Jerramungup Coastal District
Draft Management Plan

Department of Conservation and Environment
Perth, Western Australia
Bulletin 167 November 1984

JERRAMUNGUP COASTAL DISTRICT

DRAFT MANAGEMENT PLAN

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ACKNOWLEDGEMENTS

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FRONT COVER : Bremer Beach and Wellstead Estuary
BACK COVER : Gneissic Rock Outcrop, Cape Knob Peninsula

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FOREWORD

As President of the newest Local Authority in Western Australia and, I would believe, in the Commonwealth, I take pride that my council soon after it came to office in November 1982, recognised the uniqueness and value of the coastline which forms the southern boundary of the shire. The Council also recognised the need for planning, management, and development of that natural resource.

A Jerramungup South Coast Working Group was formed, taking over the role of what had been the Gnowangerup Working Group. In that respect I pay tribute to the unswerving interest of Crs. Len Carlson and Ken Thomas, who represented the Council on that Group, together with Crs. Lesley Peacock and Claude Keding, who represented the interests of local community groups.

By February, 1983, the working group has sought the aid of the Department of Conservation and Environment (DCE) in preparing a Draft Management Plan to concentrate the resources of the Council along the coast from Bremer Bay to the Pallinup River/Beaufort Inlet area. In that respect we were fortunate in gaining the expertise and dedication of Ms Annette Van Steveninck of DCE. She, with other officers of that department, aided by input by representatives of other state government agencies, including staff from the Department of Public Works, Agriculture, Lands and Surveys, Main Roads, Fisheries and Wildlife, Youth, Sport and Recreation, and the W.A. Tourist Commission, W.A. Museum, and the National Parks Authority, with input from our own staff and overview from the council, contributed a wealth of knowledge.

Support, information, and to a lesser degree, criticism were drawn from a number of sources too numerous to mention, but reference should be made to the Bremer Bay Progress Association and to those of the public who availed themselves of the opportunity to attend a public meeting held at Bremer Bay in April 1984.

The Management Plan, which I introduce, serves many purposes, not the least of which is to present information to government and public. I commend the plan to you in the knowledge that it will serve to inform those who are interested.

Rex Edmondson

Rex Edmondson
(President - Shire of Jerramungup)

August 21, 1984

1. INTRODUCTION

1.1 Background

In 1976 the Environmental Protection Authority (EPA) published its "Red Book", "Conservation Reserves for Western Australia, Systems 1,2,3,4 and 5", containing recommendations about the future control and management of land on portions of the south coast of Western Australia.

In the Red Book's Recommendation 3.10 - The South Coast, the EPA gave notice of its intention to set up working groups consisting of representatives of local government authorities, state government departments and instrumentalities and the public to further consider the future control and management of crown lands on the south coast. Management was emphasised following the 1981 amendment to the Land Act which implied that a management plan would be requested by the Minister for Lands for areas vested with a local government authority.

The working groups were formed relating to shire boundaries. The Gnowangerup Shire Working Group commenced its investigations and prepared a report which was presented to the EPA in 1982. The EPA requested additional work, particularly as the change in shire boundaries resulted in the Jerramungup Shire being responsible for coastal lands.

The Jerramungup Working Group was established in February, 1983, to provide a revised report to the EPA. It requested the assistance of the Department of Conservation and Environment (DCE) to prepare a management plan for the recreation areas recommended for vesting with the shire council.

In broad terms, council intends to concentrate its resources along the coast from Bremer Beach to Dillon Bay, providing public access and management of beaches on Point Henry Peninsula.

Further investigations are required for recommendations on the future management of recreation sites along the Pallinup River/Beaufort Inlet and the Doubtful Islands coastline. The former area is the subject of a separate planning study. (Newbey, 1984) The latter area requires consultation with the Shire of Ravensthorpe to rationalise shire boundaries affecting management recommendations. Other beaches are remote and "low key" management access is appropriate.

Following DCE's discussions with the Jerramungup Shire Council it was agreed that the management plan consider the entire shire coastline and give particular attention to recreation areas close to Bremer Bay. The plan complements the Bremer Bay Town Planning Scheme No. 2 (Planwest Consultants, 1983) focusing on facilities and townsite development.

1.2 Location

The Shire of Jerramungup extends approximately 110 kilometres along the southwest coast of Australia. The Pallinup River is close to the Albany Shire boundary, and the Fitzgerald River National Park is a significant regional resource on the shire's eastern boundary.

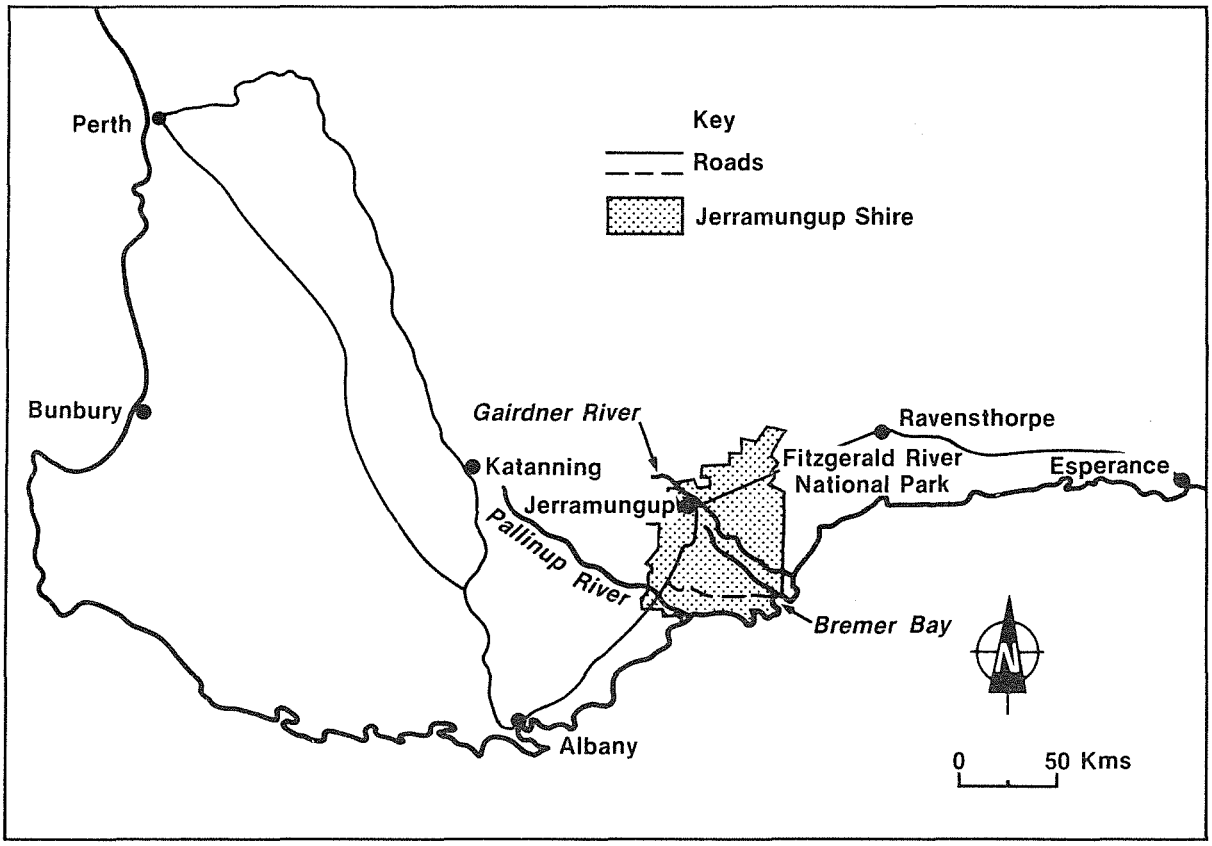

Figure 1. Jerramungup Shire and Bremer Bay location.

Bremer Bay, located at latitude 34° 24' south and longitude 119° 23' east, is the only townsite along this coastline. It is sited on the Wellstead Estuary which is 62 kilometres from the south coast highway at the Boxwood Hill turnoff. This is 119km north-east of Albany. The plan does not include detail consideration of the townsite which has been covered by the Town Planning Scheme (Planwest Consultants, 1983).

Note that the management plan focuses on the coastal districts and includes the nearshore environment and hinterland depending on the boundary of the reserves proposed for vesting with the shire council.

1.3 Subject Lands

The management plan focuses on coastal resources and addresses various forms of land tenure where there is some relevance to management by Jerramungup Shire Council.

The location and purpose of reserves is compiled in Figure 3 and Table 1.

1.4 Purpose of Management Plan

The management plan serves several general purposes.
Namely :

1. to present information to government and the public concerning this coastline;

2. to make management recommendations and to assign management responsibilities:

3. to allocate land/water uses to suitable areas, and to relate land-use intensity, land capability and the provision of access;

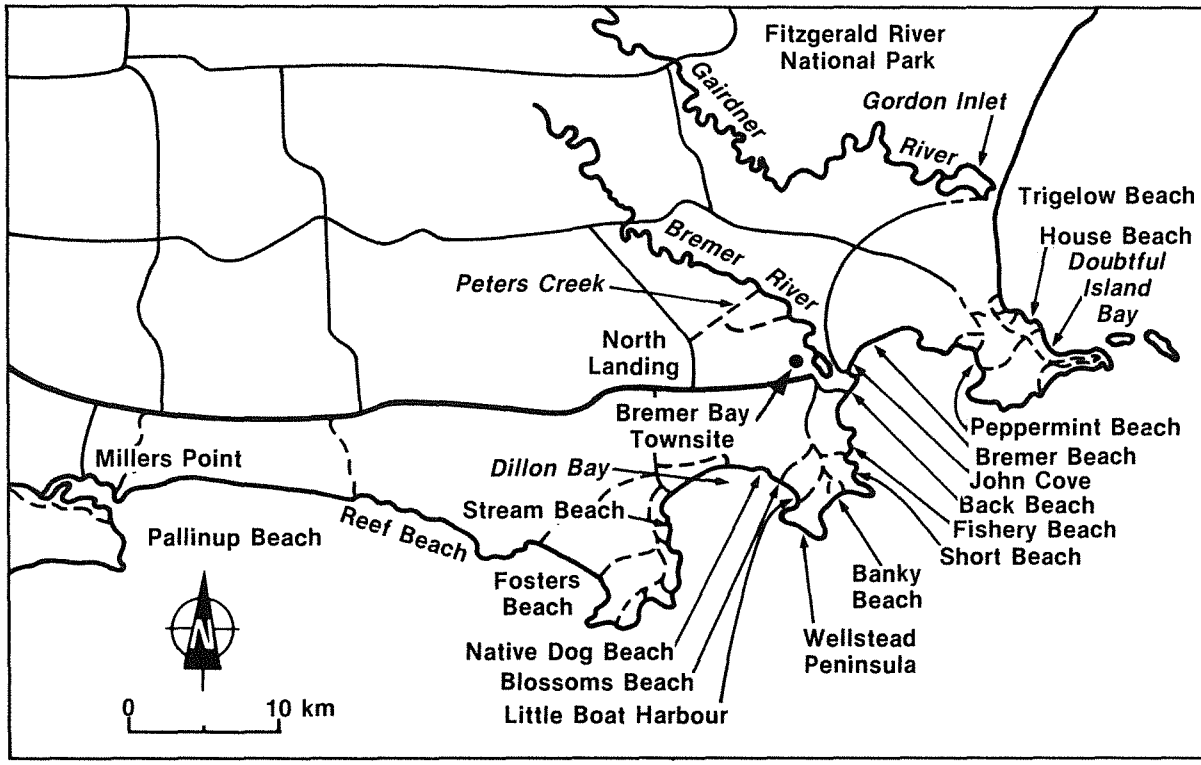

Figure 2 Jerramungup Shire Coastline — the management plan area.

4. to identify management priority areas and detail site management plans;

5. to assist co-ordinating the provision of financial assistance to the shire council under the various schemes operated by state agencies;

6. to discuss the potential for tourist growth of the district based on its coastal resource.

For convenience the plan considers the coast from east to west.

2. NATURAL RESOURCES

2.1 Climate and Aspect

The climate is classified as Mediterranean. Rainfall is more regular near the ocean, with summer falls, but a dry season is still experienced between November and April. Between May and August, two to three times more rain is recorded than in summer, as shown by the monthly recordings. The annual average rainfall recorded at Bremer Bay is 627mm.

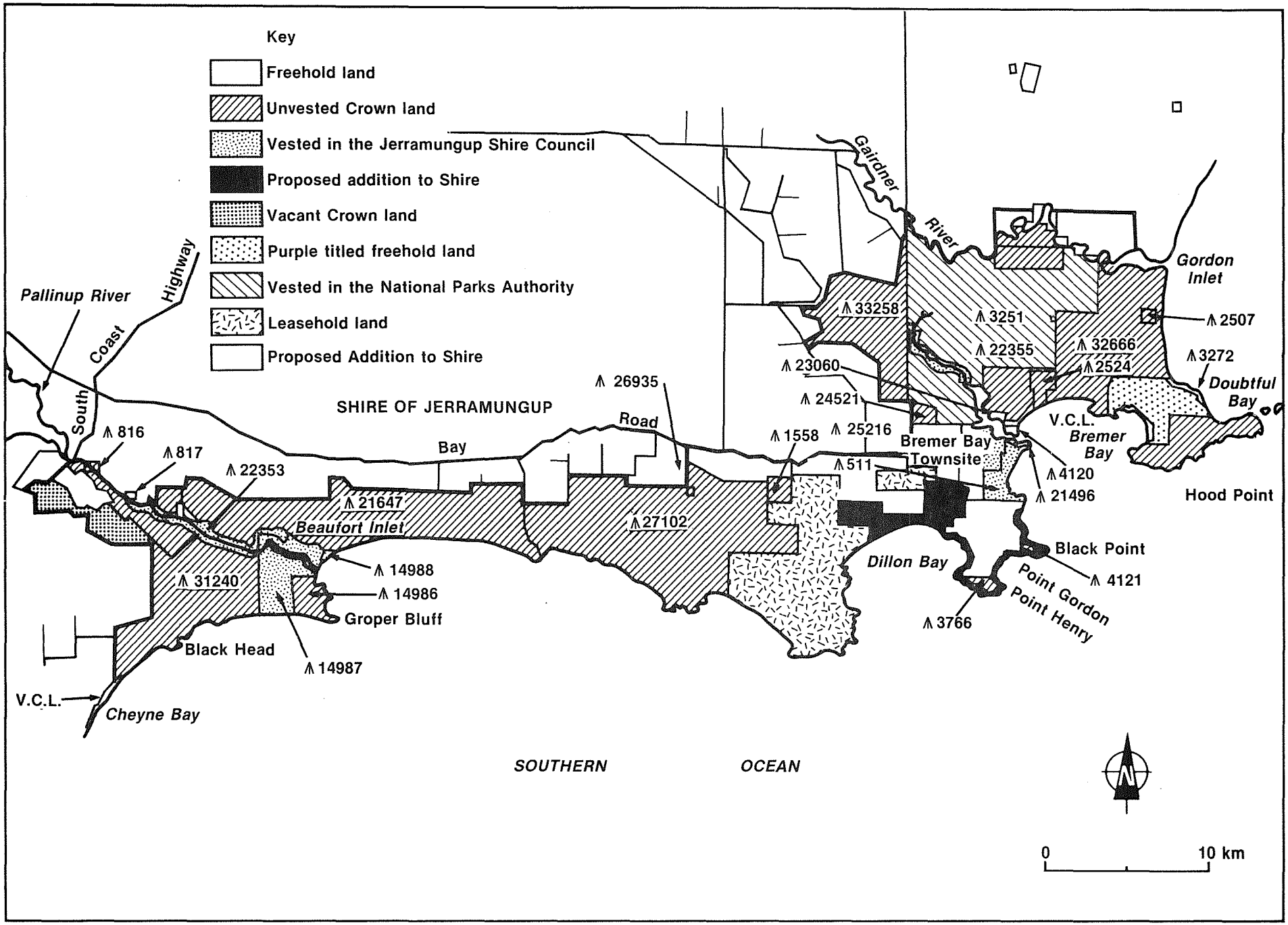

Figure 3 Land Tenure of the coastal region within the Shire of Jerramungup.

TABLE 1 The Crown Lands in Jerramungup Coastal District

RESERVE	LOCALITY	PURPOSE	VESTING	AREA (ha)
511	Bremer Bay Town	Recreation	JSC 21 YPTL	796
816	On Pallinup River	Water and stopping place for travellers and stock	NV	40
817	On Pallinup River	Watering place and stopping place for travellers	NV	40
1558	Western edge of 27102	Watering place for stock and travellers	NV	259
2507	In FRNP	?	NV	?
2524	Hunter River	Water	NV	81
3251	In FRNP	Resting place for travellers and stock	NV	40
3766	Pt Gordon	Public utility	NV	202
4120	North Bank of Bremer River	Camping	NV	44
4121	Black Pt	Government Requirements	NV	70
5055	On Gardiner River	Water	NV	435
14986	Groper Bluff	Parklands and recreation	NV	526
14987	South Side Beaufort Inlet	Recreation and camping	JSC	1092
14988	On mouth of Beaufort Inlet	Recreation and camping	JSC	32
21496	Bremer Bay Town	Caravan park recreation and camping	JSC 21 YPTL	
21646	Wellstead Estuary	Recreation and camping	JSC	404
21647	Millers Pt Beaufort Inlet	Recreation and camping	JSC	404
22353	Edges of Pallinup River	Recreation and camping	JSC	793
22355	Upper reaches Bremer River	Recreation and camping	JSC	372

RESERVE	LOCALITY	PURPOSE	VESTING	AREA (ha)
23060	Eastern side of Bremer River	Public Utility		
24521	West of Bremer Bay	Aerial Landing Ground	NV	214
25216	Bremer Bay Town	Public Utility	NV	80
26097	Dog Proof Fence	Dog Proof Fence	NV	16
27093	Bremer Bay Town	Public Utility Recreation Parking	JSC 21 YPTL	?
27102	Between Pallinup River and Dillon Bay	Common and Recreation	NV	14768
28122	At Reef Beach	Recreation Club Premises	JSC	0.4
31240	Between Cheyne Beach and Pallinup River	Government Requirements	NV	9442
31737	Fitzgerald River National Park	Fitzgerald River National Park	NPA	
32666	Doubtful Islands to Bremer River	Government Requirements	NV	9760
33257	Adjacent to the Pallinup River	Parklands and Recreation	NV	968
33258	West of FRNP	Parklands and Recreation	NV	15707

Notes

FRNP	Fitzgerald River National Park
JSC	Jerramungup Shire Council
NV	Not Vested
21 YPTL	21 Year Power To Lease
NPA	National Parks Authority

Average monthly and annual rainfall (mm) recorded at Bremer Bay (Source : Bureau of Meteorology, Perth).

J	F	M	A	M	J	J	A	S	O	N	D	Total
17	22	32	56	82	88	82	76	65	56	29	22	627

The ocean also has a moderating effect on temperatures. Sub-polar lows influence the average minimum temperatures of the coldest month (12°C) and the mid-latitude highs affect the average maximum temperature for the hottest month recorded as 24°C.

A general impression of surface winds for the Jerramungup coastal district is best obtained from the data held for Albany by the Bureau of Meteorology, Perth. Local data has not been recorded.

Generally, January to March a.m. winds are easterlies. By the afternoon south-easterlies prevail and higher wind speeds of 21 to 30 km per hour are experienced. During wetter months a.m. are mostly north-westerly, p.m. winds tend westerly. Predominent wind speed is 11 to 20 km per hour. By October, westerlies are mainly experienced in the morning and p.m. winds are variable between the south-west and south-east. December sees a gradual return to the easterly south-easterly wind pattern.

The beaches within the Jerramungup coastal district are quite varied in their exposure to prevailing winds. This permits recreationalists the choice of locality for their day's activities related to desired shelter. For example, House Beach, John Cove, and Little Boat Harbour offer protection from most winds except the north-westerlies. Peppermint, Fishery and Blossoms Beaches are more sheltered during south-easterlies while Short, western Dillon and Stream Beach may be preferred during south-westerlies.

2.1.1 Storm Events

The severe storm on second to third of August 1984, caused massive dune erosion along the south coast. At Bremer Beach some of the fences surrounding the beach management project were washed away. Large waves removed sand from the primary dunes leaving high, steep erosion scarps on several beaches. Seaweed was deposited in massive amounts in John Cove.

The last recorded storm of a similar magnitude was in 1953 at Middleton Beach, Albany, where storm waves removed Norfolk pines from the foreshore. Storms which cause the most destructive beach erosion usually approach the south coast from a south-easterly direction. Significant storm erosion may be expected every 5 to 10 years. In most situations, however, sand accretion and foredune buildup would occur during intervening years.

2.2 Geology, Coastal Processes and Landforms

by W. McArthur

The study area is underlain by Precambrian Rocks of the Albany-Fraser Province. They are of Proterozoic age and consist of high grade metamorphics and granites. Included in the suite are migmatites and gneissic granites which are intruded by unmetamorphosed dolerite dykes. Outcrops of these basement rocks are mainly along the coast where they form headlands. The gneisses and migmatites generally have north-east to south-west strike and are steeply dipping. (Geological Survey of Western Australia, 1975).

The basement is mainly obscured by younger sedimentary rocks and detritus. The marine sediments of the Plantagenet Group began forming in the Eocene (40 million years ago) when the Antarctic continent broke away and drifted southward, and the southern margin of Australia was down-warped below sea level. The dominant member is Pallinup Siltstone which is flat-lying, fine-grained sediment composed largely of sponge spicules. Outcrops are not common in this section of the coast but may be seen in dissections of the Pallinup and Hunter Rivers.

The coastline between the headlands is largely made up of Tamala Limestone. This material, consisting of broken shell fragments and sand, originated on the ocean floor and, when the sea level receded in the Pleistocene, the continental shelf was exposed and the detritus was blown inland to form high barriers over and between the headlands. There are several phases of the limestone , the most recent being about 20,000 years ago. Percolation by rainwater has caused cementation. Marine bands with fossil shells are sometimes present.

During the Holocene period, encompassing the last 5,000 years, there has been periodic movement of sand in both the coastal zone and the interior. In the coastal zone the sand, which is mostly calcareous, originated on the beaches and was blown inland to form unconsolidated parabolic dunes. Inland the parabolic dunes merge with Continental linear dunes and hummocks composed of sandy detritus. The age of these dunes is not known but they appear to be older than the oldest parabolic dunes and may be Holocene.

Coastal Processes

The configuration of the coastline between the headlands is due to the constant south to west swell and high energy shoreline conditions. Thus the Tamala limestone barriers have developed erosion scarps, facing toward south-west, which have retreated under the influence of the swell and wave action to form crenulate bays.

The near shore sediment, consisting of sand grains and finely broken shell fragments, has a general eastward drift probably due to winter storm activity. This means that sand tends to collect at the eastern ends of beaches and, under the influence of the prevailing south-west wind, these are the zones where sand tends to come ashore. Not only are these sections now receiving sand in the form of blowouts, but it is clear from air photos, that sand has come ashore in the past. Accumulation has been cyclic and is reasonable to assume that there have been four phases of activity as has been shown in the coastal zone to the west of the study area.

Some east-facing coastal sections have received minor sand accumulations from the east probably under the influence of the summer easterly winds.

Landforms

Coastal landforms are related very closely to geology (actually lithology) and may be described in a geological framework. These are as follows :

2.2.1 Headlands formed by gneissic rocks
2.2.2 Exposure of Pallinup Siltstones
2.2.3 Barriers of Tamala Limestone
2.2.4 Parabolic Dunes (Unconsolidated)
2.2.5 Linear Continental Dunes

2.2.1 The Headlands

These spectacular features, sometimes exceeding 100m elevation, have influenced the coastline for millions of years. They were near-shore islands during the Eocene incursion, and determined the gross position of the coastline with the emergence of the marine sediments and the subsequent formation of the Pleistocene Tamala Limestone Barriers. The headlands, which are mostly obscured by Tamala limestone in the study area, generally have a flat or gently undulating upper surface surrounded by a deeply eroded steep scarp. The scarps are often in limestone, but the basement gneiss often outcrops just above sea level. An exception is the western part of Cape Knob where gneiss is exposed over most of the surface.

2.2.2 Exposures of Pallinup Siltstones

Pallinup siltstone forms a very distinctive landscape because of the flat-lying strata. In the study area this occurs mainly in the northern margin of Beaufort Inlet, where small streams have formed dissections and exposed the strata. Exposures are also to be seen near the mouth of the Hunter River - see Plate 1. The typical landscape is steep, rocky valley slopes, with very little soil, and a swampy valley floor.

Plate 1. Pallinup siltstone and unconsolidated parabolic dunes near the mouth of the Hunter River, Bremer Bay.

2.2.3 Tamala Limestome Barriers

These make up most of the coastline and consist of a flat or gently undulating upper surface with a steep scarp to seaward and sloping gently to landward. They have maximum elevation on the gneissic headlands, generally more than 100m, and decline to about 20m around the crenulate bays. The scarps are often deeply channelled and, when these channels align with the south-west wind, they act as pathways for sand movement.

2.2.4 The Parabolic Dunes

These features are present along most of the coastline and are evident as low ridges of sand extending inland generally in a north east direction. Apparently there have been several phases of dune activity with the older phases confined to the near coastal zone. Air photos show the greatest amount of activity occurs (and has occurred in the past) in the eastern parts of the crenulate bays; these sections are now often showing severe instability. Some east-facing beaches are backed by minor low dunes which have originated from the east. In some landscapes, on both gneiss and Tamala limestone, the coastal dunes appear as remnants possibly because of redistribution in later stages.

2.2.5 Linear Continental Dunes

These are generally linear features, composed of siliceous detritus probably from erosion of the Plantagenet Sediments, and are usually aligned slightly away from east-west (about 100°).

2.3 Vegetation

By K. Newbey

Much of the information on the Jerramungup coastal vegetation has been provided by Newbey (1979) and Powell (1982 notes).

The density and height of coastal vegetation is largely influenced by soil depth, the degree of shelter from winds, and salt spray. Refer to Appendix 1a for a comprehensive list of plants which occur in each of the following landform units.

2.3.1 Headlands

Most of the headlands are covered with limestone overlain with soil of varying depth. Dense shrublands (low to high) dominated by Melaleuca pentagona are present on most limestone areas. Vegetation height varies from 20 to 40 cm on windswept coastal slopes, to 2m in sheltered areas. Further inland dense patches of Angle-fruited Mallee (Eucalyptus angulosa) occur.

Two types of vegetation are present on the small gneiss exposures. At sea level, there are scattered low shubs less than 30 cm high, including Samolus repens, Maireana oppositifolia and Calocephalus brownii. This vegetation is strongly influenced by salt spray. Further inland where the salt spray is of little consequence, there is a different vegetation with height and life form strongly related to soil thickness. Numerous annuals, are present on shallow sheets of soil that dry out during summer. On deeper soils that receive run-off from the bare gneiss, shrubs to 1.5m are present.

2.3.2 Pallinup Siltstone

Most of the siltstone occurs along the rivers and between Beaufort Inlet and Cape Riche. The vegetation is frequently mosaic with intergrading between three distinct types. A fourth type is present on an extensive plain north of Boat Harbour, where the soil weathered from underlying siltstone contains gravel.

The very thin soils on narrow flat areas grow scattered small shrubs including Andersonia parvifolia and Beaufortia schaueri. On the moderate slopes and flat areas on top of the sediments, mallees (2 to 2.6m high) of Eucalyptus gardneri, E. falcata and Square-fruited Mallee (E. tetraptera) are present. Between the mallees are numerous species of shrubs. On steeper slopes, are low woodlands (5 to 10m high) on Brown Mallett (Eucalyptus astringens) or Newbey's Mallet (Eucalyptus newbeyi). The latter is rare and grows mainly near Millers Point.

The fourth vegetation type consists of mallees (2 to 2.5m high) of Apple-fruited Mallee (Eucalyptus buprestium) and Tallerack (Eucalyptus tetragona) over numerous low shrubs and sedges.

2.3.3 Tamala Limestone

Close to the beach are low shrubs (30 to 100 cm high) dominated by Melaleuca pentagona. On the inland areas on very shallow soils over limestone, are dense areas of mallees 1.6 to 3 m high. Angle-fruited Mallee (E. angulosa) and E. aff. decipiens are the main species with an understorey of shrubs.

2.3.4 Parabolic Dunes

Coastal Peppermint (Agonis flexuosa) is the dominant species present on the eastern half. It varies in size from 3 to 4 m high along Tooregullup Beach, to medium trees (6 to 12 m high) near Bremer Bay townsite. Numerous shrubs are also present. On the western half there are mallees (2.5 to 4 m high) dominated by Redheart (E. decipiens). In between the mallees is a dense low shrub layer that include Melaleuca scabra, M. thymoides, Verticordia hybrantha and Hibbertia gracilipes. Many sedges are also present.

2.3.5 Continental Dunes

The few narrow dunes present support dense tall shrublands dominated by Baxter's Banksia (Banksia baxteri). Also present are B. attenuata, Scarlet Banksia (B. coccinea), Melaleuca thymoides and Adenanthos cuneatus.

2.3.6 Miscellaneous Small Surfaces

Most of the beaches are backed by a low dune (foredune) that is only partially stabilised by vegetation. Strong winds and heavy seas often partially destroy the foredune and colonization by vegetation starts again. Hairy Spinifex (Spinifex hirsutus) and Coastal Pig-face (Carpobrotus virescens) are important colonizers. Where stabilisation is more advanced, shrubs 1 to 1.5 m high are present.

Depressions of varying size are present on most land surfaces. They vary in size from 30 m to about 300 m across. Sedges and small shrubs are present in the smaller depressions, small trees (3 to 5 m high) of Banksia littoralis or Melaleuca preissiana dominate the middle-sized depressions, and low woodlands of Flat-topped Yate (Eucalyptus occidentalis) are present in the larger depressions. The shrub and sedge species present are dependent on the depth of water when the depressions are full.

Around the margins of the estuaries and along the rivers, there are distinct zones of vegetation extending up the slope. The zonation depends on salinity and waterlogging. Closest to the water are Samphires, then small trees (3 to 7 m high) of Melaleuca cuticularis or Casuarina obesa with Samphire and annuals underneath. Uppermost is low woodland (6 - 15 m high) of Flat-topped Yate (Eucalyptus occidentalis). Numerous annuals are present during winter and spring.

2.3.7 Diversity and State of Knowledge

This area is within one of the most important botanical regions in the world (Marchant 1973) and has not yet been fully studied. Species new to science are still being found there. Some interesting plant communities are evident where shallow soils cover the Pallinup Siltstone. Examples are at the mouth of the Hunter River, the northern margin of Beaufort Inlet and near Boat Harbour. Appendix 1b has a list of important plant species with high conservation value.

2.3.8 Condition of Vegetation

Most of the vegetation on the coast in in good condition. Exceptions include some land on Cape Knob peninsula leased for grazing, which has been degraded by excessive burning and grazing; the damage caused by uncontrolled 4WD tracks, and a recent fire on the Doubtful Island peninsula.

2.4 Wildlife

Numerous species of birds feed from the coastal vegetation in search of nectar, insects and seeds. Seabirds are plentiful. Significant waterfowl habitats are provided by the river estuaries and the swampy wetlands. The mudflats in the estuary new Bremer Bay caravan park are of particular importance to both local and migratory birds. See Appendix 2 for a list of common coastal birds compiled by B. Newbey.

Two bird species, gazetted rare in Western Australia, have been recorded along the Jerramungup coast. The Red-eared Firetail (Emblema temporalis) has been recorded at a number of places, while the Western Whipbird (Psophodes nigrogularis) occurs near Beaufort Inlet. Two other gazetted rare birds that may occur along the Jerramungup coast are the Ground Parrot (Pezaporus wallicus) and the Western Bristlebird (Dasyornis longirostis). Both have been recorded (rarely) either side of the Jerramungup coast.

The most commonly seen fauna are Western Grey Kangaroo (Macropus fuliginosus), Western Brush Wallaby (M. irma) and small flocks of Emus (Dromaius novaehollandiae). Rabbits (Oryctolagus cuniculus) and Foxes (Vulpes vulpes) are pests.

The recent discovery of a Dibbler (Parantechinus apicalis) by Ranger George Duxbury in the Fitzgerald River National Park, indicates that this rare mammal may be present on the Jerramungup coast. Over the last 30 years the Dibbler has only been recorded at Hassall Beach and Jerdacattup.

Tiger snakes (Notechis scutatus) are prevalant and care is required in walking through coastal swamps and heath. The other common snake is Dugite (Pseudonaga affinis). Skinks and bobtails are frequently seen sunbathing on roads and rocks.

The state of wildlife knowledge on the Jerramungup coast is poor. Birds are moderately known but have not been systematically recorded. Mammals, reptiles and amphibians have not been recorded at all.

Clearing the land for farming purposes has generally stopped near the coast due to the nature of the terrain and soils. This permits the protection of wildlife habitats. However, the environment is seldomly undisturbed or in a natural state. Grazing over extensive leases has tended to degrade vegetation communities through regular burns and selective foraging. Coastal vegetation regeneration is also extemely slow. Where there are a multitude of 4WD tracks, for example, on the Doubtful Island peninsula, Wildlife habitats will also be affected. Generally, the increase of human land use will decrease the conservation value of the coast. This should be considered in future development proposals for Bremer Bay and environs.

2.5 Marine Resources

Ocean

The south coast Salmon fishery operates predominantly during February and March. The fishing method is shore-based using beach seines set from small boats. Professional fisherman are restricted to specific beaches where they also tend to fish for Herring (Arripis georgianus) from April to May. The whole Salmon fish are received by Hunts or West Ocean Canneries in Albany. Since 1974 the average Salmon catch was 1,209 tonnes (Walker, 1982) with the area between Trigalow Beach and Cape Riche (i.e. largely the Jerramungup Shire) assuming most importance.

The amateur fishery uses two main methods : Angling with rod and reel from shore, using Pilchards as bait; and trolling through Salmon schools from power boats. Australian Salmon is one of the finest sport fish available to anglers in Australia. Since 1978, amateurs have been limited to a bag limit of 5 fish per day. (Walker, 1982). The increased ownership of 4WD vehicles and the number of tracks throughout the coastal district has assisted amateurs to take one third of the total catch. Other fish caught by rod include Whiting, Herring, Skipjack, Leatherjacket, Sweep and various Rock Cod.

3. HUMAN ACTIVITIES AND PATTERN OF ACCESS

3.1 History of Bremer Bay District

Bremer Bay, the coastal feature, was named in 1849 in honour of Sir Gordon Bremer, who as captain of H.M.S. Tamar, contributed to the early settlement of Western Australia.

In the 1850's, the Wellstead family settled at 'Peppermint Grove' on Point Henry Peninsula. The homestead and property are still owned by a descendent from this pioneer family. The Wellstead Estuary also took its name from the family.

The Albany to Eucla telegraph line reached Bremer Bay in 1876. The telegraph station was rebuilt and today the stone building on Location 885 is listed as a 'C' Class building of architectural and historical significance.

Farmers made occasional summer holiday visits to Bremer Bay in the early 1900's, and by 1930 in the order of 60 families camped at Christmas. Holiday cottages in the district in the late 1950's and 1960's added to the town's growth.

The early settlers ferried farming produce and supplies by rowing boat for shipment to and from Albany. Road transport is now dominant. The sealing of Bremer Bay Road from Boxwood Hill in 1977 has contributed to an 80 per cent increase in traffic to the town.

It is currently estimated that Bremer Bay townsite has 70 residents. There are more than 100 dwellings but approximately one third are occupied on a permanent basis. It is estimated that some 400 persons may be resident in the town during the summer school holiday vacations. See Plate 2, showing the existing townsite.

3.2 Recreation and Tourism

The recreation focus is on the coast and this leads to a marked seasonal pattern in visitor numbers. These are important implications for coastal

Plate 2. Bremer Bay townsite and the Wellstead Estuary.

management and a survey was completed over January 1 to 31, 1984, to provide information to assist coastal planning (DCE, Bulletin 162).

Tourism also represents a growth industry for the district. The commonly quoted statistical factors such as mobility of the population, greater affluence and leisure, better access to the coast and the popularity of 4WD vehicles, all act to increase landuse pressure. This, in turn, will increase the demand upon local and state government resources for more roads, management of popular beach sites and provision of facilities.

3.3 Recreation Survey Summary

The survey used a questionnaire to obtain information relevant to coastal management.

- Visitors tend to be aggregated in families or larger social groups. Consequently there appears to be two main types of beaches in demand; firstly, beaches offering safe swimming for children, some facilities are located near Bremer Bay townsite where people stay and secondly, the more remote beaches with good fishing and suitable camping areas.
- Approximately 80 per cent of the people using the Jerramungup coastal district in January live outside the Shire boundary. The survey period favours the influx of visitors, but there still would appear justification for council to receive funds from government to assist management, facilities and tourism.
- Over 60 per cent of the visitors surveyed stay at the Bremer Bay caravan park, where an attractive environment and community camping spirit are enjoyed. Visitors preferred this 'low-key' accommodation to expensive hotel/motel type facilities.

- Approximately 50 per cent of visitors use 4WD vehicles which are necessary for access of the coastline. More conventional vehicle access amd improved beach access tracks are highly desired.

- The major improvement visitors request is the provision of a suitable boat launching facility for which Council and the community are intending to seek government assistance. See Secion 8.2.

Fishing is one of the main attractions of this coast. See Plate 3 for fishing activities at Dillon Bay.

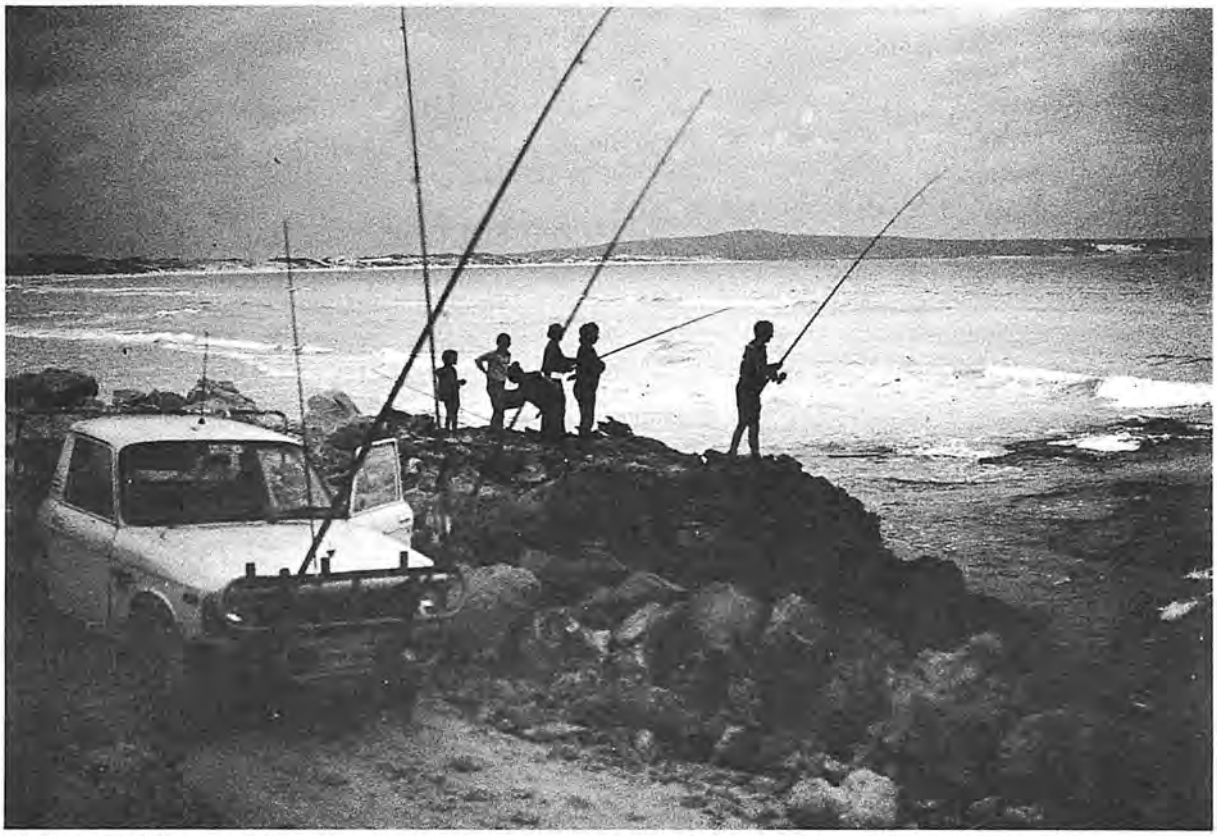

Plate 3. Fishing activities at Dillon Bay. Fishing is one of the district's key attractions.

- Visitors are principally attracted to the variety of recreation activities the beaches offer. The isolation and relaxation permit a 'holiday feeling' and enjoyment of the scenery and natural environment. Coastal management should aim at protecting these attractions for the 70 per cent of regular visitors and people who discover it was a 'welcome relief' from the more commercialised venues.

4. MANAGEMENT AIMS FOR THE COASTAL DISTRICT

In broad terms the Jerramungup Shire Council will apply the following management aims to the coastal district.

4.1 To protect the environment especially native flora and fauna and the scenic aspect.

4.2 To implement a fire protection policy and suppress bushfires where necessary.

4.3 To provide and maintain selected recreation areas and facilities.

Council intends to achieve these aims through the following measures:

4.1.1 Liaise with government authorities and consultants to provide expert advice and assistance in resource management. Where appropriate, reserves will be set aside for conservation purposes.

Develop and implement policies and site management plans for the individual beaches consistent with the environmental guidelines.

Prohibit recreation activities that damage a particular environment. For example, motor vehicles and bikes over vegetated dunes.

4.2.1 Fire control and provision of fire breaks will be planned following consultation with the Bush Fires Board. A prescribed burning programme will be implemented only if necessary to reduce the fire hazard. The biological implications of any such programme, especially on the coast, will be taken into account. Special attention will be given to recreation areas. Sharing of costs for fire protection should be as mutually agreed by the parties concerned.

Control of wild fires within the shire is the reponsibility of council. It will provide support for local fire brigades. Further assistance will be obtained from the Bush Fires Board and the National Parks Authority.

4.3.1 Obtain information on visitor numbers, recreation activities, aspirations for landuse, etc., to appropriately plan for recreation sites. See Jerramungup Coastal District Recreation Survey, 1984 (DCE Bulletin 162). Feedback from newsletters, proprietors of facilities and the rangers will be encouraged.

Develop and implement policies and site management plans to cater for recreation activities.

In general, Council will seek government assistance for funds and expertise in order to further achieve its management aims.

5. MANAGEMENT UNITS

In developing management priorities, the existing beach assess and people's recreation activities need to be considered. Visitors numbers, pressures (intensified use and conflicts), patterns of behaviour and use aspirations, affect the level of management required.

Management is also aimed at safeguarding the scenery and natural environment that attracts visitors to the coastline. It aims to concentrate development and minimise land-use of 'untouched' beaches. The Shire of Jerramungup Planning Scheme provides a means of achieving this objective.

On site the location of car parks is a means of focusing people's activities and thereby minimising the impact on the environment. Car parks should be unobtrusively fenced and log rails are recommended. Beach paths are required from all car parks and they may need fencing, steps and signs to ensure their use. Where land-use is moderate these measured should be sufficient to protect dune vegetation. The popular beaches also require fencing off dune areas to safeguard the fragile coastal vegetation.

Sand held near the beach in dunes is nature's way of providing a buffer against seaward erosion and the loss of land. Vegetation traps and holds wind blown sand in dunes. Without it, sand can be blown inland and cover large areas. For example, the massive blowouts behind Dillon and Reef Beaches.

Dune vegetation is easily damaged by human "traffic" (feet and vehicle tyres). Beaches are managed so that coastal processes will be self regulating and minimise the costs for beach upkeep.

The dune systems of all the sandy beaches along this coastline need to be protected or managed for this purpose. See Appendix 4 for a community education note to this effect.

Some beaches have notable soil erosion problems while others may have a high conservation value associated with native vegetation. These factors have been considered in management recommendations.

The Jerramungup Shire Council intends to seek coastal management advice and funding assistance from the Department of Conservation and Environment.

5.1 Doubtful Islands Peninsula Beaches

The recreation survey indicated this is currently the most popular 4WD destination. People tend to camp in large social groups near the fishing leases which are in sheltered sites on Doubtful Island Bay, House and Trigelow beaches. The varied coastal aspect provides visitors with protected waters during most weather conditions. For example, House Beach provides good boat launching conditions protected from southerly winds and Peppermint Beach is a large attractive bay sheltered by south-easterlies. Fishing is noted to be good.

Access to the Doubtful Islands Peninsula is difficult and people use one of the following methods :

- The short trip along Bremer Beach (tide permitting) to join 4WD tracks on the peninsula. The bar must be closed.
- Gairdner River Road and turning eastward onto 4WD tracks at the junction with Gordon Inlet Road. This route is dependent on access around the Wellstead Estuary and across swampy claypan country.
- The long trip around Swamp Road, Gordon Inlet Road and connecting 4WD tracks as above.
- 4WD access through the Fitzgerald National Park is possible but this is a difficult, "boggy" track, and poorly indicated.

In dry conditions it is possible for conventional vehicles to use formed roads to tracks onto the peninsula but then beach access is usually prevented by the extensive sandy tracks in between. It is unlikely that there will be a formed gravel road to these beaches in the near future. The situation is also complicated by the numerous land owners throughout the area (see Figure 4).

Beaches of the Doubtful Islands Peninsula have a high conservation value associated with the adjoining Fitzgerald River National Park and Doubtful Islands Nature Reserve. The remoteness of this area has helped to minimise the impact of people's activities on it.

Recommendations:

- Jerramungup Councill will discuss a possible new boundary line with Ravensthorpe Shire in order to ratify the situation of divided authority over the Doubtful Island Peninsula (see Figure 4).
- The land will be vested in a suitable management authority, the options to include the National Park Authority or the Jerramungup Shire Council.

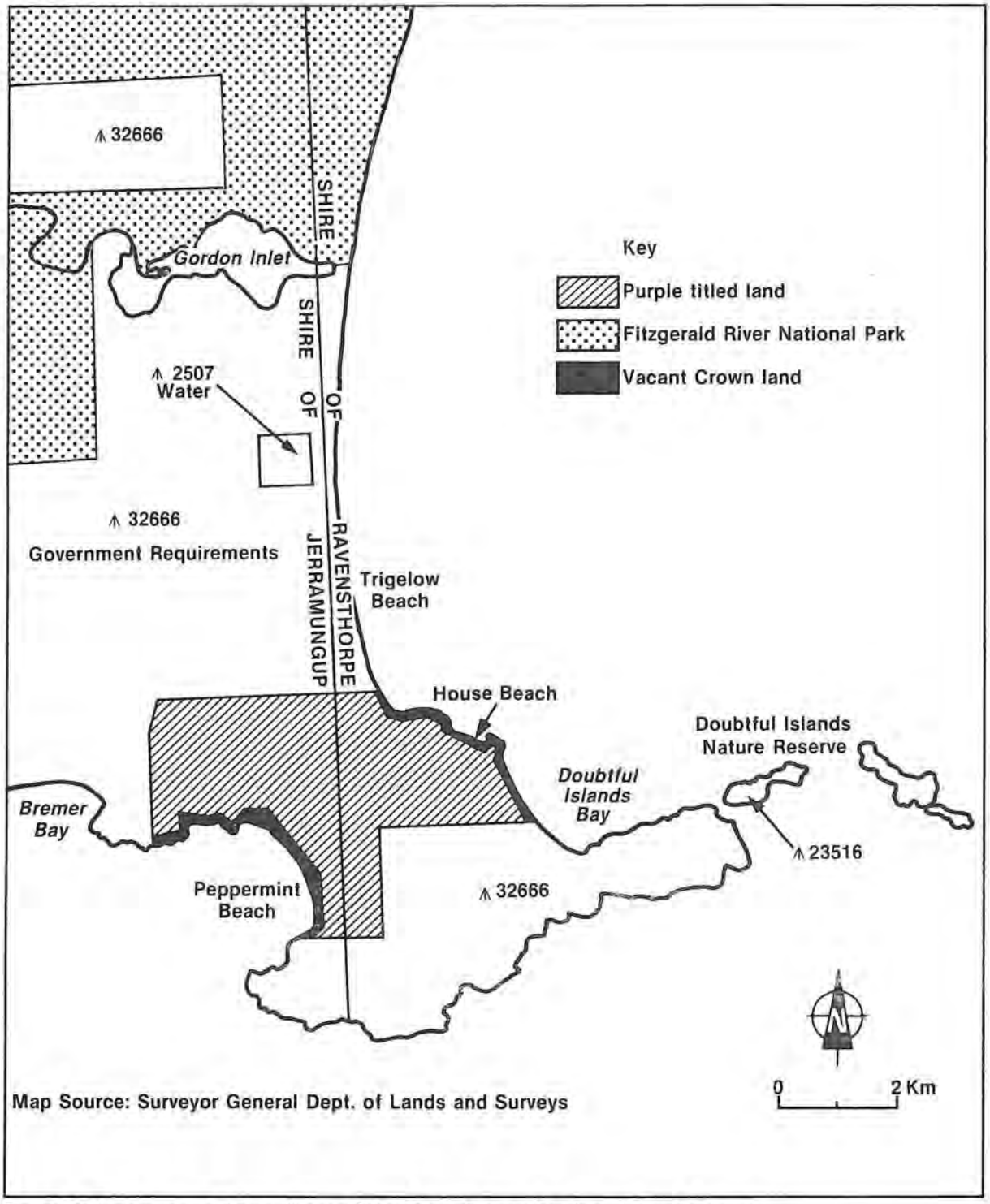

Figure 4 Jerramungup/Ravensthorpe Shire Boundary and adjacent Land Tenure

- In the long term, secondary road access from Bremer Bay taking in the popular beaches and scenic vistas may be considered. Well managed camp sites, similar to the National Parks approach would also be appropriate.

In the short term, some 'cleaning up' operations on the beach foreshores should be undertaken.

5.2 Bremer Bay and Environs

Hunter River

This is located 3 km east of the Bremer Bay town in Reserve 2524. The reserve is vested in the Minister for Water Supply and it is currently proposed to use the water to supply the future town needs.

Recommendations:

- Protect the river's water quality and the reserve's natural environment. The Public Works Department have accordingly banned the site's use for water skiing. Off-road vehicles (ORV) activities are likewise restricted due to sand spill into the river.

- If the Hunter River is used as the town water supply, the pipeline should be unobtrusive in order to protect the visual amenity of the Wellstead Estuary.

Bremer Bay

Bremer Bay is the most heavily used beach with the focus of recreation activities on the sheltered corner of John Cove (see Plate 4). This has placed pressure on the dune vegetation. People compete for space in particular, swimming classes and boat launching requirements conflict. Currently, swimming activities have use of the Cove in summer between 9 am and noon. Boaters are required to work in rougher water which may be dangerous and it is unsatisfactory in the long term (see Section 8.2). Water skiing is prohibited in the swimming area.

In winter, John Cove assumes a different appearance and large banks of weed collect on the beach. Salmon and Herring fishing activities from the beach provide interest for tourists.

Plate 4. Bremer Beach and John Cove Headland, the priority for future management.

Numerous 4WD vehicles travel along the beach when the bar is closed.

The Wellstead Estuary is mainly used for fishing purposes, there being little canoeing or windsurfing activities to date. There are excellent opportunities for these sports if the demand warranted it.

The sealed road terminates at Bremer Bay Caravan Park. Numerous 4WD tracks provide access to fishing spots on John Cove Headland, however, this has caused unnecessary erosion.

The planning scheme (Planwest, 1984) addresses the development of the townsite as the centre for the Jerramungup coastal district. The expansion of services and accommodation facilities for visitors in the long term will encourage others.

Recommendations:

General -

- Establish Bremer Bay as the priority area for management and supervision by a Ranger.
- Concentrate facilities in the townsite and discourage any form of commercial development behind Bremer Beach, John Cove headland and prominent land features.
- Provide scenic walkways, lookouts, tourist information displays, etc., to present the area to visitors.
- Discourage vehicle traffic over the blowouts behind Bremer Beach in front of the main car parks and John Cove.
- Minimise the conflict for use of John Cove.

Roads -

- Upgrade the remaining 0.5 km of the gravel road between the caravan park and the beach.
- See Figure 5 for the proposed formed gravel road to the scenic lookout and sites on John Cove headland. This is intended to assist in minimising erosion by reducing 4WD tracks and controlling water run off.

Car Parks -

- There is currently inadequate car parking provision during summer because of the number of people attending swimming classes. People expect to park as near as possible to John Cove or on the beach.
- Prohibit parking on Bremer Beach in front of the main car park for safety and visual reasons.
- Upgrade the main car park by 'straightening' its boundaries, widening the blind corner entry and improving the surface material.
- Compact the surface of the Paperpark car park to permit the full use of space.
- Construct car parks above John Cove, Flatrocks and the southern point of John Cove headland in conjunction with the proposed road (see Figure 6 for the location of car parks).

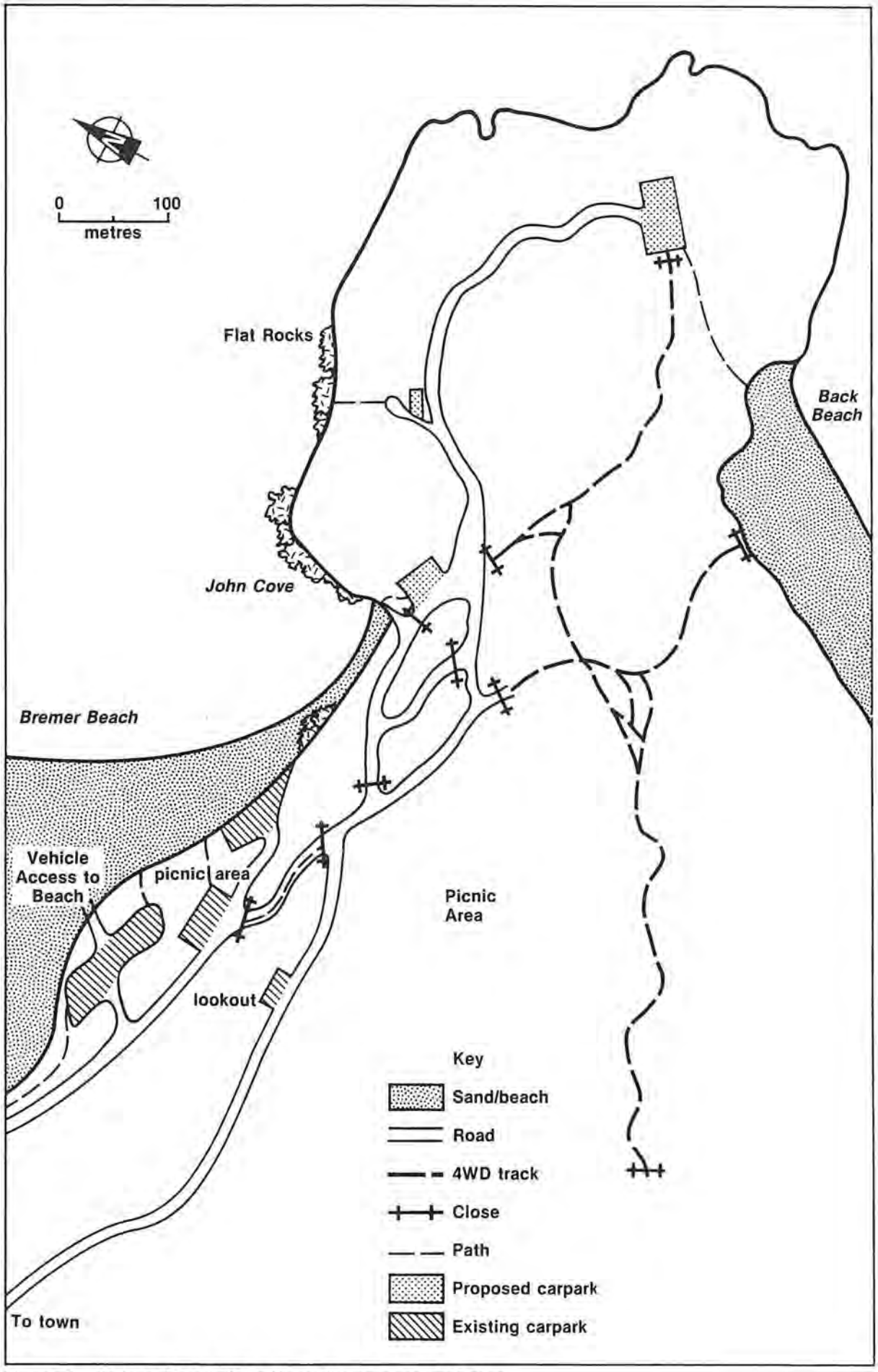

Figure 5. Bremer Beach/John Cove site management plan.

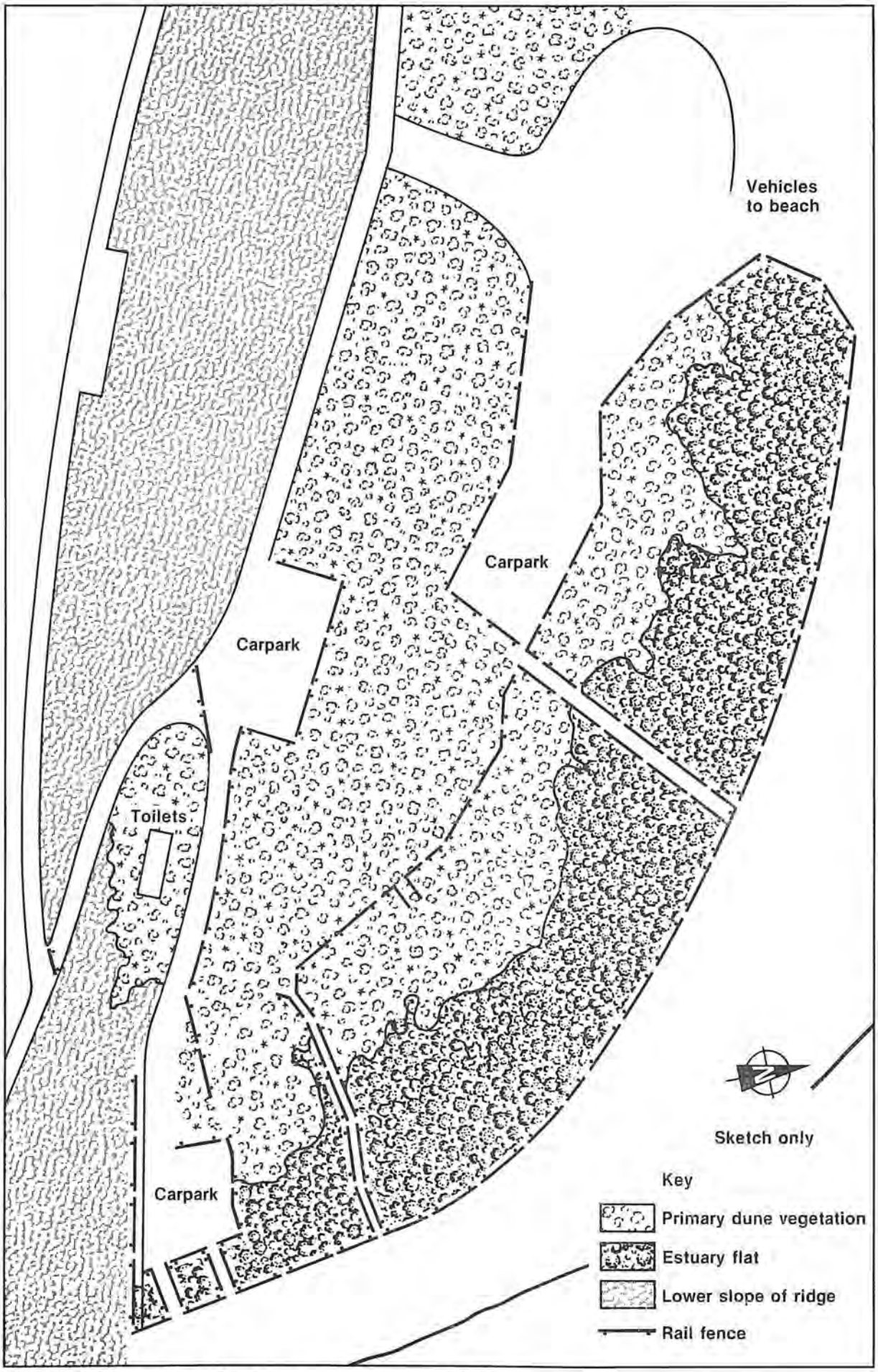

Figure 6. Bremer Beach foreshore site management plan.

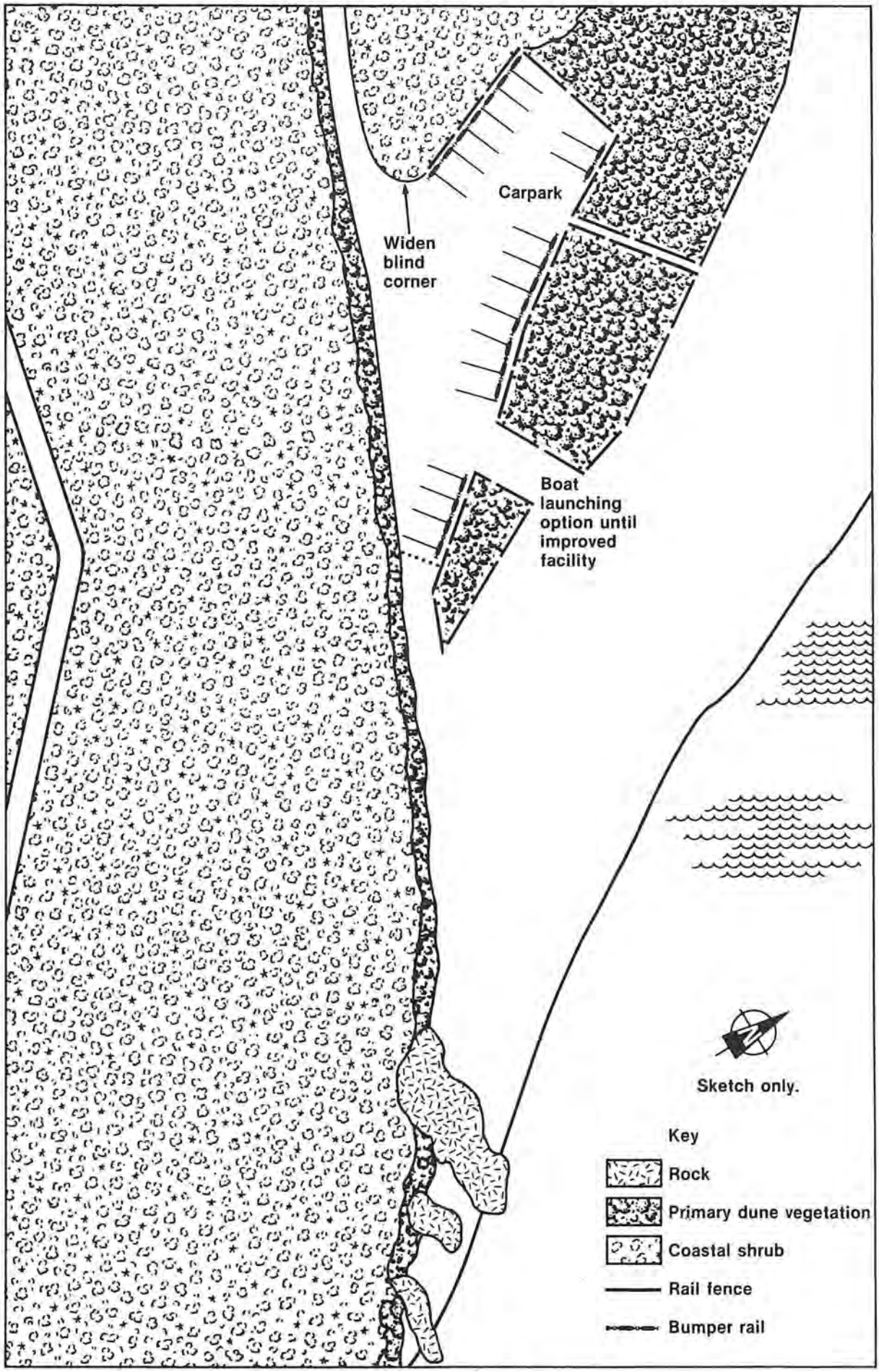

Figure 7. Bremer Beach main carpark site management plan.

Beach Access -

- Provide beach paths from all the car parks and close alternative routes.

- Provide a scenic walking trail to the high granite hill behind John Cove to gain spectacular views of the Bremer Bay region.

- Permit vehicles to travel along the beach from the access at the Paperparks. Vehicles will only be permitted to travel south to John Cove for professional fishing purposes or to launch boats from Bremer Beach until there is an alternative facility.

- The track adjacent to the estuary should be restricted to pedestrian use and bicycles. Small car parks need to be constructed at the town end and opposite the caravan park to facilitate launching of small boats.

Dune Management -

- Protect dune vegetation in front of all car parks in order to reduce the nuisance from wind blown sand and, in some cases, protect the coast from seaward erosion.

It should be noted that the Bremer Beach foreshore was in jeopardy during severe storms in the 1970's and artificial protection measures were necessary to protect the ablution building. In 1984 severe storms also eroded several metres of the foredune buffer zone and some 20 metres of weed were accumulated in John Cove. The immense energy of the South Coast and potential erosion damage needs to be considered at all times.

5.3 Back Beach/Fishery Beach

Back Beach is included in the townsite plan as Council is responsible for the extensive recreation reserve behind the beach. The town's sporting facilities are located here. The beach is mainly used for fishing as the offshore reef creates currents which are dangerous for swimmers.

A newly aligned gravel road provides access to the sporting complex while several sand tracks provide 4WD access along the beach.

Fishery Beach, as its name implies, is used for professional and amateur fishing purposes. A large portion of the foreshore is held under fishing lease. Tuna boats use the bay for mooring. Currently, Council is encouraging people to launch boats from this beach. People without local knowledge can easily get into difficulties due to the huge wave and sand movements. The beach is also popular for swimming.

There is conventional vehicle access to Fishery Beach which has increased its use since 1982 (see Plate 5). At Back Beach the foredune is generally well vegetated. However, the 1984 storms had a severe impact on the foredune leaving an erosion scarp of some 4 to 6 metres.

Fishery Beach is backed by a high, well vegetated limestone ridge. Acacia and Peppermint trees grow to high water mark. The vegetation cover needs to be protected in order to prevent erosion from the ridge slopes and to maintain the bay's attractive natural appearance.

Plate 5. Popular Fishery Beach requires management to protect the foreshore.

Recommendations:

General -

- Extend the Ranger's duties to include these beaches.
- Support development of a caravan park site to service the area including the beaches on Point Henry Peninsula where camping will become prohibited.

With regard to Fishery Beach -

- Establishing it as the priority site to receive funds for an ablution facility. This should be located unobtrusively towards the rear of the car park.
- Retain the options for a boat launching facility.
- Negotiate with the leaseholder, Mr. Swarbrick, on landscaping of the foreshore at the Salmon bins.
- Discourage development on the limestone ridges which steeply contour to the beach.
- Undertake a beach management project jointly with the Department of Conservation and Environment in 1985.

Roads -

- Maintain the gravel road to Back Beach sports complex in a good condition and, as funds become available, upgrade tracks to the middle and southern end of the beach.

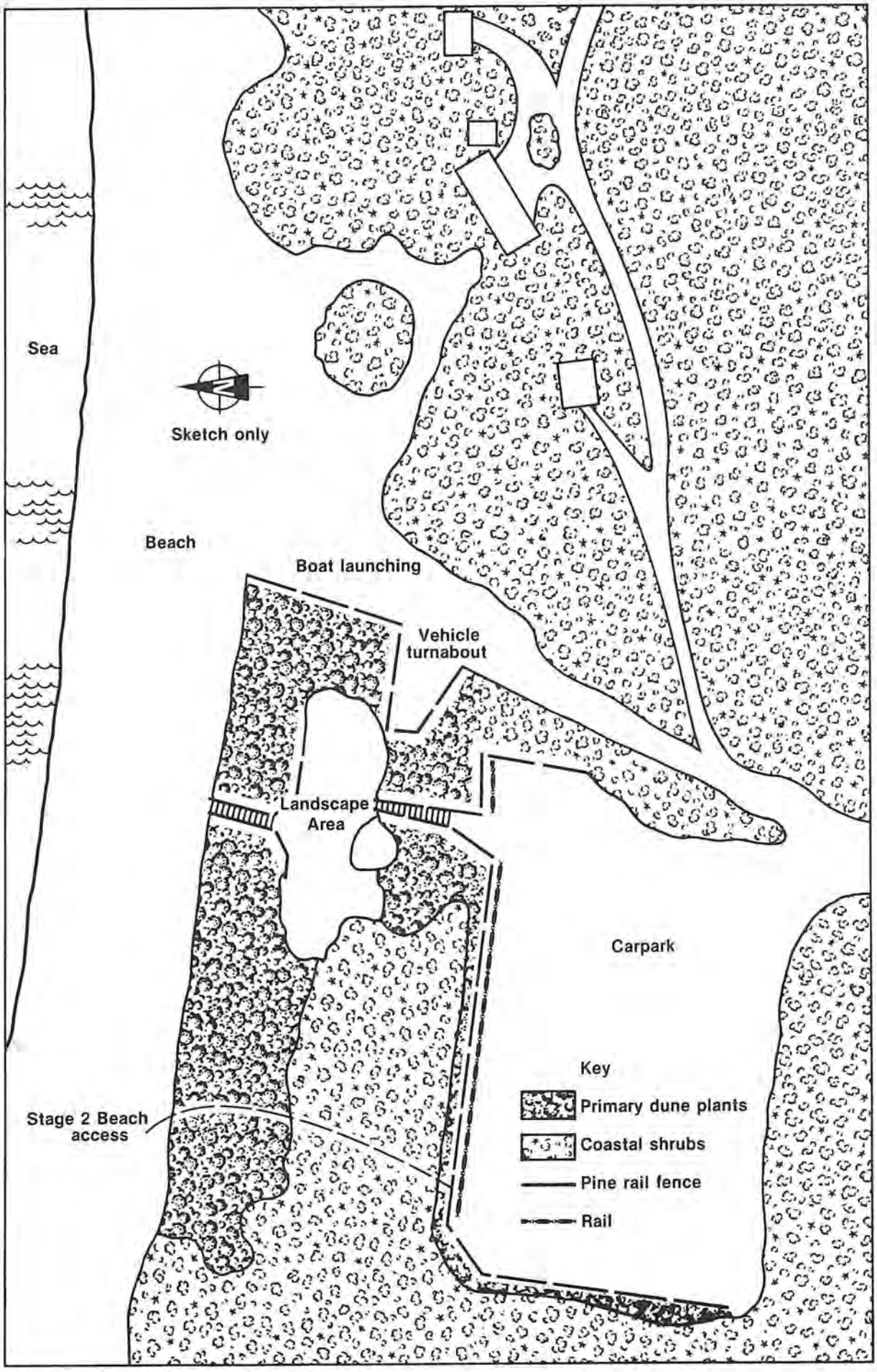

Figure 8. Fishery Beach site management plan.

- Maintain the formed gravel road to Fishery Beach to a good standard and erect a 'reduce speed sign' on the descent to Fishery Beach.

- Prohibit vehicles on both the beaches except when required to launch boats.

Car Parks -

- Construct two small car parks (8 to 10 vehicles) to service Back Beach (see Figure 9 for site plan).

- Upgrade the Fishery Beach car park by providing a suitable surface and diverting drainage from the foreshore slope.

Paths -

- Provide beach paths to correspond with all proposed car parks. Fence, signpost and provide steps if necessary. The path sides may need soil stablisation treatment to minimize wind scour. Drainage must be considered.

- The scenic walk over the rocks from Back Beach to Fishery Beach should be facilitated by an unobtrusive path where required and a small sign at both ends indicating distance, time and difficulty of the walk.

Dune Management -

- Back Beach's exposure to prevailing south-easterly winds make it vulnerable to erosion as seen from the 1984 storms.

- Car park sites and beach paths will be given priority for soil stabilisation treatment.

- Landscape and revegetate the foredune slope in front of the car park at Fishery Beach.

5.4 Point Henry Peninsula ("Wellsteads")

The five beaches on this peninsula offer a range of conditions suited to swimming, fishing, surfing, diving, boat launching and picnicking. However, the area has received little use as beach access has been through private property and limited to 4WD tracks. The recommendation to facilitate recreational use of the peninsula by vesting the foreshore reserve with Jerramungup Shire Council and providing public road access will greatly increase land use and complement the development of Bremer Bay. Accordingly, Council will need to make special provisions in the Jerramungup Planning Scheme (Planwest, 1984) for the area.

The beaches are briefly described below:

Private property backs Short Beach. The foreshore reserve of 40 metres is too narrow to ensure effective dune management and beach access. It is unlikely more land can be obtained and management will need to focus on a possible public access site in the southern corner where there is a natural fresh water spring.

Banky Beach has steep limestone cliffs approximately 30 metres high. Several erosion notches and small blowouts have formed from people's tracks and require repair. Very old Melaleuca lanceolata trees grow on the cliff top and need to be protected. The steep cliffs are a significant constraint to land use.

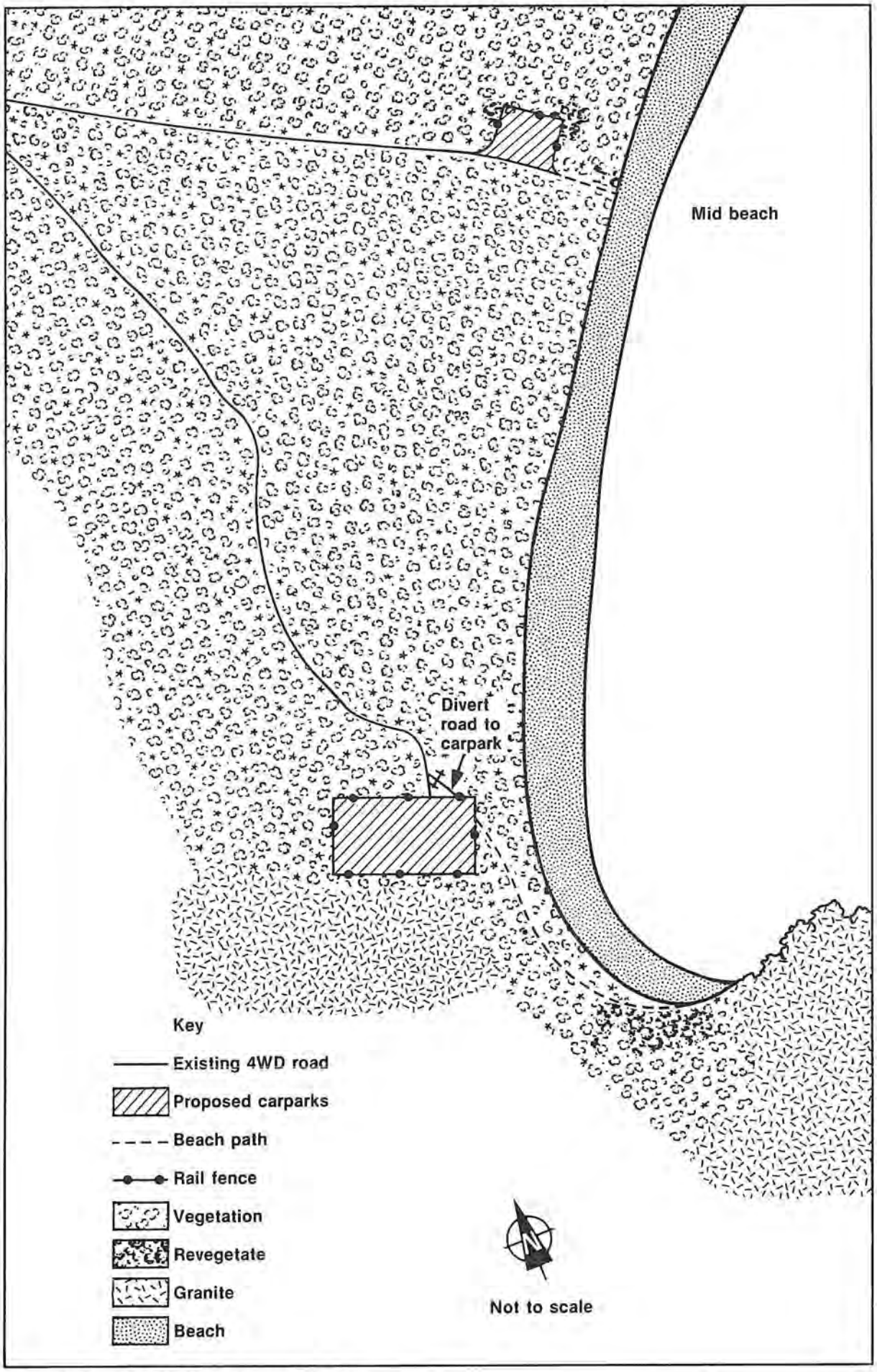

Figure 9 Back Beach site management plan

Little Boat Harbour is sheltered from the prevailing southerly winds. Space is a major limit to land use particularly given the foreshore slope (see Plate 6). There are a few shade trees near the beach.

Blossoms Beach is gently shelving and it is sheltered from south easterlies. Although the beach appears stable the land behind it contains massive, active dune blowouts. They represent a severe constraint on any development behind the beach for roughly 1.5 km.

The foreshore at Native Dog Beach contains young dunes and older limestone dune remnants that should be protected. The track to the beach is eroded and nearby trees are also being damaged.

Recommendations:

General -

- Vest the foreshore reserve and road reserves with the Jerramungup Shire Council in order to facilitate access and recreation activities on the coast. Formalize negotiations with the Department of Lands and Surveys and the land owners.

- Upgrade road access to the beaches. Priority should be given to the provision of secondary roads to Little Boat Harbour, Blossoms and Native Dog as they are the more popular beaches.

  Note: The allocation of 40 metres for road reserves is intended to provide a buffer of natural vegetation to protect the area's scenic appeal. Roads should meander around natural features and remain a minimum width with a low speed limit to enhance appreciation of the environment i.e. They should be along the lines of a National Park scenic drive.

Plate 6. Careful siting of facilities is essential at Little Boat Harbour to protect the natural landscape.

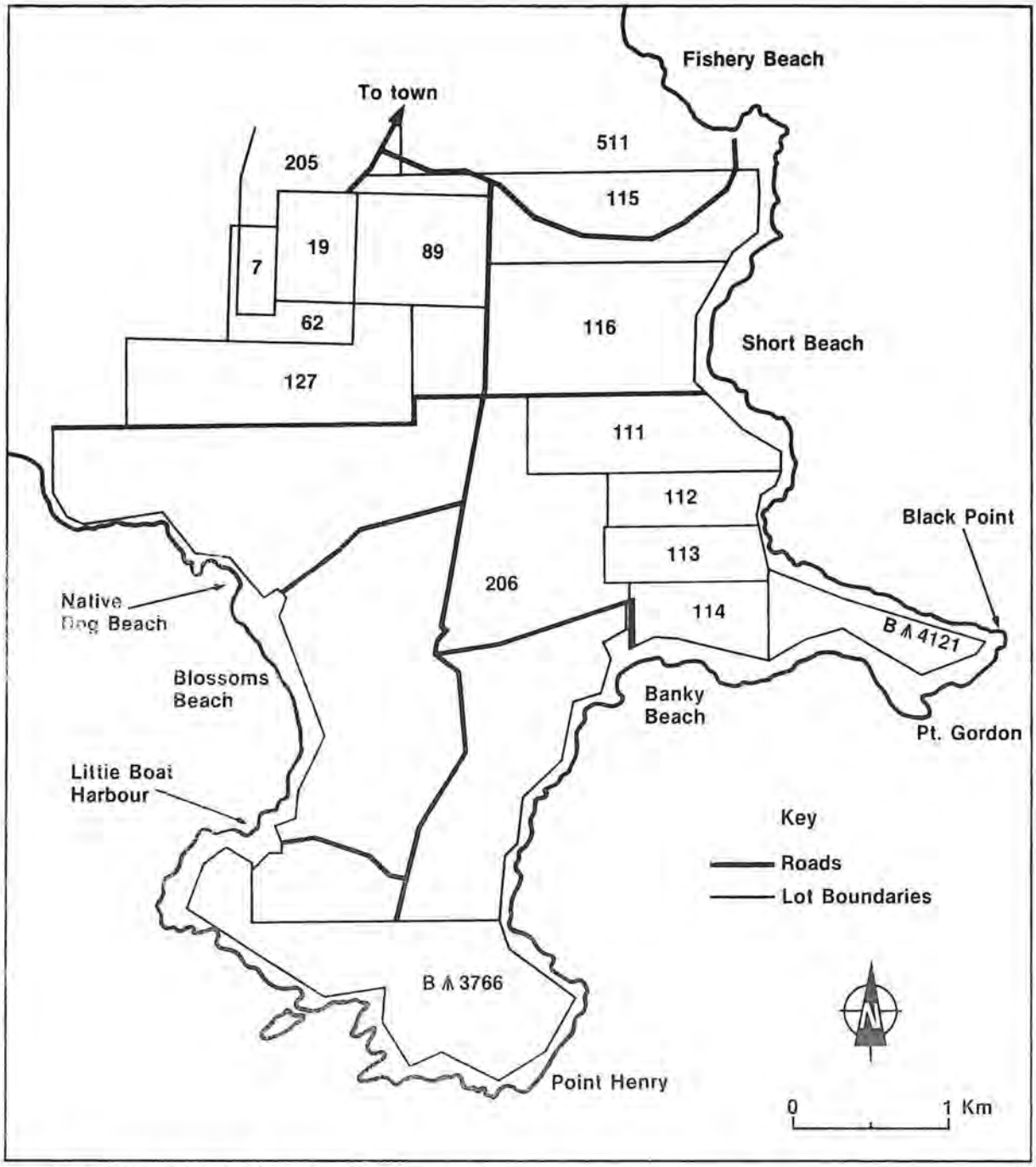

Figure 10. Point Henry Pensinsula beach access.

- Permit existing 4WD access onto beaches (except where tracks are badly eroded) in lieu of the management provisions taking effect.

- When the caravan park on Fishery Beach Road is operational, existing informal camping activities on beaches should be prohibited. Camping within the 26 km statutory limit of an established facility is illegal. Management will cater for day visitors only.

- Extend the Ranger's duties to include this area when the proposed upgraded roads will increase visitor numbers.

Management -

- Negotiate with the land owner of location 116 to take the road onto the beach foreshore instead of the current reservation onto the headland (See Figure 11). A wider foreshore reserve is needed on the southern corner of the beach where there is flat ground, shelter and a natural water supply.

- Locate the Banky Beach carpark to the west of the estuary site which is severely eroded, and adjoins private property (See Figure 12). The proposed carpark site has flatter terrain and is more sheltered. Melaleuca trees growing along the cliff top require protection from people's thoughtless damage. A lookout and beach path to facilitate use of this beach will require considerable expenditure which, together with its remoteness, results in its lower management priority.

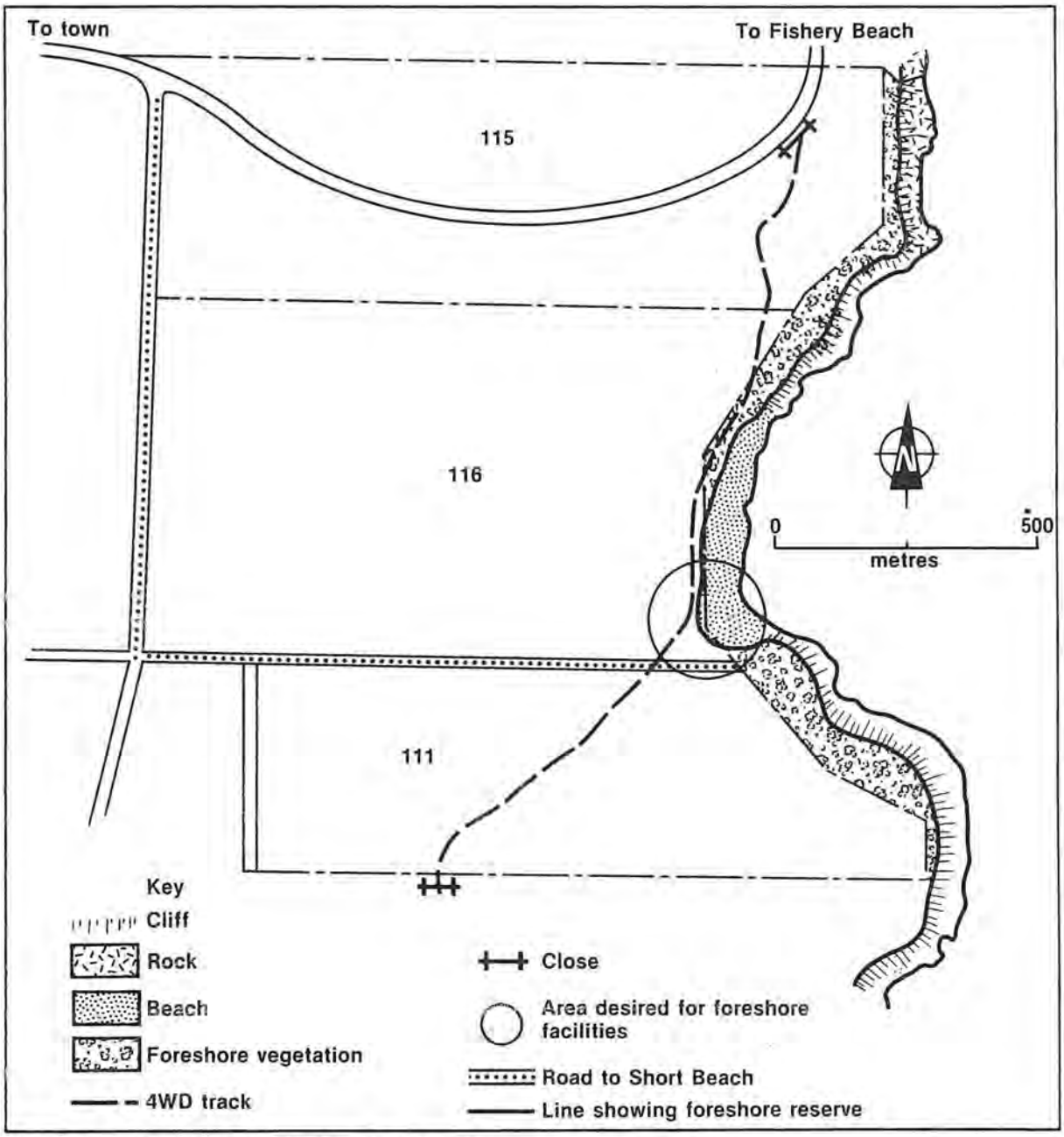

Figure 11. Short Beach foreshore and access.

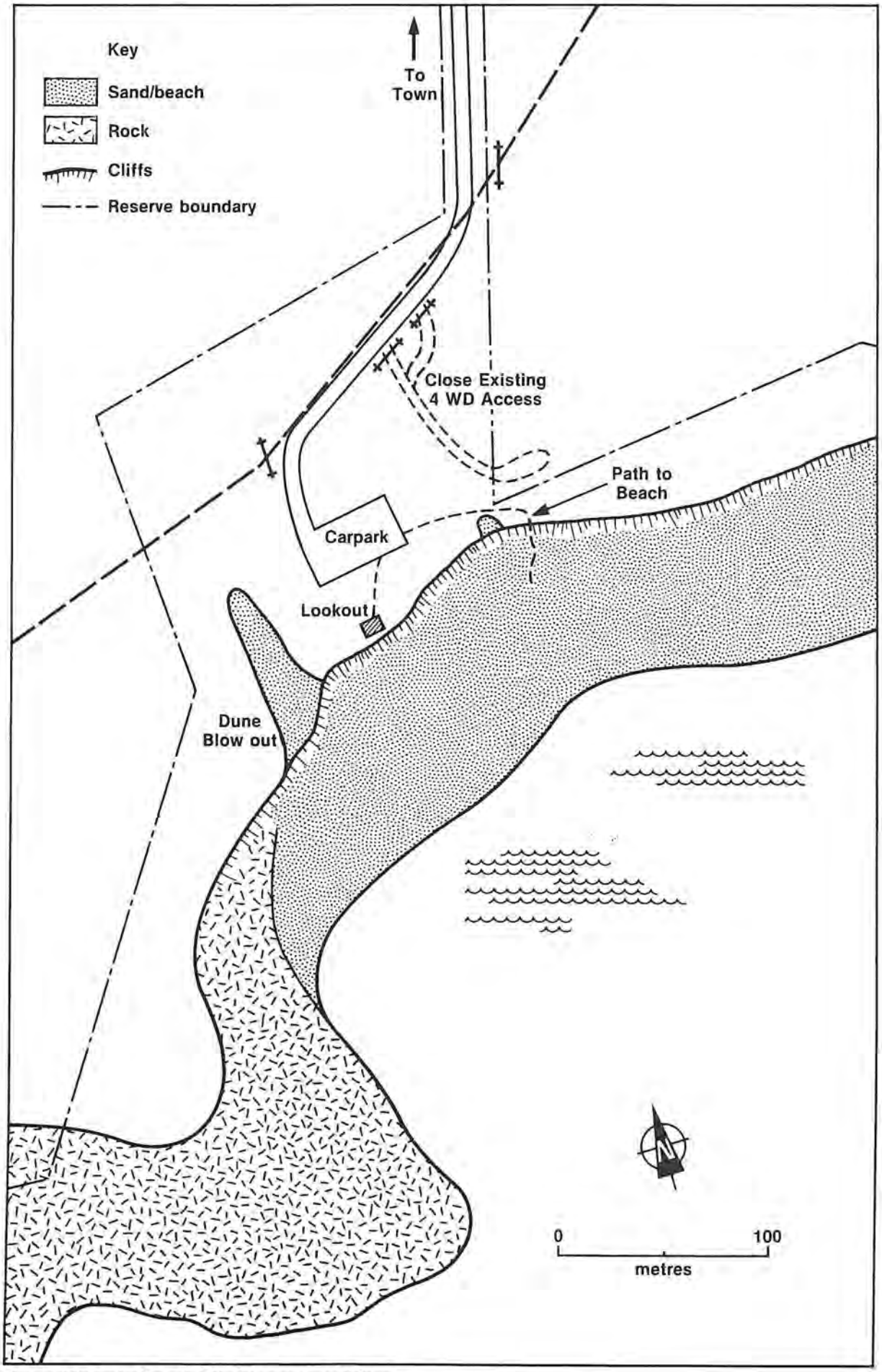

Figure 12 Banky Beach Site Management Plan

- Locate the Little Boat Harbour Beach carpark on the upper portion of the plateau above it and provide a new beach path. (See Figure 13) Vehicles should only be permitted onto the beach to launch and retrieve boats. Little Boat Harbour is an 'informal' launching site and should remain 'low key' with a 4WD track for this purpose. - Note - it is not intended to provide secondary road access/carparks on the beach as this would congest the site and intrude upon its scenic appeal.

- Provide two small car parks spaced between the Melaleuca trees on the headland between Native Dog and Blossoms Beaches. See Figure 14 and Plate 7. This will divert the existing parking for Native Dog Beach away from an eroded drainage line and it will reduce vehicle movement over severely eroded 4WD tracks to Blossoms Beach. Council should prohibit 4WD access onto Blossoms Beach if congestion and safety problems ever result.

- Locate a carpark on the top of Tooreburrup Hill , a site which has superb vistas of the coastline.

Paths -

- Provide beach paths from all the proposed carparks. Signs are desirable. Steps are necessary at some locations and both Banky Beach and Tooreburrup Hill require lookout platforms.

Dune Management -

- Paths should be sufficient to channel people onto the beach and away from the 'fragile' vegetation of the dunes without actually fencing them off.

- Meleleuca lanceolata trees need to be protected from human activities However, many of these trees are old and further landscaping is required particularly near the proposed carparks.

5.5 Dillon Bay

It is an extensive and exposed beach mainly attracting local fishermen who use 4WD vehicles to travel along the beach. A small community lives on private property adjacent to the beach reserve which needs to be regulated. Dillon Bay is serviced with a gravel road to within 2 kms of the beach. From here 4WD vehicles are essential.

The eastern hinterland is covered by kilometres of dune sand which is accumulating under the influence of the prevailing south-west wind. Old limestone dune remnants outcrop near the beach's south-west corner, resulting in sheer cliffs up to 80 metres high.

Recommendations:

General -

- Council negotiate with the Department of Lands and Surveys to acquire suitable land for foreshore and road reserves. The recommended alignment for a secondary road is an existing track towards the western corner of the beach. See Figure 15. This by-passes major blowouts and cliffs and it is adjacent to flat terrain behind the dunes suitable for a carpark and picnic site.

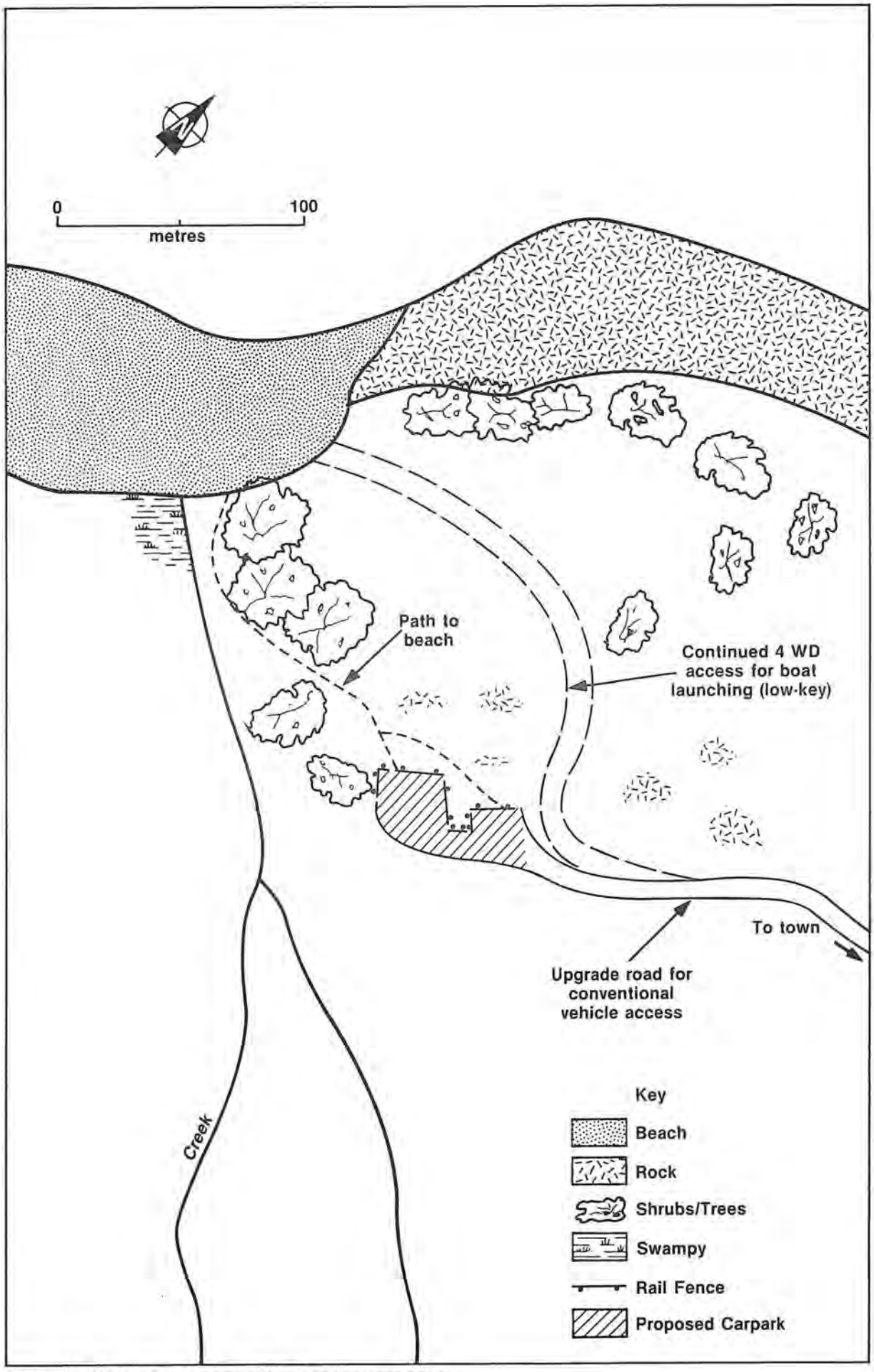

Figure 13 Little Boat Harbour Site Management Plan

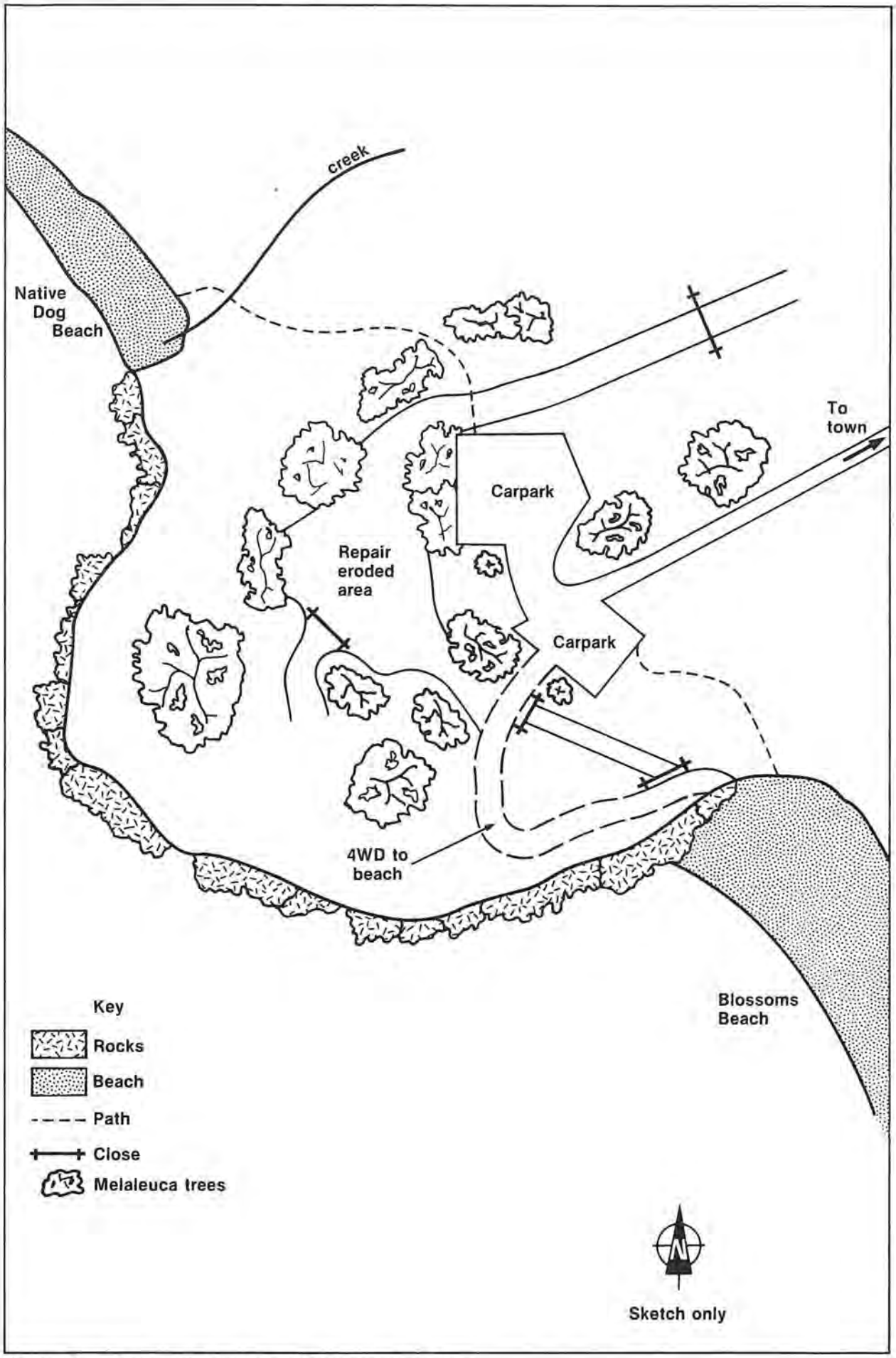

Figure 14 Blossoms/Native Dog site management plan.

Plate 7. Management will focus on the headland between Blossoms and Nature Dog Beaches to provide access and facilities.

- Permit vehicles to travel along the beach to fishing spots and thereby reduce the need for 4WD traffic over ecologically fragile areas behind the dunes

- Provide suitable controls in the Jerramungup Planning Scheme to prevent unauthorised landuse particularly along this section of the coast.

- Establish the settlement on Miller's property under formal regulations of the health and building by-laws.

Car Park -

- A small carpark (10 - 16 vehicles) should be provided at the termination of the proposed gravel road. See Figure 15.

Paths -

- A beach path through the dunes is considered necessary for safety to pedestrians. Vehicles coming off the beach will tend to be accelerating to climb the dune slope.

Dune Vegetation -

- Repair the small-scale dune erosion near the proposed carpark site.

- Liaise with the Department of Agriculture for advice on the major blowout moving north-east towards Bremer Bay townsite.

- Following investigations of the blowout, it may be suitable to establish an off-road vehicle (ORV) club for controlled use of this area.

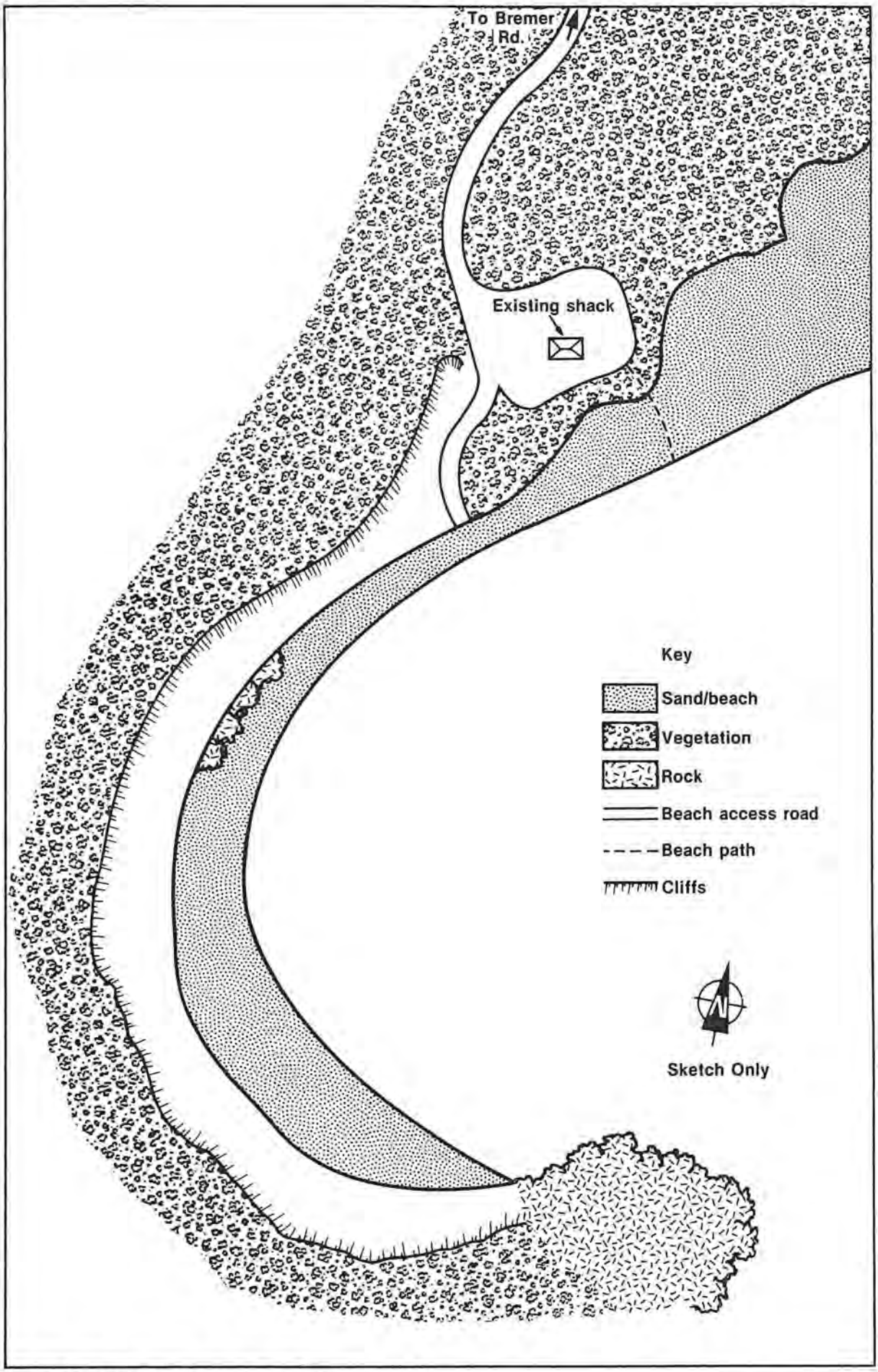

Figure 15 West Dillon Beach site management plan.

5.6 Stream Beach, Cape Knob, Fosters Beach, Reef Beach and Pallinup Beach

Stream Beach is characterised by the steep limestone ridges behind it which make access difficult. See Plate 8. A fresh-water stream flows onto the beach providing a natural water supply. Access is by 4WD track branching off the Dillon Bay road.

Plate 8. Steep limestone cliffs back Dillon Bay and Stream Beach and management aims towards protecting these features.

The Cape Knob coastline contains spectacular gneissic cliffs and caves which gives it a unique character. Its remoteness has helped retain a natural, wilderness landscape. Access is along the continuation of the Stream Beach 4WD track.

The south-west section of Fosters Beach is largely covered by an extensive blowout. The remainder is vegetated with coastal heath, but the high limestone ridges behind the heath are very susceptible to erosion. The most used 4WD track to Fosters Beach requires access through private property and permission from the landowner, Mr. Miller, needs to be obtained. An alternative track to Stream Beach and west across the blowouts, is traversable for people with local knowledge.

Reef Beach has a moonscape topography that is unique to the south coast. Offshore reefs have produced a series of cuspate bays along the beach extending into a massive sand sheet aligned with the south-westerly wind. A 4WD track to Reef Beach turns off Bremer Bay Road.

There is good vegetation cover over old sand dune deposits along Pallinup Beach. Access is by 4WD track turning off Bremer Beach Road.

All the beaches considered in this section are mainly used by local fishermen and a few explorers.

Recommendations:

At Stream Beach -

- Provide a small carpark at the top of the ridge and a sign to discourage fishermen using the eroded 4WD track.

- Protect the freshwater stream on the beach from any damage by people.

For Cape Knob Peninsula -

- Jerramungup Shire Council negotiate with the Department of Lands and Surveys for the coastal district between Stream Beach and Fosters Beach to be vested as a conservation reserve.

- Retain only low key 4WD access to the peninsula area.

At Fosters Beach -

- Negotiate with the landholder and the Department of Land and Surveys to obtain formal access to Fosters Beach from the existing track commencing at Dillon Bay.

- Retain 4WD access to this beach. Rationalize the track onto the western end of the beach. Repair eroded areas.

- Organise a busy bee for rubbish removal and thereafter indicate the policy of 'take rubbish home'.

- Contract a local person to undertake the duties of an honorary ranger.

At Reef Beach -

- Liaise with the Angling Club for management of their lease area and the provision of an honorary ranger service.

- Retain low key 4WD access.

At Pallinup Beach -

- Determine the appropriate management authority for this and the Millers Point area. See study by Newbey, (1984).

- Give high priority to the conservation value of flora and fauna over this section of the coast. See Plate 9.

5.7 Millers Point

The sheltered estuarine environment on Beaufort Inlet has a high conservation value. There are several endemic plant species (see Appendix 3), the possibility of rare wildlife, and of archaeological sites. There has been no major bushfires for 70 years.

The area is mainly used for fishing activities and visitor numbers are dependent on whether it is a good season. The shacks along the foreshore are used by a select group.

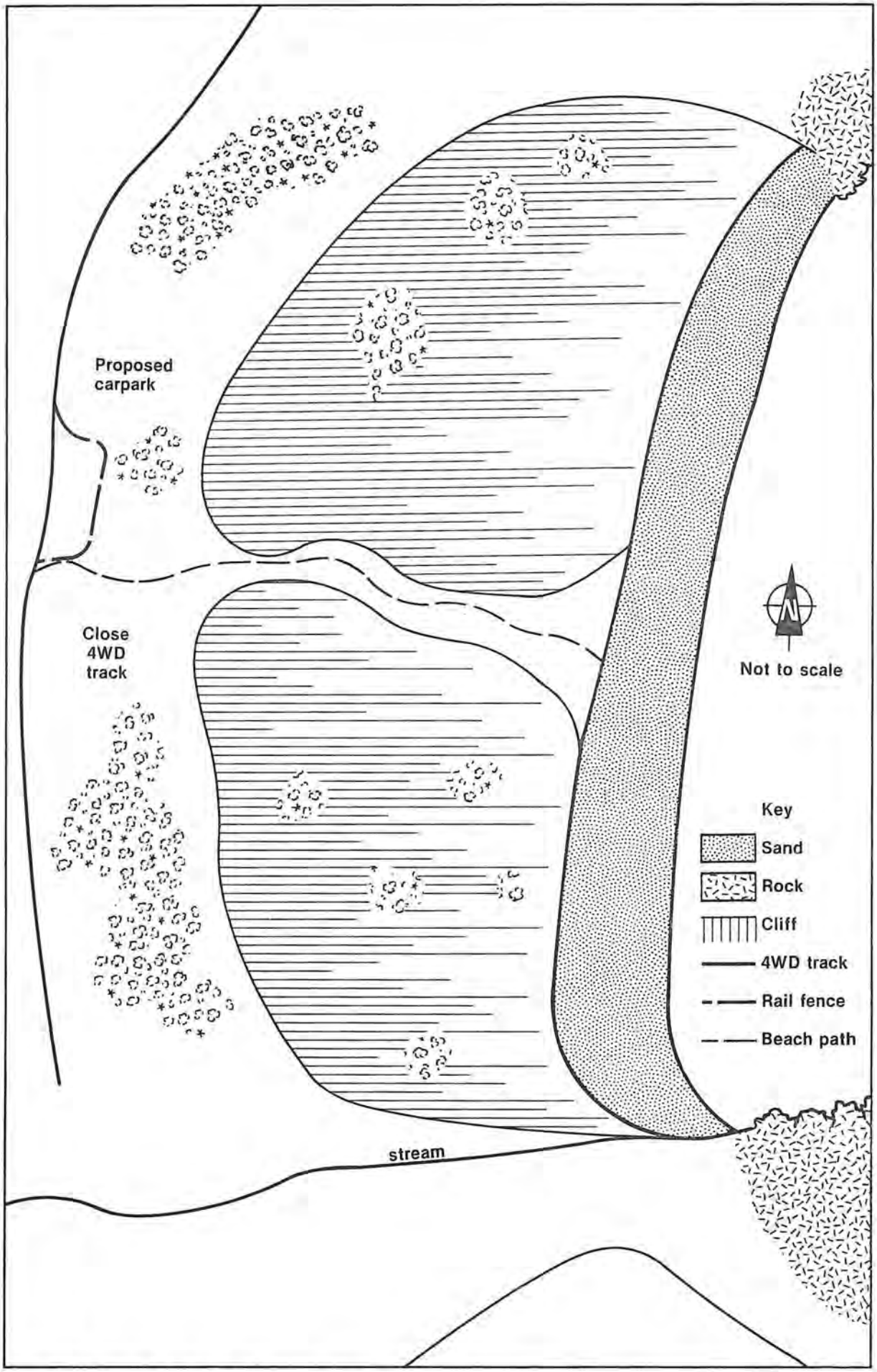

Figure 16 Stream Beach site management plan.

Plate 9. Management is required at the popular camp site near the mouth of the Pallinup River/Beaufort Inlet.

Recommendations:

- Undertake a separate study of the Beaufort - Pallinup district to provide information on its natural resources, the appropriate management authority, the size of the management unit and appropriate land use and management strategies that are protective towards the environment.

- Undertake necessary management planning where these recommendations relate to Council.

5.8 River Sites

The river sites (Paperbarks, Peters Creek, North Landing and Lizzie Creek) are areas that adjoin National Park or natural bushlands with high conservation value. They have attractive shade trees and secluded camp sites. Poor access reduces visitor numbers. Erosion caused by water run off and forming new tracks is significant. However, the difficulty of access is favourable for good fishing.

Recommendations:

- Give priority to upgrading the access to the Paperbarks sites along the Pallinup River. Extend the duties of the ranger/caretaker stationed at Millers Point to control camping activities over this area.

- Retain low key access to the sites on Bremer River and permit camping on a "take rubbish home" and "tidy-up" basis.

- Undertake busy bees for removal of rubbish and small scale erosion protection works when necessary.

6. SUMMARY OF MANAGEMENT RECOMMENDATIONS

Council's policies for access and the level of development for specific beaches is summarised in Table 2.

7. IMPLEMENTATION

The Jerramungup Shire currently maintains the roads and it is proposed that Shire plant is suitable to undertake much of the proposed road constructions as suggested in this management plan. However, Council will need funding assistance and intends to submit proposals to the Commonwealth, Main Roads Department and the Tourism Commission.

The beach management proposals i.e. car parks, beach paths and dune vegetation protection/rehabilitation are largley labour intensive and will need to be achieved through community busy bees and Commonwealth Employment Schemes. Limited funds are available from the Department of Conservation and Environment to achieve beach management objectives and they will be requested by Council. Council recognises that a variety of expertise is required to mesh together coastal management and intends to seek this advice from relevant State Government Departments.

Tourism is continuing to grow in the Bremer Bay environs and Council recognises that the coastal zone requires an intensive level of management. Currently Council employs a part-time ranger at peak season to service Bremer Bay and an honorary ranger at Millers Point.

It is intended that the system of honorary rangers continue to manage the remote locations, such as Fosters Beach. When funds are available, the Council will appoint a full time ranger for the coastal district.

The Ranger will need to undertake the following duties :

1. Patrol and Public Education

   The ranger will be required to prohibit or report activities that oppose the management objectives. He will serve as a public relations officer between Council and visitors to the area. He should also be involved in providing advice for management plans.

2. Garbage and Litter Control

   During holiday periods, garbage and toilet cleaning operations need to be undertaken on a regular basis. At other times, these duties will be undertaken as required. The ranger will be assisted by Council to organise busy bees for litter removal on the remote beaches.

3. The ranger will undertake a variety of minor development and maintenance works during non-holiday periods. They will include small soil stabilisation and beach management projects, landscaping, and the erection and maintenance of signs and fences.

It is likely that one ranger will be responsible for the Shire's entire coastal district, however, there will be assistance from the honorary ranger scheme and possibly Commonwealth Employment Schemes.

TABLE 2 - SUMMARY OF MANAGEMENT RECOMMENDATIONS FOR SPECIFIC BEACHES

BEACH	ACCESS			LEVEL OF DEVELOPMENT/FACILITIES				
	Bitumen Road	Formed Gravel	4WD	Townsite Services & Facilities	Chalet/ Caravan Pk/ Recreation Facilities	Formal Camping Site & Day Visit Facilities	Day Visit Facilities	No Facilities & Informal Use
Doubtful Island Beaches								
. Next 5 years			x					x
. Future		x				x		
Bremer Bay Town	x			x				
Bremer Bay/John Cove		x			x			
John Cove Headland		x					x	
Back Beach		x			x			
Fishery Beach		x					x	
Short Beach								
. Next 5 years			x					x
. Future		x					x	
Banky Beach								
. Next 5 years			x				x	
. Future		x					x	
Little Boat Harbour		x					x	
Blossoms Beach		x					x	
Native Dog Beach		x					x	
Dillon Bay		x					x	
Stream Beach			x				x	
Cape Knob			x					x
Fosters Beach			x					x
Reef Beach			x					x
Pallinup Beach			x					x
Millers Point		x				x		
River Sites			x					x

*Terms Used

Formal Use - denotes with facilities
Informal Use - denotes without facilities

8. SPECIFIC ISSUES

8.1 Fire Management

The Jerramungup Shire is responsible for ensuring that the Bush Fires Act, which is reassessed each year (Appendix 5), is carried out by landowners within the Shire. The Shire Fire Advisory Committee provides information and helps to formulate the fire management policy for the region.

Landowners are required to prepare firebreaks around their property in accordance with requirements imposed by the fire control officer. The fire control officer ensures that no fires are lit during the "Prohibited Burning Time" and adequate precautions are taken by landowners during the "Restricted Burning Time".

8.1.1 The Coastal Strip -

It is imperative that the Jerramungup Shire develops a comprehensive fire management policy. This will need to include large tracts of land behind the beaches and, in particular, the Pallinup to Millers Point area discussed in DCE Bulletin 178. Expert advice from officers of the Bush Fires Board and the studies undertaken locally by Mr K Newbey will provide valuable input for the Shire.

Popular recreation areas where campfires and barbecues are lit need to be supervised by the ranger. A "no fires" policy or "fires in designated fire places only" may be necessary during "dangerous" fire months.

8.2 Boat Launching

Since 1972 there have been many requests to the State Government for assistance in the construction of a boat ramp at Bremer Bay. Tourist and recreation interest has increased demand for this facility especially during the peak summer season.

A suitable boat ramp site must have sheltered waters to permit safe use in all weather, moderate offshore water depth, a low foreshore slope gradient, space for parking up to 50 to 60 cars per day and be located near Bremer Bay townsite. The lack of any adequate naturally sheltered waters in the Bremer Bay environs and the very powerful wave energy escalates the cost of any proposed "permanent" ramp facility from half a million to several million dollars. As funds have not been readily available from government for recreational boating, more support for establishing a good boat ramp at Bremer needs to come from the fishery industry which traditionally has received a higher level of government assistance. The combined boating requirements should be documented and a report and application for funding assistance be forwarded to the Public Works Department as a matter of urgency. It takes some 3 years to budget in advance for the level of funds needed.

The sites that have been considered for a ramp facility are briefly described :

8.2.1 John Cove -

It is located closest to town and has some protection from swell and wind waves. However, there is stong local interest to keep the beach for swimming purposes, the site is cramped for space, there is a steep foreshore slope, and erosion from water runoff has made the existing road and ramp difficult to use. The accumulation of weed in John Cove which was particularly noticeable in August 1984 storms makes launching from the beach unfeasible.

However, a facility could be located further south around John Cove headland. This may help to overcome some problems but the lack of space and conflict with recreation activities will still increase in the future as more people are attracted to Bremer Bay.

8.2.2 Fishery Beach -

It is accessible along a newly constructed gravel road and lies 7 km south of Bremer Townsite. The use of this site is intended to divert some boats from Bremer Beach. Boats may currently launch from the beach, but deep offshore water and soft sand make this dangerous if operators do not have local knowledge. There is space for a ramp and carpark, and the facility represents a consistent use to the existing professional fishing operations. However, the location is not favoured for its distance from town, relative exposure to prevailing weather conditions and deep offshore water. Breakwater protection measures would be required and hence, the cost estimate is high.

8.2.3 Little Boat Harbour -

It is located roughly 13 km by 4WD track from Bremer Bay townsite and currently some boats launch from the beach. It provides the most sheltered waters locally on the coast and it is a favoured summer swimming spot. This is a small beach and the vehicle approach to it is very steep with no suitable carpark space behind the beach. Vehicles will be required to park on the adjacent ridge. The proposed upgraded road access will place Little Boat Harbour approximately 9 km from town and the beach will be extremely popular. A shortage of space may be anticipated. This problem should not be exacerbated by establishing it as the "main" boat launching facility although a small scale "moveable" operation would be feasible. This facility could be maintained from weed and removed during the winter months when the beach is exposed to north-westerly gales.

8.2.4 Doubtful Islands -

The various beaches provide alternative boat launching sites depending on weather conditions and resultant sheltered water. Such "low key" operations are appropriate to this more remote location. It is 25 km by road towards the east from Bremer Bay townsite across the Wellstead Estuary mouth (only possible when the bar is closed). Consequently, it is inappropriate to consider for the townsite main boat launching facility.

8.2.5 Summary -

The boat ramp is an important facility to meet both local and tourist needs and enhance development of the Bremer Bay district. Planning its location will require the input of local amateur/professional fishing groups and the community. However, it should be remembered that Bremer Bay does not possess any natural suitable resources in this respect and cost limitations represent a real constraint to establishng a permanent, all weather facility. The Public Works Department will be largely instrumental in the further investigations of John Cove, Flat Rocks, Fishery Beach and Little Boat Harbour as suitable sites. It is possible that makeshift solutions will be proposed particuarly in the short term with "low key" use of all sites.

The Department of Conservation and Environment and the Jerramungup Council strongly recommend that the "permanent" facility is not located at John Cove or Little Boat Harbour because of these beaches acute space shortage, steep foreshore terrain and the conflict with other recreation use.

8.3 Bremer Bay Townsite Development

A preliminary report for Town Planning Scheme No 2 was prepared by Mr P Bashall, Planning Consultant to the Jerramungup Shire.

The report highlights the seasonal nature of visitor pressure. The townsite residential population expands from 100 to 400 persons, while daily occupancies in the park and camping grounds have been recorded in excess of 2000 for the month of January.

Bremer Bay provides an alternative recreation experience to more urbanised coastal districts. In order to protect this attractiveness future development should be confined within the townsite boundaries.

APPENDIX 1

LIST OF PLANTS FOR THE JERRAMUNGUP COASTAL DISTRICT

(The plants are endemic to specific sites or to the district or they comprise rare species)
Source: Powell and Newbey, 1980

RESERVE	SPECIES	ENDEMIC (SINGLE SITE)	ENDEMIC (GENERAL SITE)	IMPORTANT POPULATION
Between Gordon Inlet and Doubtful Island Peninsula 4120 & 23060	Scirpus sp. (unnamed)			x
	Xanthosia peduncularis	.	.	x (RARE)
32666	Eucalyptus nutans	.	.	? type locality
2524	Cladium sp. (unnamed)	x	.	.
Between Bremer Bay and Dillon Bay 511	Cypselocarpus haloragoides			x (RARE)
	Schoenus sp. (unnamed)	x	.	.
	Acacia heteroclita	.	.	x (COASTAL SHRUB FORM)
21496	Scirpus sp. (unnamed)	x	.	.
Cape Knob Leasehold	Eucalyptus doratoxylon	.	.	x (RARE)
	E. ligulata	.	.	x (RARE)
Between Cape Knob 21647	5 Leucopogon spp. (unnamed)	x	.	.
Kent Loc.	Kunzea aff. recurva	.	.	x
839	Acacia sp. (unnamed)	.	.	x
	Dryandra sp. (unnamed)	.	.	x
	Dodonaea trifida	.	.	x (RARE)
	Acacia dictyoneura	.	.	x (RARE)
	Eucalyptus newbeyi	.	.	RARE
	E. cornuta	.	.	x
	Lasiopetualum rosmarinifolium var. latifolium	.	.	x (RARE)
27102	Baeckea sp. (unnamed)	x	.	.
	Epacridaceae sp. (unnamed)	x	.	.
	Acrotriche plurizocularis	x	.	.
	Isolepis stellaris	.	.	x
	Santalaceae genus	.	.	x
	Myriophyllum verrucosum	.	.	x
South of Pallinup River 14987	Goodenia sp. (unnamed)	.	.	
	Eucalyptus doratoxylon	.	.	x
	Styphelia hainesii	.	.	x
31240	Helichrysum obtusifolium var. teparodes		x	.
	Kunzea pauciflora		x	.
	Leucopogon sp. (unnamed)	.	x	.
	2 Lepidosperma spp. (unnamed)	.	x	.
	Ricinocarpus glaucum	.	.	x
	Eucalpytus newbeyi		.	RARE
28687	Goodenna sp.	x	.	.
	Acacia sp.	.	.	x

APPENDIX 1A

LIST OF PLANTS COMMON TO THE JERRAMUNGUP COASTAL DISTRICT

LANDFORM/SOIL TYPE	LIFE FORM	SPECIES
Headlands . Limestone	Mallee	Eucalyptus angulosa
	Shrubs	Melaleuca pentagona
		Acacia littorea
		Pimelea ferruginea
		Pultenaea obcordata
		Phebalium rude spp. rude
		Logania fasciculata
	Sedge	Gahnia lanigera
. Gneiss	Shrubs	Calothamnus quadrifidus
		Dodoneaa ceratocarpa
		Acacia nitida
		Eutaxia obovata
	Low Shrubs	Sarcocornia blackiana
		Samolus repens
		Disphyma clavellatum
		Maireana oppositifolia
		Calocephalus brownii
	Annuals	Calandrinia calyptrata
		Crassula exserta
Pallingup . Siltstone	Tree	Eucalyptus astringens
		E. newbeyi
	Mallee	E. gardneri
		E. falcata
		E. tetraptera
		E. buprestium
		E. tetragona
	Shrub	Allocasuarina trichodon
		Hakea ilicifolia
		Melaleuca spathulata
		M. pentagona var. subulifolia
		Agonis spathulata
		Acacia sp. (KRN 2472)
		Acrotriche ramiflora
	Low Shrub	Andersonia parviflora
		Beaufortia shaueri
		B. anisandra
		Isopogon formosus
		Banksia gardneri
		Verticordia fastigiata
	Sedge	Mesomealena stygia
		Anarthria humilis
Tamala . Limestone	Mallee	Eucalyptus argulosa
		E. aff. decipiens
	Shrub	Melaleuca pentagona
		Templetonia retusa
		Halgania adromedifolia
		Comesperma spinosa

APPENDIX 1A (cont'd)

LIST OF PLANTS COMMON TO THE JERRAMUNGUP COASTAL DISTRICT

LANDFORM/SOIL TYPE	LIFE FORM	SPECIES
Parabolic dunes	Tree	Agonis flexuosa
	Shrub	Hakea oleifolia
		Acacia cyclops
		Hibbertia cuneiformis
		Phyllanthus calycinus
	Mallee	Eucalyptus decipiens
	Low Shrub	Melaleuca scabra
		M. thymoides
		Verticordia habrantha
		Hibbertia gracilipes
	Sedge	Schoenus subflavus
		S. grammatophyllus
		Harperia lateriflora
Continental dunes	Shrub	Banksia baxteri
		B. attenuata
		B. coccinea
		Melaleuca thymoides
		Adenanthos cuneatus
Coastal foredunes	Shrub	Acacia rostellifera
		Westringia dampieri
		Scaevola crassifolia
		Olearia axillaris
	Grass	Spinifex hirsutus
	Succulent	Carpobrotus virescens
	Annual	Cakile martima
		Euphorbia paralias
Depressions	Tree	Eucalyptus occidentalis
		Banksia littoralis
		Melaleuca pressiana
	Sedge	Cladium junceum
		Lepidosperma leptophyllum
Watercourses	Tree	Eucalyptus occidentalis
		Melaleuca cuticularis
		Casuarina obesa
	Shrub	Acacia cyclops
		Rhagodia crassifolia
		R. preissii ssp. preissii
		Calothamnus quadrifidus
	Low shrub	Sarcocornia spp.
		Halosarcia spp.
	Annuals	Brachycome pusilla
		Helipterum hyalospermum
		Waitzia citrina
		W. paniculata

APPENDIX 2

LIST OF BIRDS COMMOM TO JERRAMUNGUP COAST
by B Newbey

SEABIRDS and WATERBIRDS:

Hoary-headed Grebe	Poliocephalus poliocephalus
Australian Pelican	Pelecanus conspicillatus
Little Pied Cormorant	Phalacrocorax melanoleucos
Little Black Cormorant	P. sulcirostris
White-faced Heron	Ardea novaehollandiae
Black Swan	Signus atratus
Mountain Duck	Tadorna tadornoides
Grey Teal	Anas gibberifrons
Pied Oyster Catcher	Haematopus ostralegus
Red-capped Dotterel	Charadrius ruficapillus
Red-necked Avocet	Recurvi rostra novaehollandiae
Red-necked Stint *	Calidris ruficollis
Silver Gull	Larus novaehollandiae
Crested Tern	Sterna bergii

BIRDS FEEDING OFF COASTAL TREES AND SHRUBS:

Emu	Dromaius novaehollandiae
Brown Falcon	Fako berigora
Red-capped Parrot	Purpureicephalus spurius
Rock Parrot	Neophema petrophila
Fantailed Cuckoo	Cuculus pyrrhophanus
Welcome Swallow	Hirundo neoxena
Grey Fantail	Rhipidura fuliginosa
Willy Wagtail	R. leucophrys
Southern Emu Wren	Stipiturus malachurus
White-browed Scrub Wren	Sericornis frontalis
Field Wren	Calamanthus fuliginosus
Broad-tailed Thornbill	Acanthiza apicalis
Red Wattle Bird	Anthochaera carunculata
White-naped Honey Eater	Melithreptus lunatis
New Holland Honey Eater	Phylidonyris novaehollandiae
White-checked Honey Eater	P. nigra
Tawny-crowned Honey Eater	P. melanops
Silver Eye	Zosterops lateralis
Grey Butcherbird	Cracticus torquatus
Grey Currawong	Strepera versicolor
Australian Raven	Coruus coronoides

* migratory

APPENDIX 3

OPENING OF THE WELLSTEAD, PALLINUP AND HUNTER RIVER BARS

WELLSTEAD ESTUARY:

The bar opens after heavy rain about once every 2 to 3 years and may remain open for 6 to 12 months or more. It affects fish composition in the estuary, foreshore erosion along the river banks (this has threatened the Paperbarks picnic area), and vehicle access eastwards.

Opened	Closed
Sept. 1951	late (Dec?) 1952
Feb. 1955	July 1957
Sept. 1959	Nov. 1960
July 1966	Dec. 1967
Feb. 1968	Feb. 1969
Nov. 1971	Mar. 1972
Nov. 1977	Dec. 1977
July 1978	Nov. 1979
Jan. 1982	?

(sources are Barry Wellstead, Jack Morris, Athol Jury, C.W. Hassell and Ernest Hodgkin).

BEAUFORT INLET:

The Pallinup was open	1955
	1971
	1974 (artificial)
	1982
	1983 (artificial)

THE HUNTER RIVER:

The Hunter flowed out to sea	1919
	1980

This estuary is approximately 0.75 km inland from High Water Mark.

APPENDIX 4

THE IMPORTANCE OF COASTAL DUNES

In using our beaches you are requested to keep off the sand dunes and their vegetation.

Dunes and vegetation play an important role in the coastal zone, for instance:

- sand held near the water's edge in dunes is nature's way of providing a buffer against storm wave attack. Without dunes, erosion can occur which leads to loss of property and coastal roads.

- the vegetation traps and holds wind blown sand near the water's edge. Without vegetation, sand would blow inland over roads and buildings.

Dunes and their vegetation are specially adapted to function in the harsh environment of the coastal zone, however the plants cannot stand up to wear and tear of human feet and off-road vehicle tyres.

Your co-operation in using paths and keeping off the dunes and their vegetation will help to:

- hold sand at the beach preventing blowouts

- protect coastal buildings and roads which in turn will save you money

- assist nature to maintain a balance in the coastal zone.

APPENDIX 5

SHIRE OF JERRAMUNGUP FIRE POLICY

BUSH FIRES ACT 1954-1981

FIREBREAK ORDER

Notice to all Owners and/or Occupiers of Land in the Shire of Jerramungup.

PURSUANT to the powers contained in section 33 of the above Act, you are hereby required on or before 15 November 1984, to clear of all inflammable material firebreaks as stated hereunder and thereafter to maintain the firebreaks clear of inflammable material up to and including 15 April 1985.

1. Prepare firebreaks not less than three metres wide, immediately inside all external boundaries of all cleared, or part cleared land and uncleared land which is fenced, and immediately inside all external boundaries of all holdings other than on land situated in any townsite within the Shire.

2. Where the total area of each property or holding exceeds 250 hectares, additional firebreaks must be provided in such positions so as to divide cleared land or part cleared land into areas not exceeding 250 hectares, with each area to be completely surrounded by a firebreak not less than three metres wide.

3. Prepare firebreaks not less than three metres wide, immediately surrounding all buildings or haystacks on the land.

4. Prepare firebreaks not less than ten metres wide immediately around the perimeter of any scrub or timber which has been logged, chained, or otherwise cleared for burning.

5. In respect of land within any townsite within the Shire you shall :-

   (a) Where the area is 2000 square metres or less, remove all inflammable material on the land from the whole of the land.

   (b) Where the area of land exceeds 2000 square metres firebreaks not less than two metres wide shall be prepared immediately inside and along all external boundaries of the land.

   Penalty for non-Compliance : $400

In situations where construction of firebreaks in accordance with this order may aggravate soil erosion problems or where the owner or occupier of land considers a more effective system of fire protection can be obtained or for any other reason (i.e. pasture deficiency) Council may approve an application for alternative siting of firebreaks.

All applications for approval of variations to this order must be endorsed by a fire control officer, and such variation once approved shall have effect until revoked by the Council.

It is an offence to provide firebreaks on a road reserve without the approval of the Council or the Main Roads Department in the case of declared main roads.

By Order of the Municipality

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