

Burrup Peninsula draft land use and management plan

**A submission by the Environmental Protection Authority on the
draft document released for public review by the
Burrup Peninsula Management Advisory Board**

THE PURPOSE OF THIS REPORT

This report is the Environmental Protection Authority's submission to the review of the document released in May 1994 by the Burrup Peninsula Management Advisory Board entitled "Burrup Peninsula Draft Land Use and Management Plan".

LIMITATION

This submission is not a report under Part IV of the Environmental Protection Act, and there are no provisions for appeals against the Authority's views expressed in the submission.

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Summary

The Environmental Protection Authority (EPA) has considered the environmental implications of the Burrup Peninsula Draft Land Use and Management Plan and Burrup Peninsula Draft Land Use and Management Plan Technical Appendices prepared for the Burrup Peninsula Management Advisory Board in May 1994 (O'Brien Planning Consultants, 1994a & b). This report provides the advice of the EPA on the Burrup Peninsula Draft Land Use and Management Plan as a submission to the Board and is not a formal assessment under Part IV of the Environmental Protection Act.

The Burrup Peninsula Draft Land Use and Management Plan proposes the allocation of land on the Burrup Peninsula to either a Conservation Zone or Industry Zone. This plan proposes six new industrial zones located predominantly on the coast. The Burrup Peninsula Draft Land Use and Management Plan proposes that the Conservation Zone be set aside and managed for that purpose and that the industrial sites, while assigned to a suitable purpose, should be managed as part of the conservation estate until required by industry.

The Burrup Peninsula Draft Land Use and Management Plan is a review of land allocation options which is limited in area and extent to that portion of the Pilbara only. As a Burrup Peninsula Draft Land Use and Management Plan, the EPA assumes that it is intended there be the opportunity to alter the plan as new and additional information comes to hand. The EPA believes that the current Burrup Peninsula Draft Land Use and Management Plan should be amended in a number of areas.

In summary, the EPA considers that the final Burrup Peninsula Land Use and Management Plan should:

- allocate Conzinc North to the conservation zone;
- in view of the lack of information, undertake flora, fauna, marine and potential risk surveys of the Conzinc South area. Based on this additional data, then determine the suitability of the area for industrial land;
- ensure there is an orderly systematic approach, which includes the EPA, for examining and resolving the conflicting environmental and industrial values of Conzinc South, prior to a decision being made on land use allocation;
- exclude the infrastructure corridor north of Conzinc Bay;
- concentrate industrial development to the south of Conzinc Bay;
- review existing Agreement Act leases to see if additional currently under-utilised industrial land could be made available for industry;
- undertake further investigation into the potential impacts of proposals for industrial development on the mangrove communities in the King Bay-Hearson Cove area;
- endorse the interim management arrangement for the proposed industrial areas;
- support the preparation of a detailed management plan for the proposed conservation zone on the Burrup Peninsula which differentiates and facilitates the management of areas within the zone for their different values: that is, conservation, heritage, and recreation;
- include a commitment to develop guidelines for managing impacts of industry on landscape amenity and ensure that proposals for development comply with the guidelines; and
- include a commitment to develop environmental guidelines for future industrial development based upon environmental issues and objectives for the Burrup Peninsula and set out management procedures, including performance indicators, frequent performance audits and regular reviews. Best practice and continuous improvement should be a feature of the guidelines.

1. Introduction

The Burrup Peninsula Draft Land Use and Management Plan (O'Brien Planning Consultants, 1994a) has been prepared under the direction of the Burrup Peninsula Management Advisory Board, which was established by the Minister for Resources Development. The purpose of the study which led to the preparation of the plan was to examine the Burrup Peninsula land use to a greater depth than was possible in the earlier Pilbara 21 study (1992), and to prepare and recommend to Government an updated land use plan and a new management plan for the Burrup Peninsula.

The objectives of the study, as stated in the Burrup Peninsula Draft Land Use and Management Plan (O'Brien Planning Consultants, 1994a), were to:

- "1. Prepare a land use plan which will meet present and future requirements for land uses on the Burrup, including provision for:
 - conservation of flora, fauna and landscape;
 - protection of Aboriginal and historic sites; and
 - public use including:
 - recreation
 - tourism
 - education
 - research
 - industry use
2. Prepare a management plan which can be implemented to achieve the land use objectives;
3. Recommend, as a separate submission, an appropriate management structure."

The area which was subject to the study is as shown on Figure 1 (from O'Brien Planning Consultants, 1994a). The plan was released for public review for a period of two months closing on 29 July 1994.

2. Objectives of this report

2.1 Objective

The objective of this report is to present a submission on the Environmental Protection Authority's (EPA) view on the Burrup Peninsula Draft Land Use and Management Plan. (O'Brien Planning Consultants 1994 a & b).

This assessment provides advice to the Burrup Peninsula Management Advisory Board on the environmental implications of the Burrup Peninsula Draft Land Use and Management Plan and indicates where additional review or assessment is required before any further considered environmental advice can be given.

2.2 Limitation

As a result of a judgement by the Supreme Court in April 1995 (Chapple v's EPA, No 1879 of 1994) the EPA has not been able to assess the Burrup Peninsula Draft Land Use and Management Plan under the provisions of Part IV of the Environmental Protection Act. As a consequence there is no right of appeal on the EPA's views expressed in this report nor can environmental conditions be set by the Minister for the Environment.

3. The proposal

The key features of the Burrup Peninsula Draft Land Use and Management Plan, as outlined in Figure 2 (from O'Brien Planning Consultants 1994a), are as follows:

- the division of the Burrup Peninsula into two land use zones, one as a Conservation Zone (which provides for conservation, heritage, tourism and recreation) and the remainder as Industrial Zone for industrial development;
- the allocation of 60 per cent (53.3 square kilometres) of the Burrup Peninsula to the Conservation Zone, which is recommended for inclusion in the Dampier Archipelago Conservation Estate;
- the allocation of an additional 22 per cent (19.6 square kilometres) to industrial land, with the emphasis on access to potential port sites;
- recognition of the existing 18 per cent (15.3 square kilometres) of the Burrup Peninsula allocated to industrial and port purposes;
- the separation of recreation and industrial areas for safety and amenity reasons;
- a continuous north-south corridor in the Conservation Zone to cater for fauna and flora continuity;
- the conservation of most of Conzinc Bay for the purposes of recreation, habitat protection and the preservation of significant Aboriginal sites;
- identification of an infrastructure corridor north from Withnell Bay to Searipple Passage at the northern end of the Peninsula; and
- the identification of land which is suitable for light industrial purposes at the southern end of the study area .

Also included in the Burrup Peninsula Draft Land Use and Management Plan is a recommended management plan for those portions of the Burrup Peninsula subject to the review. Figure 3 illustrates some aspects of the management plan. The management component of the Burrup Peninsula Draft Land Use and Management Plan defines objectives, rationale and strategies for the area nominated for conservation as well as providing initial management for those parts of the Peninsula designated for industrial development. The Burrup Peninsula Draft Land Use and Management Plan also covers specific topics including management of introduced flora and fauna, protection of landscape quality, fire management, rehabilitation of degraded habitats, management of Aboriginal and historical sites, management of recreation and tourism, interim management of the Industrial Zone and land tenure and management structure.

In relation to land tenure and a management structure, the Burrup Peninsula Draft Land Use and Management Plan recommends that:

- the Conservation Zone should be vested in the National Parks and Nature Conservation Authority for management by the Department of Conservation and Land Management as part of its Dampier Archipelago Conservation Estate; and
- the Industrial Zone should be vested/reserved to retain its future use by industry while allowing interim management by the Department of Conservation and Land Management (O'Brien Planning Consultants 1994a).

4. Method of review

The assessment of the Burrup Peninsula Draft Land Use and Management Plan is based on the information provided in the two documents released for public comment, existing and proposed Government policies, management plans already in existence for the area, previous EPA advice

on Pilbara 21 Study and the land use plan for the Burrup Peninsula contained within the Pilbara 21 document.

Members of the EPA undertook an inspection of the Burrup Peninsula and held meetings in the region during preparation of this submission. During the preparation of this assessment and report, submissions received by the Burrup Peninsula Management Advisory Board were made available to the EPA. Advice was also received from government agencies.

All this information was used by the EPA to identify and consider the environmental values prevailing on the Burrup Peninsula. These values were then compared against the specific proposals outlined in the Burrup Peninsula Draft Land Use and Management Plan and the conclusions presented in this submission were formulated.

5. Known environmental values of the Burrup Peninsula

The terrestrial and marine environments of the Burrup Peninsula have significant and recognised environmental values, many of which have been acknowledged within policies, reports and management plans covering the study area (eg. Department of Conservation and Land Management, 1990, Woodside Offshore Petroleum, 1979, Pilbara 21, 1992, Marine Parks and Reserves Selection Working Group, 1994). The EPA has taken this information, as well as information provided in the Burrup Peninsula Draft Land Use and Management Plan itself, into account in the formulation of this submission.

5.1 Terrestrial environment

5.1.1 Policy framework

The relevant policies and management plans pertaining to the terrestrial environment and associated habitats and species of the Burrup Peninsula and the Dampier Archipelago in general include the System 8 Recommendation for the area (EPA, 1975), the Dampier Archipelago Nature Reserves Management Plan (Department of Conservation and Land Management, 1990), and local, national, and international laws and agreements which require the protection of certain species and their habitats.

System 8 Recommendation

The EPA established the Conservation Through Reserves Committee in 1972 to make recommendations with respect to national parks and nature reserves of the State. Western Australia was divided into twelve different Systems each representing a natural and demographic entity. The Pilbara Region was included mostly within System 8.

In System 8 Recommendation 8.5, which pertains to the islands of the Dampier Archipelago and includes Legendre and Dolphin Islands (see Figure 1), the EPA (EPA 1975) recommended that:

- "1. the area (the islands of the Dampier Archipelago) be declared a Class A reserve for the Conservation of Flora and Fauna, vested in the Western Australian Wild Life Authority;
2. the following areas be made available for open recreation under controlled conditions -
 - a. northern shore of East Lewis Island
 - b. north-east corner of West Lewis Island
 - c. Whalers Bay, Malus Island
 - d. south end of Angel Island;

3. restricted camping be allowed, but no permanent structures of any sort, on all sandy beach areas and 50 metres from high water mark, with the exception of Enderby Island, where no camping at all would be allowed."

The System 8 Recommendations were forwarded to the Hon. Minister for Conservation and the Environment by the EPA on 9 December 1975. On 9 February 1976 State Cabinet endorsed these.

At the time of Cabinet endorsement, the EPA published an addendum to its System 8 recommendation which stated that Legendre Island and Dolphin Island should be exempted from the Class A category of Nature Reserves and be set aside as Class B conservation reserves in recognition of their potential utilisation for industrial development.

The Burrup Peninsula Draft Land Use and Management Plan does not include these recommended areas within the Study Area. However, the plan includes the proposed infrastructure corridor, which would provide access from the Peninsula to Dolphin Island and Legendre Island.

Dampier Archipelago Nature Reserves Management Plan

In 1990, the Department of Conservation and Land Management prepared a management plan for the Dampier Archipelago Nature Reserves (Department of Conservation and Land Management, 1990). This plan proposed management zonings for the nature reserves in the Archipelago. In particular, Dolphin Island is identified as a Conservation Zone with day access only to be permitted, and Conzinc Island is identified as a Special Conservation Zone, with no permitted access at any time. The portion of the Burrup Peninsula north of Withnell Bay is identified in CALM's management plan as a proposed conservation reserve.

Wildlife protection

Rare and endangered species, migratory birds, and certain marine species and their habitats, are protected by State and Commonwealth legislation and international treaties. These include the:

- Western Australian Wildlife Protection Act (1956);
- Commonwealth Endangered Species Protection Act (1992);
- Agreement between the Government of Japan and the Government of Australia for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment (JAMBA Agreement);
- Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment (CAMBA Agreement), and
- Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention).

5.1.2 Technical information

The Burrup Peninsula Draft Land Use and Management Plan and its technical appendices provide information on the flora and fauna of the region. These are summarised in Figures 4 and 5 (from O'Brien Planning Consultants 1994 a). Whilst the discussion of flora and fauna issues in the technical appendices concludes that these values can be accommodated, there are a

number of points made in the Burrup Peninsula Draft Land Use and Management Plan which need careful consideration. These are:

- The Burrup Peninsula has an extremely high species richness comparable to any other nature reserve or National Park in the Pilbara. A study of eight Dampier Archipelago islands and ten other regional sites has shown that the flora species richness of the Burrup Peninsula is well above average for the Pilbara Region;
- The Burrup Peninsula has a diverse aggregation of flora that is virtually unequalled elsewhere in the Fortescue Botanical District. There are 393 known taxa within the Burrup Peninsula. This is second only in number to the much larger Karijini National Park, which has 481 known taxa;
- Vegetation communities north of a line between Hearson Cove and Conzinc Bay are generally free of weeds;
- All vegetation communities on the Burrup Peninsula are represented in the northern area of the Peninsula;
- The variation and complexity of vegetation on the Burrup Peninsula is the result of its particular mixture of topography and landform, which is found nowhere else in the Pilbara;
- Priority 4 plant species and rare communities, that is species protected under the Western Australian Wildlife Protection Act, occur throughout much of the Burrup Peninsula;
- Thirty three plant specimens collected from the Burrup Peninsula are yet to be identified;
- Exotic plant species, spread predominantly by ground disturbance and vehicle movement, are a significant threat to native flora and fauna;
- The greatest areas of relatively undisturbed vegetation lie to the north of a line between Watering Cove and Withnell Bay (see Figure 4);
- There are at least nine species of native fauna worthy of special protection as well as migratory birds and their habitats, and
- Native fauna and flora on the Burrup Peninsula are threatened by feral species, particularly foxes and cats.

These points illustrate the very high conservation value of the Burrup Peninsula and Dampier Archipelago, and highlight some of the threats to those values.

5.2 Marine environment

5.2.1 Policy framework

A recently released report by the Marine Parks and Reserves Selection Working Group (1994) published by the Department of Conservation and Land Management identifies and discusses a representative marine reserve system for Western Australia.

This Working Group has recommended that "the waters of the Dampier Archipelago, excluding the Port of Dampier, be reserved for the purposes of public recreation and protection of flora and fauna, and that the seaward boundary should be the limit of the State Territorial Sea" (Marine Parks and Reserves Selection Working Group, p. Part III - 31)

As shown in Figure 6, the area proposed by the Working Group for inclusion in the Dampier Archipelago Marine Reserve includes Conzinc Bay and the entire water area of the northern portion of the Burrup Peninsula surrounding Dolphin and Legendre Islands.

5.2.2 Technical information

The Burrup Peninsula Draft Land Use and Management Plan identifies the marine habitats of the Burrup Peninsula and surroundings as including tidal flats, limestone pavements, intertidal beaches, subtidal sediments, mangrove communities, intertidal rocky shores, subtidal rocky shores, near shore waters and coral reefs. The most vulnerable habitats are the coral formations of Searipple Passage, Conzinc Island and Watering Cove (O'Brien Planning Consultants 1994a, p. 21)

Dugong, Blue Whale, Humpback Whale, Loggerhead turtles, Green turtles, and Hawksbill turtles are all found in waters around the Burrup Peninsula and they and their habitats are protected under the Wildlife Conservation Act (1956) and the Commonwealth Endangered Species Protection Act (1992).

International treaties such as JAMBA, CAMBA, and the Ramsar Convention protect certain migratory birds found around the Burrup Peninsula.

The Marine Parks and Reserves Selection Working Group (1994) notes that the Dampier Archipelago has a diverse coral fauna with 216 species of 57 hermatypic coral genera being recorded, and that some of the highest coral species diversity has been recorded in the inshore waters of the Archipelago. Conzinc Island has been identified as one of the local coastal areas with the highest coral diversity (Marine Parks and Reserves Selection Working Group, p. Part III - 29).

The Burrup Peninsula Draft Land Use and Management Plan also suggests that the introduction of exotic marine flora and fauna from ballast waters discarded from bulk carrying vessels in Mermaid Sound must be considered as a possibility.

5.3 Other issues

5.3.1 Aboriginal heritage values

The Burrup Peninsula has widely recognised Aboriginal heritage values, which are well recognised in the Burrup Peninsula Draft Land Use and Management Plan. Significantly it is considered that the Burrup Peninsula is recognised as one of the richest rock art and archaeological provinces in the world.

The northern end of the Burrup Peninsula, an area of approximately 1300 hectares, along with a smaller area to the south of this, were listed in the Register of the National Estate in 1980 for their Aboriginal values, and they are also Protected Areas under the Aboriginal Heritage Act (1972). An area to the south of the National Estate Area, which encompasses Conzinc Bay, has been proposed to be added to the National Estate because of its significance for Aboriginal heritage (O'Brien Planning Consultants 1994b).

5.3.2 Recreation values

The Burrup Peninsula Draft Land Use and Management Plan acknowledges that the Burrup Peninsula has high recreation and tourism values in the region. Much of this can be attributed to the landscape, natural features such as sandy beaches which are a rare resource in the vicinity of Karratha, wildlife, and the area's value in terms of Aboriginal heritage. Many of these values are associated with the land to the north of Withnell Bay. Particular concern has been

expressed by the community in submissions to the Burrup Peninsula Management Advisory Board regarding the need for the protection of the recreation values of Conzinc Bay.

6. Comments on Land Use Plan

6.1 Site specific proposals of the Land Use Plan

Table 1 summarises the EPA's comments on the site specific proposals contained in Burrup Peninsula Draft Land Use and Management Plan.

The sites in the table have been identified by the same title given to them in the Burrup Peninsula Draft Land Use and Management Plan (Figure 2). The comments apply to the general environmental acceptability and implications of allocation of a particular area of land to a designated type of land use and do not apply to specific development proposals.

The following provides further explanation of the information contained in the Table 1.

Industrial South

The Industrial South area at the southern end of the Burrup Peninsula could be environmentally acceptable. However, as an "entrance statement" to the Burrup Peninsula, consideration should be given to the management of potential landscape impacts, particularly in regard to hard rock quarries on the face of the Peninsula. Aboriginal heritage issues would also require resolution.

Management of amenity issues could possibly be achieved by preparation of landscape guidelines to be implemented by industries at the time of establishment.

King Bay - Hearson

The EPA understands that the Hearson Cove area is very popular with local residents and tourists of the area. If this use is to continue, the development of the adjoining area for industry purposes would have to take landscape impacts into account so that the quality of recreation experiences is not unduly reduced. In addition, potential risks and hazards associated with industries which may establish in the area would also need to be considered to ensure that recreation access could be maintained through the future. Further any impact of recreational activity also needs to be considered.

This area is susceptible to storm surge and this phenomena is well understood. The implication for industry, and more particularly for management of potential ecological risk associated with the development of industry in a storm surge area, should be a part of specific proposals.

Immediately to the west of the proposed heavy industry land is a large mangrove community at the eastern end of King Bay. It is considered this mangrove community should be protected and that the potential impact of industrial development and associated drainage and filling on this mangrove community requires further investigation when specific development proposals are considered.

The proposed heavy industry zoning of this area could be environmentally acceptable subject to the undertaking of appropriate investigations and resolution of these issues at the time of establishment of industry. Specific development may require environmental assessment by the EPA.

Table 1: EPA comment on Site Specific Proposals

Land use allocation/ site	Assessment Undertaken in Draft Plan	Future Assessment required	Further Study Required	Conclusions of EPA
Industrial South	A generic evaluation of the natural and social attributes of the Peninsula including flora, fauna, topography, geology, marine, Aboriginal heritage, recreation, industrial and economic values was undertaken.	All specific proposals for this area would be assessed under Parts IV or V of the Environmental Protection Act, as appropriate.	<ul style="list-style-type: none"> • Landscape amenity impacts • Aboriginal heritage implications. 	The allocation of land for industrial purposes in this area is generally environmentally acceptable. Landscape guidelines should be prepared and applied to manage aesthetic issues.
King Bay - Hearson	A generic evaluation of the natural and social attributes of the Peninsula including flora, fauna, topography, geology, marine, Aboriginal heritage, recreation, industrial and economic values was undertaken.	All specific proposals for this area would be assessed under Parts IV or V of the Environmental Protection Act, as appropriate.	<ul style="list-style-type: none"> • Recreation - if this area is to continue to be used for recreation, risks and hazards, landscape, and noise and air modelling studies will be required. • Mangroves - potential impact of specific industrial development on the mangrove community at the eastern end of King Bay needs investigation. • Storm surge - implications for industry and ecological risk management 	The allocation of land for industrial purposes in this area is generally environmentally acceptable. Further studies related to recreation mangroves and storm surge are required to be undertaken as part of specific development proposals. Risk and hazard, noise, and air buffers are required.
Burru West	A generic evaluation of the natural and social attributes of the Peninsula including flora, fauna, topography, geology, marine, Aboriginal heritage, recreation, industrial and economic values was undertaken.	All specific proposals for this area would be assessed under Parts IV or V of the Environmental Protection Act, as appropriate.	<ul style="list-style-type: none"> • Port sites - impact of dredging on marine environment. • Cumulative impacts of industrial development on the marine environment should be studied, predicted and managed. 	The allocation of this land for industrial purposes is generally environmentally acceptable.
Withnell East	A generic evaluation of the natural and social attributes of the Peninsula including flora, fauna, topography, geology, marine, Aboriginal heritage, recreation, industrial and economic values was undertaken.	All specific proposals for this area would be assessed under Parts IV or V of the Environmental Protection Act, as appropriate.	Aboriginal heritage sites - issue requires resolution	The allocation of this land for industrial purposes is generally environmentally acceptable.

Land use allocation/ site	Assessment Undertaken in Draft Plan	Future Assessment required	Further Study Required	Conclusions of EPA
Conzinc North	A generic evaluation of the natural and social attributes of the Peninsula including flora, fauna, topography, geology, marine, Aboriginal heritage, recreation, industrial and economic values was undertaken.	All specific proposals for this area would be assessed under Parts IV or V of the Environmental Protection Act, as appropriate.	Further strategic and detailed studies would be required consistent with those listed for Conzinc South should this area not be placed within the conservation zone.	<p>This area has in itself and is adjacent to areas which have acknowledged high conservation, heritage and recreation values. There is sufficient information supporting the protection of this land for conservation, heritage and recreation.</p> <p>This area should not be developed for future industry and should be allocated to the conservation zone.</p>
Conzinc South	A generic evaluation of the natural and social attributes of the Peninsula including flora, fauna, topography, geology, marine, Aboriginal heritage, recreation, industrial and economic values was undertaken.	All specific proposals for this area would be assessed under Parts IV or V of the Environmental Protection Act, as appropriate.	<p>Further strategic studies would be required, namely:</p> <ul style="list-style-type: none"> • terrestrial flora and fauna surveys; • marine habitat and fauna surveys; and • predicted risk levels and their consequences. <p>Specific development proposals for this area would need to undertake the site specific investigations which included:</p> <ul style="list-style-type: none"> • impacts from dredging and disposal of dredge spoil; • introduction of alien marine species, heavy metals and toxins; • use and disposal of water; • potential impacts from facilitating the spread of exotic flora and feral fauna; • fragmentation of environmental values by infrastructure corridors; • accidental leaks from industry; • air quality; • risks and hazards; and • noise impacts; and • light emissions. 	<p>This area has and is adjacent to areas which have acknowledged high conservation, heritage and recreation values. There is information supporting the protection of this land for conservation, heritage and recreation, which may lead to conflict with the plan's intention to allocate this area to industry.</p> <p>An orderly and systematic approach is required to examine and resolve any potential land use conflict before final land use is determined. The EPA should be involved in this process.</p> <p>Strategic studies identified need to be undertaken prior to any land allocation decision.</p> <p>Should allocation to industry take place, a range of site specific investigations would need to be undertaken to determine environmental acceptability of any proposal.</p>
Infrastructure Corridor	No assessment undertaken	Future assessment under Part IV of the Environmental Protection Act would be required.	Specific studies on the potential environmental impacts of this proposal would be required including impact on: flora, fauna, heritage, and recreation.	No judgement on potential environmental acceptability can be made because of the lack of environmental information. However, it is considered likely that the corridor required to cross Searipple Passage and Dolphin Island would be found environmentally unacceptable

Land use allocation/ site	Assessment Undertaken in Draft Plan	Future Assessment required	Further Study Required	Conclusions of EPA
Conservation Zones	Generic assessment undertaken		A detailed strategy is required for management of access in the most sensitive areas north of Withnell Bay, north of Hearson Cove, and in the Pistol ranges.	<p>Some distinction between management for recreation, heritage and conservation will be required.</p> <p>Any recreational development would need consideration by the EPA.</p> <p>Adequate resources should be provided to facilitate the preparation and implementation of a detailed plan.</p>

Burrup West

The proposed heavy industry zoning of this area (Figure 2) could be environmentally acceptable subject to appropriate management at the time of establishment of industry. Specific development proposals may require environmental assessment by the EPA.

Withnell East

The proposed heavy industry zoning of this area (Figure 2) could be environmentally acceptable. However it is apparent from information provided in the Burrup Peninsula Draft Land Use and Management Plan report and its technical appendices that this area contains many Aboriginal heritage sites. This issue would require resolution.

Specific development proposals may require environmental assessment by the EPA.

Conzinc North

The Conzinc North area (1.2 square kilometres) is a remote coastal area which contains important concentrations of Aboriginal sites. It lies within a Protected Area under the Aboriginal Heritage Act, and an area that is listed on the Register of the National Estate.

The general area has been documented in the Burrup Peninsula Draft Land Use and Management Plan report and its technical appendices as an area with outstanding conservation, heritage, and recreational values. It has also been identified as having value for industrial development because it is on the coast and adjacent to relatively deep water and therefore could provide for port development. Port development may be constrained by the existing offshore gas pipeline to Withnell Bay (O'Brien Planning Consultants 1994a).

The proposed Conzinc North industrial area is adjacent to Conzinc Bay, Conzinc Island and Searipple Passage which have high value corals, seagrasses and mangroves (sections 5.1.2, 5.2.1 and 5.2.2). These have value in their own right, and also provide a valuable habitat for a number of species including rare and endangered species. Conzinc Bay has recently been proposed to be reserved to protect its conservation and recreation values (section 5.2.1).

There is potential conflict between the conservation, and heritage values and the possible use as a recreation area, and the proposal to use these areas for industrial or port purposes. The existing conservation and heritage values would be fundamentally affected.

The central portion of Conzinc Bay, and Conzinc Island as well, should also be excluded from industrial development and be protected from any potential industrial development.

Based on the present information, the existing conservation and heritage values would be fundamentally affected by industrial development. As such the EPA does not consider industrial development to be appropriate for the area. To a lesser extent recreation use may pose a threat to this area and any use needs careful environmental evaluation.

Conzinc South

The Burrup Peninsula Draft Land Use and Management Plan states that the Conzinc South area (1.9 square kilometres) is in a rugged coastal area, and that it should only be used when other opportunities further south have been exhausted (O'Brien Planning Consultants, 1994a, p.62).

Conzinc South has been identified as having value for industrial development because it is on the coast and relatively close to relatively deep water and therefore could provide for port development. Port development may be constrained to some extent by the existing offshore gas pipeline to Withnell Bay (O'Brien Planning Consultants, 1994a).

The Burrup Peninsula Draft Land Use and Management Plan report and its technical appendices point out the high conservation, heritage, and recreational values of the area.

The proposed Conzinc South industrial area is adjacent to Conzinc Bay and Conzinc Island have high value corals, seagrasses and mangroves (refer Sections 5.1.2, 5.2.1 and 5.2.2). These features provide a valuable habitat for a number of species including rare and endangered species. As mentioned previously, Conzinc Bay has been proposed to be reserved because of its conservation and recreation values.

These habitats are sensitive to disturbance, their values need to be investigated and any industrial development needs to recognise these values. The Burrup Peninsula Draft Land Use and Management Plan was not intended to be a detailed review of potential environmental impacts of industrial development on these identified values. There are several strategically important issues which need to be addressed prior to an allocation decision being made. These relate to the specific values of the area and some significant implications that would arise from industrial development. There is insufficient baseline environmental information to allocate Conzinc South to an industrial zone. To ensure the area and any implications for rare and endangered species and other uses are well understood, the following work needs to be completed:

- terrestrial flora and fauna surveys;
- marine habitat and fauna surveys; and
- predicted risk levels and consequential restrictions;

Should these surveys show an abundance of rare and endangered flora and fauna, the probability of substantial restriction required to be imposed on other uses through risk and hazard management, or significant heritage value, Conzinc South should be included within the conservation zone.

If these surveys indicate that the Conzinc South area does not have significant environmental values, the EPA considers that the area could be allocated to the industry zone. The EPA should be involved in the resolution of the potentially conflicting values and hence land uses for Conzinc South.

A range of specific issues would need to be assessed to determine the environmental acceptability of any development proposal. These issues would include:

- impact of dredging and disposal of dredge spoil on coral and marine habitats;
- potential introduction of alien marine species on the marine biota;
- impact of infrastructure corridors needed to access Conzinc South;
- impact of heavy metals and other toxins used for anti foul and corrosion protection on ships and marine structures;
- effect of accidental leaks from industries on mangrove and coral communities and other habitats;
- impact on air quality;
- source of water for use by industry, and effect of subsequent disposal;
- risk and hazard implications;
- waste disposal;
- noise impacts; and
- light overspill impacts

The location of industry on the southern end of Conzinc Bay may limit the suitability of Conzinc Bay and possibly Withnell Bay for recreation due to industry risk management requirements, which could exclude or limit public access on the basis of public health and safety. Industrial development on Conzinc South could also affect other users from an aesthetic point of view.

Infrastructure Corridor

Although the proposed Infrastructure Corridor has not been part of any discussions in the Burrup Peninsula Draft Land Use and Management Plan, it has been included in all figures showing land use allocations for the Peninsula (see Figures 2 and 3).

The EPA considers that the potential environmental impacts of the corridor itself have not been evaluated. It is believed that because the corridor traverses areas with identified high conservation, heritage and recreation values, and because it logically leads to a requirement for access across the System Recommendation 8.5 area of Searipple Passage and Dolphin Island (a Nature Reserve) to Legendre Island, it is essential that a proper environmental impact assessment is undertaken before any decisions are made to pursue the corridor concept.

The EPA considers that such a proposal would be likely to be found environmentally unacceptable. The EPA believes that the difficulties in making this access across the northern Burrup Peninsula to Dolphin and Legendre Islands environmentally acceptable will be considerable and should not be underestimated.

Conservation zones

Much of the Burrup Peninsula flora and fauna has not been adequately mapped. However, sufficient is known about the Peninsula to set aside areas for protection.

The Conservation Zones identified are environmentally acceptable and are supported by the EPA. The Burrup Peninsula Draft Land Use and Management Plan presents strong justification for this zone.

6.2 Regional Perspective

The EPA supports the formulation of a plan for the Burrup Peninsula, and appreciates the difficulties in attempting to accommodate the competing uses for the Peninsula. It is considered that this plan is an improvement on that which was included in the Pilbara 21 study, though there are a number of issues which require further investigation and resolution.

The Burrup Peninsula Draft Land Use and Management Plan is intended to substantially influence the evolving patterns of land use in the coastal Pilbara. It also has the potential to determine the ultimate fate of some outstanding conservation and heritage values that may not be replicated elsewhere, and almost certainly not replicated in terms of their richness. As such, the allocation of land at this stage for particular uses is a crucial and fundamental step in determining the level of environmental protection afforded to certain areas. If an area of land is incorrectly allocated, it will be extremely difficult to achieve the protection of the environmental values of that area through assessment of specific development proposals at a later stage.

The EPA believes that any plan for the Burrup Peninsula should be placed within the context of an overall plan for the Pilbara region. The Pilbara 21 study, which was finalised in June 1992, commenced the process of providing a regional plan for the Pilbara. The State Government accepted that plan as the basis for future development strategies in the Pilbara. Since then, the Department of Resources Development has been investigating a number of different sites to facilitate industrial development in the Pilbara in a series of separate studies. These include the Karratha, Cape Lambert, and Port Hedland heavy industry site studies.

The EPA is presently reviewing the proposed Maitland Industrial Estate west of Karratha and the Boodarie Industrial Estate west of Port Hedland, as well as considering several specific major industrial development proposals close to but outside these estates.

Where land has already been allocated to the Industrial zone, usually through existing Agreement Acts, there may be the capacity to review future development of that land and negotiate reallocation to alternative industrial developments. The EPA would encourage such a review to ensure that land suitable for industrial development is utilised for that purpose.

While the EPA accepts that not all developments will necessarily fit into a strategic plan, there are enhanced levels of confidence that can be given when planning is undertaken at a strategic, usually regional, level. The preparation of a detailed regional land use plan based upon the principles of sustainable development and protection of the biodiversity of the Pilbara region should be undertaken.

7. Comments on the Management Plan

It is recognised that the Burrup Peninsula Draft Land Use and Management Plan provides a general overview on management requirements for the Burrup Peninsula. The next stage of development of this plan, which should take place as soon as possible, should include greater detail to facilitate improved land management. For example, distinction should be made within the Conservation zone between management requirements for heritage protection, recreation, or conservation areas, as the objectives of each of these can be quite different, and in some instances, can be in conflict. If there is a lack of differentiation between these requirements then significant difficulties for the identified management agency could result. Of particular importance is the need to have a detailed strategy for the management of access in the most sensitive areas north of Withnell Bay, north of Hearson Cove, and in the Pistol Ranges.

Likewise, the interim management arrangements of the industrial zones and the objectives to be applied to those areas should be clearly articulated in the next level of documentation.

The identified management agency should be given the scope and resources to develop a detailed management plan for the Peninsula which will protect and enhance all of the identified values in the areas currently allocated to the Conservation zone, not just to the value suggested by the name.

The Burrup Peninsula Draft Land Use and Management Plan indicates that the Industrial Zone areas would be managed in the interim period by the Department of Conservation and Land Management. The EPA supports complementary management of undeveloped and conservation zoned portions of the Burrup Peninsula.

In part the plan should identify the environmental issues and objectives and set out management procedures, including performance indicators, frequent performance audits and regular reviews. Best practice and continuous improvement techniques should be a feature of the plan.

8. Conclusions

The EPA recognises that the Burrup Peninsula has a range of outstanding natural and human values that require protection and management. At the same time, the importance of this area to existing and future economic development is acknowledged. This Burrup Peninsula Draft Land Use and Management Plan is an attempt to achieve an acceptable compromise between then different and potentially competing values.

In doing so, the EPA considers that the preferred land allocation option presented in the Burrup Peninsula Draft Land Use and Management Plan requires amendment to take account of the special significance of some of the natural and human values.

At the same time, other opportunities related to better utilisation of existing industrial land need to be explored further.

The EPA considers that the final Burrup Peninsula Land Use and Management Plan should:

- allocate Conzinc North to the conservation zone;
- in view of the lack of information, undertake flora, fauna, marine and potential risk surveys of the Conzinc South area. Based on this additional data, then determine the suitability of the area for industrial land;

- ensure there is an orderly systematic approach, which includes the EPA, for examining and resolving the conflicting environmental and industrial values of Conzinc South, prior to a decision being made on land use allocation;
- exclude the infrastructure corridor north of Conzinc Bay;
- concentrate industrial development to the south of Conzinc Bay;
- review existing Agreement Act leases to see if additional currently under-utilised industrial land could be made available for industry;
- undertake further investigation into the potential impacts of proposals for industrial development on the mangrove communities in the King Bay-Hearson Cove area;
- endorse the interim management arrangement for the proposed industrial areas;
- support the preparation of a detailed management plan for the proposed conservation zone on the Burrup Peninsula which differentiates and facilitates the management of areas within the zone for their different values: that is, conservation, heritage, and recreation;
- include a commitment to develop guidelines for managing impacts of industry on landscape amenity and ensure that proposals for development comply with the guidelines; and
- include a commitment to develop environmental guidelines for future industrial development based upon environmental issues and objectives for the Burrup Peninsula and set out management procedures, including performance indicators, frequent performance audits and regular reviews. Best practice and continuous improvement should be a feature of the guidelines.

9. References

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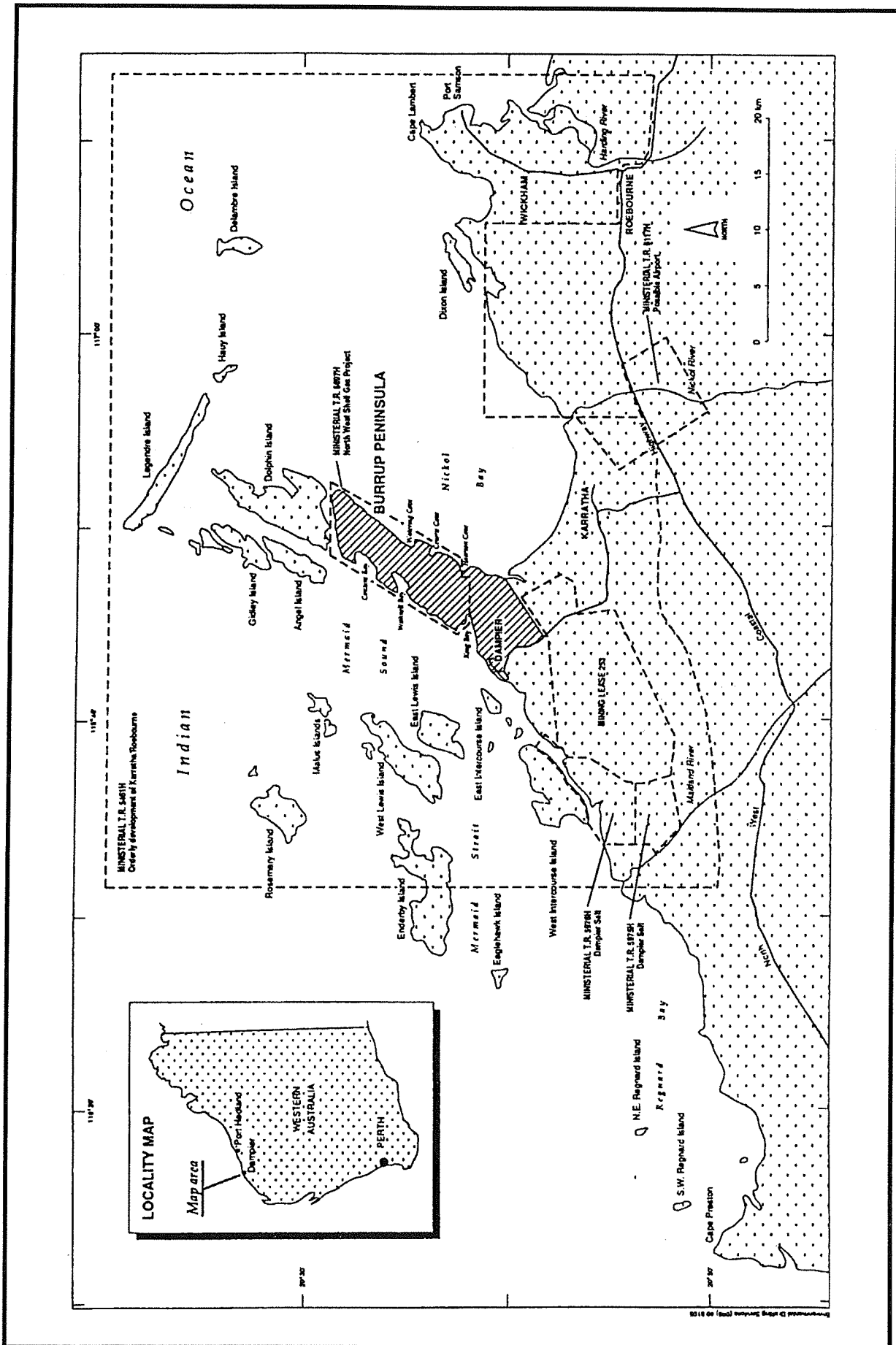


Figure 1. Burrup Peninsula Regional Setting. (Source: O'Brien Planning Consultants, 1994)

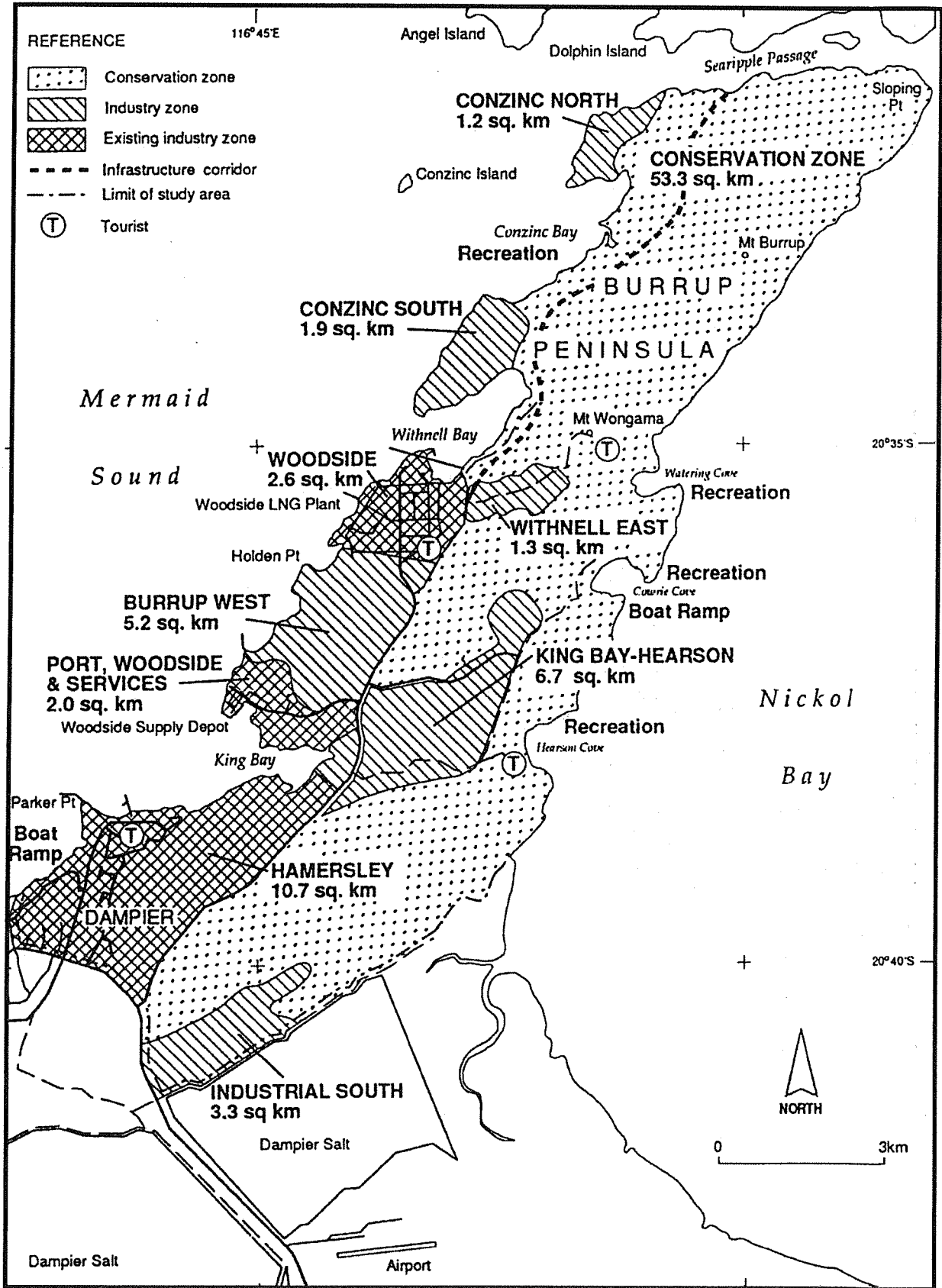


Figure 2. Burrup Peninsula Land Use Plan. (Source: O'Brien Planning Consultants, Burrup Peninsula Draft Land Use and Management Plan 1994)

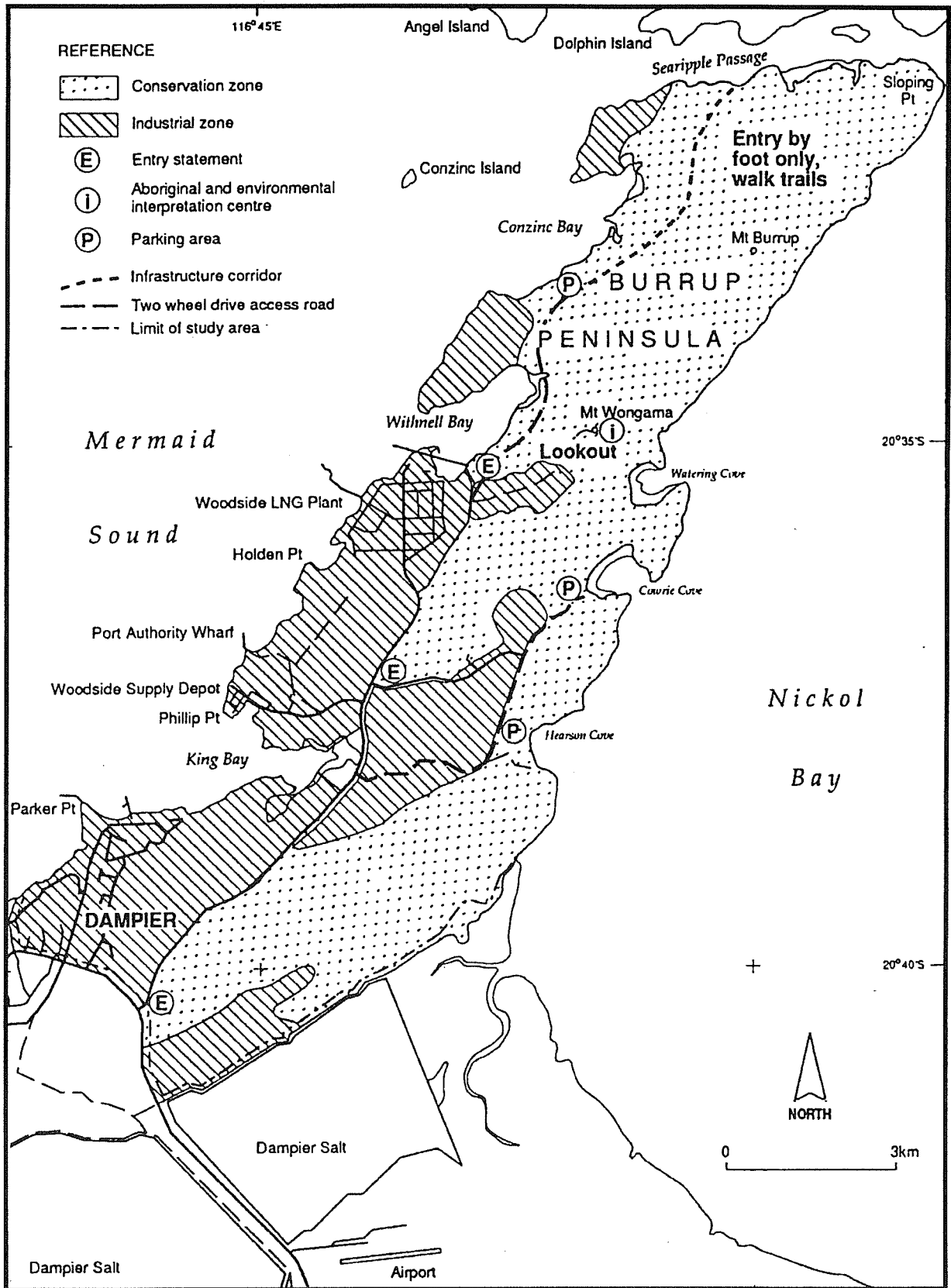


Figure 3. Burrup Peninsula Management Plan. (Source: O'Brien Planning Consultants, 1994)

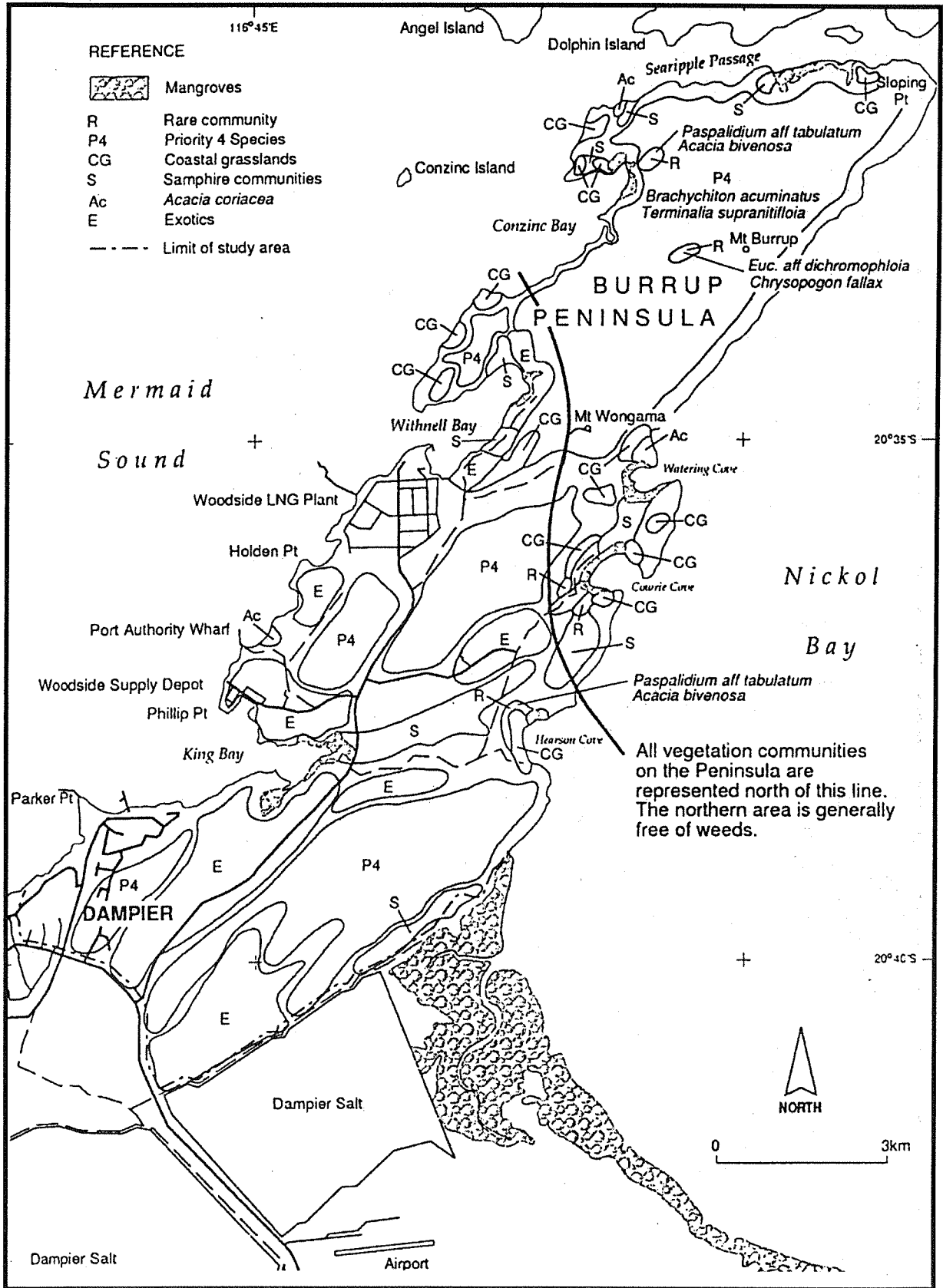


Figure 4. Burrup Peninsula Vegetation Associations. (Source: O'Brien Planning Consultants, 1994)

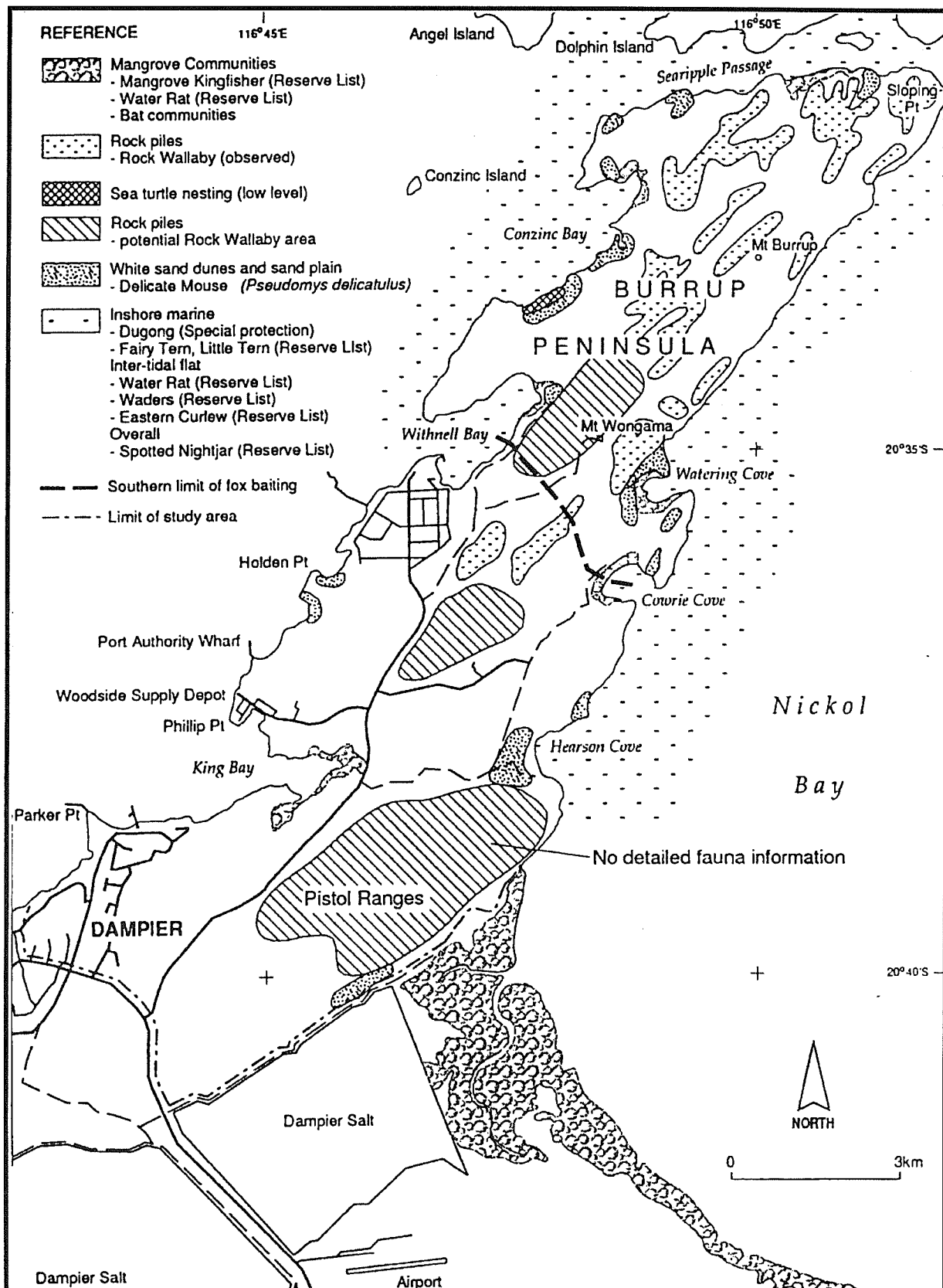


Figure 5. General Distribution of Fauna on Burrup Peninsula. (Source: O'Brien Planning Consultants, 1994)

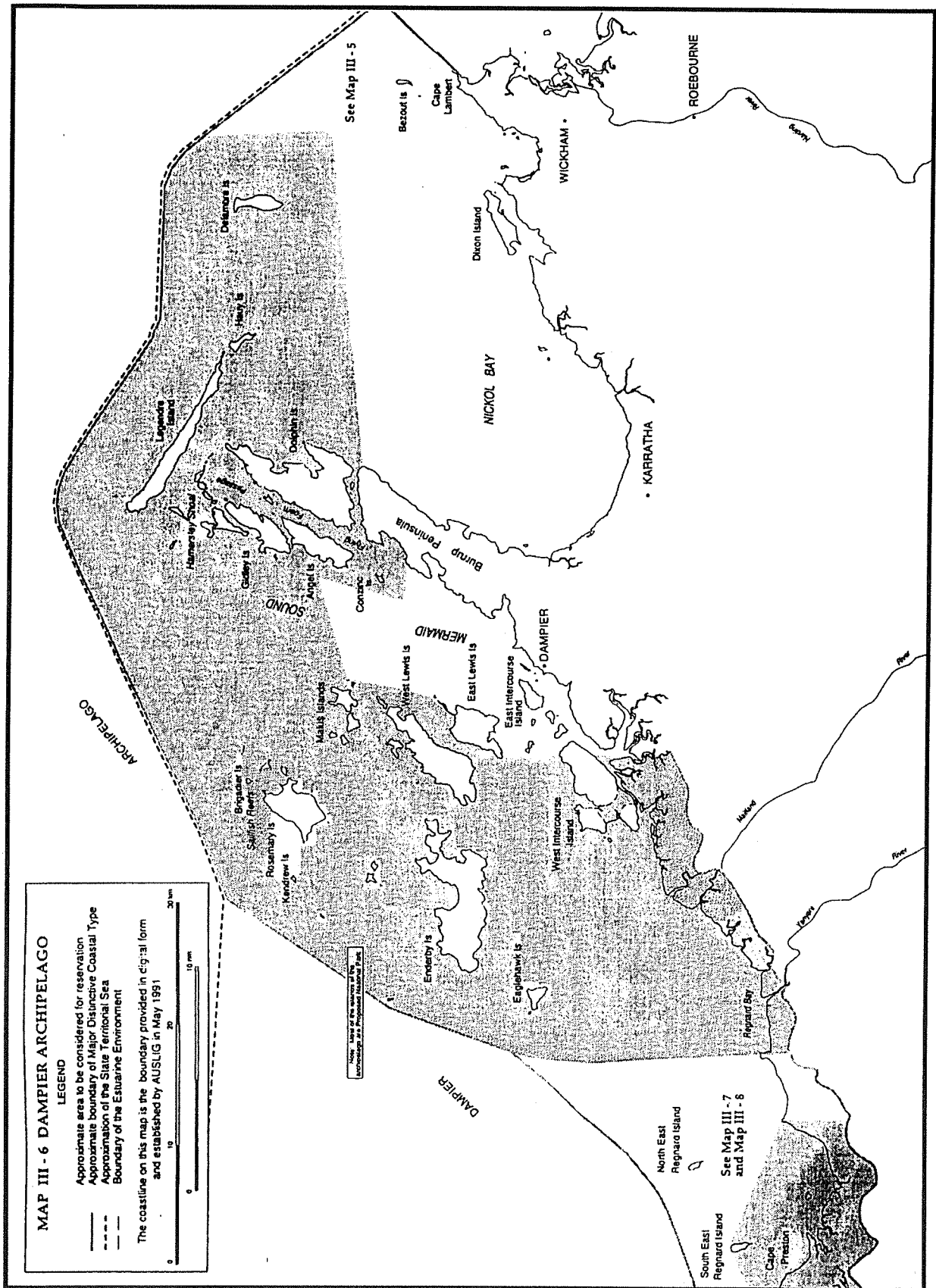


Figure 6. Proposed Dampier Archipelago Marine Reserve. (Source: Marine Parks and Reserves Selection Working Group 1994)