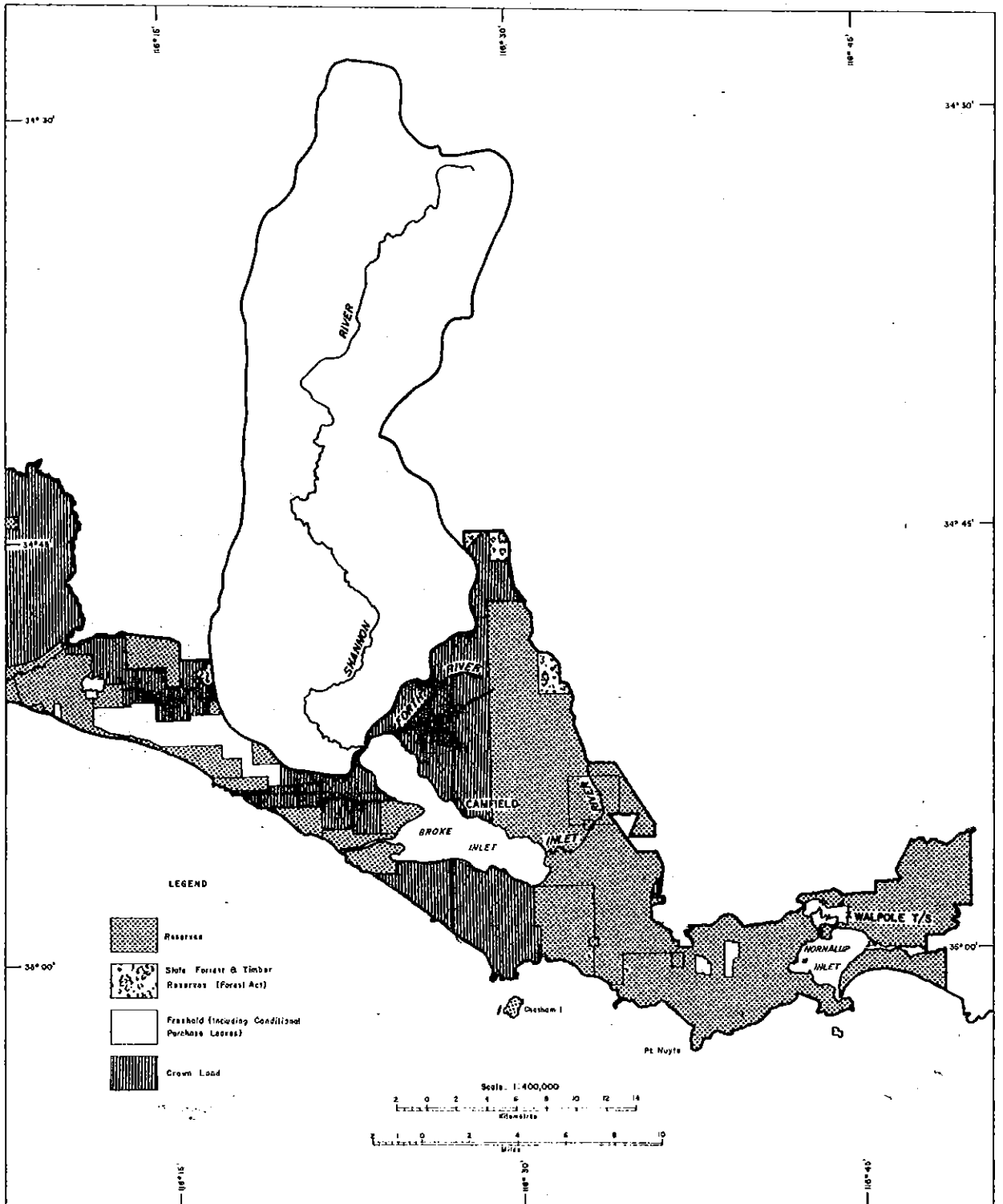
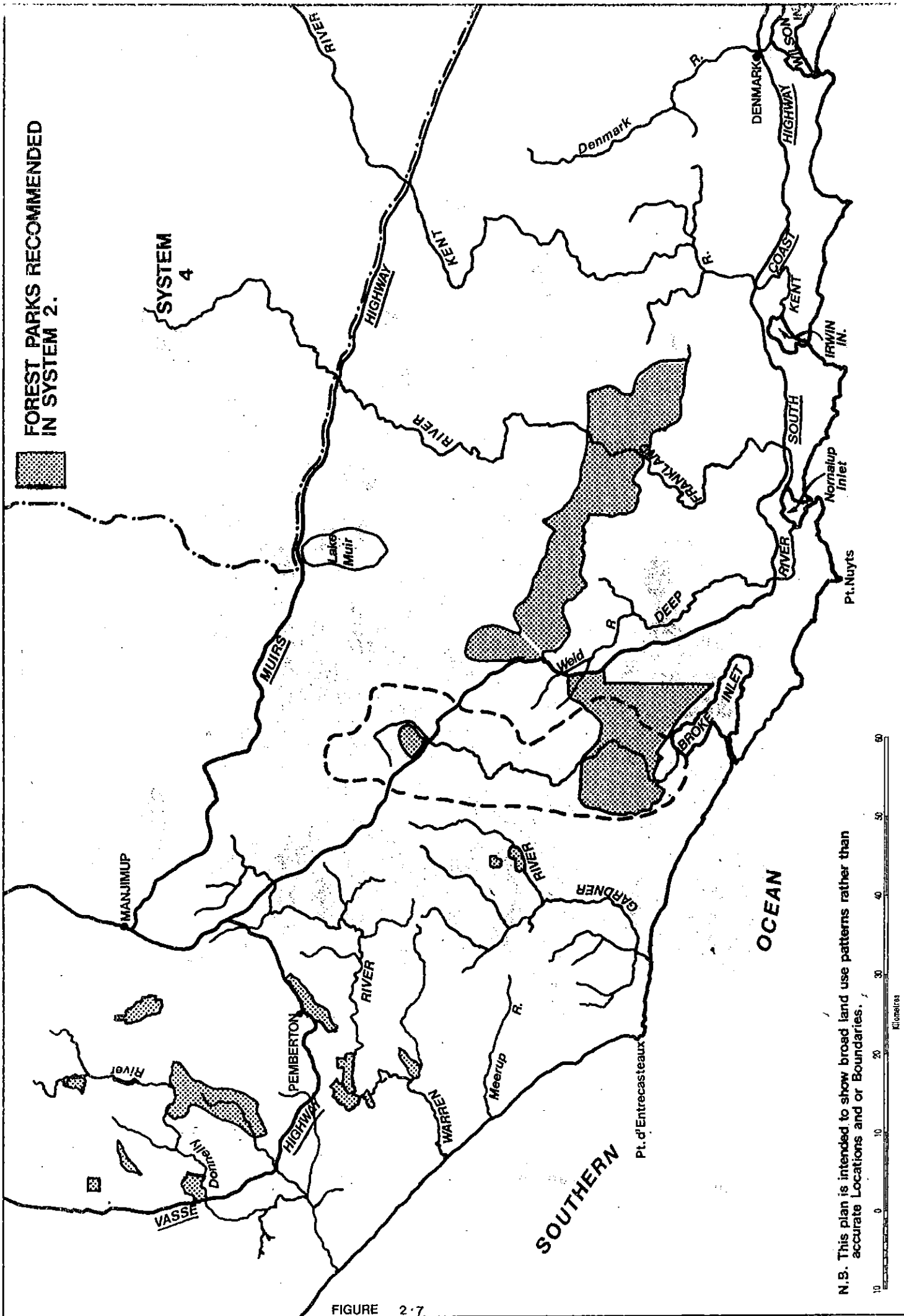


Figure 2-3 Proposed South Coast Park 2 - Eastern Section



N.B. This plan is intended to show broad land use patterns rather than accurate Locations and or Boundaries.

FIGURE 2.7

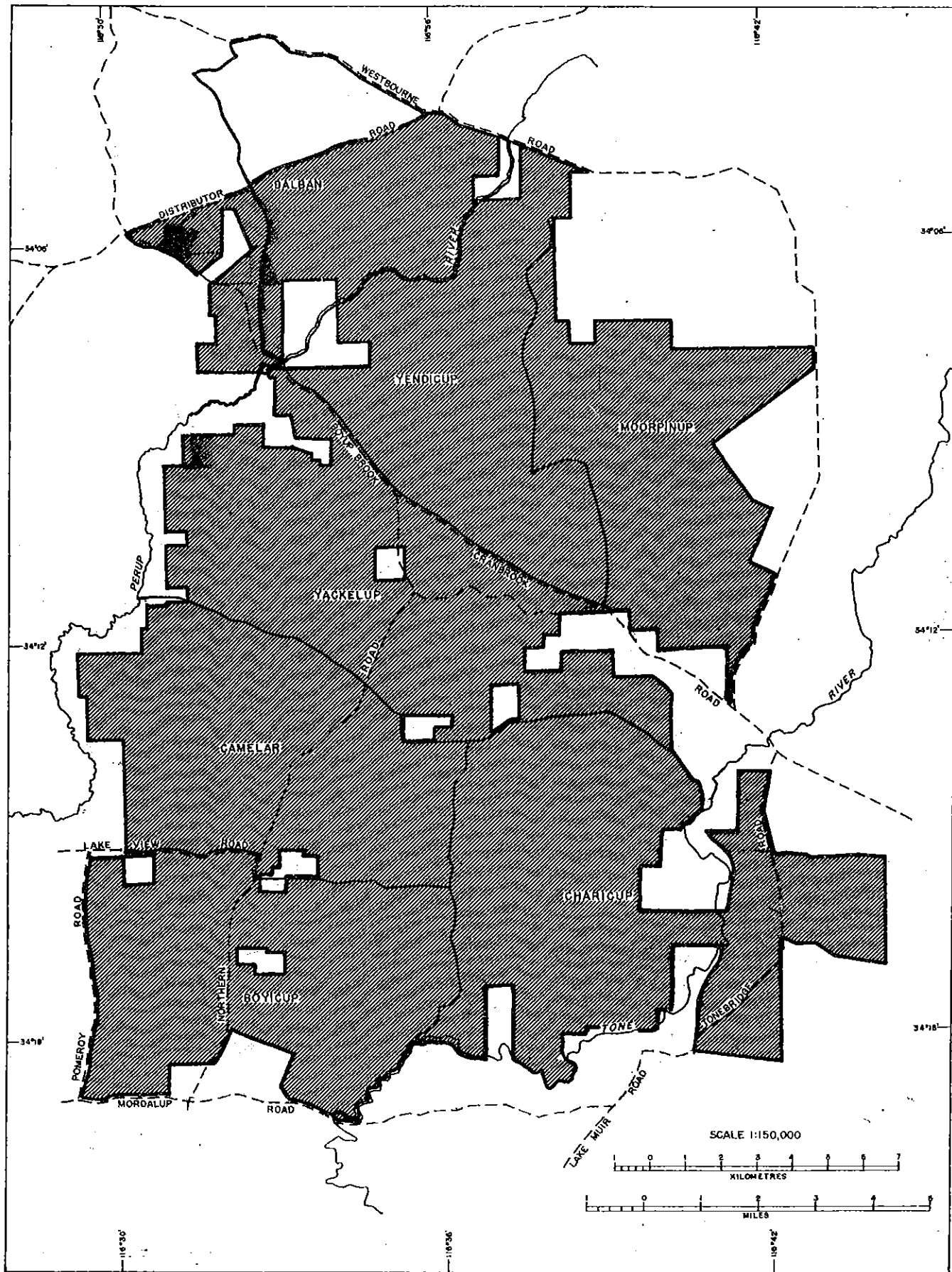


Figure 2-9 area map of Tone - Perup River area

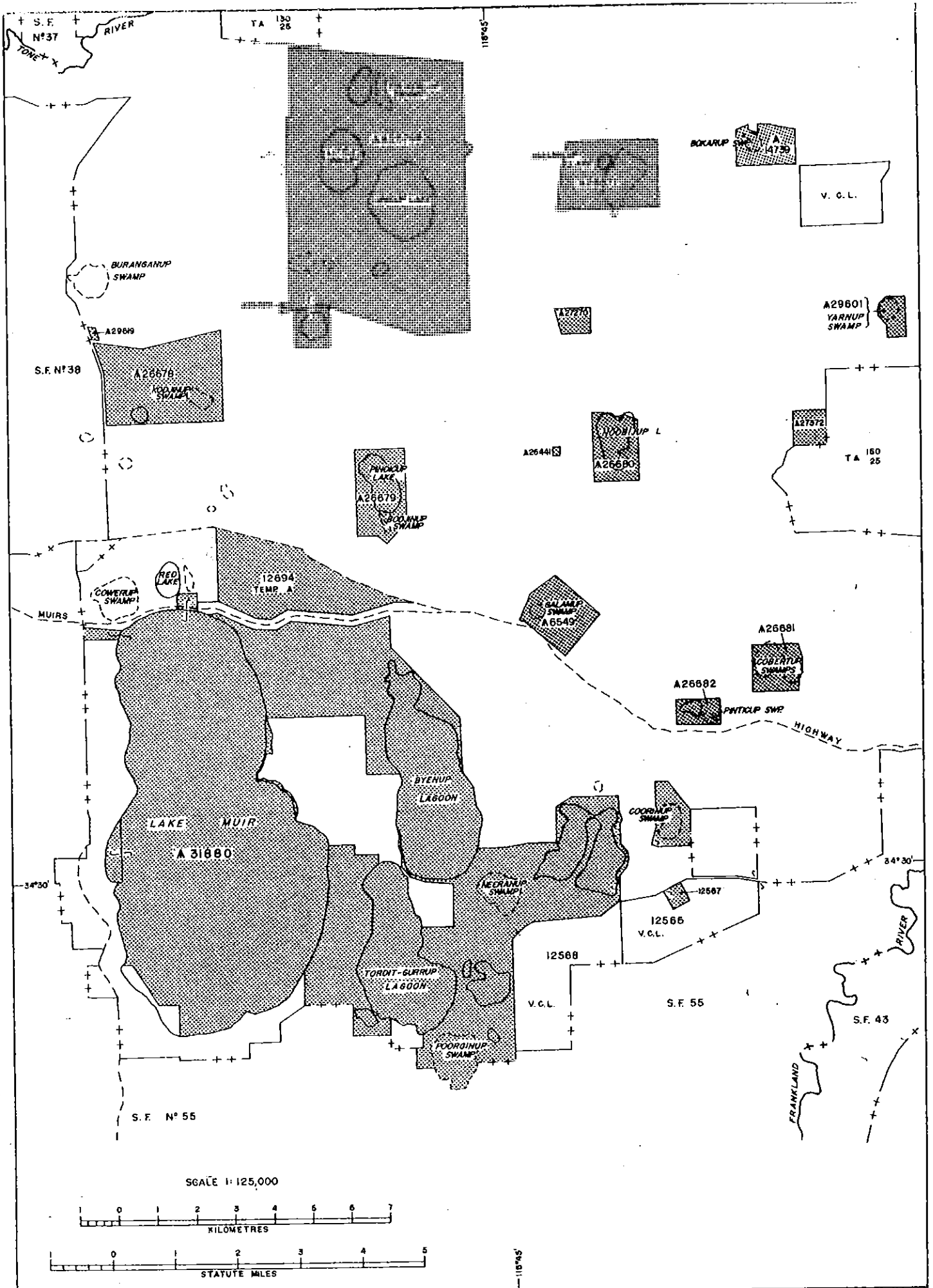


Figure 2-10 Area map of Lake Muir area

SYSTEM 3 - EASTERN SOUTH COAST

3.1 STIRLING RANGE NATIONAL PARK

The EPA endorses the present status, purpose and vesting of the Stirling Range National Park (Class A reserve 14792, National Park, National Parks Authority.)

3.2 FITZGERALD RIVER NATIONAL PARK^(A)

In evaluating the CTCRC's recommendation, particularly as to the proposed area north of the existing reserve, the EPA has given consideration to personal discussion and written submissions from the Shire of Ravensthorpe and others who objected to the proposal primarily because of their concern that some of the area might be needed to expand agricultural properties so as to make them economically viable. Although specific details will not be concluded until receipt of the results of a soil survey of the area within the next few months, advice from the Department of Agriculture is to the effect that only some 2,000 ha, or less than 5% of the proposed addition, could be regarded as being required to bring existing farms to an economically viable size.

The EPA therefore supports the CTCRC recommendations in principle and awaits the completion of the survey before making exact specification of the areas to be added to the north and west of the existing reserve.

The EPA noted that Cabinet changed on 19 January 1973 Class C reserve 24048 for the Conservation of Flora and Fauna, unvested, into Class A reserve 31737 for National Park, vested in the National Parks Authority, with the exception of the coastal strip, which was declared Class A reserve 31738 for National Park vested in the National Parks Authority with power to lease.

The EPA recommends that:

- (1) road reserve 6284 should retain its current status;
- (2) Class C reserve 26302, presently for the purpose of Recreation and the Conservation of Flora and not vested, be vested in the Shire of Ravensthorpe;
- (3) noting the recreational potential of Culham Inlet, the eastern boundary of Culham Inlet be declared a Class A reserve for Recreation, vested in the Shire of Ravensthorpe, with power to lease;
- (4) Red Islet, down to low water mark be added to Class A reserve 31738.

(A) In view of submissions from the Under Secretary for Mines requesting excision of "mineral potential areas" the EPA recommends that Cabinet approve in principle the recommendations as listed in the 'red book' and direct the Under Secretary for Mines and the Director of Conservation and Environment to resolve the matter departmentally. In the event of lack of agreement, the matter is to be referred back to the Ministers for resolution. This note labelled (A) also applies to recommendations 3.8, 5.7, 5.9, 5.17, 5.18, 5.22.

3.3 COCANARUP RESERVE

The EPA recommends that:

- (1) Class C reserve 30795, for the purpose of Timber and unvested but managed by the Forests Department, should continue to be managed by the Forests Department but more attention be given to its multiple use for the conservation and management of flora and fauna as well as timber production;
- (2) that the Forests Department prepare a management plan in consultation with the Shire of Ravensthorpe, the Director of Fisheries and Wildlife, the W.A. Herbarium and the Director of Engineering, Public Works Dept.

3.4 CAPE LE GRAND NATIONAL PARK

The EPA endorses the present status, purpose and vesting of the Cape Le Grand National Park (A22795, National Park, National Parks Authority) and notes the desire of the Esperance Shire Council that the National Park not be extended to low water mark and that the Shire prefers the coastal strip to be managed in accordance with the proposed Environmental Protection Policy on Coastal Management. However, the EPA sees no inconsistency between the coastal policy guidelines so far developed and extension to low water mark and therefore recommends:

- (1) that Class A reserve 22795 be extended to low water mark, and that the vesting be amended to give the National Parks Authority power to lease;
- (2) the Department of Lands and Surveys be requested to attempt to purchase Esperance locations 340, 368, 371 and 385 should they come on the market, and that then the land be declared a Class A reserve for the purpose of National Park, controlled by the National Parks Authority;
- (3) in view of the limited all-weather access roads to the coast in the region, road reserve 12710 within the National Park remain a public road unhindered by a collection of National Park tolls;
- (4) subject to recommendation (5) below, the present status, purpose and vesting of Class C reserve 28170 (Government use and requirements, not vested) remain unaltered and that a decision whether or not to recommend upgrading to Class A should be made by the Environmental Protection Authority after a biological survey carried out by the Department of Fisheries and Wildlife and the W.A. Herbarium;
- (5) that a road reserve be created in Class C reserve 28170 following an alignment suggested by the Shire of Esperance to provide access to locations 189, 401 and 475.

3.5 CAPE ARID NATIONAL PARK

The EPA endorses the present status, purpose and vesting of the Cape Arid National Park (Class A reserve 24047, National Park, National Parks Authority) but recommends that:

- (1) the National Park be extended to low water mark and that the purpose be amended to allow the National Parks Authority to have power to lease to the local government authority for the coastal area along the lines of the areas allocated in Class A reserve 31738;
- (2) reserves 14234 (Class C, Water, not vested) and 519 (Class C, Public Purposes, not vested) be included in the National Park;
- (3) the purpose of Class C reserve 518 be changed from Public Purpose to Camping and Recreation vested in the Shire of Esperance;
- (4) the Department of Lands and Surveys be requested to attempt to purchase Neridup locations 8, 9 and 10 should they come on the market, in which event the land be included in the National Park, and that in any such acquisition the advice should be sought of the Esperance Bay Historical Society with regard to the historical importance of the area and the need for unimpeded access;
- (5) the boundary of the National Park be extended northwards as shown in fig. 3.14, to include Pine Hill;
- (6) the area to the east of the boundary between Systems 3 and 12 as shown in Fig. 3.14, be added to the Nuytsland Wildlife Sanctuary (see 12.21).

3.6 THE RECHERCHE ARCHIPELAGO

In consideration of the CTCR's recommendations on the Recherche Archipelago, the EPA has taken due cognizance of submissions, including one from the Shire of Esperance, pertaining to public access for day trip exploration, picnics and camping, and to submissions about the mineral potential of phosphate deposits on Dawe and Salisbury Islands. While accepting the submissions with regard to public access, technical advice to date is that the mineral deposits would be non-viable.

The EPA recognises the validity of the points made by the Shire of Esperance regarding the attractiveness of the islands of the Recherche Archipelago for recreation. However, the conservation importance of these islands is very great and the potential losses arising from mismanagement are immense. Accordingly it sees no attraction in changing the vesting of the larger and important islands with mammal populations. However,

it does see virtue in the vesting authority relaxing landing conditions on some islands e.g. Middle but supervising visitors' accesses for short seasons with a resident warden.

The EPA endorses the present status, purpose and vesting of the Recherche Archipelago (Class A reserve 22796, Conservation of Flora and Fauna, W.A. Wildlife Authority), and recommends that:

- (1) the boundary of reserve A22796 be extended to low water mark;
- (2) Red Island, near Barker Inlet, be included in reserve A22796.

3.7 ESPERANCE LAKES RESERVE

The EPA notes that Class C reserve 20664 (Public Utility, unvested) has been incorporated in Class A reserve 15231 (Conservation of Flora and Fauna, W.A. Wildlife Authority) and the EPA recommends that:

- (1) the purpose and vesting of Class A reserve A15231 be changed to Conservation of Flora and Fauna and Recreation, vested in the W.A. Wildlife Authority with power to lease;
- (2) the status of Class C reserve 32257 (Conservation of Flora and Fauna, W.A. Wildlife Authority) be changed to Class A.

3.8 RAVENSTHORPE RANGE (A)

The EPA notes the CTCRC recommendation that biologically the area is worthy of Class A protection but that the area contains prospective mineral wealth.

The EPA accordingly recommends that:

- (1) the areas as shown in fig. 3.19 be classified as a Class C reserve for the Conservation of Flora and Fauna and Water, vested in the W.A. Wildlife Authority;
- (2) the following existing reserves should be included in the proposed reserve --
Class C reserve 17880, Water, vested in the Minister for Water Supplies, Sewerage and Drainage
Class C reserve 17384, Water, not vested
Class C reserve 31128, Flora and Fauna, not vested
part of Class C reserve 16119, Common, not vested

3.9 TRUSLOVE AREA

The EPA recommends that the W.A. Wildlife Authority and the W.A. Herbarium examine reserve 27985 (Class C, Flora and Fauna, W.A. Wildlife Authority) and make such recommendations to the Environmental Protection Authority as may be needed to secure populations of *Eucalyptus forrestiana*.

3.10 THE SOUTH COAST

The EPA notes the CTRC recommendation relating to effective control and management of Crown Lands on the south coast within System 3. However, the EPA sees this matter as falling within the scope of a coastal management policy. The EPA has already issued "Preliminary Draft Guidelines for an Environmental Protection Policy on Coastal Management" and has sought, and is receiving preliminary comments from professional groups, local and State Government authorities for its guidance in further development of the policy. It will issue in September Draft Guidelines for public comment.

The EPA however gives notice of its intention to set up a working group consisting of representatives of Local Government authorities, State Government Departments and instrumentalities and the public to deal with the spirit of the CTRC recommendation.

The terms of reference of this working group will be to make recommendations on the future control and management of Crown Lands on the south coast within System 3, including those areas listed in Table 3.10.

The EPA does not believe it proper that this working group should report on the financial implications of creating a special authority to manage these Crown Lands.

TABLE 3.10

Reserve 31240,	between Wilyanup Creek and Ledge Point Class for Government Requirements
C14942	Park Lands and Recreation
C14943	Park Lands and Recreation
C14944	Whale Island, Park Lands and Recreation
C31240	Mt Melville to Mt Groper, Park and Recreation
C14987	Recreation and Camping
A14986	Park Lands and Recreation
C22353	Recreation
C21647	Recreation and Camping

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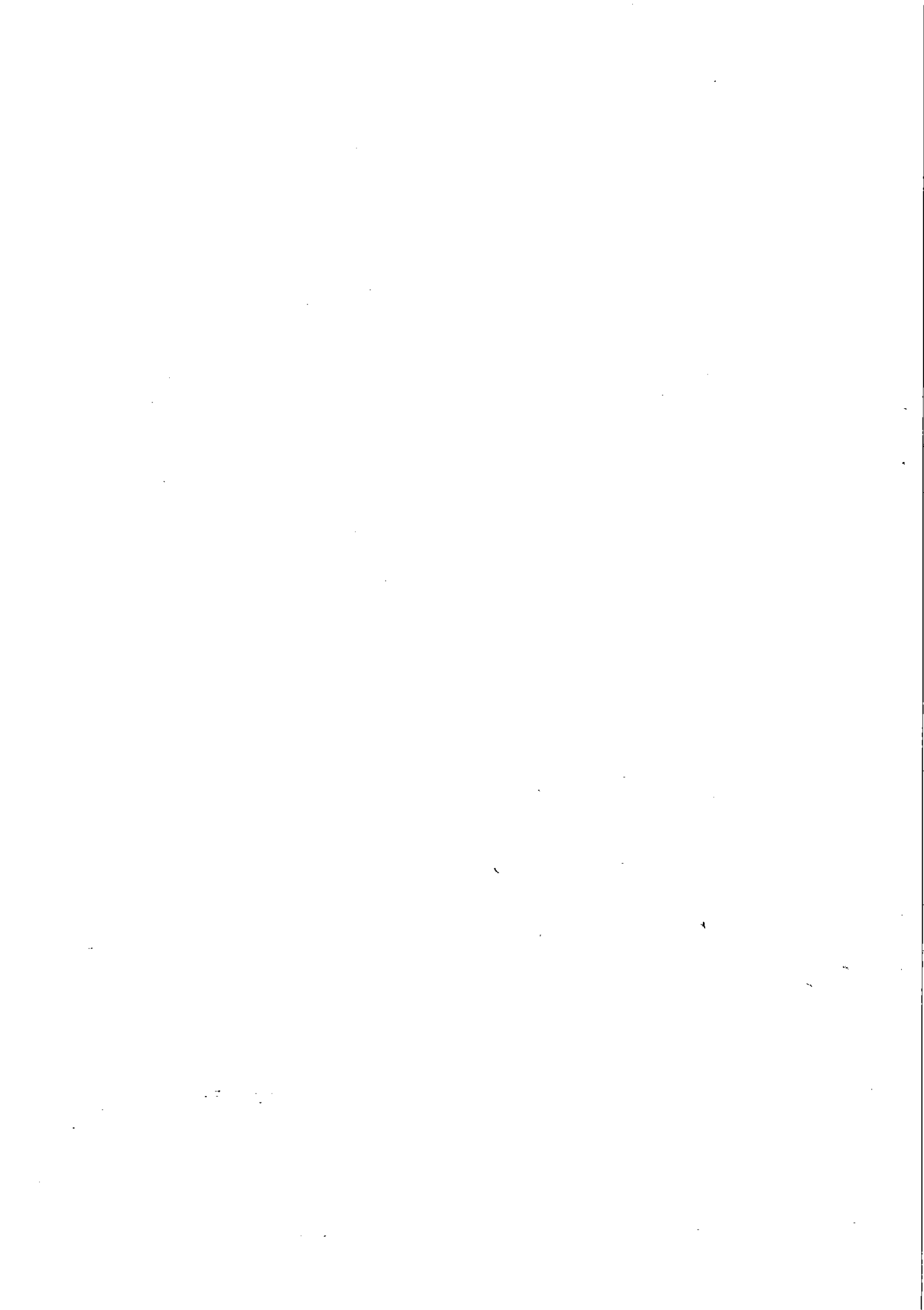
Table 3.10 contd.

C14988	Recreation and Camping
C27102	Common and Recreation
C26097	Dog Proof Fence
C28122	Recreation
Vacant Crown Land at Dillon Bay	
B3766	Public Utility
B4121	Government Requirements
C511	Recreation
C32666	Government Requirements
Two-chain (40 metre) strip on coast between Culham Inlet and Hopetoun	
C28438	Recreation
Vacant Crown Land east of Hopetoun	
C22761	Public Utility
Vacant Crown Land west of Starvation Boat Harbour	
C7580	Ravensthorpe Shire Council Rabbit Department
C32339	Conservation of Flora and Fauna
C27888	Conservation of Flora
C26885	Conservation of Flora
C24486	Conservation of Flora
C4180	Common
A32590	National Park
Vacant Crown Land between Wharton Townsite and Cape Arid National Park, under option to the Esperance Land Development Corporation; a strip 2 km wide (from low water mark) extending along the coast should be reserved.	
All those 2-chain (40 metres) strips between Crown grants or Pastoral Leases and low water mark.	

3.11 WETLANDS

The EPA recommends:

- (1) that Lake Gore be declared a Class A reserve for the Conservation of Flora and Fauna and Water, vested in the W.A. Wildlife Authority;
- (2) that Lake Mortijinup be declared a Class A reserve for the Conservation of Flora and Fauna and Water, vested in the W.A. Wildlife Authority, boundaries to include the lake and all adjoining land within 100 m of its shore excepting where this encroaches on private property;
- (3) that Lakes Carbul, Kubitch and Gidong, extending to 50 metres above their shoreline with the consent of the owners be acquired from Conditional Purchase Lease 347/11179 and declared a Class A reserve for the Conservation of Flora and Fauna, and Water, vested in the W.A. Wildlife Authority;
- (4) that the Jerdacuttup Lakes be declared a Class A reserve for the Conservation of Flora and Fauna and Water, vested in the W.A. Wildlife Authority; the reserve to be all vacant Crown Land and reserves between the eastern boundary of Oldfield Location 335 and the western boundary of Reserve 7580



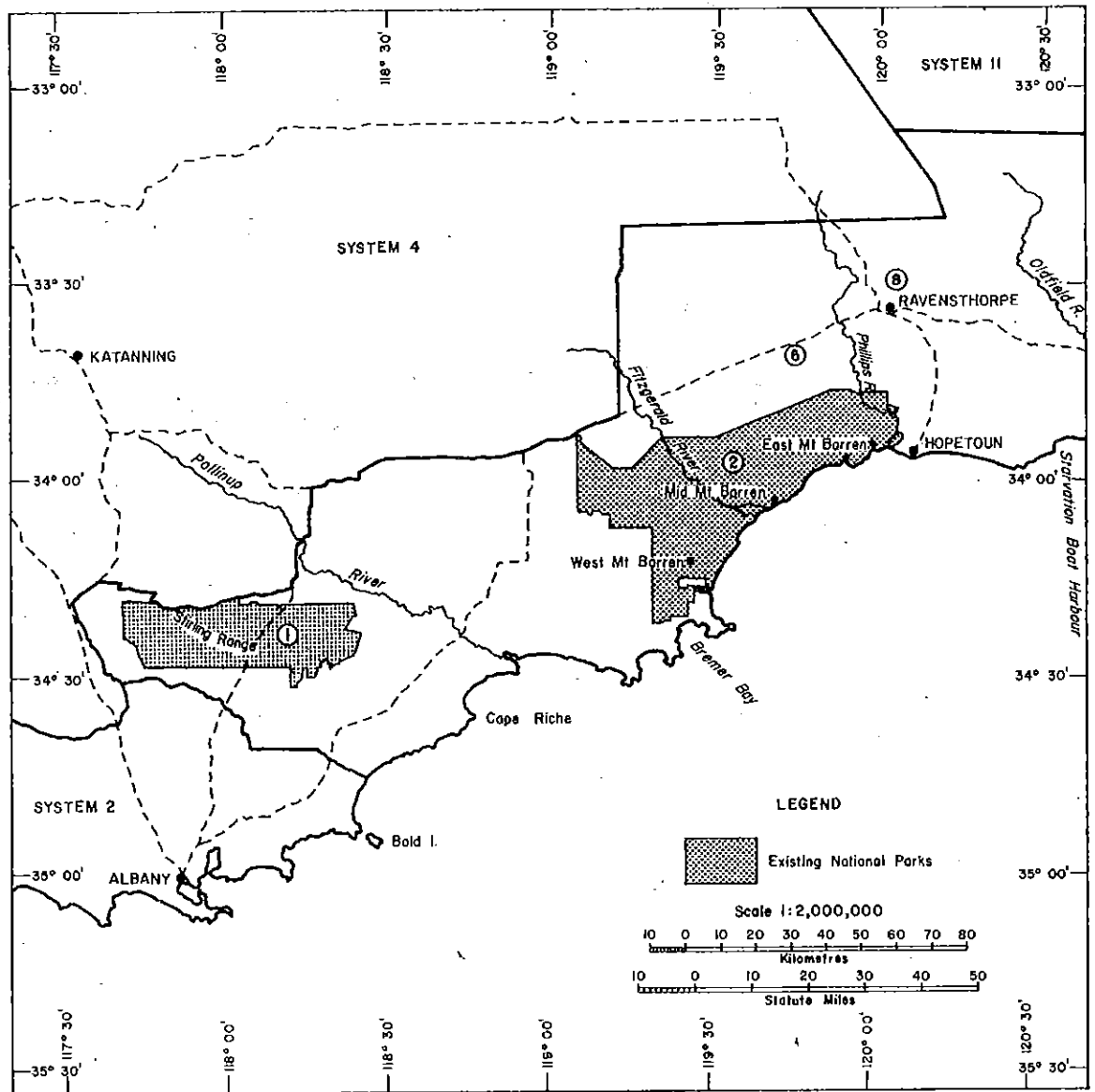


Figure 3.1 System map - I Circled numbers denote areas discussed

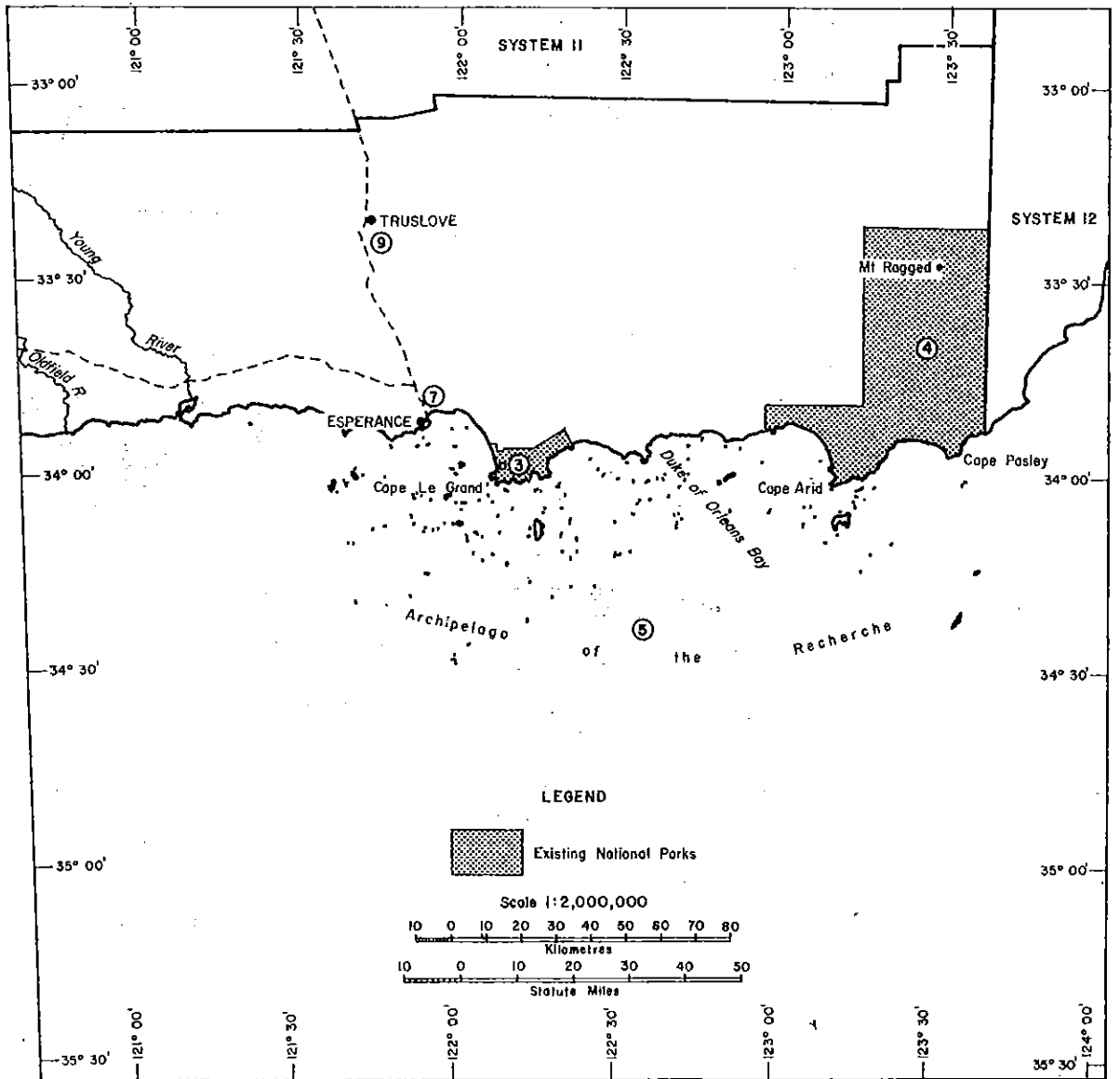


Figure 3.2 System map 2

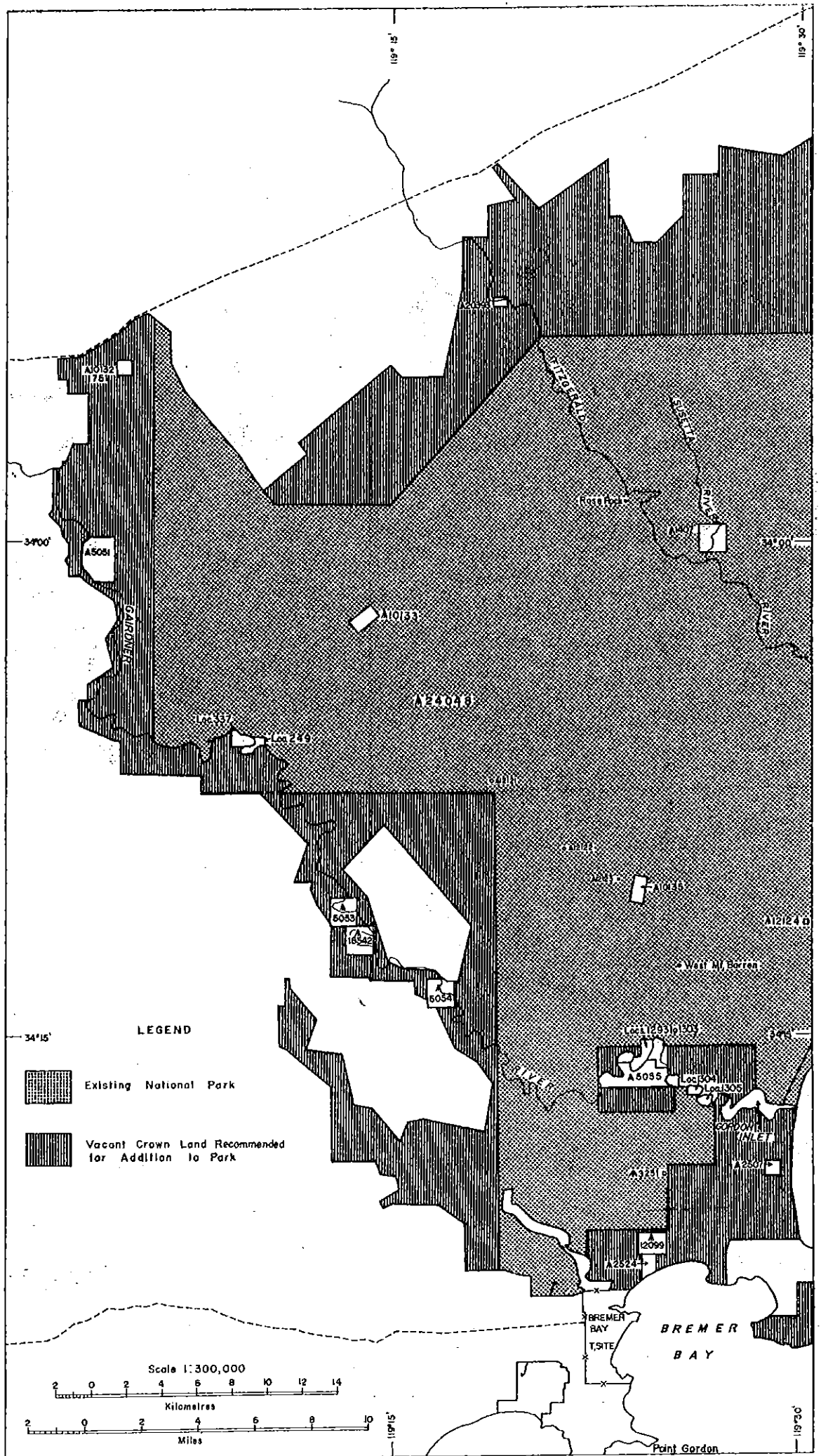


Figure 3·8 Area map of the Fitzgerald River National Park - Western Section

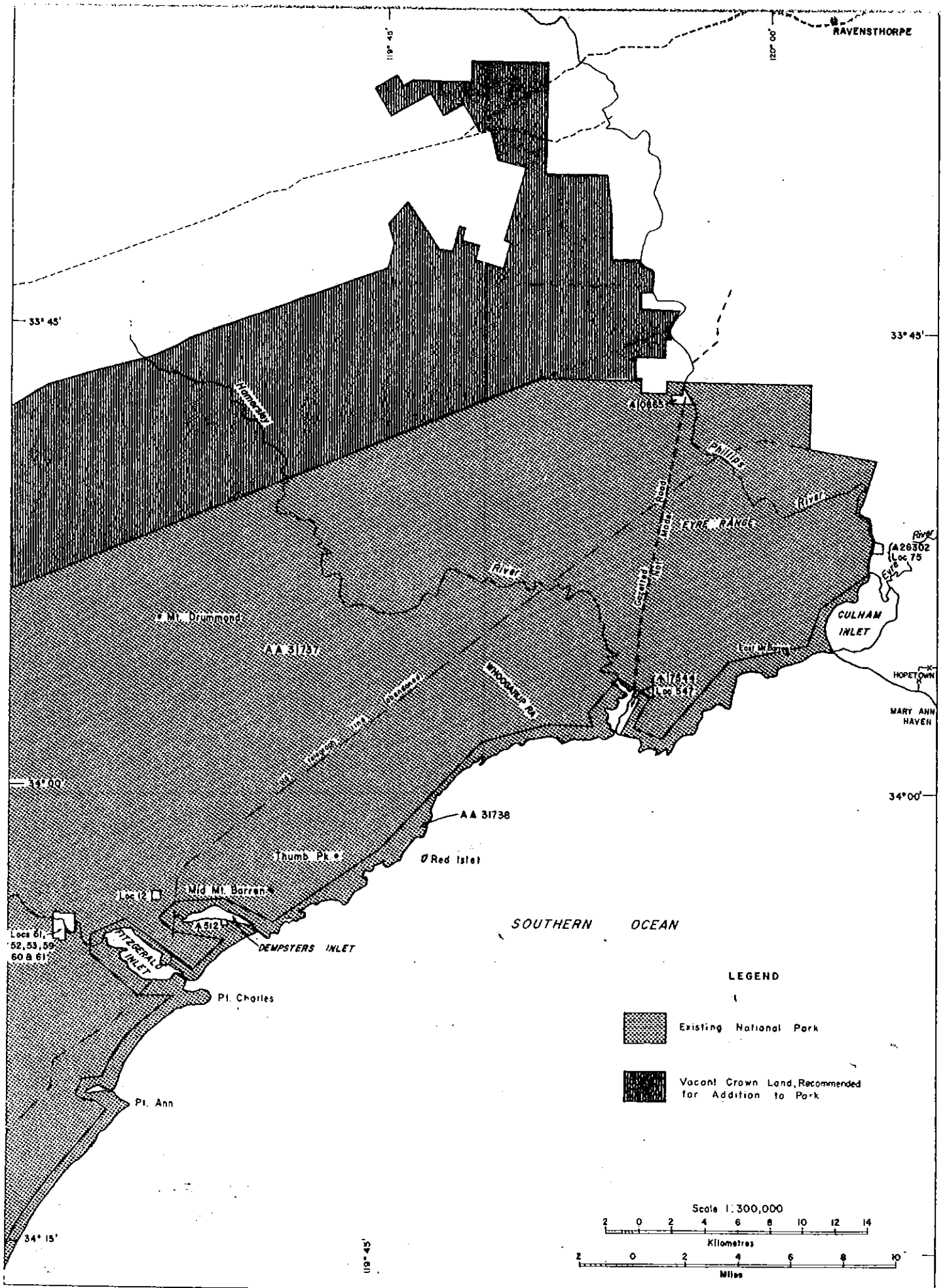


Figure 3.9 Area map of the Fitzgerald River National Park - Eastern Section

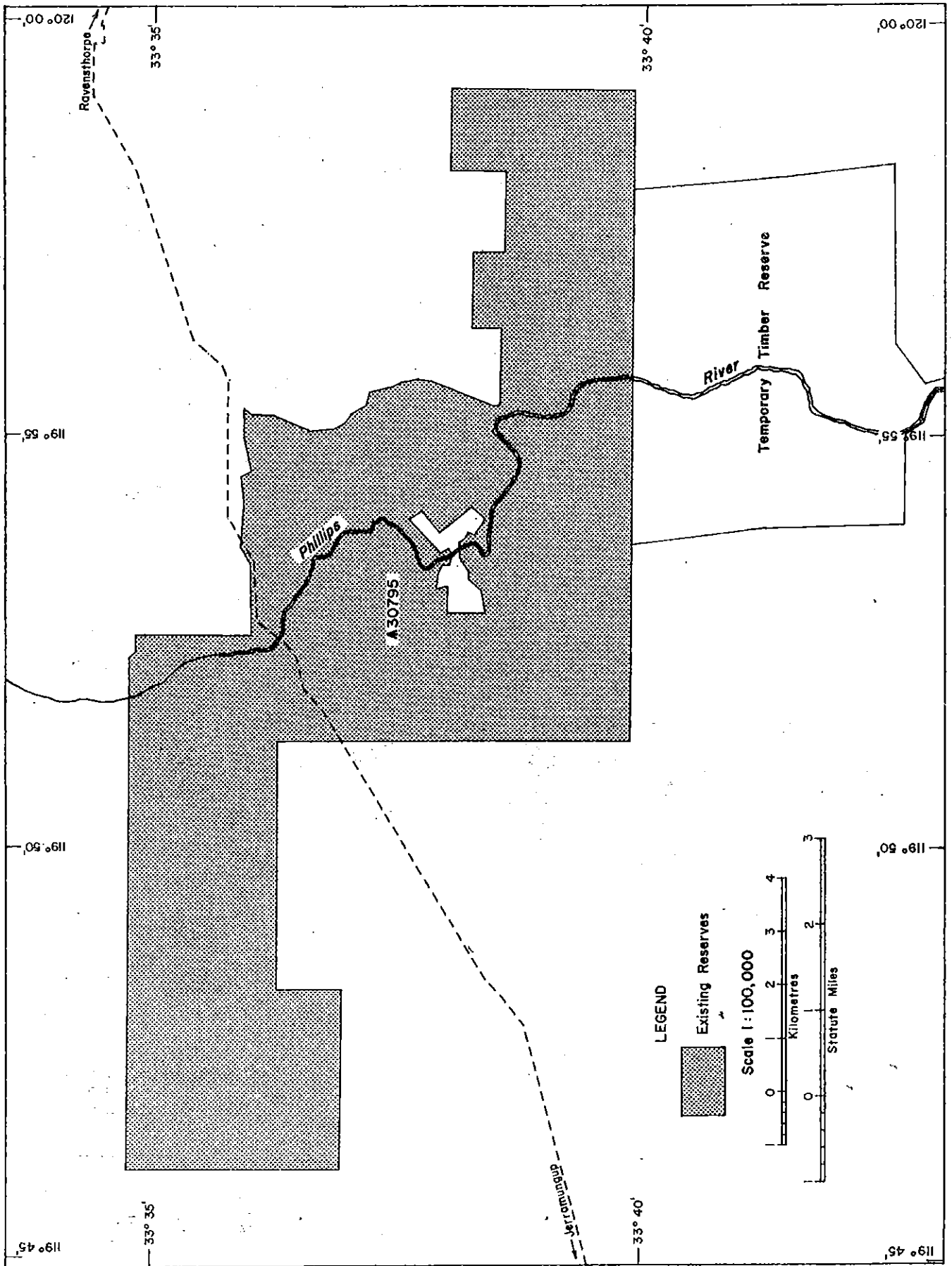


Figure 3-10 Area map of Cocunarp Reserve

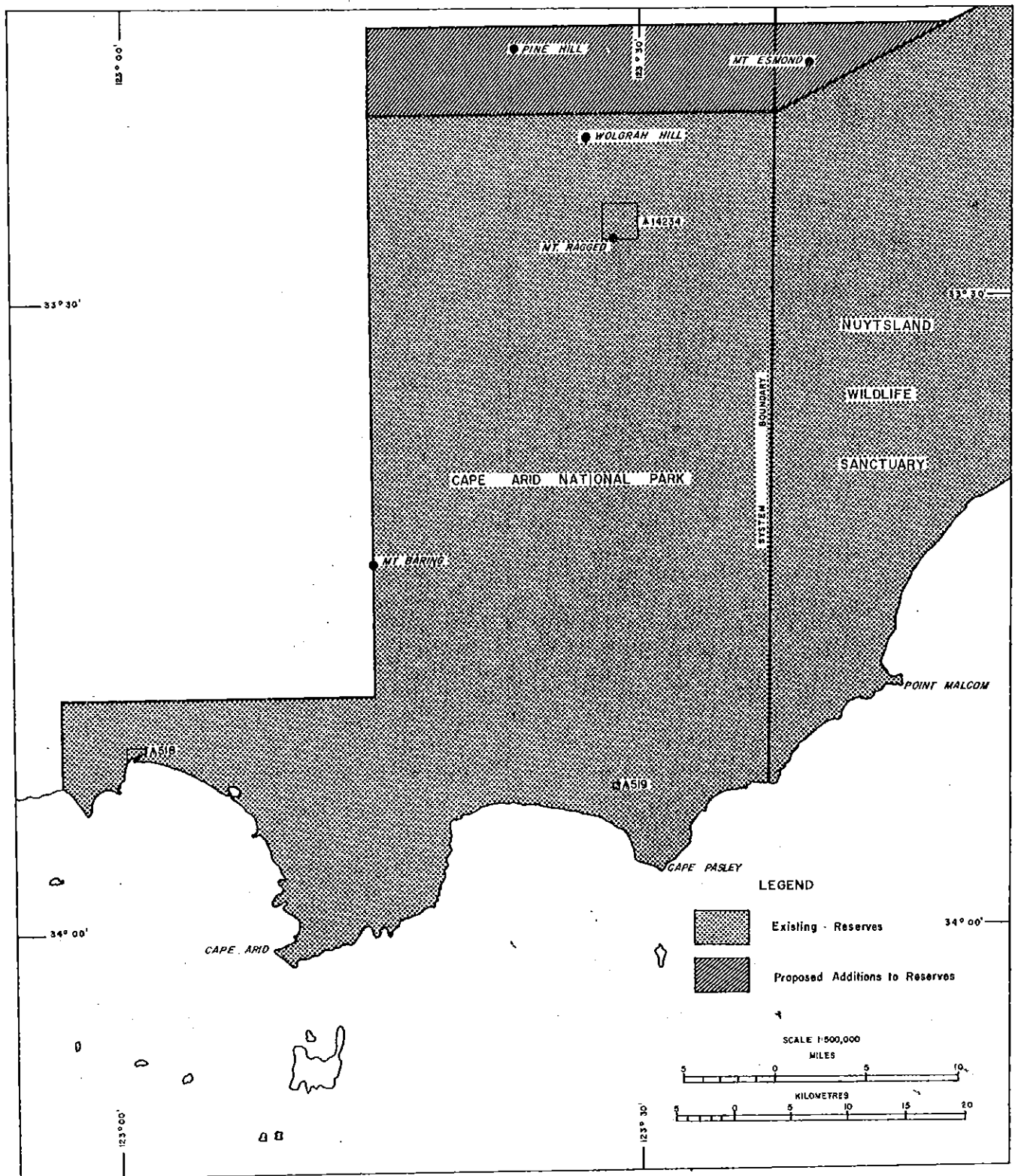


Figure 3-14 Cape Arid National Park

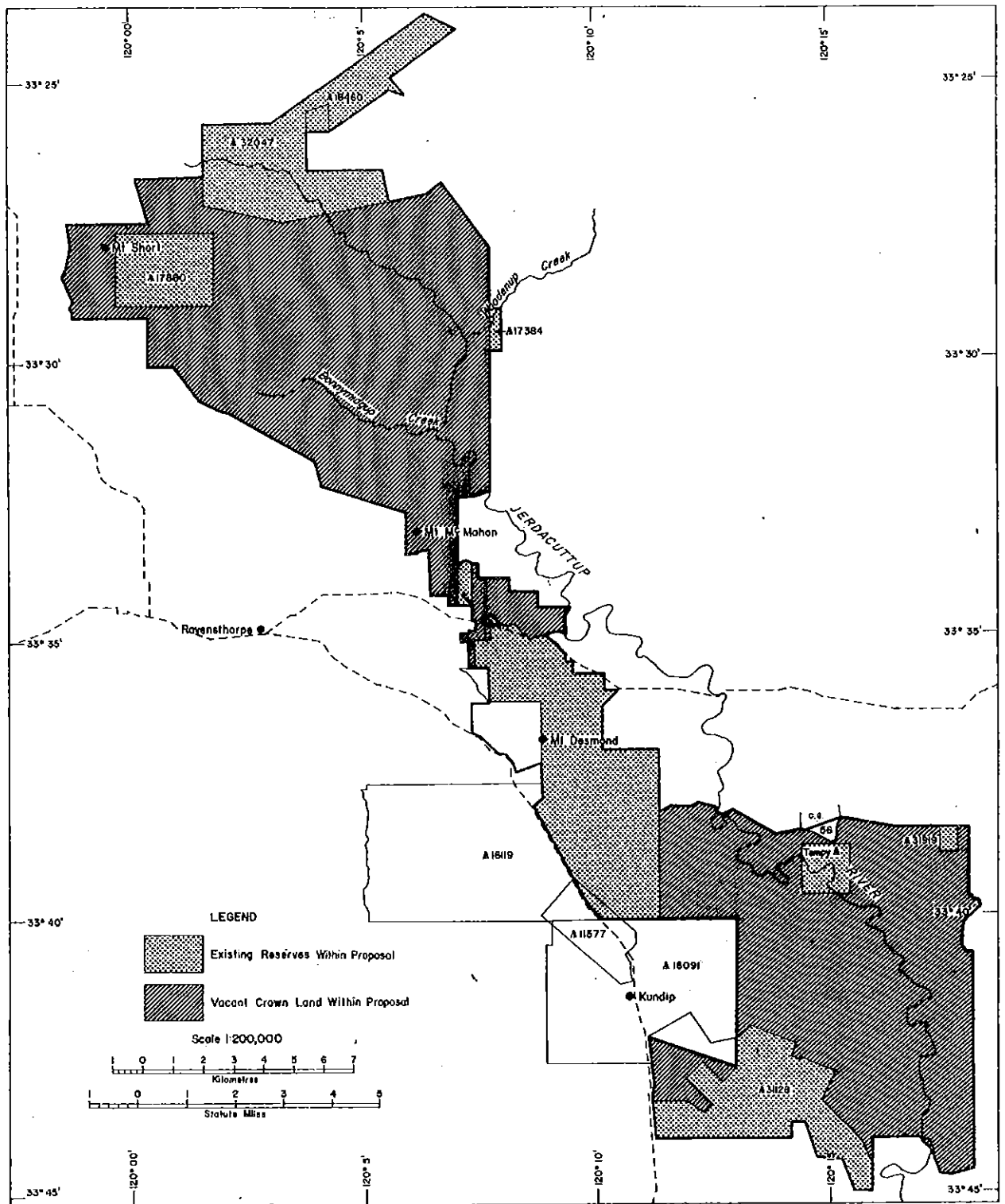


Figure 3.19 Area map of proposed Ravensthorpe Range Reserve

SYSTEM 5 - NORTHERN SANDHEATHS

With the completion of the new highway to Geraldton there is a great need for accessible and floristically diverse areas to be set aside under an appropriate management authority so that tourists and travellers using the highway may be able to enjoy the spectacular and diverse floral displays that this sandplain area can provide. It is imperative that management provide for controlled human access so that the flora can be enjoyed without being destroyed. There is, however, some need for diversity in management procedures, and accordingly it is recommended that the proposed reserves be proportioned between the W.A. Wildlife Authority and the National Parks Authority.

This approach by the EPA is consistent with its approach to Systems 4, 8, 9, 10, 11 and 12 wherein it saw a very real need for the National Parks Authority to cater for tourism, recreation and opportunity for contemplation.

5.1 KALBARRI NATIONAL PARK

The EPA endorses the present status, purpose and vesting of the Kalbarri National Park (Class A reserve 27004, National Park, National Parks Authority).

5.2 VACANT CROWN LAND NORTH-EAST OF YUNA

The EPA recommends that:

- (1) a Class C reserve for Conservation of Flora and Fauna, vested in the W.A. Wildlife Authority, be declared north-east of Yuna, the boundaries to be determined after completion of surveys coordinated on one hand by the Director of Fisheries and Wildlife and on the other hand by the Under Secretary for Mines for clarification of their interest by mining companies;
- (2) the status, purpose and vesting be reviewed by the EPA at the end of the 1977 calendar year taking due cognizance of the existence of the much smaller East Yuna reserve.

5.3 EAST YUNA RESERVE

The EPA endorses the present status, purpose and vesting of Class C reserves 28415, 29231 and 30844 (Conservation of Flora and Fauna, W.A. Wildlife Authority) but recommends that:

- (1) the status be reviewed by the EPA after completion of surveys coordinated on one hand by the Director of Fisheries and Wildlife and on the other hand by the Under Secretary for Mines for clarification of their interests by mining companies;
- (2) the status, purpose and vesting be reviewed by the EPA at the end of the 1977 calendar year.

5.4 MORESBY RANGE

The EPA recognises the scarcity of conservation reserves in the Geraldton area and the scenic attraction of the Moresby Range.

The EPA recommends that the National Parks Authority maintain a watching brief on land suitable for acquisition for National Parks, when financial resources permit and the land becomes available for purchase.

5.5 BURMA ROAD RESERVE

The EPA endorses the present status, purpose and vesting of the Burma Road Reserve (Class C reserve 26663, Conservation of Flora, Geraldton Tree Society) and commends the Geraldton Tree Society on the conservation work they have done.

The EPA recommends to the Geraldton Tree Society that they consult with the EPA in connection with their management objectives, on a bi-annual basis.

5.6 HOUTMAN ABROLHOS RESERVE

The EPA endorses the present status, purpose and vesting of the Houtman Abrolhos (Class A reserve 20253, Conservation of Flora and Fauna, Tourism and Fishing, Minister for Fisheries and Wildlife) and recommends that:

- (1) the boundaries of Class A reserve 20253 be extended to low water mark;
- (2) any future tourism be carefully planned and strictly controlled, and that no developments be permitted that conflict with the primary purpose of the islands as a wildlife sanctuary and commercial rock lobster fishing grounds;
- (3) a research programme on the biology of the reefs be carried out by the Estuarine and Marine Advisory Committee in view of delineating an aquatic reserve or reserves in the Abrolhos area.

5.7 ARROWSMITH LAKE AREA^(A)

The EPA recommends that the area shown in fig. 5.3 be declared a Class A reserve for the Conservation of Flora and Fauna and Water, vested in the W.A. Wildlife Authority.

5.8 LAKE INDOON RESERVE

The EPA recommends that the present status of the Lake Indoon Reserve (Class C reserve 29072, Public Recreation, Shire of Carnamah) be amended to Class A and encourages the Shire to safeguard the flora and fauna and water supply potential and other features that make the area recreationally attractive.

5.9 RESERVE 29073 (A)

The EPA recommends that reserve 29073, (Class C, unvested reserve for Conservation of Flora and Fauna, unvested) be declared a Class A reserve for the purpose of National Parks and Conservation of Flora and Fauna and Water, and be vested in the National Parks Authority).

5.10 RESERVE 29806

The EPA recommends that the purpose of Class C reserve 29806 be altered from Conservation of Flora to Conservation of Flora and Fauna and that it be vested in the W.A. Wildlife Authority.

5.11 SOUTH ENEABBA RESERVE

The EPA endorses the present status, purpose and vesting of the South Eneabba Reserve (Class C reserves 27886 and 31030, Conservation of Flora and Fauna, W.A. Wildlife Authority). The EPA notes the environmental conditions contained in the Mineral Sands (Allied Eneabba) Agreement Act 1975 and Mineral Sands (Western Titanium) Agreement Act 1975 and recommends that the W.A. Wildlife Authority undertakes monitoring and mangement studies on the remainder of the reserves.

5.12 TATHRA NATIONAL PARK

The EPA endorses the present status, purpose and vesting of the Tathra National Park (Class A reserves 29802 and 29805, National Park, National Parks Authority).

5.13 ALEXANDER MORRISON NATIONAL PARK

The EPA endorses the present status, purpose and vesting of the Alexander Morrison National Park (Class A reserves 29800, 29803 and 29804, National Park, National Parks Authority) and recommends that the vacant Crown Land between the reserves and the Green Head-Coorow road be given the same status, purpose and vesting, but that conservation of any water resource should be added to the purpose of the reserve.

5.14 WATHEROO NATIONAL PARK

The EPA endorses the present status, purpose and vesting of the Watheroo National Park (Class A reserves 24229, 24450 and 24491, National Park, National Parks Authority.)

5.15 BEEKEEPERS RESERVE

The EPA recommends that the purpose of those parts of Class C reserve 24496 (Protection of Flora, not vested) and Class C reserve 19219 (Stock Route, not vested) as shown in fig. 5.4 be changed to Apiculture and Conservation of Flora and the matter of vesting and control be resolved on an administrative basis.

5.16 STOCKYARD GULLY

The EPA recommends that part of Class C reserve 19219 (Stock Route, not vested) and part of Class C reserve 24496 (Protection of Flora, not vested) be cancelled and incorporated in a proposed Class A reserve for the Conservation of Flora, Water and the Protection of Caves, vested in the National Parks Authority, with boundaries as shown in fig. 5.4.

5.17 MT LESUEUR RESERVE (A)

The EPA notes the existence of a temporary grazing lease (677/41A) which is renewed bi-annually, and of freehold Victoria locations 1433 and 1730 within the general boundaries of the Mt Lesueur "reserve" and takes cognizance of the fact that should the CTCR's recommendations be implemented, these would have great implications for the livelihood of the individuals in the area.

The EPA endorses the present status, purpose and vesting of Class C reserve 968 (Travellers, Shire of Dandaragan) and recommends that:

- (1) Class C reserves 485 (Public Purposes, unvested), 1223 (Water and Stopping Place, Shire of Dandaragan), 15018 (Horse Breeding, not vested), part of 19219 (Stock Route, not vested), 24275 (Educational purposes, (University of W.A.) not vested), 24437 (Water and Camping, not vested) and 24496 (Protection of Flora, not vested), as shown in fig. 5.7, be consolidated and declared a Class A reserve for Conservation of Flora and Fauna and Water, vested in W.A. Wildlife Authority, with power to lease to the Local Government Authority and that the boundaries of this proposed reserve extend to low water mark;
- (2) the Department of Lands and Surveys examine the relationships of the existing Mt Lesueur Reserve, the area of temporary grazing lease 677/41A, proposed for reservation by CTCR, and adjoining privately owned farmed land and then take what action is necessary to maximise the area of reservation subject to negotiation of boundaries with the lessee and owners of adjoining farm land to minimise disruption of their operations.

5.18 DROVERS CAVE NATIONAL PARK (A)

The EPA recommends that the present status of the Drovers Cave National Park (Class C reserve 31302, National Park, National Parks Authority), be amended to Class A.

5.19 HILL RIVER RESERVE

The EPA endorses the present status, purpose and vesting of the Hill River Reserve (Class C reserve 855, Camping and Conservation of Flora, Shire of Dandaragan) and recommends to the Shire that it makes every attempt in the provision of camping facilities to conserve the natural attractions of the area.

5.20 COOMALLO RESERVES

The EPA recommends that Class C reserves 24276, 24113 and the vacant Crown Land as shown in fig. 5.8 be designated a Class A reserve for National Park and Conservation of Flora and Fauna and Water, vested in the National Parks Authority.

While the EPA endorses the present status and purpose of Class C reserve 28559 (for Government requirements and Camping, not vested) it directs the Department of Conservation and Environment to review purpose of the reserve in relation to local camping and recreational facilities and the role of the reserve in completing the floristic representation of the area.

5.21 NAMBUNG NATIONAL PARK

The EPA recommends that:

- (1) Class A reserves 24522 (Preservation of Caves and National Park, National Parks Authority), Class C reserve 28393 (Preservation of Natural Formations, (Pinnacles), National Parks Authority) and Class C reserve 29149 (National Park, National Parks Authority) be consolidated and declared a Class A reserve for National Park and Water, vested in the National Parks Authority, with power to lease to the Local Government Authority and that the boundary be extended to low water mark;
- (2) the Department of Lands and Surveys be requested to attempt to purchase Melbourne locations 2489 and 2490 should they come onto the market and that the land then be added to the National Park.

5.22 BADGINGARRA NATIONAL PARK (A)

The EPA notes the submission by the Shire of Dandaragan that the vacant Crown Land to the west of the Highway is

suitable for agriculture and should be released for development; however, subsequent advice from the Department of Agriculture is that the soils of this area are of very low inherent fertility and are incapable of successful development for agriculture.

The EPA endorses the present status, purpose and vesting of the Badgingarra National Park (Class A reserve 31809, National Park, National Parks Authority) and recommends that:

- (1) the vacant Crown Land as shown in fig. 5.11 be included in Class A reserve 31809;

The EPA further endorses the present status, purpose and vesting of Class C reserve 12473 (Water and Camping, Shire of Dandaragan) and recommends that:

- (2) Class C reserve 27216 (Recreation, Camping and Conservation of Flora, not vested) be vested in the Shire of Dandaragan.

5.23 RESERVES 31675 AND 31781

The EPA endorses the current status Class C reserves 31675 and 31781 (Conservation of Flora and Fauna, W.A. Wildlife Authority) but recommends that they be extended to low water mark.

5.24 WEST COAST

The EPA notes the CTRC recommendation relating to effective control and management of Crown Lands on the west coast between Moore River and Kalbarri. However the EPA sees this matter as falling within the scope of a coastal management policy. The EPA has already issued "Preliminary Draft Guidelines for an Environmental Protection Policy on Coastal Management" and has sought, and is receiving, preliminary comments from professional groups, local and State Government authorities for its guidance in further development of the policy. It will issue in September Draft Guidelines for public comment.

The EPA however gives notice of its intention to set up a working group consisting of representatives of local government authorities, State Government departments and instrumentalities and the public to deal with the spirit of the CTRC recommendation.

The terms of reference of this working group will be to make recommendations on the future control and management of Crown Lands on the west coast between Moore River and Kalbarri, excepting:

- (a) Kalbarri National Park (area 5.1)
- (b) the proposed Mt Lesueur Reserve (area 5.17)
- (c) Nambung National Park (area 5.21)
- (d) reserves 31675 and 31781 (area 5.23)
- (e) islands between Lancelin and Dongara (area 5.26)

The EPA does not believe it proper that this working group should report on the financial implications of creating a special authority to manage these Crown Lands.

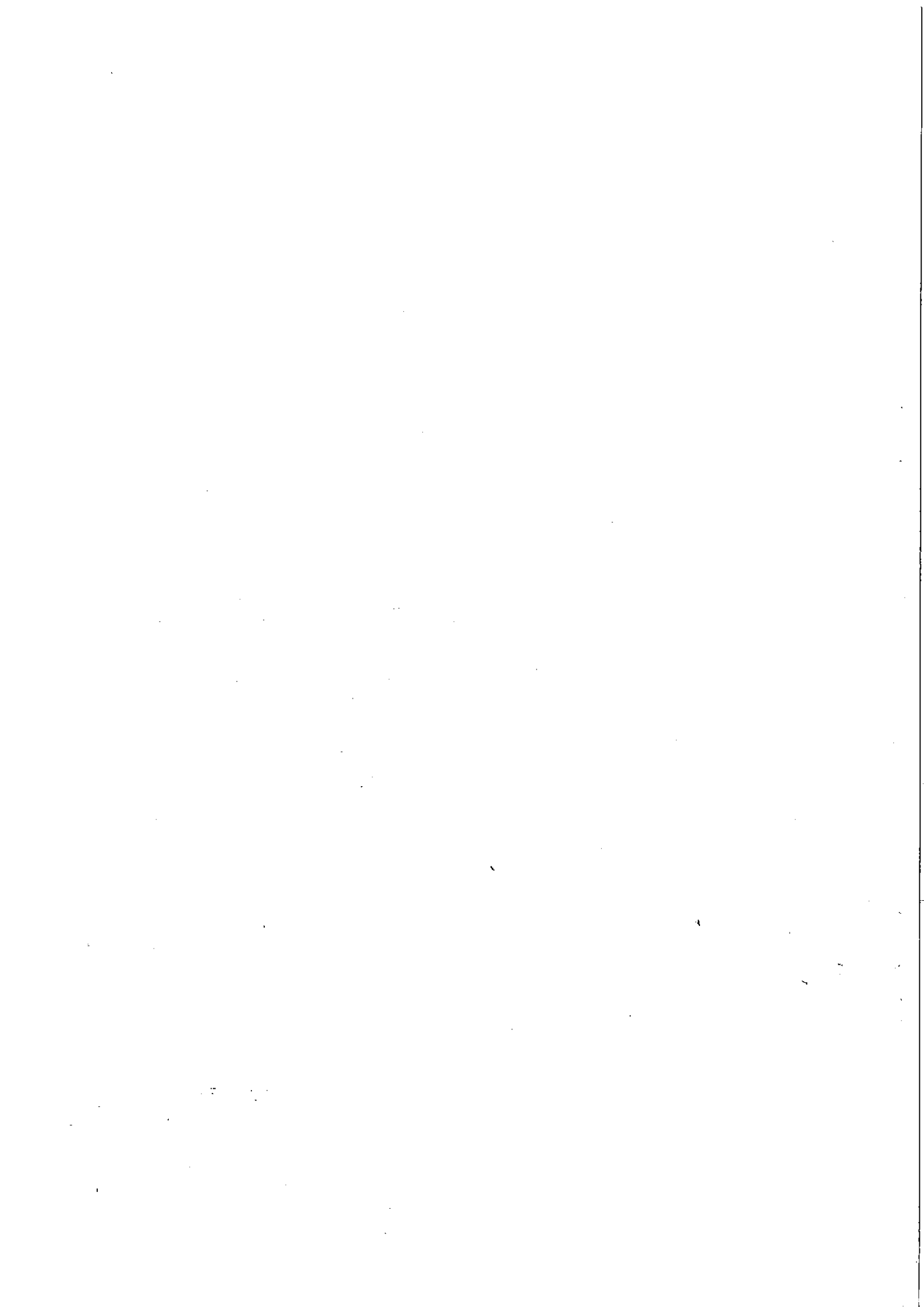
5.25 WETLANDS

The EPA recommends that:

- (1) the status and purpose of Reserve 25210 at Lake Eganu be changed from Class C for the Conservation of Flora and Fauna to Class A for Conservation of Flora and Fauna and that it remain vested in the W.A. Wildlife Authority;
- (2) Reserve No. 26442 (Conservation of Flora, not vested) and the Yarra Yarra Lakes (vacant Crown Land) be declared a Class C reserve for the Conservation of Flora and Fauna, vested in the W.A. Wildlife Authority;
- (3) the Department of Fisheries and Wildlife negotiate with the owners of the Moora Lakes with the view of having them declared a fauna sanctuary, either by purchase or by agreement as laid down in Section 13 of the Fauna Conservation Act.

5.26 The EPA notes the recommendations of CTRC with regard to some 35 small islands between Dongara and Lancelin and:

- (1) endorses the recommendation that the reserve boundaries be extended to low water mark;
- (2) follows the wording on its recommendation on coastal islands as endorsed by Cabinet on 9 February 1976 that "*unless there are sufficient reasons to do otherwise, they be declared Class B reserves vested in the W.A. Wildlife Authority for the Conservation of Flora*" (Conservation Reserves for W.A. as recommended by the EPA - Systems 4, 8, 9, 10, 11, 12 : p.v.)



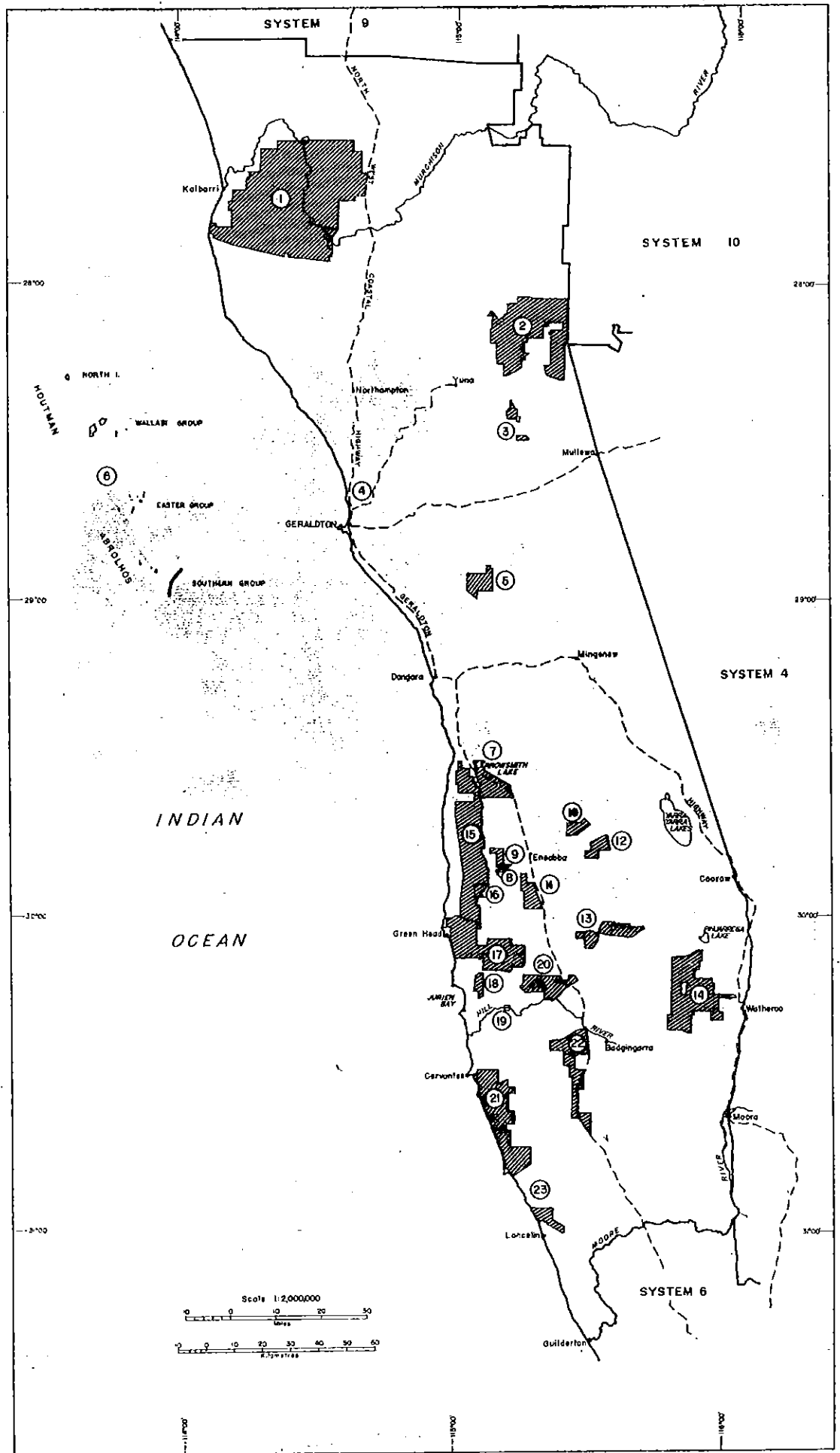


Figure 5-0 Map of System 5

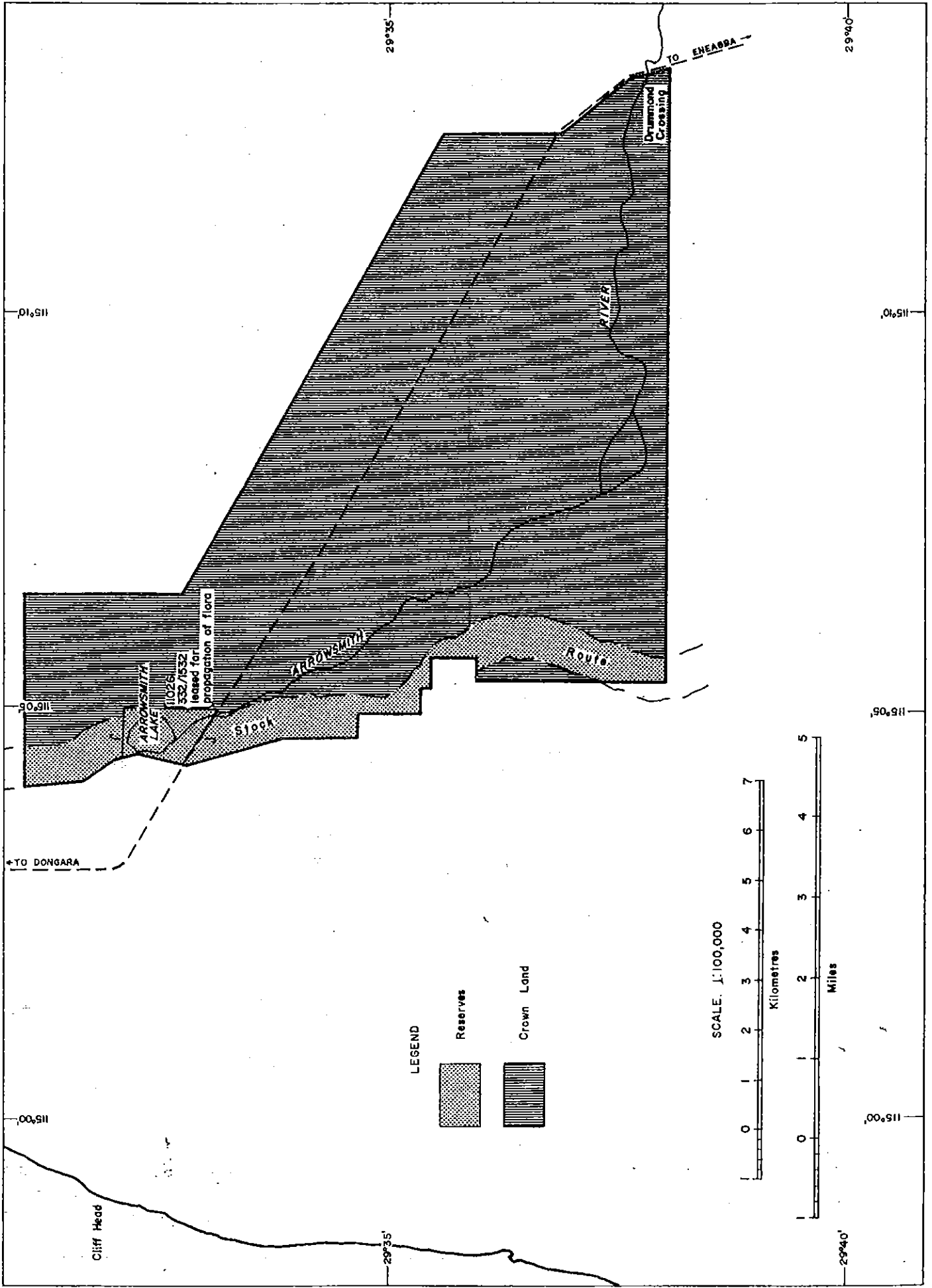


Figure 5.3 Lake Arrowsmith area map

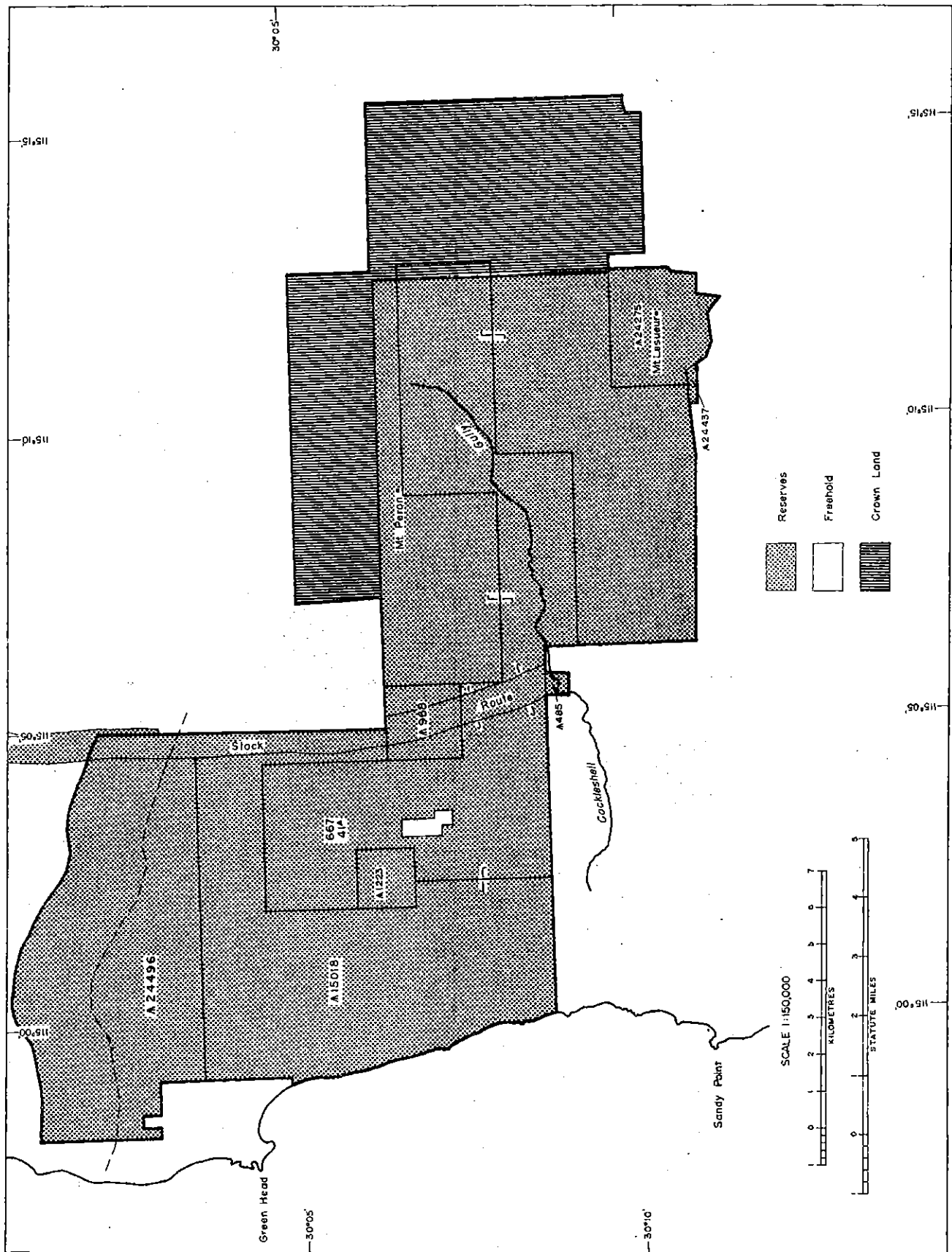


Figure 5.7 Mt. Lesueur area map

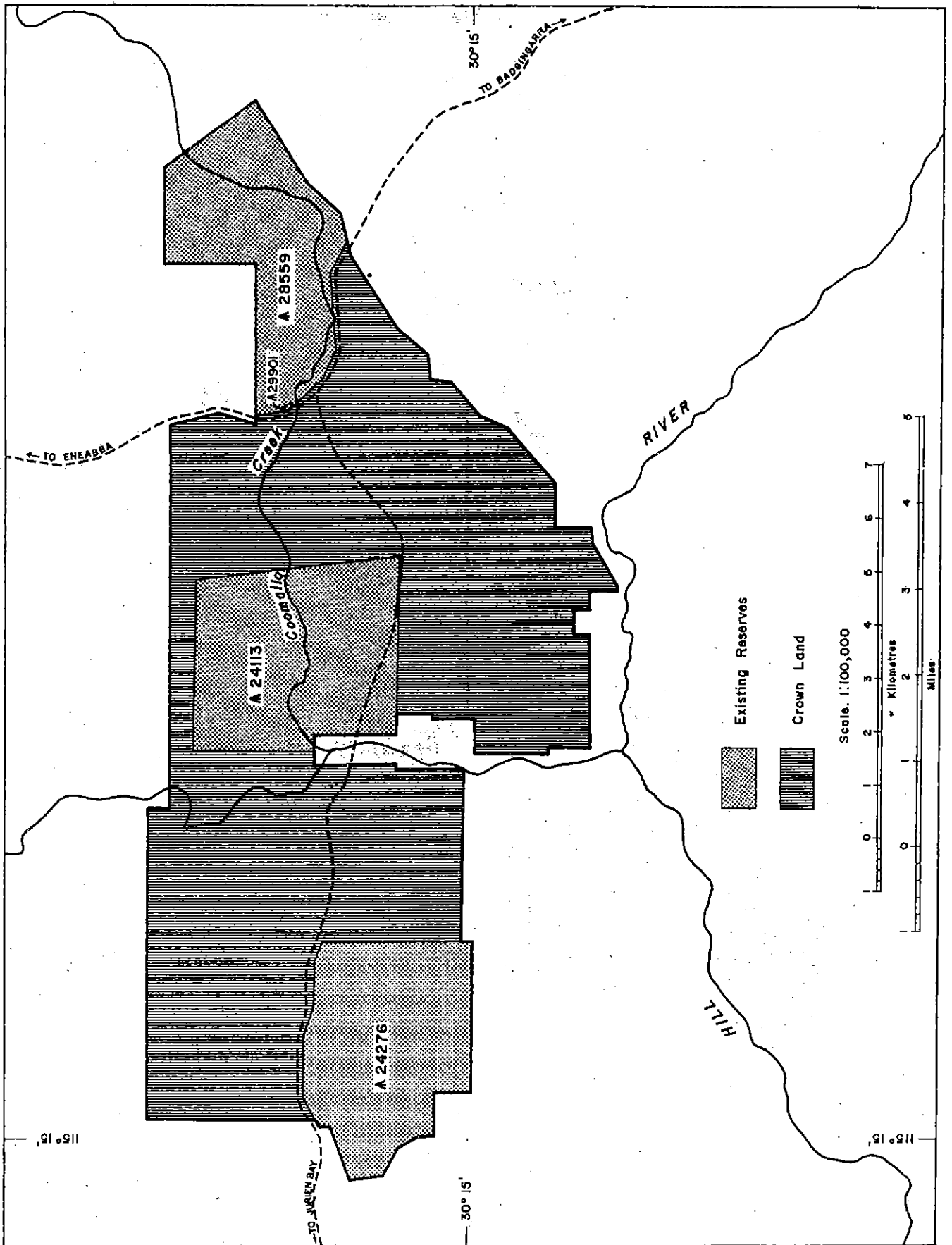


Figure 5.8 area map of Coomallo reserves

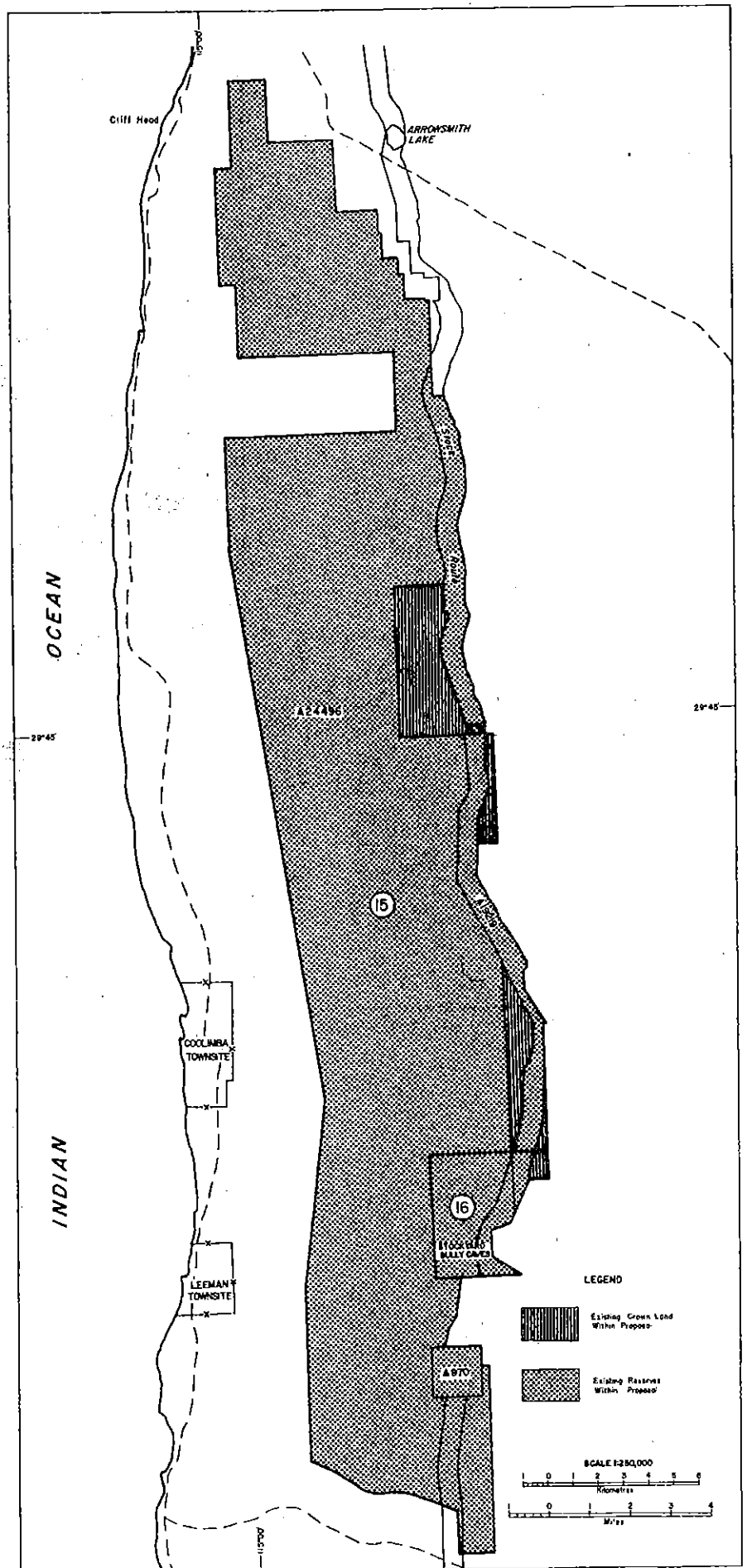


Figure 5-4 area map of proposed Beekeepers reserve and Stockyard Gully reserve

50 MOUNTAIN ROAD, SYDNEY
 ENVIRONMENTAL PLANNING
 AND LAND MANAGEMENT
 DEPARTMENT

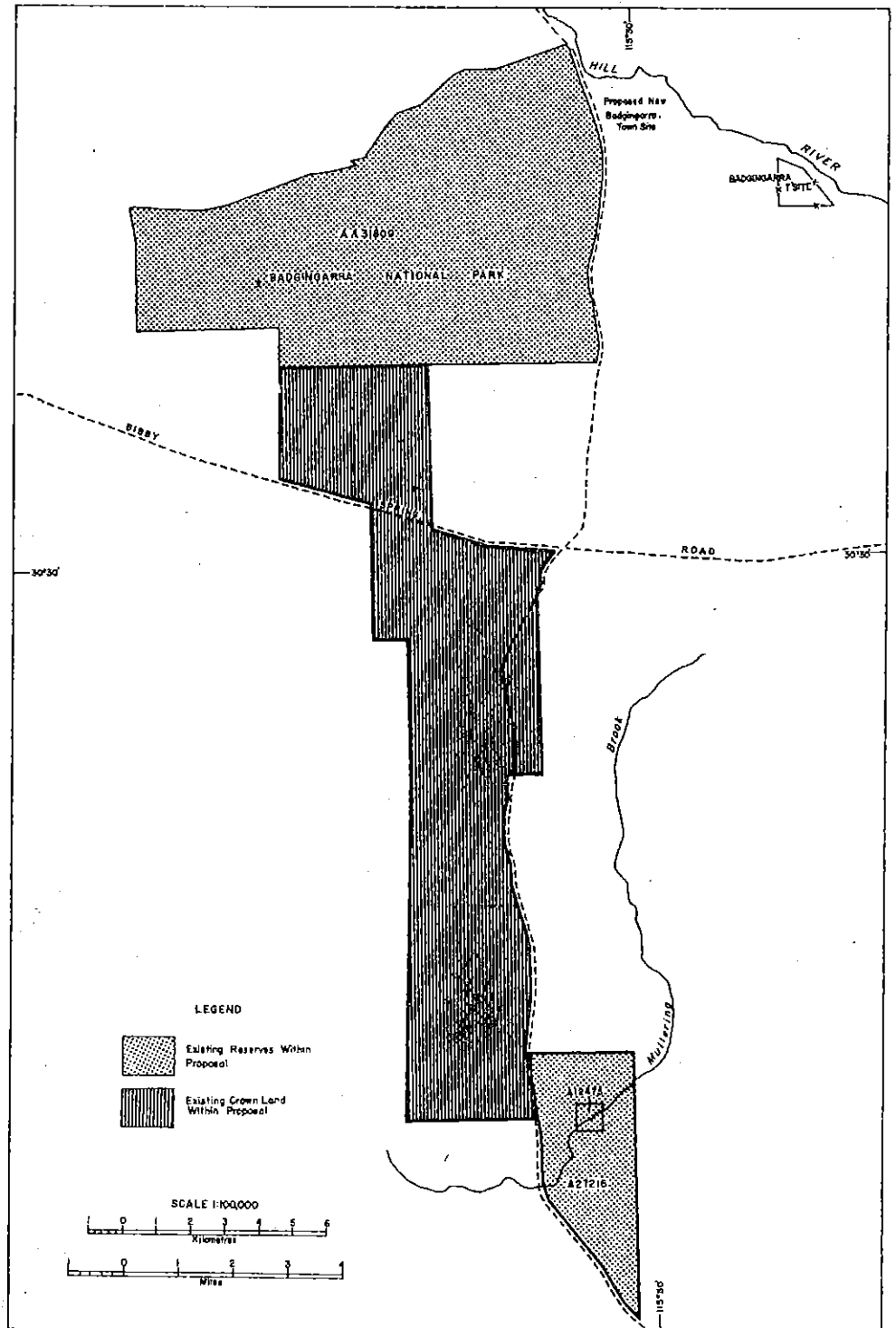


Figure 5.11 Badgingarra National Park and proposed additions