

**Australian Coastal Zone Management**  
**Report from the House of Representatives Standing**  
**Committee on Environment and Conservation**  
**March 1980**

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# House of Representatives Standing Committee on Environment and Conservation

## Terms of Reference

That a Standing Committee be appointed to inquire into and report on:

- (a) environmental aspects of legislative and administrative measures which ought to be taken in order to ensure the wise and effective management of the Australian environment and of Australia's natural resources, and
- (b) such other matters relating to the environment and conservation and the management of Australia's natural resources as are referred to it by:
  - (i) the Minister responsible for those matters, or
  - (ii) resolution of the House.

## Members of the Committee

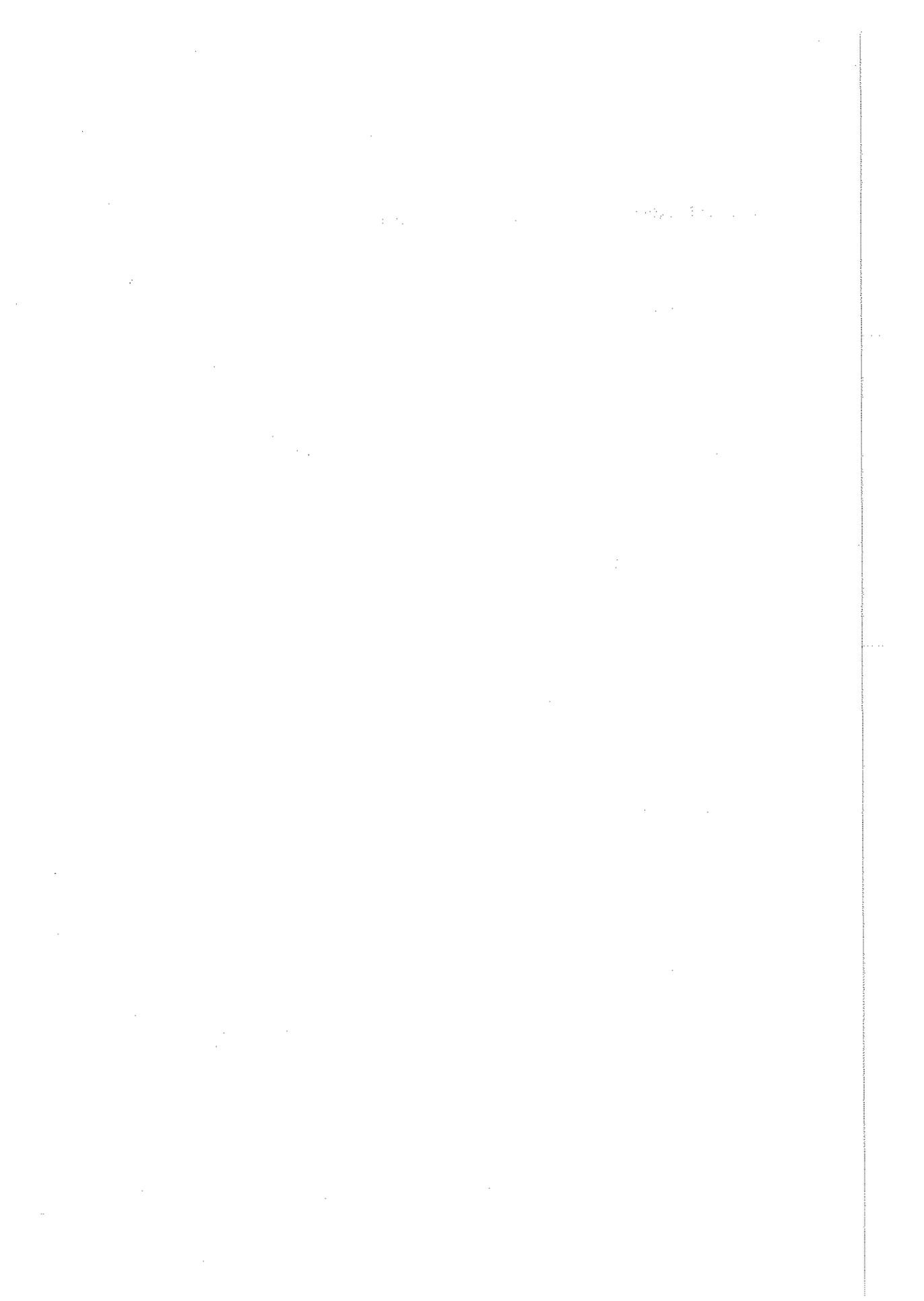
<i>Chairman</i>	Mr J. C. Hodges, M.P.
<i>Deputy-Chairman</i>	Dr H. A. Jenkins, M.P.
<i>Members</i>	Mr M. Baillieu, M.P.
	Mr B. Cohen, M.P.
	Mr J. F. Cotter, M.P.
	Mr P. S. Fisher, M.P.
	Mr B. L. Howe, M.P.
	Mr B. D. Simon, M.P.
<i>Clerk to the Committee</i>	Mr J. R. Cummins

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\* Mr B. L. Howe, MP, replaced Dr H. A. Jenkins, MP, as a member of the Subcommittee on 30 August 1979.



# Contents

CHAPTER	paragraph
<b>Recommendations</b>	
<b>Findings</b>	
<b>1. Introduction</b>	<b>1</b>
Definition	9
Commonwealth Interest in the Coastal Zone	18
Previous Reports on Coastal Management	23
<b>2. Values of the Coast</b>	<b>24</b>
The Coast as a Resource	24
Functions of the Coast	
- Fishing	30
- Minerals	31
- Forestry and other Vegetation	34
- Farming	37
- Transport	40
- Waste Disposal	45
- Tourism and Recreation	46
- Urban and Industrial Development	52
- Educational Use and Scientific Research	56
<b>3. Issues in Coastal Management</b>	<b>61</b>
Erosion	64
Pollution	75
Recreation Pressure	77
Competing Uses	80
- Uses Requiring Retention of Coastal Features	81
- Coast-modifying Uses	83
- Zoning	85
Cost-benefit Evaluation of Competing Uses	91
Organisational Problems	95
<b>4. Present Management of the Australian Coastal Zone</b>	<b>97</b>
Victoria	100
Queensland	108
South Australia	120
New South Wales	130
Western Australia	136
Tasmania	139
Comparison of State Approaches	146
Local Government	149

<b>CHAPTER</b>	<b>paragraph</b>
<b>5. Present Commonwealth Involvement . . . . .</b>	<b>155</b>
Commonwealth Coastal Lands . . . . .	158
Management of Commonwealth Lands . . . . .	162
Statutory Powers . . . . .	171
Co-operative Mechanisms with the States . . . . .	174
Research and Data Collection . . . . .	175
Protection of Marine Environment . . . . .	181
Regional Development . . . . .	182
Conclusion . . . . .	184
<b>6. Development of a Commonwealth Coastal Policy . . . . .</b>	<b>185</b>
Appendix I	Conduct of the Inquiry
Appendix II	Witnesses
Appendix III	Submissions
Appendix IV	Exhibits
Appendix V	American and British Approaches to Coastal Zone Management
Appendix VI	Principles Concerning Coastal Management—OECD Recommendations
Appendix VII	Schedule of Commonwealth Landholdings in the Coastal Zone (as at 9 November 1979)
Appendix VIII	Department of National Development and Energy—Functional responsibilities that affect coastal management

## Recommendations

The Committee recommends that:

1. the Commonwealth Government, in consultation with the States, develop and promulgate national policies and objectives for the conservation and preservation of the Australian coastline;

(paragraph 196)

2. the Commonwealth Government, jointly with the States, establish an Australian Coastal Management Council to:

- encourage collaboration and co-operation between agencies and institutions with functions relating to the coastal zone;
- assess the information requirements necessary to implement management policies; and
- establish research priorities and co-ordinate and promote related research programs;

(paragraph 203)

3. the Australian Coastal Management Council:

- convene biennial national conferences on coastal planning and management; and
- encourage regular regional workshops and seminars on coastal planning and management;

(paragraph 204)

4. the Australian Coastal Management Council be provided with a full-time secretariat;

(paragraph 207)

5. the Australian Coastal Management Council secretariat:

- establish a central register of information relating to the coastal zone; and
- prepare and distribute a regular newsletter providing information on coastal zone research;

(paragraph 209)

6. the Australian Coastal Management Council, as a matter of priority, establish criteria for the funding of research programs;

(paragraph 210)

7. the Australian Coastal Management Council determine guidelines for allocation of any Commonwealth funds that may become available to the States for programs in accordance with national policies;

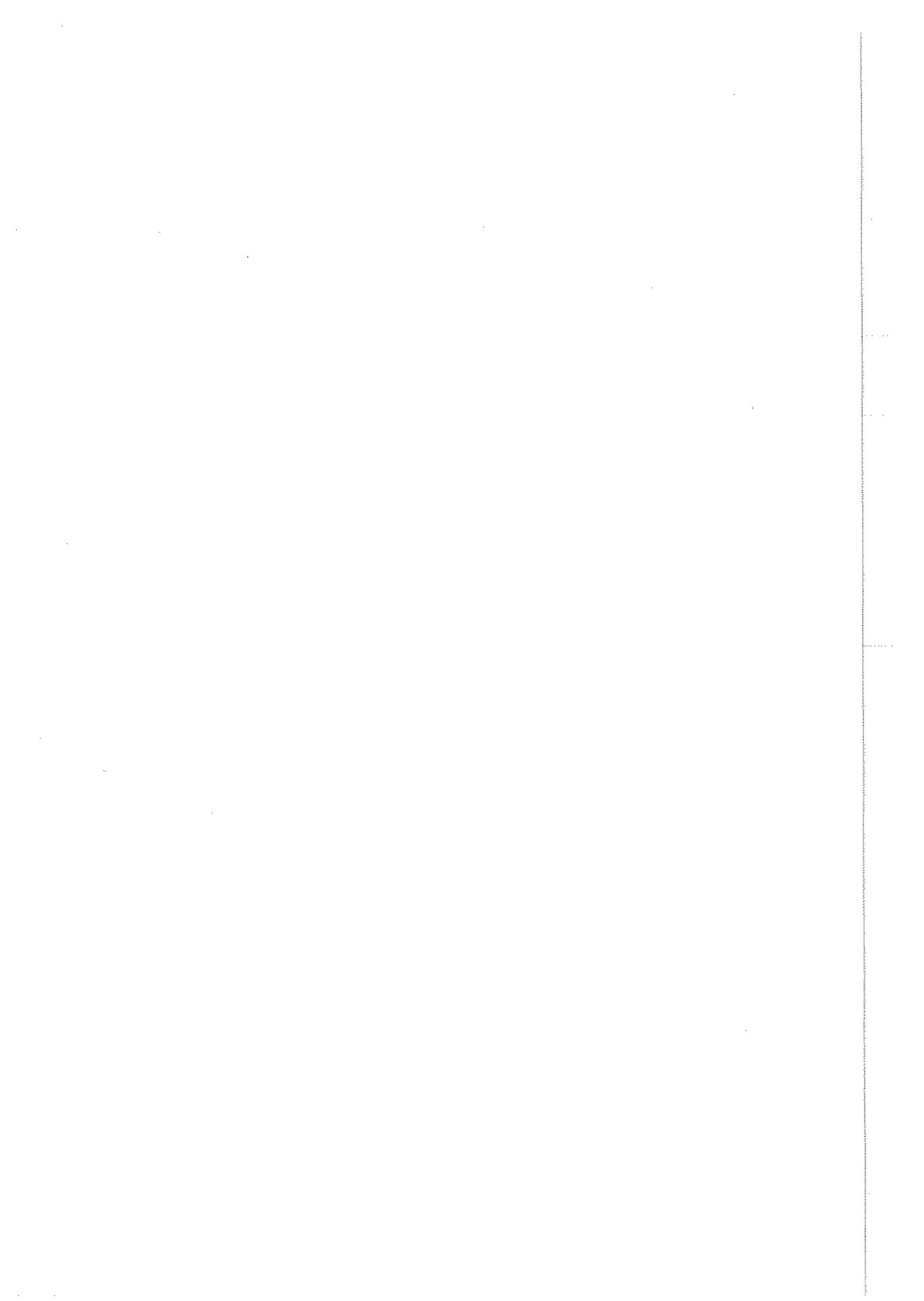
(paragraph 211).



## Findings

After consideration of the evidence placed before it, the Committee makes the following findings:

1. The coastal zone is a significant national asset providing wide-ranging and valuable resources.
2. Many coastal regions are under threat of degradation either by natural processes or by man's activities in the coastal zone.
3. The threat to the coastal zone is aggravated by a vast number of competing users. Where decisions are taken to favour one use of the coast over another, these seem to be made on an individual ad hoc basis rather than on a regional level ensuring that all users are catered for.
4. There is a serious lack of information available on the coastal zone. Without this information planning and management authorities may make inappropriate decisions.
5. A considerable amount of independent research relating to the coastal zone is undertaken by various Commonwealth, State and local government bodies, and by academic and industry institutions. Research and data collection is usually aimed at solving other than coastal zone problems, and is often not comparable. Much of the work undertaken is not readily available to others conducting investigations in allied fields.
6. State and local government authorities have recognised the importance and sensitivity of the coast, but often lack the resources to undertake comprehensive research or preparation of management plans. The Committee is pleased to see some States undertaking programs designed to identify coastal areas of particular significance. This should be done on a national scale.
7. Although the Commonwealth plays a significant role in the coastal zone and has many responsibilities associated with the coastal zone, there is no Commonwealth coastal policy.
8. There are aspects of coastal planning where national interests should override State or local interests.
9. The need for a Commonwealth policy has become more urgent with the declaration of the 200 mile Exclusive Economic Zone.
10. There is no agency or unit within the Commonwealth public service responsible for co-ordination of Commonwealth activities in the coastal zone. As a result of this, the Committee found it difficult to draw together all the spheres of Commonwealth activity that have an effect on the coast.



# 1 Introduction

1. On 23 November 1978 the Committee resolved to inquire into and report on:  
management of the Australian coastal zone with particular reference to:
  - (a) the alternative uses, including industrial and residential development, tourism and recreation, mining, forestry and fishing;
  - (b) Commonwealth Government owned and controlled property; and
  - (c) the development of a co-ordinated approach.
2. The coastline is an extremely important natural resource to the people of Australia. Approximately 85 per cent of the Australian population lives in cities or municipalities abutting the coastline. Most coastal areas experience additional seasonal demands from visitors.
3. Historically, settlement has occurred close to the coast and most people prefer to live and work there. The coastal zone provides many resources the demands for which include urban development, mining, forestry, commercial and industrial development, recreation, conservation and tourism. With these competing demands and the concentration of population along small areas of the coast, conflicts in land use occur.
4. Uses such as fishing, recreation and tourism require that the coastal environment be left largely untouched, while others such as urban development and mining significantly modify the coastal environment.
5. Although the Australian coastline is about 33 000 km long, few parts have escaped modification by man's activities, and in sectors within 100 km of coastal towns and cities the impact has become intensive.
6. The Committee is aware of a developing interest in coastal zone management both in Australia and overseas. Industrial and demographic changes since World War II have accelerated the growth of the major urban complexes and shifted the base of the economy from one of primary production to extractive, processing and manufacturing industries. These changes have brought an increase in the levels of discharges of pollutants to land, air and water. Much of this development has occurred in coastal areas. These and other environmental problems have focused attention on the need to protect the environment with long-term conservation in mind. There has been a growing awareness of the need to co-ordinate conservation programs across a wide spectrum of environmental aspects. This interrelation is most apparent in the coastal zone—where land, sea and air meet.
7. The Committee has reviewed coastal zone management schemes in the United States and the United Kingdom in some detail (see Appendix V) and believes valuable parallels can be drawn between the programs in these countries and the Australian situation. In 1976 the Organisation for Economic Co-operation and Development (OECD) recognised the need for action to protect the coast by adopting recommendations on the need for policy actions in coastal areas to avoid environmental deterioration and to enhance environmental protection. The Environment Committee of the OECD recommended that member countries, of which Australia is one,

be guided in their coastal protection and development policies by the principles laid down by the Committee (see Appendix VI). These principles contain detailed policy guidelines for coastal protection.

8. This growing interest in the coastal zone has led to preliminary attempts by the States to become active in coastal zone management, and the Committee is impressed with work undertaken by the State governments to date.

## Definitions

9. **The Coastal Zone**—Many different definitions of 'coastal zone' have been proposed. There are three main approaches used to define the coastal zone:

*Linear:* where the boundaries are set back a distance from a linear reference such as Mean High Water Mark (e.g. the South Australian Coast Protection Board has agency interest in a coastal zone 600 metres (m) landward and 3 miles seaward of Mean Low Water Mark at spring tides).

*Administrative:* where the boundaries coincide with existing local government boundaries, planning regions or statistical collection districts (e.g. the N.S.W. Coastal Protection Act, 1979 includes the total area of specified N.S.W. Central Mapping Authority maps which include the coastal strip and flood plains of the coastal rivers).

*Biophysical:* where the boundaries referred to are features such as altitude, geomorphological or ecosystem boundaries (e.g. in Oregon, U.S.A., the coastal zone extends to the crestline of the nearest interior range).

10. The Committee believes that any policies on coastal zone management should consider the coastal zone in its broadest sense. Various activities on the land can have a profound influence on the coastal environment. Increased clearing of land changes the run-off pattern resulting in silting of estuarine and coastal areas. Increased use of fertilisers, pesticides and herbicides causes significant changes in the species inhabiting rivers, estuaries and coastal regions. Building and increased recreational activity on coastal sand dunes is causing changes in the structure of beaches and nearshore environments, often resulting in degradation or disappearance.

11. The definition of the coastal zone must include estuaries, their associated wetlands and catchments, shallow bays and shallow inshore waters. All these environments are part of one interconnected system which includes not only the water and sea bed but also the associated flora and fauna.

12. The Australian Conservation Foundation defines the coastal zone as including 'coastal waters to a depth of 200 metres (edge of continental shelf), all land encompassed by setback lines to avoid erosion and degradation, and all land on which activities may adversely affect coastal areas and modify natural processes. Thus the landward boundaries for any area should be varied in order to include appropriate scientific, historic, aesthetic, or administrative units'.

13. Although most of the areas referred to by the community as 'coastal' are located in a relatively narrow band where land meets sea it is clear that the quality of a coastal environment is also strongly linked to the use of land and water in adjacent areas. The Committee believes any definition of the coastal zone should be flexible, and should depend on the issue being confronted. If the problem is the threat to beach stability by construction on dunes, then a narrow definition including the beach and dune system would be adequate. If the problem is one of overall development pressure on a large

coastal region, then the definition must include population concentrations at a considerable distance from the coast, and the transport routes between these places and the coast.

14. Any move towards a common definition of the Australian coastal zone must recognise these considerations. In this Report the focus may appear to be on the narrow strip encompassing the beach, adjacent waters and landscape features, but the Committee recognises that for certain issues a wider perspective is required to appreciate the problem and to pose solutions.

15. **Coastal Management**—The South Australian Coast Protection Board has defined coastal management as ‘a process of making decisions on use of the coast, having first studied the environment and its capabilities as well as the issues involved and alternative solutions to them, and having sought and considered the views of the public. It will generally involve guiding development and recreation to less sensitive areas, while restricting access and use in more fragile parts’.

16. The Committee endorses this interpretation and believes that the objective of coastal management is to maintain and improve the usefulness to man of the coastal zone, both now and for future generations, in a way that is economically, socially and environmentally acceptable.

17. During the course of the Inquiry the Committee became increasingly aware that many people believe the terms ‘beach protection’ and ‘coastal management’ to be interchangeable. The Committee emphasises that beach protection and associated engineering works form only one part of the overall concept of coastal management.

## **Commonwealth Interest in the Coastal Zone**

18. During the Inquiry it was argued whether there is a national interest, particularly from the standpoint of environmental protection, in developing coastal management policies in Australia. Proponents of a national role have argued that Commonwealth responsibilities in a variety of policy areas require a stance on coastal matters to be taken by the national government. These issues include defence, transport, national heritage, national disaster relief assistance, environmental legislation, territorial seas, water resources policies and a wide range of research into the marine and coastal environment. The Commonwealth also owns and administers a considerable amount of property in the coastal zone. Australia has accepted international obligations under several international treaties, and it is the role of the Commonwealth Government to ensure that treaty provisions are adhered to. Declaration of the 200 mile zone of economic influence over surrounding seas introduces an obligation to undertake exploration and resource survey work in the zone.

19. Opponents of a national role have indicated the limitations that the Australian Constitution places on Commonwealth government involvement in this area. While the Committee acknowledges that the formulation and implementation of coastal planning programs is a State responsibility, it cannot ignore that in evidence the majority of State governments called for greater Commonwealth involvement. Most States asked the Commonwealth to develop policies which would provide guidelines for State initiatives in coastal planning.<sup>1</sup>

20. Decisions in coastal management should be made at the lowest level of government capable of handling the problems. This would usually mean State, or local government with State advice. This form of decentralised decision making is crucial

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1 Transcript of Evidence pp. 124, 1041–2, 1465.

to effective co-operation in management. However, decentralised decisions should be consistent with policies determined at higher levels if the overall result is to be co-ordinated planning.

21. The Committee considers there are aspects of coastal resource allocation and management where national interests should override State or local interests. If States are expected to make national coastal management decisions it seems reasonable that they should be advised of the national interests so these may be included in State plans. An explicit statement of national objectives and national interests in the coastal zone could reduce conflicts and give the States a clearer understanding of national concerns.

22. The Committee believes that the case for a Commonwealth government role in coastal zone management exists in those areas where a national interest is evident.

### **Previous Reports on Coastal Management**

23. The Committee is aware that a number of reports have already been made to the Commonwealth Government on matters relating to management of the coastal zone. These include the *Report of the National Estate* 1974, the report of the Australian Advisory Committee on the Environment entitled *Coastal Lands* 1975, an earlier report of the House of Representatives Standing Committee on Environment and Conservation entitled *Development Pressures on Jervis Bay* 1975, and reports from the Australian Science and Technology Council entitled *Science and Technology in Australia* 1977-78, and *Marine Sciences and Technology in Australia—Immediate Issues*, July 1979. A discussion on the recommendations made in these reports follows later in this Report. However the Committee is concerned that many of the recommendations made in these reports seem to have been overlooked.

## 2 Values of the coast

### The Coast as a Resource

24. The traditionally recognised resources of the coastal zone include prime agricultural land, mineral sands, forests and fisheries. It is being increasingly appreciated that natural areas and wetlands are resources in their own right. In fact some Australian coastal areas are significant in world terms.<sup>1</sup>

25. Australia's coastline is approximately 33 000 km long and consists of a complex of habitats ranging from cliffs, dunes and dune grasslands, heath, coastal scrub and woodland to a wide variety of forest types. Within this area are freshwater rivers and streams, fresh and salt water lakes and estuaries. It supports a wide variety of animal life, some occurring only in coastal communities. Half of the coastline consists of beach, usually backed by dunes or sand ridges, with the remainder made up of tidal flats, mangrove swamps and cliffs.<sup>2</sup> Land typically identified as coastal—areas of salt-marsh, wetlands, dune systems and coastal lakes—are relatively fragile areas, vulnerable to disturbance by man's activities.

26. About 70% of the coast is uninhabited. One-quarter of the country's population lives within 3 km of the coast and three-quarters within 40 km so demands on coastal resources are concentrated. The coast provides a comfortable climate and a cheap, though inappropriate, method of waste disposal. It is a major recreational asset both for residents and for tourists. As well it may provide for extractive industries such as fisheries, woodchips and beach minerals, and it provides transport for goods and people.

27. The unrelenting pressure generated by a growing population with an intense interest in coastal environments creates an increasing demand on shoreline land for motels, homes or holiday cottages, as well as for industrial development, grazing, mining, transport terminals, recreation and fishing. This demand, often locally intense and competitive, has increased concern over the adequacy of our understanding of natural forces involved in the coastal landscape, and the extent to which human disturbance of this landscape, may accelerate degradation.

28. The fact that the coastal zone is a significant national asset providing wide-ranging and valuable resources was agreed by all those who gave evidence to the Committee. However, when an attempt was made to quantify and evaluate coastal zone resources, the information simply was not available. Most witnesses commented on the lack of information available on the coast. The CSIRO has acted on this deficiency and has almost completed an inventory of coastal lands. Land forms, vegetation, geology, land use and population were studied in a 3 km strip around the continent. Although the data obtained are very simple in form and contain little detail, they will be invaluable as a baseline study against which future changes can be monitored.

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1 Transcript p. 9.

2 Transcript p. 333.

29. To evaluate the threat to the coast of competing demands placed on its resources, it is necessary to consider the present uses. Any assessment of present coastal functions must necessarily be hampered by incomplete data available on coastal land use.

## Functions of the Coast

30. **Fishing**—Fisheries are a self-generating resource that can be depleted by over-exploitation or by damage to the environment. The Australian fishing industry directly employed over 19 000 people and comprised a fleet of more than 11 000 boats in 1975–76. The gross value of production in 1975–76 was \$147 million, over half of which was exported.<sup>3</sup> To ensure the viability of fishing for both commercial and recreational purposes, it is necessary to protect breeding grounds in estuaries, mangrove swamps and the intertidal zone. Locations for boat harbours and processing factories are clearly important, but care must be taken to ensure that development of these facilities does not adversely affect critical nursery areas. Oyster leases have recently been seriously affected by pollution from industrial and urban developments and oil spills from ships and shore-based facilities.

31. **Minerals**—Australia is the world's major supplier of mineral sands, and in 1975–76 this industry had a value to Australia of \$151 million. It employs over 3400 people.

32. Significant conflicts between mining and conservation interests have occurred in the Myall Lakes and other north coast areas of N.S.W. and at Cooloola, Fraser Island, Moreton Island and Stradbroke Island in Queensland. Much of the southern Queensland coastline and offshore island area is held under mining tenure, and further mineral sand development in some of these areas is likely to occur.

33. There are substantial oil and gas fields off the Victorian and Western Australian coasts. The offshore production and exploration activities have specific onshore requirements for facilities which may have an impact on other coastal uses. Developments in the Pilbara, W.A., and the North West Shelf gas fields will lead to increasing and possibly conflicting demands for various facilities in the north-west coastal areas of Western Australia.

34. **Forestry and other Vegetation**—There is some harvesting of seaweeds in Australia but the major vegetation resource is the eucalypt forests harvested by clear-felling to make woodchips. This tends to be coastal dependent since harvest sites close to a harbour are preferred in order to reduce transport costs. In 1975–76 some 2.6 million tonnes of woodchips were harvested with a gross value of \$47.6 million.

35. The Committee was told that forestry operations may have a secondary effect on coastlines by increasing run-off, which causes increased siltation in estuaries. Clear-felling for woodchips remains a contentious issue in eastern Victoria, and the Victorian Conservation Council<sup>4</sup> believes that it will result in significant changes to coastal ecosystems. (The Senate Standing Committee on Trade and Commerce is currently inquiring into Australia's forestry and forest products industries.)

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<sup>3</sup> *Year Book Australia 1977–1978*, pp. 356–7.

<sup>4</sup> Transcript p. 1174.

36. In N.S.W., State Forests form a significant part of the coastal zone. They constitute an important recreation resource, and are also used for grazing, honey production and wildlife conservation and are significant as water catchments. The Committee was told that management of N.S.W. State Forests by the Forestry Commission is directed towards multiple use.<sup>5</sup> Furthermore, State Forests are a source of employment in remote areas where alternative employment opportunities are limited.

37. **Farming**—One of the major land users in the coastal hinterland in terms of area occupied is the pastoral and agricultural industry. Nearly one-quarter of the 120 000 km<sup>2</sup> of land which lies within 3 km of the sea or on coastal sediments is used for grazing at varying levels of intensity, and agriculture takes up a further one-twentieth.

38. Alarm has recently been expressed at the threat to the Great Barrier Reef as a result of increased siltation and the run-off of excess pesticides and herbicides from mainland farms.<sup>6</sup> Destruction of both native and introduced vegetation through over-grazing has led to instability of coastal areas. In some regions of southern Victoria frequent burning and over-grazing, often on Crown Land Reserves, have significantly accelerated erosion of the coast. In the Stockton Bight area (north of Newcastle) cattle grazing on sand spinifex in the 1960s led to dune instability. After the cattle were removed the recovery was quite dramatic.<sup>7</sup>

39. It is difficult to make any objective assessment of the degree to which hinterland farming is affecting the coastal zone. Most areas have been farmed for many years, with the result that often farming influences may be mistaken for part of a natural process rather than recognised as a man-made influence. With a general lack of baseline data any assessment of change over time is also very difficult. The Committee is concerned that, as so little is known or recorded about the influences of indiscriminate farming on the coastal zone, significant damage may be resulting.

40. **Transport**—Shipping is the major method of transportation of imports and exports. In 1976–77 the total value of exports was \$11 644 million.<sup>8</sup> Australian ports handled over 5800 overseas vessels in 1975–76. The provision of harbours and associated navigation facilities and dredging is a significant function of coastal areas.

41. Increasing shipping movements bring with them the constant threat of marine pollution from oil or other noxious cargoes which can cause severe environmental damage. The Committee made various recommendations to the Parliament on ways of reducing the threat and handling clean-up operations in its Report entitled *Prevention and Control of Oil Spills in the Marine Environment* tabled in October 1978.

42. Sydney and to a lesser extent Brisbane and Perth have developed ferries as important parts of their metropolitan transport networks.

43. The location of roads and highways can have a significant impact on the coastal zone, particularly on steep coasts subject to land slips and on dune coasts subject to sand drifts, both of which pose expensive maintenance problems. Roads running adjacent to the coast provide ready access to coastal areas and may encourage unwise residential development or excessive recreation pressure in sensitive areas.

44. In South Australia, early surveyors provided a coastal reserve 150 links wide

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5 Transcript p. 766.

6 Transcript p. 402.

7 Transcript p. 102.

8 *Year Book Australia 1977–1978*, p. 648.

and in many areas also provided a coastal road reserve running adjacent to this public reserve. Although these reserves have often been left undeveloped because of unsuitable terrain, they provide a continuing problem for coastal management. Councils are frequently under pressure to provide access to old coastal subdivisions. Once access is provided speculative land subdivision usually precedes planning and hinders its development.

45. **Waste Disposal**—Coastal waters have an inherent capacity to assimilate a certain amount of domestic and industrial waste but there are locations where this capacity has been exceeded and undesirable impacts have become obvious. The degree of pretreatment of sewage and the location of outfall sites needs careful study to minimise impacts on other coastal uses such as fisheries and recreation.

46. **Tourism and Recreation**—With a high proportion of the population living near the coast, and considering Australia's climate and beach resources, it is hardly surprising that coastal recreation is a major leisure activity. Higher living standards and increased leisure time have led to increasing use of coastal areas. Tourism is of considerable economic significance, making a contribution to gross domestic product nearly as great as that of the motor vehicle industry or the mining sector.<sup>9</sup> The coastal zone figures prominently in both domestic and foreign tourism in Australia.

47. People using coastal resources for recreation vary from those spending annual holidays at seaside resorts to day trippers. The variety of leisure activities at the coast is extensive and includes swimming, sunbathing, bird-watching, photography, walking, surfing, boating, skiing, fishing, picnicking, camping and using off-road vehicles. Not all uses are compatible, which leads to conflict and serious management problems.

48. Recreational activities usually require the provision of facilities in the coastal zone close to the foreshore. These include changing sheds and toilet blocks, marinas, launching ramps, jetties, public access walkways, caravan parks, motels and other holiday accommodation, car parks, kiosks and various sporting and amusement complexes.

49. Over 13 per cent of Australian households possess at least one boat and, according to the Australian Boating Industry Association, the number of boats has been increasing at a compound growth rate of 10 per cent over the last four years.<sup>10</sup> That Association stated in evidence to the Committee that, given the scope and significance of recreational boating, there is a need for it to be recognised in the planning stages of a coastal zone program, and for the industry to be represented in the decision-making process, particularly with regard to facility development.<sup>11</sup>

50. Some people visiting the coast seek to spend their time in conservation reserves and national parks abutting the coast, rather than on beaches. Adequate coastal park areas must be provided if those in existence are not to suffer from over-use.

51. The desire for a coastal retreat for recreation has also led to shack development on Crown lands. This is a significant problem in S.A., with over 3000 shacks at various points along the coastline, particularly on Yorke Peninsula. In 1974 a State Government committee classified over 70 per cent of the shacks as unacceptable.<sup>12</sup> Shacks have frequently been erected on the frontal dunes and vegetation has been removed.

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9 Economic Significance of Tourism in Australia, Bureau of Industry Economics, Research report 4, p. 87.

10 Transcript pp. 30, 32, 930.

11 Transcript p. 933.

12 Transcript p. 121.

Use of the shacks and provision of access tracks to them have encroached further on the coastal environment. Many shack areas are situated immediately adjacent to the beach, are prone to storm damage and can actually accelerate erosion of the beaches. Shacks sited on foreshore reserves may deny the general access to the beaches for which the reserves were originally provided.

52. **Urban and Industrial Development**—Urban complexes have an associated requirement for the provision of many services, including garbage and sewage disposal, water and electricity supplies and recreation and transport facilities. Where urban developments occur in coastal locations the effect on the coastal zone can be significant. An important feature of urban development in coastal areas is the tendency for a linear spread of development along the coastline, with blocks on the coastal fringe or at least with a view of the sea in high demand. This maximises the impact on the fragile coastal fringe. Urban development situated on the coastal dune system contributes to coastal erosion by blocking the natural movement of sand between the sea and the shore. This sand movement provides an invaluable buffer in times of severe storm activity.

53. A particular type of coastal urban development which has generated some controversy is canal estate development. These are constructed by dredging artificial waterways which are then connected to natural waterways. The construction of canal estates, while allowing more people to live on the waterfront, can present several environmental problems. Interference with inherently unstable coastal land forms promotes problems of erosion, silting and flooding. The construction of canals has allowed an expansion of breeding areas for insect pests which may lead to serious health hazards in the future. *Probably the most significant environmental impact of canal estate development is the fact that in most cases canals replace valuable wetland areas.* This has occurred in Brisbane, the Gold Coast and the central coast of New South Wales.

54. Coastal lands often attract industrial developments for cost-benefit reasons. Port facilities are close by for transport and the sea provides an outlet for waste disposal and water for industrial cooling.

55. Industrial estates are often constructed on flat, poorly drained land which is in low demand for housing. Planning authorities may neglect the fact that salt marsh and other wetland ecosystems are not 'useless' but contribute to the productivity of marine areas.

56. **Educational Use and Scientific Research**—Wetlands, sand dunes and rock pools provide excellent biological and geological study areas for school and university students, and for research.

57. In recent years there has been a dramatic increase in interest in the environment. This is reflected in an increase in the number of students taken on school excursions and camps. The Committee was told that there has been a decrease in the quality of coastal areas suitable for educational excursions, but this is a subjective assessment based on visual changes to an area over time rather than on statistical data.<sup>13</sup>

58. South Australia has recognised the value of setting aside special areas for educational and research purposes and the Committee was impressed with the progress made with the Lochiel Park Education Reserve on the banks of the Torrens River.<sup>14</sup>

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<sup>13</sup> Transcript p. 189.

<sup>14</sup> Transcript p. 200.

59. Representatives from the Roche Research Institute of Marine Pharmacology (RRIMP) stressed the need to maintain species diversity, not only for its intrinsic aesthetic value, but also for the potential benefits which may arise from having as diverse a gene pool as possible. Organisms which today may seem of little value may be of great commercial or medical importance in the future. Almost any stress on the environment results in fewer species. According to RRIMP, studies in the field have made research scientists keenly aware of stresses placed on the coastal fringe by agricultural, industrial, commercial and recreational activities.<sup>15</sup> Research scientists collecting data in the coastal zone find it very difficult to select plots in which to conduct experiments that are not tampered with or destroyed by the general public.

60. Lack of a comprehensive inventory of the coastal zone is a serious disadvantage when considering possible sites for educational or scientific study. In many instances sites may be destroyed before their significance is realised. The Committee commends the work being done in Victoria to identify sites of particular scientific interest, encompassing geological, geomorphological, botanical, zoological and archeological aspects.<sup>16</sup> The Victorian Town and Country Planning Board has initiated the development of a master file of such sites to be used as a basis for planning development and conservation along the coast.

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<sup>15</sup> Transcript p. 984.

<sup>16</sup> Exhibit No. 11.

### 3 Issues in Coastal Management

61. The primary aim of coastal zone management is to provide guidelines for decision makers on the way in which demands for numerous activities can be met without unreasonably disturbing either the balance of natural systems or the right of all members of the community to use and enjoy the coast.

62. The Australian coastal zone is an extensive and valuable resource capable of meeting a wide variety of the needs of the population. This diversity of uses and the resultant conflicts are the cause of many of the problems of coastal management. Not only are some sections of the coast highly valued for a number of competing uses, but many of the uses are not compatible with each other.

63. Previous planning decisions have in some cases, often unintentionally, excluded certain uses from specific areas. This may generate more intense conflict in areas that remain available. As options for competing uses are reduced, the need to weigh the consequences of various decisions becomes more critical.

#### Erosion

64. Maintaining dune stability is one of the major problems of coastal management. Coastal erosion is a world-wide phenomenon. The beach recession taking place on Australian coasts is equally common in Europe, North and South America and South Africa.<sup>1</sup>

65. Unwise location of private and public facilities has often led to threat or damage to these facilities by wind or sea erosion. The issues are those of equity in the use of public funds to protect people who locate buildings unwisely, the technical efficiency of some of the protective works proposed, the environmental impacts of such works on other coastal uses and the possible transfer of the erosion problem to adjacent areas.

66. Between 4000 and 6000 years ago sandy beaches were increasing in width partly as a result of the movement onshore of large sand deposits from the sea floor. These sand reserves are now depleted and as a result beaches are receding. There are local variations caused by sediment generated from extensive cliff areas, or where sediment is delivered from rivers, but this is not common.<sup>2</sup> There is considerable evidence to show that in almost all cases in Australia sediment passing down rivers is being deposited into coastal lakes and lagoons and not actually reaching the sea to replenish depleted stocks. (Rivers such as the Burdekin in Queensland and the Ord in Western Australia are exceptions.)<sup>3</sup>

67. Planners should therefore assume that there will be continuing erosion of beaches unless there is a major environmental change.<sup>4</sup> Major storms which create

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<sup>1</sup> Transcript p. 1103.

<sup>2</sup> Transcript p. 1106.

<sup>3</sup> Transcript pp. 95-6.

<sup>4</sup> Transcript p. 1109.

massive erosion in a short time are not isolated events but part of a continuing and inevitable natural process. Sand lost to the sea will not always be replaced during calm periods as supplies may already have been swept inland or been withdrawn from the system by other means.

68. A stable foredune serves as a natural protection to the coastline against wave erosion. It acts as a buffer zone, providing an erodible reservoir of sand which is capable of circulating between the dune, beach, surf zone and sea bed according to sea and wind conditions. This allows the foredune to be eroded by storm waves, yet still maintain its barrier as long as it has a sufficient volume of sand. The barrier also protects the landward zone from winds and salt spray as well as preventing sea water flooding.<sup>5</sup>

69. Various factors can lead to instability. These include the destruction of sand-trapping vegetation due to inadequate or excessive sand supply, or to an increase in the force exerted by wind or waves. Any break in the foredune leads to the funnelling of wind and consequent movement of the sand inland as sand drifts. The factors causing foredune instability can be long, medium or short term. The main factors are sea level changes, seasonal fluctuations especially in storm activity or wind velocity and strength, and human disturbance.

70. Where fluctuations in shoreline caused by erosion occur in undeveloped areas no significant management problem exists. Experts invariably agree that in these circumstances it is preferable to allow the sea to find its own shoreline. Unfortunately, this is not possible where development has already occurred. Unwise subdivision in the past has allowed development very close to the shoreline, often on the primary dune. This has several effects on the environment. The natural vegetation is removed by the construction of buildings, paths and non-absorbent areas, which allows greater wind velocity between the buildings and over the surface. Secondly, stormwater drainage outlets, sillage disposal within the properties and a greater concentration of rainfall on non-absorbent areas increases the height of the water table and increases the extent and speed of erosion under storm conditions. Houses, sea-walls, jetties and other structures in the dune zone also reduce the sand supplies available to restore dunes after storm wave erosion.

71. Where properties and facilities representing a large investment have developed within the dune zone, managers are faced with difficult economic and political decisions. Defending properties from a relentless sea is an ongoing and extremely expensive program. There remains the question of who should pay—individual property owners, local, State or Commonwealth governments. The view was put that it is unfair to expect either the ratepayer (local government) or the taxpayer (whether from State or Commonwealth funds) to share the cost of protecting individual property owners against wave erosion. It was suggested that there should be an obligation on local councils to advise those who have built, or who own land and may build, in areas subject to erosion or flooding that the council will not act to prevent damage to their property during storm action.

72. The possibility of developing an insurance scheme for property owners in hazardous areas was also canvassed. The scheme could operate on a State or Commonwealth level and would lead to land in these areas reverting to public ownership after serious damage had occurred. At present, owners may have considerable equity in coastal blocks and may have no real choice after damage has occurred other than to

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<sup>5</sup> Transcript p. 965.

rebuild in threatened areas. The scale of the scheme would be small. It would be extremely unlikely that the number of properties threatened by one storm event would ever approach the massive destruction caused by other natural disasters. The scheme is not primarily aimed at providing insurance cover for private property owners, but rather at acquiring land for public purposes over time and at a lesser cost to the Government than acquisition when properties are not threatened.

73. The Committee received conflicting evidence on the wisdom of erecting sea-walls and undertaking continual beach nourishment. It would seem warranted only where the properties being protected are of extremely high value, as at the Gold Coast in Queensland. In other cases public acquisition programs aimed at eventually securing an adequate buffer zone seem more appropriate. The Committee acknowledges that neither solution is financially attractive, but once inappropriate development is removed from the buffer zone beach maintenance costs are dramatically reduced.

74. The Committee is aware that most planners and engineers from the local government level through to State and Commonwealth governments realise past mistakes and are making every effort to ensure that these problems do not occur with future planning. It is noted, however, that as a result of breakdowns in communication between levels of government, or due to inadequate funding mechanisms, mistakes are still being made. The Committee believes that every effort should be made to withhold building or development approvals in areas which are known to be subject to severe flooding or beach erosion. The Committee is aware of pressures placed on local councils, and realises that strong support must be forthcoming from both State and Commonwealth governments if these problems are to be overcome. The Committee witnessed examples of these difficulties in the Gosford and Wyong Shires in N.S.W.

## **Pollution**

75. The conflicts between waste disposal and recreation are common near most of our coastal cities. Pressures are being exerted to attempt to stop discharge of sewage near Sydney's main surf beaches and to extend discharge lines to deeper, offshore water.

76. The problem of pollution affecting oyster leases and fish nursery areas in the Sydney area has received a considerable amount of publicity recently. Unfortunately, it seems that pollution is often disregarded unless it has caused a tangible economic loss. If amenity is reduced and various forms of recreation are prevented it is virtually impossible to place a figure on the cost of damage. This problem of assigning values on a cost-benefit basis to alternative uses of coastal resources will be discussed later in this chapter.

## **Recreation Pressure**

77. Beaches, parks and reserves in the coastal zone are under increasing threat from over-use. Pressure at certain times of the year, particularly school holidays, can be extreme, resulting in significant damage to dune stability, deterioration of vegetation in coastal parks, serious litter problems and damage by vandals to protective works and facilities.

78. Repair to areas damaged by over-use can form a significant part of local council expenditure. Many local government representatives stressed the inequity of this situation and called for consideration of a funding mechanism to spread the cost of maintenance and repairs to resort areas over all users and not just local ratepayers.

79. Although a solution to the problem of over-use may be to place restrictions on some activities and to redirect users to other less sensitive areas, other policies must also be considered. The Committee was told that some beach resorts are underdeveloped. Although it may appear that damage is caused by too many people using the area, the fact is that if adequate facilities including car parks, access tracks, toilet facilities and litter bins were provided, the beach could cope with more people with less resultant damage. In some cases upgrading facilities and extending the range of entertainment available would allow resorts to handle increased numbers without additional damage to the environment. If competitive resorts were established in suitable locations the result would be to draw people away from the more sensitive locations. While some people who choose a coast holiday want a quiet, peaceful resort, many want entertainment centres and sporting complexes. Developing some resort areas in these styles would be an attempt to cater for two separate types of coastal users who are currently competing at one site, often to their mutual disadvantage. An intensification of efforts in both directions is required—more protection and more development, but not in the same place.

## **Competing Uses**

80. One of the most pressing problems facing coastal managers is that of adjudicating between non-compatible uses in an equitable manner. Options range from banning uses which do not require a coastal location to restricting remaining uses to specific locations zoned for that purpose. The outcome of many conflicts between competing uses seems to depend on which pressure group is the most articulate and is best able to convince the determining body, often local government, that a certain location is absolutely necessary for a certain use.

81. **Uses Requiring Retention of Coastal Features**—These include tourism, recreation, education, scientific study and conservation, all of which depend on the natural attributes of the coast. Once an area is committed to an activity requiring retention of coastal features, it effectively precludes the simultaneous use of that area by an activity that requires an alteration in coastal features, or 'coast-modifying' use.

82. Even then, activities requiring retention of coastal features may not be compatible. Intensive use for recreation, tourism or education may degrade an area for scientific or conservation purposes. Conversely, declaring areas for conservation or scientific purposes may require restrictions on recreation and tourism. A major tourist development could damage fish breeding grounds, or restrict access by local residents to coastal recreation areas. Conflicts will therefore still occur between users whose primary aim is to maintain the coast in its natural state. Conflict is not always one of development versus conservation.

83. **Coast-modifying Uses**—These include primary industries such as mining, forestry and intensive agriculture, secondary industries using or requiring coastal locations, tertiary industries such as transport and communications, and urban development. All of these activities usually require significant modification of the natural environment, and the size of the impact will vary with the level of planning and the management techniques used. As an example, unplanned subdivision on a beach dune system may lead to severe erosion. This may then be followed by emergency measures such as a rock wall, which if inappropriate can lead to still further erosion.

This, in turn, conflicts with continued recreation and tourist usage. However, planned development which leaves the dune system undisturbed can be compatible with recreational and tourist use of the beach.

84. In other cases, the detrimental impact may be unavoidable in the short to medium term, as with sand mining. As coastal management cannot make these activities compatible with others, except possibly in the long term when the activity has ceased and the area has been rehabilitated, the only option is to allocate separate areas for each activity. This allocation should be based on an analysis of the needs for the various activities, the resources available, the assessed benefits, the goals of the organisations involved and the timespan before the area might become available for other uses.

85. **Zoning**—One way of ensuring an equitable distribution of available coastal resources is to introduce some form of zoning. Zoning is not a new management concept and has operated successfully in many planning fields for a long time. One of the difficulties that management authorities have is access to adequate data on which to base decisions. For zoning to be effective both the immediate and long-term impacts of alternative uses need to be known. Attempts also need to be made to determine which uses are compatible and which are mutually exclusive. This is obvious for some uses but not for others.

86. Zoning decisions should not be made exclusively at a local level. For example, only certain estuaries are geologically and hydrologically suitable for major port developments, others are suitable for oyster growing. In other estuaries, perhaps because of poor flushing capabilities, certain passive recreation can be tolerated, but not any seepage of sewage. The problem must be viewed on at least a regional basis to ensure that all uses have suitable resources available to them.

87. Zoning can take various forms. The most common is zoning by area, where some activities are permitted in a certain location and others are excluded. An example of this is where dune buggies and other off-road vehicles are restricted to less sensitive coastal dune areas. Zoning over time can also be a method of allocating the coastal resource between non-compatible uses. For example, mineral sands mining may be allowed for a certain time, after which the land is rehabilitated and made available for residential subdivision or recreation.

88. The Institution of Engineers believes that as coastal land is a limited resource with its use subject to hazards and technical difficulties, it should be used only for those activities which require a coastal site, or those which would benefit most from one.<sup>6</sup> Zoning can to a certain extent, preclude non-coastal activities.

89. Conflicts between rival users will inevitably arise and machinery to resolve these conflicts must be developed. The answer does not appear to be the establishment of additional authorities with limited powers or cumbersome licensing requirements, but rather in developing long-term plans which recognise public and professional input, and provide a mechanism for appeals concerning specific projects to be heard by an impartial body. Conflict can only be resolved by comprehensive management plans. The Wyong Shire Council told the Committee that 'clear State and Federal Government policy, defining usage of areas and development guidelines, would be of major assistance in clarifying issues often clouded by local group pressures'.<sup>7</sup>

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6 Transcript p.1120.

7 Transcript p. 698.

90. The Committee sees little point in attempting to develop detailed lists of accepted and forbidden uses on a large scale. Use pressures are dynamic and change considerably over time. Inflexible zoning may prove to be an additional constraint and may hamper constructive management. Determining acceptable coastal uses seems best handled by considering the likely impacts of a specific project on a specific site, keeping in mind the regional allocation of coastal resources to that use already, rather than trying to develop State-wide or national prescriptions.<sup>8</sup> The Committee acknowledges that in many instances, because of the lack of information, it is very difficult to assess a proposed impact objectively with any degree of accuracy. This inadequacy will be discussed later in the Report.

### **Cost-benefit Evaluation of Competing Uses**

91. If coastal management is to be effective and equitable in areas of conflict between uses there is a need first to identify the resources and the demands. Then decisions must be made on the allocation of land to various uses, taking into account the costs and benefits of alternative proposals.

92. The most effective use of coastal resources is that which adds the greatest amount to the welfare of society. Ideally, to assess the welfare gain or loss from a proposed land use, all the costs and benefits must be quantifiable and it must be possible to measure them. When a change in land use is being evaluated, the net benefits from the new use should be measured against the net benefits from alternative uses. For example, it may be proposed to urbanise an area of coast which also has value in its natural state for recreation. Since urban development will reduce its recreation value, the magnitude of this loss should be considered before a decision to proceed with urban development is made.

93. While cost-benefit analysis would seem to be the framework for evaluating the problems of resource allocation, environmental resources are difficult to measure. Development projects usually cause irreversible effects on natural environments. Once development takes place a possible alternative use of the land is lost, since the pre-existing natural environment can rarely be recreated. Unique or unusual natural features may be lost and fragile ecosystems may be destroyed. For most people the preservation of scenic amenity and the conservation of nature by preservation of the natural environment adds to their enjoyment of life, but these benefits are difficult to quantify.

94. The problem of estimating the value of land kept in its natural state makes it difficult to compare the relative merits of land use proposals. Some bias towards commercial ventures can be expected since it is difficult to justify keeping land in its natural state when the alternative benefits of commercial development can be more accurately quantified. Cockburn Sound and Botany Bay were cited as examples where decisions have been made from a predominantly commercial viewpoint.<sup>9</sup>

### **Organisational Problems**

95. Effective coastal zone management in Australia is hampered by a number of organisational deficiencies. There is a need to identify these problems so they can be

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<sup>8</sup> Exhibit 2 (c), p. 20.

<sup>9</sup> Transcript p.167.

countered with co-ordinated planning by the three levels of government. Englander, Feldman and Hershman<sup>10</sup> identified organisational problems in the U.S.A. as follows:

- lack of co-ordination among public agencies;
- insufficient planning and regulatory authority;
- lack of clearly stated goals;
- insufficient data base for decision making;
- little understanding or knowledge of coastal ecosystems;
- primitive analytical tools and predictive methodologies;
- state and local governments having insufficient funds to manage the coasts;
- dominance of short-term management over long-range planning;
- resource decisions made predominantly on the basis of economics to the exclusion of ecological considerations.

96. Evidence given to the Committee throughout the Inquiry would seem to indicate that similar difficulties are encountered in Australia. The Committee believes it is the responsibility of the Commonwealth Government to provide a lead in overcoming some of these problems. The lack of clearly defined goals in coastal management at a national level is one issue that was repeatedly raised during the Inquiry. Most State and local governments called for the Commonwealth Government to provide leadership in developing a national coastal policy with clearly stated goals and objectives. This would provide a framework for management planning that would lead to a co-ordinated approach rather than the current fragmented ad hoc processes.

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<sup>10</sup> Englander E., J. Feldman and M. Hershman (1977), 'Coastal Zone Problems: A Basis for Evaluation', *Coastal Zone Management Journal* vol. 3, pp. 217-236.

## 4 Present Management of the Australian Coastal Zone

97. Although inadequate planning and management of the coast has often led to degradation of a highly valued resource, all State Governments have now recognised and are responding to the problems of management.

98. In December 1966 the Victorian Government established the Port Phillip Authority (PPA) to oversee and control developments within the Port Phillip Region. This Authority was established only twelve months after the pioneer Bay Conservation Development Commission (BCDC) in San Francisco was given interim approval in September 1965. The permanent BCDC was not established until 1969, so that Port Phillip Authority would appear to be the first regional coastal management agency established in the world. Three other States, Queensland, South Australia and New South Wales, have also passed coastal management legislation and Western Australia is developing its coastal management approach under the *Environmental Protection Act, 1971*.

99. There is considerable diversity in approaches adopted by different States. This diversity reflects the different issues in each State, the different philosophical bases of environmental management and the level of technical understanding at the time legislation was passed.

### Victoria

100. The PPA was established by the *Port Phillip Authority Act 1966* because of government concern with coastal erosion, land use conflicts and with lack of co-ordination between various agencies. It consists of a full-time Chairman and part-time representatives from the Departments of Crown Lands and Survey and Public Works, the Town and Country Planning Board and the Soil Conservation Authority. Each of these agencies has major interests in the management of the coastal zone.

101. The Department of Crown Lands and Survey is responsible for coastal reserves in Victoria. These have been managed by locally elected Committees of Management appointed under the Crown Lands Act. Until the mid 1970s the Department's main concern was to supervise periodic elections and to require a financial statement every three years. Committees of Management were given no funds for management and had to raise the necessary funds by charging reserve users. In 1973 the Department established a Division of Crown Land Management and is now able to give Committees limited financial assistance as well as providing them with a technical advisory service. The Ports and Harbours Division of the Public Works Department is responsible for most of the proclaimed ports in Victoria, excluding the major ports of Melbourne, which is controlled by the Port of Melbourne Authority, and Geelong and Portland, which are controlled by separate Harbour Trusts. The Division is also responsible for protection of the coastline from wave attack. The Soil Conservation Authority is responsible for the control and repair of erosion on all Crown Lands. A major emphasis is on the stabilisation of coastal sand dunes. The Town and Country Planning Board is responsible for the preparation and co-ordination of planning schemes and for the preparation of policy statements. A Draft

Coastal Policy has been widely discussed. A number of regional planning bodies such as the Westernport and Geelong Regional Planning Authority have also been established to help co-ordinate local government planning in specific regions.

102. The Port Phillip Authority has jurisdiction over Crown Lands and water which are within 200 m landward and 600 m seaward of High Water Mark around the shores of Port Phillip Bay, with a slightly bigger area on the adjacent ocean coasts between the Barwon River and Cape Schanck. It is responsible for advising the Minister on methods of:

- co-ordinating development in the Port Phillip area;
- preserving the existing beaches and natural beauty of the Port Phillip area and preventing deterioration of the foreshore; and
- improving facilities in the Port Phillip area to enable the full enjoyment of the area by the people.

The PPA may recommend to the Minister that:

- surveys, investigations and experiments be carried out to determine the present condition of foreshores and the best method of preserving and improving foreshores including beaches;
- preventive and remedial measures in respect of the Port Phillip area be investigated or designed;
- results be published of any surveys, investigations and experiments undertaken by or on behalf of the Authority;
- information be disseminated with regard to the use and preservation of the Port Phillip area; and
- necessary or expedient measures be taken to prevent pollution of inshore waters.

103. As well as its advisory role the PPA is required to approve any structure, works or vegetation removal proposed for its area of jurisdiction. In making such decision the Authority is required to consider:

- the effect on the natural beauty and on the future use and enjoyment of the Port Phillip area by the public; and
- whether such structure or works or removal of vegetation is likely to cause any deterioration of the Port Phillip area by virtue of erosion or the deposition of sand or silt.

104. Between 1968 and 1977 the PPA received 734 applications for consent and has granted some 90% of these applications. It is only concerned with developments on Crown land and so the proposers of projects are generally government agencies, local governments or Committees of Management. Some problems have been experienced due to the lack of penalties in the Act. In its early years the PPA tended to decide each case on an ad hoc basis but the release of the Port Phillip Coastal Study in 1977 gives an overall framework in which proposals can now be assessed.

105. In 1978 the Victorian Government decided to extend this management approach to the rest of the Victorian coastline. The *Crown Land (Reserves) Act 1978* established a Coastal Management and Co-ordination Committee consisting of representatives of four State agencies, the Departments of Crown Lands and Survey, Public Works, and Planning and the Soil Conservation Authority. The Co-ordination Committee is established under the Crown Lands Act and is to be serviced by the Department of Crown Lands and Survey. It is required to investigate and report on land reserved for the protection of the coastline, to prepare management plans in consultation with management committees and local councils, to co-ordinate works carried

out by public authorities and management committees and to approve proposed works and improvements.

106. The *Crown Lands (Reserves) Act* 1978 resolves many of the difficulties which have been experienced with the Port Phillip Authority Act although it still only refers to Crown lands. Management plans are to be prepared either by the Co-ordination Committee itself or by the local Committee of Management. There are penalties for works not in accord with the management plan.

107. The Crown Land (Reserves) Act refers only to land reserved for the protection of the coastline. The Port Phillip Authority Act refers to all Crown lands within the defined areas. Because no private land is included neither Act has any influence over subdivision, which is normally controlled by local governments using statutory planning processes.

## Queensland

108. Queensland was the first Australian State to establish a state-wide approach to managing the coast with the establishment of the Beach Protection Authority (BPA) in 1968.

109. This Authority was established as a response to major erosion incidents resulting from cyclonic storms on the Queensland coast. Particularly heavy storms caused extensive property damage to the Gold Coast area in 1967.

110. The BPA is established under the *Beach Protection Act* 1968-1974. The Authority is chaired by the Director of the Department of Harbours and Marine and comprises representatives of the Department of Lands, Co-ordinator General's Department, Department of Mines, Department of Local Government and a representative of local government. The BPA is staffed by officers from the Department of Harbours and Marine. An Advisory Board with wider representation of departmental and non-governmental interests was also established.

111. The functions of the BPA are to investigate erosion or encroachment by the sea, to plan associated preventive and remedial measures and to record and evaluate the results of these measures.

112. On the recommendation of the BPA the Governor in Council may declare certain parts of the coast to be Beach Erosion Control Districts. By June 1979, twenty such districts had been declared.

113. When a Beach Erosion Control District is declared the BPA is required to prepare a scheme for the protection of the beaches against erosion and encroachment of the sea. There is a requirement for public participation once the scheme is prepared and the comments of members of the public as well as the local authority are forwarded through the Minister to the Governor in Council, who may approve, modify or reject the scheme. Once a scheme is approved most of the responsibility for implementing any required works rests with the local authority, which receives a 20 per cent State subsidy on coast protection works. The owners of land are required to protect their land from wind erosion.

114. The BPA is required to consider any proposals for structures within a Beach Erosion Control District and no structure can be erected without its permission. Similarly the permission of the BPA for any subdivision or road opening is required. During the year 1978-79 201 applications were made for permits for developments in

Beach Erosion Control Districts. The BPA also has power to control access for grazing, removal of sand, vehicle use or drainage of any unoccupied Crown land within a Beach Erosion Control District.

115. Any person whose estate is injuriously affected by the decision of the BPA is able to claim compensation. In the second reading speech the then Premier made it plain that decisions leading to such actions for compensation would be made at Cabinet level after a full examination of the probable cost and the expected public benefit.<sup>1</sup>

116. The annual reports of the Beach Protection Authority show how it has developed its technical expertise and its operations. The basic problem of local councils having insufficient funds to implement erosion control schemes is apparent. The BPA states in its 1977 report:

The present situation is that while no new problem areas are being created the existing ones caused by older developments permitted too close to the sea are not being repaired.<sup>2</sup>

The BPA stresses the need for additional funds to be made available from other than local government sources. Approaches by the Queensland Government to the Commonwealth Government for funds (40 per cent Commonwealth, 40 per cent State and 20 per cent local) were rejected. This call has been reiterated by the Gold Coast City Council in its submission to this Inquiry.

117. Despite predictable difficulties with the funding of beach protection under the Act, it is apparent that the BPA has achieved major national standing due to its technical expertise and understanding of the problems of the Queensland coast. This has been achieved by a program of field investigation and research as well as by a major program collecting base data information on waves, storm surges, beach profiles, currents and sand types along the Queensland coast. Staff have visited the Delft University in Holland and overseas experts have been consulted on Queensland problems. Along with this research there has been a major information dissemination program to ensure that available knowledge is used by local governments. The quarterly newsletter *Beach Conservation* and its advisory leaflets on vegetation and dune management are widely distributed throughout Queensland and the rest of Australia. A number of films have been made and BPA staff talk to many schools about coastal conservation.

118. The other aspect of BPA work which is connected both to its data collection and its public education role is the volunteer Coastal Observation Program. Thirty-five observation stations along the coast are visited daily by volunteers who record information on waves and the beach. Each volunteer is visited once or twice a year by a field officer to check on the basic equipment and to handle any difficulties. This program started in 1972 and the extensive set of data collected has been stored in computer. Some is reported in BPA publications.

119. The BPA has also been successful in explaining to local authorities the need for buffer strips between developments and the sea. Even councils not in Beach Erosion Control Districts are advised on the required 'set-back' distance from the sea and many local authorities have included appropriate recommendations in their planning schemes.

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1 Qld *Hansard*, 2 April 1968, p. 2753.

2 BPA Annual Report 1977.

## South Australia

120. South Australia was the first State to introduce comprehensive coastal planning over both public and private lands for the entire State with the passing of the Coast Protection Act, 1972-1975.

121. Pressures for State assistance to local councils started in 1953 when the Seaside Councils Committee was established to examine the common problems of seaside metropolitan councils. In 1960, following major storm damage to the coast, the councils pressed for State assistance for coastal protection and repair. In 1966 a major study of coast erosion in the Adelaide region was initiated by the University of Adelaide using funds from the councils and the State Government. The report in 1970 stressed that satisfactory administrative and financial mechanisms were necessary for effective coastal management. The Government then established the Foreshore and Beaches Committee under the chairmanship of the Director of Planning and that Committee set priorities for coastal works in 1971. Major storms in 1971 led to considerable damage and the Committee recommended the establishment of a statutory authority.

122. In 1972 the Coast Protection Act was passed. It established the Coast Protection Board comprising the Director of Planning, the Director of Marine and Harbours and the Director of the Tourist Bureau together with experts in local government, coast protection and the biological sciences. The Board is serviced by the Coast Protection Division of the Department for the Environment and is responsible to the Minister for the Environment. The duties of the Coast Protection Board are to protect the coast from erosion, deterioration, pollution and misuse, to restore any part of the coast after damage has occurred, to undertake coastal improvements and research, to carry out research, to cause research to be carried out, or to contribute towards research into matters relating to the protection, restoration or development of the coast.

123. The coast is defined as extending 3 nautical miles seaward and 100 metres landward of High Water Mark except where declared otherwise by regulation. The 100 m inland boundary is considerably less than that provided by the Queensland legislation (400 m) or the Port Phillip Authority (200 m). This interim boundary presumably indicates that the greatest concern in South Australia is with erosion occurring in built-up urban areas around Adelaide.

124. The Coast Protection Act also empowers the Governor, on the advice of the Board, to declare Coast Protection Districts. Declarations must be discussed with local governments, and for each district a Consultative Committee made up of nominees from local governments in the district must be established. Districts have been proclaimed in the South-East, Fleurieu, Metropolitan and Yorke Peninsula Areas.<sup>3</sup> Once a District is declared the Coast Protection Board is required to investigate the district and to develop a management plan, which must also be discussed with local governments and the general public prior to its approval by the Minister and the Governor. Management plans have been developed for the Metropolitan and Fleurieu Coast Protection Districts. These include general coastal policies as well as specific policies for each district.

125. Once an area is declared as part of a Coast Protection District the Coast Protection Board is authorised to execute all works required to implement an approved management plan. It can repair or restore any parts of the coast damaged by storms or pollution and acquire land even without an approved plan. Local councils wishing to carry out works on the coast must seek the approval of the Board, and once this is

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<sup>3</sup> Transcript p. 115.

obtained the Board may grant funds to assist with the works. The amount of the grant is determined by the Board subject to the following provisions:

- where the works consist of storm repairs, the grant may cover the whole or any portion of the cost to be incurred by the council;
- where the works consist of the provision or repair of a coast facility, the grant may cover up to one-half of the cost to be incurred by the council; and
- in any other case, the grant may cover up to four-fifths of the costs to be incurred by the council.

Where the Board itself carries out works in an area it may recover the appropriate contribution from the council.

126. The Board also has the power to control land use in a Coast Protection District. No works of a prescribed nature may be carried out in a Coast Protection District without the approval in writing of the Board. To date no regulations prescribing the works that require a permit have been proclaimed. The development of these regulations has been delayed awaiting the approval of management plans for the various districts.

127. In the absence of any proclamation as to what are the prescribed works requiring approval, the Coast Protection Board has not as yet exercised any direct control over coastal land use. However, controls on subdivision proposals exist under the Planning and Development Act, 1966-1978 and the Board has been able to make recommendations to the Director of Planning on subdivision proposals. The Board has also worked closely with the Director of Planning in the preparation of Development Plans for various parts of the coast.

128. A recent inquiry into control of private development in South Australia has proposed an integrated system of controls. If the State Government accepts the recommendations of this inquiry it may be that the Coast Protection Board will advise the Director of Planning of its requirements, which will then be implemented under planning legislation.<sup>4</sup>

129. The early activities of the Board were dominated by the restoration of erosion damage and the construction of coastal protection works but since 1975 the emphasis has switched to avoiding problems rather than repairing them.

## **New South Wales**

130. At least six State agencies have major responsibilities for managing aspects of the New South Wales coastal zone.

- The Department of Lands is involved with reserving land for public purposes and for subdividing coastal lands. The Department is responsible for submerged lands except in areas controlled by the Maritime Services Board. The Department has recently been involved with developing State Recreation Areas, several of which are in coastal areas.
- The National Parks and Wildlife Service of New South Wales is responsible for managing twenty-two reserves on the coastline, comprising some 266 km of coast (18 per cent of State total) as well as twenty offshore islands. The service will manage up to 30 per cent of the coastline with the establishment of further proposed parks.

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<sup>4</sup> Transcript p. 117.

- The Department of Public Works has a Coastal Engineering Branch which carries out investigations and advises other agencies and industry on coastal dynamics. This Branch is also responsible for fishing harbours and recreational boating facilities. A Beach Improvement Program is administered by the Branch and this provides about \$1 million per year to local governments to improve the amenity of beaches in ways that will not increase erosion problems. The General Projects Branch of the Department is concerned with flood-plain mapping and flood mitigation work.
- The State Pollution Control Commission is involved in reviewing development proposals through the Environmental Impact Assessment procedure. The Commission has also been involved in a number of coastal studies including Botany Bay and Narrabeen. The Commission also establishes criteria for pollutant discharge into coastal waters.
- The Soil Conservation Service is responsible for the control of sand drift from coastal dunes. The Service is concerned that wind erosion hazards be assessed when developments are being considered for the coast.
- The Planning and Environment Commission and the former State Planning Authority have pursued a policy of establishing land use controls on all local government areas on the coast. This was achieved in 1970 when an Interim Development Order was gazetted for the then remaining area not controlled. The main thrust of these controls was to regulate sub-division of coastal lands.

131. The first formal attempt at developing an inter-agency co-ordinating mechanism was developed in 1973 as the Coastal Lands Protection Scheme. This Scheme was administered by an interdepartmental committee from Lands, National Parks and Wildlife and the then State Planning Authority. The basis of the Scheme is acquisition of lands in scenic areas or areas that may be important for coastal recreation. To June 1978, 4397 hectares (ha) of coastal land had been acquired at a cost of \$7.5 million. The scheme is continuing.

132. A further co-ordination and control mechanism was implemented with the proclamation of the Coastal Protection Act on 1 July 1979. Its objective is to protect the New South Wales coastal zone from increasing development pressures by providing an integrated and comprehensive approach to coastal planning. The Act establishes an expert Coastal Council to advise the Minister for Planning and Environment. The Council consists of representatives of the Planning and Environment Commission, the Departments of Public Works, Conservation, Mineral Resources and Development, Agriculture, Local Government, the National Parks and Wildlife Service and two non-government specialist members.

133. The Council is required to advise the Minister for Planning and Environment on the protection and restoration of the coast and on the orderly and balanced use and conservation of the coastal region, having regard to the financial resources of the State and the social and economic needs of the people of the State. In particular the Council is to advise on policies, co-ordination and acquisition. It may carry out appropriate investigations and disseminate information on coastal management. The Council has no direct powers, but its advice can be implemented under the powers of the Planning and Environment Commission.

134. The Act also requires the consent of the Minister for Public Works for any development works in the coastal zone. Consent will be refused if the development will adversely affect the beach or dune system or if the development is likely to be adversely affected by the sea. This consent provision is not a general planning power but rather a power of veto on specific technical grounds of coastal erosion or damage. The Department may place conditions on its consent, requiring modification to the pro-

posal. Consent is issued to the local government body rather than to the proponent of development and is seen as an additional consideration in the approval of a project. This section of the Act is not implemented until the Minister for Public Works advises the local government body of the types of development or of specific areas that require such approvals.

135. Although it is as yet too early to evaluate the legislation, it is apparent that the coastal policy in New South Wales has swung from one solely of acquisition of important areas to a general development of policy and planning control.

## Western Australia

136. Western Australia has not passed or foreshadowed any specific coastal management legislation. However, the *Environmental Protection Act, 1971* does allow the declaration of policy on specific aspects of environmental protection. The Department of Conservation and Environment, which administers the Act, foreshadowed in 1973 that it would declare an environmental management policy on the coastline. A working draft was widely circulated in June 1977, and substantial comment was received from government agencies and the public.

137. The Conservation and Environment Council considered the draft and the public comments and endorsed the need for better co-ordination of planning and management of the coastal zone. A Steering Committee is presently investigating the direction coastal management should take and whether environmental protection guidelines should be declared in their present form or modified in some way.

The guidelines proposed in this draft are that:

- appropriately regulated recreational, tourist and residential activities are proper uses for designated areas within the coastal zone;
- public access to the waterfront for recreation and tourism should be freely available consistent with the need to protect the coastal environment, including its indigenous flora and fauna and areas which are unstable or prone to deterioration;
- uses of the coastal zone other than the above should not be permitted unless directly dependent on resources within the coastal zone;
- any proposed use should not detract from but, as far as reasonably possible, should enhance or protect environmental quality and natural scenic amenities; in any event the facility or activity should be constructed or operated in a manner compatible with the coastal zone environment;
- if the proposed use would adversely affect the coastal environment to a serious extent it must be determined to be of overriding public benefit; and
- uses of the coast should allow for adequate protection of areas which are of particular scientific, educational or aesthetic importance.

138. The Town Planning Board encourages local authorities to prepare Town Planning Schemes and advises the Minister for Urban Development and Town Planning regarding their approval. The Board also requires subdivision applications to provide adequate foreshore reserves for coastal protection and for recreation. The Public Works Department has a specialist coastal engineering group called the Harbours and Rivers Branch which advises State government and local government bodies on development proposals and beach protection.

## Tasmania

139. There is no specific coastal management legislation in Tasmania. The three agencies most concerned with coastal zone management are the Town and Country Planning Commission, the Lands Department and the National Parks and Wildlife Service.

140. The Town and Country Planning Commission is responsible for the formulation of land use policy and for the approval of subdivision proposals. Subdivision applications are forwarded through local government, which examines proposals and must also approve applications.

141. The Lands Department is responsible for restoration of eroded sand dunes and for the management of Crown lands. Limited resources are available for developing and implementing management plans for coastal reserves. Some funds are used to provide walkways, boat ramps, car parks and other facilities.

142. The National Parks and Wildlife Service controls approximately 20 per cent of the Tasmanian coastline and manages over thirty islands, including Macquarie Island. The Service has been purchasing coastal lands where possible and has been attempting to purchase and remove coastal shacks in scenic areas.

143. The Tasmanian Government has provided financial and other assistance to the Tasmanian Conservation Trust to enable it to carry out a study of the Tasmanian coastline. It is expected that this study will be completed and published in 1980.

144. The Tasmanian Government has identified the following major issues that require urgent attention:

- inappropriate coastal subdivisions and the development of coastal subdivision guidelines;
- coastal engineering works;
- erosion control and maintenance and rehabilitation of foreshores;
- off-road vehicles;
- industrial and domestic waste disposal;
- foreshore structures;
- mining and the rehabilitation of mined land; and
- the development of coastal planning schemes and guidelines.

145. Tasmania has proposed the establishment of a Coastal Management Committee to co-ordinate the activities of various agencies and to employ staff and consultants to work on some of the problems that have been identified. Funding to service such a Committee has not however been made available.

## Comparison of State Approaches

146. It is apparent that all States with specific coastal management legislation have enacted the legislation in response to coastal erosion, coastal land use conflicts and to improve co-ordination between various State agencies interested in the coastal zone. Early legislation was restricted to public lands (Victoria) or required compensation for private landholders affected by the legislation (Queensland). South Australian and New South Wales legislation does exert controls over private landholders. This is based on either the philosophic point that environmental controls do take some rights from private citizens for the greater public good, or the pragmatic view that once local and State governments give approval for development then some liabilities seem to

transfer to the approving body. Certainly there are many cases where people have built in hazardous locations and then expected local, State and/or the Commonwealth governments to protect them from the hazards or from the losses they incur. New South Wales and Queensland legislation is oriented to avoiding future problems by controls on development. The South Australian legislation was used in its first few years of operation for coastal protection and repair but is now being used more for planning to prevent problems.

147. It is clear that there is considerable variation in the powers available for coastal management. The NSW legislation allows the Minister for Public Works to prevent development through direct powers based on specific coastal engineering criteria. There are more general planning powers under the normal planning controls in N.S.W. South Australia has the authority to control land uses under the Coast Protection Act but has as yet not used these powers, preferring to work through other planning mechanisms. Queensland does have planning powers in Erosion Control Districts but can only use them if funds are available to compensate landholders.

148. Each State has based its coastal management endeavours on one particular approach. The Victorian legislation emphasises co-ordination between agencies, the Queensland approach is based on technical expertise, the South Australian on funding and the New South Wales legislation is based on planning controls.

## **Local Government**

149. The coastal management approach developed in South Australia is the only one to date to actively encourage co-operative State and local government management. Local governments have the opportunity to contribute to coastal management plans and implementation is based on cost sharing. In N.S.W. local governments are advised of acceptable land uses, and the State funds essential coast protection and facility provision. In Queensland the State Government gives advice to the local governments on measures to be implemented in Erosion Control Districts but only supplies 20 per cent of the funds for coast protection.

150. It is apparent from the evidence before this Inquiry that local governments have significant problems with the management of coastal areas. They are generally responsible for beach cleaning, vegetation management, maintenance of toilet blocks, change rooms, boat ramps and car parks. Many are also responsible for coastal subdivision approval and the thrust of much of the State coastal legislation over the last twelve years has been to ensure that State concerns can override local interests in subdivision approvals.

151. Funding of coastal maintenance works is a recurring problem for local governments. A number of councils have requested Commonwealth assistance for maintaining beaches, on the basis that many people other than coastal ratepayers use coastal facilities and thus for maintenance costs to be borne only by coastal residents is inequitable. This view has been countered by the suggestion that local businesses benefit from the influx of users, and that local authorities can charge for the use of facilities such as car parks and boat ramps.

152. A number of local governments such as the Gold Coast, Gosford, Wyong, South Melbourne, Portland and others have proposed Commonwealth financial assistance to protect and repair coastal areas from erosion. Their argument is that coastal erosion should be viewed as a national disaster, as are floods, droughts and bush fires, with the Commonwealth Government providing disaster relief. Before that proposition could be implemented, the question of whether people who choose to live

in less desirable but safer inland sites should subsidise those who build on unstable coastal lands must be considered. Indeed the Committee was advised that ratepayers at Gosford are not happy with municipal rates being spent on emergency protection for those who build too close to the sea.<sup>5</sup> The Gosford Council has proposed that a national insurance scheme be established to allow landholders whose property is lost to settle in another area.<sup>6</sup>

153. The price of erosion-prone coastal blocks seems to drop dramatically following a period of erosion and then rise again as people forget or new people move into a district. There appears to be no formal mechanism by which a Council is required to advise a prospective purchaser that a block has suffered erosion damage or is regarded as a high risk area. Provision of such information might make people more cautious about investing in an unstable area, and would certainly reduce the moral obligations of councils and State governments to protect them from erosion or compensate them for damage.

154. Some local governments also made representations with respect to port areas. The need for a national policy on container terminals was pointed out<sup>7</sup> to ensure that developments at Botany Bay, Melbourne and elsewhere were all necessary. The desirability of some lands presently under the control of Harbour Trusts but no longer being used for harbour purposes being transferred back to local control was also stressed.<sup>8</sup> This is in accord with major planning efforts in the United States to redevelop derelict urban waterfronts to provide for the present needs of local communities.

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5 Transcript p. 680.

6 Transcript p. 663.

7 Transcript p. 1160.

8 Transcript p. 1148.

## 5 Present Commonwealth Involvement

155. To establish whether a Commonwealth coastal management policy exists, the Committee wrote to the Prime Minister and was advised that:

As State Governments have prime carriage of coastal matters of the type your committee has under consideration, formation of specific policy on coastal management has always been a State rather than a Commonwealth responsibility.<sup>1</sup>

156. The Australian Science and Technology Council also noted that 'there are no overall policies, guidelines, national goals or national needs, defined at governmental level or elsewhere, for research and development in coastal and ocean engineering.'<sup>2</sup>

157. While the Committee acknowledges that the control of coastal land use is the responsibility of the States, the Commonwealth does have an impact on coastal land use and has interests in the management of the Australian coastal zone.

### Commonwealth Coastal Lands

158. In each State and the Northern Territory, the Commonwealth owns land in the coastal zone. A list of Commonwealth holdings exceeding 10 ha and smaller holdings which are considered to be environmentally significant is at Appendix VII. The Commonwealth owns or controls 121 sites totalling approximately 1 million ha of coastal land.<sup>3</sup>

The bulk of this land, 933 000 ha, is contained within five major defence sites around the Australian coast. While small in area, nearly all Commonwealth coastal lands are significant in terms of scenic amenity or scientific interest. Navigational aids or lighthouses are frequently in scenic areas and many defence properties are maintained in their natural state. Limited public access to Commonwealth land has increased the environmental significance of some areas where adjacent privately owned land has been developed or degraded by over-use.<sup>4</sup>

159. The Commonwealth acquires interests in land under the provisions of the *Lands Acquisition Act* 1955. Land, or interests, may be acquired for a 'public purpose', which is defined as a purpose in respect of which the Commonwealth Parliament may legislate. Once acquired by the Commonwealth, land may be used for a public purpose other than that for which it was originally acquired. If there is no further Commonwealth purpose to which the land may be put it can be disposed of temporarily or permanently. There may be a foreseeable but not immediate public purpose, in which case a temporary use, other than a Commonwealth public purpose, may be authorised.

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1 The Rt Hon. J. Malcolm Fraser, CH, MP, correspondence dated 7 May 1979.

2 Australian Science and Technology Council, *Science and Technology in Australia 1977-78*, vol. 2, p. 232.

3 This figure does not include either Kakadu National Park, N.T., or the Australian Capital Territory at Jervis Bay. Jervis Bay was the subject of an earlier report by this Committee which included recommendations on coastal management.

4 Transcript p. 340.

160. Section 53 of the Act empowers the responsible Minister (at present the Minister for Administrative Services) to grant a lease or a licence to occupy Commonwealth land. The Minister may also grant easements, rights, powers or privileges in connection with Commonwealth land. The Committee was informed that Commonwealth land has been leased to local government bodies for temporary use for public recreation.<sup>5</sup> The Department of Defence advised that it is currently developing management plans which will preserve customary access to lands recently acquired from the N.S.W. State Government.<sup>6</sup>

161. When Commonwealth land is surplus to known Commonwealth requirements, it is Government policy to offer it for sale to parties in the following order of priority:

- former owner
- State government
- local government
- public offer (auction or tender)

It is government policy to both buy and dispose of land on a market value basis.<sup>7</sup>

## **Management of Commonwealth Lands**

162. As well as acquisition and disposal of land the Commonwealth Department of Administrative Services is responsible for its leasing, control, use and management. The Department's responsibility for land management involves the control of land prior to its handover to other Commonwealth instrumentalities for development, and the management and disposal of land declared surplus. When acquiring property the Department consults local authorities on the location of facilities within that local government area.

163. The Department also reviews the use of Commonwealth landholdings to ensure their effective and efficient use. The effects of planning schemes on Commonwealth properties are evaluated and the Department co-ordinates and protects Commonwealth property interests. Evaluation involves consideration of Commonwealth requirements, alternative uses, planning, zoning and environmental considerations. The possibility of a current use being achieved more efficiently elsewhere and the economics of relocation are considered. Although the Department has an input into land management and reviews the use of Commonwealth land, the responsibility for continuing property management resides with the occupying department of authority.<sup>8</sup>

164. The Committee was advised that while Commonwealth departments are not legally bound by State and local government planning and zoning controls, the Commonwealth recognises the role of State and local governments as land use planning authorities. As a general principle, the Commonwealth conforms with land use plans *unless to do so would conflict with overriding national interests.*

165. The Committee sought information on relevant policies from departments with a significant role in management of coastal lands.

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5 Transcript p. 1249.

6 Transcript pp. 1233-4.

7 Transcript p. 1284.

8 Transcript pp. 340, 1273.

166. The Department of Defence advised that it manages its coastal properties in consultation with Commonwealth, State and local government departments and authorities and where appropriate seeks advice from public organisations. It stated that in managing coastal zone facilities it seeks to combine management for defence activities with attention to environmental stability. The Department has requested CSIRO to provide specific information for effective management of selected coastal properties. Management plans are being prepared for several coastal properties which aim not only to regulate and minimise defence impact but, where appropriate, to cater for public access.<sup>9</sup>

167. The Department of Transport follows a policy of consultation with State and Commonwealth park authorities and the Australian Heritage Commission on the management of its land and buildings. The Committee recognises the efforts of the Department in developing lighthouse management programs in consultation with the Australian Heritage Commission.<sup>10</sup> The Committee was informed by the South Australian Department for the Environment that the Commonwealth Department of Transport does not invite State involvement in planning work on navigational aids or lighthouses at a stage sufficiently early to identify and avoid possible environmental problems.<sup>11</sup>

168. The Australian National Parks and Wildlife Service in conjunction with the Department of Transport is currently developing guidelines designed to minimise environmental damage during the de-manning of lightstations and the routine operation and servicing of both automatic and manned stations. During this work it has become apparent that certain islands are in need of a greater degree of nature conservation management and protection than is currently possible and that the de-manning program will amount to a marked decrease in official surveillance of some important island environments.

169. The Department of Housing and Construction, as the Commonwealth's construction authority, plays a significant role in determining coastal zone management strategies on Commonwealth property. Its Maritime Works Branch provides specialist advice, sets standards, and reviews and undertakes designs for all maritime works proposed by Commonwealth departments. These works include not only harbours, wharves and docks but also dredging, coastal protection and storm surge protection works.

170. The Department stated that it attempts to provide engineering solutions that satisfy the design brief for the required facility and that are compatible with the natural environment and the physical processes operating at particular sites. The Department's policy is to comply whenever possible with State and local planning regulations.<sup>12</sup>

## Statutory Powers

171. Although there is no specific Commonwealth legislation aimed at controlling development of the coastal zone, the Commonwealth is in a position to influence

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9 Transcript p.1228.

10 House of Representatives Standing Committee on Environment and Conservation, *Environmental Protection, Adequacy of Legislative and Administrative Arrangements—First Report*, 1979, p. 74.

11 Transcript p.134.

12 Transcript pp.1328, 1333.

coastal land use through the use of a range of legislation relating to the environment. Legislation which falls into this category includes:

- *Continental Shelf (Living Natural Resources) Act 1968*
- *Fisheries Act 1952*
- *National Parks and Wildlife Conservation Act 1975*
- *Great Barrier Reef Marine Park Act 1975*
- *States Grants (Air Quality Monitoring) Act 1976*
- *Pollution of the Sea by Oil Act 1960*
- *Petroleum (Submerged Lands) Act 1967*

172. In addition to the above legislation dealing with specific aspects of the environment the Commonwealth has enacted the *Environment Protection (Impact of Proposals) Act 1974* and the *Australian Heritage Commission Act 1975*. These Acts are directed primarily to the internal operations of government. Together they ensure that 'matters affecting the environment to a significant extent' and 'action that adversely affects, as part of the national estate, a place that is on the Register' (of the National Estate) are thoroughly examined before action is taken under Commonwealth powers.

173. The Commonwealth has clearly indicated interest and concern in matters involving coastal management. This is shown by Commonwealth action in:

- calling for an environmental inquiry into industrial developments at Redcliff on the South Australian coast;
- allowing export permits for woodchips from coastal forests;
- refusing an export licence for mineral sands from Fraser Island;
- approving foreign investment proposals for coastal resort development at Yeppoon (Qld) and Yanchep (WA); and
- prohibiting acquisition of further coastal land by the Iwasaki Sangyo Co. (Aust.) Pty Ltd at Yeppoon.

## **Co-operative Mechanisms with the States**

174. The Commonwealth is involved in a number of Commonwealth-State co-operative mechanisms which touch on matters affecting the coastal zone.

- The Australian Agricultural Council Standing Committee on Soil Conservation has general oversight of the Commonwealth-State Soil Conservation Study.
- The Australian Water Resources Council monitors water policies affecting supply of sediment to estuaries and beaches, salinity problems in estuaries, river-borne pollution affecting estuaries and beaches, and flood mitigation and drainage programs affecting coastal wetlands.
- The Australian Forestry Council arranges exchange of information regarding production and use of forest products and formulates and recommends a forestry policy for Australia.
- The Australian Fisheries Council provides a basis for continuous consultation between the Commonwealth and State governments as an advisory body on all aspects of administration and management of Australian fisheries.
- The Australian Environment Council provides consultation and co-ordination between Commonwealth and State governments on national environmental

matters. Coast-related matters with which the Council has been involved include co-operation with the Australian Fisheries Council on the Joint Technical Workshop on Marine Pollution.

- The Council of Nature Conservation Ministers is concerned with the development of co-ordinated policies for nature conservation and for the reservation and management of adequate areas of land for nature conservation purposes. The Council, in the context of developing arrangements for Commonwealth-State responsibility for the territorial seas, is presently examining criteria for the identification and management of marine parks.
- The Marine and Ports Council of Australia provides a forum for discussing marine and port matters extending beyond the jurisdiction of any one government.
- The Australian Minerals and Energy Council promotes the general welfare of the Australian mining and minerals industry and consults on the nation's energy needs, resources and policies. The Council has particular relevance to coastal management through its involvement in exploration of the sea bed and offshore oil reserves. The *Seas and Submerged Lands Act 1973* and the subsequent decision of the High Court of Australia<sup>13</sup> vests control of the sea bed below Low Water Mark in the Commonwealth. Discussions at Prime Minister/Premier level are currently taking place on the extension of the powers of the States to the territorial seas. Discussion has taken place within the Australian Minerals and Energy Council on the establishment of joint Commonwealth-State authorities to regulate offshore petroleum exploration and production, and for similar arrangements in respect of offshore mineral operations beyond the territorial sea. The outcome of these discussions and any policies subsequently adopted will have significant impact on the coastal zone.
- The Local Government Ministers Conference provides for the exchange of ideas on local government matters of concern to State and Commonwealth governments.

## Research and Data Collection

175. The Commonwealth Government through the *States Grants (Soil Conservation) Act 1974* and the *Environment (Financial Assistance) Act 1977* provided funds for a national study of land degradation which was carried out jointly by the Commonwealth, the Territories and the States. Its purpose was to provide the Commonwealth and State governments with information for the formulation of policy on soil conservation and associated land and water management programs. The participating soil conservation authorities provided information on the nature and extent of land degradation in the coastal zone and details of the treatment needed. The study found that insufficient information was available on beach and coastal dune systems. Land resource appraisals and planning studies are necessary before any conservation requirements can be assessed.

176. When asked to comment on the availability of adequate information the Department of National Development and Energy stated that 'the first step should be to gather more information'.<sup>14</sup>

177. The Commonwealth is already extensively involved in providing financial assistance for research and the collection of data related to the coast:

- the Department of Housing and Construction has undertaken coastal land management studies related to coastal projects;

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<sup>13</sup> N.S.W. v. Commonwealth (1975) 135 CLR 337.

<sup>14</sup> Transcript p. 1303.

- the Department of Defence has undertaken coastal land management studies and the Royal Australian Navy Laboratory in Sydney has devoted a large proportion of its resources to physical oceanography;
- the Department of Transport has been gathering tidal information on the Torres Strait;
- the Department of National Development and Energy is involved in the collection of data on the coastal zone, through the Bureau of Mineral Resources and the Division of National Mapping;
- the CSIRO has three Divisions involved in coast-related research:
  - the Division of Land Use Research has five studies under way including a survey of a coastal strip 3 km wide around Australia; the Division of Fisheries and Oceanography has two studies under way involving coastal ecology and coastal circulation and productivity; and the Division of Applied Geomechanics has been involved in research into shoreline erosion the results of which enable the correct placement of major coastal engineering works;
- the Australian Institute of Marine Science is involved with studies of mangrove areas and the ecology of the Great Barrier Reef; and
- the National Estate Grants program has provided funds for a number of regional coastal studies.

178. The Committee acknowledges that a great deal more research is undertaken elsewhere. The Australian Science and Technology Council has concluded that most of the fundamental research and development in coastal and ocean engineering is undertaken in universities.<sup>15</sup>

179. While apparently extensive research is being carried out there is an acknowledged lack of adequate data on the coastal zone. The Committee endorses and strongly supports the work of the CSIRO in its Coastal Zone Survey, which aims to provide a data base for further studies of landforms and plant communities and to develop a national perspective on coastal management.

180. The Committee is concerned that the Commonwealth is not placing sufficient emphasis on charting coastal waters. There can be no management without exploration, and without adequate bathymetric mapping and hydrographic charts exploration is not possible. The Institution of Surveyors advised that the bathymetric mapping program approved by Cabinet does not cover the sensitive zone up to 20 m in depth.<sup>16</sup> Charts from the Division of National Mapping show no information in that area. As this zone plays a particularly important role in coastal processes and in mineral development, the Committee believes it should receive a higher priority on allocation of research funds than it does at present. The Committee was advised that at the present rate of progress it would take eighty years to acquire the necessary data.

## Protection of the Marine Environment

181. The Commonwealth is involved in the protection of the marine environment in a number of ways. These include:

- membership of international bodies concerned with marine environment protection, such as the United Nations (UN) Conference on the Law of the Sea;

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<sup>15</sup> Australian Science and Technology Council, *Science and Technology in Australia 1977-78*, vol. 2, p. 233.

<sup>16</sup> Transcript p. 952.

- development of co-operative arrangements between the Commonwealth and the States in relation to environmental aspects of seas and submerged lands policy;
- development of a national open ocean pollution-monitoring network;
- the National Plan to Combat Pollution of the Sea by Oil;
- assessment of environmental effects of proposed dumping of toxic chemicals and other environmentally hazardous materials in the sea; and
- the *Great Barrier Reef Marine Park Authority*, which was set up by the Commonwealth Government to provide for the establishment, control, care and development of a marine park in the Great Barrier Reef Region.

## **Regional Development**

182. The Department of National Development and Energy is responsible for the development and implementation of Commonwealth policies at a regional level aimed at achieving a balanced distribution of population, infrastructure and economic activity. This contributes towards efficient development of national resources, development and maintenance of soundly based primary, secondary and tertiary industries, and an equitable distribution of social and economic benefits throughout the nation.

183. The Government has set up the Commonwealth Decentralised Development Program to complement State programs by encouraging sound economic growth in selected non-metropolitan centres with long-term growth prospects. It provides capital assistance for economically and socially desirable capital projects in both the private and the public sectors which will encourage the creation of long-term employment opportunities. Coastal regions will be increasingly affected because of their potential for primary resource development and tourism.

## **Conclusion**

184. The Committee has outlined the extent of Commonwealth involvement, direct and indirect, in coastal management. While the cost of this involvement cannot be quantified it is undeniably substantial. The Committee believes, as a general principle, that this Commonwealth involvement in the coastal zone should be co-ordinated and guided by national policies and goals.

## 6 Development of a Commonwealth Coastal Policy

185. The previous chapter outlined the significant Commonwealth involvement in the coastal zone. The Committee believes that as a first step towards the resolution of coastal management problems, the Commonwealth should formulate a policy of national interests and objectives and establish a co-ordinated approach.

186. While it may be argued that the Commonwealth lacks the constitutional authority to involve itself in coastal management policy formulation, the Committee notes that similar arguments did not dissuade the Commonwealth from evolving national policies relating to the environment and to water. The Commonwealth Water Policy Statement acknowledged that the States have primary responsibility for water resources, but stated that:

there are instances of mutual Commonwealth–States concern or of national interest which justify Commonwealth participation.

The High Court of Australia<sup>1</sup> has suggested that the implied power of the Constitution may support Commonwealth action taken for the benefit of the nation in the absence of specific legislative power.

187. The Committee sought to determine the existence of a national interest in the coastal zone. The Department of Housing and Construction commented on the need for a co-ordinated approach by all levels of government to the management of the coastal zone. The Department cited the United States Congressional findings relating to the United States Coastal Zone Management Act of 1972 that there is a national interest in the effective management, beneficial use, protection and development of the coastal zone and that the coastal zone is rich in a variety of natural, commercial, recreational, industrial and aesthetic resources of immediate and potential value to the present and future well-being of the nation. The Department recommended that the Commonwealth Government should, in conjunction with State governments, develop a national coastal policy.<sup>2</sup>

188. The Department of Science and the Environment believes that Commonwealth involvement in coastal management matters has developed largely as a response to informed public opinion. The response has been made on an incremental basis with particular issues being dealt with as they arise and has been guided by overseas experience.

189. The Department reviewed the existing involvement of the Commonwealth in coast-related issues and the question of information collection and dissemination and stated that the problems associated with coastal management will increase in the future. The Commonwealth will be subjected to pressures to intervene in some particular circumstances. The Department suggested that Commonwealth responses to matters affecting the coast will eventually result in the evolution of a national coastal policy. The Committee believes that comprehensive policy should be established

<sup>1</sup> *Victoria v. Commonwealth and Hayden* (1975) 134 CLR 338 at p. 397.

<sup>2</sup> Transcript pp.1324–5.

now, with the assistance and concurrence of all levels of government, rather than as a series of individual responses triggered by specific issues or threats. This form of evolutionary policy development can result in a poorly integrated uncoordinated policy. The Department recommended that:

- national objectives be established for the conservation and preservation of the Australian coastline through Commonwealth-State consultation;
- a co-ordinated approach to coastal management be developed by Commonwealth authorities;
- arrangements for improved Commonwealth-State collaboration on these issues be developed; and
- suitable processes at a national level be developed for disseminating information on coastal research and management activities.

190. The Governments of South Australia<sup>3</sup> and Tasmania<sup>4</sup> specifically recommended the development of policies applicable to the coastal zone and stressed the need for co-ordinated approach. Western Australia<sup>5</sup> and New South Wales<sup>6</sup> agreed that greater co-ordination with the Commonwealth would be beneficial.

191. A number of recent reports have included recommendations which relate to coastal management. The Report of the Committee of Inquiry into the National Estate concluded that 'the coastline of Australia is so precious a resource, so easily degraded . . . we emphasise that it would be both wise and timely for the Australian Government to take quick action in every way possible to save it from the worst influences of unwise development'. The Committee of Inquiry went on to recommend:

- preservation of the Australian Coastal Heritage;
- a States Grants program of help for studies and land acquisitions, including rights less than freehold;
- a review of Australian government lands on the coast to see which areas may be included within Coastal Heritage Parks; and
- strong exercise of export controls to prevent unwise sand mining.

192. The House of Representatives Standing Committee on Environment and Conservation in its Report on *Development Pressures on Jervis Bay* recognised that without a national policy framework co-ordinating the interests of all levels of government, planning for the 'irreplaceable and limited asset which is our coastline cannot take place'.<sup>7</sup> The Committee concluded that the effective management and preservation of Australian coastline resources is hampered by the lack of a co-ordinated national coastal land use policy and recommended that:

*funds be provided by the Australian Government to finance study by all levels of government of national coastal resources and to develop a policy for the future management of these resources.*

193. The Australian Advisory Committee on the Environment in its report on coastal lands<sup>8</sup> recommended that:

- the Australian Government should provide funds, staff and information to the States to assist with coastal land management;

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3 Transcript p. 127.

4 Transcript p. 1534.

5 Transcript p. 318.

6 Transcript pp. 801, 804, 805.

7 Parl. Paper 258 of 1975, p. 10.

8 *Coastal Land*, Report No. 5, July 1975, p. 8.

- efforts should be made to establish which coastal areas to preserve; and
- coastal management policies should be established.

194. The Committee believes that had Commonwealth Governments adopted and implemented recommendations made in previous reports, the need for this Inquiry may not have arisen.

195. The constant theme of evidence presented to the Committee, and of recommendations made in previous reports, is the need to develop a national coastal policy. There is widespread concern in Australia over the continuing degradation of coastal resources due to over-exploitation and over-development. Most States are now making some attempt to develop coastal planning and to prevent further degradation. The Commonwealth Government is clearly involved with these problems, but as yet has made no obvious attempt even to review its position far less develop a comprehensive national policy for the coastal zone. The Committee believes that the formulation of such a policy would assist planning and, more particularly, resolve conflicts and duplication that have arisen from existing ad hoc Commonwealth programs.

196. Accordingly, the Committee recommends that:

**the Commonwealth Government, in consultation with the States, develop and promulgate national policies and objectives for the conservation and preservation of the Australian coastline.**

197. The Committee suggests that the policy be delivered in a form comparable to that adopted for the Commonwealth Water Policy Statement delivered in the House by the Hon. K. E. Newman (the then Minister for National Development) on 28 March 1979.

198. The Committee does not envisage that the Commonwealth would usurp any existing State functions. A basis for any policy would be the recognition of State responsibility for management planning. As suggested by the Department of National Development a national approach to land resource appraisal is one in which State, Territory and Commonwealth organisations each have individual, but defined and co-ordinated roles. For example the States and Territories would continue their present efforts in this field, but with increased compatibility of data collection to facilitate information collection on a uniform national basis. The Commonwealth could participate in various appraisal-related activities, including co-ordination and provision of a range of specialist services.

199. The achievement of a national approach to coastal land management will require agreement between the States, Territories and the Commonwealth on compatible objectives and methodology, and information transfer for compilation of a coastal resources inventory.

200. The contribution each government should make to a national program is a matter for negotiation. A division of responsibilities which could reflect their normal, functional roles would be: the States to provide most of the technical expertise and field work; and the Commonwealth to supply technical information, expertise and funds required for integrating, analysing and publishing data on a national scale and for studies in which national interests are substantial.

201. Management of the coastal zone must encompass all coastal resources including resources within both the territorial sea and the Exclusive Economic Zone. Exploitation of resources within these areas will have an impact on the coastal zone (offshore drilling, pipelines, seabed mining, provision of extensive coastal support

and/or processing facilities for major extractive industries). The Committee believes that it is imperative that national coastal objectives be specified and accounted for in negotiations prior to the Commonwealth relinquishing any further control to the States.

202. There is no single body at the Commonwealth level with specific responsibilities for the coastal zone and there are no formal mechanisms for co-ordinating coastal zone management between Commonwealth departments and agencies or between the Commonwealth and the States. Throughout the Inquiry the need for the introduction of a co-ordinating body to remedy this deficiency has been repeatedly stressed.

203. The arguments for the establishment of a central co-ordinating body are persuasive. The Commonwealth Government has clearly accepted co-ordinating roles in resource areas through Ministerial Councils. The Committee concurs with the suggestion that:

if it is accepted Commonwealth-State Ministerial Councils are necessary for the administration of natural resources such as water, forests, minerals and fisheries, then it should probably be accepted that similar arrangements are desirable for land.<sup>9</sup>

The Committee notes that none of the existing Councils is specifically concerned with coastal management and believes that co-ordination and communication would be well served by the establishment of a central body and a rationalisation of the existing fragmented approach. The Committee acknowledges that administrative problems are to be expected in integrating the operation of such a body with existing Ministerial Councils and the multitude of management groups, but suggests that these can be overcome through co-operation and discussion. The importance of the coastal zone is such that the Committee considers a separate national management authority essential and believes that the administrative effort is warranted. Accordingly, the Committee recommends that:

**the Commonwealth Government, jointly with the States, establish an Australian Coastal Management Council to:**

- **encourage collaboration and co-operation between agencies and institutions with functions relating to the coastal zone;**
- **assess the information requirements necessary to implement management policies; and**
- **establish research priorities and co-ordinate and promote related research programs.**

204. The Committee believes there is considerable scope for improving information exchange and dissemination by increasing the number of conferences, workshops and seminars on coastal management and planning. These gatherings bring together specialists from various disciplines related to coastal planning, and can be extremely valuable to local government representatives. The seminar on 'Control of Coastal Erosion' held by the Warringah Shire Council in October 1978 was particularly successful and could serve as a model for future seminars. There is also a role for less frequent, but more comprehensive, conferences. The Committee is aware that some technical bodies, for example the National Committee on Coastal and Ocean Engineering of the Institution of Engineers, Australia, already hold such conferences. Although specialist conferences cover some aspects of coastal planning, there is still a

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<sup>9</sup> Department of National Development, *Towards a National Approach to Land Appraisal*, AGPS, Canberra, 1979, p. 81.

need for a conference specifically dealing with coastal planning and management, initially on a biennial basis. The conference should be convened, and at least partially funded, by the Commonwealth. The Committee therefore recommends that:

**the Australian Coastal Management Council:**

- **convene biennial national conferences on coastal planning and management; and**
- **encourage regular regional workshops and seminars on coastal planning and management.**

205. The Committee suggests that the proposed Council be an administrative responsibility of the Department of National Development and Energy and that that Department provide a full-time secretariat. The Department already has an extensive input into aspects of coastal management through negotiations with the States on sea bed minerals, water resource related activities, urban and regional development functions, and negotiation with industry in its role as a 'development' department (see Appendix VIII). The Committee believes that the existing involvement of the Department of National Development and Energy in coastal matters would provide a focus for the co-ordination and implementation of coastal management policy. The Committee suggests that the Department of Science and the Environment be represented on the Council to provide advice on matters within its area of administrative responsibility.

206. The Committee is concerned to ensure that representation on the Council incorporates a broad range of expertise on coastal management matters. As well as representation from Commonwealth and State governments, the Committee would like to see representatives from local government and non-government experts. The Committee suggests consideration be given to the following composition:

- seven State government representatives (one from each State);
- four Commonwealth government representatives (two from the Department of National Development and Energy, one from the Department of Science and the Environment and one from CSIRO);
- three representatives from local government (to be nominated by the Australian Council of Local Government Associations); and
- two non-government experts.

207. The Committee believes that the services of the secretariat are required on a full-time basis to undertake a series of ongoing projects which will be discussed later in this chapter.

The Committee recommends that:

**the Australian Coastal Management Council be provided with a full-time secretariat.**

208. In terms of research and monitoring the Commonwealth should not only foster multidisciplinary research oriented towards coastal zone management, but should take a more active role in research on the grounds that:

- much research is of general application;
- results of long-term monitoring of coastal processes may have application for several States; and
- some monitoring of coastal processes needs to be carried out in offshore areas.

The last point assumes a greater importance when considered in the context of research obligations implicit in the declaration of the Exclusive Economic Zone.

209. The Committee noted that serious shortcomings exist with the dissemination of information. Because the results of research projects are often not reported widely beyond those groups conducting the studies, a vast amount of information has been collected the existence of which is not widely known and, consequently, is not fully exploited. The Committee believes that an important task of the proposed Australian Coastal Management Council secretariat should be the establishment of a central reference system which would remedy problems of access to published data. A useful adjunct to this reference system would be the routine production of an information bulletin. This bulletin or newsletter, initially published quarterly, should provide the following:

- information on coastal management development;
- information on coastal problems;
- information on new and amended legislation;
- reviews of relevant reports both local and international;
- a limited bibliographic service; and
- notices of events such as workshops and conferences.

This service would provide a focus for the development of interest in coastal management. Therefore the Committee recommends that:

**the Australian Coastal Management Council secretariat**

- **establish a central register of information relating to the coastal zone; and**
- **prepare and distribute a regular newsletter providing information on coastal zone research.**

210. The Committee supports an increase in Commonwealth Government funding for activities related to coastal management. The Committee considers that it should be the responsibility of the Council to determine allocation of Commonwealth funds for research projects undertaken by the States. The Committee recommends that:

**the Australian Coastal Management Council, as a matter of priority, establish criteria for the funding of research programs.**

211. The Committee believes that Commonwealth funding should be available to the States for coastal projects on the condition that the projects conform with national coastal policies. The Committee therefore suggests that a series of guidelines are required to enable the States to prepare programs that are in accordance with national objectives. The Committee recommends that:

**the Australian Coastal Management Council determine guidelines for allocation of any Commonwealth funds that may become available to the States for programs in accordance with national policies.**

The United States operates a comparable system, details of which appear at Appendix V. The Committee envisages that any allocation of funds would be determined by the Council on the basis of established priorities and with regard to Commonwealth financial policies.



# Appendix I

## Conduct of the Inquiry

On 23 November 1978 the Committee resolved to inquire into and report on:

management of the Australian coastal zone with particular reference to:

- (a) the alternative uses, including industrial and residential development, tourism and recreation, mining, forestry and fishing;
- (b) Commonwealth Government owned and controlled property; and
- (c) the development of a co-ordinated approach.

Submissions were invited from people and organisations with an interest in the Inquiry and the terms of reference were advertised in newspapers throughout Australia in December 1978.

The Committee received over sixty submissions and took evidence from 104 witnesses representing Commonwealth and State government departments, industry representatives, professional associations, environmental groups, academics, and from citizens appearing in a private capacity. A list of witnesses appearing before the Committee is at Appendix II.

The response by State governments to the Committee's Inquiry was gratifying. All State governments, other than Queensland, participated by providing written or verbal evidence. Although Queensland was not prepared to give formal evidence before the Committee, officers of the Department of Harbours and Marine were made available to accompany the Committee on inspections in Queensland, and to provide informal advice. The Committee would like to place on record its appreciation of this courtesy.

During the Inquiry the Committee held twelve public hearings at which 1600 pages of evidence were taken. Copies of the evidence taken at public hearings are available for inspection in *Hansard* form at the Committee Office of the House of Representatives and at the National Library. The Committee inspected coastal areas in New South Wales, South Australia, Western Australia, Tasmania and Queensland.

## Appendix II

### List of Witnesses

ADAMS, Mr W. A.	City Engineer City of South Melbourne
AGNEW, Mr N. M. E.	Shire Engineer Gosford Shire Council, N.S.W.
ANDERSON, Mr E.	Assistant Secretary <i>Environment Division</i> Department of Science and the Environment
ANDERSON, Lt Col J.	Mayor Town of Cottesloe, W.A.
ANDERSON, Dr J. R.	Research Scientist CSIRO Division of Land Use Research
APLIN, Mr T. E. H.	Vice President The Tree Society, W.A.
BACKEN, Mr L. F.	First Assistant Secretary Oil and Gas Division Department of National Development
BARRIE, Mr J. K.	Councillor and Past Federal President Institution of Surveyors
BIRD, Mr E. C. F.	Reader in Geography University of Melbourne
BOLTON, Lt Col J. C.	Defence Facilities Division Department of Defence
BOROWITZKA, Dr L. J.	Marine Microbiologist Roche Research Institute of Marine Pharmacology
BOROWITZKA, Dr M. A.	Senior Biologist Roche Research Institute of Marine Pharmacology
BUBB, Mr C. T. J.	First Assistant Secretary Engineering Division Department of Housing and Construction

CAHILL, Mr D. N.	Deputy Chairman Victorian Soil Conservation Authority
CAHILL, Mr G. A.	Member Friends of the Earth, N.S.W.
CARROLL, Dr W. S.	President Conservation Council of Victoria
CHARLTON, Councillor A. C.	Clarence Municipal Council, Tasmania
CHESTNUT, Mr W.	Principal Geologist N.S.W. Department of Mineral Resources and Development
CHURCHWARD, Mrs B.	General Secretary The Tree Society, W.A.
CLARK, Mr D. A.	Deputy Warden Municipality of Tasman
COCKS, Dr K. D.	Principal Research Scientist CSIRO Division of Land Use Research
COLLINS, Mr L.	Lecturer Department of Geology Western Australian Institute of Technology
COTTIER, Mr B. A.	Warden Marine Board of Hobart
CULLEN, Mr P. W.	Senior Lecturer Department of Resource Management Canberra College of Advanced Education
DAL BON, Mrs K.	Acting Assistant Secretary Property Division Department of Administrative Services
DAVIES, Mr V. F.	Executive Director Royal Australian Institute of Parks and Recreation, A.C.T.
DAVIS, Mr B. W.	Senior Lecturer in Administration University of Tasmania
DEAN, Mr J. E.	Town Clerk City of Glenorchy, Tasmania

DEVIN, Mr L. B.	Assistant Secretary Development Policy Water Division Department of National Development
DOIG, Mr M. R.	Assistant Town Clerk Town of Cottesloe, W.A.
DOYLE, Mr D. T.	Director General of Lands, Tasmania
DRAGUN, Dr A. K.	School of Environmental Studies Griffith University
DRIML, Ms S. M.	Research Officer Queensland Conservation Council
ELLIS, Mr D. R. P.	Senior Planner Coastal Protection Division Department for the Environment, S.A.
EVANS, Mr H. G.	Inspecting Engineer Coastal Branch N.S.W. Department of Public Works
FAINE, Mr C. R.	Committee Member Moreton Island Protection Committee
FELGENNER, Mr R.	First Assistant Secretary Property Division Department of Administrative Services
FRECKER, Dr G.	Chairman Port Phillip Authority
GALLOWAY, Dr R. W.	Principal Research Scientist CSIRO Division of Land Use Research
GLAZEBROOK, Mr T. G.	City Engineer City of Glenorchy, Tasmania
GODFREY, Mr J. E.	City Engineer City of Brighton, Vic.
GOLDIN, Ms P. A.	Planning Officer Tasmanian Town and Country Planning Commission
HAMILTON, Councillor R. G.	Municipality of Tasman
HART, Mr S. B.	Inquirer into Control of Private Development in South Australia

HENRY, Mr D. J.	Member Executive Committee Moreton Island Protection Committee
HERRINGTON, Mr R. E.	Deputy Chief Soil Conservationist N.S.W. Soil Conservation Service
HEWITT, Mr N. S.	Chief Town Planner Gosford Shire Council, N.S.W.
HEYLIGERS, Dr P. C.	Principal Research Scientist CSIRO Division of Land Use Research
HINWOOD, Dr J. B.	Chairman National Committee on Coastal and Ocean Engineering Institution of Engineers, Australia
HODGES, Mr R. G.	Superintendent Division of Crown Lands Management Victorian Department of Crown Lands and Survey
HOFFMAN, Mr K. G.	Chief Town Planner Wyong Shire Council, N.S.W.
HOWLETT, Mr D. R.	Municipal Planner Municipality of Clarence, Tasmania
HULCUME, Mr W. E.	Inspecting Engineer Coastal Engineering Branch N.S.W. Department of Public Works
HUNT, Mr P.	Assistant Secretary Defence Facilities Division Department of Defence
HUNTER, Mr A. S. J.	Chairman Wamberal-Terrigal Beach Protection As- sociation, N.S.W.
HUTCHINGS, Dr P. A.	Vice President Australian Littoral Society (N.S.W. Division)
KING, Mr K. W.	Reserves Manager Fisheries and Wildlife Division Victorian Ministry of Conservation
KOEYERS, Mr J. E.	Delegate Conservation Council of Western Australia Inc., and President Leeuwin Conservation Group

KOSKY, Councillor W. A.	City of South Melbourne
LAHIFF, Mr P. A.	National Secretary Australian Boating Industry Association
LEGGETT, Councillor D.	Shire President Gosford Shire Council, N.S.W.
LENNON, Ms J.	Senior Planning Officer National Parks Service Victorian Ministry of Conservation
LYNEHAM, Mr N. L.	Commissioner Tasmanian Town and Country Planning Commission
LYONS, Mr K. J.	Convenor of the Research Committee Institution of Surveyors
MACARTNEY, Mr P. M.	Centre for Resource and Environmental Studies Australian National University
McCABE, Mr J.	Chairman Queensland Conservation Council
MacDONALD, Mr D. I.	Former Warden Municipality of Tasman
McMANUS, Mr D. J.	Technical Assistant to Chief Planner N.S.W. Planning and Environment Commission
MARRIOTT, Mr R. L.	Council Clerk Municipality of Clarence, Tasmania
MARTIN, Mr T. J.	Environmental Officer Projects and Assessment Division Department for the Environment, S.A.
MELZER, Mr A. J.	President Moreton Island Protection Committee
MIDDLETON, Mr G. J.	Chief Resources Officer Tasmanian National Parks and Wildlife Service
MILLER, Mr G. J.	Executive Member Queensland Conservation Council
MILLINGTON, Dr R. J.	Chief of Division CSIRO Division of Land Use Research

MOSLEY, Dr J. G.	Director Australian Conservation Foundation
MURRELL, Mr P.	Director Tasmanian National Parks and Wildlife Service
NOLAN, Mr R. J.	Planning Director Southern Metropolitan Planning Authority, Tasmania
NOYE, Mr N. D.	Warden Municipality of Tasman
PENROSE, Dr J. D.	Chairman Marine Studies Group <i>Western Australian Institute of Technology</i>
PRETYMAN, Mr R. D.	Warden Municipality of Clarence, Tasmania
PROCTOR, Mr R.	Senior Project Officer Environment Division Department of Science and the Environment
ROBERTS, Mr T. B.	Acting First Assistant Secretary Regional Development Division <i>Department of National Development</i>
ROBINSON, Dr A. C.	National Parks and Wildlife Division Department for the Environment, S.A.
SADLIER, Councillor J.	Town of Cottesloe, W.A.
SEMMENS, Councillor B. G.	City of South Melbourne
SIM, Mr I.	Regional Planning Director N.S.W. Planning and Environment Commission
SINCLAIR, Mr J.	President Fraser Island Defenders Organisation Lim- ited, and Vice President Wide Bay/Burnett Conservation Council
STARLING, Mr J. F.	Planning Co-ordinator N.S.W. National Parks and Wildlife Service
STEANE, Mr D. F. A.	Chief Land Management Officer Tasmanian Lands Department

STOCK, Mr E. C.	President Australian Littoral Society (Queensland Division)
TARTE, Ms D. M.	Administrative Supervisor Australian Littoral Society (Queensland Division)
TEDDER, Mr J. L. O.	Executive Director Conservation Centre Conservation Council of South Australia Inc.
THOM, Prof. B. G.	Department of Geography Faculty of Military Studies University of New South Wales Royal Military College, Duntroon
THOMPSON, Mr K. E.	First Assistant Secretary Environment Division Department of Science and the Environment
WADESON, Mr B.	Deputy Director Ports and Harbours Division Victorian Public Works Department
WARREN, Mr B. J.	Representative Environmental Education Projects Wattle Park Teachers Centre, S.A.
WARREN, Mr V. R. C.	Director of Planning (Strategy) Victorian Town and Country Planning Board
WELLS, Mr C. J.	Council Clerk Municipality of Tasman
WESSING, Mrs P.	State President Tasmanian Conservation Trust
WILKINSON, Mr F. L.	Assistant Secretary and Chief Engineer Maritime Works Branch Department of Housing and Construction
WILLIAMS, Mr O. B.	Senior Principal Research Officer CSIRO Division of Land Use Research
WOOD, Mr P. J.	Consultant Town of Cottesloe, W.A.
WOODS, Dr L. E.	Water Division Department of National Development

YAPP, Dr G. A.

Experimental Officer  
CSIRO Division of Land Use Research

## Appendix III

The following individuals and organisations assisted the Committee by providing written submissions but were not required to appear at a public hearing:

Australian Heritage Commission  
Australian National Parks and Wildlife Service  
Bird Observers Club, Victoria  
Byles, Mr K.  
Cairns City Council, Queensland  
Chambers, Mr J. P.  
Committee for the Establishment of an Australian Centre for Maritime Studies,  
A.C.T.  
CSIRO Division of Applied Geomechanics  
CSIRO Division of Fisheries and Oceanography  
Daines, Mr D. R.  
Senior Lecturer, School of Town Planning,  
University of N.S.W.  
Department of the Capital Territory  
Department of Health  
Gold Coast City Council, Queensland  
Great Barrier Reef Marine Park Authority  
Hails, Mr J. R.  
Director, Centre for Environmental Studies,  
University of Adelaide  
Hardy, Mrs B.  
Keenan, Mrs P. A.  
Kermond, Mr J. L.  
Livingstone Shire Council, Queensland  
Local Government Association of the Northern Territory  
Maryborough City Council, Queensland  
Mineral Sands Producers' Association  
Municipality of Burnie, Tasmania  
Northern Territory Department of Lands and Housing  
Northern Territory Parks and Wildlife Commission

Pak-Poy and Associates

Peel-Preston Preservation Group, Western Australia

Phillip Island Conservation Society, Victoria

Radok, Dr R.

Director, Horace Lamb Institute of Oceanography, South Australia

Smith, Mr A. W.

Swan, Mrs A. M.

Talbot, Professor F. H., Macquarie University

Town of Albany, Western Australia

Urbonas, Mr P.

# Appendix IV

## List of exhibits

### 1. Royal Australian Institute of Parks and Recreation

November 1978 issue of *Australian Parks and Recreation*, and *Land for Leisure*

### 2. Mr P. Cullen

- (a) *Coastal Management in Port Phillip*
- (b) *Coastal Management Options for Australia*
- (c) *Coastal Management Experiences in the U.S. and Implications for Australia* by P. Cullen and J. Sorensen

### 3. South Australian State Government

- (a) Appendix 2 to the submission
- (b) Appendix 3 to the submission
- (c) The Coast Protection Act, 1972-1975
- (d) Metropolitan Coast Protection District—Management Plan and Study Report
- (e) Fleurieu Coast Protection District—Management Plan
- (f) Fleurieu Coast Protection District—Study Report
- (g) Coast Protection Board South Australia—Annual Report 1975-76
- (h) *Coastline*, Issues Nos 1-10
- (i) *Coastline Zone Management*—First Newsletter of Coastal Resources Development, Conservation and Enhancement

### 4. Mr B. J. Warren

*Lochiel Park Education Reserve*

### 5. Australian Littoral Society (Queensland Division)

*An Investigation of Management Options for Towra Point, Botany Bay*

### 6. Australian Littoral Society (Queensland Division)

- (a) *Our Valuable Estuaries*
- (b) *Guidelines for the Protection and Management of Estuaries and Estuarine Wetlands*

### 7. Moreton Island Protection Committee

- (a) Survey Plan of Northern Moreton Island, No. 51.7234
- (b) Letter to Department of Administrative Services dated 4 April 1979
- (c) Letter to Department of Transport dated 4 April 1979

- (d) Letter to Australian Heritage Commission dated 4 April 1979
- 8. Wamberal-Terrigal Beach Protection Association**
- (a) Map of the Wamberal-Terrigal Region
- (b) Letter to the Association from Mr B. Cohen dated 3 October 1978
- 9. New South Wales State Government**
- (a) N.S.W. Coastal Protection Act, 1979, No. 13
- (b) Accompanying Map of the Coastal Zone referred to in the Act
- (c) Speech delivered by the Hon. J. Ferguson, MLA, in the N.S.W. Legislative Assembly on Coastal Protection dated 20 February 1979
- (d) Various reports from the Public Works Department:
- Tweed River Dynamics Study
  - Ettalong Beach Erosion Study and Management Programme
  - Wollongong Harbour Development Proposals
  - Management of Coastal Areas—Coastal Engineering Aspects
  - Sydney Recreational Boating Facilities:
    - Pittwater & Lower Hawkesbury
    - Eastern & Northern Sydney Harbour
    - Survey of Ramp Users
    - Western Region
    - Botany Bay, Georges River & Port Hacking
  - Bermagui Boatharbour Development
  - Swansea Channel
  - Byron Bay—Hastings Point Erosion Study and Summary
- 10. Victorian State Government**
- (a) A Study of Land and its Capabilities in Selected Coastal Areas
- (b) Discovery Bay Coastal Park—Proposed Plan of Management
- (c) Coastal Activities Strategies of Port Phillip Coastal Study
- (d) Statement of Planning Policy No. 10—Coastal Environments
- (e) Coast Road Studies
- 11. Dr E. C. F. Bird**
- (a) Sites of Special Scientific Interest
- (b) Site of Special Scientific Interest in the Victorian Coastal Region—Botanical Aspects
- (c) Sites of Special Scientific Interest in the Victorian Coastal Region—Archaeological Aspects
- (d) Sites for Special Scientific Interest in the Victorian Coastal Region—Zoological Aspects
- (e) Sites of Special Scientific Interest in the Victorian Coastal Region—A Report on the Establishment of a Master File
- (f) Sites of Special Scientific Interest in the Victorian Coastal Region—A Report on Geological and Geomorphological Aspects.

**12. Australian Conservation Foundation**

- (a) Policy Statement on the Great Barrier Reef, 25–26 February 1978
- (b) Statement on the Great Barrier Reef, 24.6.79

**13. Mr P. M. Macartney**

*Public Authorities Involved in Coastal Management in Australia*

## Appendix V

### American and British Approaches to Coastal Zone Management

#### UNITED STATES OF AMERICA

The Coastal Zone Management Act of 1972 (CZMA) established the federal interest in the coastal zone, yet clearly placed the responsibility for managing the coastline with the states. In 1976, certain amendments were made to the Act and these are included in the following discussion. Section 303 of the Act established national objectives for coastal zone management:

- to preserve, protect, develop and, where possible, to restore coastal resources;
- to encourage states to manage their coastal responsibilities wisely through the development of appropriate management programs;
- for all federal agencies engaged in work affecting coastal areas to consult closely with the state agencies responsible for administering the coastal programs;
- to encourage co-operation among local, state and regional agencies; and
- to assist states to overcome problems associated with new energy facilities on the coast (added 1976).

The federal government provides a number of significant inducements to the states to encourage them to develop approaches by which these objectives can be implemented. States are not required to participate, but all eligible coastal states have chosen to be involved in the program.

Specific benefits available to states participating under the CZMA are as follows:

**Program Development Grants (Section 305 grants)**—These grants are made annually to states, and provide 2/3 (since amended to 4/5) of the funding required to develop a State Coastal Zone Management Program. States are only eligible for four such grants, and each year's grant is dependent on the state making satisfactory progress.

**Administrative Grants (Section 306 grants)**—States that have prepared a Coastal Zone Management Program in accord with the federal guidelines, and have been approved by the Secretary of Commerce, are eligible for federal grants providing up to 80 per cent of the funds required to implement the plan. As of October 1979 nineteen of the thirty-five eligible states had approved programs and were recipients of such grants.

**Estuarine Sanctuaries (Section 312 grants)**—States may receive grants to provide up to half the cost of purchasing, developing and operating estuarine sanctuaries for the purpose of gathering data on natural and human processes in estuaries. The objective of these grants is to ensure the preservation of at least one representative estuary in each of the eleven main biogeographic zones of the United States.

**Federal Consistency (Section 307)**—Federal agencies undertaking or supporting activities in the coastal zone are required to do so in a manner consistent with an approved coastal program, to the maximum extent practicable.

This consistency requirement has been a significant incentive for states to participate in the coastal management program, since they have had little control over the activities of federal works agencies such as the Corps of Engineers which conduct dredge and fill operations, build shore protection works and construct flood control projects.

**Coastal Energy Impacts (Section 308 grants)**—It is a national objective in the United States to attain a greater degree of self-sufficiency in energy supplies. The 1976 amendments to the CZMA provide funds for planning and developing additional facilities required as a consequence of Outer Continental Shelf developments, and for the 'prevention, reduction, or amelioration of any unavoidable loss in such states' coastal zone of any valuable environmental or recreational resource if such loss results from coastal energy activity'.

**Other grants**—Matching grants (80%) are available to states to undertake research programs on coastal problems, and (50%) to acquire lands to provide access to public beaches and other important coastal areas.

### **Federal Requirements of State Coastal Plans**

The CZMA requires states to go through a certain process in developing a coastal management plan, and to consider certain specific issues. The federal concern is with the process by which the program is developed, as well as with the substance of the program.

Regulations and guidelines have been issued for the following elements that must be included in the coastal plan:

- boundaries of the coastal zone;
- definition of permissible land and water uses of the coastal zone which have a direct and significant impact on coastal waters;
- an inventory and designation of areas of particular state concern;
- identification of means by which the state will control the permissible uses;
- broad guidelines on the priority of different uses; and
- description of organisational structure proposed to implement the plan.

Before a state coastal management program is approved by the Secretary of Commerce, it is necessary for the state to show that it has sufficient controls to carry out the plan. They may be achieved by enacting coastal management legislation, or by amending existing legislation where necessary to ensure that powers are adequate. It is also necessary to involve the public throughout the development of the plan, and to document the resulting public input.

### **Boundaries of the Coastal Zone**

The CZMA requires that states define the boundaries of their coastal zone to include 'coastal waters and adjacent shorelands'. The boundary is required to extend inland to the extent 'necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters'. While this could be interpreted to mean entire drainage basins, with large rivers it is in fact considered adequate to determine the upstream boundary to be the limit of saline intrusion.

There are three main approaches being used to define the inland boundary of the coastal zone.

**Biophysical** — features such as altitude, vegetation, geomorphological or ecosystem boundaries.

**Administrative** — local government boundaries, roads, planning areas or census districts.

**Linear** — a set distance from a feature such as Mean High Water Mark.

Various approaches have been adopted by the states as they respond to the CZMA. Oregon has proposed an inland boundary that goes inland, in some cases 45 miles, to the crest of the coastal mountain range. Delaware uses the system of coastal highways, which approximate the 10 foot contour, or a distance of a mile, whichever is greater. North Carolina has used an administrative boundary, and included all counties abutting the coastline.

### **Inventory and Analysis**

The CZMA requires states to prepare an 'inventory and designation of areas of particular concern within the coastal zone'. The regulations further amplify this concept of areas of particular concern to include:

- areas of unique, scarce, fragile or vulnerable natural habitat, physical features of historical significance, cultural value and scenic importance;
- areas of high natural productivity or essential habitat for living resources, including fish, wildlife and the various trophic levels in the food web critical to their well-being;
- areas of substantial recreational value and/or opportunity;
- areas where developments and facilities are dependent on the utilisation of, and access to, coastal waters;
- areas of unique geologic or topographic significance to industrial or commercial development; and
- areas of urban concentration where shoreline utilisation and water uses are highly competitive.

### **Guidelines for Allocating Uses**

In addition to preparing a list of permissible uses and indentifying geographic areas of particular state concern, each state is required to develop broad guidelines on priority of uses. The regulations require these priorities to be based on an analysis of national, state and local needs as well as the effect of the uses on the area.

The analysis of areas of particular concern can obviously form the basis of state coastal planning since areas suitable for a range of uses are specifically indentified, as are areas that have severe constraints for development.

The Coastal Resources Management Council in Rhode Island has published the policies that it uses in determining whether to allow a development:

- dependency on coastal location;
- capacity of site and area to support the development;
- effects on *natural and cultural development*;
- economic development needs, including employment;
- compatibility with nearby uses;
- consistency with other state and local plans;
- consideration of cumulative long-term impacts as well as short-term impacts;

- contribution to public use of, enjoyment of, and access to, the coastal region;
- national needs and legislation; and
- public preferences.

### **Implementation of Coastal Management Programs**

A State Coastal Management Program must identify the means by which the state can exert control over the land and water uses it has identified as having significant impacts. The program must include a list of relevant legislation and regulations which are used to control these uses.

A variety of approaches have been developed in the United States. These include:

- direct state control;
- state guidelines with local government implementation; and
- local government control with state overview.

The other useful requirement of the federal legislation is that states nominate a single 'lead agency' to co-ordinate the state's coastal program. This lead agency may distribute funds to other state agencies and local government, but there is a single agency to co-ordinate the program.

### **Federal Administration of Coastal Management**

An Office of Coastal Zone Management was established as part of the National Oceanic and Atmospheric Administration of the Department of Commerce.

The Comptroller General of the United States has conducted a review of the operation of the Coastal Zone Management Act and states that the Office of Coastal Zone Management has been seen as helpful and a source of technical expertise by the various states. Its role has been that of encouragement and help as well as the statutory requirements for administering the Act. The Comptroller General's review recommends that a more explicit role be developed in monitoring and in resolving problems that arise from time to time.

The encouragement and dispersal of technical information has been achieved by the Office of Coastal Zone Management in a number of ways. Public awareness campaigns based on brochures and slide-tape shows have been developed. Assistance has been provided in developing school curricula in coastal zone management. Some special interest groups have been given funds to assist in developing their perspectives and approach to coastal zone management. A number of specialist studies to help states have been commissioned and published. These include reports on Coastal Recreation, Coastal Aesthetics, Boundaries of the Coastal Zone, State-local Collaboration in Coastal Management, Coastal Facility Guidelines and others. Various workshops and meetings have been sponsored. The Office of Coastal Zone Management also established a Coastal Zone Management Information Exchange which comprises a periodic newsletter and Regional Coastal Libraries with information exchange staff.

### **Status of the United States Coastal Management Program**

As of October 1979, Coastal Management Programs had been approved for nineteen out of the thirty-five eligible states. This meant that 64 658 miles of coastline had been included in approved plans (68% of total coastline). The Office of Coastal Zone Management estimates that a further nine states will be approved in 1980. President

Carter has recently announced that the Coastal Zone Management Program will be extended for a further five years.

## THE UNITED KINGDOM

The first survey of the coast of England and Wales was carried out by a coastal geomorphologist, Professor Alfred Steers, between 1942 and 1945, when he classified the entire coastline for the Ministry of Town and Country Planning. The 1947 national planning legislation, however, left the planning and management of the coast to local governments.

The 1961 census showed an alarming rate of development in coastal areas and in 1963 local authorities were advised to concentrate development at existing towns in an attempt to arrest ribbon development.

In 1965 a further warning was issued to local governments about the consequences of inadequate coastal planning and it was advised that the National Park Commission had been requested to convene a series of regional conferences to examine coastal problems. These were held in 1966-67 and reports were published on the problems of each regional area. Two other reports were also published. One entitled *Planning of the Coastline* addressed problems of development, and the other *Heritage Coasts* identified means of protecting areas of high scenic quality.

In 1972 the Government established national policies for the coast which were to be implemented by local and regional planning authorities.

Some of these policies are:

- As pressures on limited resources of land go on increasing, safeguarding the undeveloped coast by suitable planning and management policies will need vigour and imagination and must be a high priority.
- The planning of the undeveloped coast needs to be considered in conjunction with the planning of the surrounding area and within the context of a regional strategy.
- Planning policies need to take account of changes in economic and social conditions and in particular the revolution which is occurring in the pattern of recreational activities. Purely protective and restrictive policies applied more or less uniformly across wide expanses of the coast are not the answer. Policies should be adjusted to suit the characteristics of each kind of area, should be clearly defined and should embrace both development control and positive management. Some maritime planning authorities are already developing policies of this kind.
- By this means activities and uses can be attracted into areas suitable for them. In its reports the Countryside Commission recommended a number of management techniques which could be applied and these are commended to local planning authorities for their consideration.
- The following will be important in planning and management policies:
  - Greater stress should be placed on the management role of private owners and occupiers and they should be encouraged to participate in the formulation and implementation of planning policies. Many owners and occupiers have co-operated with local planning authorities in working out appropriate management policies but more use could be made of voluntary agreements. Where these can be negotiated they can, for example, ensure adequate safeguards for the

landscape while recognising the interests of the owner or occupier. In this way any need for extending public ownership of land could well be reduced.

- In considering the need for new recreational and holiday facilities on the undeveloped coast, authorities should have regard to the adequacy of existing facilities and the extent to which any excess demand might be met by using an inland site instead.

- Adequate pedestrian access to the coast is important and the need for further arrangements, whether by way of additions to or changes in the local footpath system or by additional public access facilities, should be considered.

- The Countryside Commission recommended that special attention should be given to certain stretches of coast of particular scenic quality and proposed that they should be designated as Heritage Coasts. The Commission was concerned that these areas were likely to be increasingly threatened by development and recreational pressures and considered that special protection was justified in order to ensure that the beauty of these areas could be enjoyed. The principles of planning and management recommended by the Commission are set out in its report *The Coastal Heritage*.
- The Government warmly endorses the basic objective behind the Commission's recommendations for heritage coasts and considers that this is an apt name for the most attractive stretches of coast. But it is not considered that there should be any new statutory designation procedure.
- The next stage is for the local planning authorities concerned to consider, in conjunction with the Countryside Commission and other bodies concerned, the areas which should be heritage coasts. The Commission in its reports suggested thirty-four areas but this does not rule out consideration of any further areas which are of comparable standard.
- The policies to be pursued in the heritage coasts should be incorporated in structure and local plans as appropriate under the Town and Country Planning Act 1971 and a new notation devised for use in such plans is set out. The aim should be to define the policies as clearly as possible so that owners and others can understand the role of the heritage coast and the uses and activities which are or are not likely to be permissible in them.
- Pending the preparation of structure and local plans, local planning authorities should prepare, on a non-statutory basis, interim plans for heritage coasts.

The Countryside Commission does not normally get involved with Heritage Coasts. This is left to local authorities and other bodies. However, the Commission has funded planning of three of the Heritage Coasts on an experimental basis to help develop techniques for planning and management of such areas.

## Appendix VI

### Principles Concerning Coastal Management— OECD Recommendations

#### E. COASTAL MANAGEMENT

##### PRINCIPLES CONCERNING COASTAL MANAGEMENT

(Recommendations adopted 12 October 1976)  
C(76)161 (Final)

#### THE COUNCIL,

Having regard to the Recommendation of the Council of 14th November, 1974 on the Analysis of the Environmental Consequences of Significant Public and Private Projects (C(74)216);

Having regard to the Recommendation of the Council of 14th November, 1974 on Principles concerning Transfrontier Pollution (C(74)224);

Recognising the need for policy actions in coastal areas to avoid environmental deterioration and to enhance environmental protection;

Considering that permanent and temporary population and activity are increasing more rapidly in coastal zones than generally elsewhere in Member countries;

Recognising that the solution to problems of coastal management must be found within the context of wider national policies and of related administrative and legislative arrangements, and after appropriate consultation;

Recognising that the protection of coastal zones and, in particular, of unspoilt areas and areas of cultural and touristic importance is in the common interest of mankind and is of benefit to, and the responsibility of, all Member countries and therefore has international implications;

Having regard to the Final Report of the Mediterranean Pilot Study of Environmental Degradation and Pollution from Coastal Development;

Having regard to activities of other international organisations, notably the United Nations Environment Programme, related to the pollution of coastal zones;

On the proposal of the Environment Committee:

I. RECOMMENDS that Member countries be guided in their coastal protection and development policies by the principles contained in the Annex to this Recommendation of which it is an integral part.

# Annex

## Principles concerning coastal management

### A. NATIONAL MEASURES

1. The development, redevelopment or realignment of coastal areas should be controlled. Consideration should be given to the special problems arising from existing dense industrialization and urbanization in certain coastal areas. Plans should thus be comprehensive and take due account of the complementary nature of the activities which can be located in coastal zones according to national and regional priorities. To this end, the use of techniques such as zoning, i.e. the specification of permissible land use, is desirable. Prior to development of coastal policies, it would be useful to draw up inventories, i.e. descriptions of the significant physical and biological characteristics of potential uses of coastline.
2. Defensive planning, consisting of restrictions, should be complemented by positive planning indicating where activities may be located provided that due consideration is given to environmental protection.
3. The potential impact on the coastline of significant public and private projects should be assessed prior to their development.
4. The public should be informed of facts and plans relating to coastal development and involved in the planning process at the earliest possible stage.
5. The protection of the most esthetic, culturally and/or environmentally vulnerable areas should be given special care and kept for those activities which, by their kind and scale, are compatible with the preservation of the characteristics of these areas. In addition, areas representative of particular natural systems should be preserved for future study and to serve as regenerative centres.
6. The siting of industrial activities which have to be located in coastal areas should be such as to guarantee a maximum of environmental protection.
7. In certain coastal zones, pending evidence on environmental impacts of proposed projects, it may be necessary to take conservation steps by temporarily preventing certain types of development which could possibly have irreversible adverse effects on the environment. Such a moratorium could be lifted when evidence is available that the project can be developed in harmony with environmental protection.
8. Wherever possible, the adjacent inland should be developed so as to relieve the coastline proper—in particular, inland transport infrastructure should preferably not be developed along this coastline.
9. In coastal zones, public transportation and public transport systems should be organised and used wherever possible in such a way as to guarantee a maximum of environmental protection.

10. Stringent action should be taken to avoid environmentally detrimental construction in the coastal zone, for example, to prevent building developments which through height and/or density spoil the landscape, lead to environmental deterioration or interfere with natural processes of land and sea interaction.

11. Free access by the public to the sea front in areas of tourist interest should be ensured.

12. Adequate financial resources should be available within the framework of national regulations to be used for the alleviation of problems related to the implementation of measures designed to protect and conserve the coastal environment.

13. Coastal development projects should take due account of the need to protect fishing grounds, oyster and shell fish production.

14. Coastal development projects should not jeopardize coastal eco-systems as such, e.g. estuaries, wetlands, barrier reefs, archipelagos, and areas for the protection of flora and fauna etc.

15. Efforts should be made to manage industrial and urban wastes by requiring pre-treatment and/or prohibiting and/or restricting discharges into the sea. Sewage treatment and disposal policies should be strengthened by various means such as recycling and making beneficial uses of effluent and sewage sludge.

16. Consideration should be given to the fact that congestion in coastal areas can be greatly relieved if measures are taken in the public and private sectors to stagger holidays.

17. In order to arrive at a comprehensive approach to environmental protection, ecological, technical and economic studies should be undertaken of the possible transfer of pollution between land, sea and air as a result of policies to deal with only one of these media.

18. Every effort should be made to ratify, where necessary, and to implement as soon as possible, existing international conventions which Member countries have signed on coastal protection, marine discharges, oil spills and pollution of the sea from land-based sources and to give effect to appropriate programmes to be developed under these conventions.

## **B. CONCERTED MEASURES**

19. Work in international organisations should be strengthened on co-ordinated programmes to monitor the quality of marine waters, based on standardized or comparable methodology with the aim of classifying, interpreting and conserving the data.

20. Methodology should be developed in co-operation between Member countries for evaluation of the state of the environment, in various types of coastal zones, together with the definition of parameters to be considered in decision making related to coastal development.

21. Member countries should co-operate with a view to promoting the protection of touristic sites of special interest, and in particular to developing a code of conduct for tourists in order to protect such sites.

22. Co-operation between interested Member countries should be developed regarding coastal development in border areas and mutual exchange of information should take place; where mutual interests are concerned, consultations should take place at the request of one of the Member countries concerned.\*

23. Whenever significant public and private projects have environmental consequences in coastal areas within other countries, active co-operation between Member countries concerned should be developed in the analysis of the environmental consequences of such projects. The results of such analyses should be taken into due account by Member countries concerned in the implementation of their policy measures.

24. Neighbouring Member countries should give mutual help in the event of major accidental coastal pollution by establishing emergency procedures to enable a given country to make use of the services of neighbouring countries to combat, as quickly as possible, the effects of such pollution.

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\* Spain is unable to accept the second part of paragraph 22.

## Appendix VII

### Schedule of Commonwealth landholdings in the coastal zone (as at 9 November 1979)

(Information provided by the Department of Administrative Services)

#### 1. NEW SOUTH WALES

No.	Name	Size (ha)	Present and future use
1	Byron Bay . . . .	17.92	Former rifle range, being sold to local government.
2	Evans Head . . . .	500.59	RAAF bombing and air gunnery ranges (2). North range to be returned to State. Renewal of lease of south range being sought.
3	Coffs Harbour . . . .	238.53	Airport, expected to continue.
4	Stockton . . . .	113.40	Rifle range, expected to continue.
5	Fort Wallace . . . .	31.76	Defence purposes, expected to continue.
6	Sydney* . . . .		See supplementary list.
7	Towra Point . . . .	281.75	Nature reserve, expected to continue.
8	Port Kembla . . . .	26.70	Mostly surplus to Cwlth requirements. Under offer to State. 0.1 ha to be retained for defence purposes.
9	Beecroft Peninsula*	12 111.89 Cwlth owned 2 819.85 leased from State	Naval bombing and gunnery range, expected to continue. Leased area to be purchased from State.
10	Jervis Bay . . . .	7280 (approx.)	Jervis Bay Territory. RAN College and airfield. Administered for the Cwlth by the Department of the Capital Territory.
11	Sussex Inlet . . . .	41.70	Defence purposes, expected to continue.
12	South Solitary Island	11.33	Lighthouse reserve, expected to continue. Classified by National Trust.
13	Smoky Cape . . . .	32.78	As for South Solitary Island.

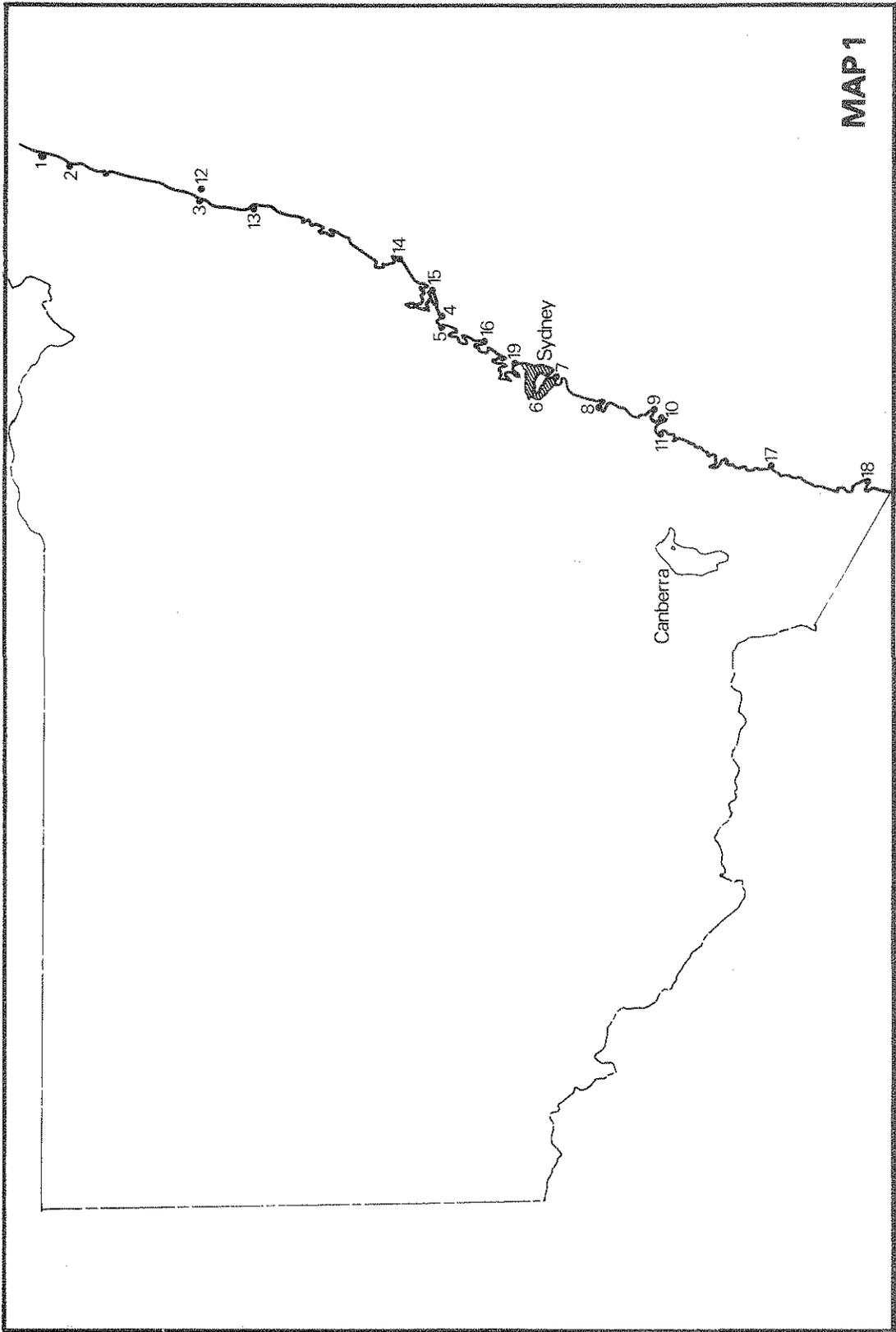
No.	Name	Size (ha)	Present and future use
14	Sugarloaf Point . . .	35.58	As for South Solitary Island.
15	Point Stephens . . .	29.54	As for South Solitary Island.
16	Norah Head . . .	15.58	As for South Solitary Island.
17	Montague Island . . .	113.31	As for South Solitary Island. Also flora and fauna reserve, there is an involvement by the National Trust.
18	Green Cape . . .	30.35	As for South Solitary Island.
19	Barranjoey Head* . . .	66.26	Lighthouse reserve (part), balance former defence reserve part to be sold to State; part to be offered to State.

#### SUPPLEMENTARY LIST FOR SYDNEY

No.	Name	Size (ha)	Present and future use
6A	Dover Heights . . .	3.3	Mostly surplus to Cwlth requirements, partly leased to local government for public recreation.
6B	Long Bay . . . . .	161.17	Rifle range, future use under review.
6C	Henry Head/Cape Banks* . . . . .	141.72	Defence and telecommunications purposes, future use under review, part to be sold to State, part leased to golf club and pistol club.
6D	Bumborah Point* . . .	3.54	Surplus to Cwlth requirements, on offer to State subject to permissive occupancy granted to Maritime Services Board.
6E	Botany Bay . . . . .	42.18	ANL container terminal under lease from State, expected to continue.
6F	Mascot . . . . .	103.28	Kingsford Smith Airport, expected to continue.
6G	Cronulla . . . . .	1.58	CSIRO purposes, expected to continue, historic significance.
6H	Macquarie Light . . .	2.22	Lighthouse reserve, expected to continue. Classified by National Trust.
6I	Garden Island . . . . .	23.04	RAN Fleet Base and Naval Dockyard, expected to continue, historic significance.
6J	Cockatoo Island . . .	20.04	Leased to Vickers Ltd as dockyard, expected to continue, historic significance.

No.	Name	Size (ha)	Present and future use
6K	Spectacle Island . . .	2.50	Defence purposes, expected to continue, historic significance.
6L	Clarke Point, Woolwich . . . . .	7.40	Defence purposes, expected to continue, 0.3 ha leased to local government for public recreation.
6M	Kirribilli—2 properties	0.46 1.90	<i>Prime Minister's residence.</i> Governor-General's residence. Both historic significance.
6N	North Head* . . . .	259.00	Defence, quarantine and police purposes, part accessible for public recreation, to be released to State in stages.
6O	Dobroyd Head* . . .	46.54	Surplus to Cwlth requirements, to be sold to State, accessible for public recreation.
6P	Middle Head* . . . .	112.82	Defence, telecommunications and foreign affairs purposes, part accessible for public recreation, 56.07 ha to be sold in stages to State, 56.75 ha to be retained for defence purposes.
6Q	South Head* . . . .	28.57	Defence purposes but part accessible for public recreation, 13.36 ha to be sold in stages to State, 15.20 ha to be retained for defence purposes.
6R	Williams Park* . . .	9.35	Surplus to Cwlth requirements, to be sold to State, leased to local government for public recreation.

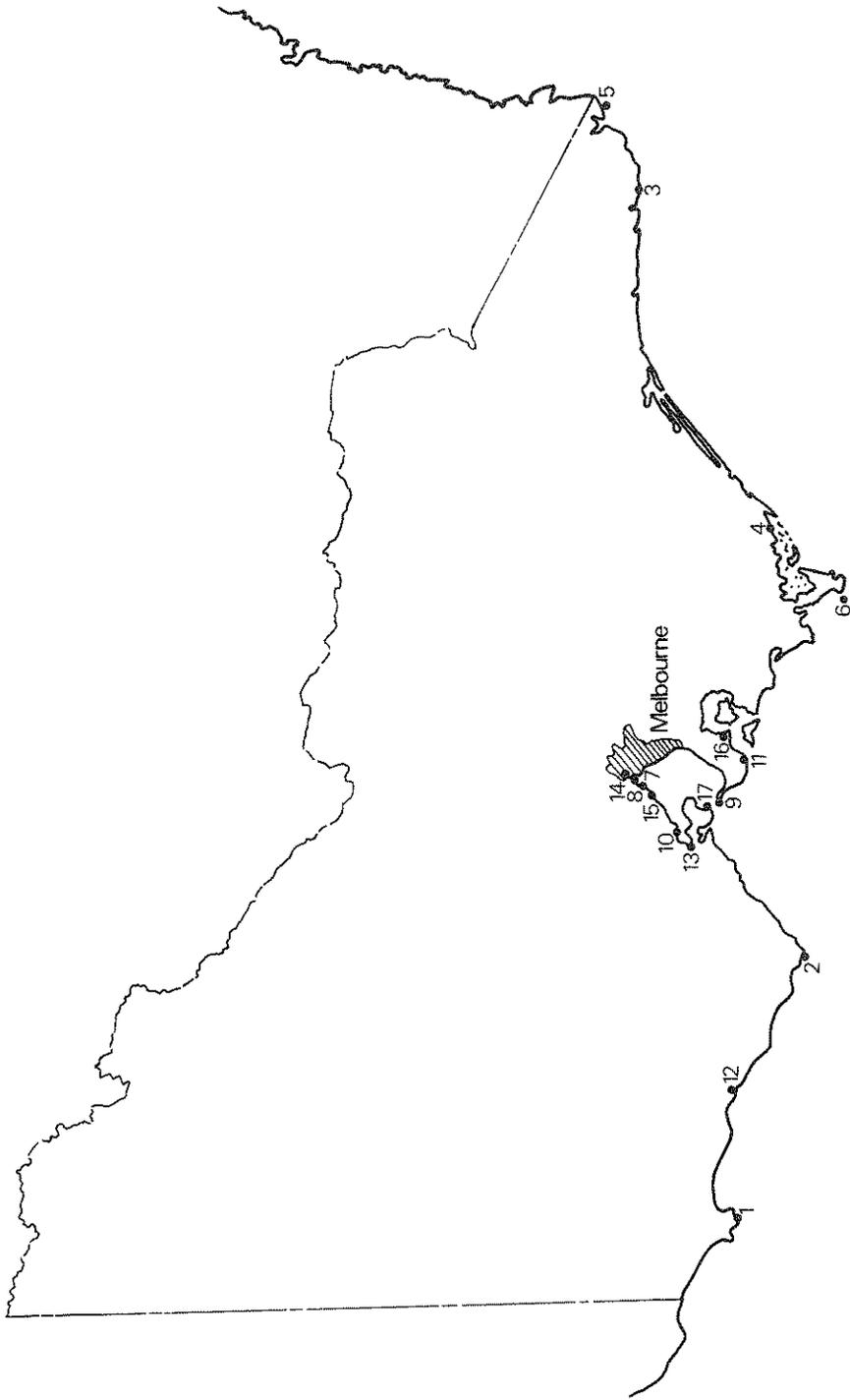
\* Indicates property included in proposed exchange of Commonwealth and NSW lands.



## 2 VICTORIA

No.	Name	Size (ha)	Present and future use
1	Cape Nelson . . .	21.8	Lighthouse reserve, expected to continue.
2	Cape Otway . . .	98.4	As for Cape Nelson.
3	Point Hicks . . .	132.0	As for Cape Nelson.
4	Wilsons Promontory	29.6	As for Cape Nelson.
5	Gabo Island . . .	154.0	As for Cape Nelson.
6	Citadel Island . . .	13.0	As for Cape Nelson.
7	Williamstown (Merret) Rifle Range	115.0	Rifle range, future use under review, parts leased for public recreation and public education.
8	Williamstown Naval Dockyard	12.3	Naval Dockyard, expected to continue.
9	Portsea—Point Nepean	598.0	73 ha former quarantine station, to be sold to State. 525 ha defence purposes, expected to continue. Promised for sale to State when no longer required for Cwith purposes.
10	Point Wilson . . .	333.0	Department of Transport store and marine terminal, expected to continue.
11	West Head . . .	15.0	Defence purposes, expected to continue.
12	Warrnambool . . .	44.0	Rifle range, future use under review, 38 ha leased from State.
13	Geelong . . .	36.0	CSIRO purposes, expected to continue.
14	Fishermans Bend . . .	10.0	Department of Productivity aircraft factory, expected to continue.
15	Point Cook . . .	343.0	Defence purposes (mainly air bas , expected to continue.
16	Crib Point . . .	1 511.0	Naval base, expected to continue.
17	Queenscliff . . .	307.0	Defence purposes, expected to continue.

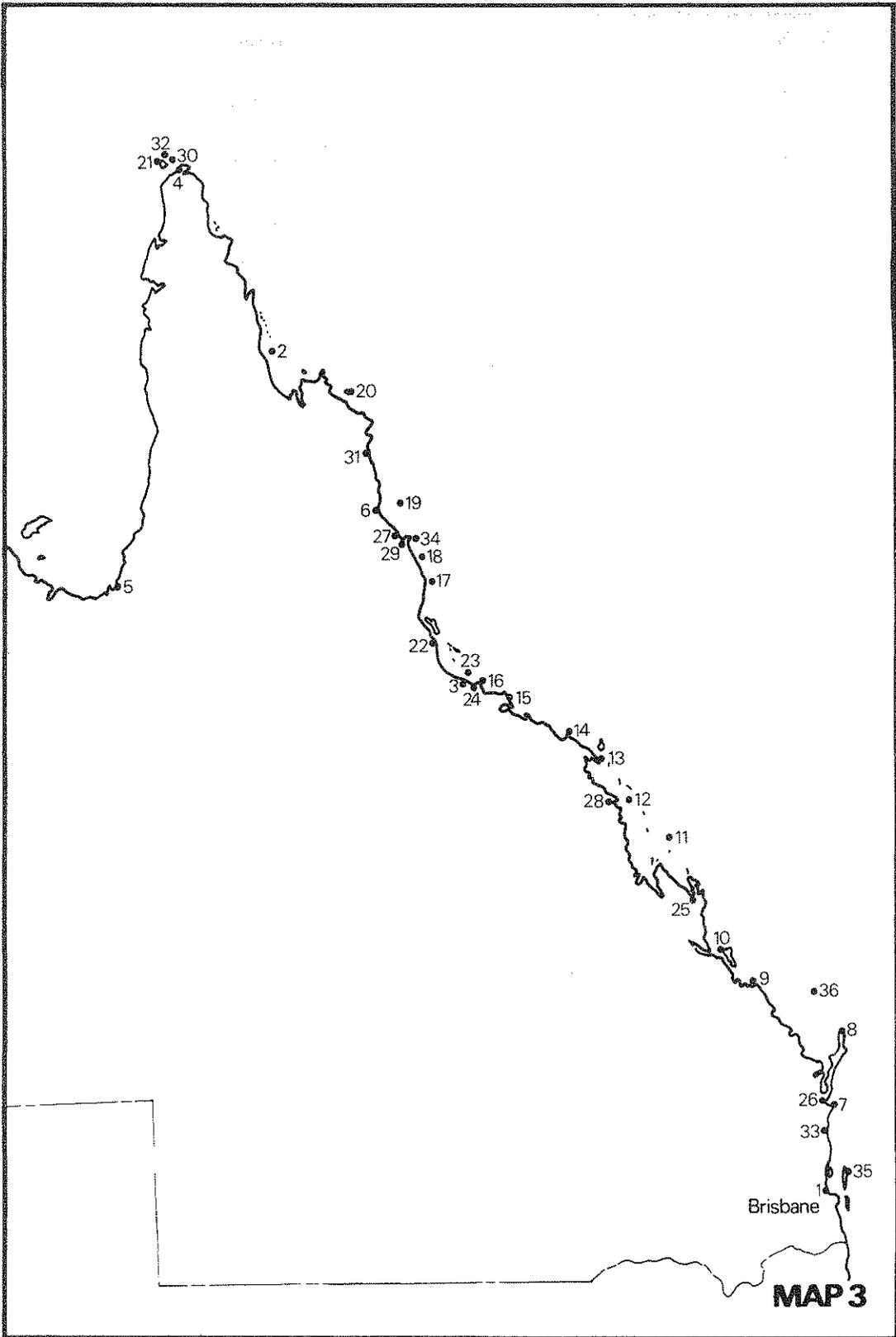
MAP 2



### 3 QUEENSLAND

No.	Name	Size (ha)	Present and future use
1	Pinkenba, Cribb Island, Nudgee	600 approx.	Site for new airport, 1000 ha still to be acquired.
2	Lytton . . . . .	24.8	Quarantine station, to close soon, future use under review.
3	Pallarenda . . . . .	126.6	54 ha former quarantine station, on offer to State. Two areas, 8.6 ha and 64 ha, used for radar buffer zone, expected to continue.
4	Bamaga, Cape York	119.0	Telecommunications purposes, expected to continue.
5	Karumba . . . . .	15.7	CSIRO purposes, expected to continue.
6	Mossman . . . . .	114.0	Rifle range, future use under review.
7	Double Island Point	57.0	Lighthouse reserve, expected to continue.
8	Sandy Cape . . . . .	259.0	As for Double Island Point.
9	Bustard Point . . . . .	445.0	As for Double Island Point.
10	Curtis Island . . . . .	36.4	As for Double Island Point.
11	Pine Islet . . . . .	24.0	As for Double Island Point.
12	Bailey Islet . . . . .	16.0	As for Double Island Point.
13	Dent Island . . . . .	161.8	As for Double Island Point.
14	Eshelby Island . . . . .	14.0	As for Double Island Point.
15	Cape Bowling Green	141.6	As for Double Island Point.
16	Cape Cleveland . . . . .	20.0	As for Double Island Point.
17	North Barnard Island	16.0	As for Double Island Point.
18	Russell Island . . . . .	20.0	As for Double Island Point.
19	Low Isles . . . . .	20.0	As for Double Island Point.
20	Coquet Island . . . . .	28.0	As for Double Island Point.
21	Goode Island . . . . .	40.5	As for Double Island Point.
22	Halifax . . . . .	152.0	Rifle range, future use under review.
23	Magnetic Island . . . . .	46.5	Defence purposes; future use under review.
24	Townsville . . . . .	16.0	Radio navigation aid, expected to continue.
25	Shoalwater Bay . . . . .	274 000	Defence purposes, expected to continue.

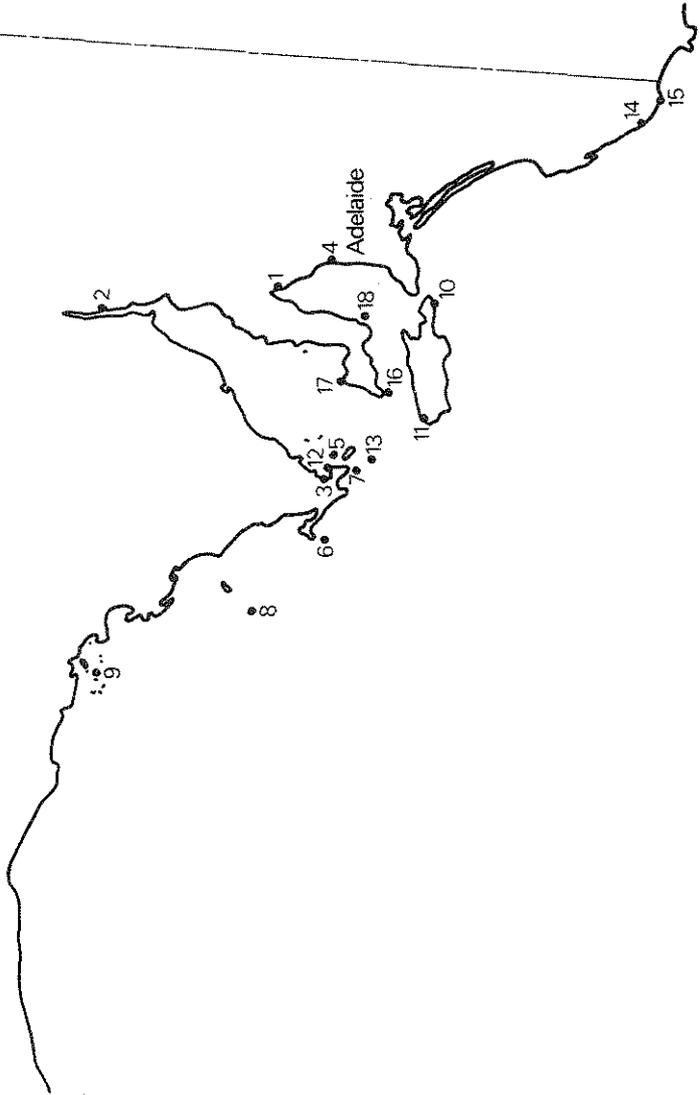
No.	Name	Size (ha)	Present and future use
26	Tin Can Bay . . .	19 989	Defence purposes, expected to continue.
27	Machans Beach . .	26.5	Radio navigation aid, expected to continue.
28	Mackay . . . . .	273.0	Aerodrome, expected to continue.
29	Cairns . . . . .	647.0	Aerodrome, mostly—part tidal wetlands, use expected to continue.
30	Horn Island . . .	600.0	Aerodrome, expected to continue.
31	Cooktown . . . .	424.0	Aerodrome, use expected to continue but part may be surplus to requirements.
32	Thursday Island . .	42.48	Defence purposes, expected to continue.
33	Lake Cootharaba .	1 458	Bequeathed to Commonwealth.
34	Fitzroy Island . .	10.8	Lighthouse reserve, expected to continue.
35	Cape Moreton . . .	159	Lighthouse reserve, expected to continue, future use of part of land under review.
36	Lady Elliott Island .	36	Lighthouse reserve, expected to continue.



#### 4. SOUTH AUSTRALIA

No.	Name	Size(ha)	Present and future use
1	Port Wakefield . . .	1 000	Defence proof range, expected to continue.
2	Port Augusta . . .	48 349	Army training area, expected to continue.
3	Port Lincoln . . .	119	Former rifle range, under offer to local government.
4	Torrens Island . . .	215	Animal quarantine station, expected to continue.
5	Dangerous Reef . . .	113	Lighthouse reserve, expected to continue, wildlife sanctuary.
6	Four Hummocks . . .	26	As for Dangerous Reef.
7	Williams Park . . .	141	As for Dangerous Reef.
8	Pearson . . . . .	206	As for Dangerous Reef.
9	Evans . . . . .	121	As for Dangerous Reef.
10	Cape Willoughby . . .	17	As for Dangerous Reef
11	Cape Borda . . . . .	201	Lighthouse reserve, expected to continue.
12	Cape Donington . . .	56	Lighthouse reserve, expected to continue, flora and fauna reserve.
13	Neptune Island . . .	80	As for Cape Borda.
14	Cape Banks . . . . .	12	As for Cape Borda.
15	Cape Northumberland . . . . .	12	As for Cape Borda.
16	Althorpe Island . . .	91	As for Cape Borda.
17	Corny Point . . . . .	16	As for Cape Borda.
18	Troubridge Shoal . . .	12	Lighthouse reserve, expected to continue, flora and fauna reserve.

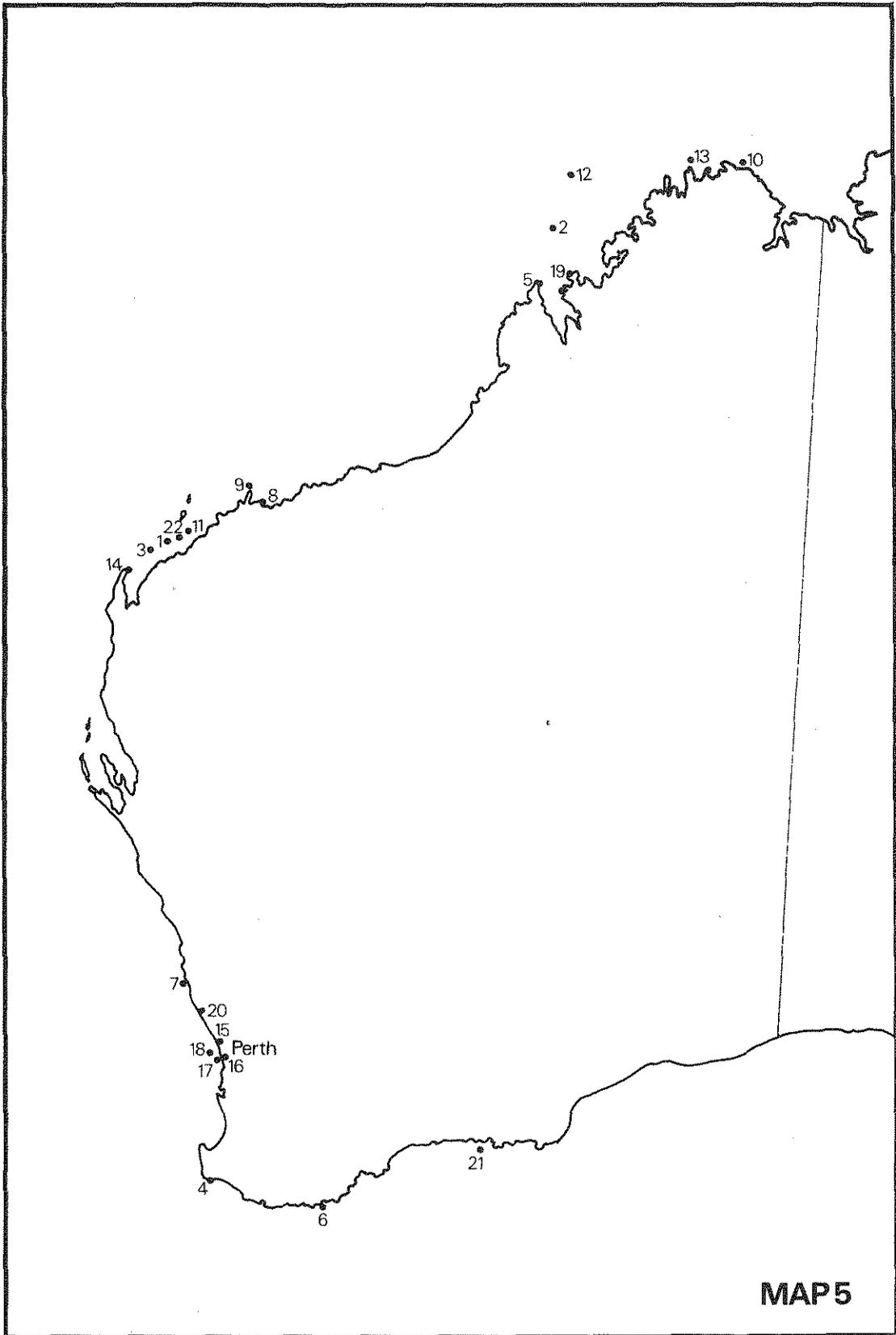
MAP 4



## 5. WESTERN AUSTRALIA

No.	Name	Size (ha)	Present and future use
1	Airlie Island . . .	30.25	Lighthouse reserve, expected to continue.
2	Adele Island . . .	217.72	As for Airlie Island.
3	Anchor Island . . .	54.63	As for Airlie Island.
4	Cape Leeuwin . . .	15.55	As for Airlie Island.
5	Cape Leveque . . .	100.33	As for Airlie Island.
6	Eclipse Island . . .	99.15	As for Airlie Island.
7	Escape Island . . .	27.52	As for Airlie Island.
8	Jarman Island . . .	16.19	As for Airlie Island.
9	Legendre Island . . .	259.00	As for Airlie Island.
10	Lesueur Island . . .	57.87	As for Airlie Island.
11	North Sandy Island . . .	20.23	As for Airlie Island.
12	Browse Island . . .	60.70	As for Airlie Island.
13	Troughton Island . . .	72.03	As for Airlie Island.
14	Vlaming Head . . .	62.98	As for Airlie Island.
15	Swanbourne . . .	232.35	Defence purposes, beach accessible to public, defence use expected to continue, State seeks portion for main road extension.
16	Woodman Point . . .	109.99	Mostly surplus to Cwlth. requirements, former quarantine station, to be sold to State mostly, for public recreation.
17	Garden Island . . .	1 095.20	Naval base, limited accessibility for public recreation, defence use expected to continue.
18	Rottne <sup>s</sup> t Island (portion) . . . .	105.67	Defence purposes expected to continue, public has free access to much of the area.
19	Yampi . . . . .	575 000	Defence purposes, expected to continue, revenue leased for pastoral purposes.
20	Lancelin . . . . .	9.25 Cwlth-owned, 25 049 leased from State.	Defence purposes, expected to continue, public access limited to beekeepers and fishermen.

No.	Name	Size (ha)	Present and future use
21	Figure of Eight Island	283.28	Lighthouse reserve, expected to continue.
22	Mary Ann Reef	24.28	As for Figure of Eight Island.

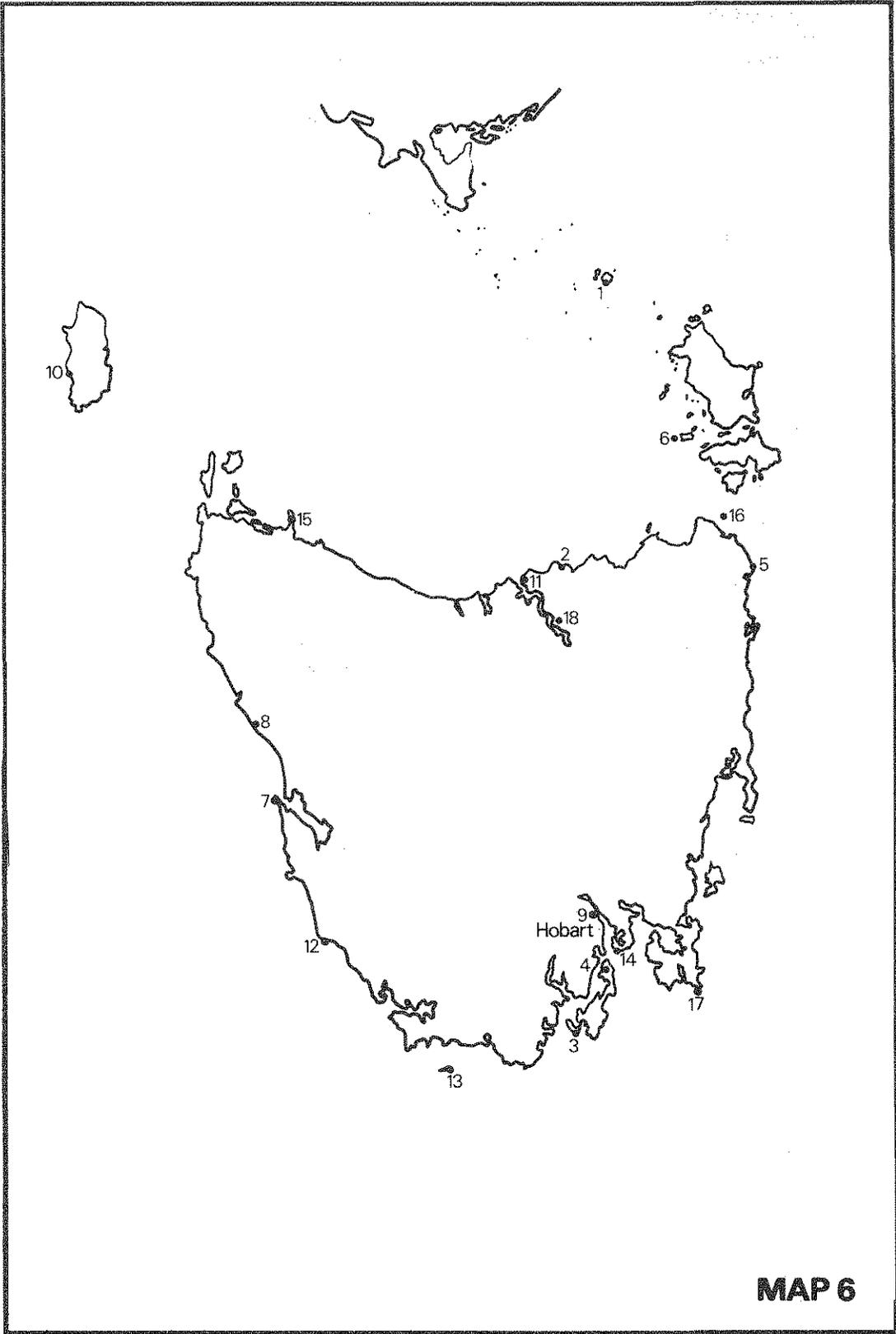


MAP 5

## 6. TASMANIA

No.	Name	Size (ha)	Present and future use
1	Deal Island . . .	1610.0	Lighthouse reserve, expected to continue. In wildlife sanctuary.
2	Stony Head . . .	4893.0	Defence purposes, expected to continue.
3	Cape Bruny . . .	74.46	*Lighthouse reserve, adjoins National Park.
4	Barnes Bay . . .	130.0	Quarantine station, expected to continue.
5	Eddystone Point . . .	10.43	*Lighthouse reserve, adjoins National Park.
6	Goose Island . . .	About 10 has not been surveyed.	Lighthouse reserve, expected to continue.
7	Cape Sorrell . . .	53.82	*Lighthouse reserve.
8	Granville Harbour . . .	16 200.0	Defence purposes, expected to continue.
9	Dowsings Point . . .	54.82	Defence purposes, expected to continue.
10	Currie, King Island . . .	17.09	Lighthouse reserve, former lightkeeper's residence to be sold to State, remainder to be retained.
11	Low Head . . .	13.76	Lighthouse reserve, expected to continue.
12	Low Rocky Point . . .	28.33	Lighthouse reserve, expected to continue.
13	Maatsuyker Island . . .	182.1	*Lighthouse reserve.
14	Fort Direction . . .	91.25	Defence purposes, expected to continue.
15	Stanley, The Nut . . .	57.38	Surplus to Commonwealth requirements, on offer of sale to the State.
16	Swan Island . . .	202.3	Lighthouse reserve, expected to continue.
17	Tasman Island . . .	161.9	*Lighthouse reserve.
18	Newnham . . .	13.25	Currently underdeveloped; future Maritime College.

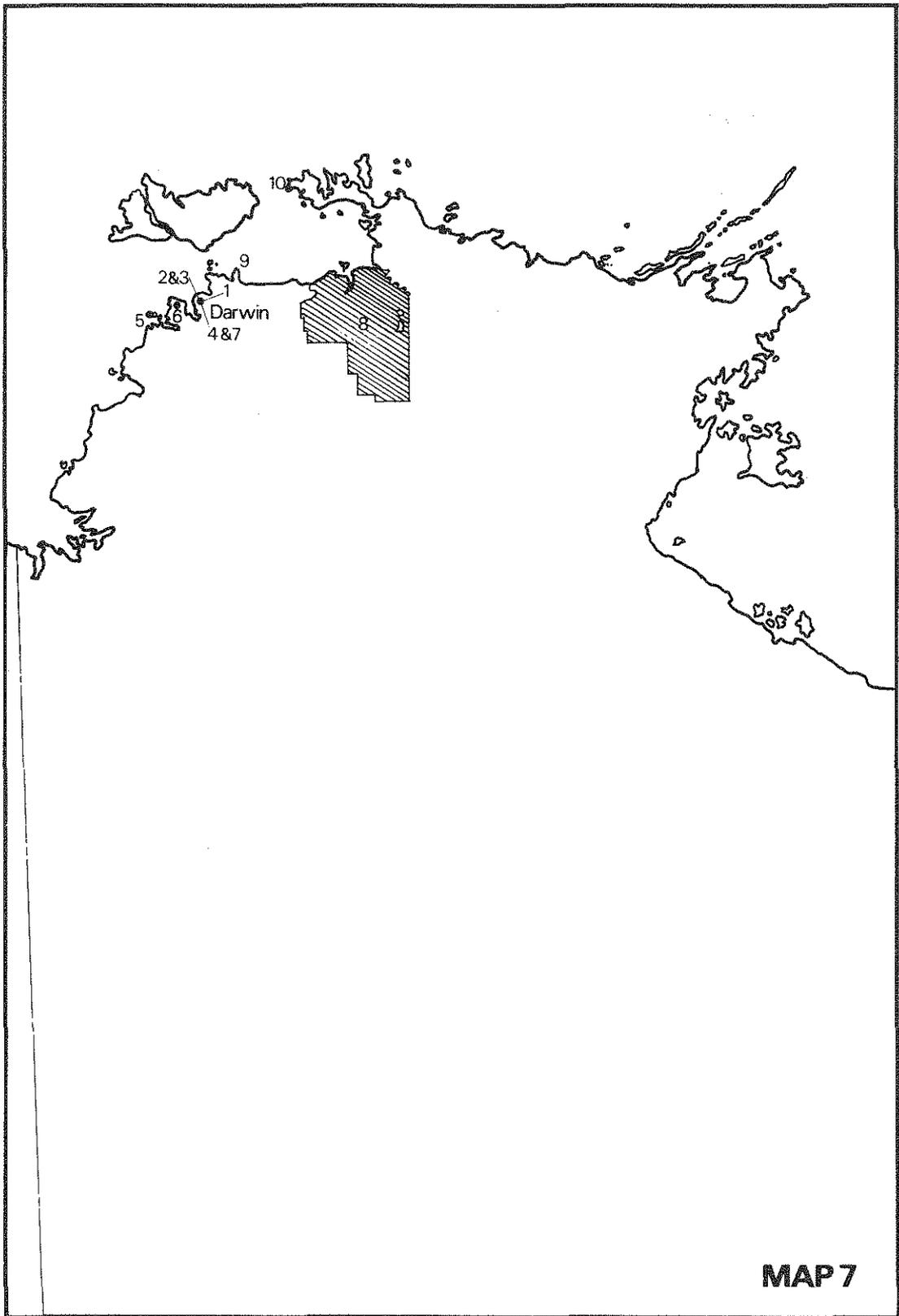
\* These lighthouse reserves contain areas of land which may in the future be declared surplus to Commonwealth requirements in which event such areas would be offered for sale to the State.



**MAP 6**

## 7. NORTHERN TERRITORY

No.	Name	Size (ha)	Present and future use
1	Larrakeyah . . . .	155.8	Defence purposes, expected to continue.
2	Shoal Bay . . . .	5 780	As for Larrakeyah.
3	Leanyer . . . .	2 465	Defence purposes (bombing range), expected to continue.
4	Frances Bay . . . .	192.75	Defence purposes (ammunition depot), expected to continue.
5	Quail Island . . . .	83 (approx.)	Defence purposes (bombing range), expected to continue.
6	Cox Peninsula (2 areas) . . . .	1 619—3 884	Telecommunications purposes, expected to continue.
7	East Arm . . . .	23.78	Quarantine Station, expected to continue.
8	Kakadu . . . .	19 857 sq km	National Park, expected to continue.
9	Cape Hotham . . . .	36.42	Lighthouse reserve, expected to continue.
10	Cape Don . . . .	259	Lighthouse reserve, expected to continue.



**MAP 7**

## Appendix VIII

### Department of National Development and Energy—Functional responsibilities that affect coastal management

- **Sea bed**
  - international aspects of the Commonwealth's sea bed policy; and to participate in related negotiations
- **Petroleum, and other Minerals**
  - to develop, co-ordinate and implement Commonwealth policies for exploration and mining of oil, gas and other minerals
- **Water**
  - to develop Commonwealth policies for the long-term beneficial use of Australia's water resources
  - to develop and co-ordinate a national approach through the Australian Water Resources Council to important water resources issues, including flood—plain management
  - to administer Commonwealth financial assistance to the States under the National Water Resources Program including funds for flood mitigation works
- **Soil Conservation**
  - to develop, co-ordinate and implement Commonwealth policies for soil conservation and the prevention of land degradation
  - to administer Commonwealth financial assistance to the States for soil conservation
- **Regional Development**
  - to develop, co-ordinate and implement Commonwealth policies for regional development, urban planning and development, and local government

In addition to its policy responsibilities, the Department is involved through the Bureau of Mineral Resources and the Division of National Mapping in areas of work in the coastal zone:

- **Bureau of Mineral Resources**
  - obtaining, studying and providing basic information on the geological framework and mineral resources of the Australian continent and offshore areas

- **Division of National Mapping**

- carrying out geodetic and bathymetric surveys, topographic mapping and air photography
- co-ordinate Commonwealth Government and State survey and mapping activities