

Exmouth-Learmonth (North West Cape) Structure Plan

Minister's Foreword

Chairman's Message

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Exmouth-Learmonth (North West Cape) Structure Plan

Final



WESTERN AUSTRALIAN
PLANNING COMMISSION

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MINISTER'S FOREWORD FOREWORD

The North West Cape is a beautiful and unspoilt part of Western Australia, which is gaining recognition as an important tourist destination. It contains a scenic and rugged coastline and landscape which is of international significance.

The area has many natural and environmental attractions, including the Ningaloo Reef and its clear waters, the sandy beaches of the west coast, the magnificent Cape Range and Yardie Creek, offshore islands and the tidal flats fringing the southern portions of the Gulf.



The State Planning Strategy proposed a number of detailed plans for the growth areas throughout the State. These areas are experiencing economic and population growth. The North West Cape is subject to increasing visitor pressure and public interest. Although the level of predicted population growth is relatively low in State terms, it is important that such a sensitive environment is carefully planned.

This Structure Plan provides a vision for the direction of the growth of Exmouth and the North West Cape over a 30-year planning horizon. The plan was developed in conjunction with a wide range of government agencies and local government. It represents a balanced approach to land use planning for the future of North West Cape. It will provide a comprehensive guide for government, developers and the community for land use decisions within the townsite and the Cape. Implementation of the Structure Plan will be

through the Gascoyne Coast Planning Coordinating Committee and the Shire of Exmouth Town Planning Scheme.

I would like to thank all those involved in the preparation of the plan, especially those members of the Gascoyne Coast Planning Coordinating Committee.

A handwritten signature in blue ink, consisting of a stylized 'GK' followed by a large, sweeping loop.

GRAHAM KIERATH MLA
Minister for Planning

MESSAGE FROM THE CHAIRMAN

It is expected that over the next 30 years, the Gascoyne Region will become the State's premier water-based and environmental tourism area. The Ningaloo Marine Park will be the major attraction on the North West Cape. Tourism, mining, commercial fishing and aquaculture will provide the economic basis for the region.

Exmouth provides the focus for future development in the region. The future role of Exmouth is being anticipated through the establishment of the boat harbour and associated marina development.

The Gascoyne Coast Planning Coordinating Committee (GCPCC) undertook the preparation of this Structure Plan at the request of the Western Australian Planning Commission (WAPC). Structure plans are an integral part of the planning process.

This Structure Plan is a progression from and builds on detail from the *Gascoyne Coast Regional Strategy*. It recognises strategic goals as laid out in the *Gascoyne Coast Regional Strategy* and other planning studies, and interprets them in terms of the physical arrangement of land uses. It provides a strategy to create opportunities for economic growth while maintaining social and environmental values.

The primary focus of the Structure Plan is to promote sustainable uses that enable diversification of the economy while protecting the fragile environment of the North West Cape. To achieve this the plan provides a framework for State and local government decision-makers in considering development proposals, providing a level of certainty to the local community in terms of the type and scale of development that will occur.

The Structure Plan recognises that all major urban, tourism and commercial development should be confined to the east coast of the North West Cape and more specifically to within the Exmouth townsite boundary. To achieve this the Structure Plan identifies further land for residential, special residential and rural-residential within the townsite boundary to accommodate growth which is in excess of the anticipated future population requirements. Four potential sites for the development of low-impact / small-scale tourism development have been identified on the West Coast to cater for the demand for tourism accommodation in this area.



A handwritten signature in blue ink, which appears to read 'Anne Arnold'. The signature is stylized and fluid, with a long horizontal stroke extending to the right.

ANNE ARNOLD
Chairman
Gascoyne Coast Planning Coordinating Committee



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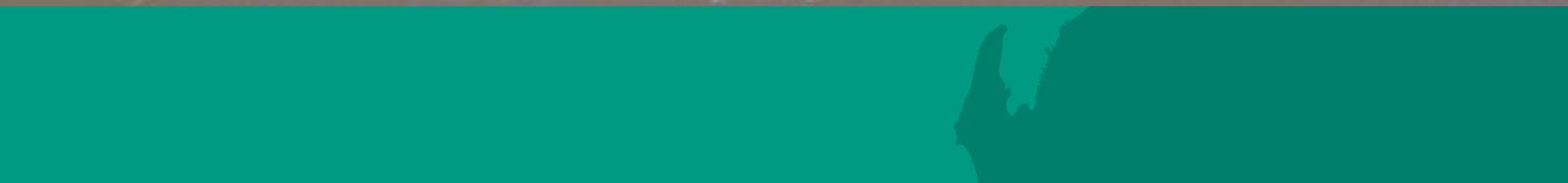
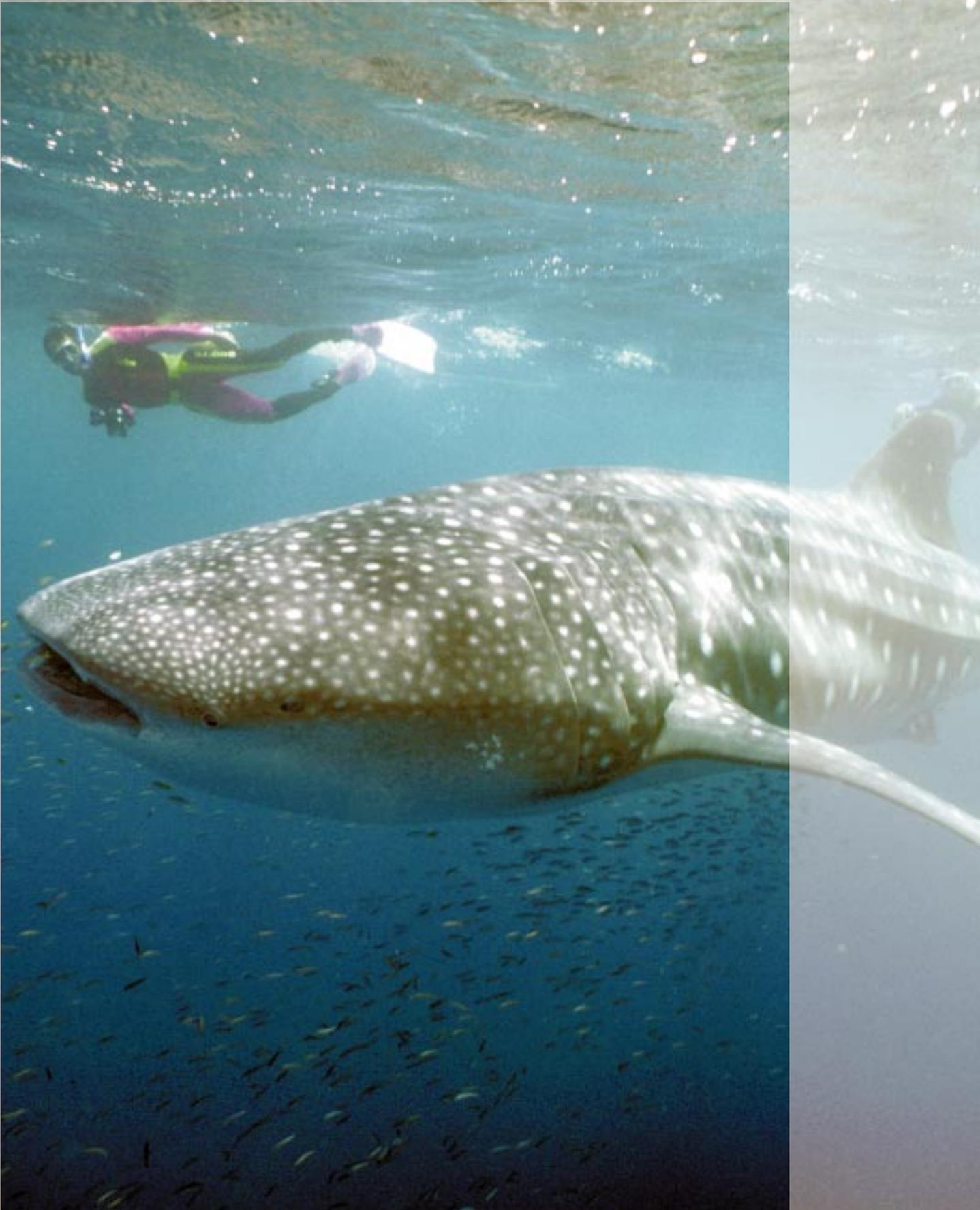
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Photograph courtesy of WA Tourism Commission



EXECUTIVE SUMMARY

In November 1996 the Western Australian Planning Commission (WAPC) recommended that a Structure Plan be undertaken for the Exmouth-Learmonth area.

The need for a Structure Plan was recognised in view of the strong potential for growth in this part of the Gascoyne Region, and the need to provide a detailed framework for land use development in the foreseeable future.

The Structure Plan has addressed the study area in the following way:

- I. Planning Unit 1 is the area of focus given the high pressure for development and is the subject of a detailed analysis.
- II. Planning Units 2, 3 and 4 provide the sub-regional context for Planning Unit 1, and the structure plan provides planning direction for their future development.

Implementation of the Structure Plan will be the responsibility of State and local government agencies. The Structure Plan provides a planning framework for consideration of development proposals and guidance for the preparation of the Shire of Exmouth Town Planning Scheme and the northern part of the Shire of Carnarvon District Zoning Scheme.

MAJOR OBJECTIVES

The primary focus of the Structure Plan is:

- To promote sustainable uses that enable diversification of the economy while protecting the fragile environment of the North West Cape.

Objectives in support of this are:

- To conserve land with significant environmental value.
- To protect groundwater as part of the human and subterranean environment.
- To retain the wilderness values of the fragile coastal environment of the west coast which is of national significance.
- To provide for the orderly development of the Exmouth townsite.
- To provide adequate land in a variety of lot sizes, appropriately located and serviced, for the residential, commercial, recreational, cultural and industrial needs of Exmouth, to cater for the future development of the town.
- To minimise the impact on the natural environment of future industrial development.
- To identify and agree a defined character for Exmouth in its existing and future role as a sub-regional tourism and service centre, bearing in mind the environmental and aesthetic fragility of the surrounding sub-region.
- To appropriately locate large-scale tourism development in serviced areas and provide opportunities for a range of accommodation types.

EXECUTIVE SUMMARY

Planning Unit 1 (Exmouth-Learmonth)

The Structure Plan for Planning Unit 1 provides sufficient residential land to accommodate a population of approximately 5,200. There are several constraints to accommodating people on the Cape given the climatic conditions and environmental constraints. The major constraint to development beyond 10-20 years will be the availability of potable groundwater for human use and other sources of fresh water will be needed to accommodate population should all the identified land be developed.

A number of locations within the Exmouth townsite boundary have been identified for the provision of a range of future residential, commercial and industrial uses. The Structure Plan recognises the importance of the preparation of townscape and landscape plans for the Exmouth townsite and encouragement is provided to locate all future large-scale tourism development within the existing urban settlement at Exmouth.

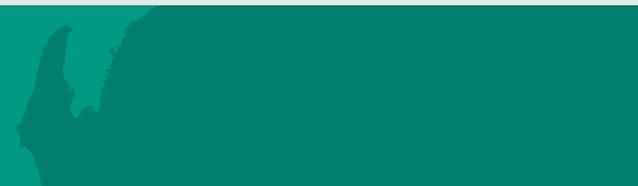
Proposed extensions to Cape Range National Park to the east and south, investigations into the area north of Cape Range National Park and CALM's proposed section 5(g) reserve, under the *Conservation and Land Management Act 1985* are supported. The section 5(g) reserve will be set aside for Limestone Resource Management. The Structure Plan recognises the recommendations of the draft Water Resources Protection Plan for Exmouth and designates the catchment area as the Exmouth Groundwater Catchment Reserve.

Planning Units 2 and 3 (Cape Range and Ningaloo)

These Planning Units which contain the scenic west coast and range landscapes represent an internationally significant ecological, educational, scientific and recreational resource. The Structure Plan indicates the west coast is not suitable for large-scale tourism development given its lack of water resources, infrastructure and constraints on accessibility. Although four general locations have been identified (Milyering, Lefroy Bay, Winderabandi and Ningaloo) for potential tourism development in the short to medium term, only two sites are available for development of small-scale/low-impact tourism accommodation, such as 'ecolodges' until the impacts on the environment can be quantified. The Structure Plan recommends that all tourism development proposals should be assessed in accordance with the Gascoyne Coast Planning Coordinating Committee's Environmental and Planning Guidelines for Tourism Development on the North West Cape (once these are completed and adopted).

Planning Unit 4 (Exmouth Gulf)

The Structure Plan recommends that the southern and eastern side of Exmouth Gulf be protected and managed as a Marine Park. There should also be promotion of aquaculture projects in the area and diversification of pastoral pursuits, including small-scale/low-impact tourism and recreation developments on pastoral land.



EXECUTIVE SUMMARY

SUMMARY OF PLANNING OBJECTIVES, GUIDELINES AND ACTIONS

The Structure Plan contains a series of overriding planning objectives which were used to formulate the guidelines and actions for the North West Cape. The following planning objectives, guidelines and actions are taken from Part Three of this Structure Plan. For easy reference they are reproduced here.

Planning Unit 1 - Exmouth-Learmonth

Planning Objective

- To provide for the orderly development of the Exmouth townsite.

RESIDENTIAL

Planning Objective

- To provide for sufficient and appropriately serviced land to accommodate future housing needs.

Guidelines and Actions

- Focus all new development on the Exmouth townsite to avoid unnecessary expansion and duplication of infrastructure such as water, power and sewerage (MfP, LG, DOLA).
- Examine opportunities for higher density development on vacant lots or infill development within the existing residential areas of Exmouth (LG, MfP).
- Develop the Exmouth marina residential component in accordance with any conditions contained in agreements between the State Government and a prospective developer (LandCorp/LG, MfP, GDC, DOCAT, WAPC).
- Restrict residential development to within the existing Exmouth townsite boundary (LG/MfP/DOLA).
- Encourage future subdivision design to reflect the function of Exmouth as a coastal Western Australian community (LG/MfP/DOLA).
- Future urban development to recognise physical characteristics as identified in the land capability/suitability assessment with appropriate development techniques to be applied, particularly on the moderately dissected lower slopes of Cape Range (LG/DOLA/MfP).
- Base any development within the townsite on appropriate water-sensitive design criteria suited to a karst environment, to minimise water requirements and manage drainage issues and impacts on karst and the associated stygofauna (LG/DEP/Proponent/WRC, DOLA, MfP, GDC).
- Future subdivisions should provide a geotechnical assessment to support any proposed new development (LG/DEP/MfP/Proponent).
- Examine options for water resource use efficiency and desalination of groundwater as soon as possible (WRC, WC).

EXECUTIVE SUMMARY

- Undertake and upgrade the level of research associated with the groundwater resource to ensure environmental, social and economic objectives are met as soon as possible (WRC, WC, GDC).

SPECIAL RESIDENTIAL/RURAL-RESIDENTIAL

Planning Objectives

- To provide appropriately located special residential/rural-residential lots within the Exmouth townsite, connected to services whenever possible.

Guidelines and Actions

- Provide for a minimum lot size of 1ha in the designated rural-residential area on Heron Way, with a requirement that all lots to be connected to reticulated water and if practicable sewerage (LG/WC, MfP, DOLA, WRC).
- Promote the development of 1ha rural-residential on the site of the proposed racecourse to provide a consolidation of the existing use, with a requirement for all lots to be connected to reticulated water and if practicable sewerage, if the site is not required as a racecourse (DOLA, LG, MfP)

COMMONWEALTH LAND

Planning Objective

- To locate on Commonwealth land adjoining the townsite activities that complement the Exmouth townsite and do not conflict with defence activities.

Guidelines and Actions

- Discourage non-defence activities at the naval communications station which would detract from the consolidation of the Exmouth townsite as the principal service centre (Defence/LG, GDC, MfP).
- Promote relocation of the wastewater treatment plant to the naval communications station land north of Willersdorf Road, subject to defence and environmental approval (WC/Defence, LG, DEP, MfP).

COMMERCIAL

Planning Objective

- To provide adequate land, appropriately located and serviced, for the commercial needs of Exmouth.

Guidelines and Actions

- Locate all major commercial development i.e. retail, office and civic within the Exmouth town centre (LG, MfP).
- Identify and facilitate development of land available for commercial uses within the townsite (LG, MfP).

EXECUTIVE SUMMARY

INDUSTRIAL

Planning Objectives

- To provide adequate land, appropriately located and serviced, for a range of industrial uses.
- To minimise the impact on the natural environment of future industrial development.

Guidelines and Actions

- Prepare a detailed structure plan, including geotechnical assessment, for the proposed strategic industrial site on Lot 51, Lyndon Location 221 (LG/MfP).
- The development of the strategic industrial site to incorporate appropriate water-sensitive design criteria suited to a karst environment to minimise water requirements, manage drainage issues and impacts on karst and associated stygofauna (LG/DEP/Proponent/WRC).
- Address limitations to development as outlined in the land capability/suitability assessment as part of any proposed industrial development (LG/DOLA/MfP).

RECREATION AND CULTURAL FACILITIES

Planning Objective

- To provide adequate appropriately located land for the recreational, community and cultural needs of Exmouth.

Guidelines and Actions

- Proposed residential areas should incorporate adequate provision of public open space or native landscaped areas (LG/MfP/DOLA).
- Prepare a recreation and cultural needs strategy for Exmouth to appropriately allocate recreation, community and cultural facilities (LG).
- Provide appropriate access to coastal areas from the townsite through the recreation precinct (LG).

URBAN DESIGN AND TOWNSCAPE

Planning Objectives

- To identify and agree a defined character for Exmouth in its existing and future role as a sub-regional tourism and service centre, bearing in mind the environmental and aesthetic fragility of the surrounding sub-region.
- To initiate and adopt design guidelines, in support of the identified and agreed character, to inspire and guide all future development in the town, and to encourage all development to be environmentally and climatically responsive and sustainable.
- To harmonise and minimise the visual and physical intrusiveness of all development activities in the town, within and upon the surrounding natural environments in terms of colours, materials, volume and scale.

EXECUTIVE SUMMARY

Guidelines and Actions

- Prepare a townscape plan for the Exmouth townsite (LG, MfP).
- Prepare a detailed town centre plan addressing car parking, pedestrian and traffic movement (LG, MfP).

TOURISM DEVELOPMENT

Planning Objective

- To appropriately locate large-scale tourism development in serviced areas and provide opportunities for a range of accommodation types.

Guidelines and Actions

- Encourage large-scale tourism development such as hotels, motels and resorts to locate within the Exmouth townsite at a scale and design which accords with the (to be prepared) townscape and landscape plans for Exmouth (LG, WATC, MfP, WAPC).
- Address limitations to development as outlined in the land capability/suitability assessment as part of any proposed tourism development (LG/DOLA/MfP).
- Prepare foreshore management plans in association with any tourism development in accordance with WAPC policy (LG, MfP).
- Develop sites along the beachfront for recreation e.g. barbecue and picnic facilities in settings with natural vegetation and landscaped areas (LG).
- Rationalise and upgrade access and parking facilities to the town beaches, particularly the beach abutting the marina (LG).
- Prepare a visual amenity plan to control landscaping and building development on the land each side of the Minilya-Exmouth/Murat Road between the Learmonth Airport and Exmouth townsite (LG, MfP).

CONSERVATION

Planning Objectives

- To conserve land with significant environmental value.
- To protect groundwater as part of the human and subterranean environment.

Guidelines and Actions

- Extend the Cape Range National Park (see Figure 9) as proposed by:
 - CALM to the east and south in its *Cape Range National Park Management Plan 1987-1997*, with the exception of land within the proposed 5(g) reserve; and
 - the EPA to the east in *Conservation Reserves for Western Australia* to (but not including) the scenic amenity corridor along Murat Road south of Shot Hole Canyon Road (CALM, LG, MfP).

EXECUTIVE SUMMARY

- Set aside the proposed section 5(g) reserve under the *Conservation and Land Management Act*, for Conservation and Limestone Resource Management (DME/CALM/DEP).
- Assess the land north of Cape Range National Park, for inclusion in the National Park as part of the review of the Cape Range National Park Management Plan. This review should be undertaken as a matter of priority. In the interim, protection from inappropriate development will be provided through the provisions of the Shire of Exmouth Town Planning Scheme (CALM, LG, WAPC, EPA, DOLA).
- Undertake investigations into the environmental value of the Conservation and Recreation Area (refer Figure 9) to the north-west and west of the Exmouth townsite (CALM/DEP, LG).
- Investigate management options for the Conservation and Land Use Investigation Area and Conservation and Recreation Area (CALM/DEP/LG, GDC, PGA).
- Recognise the recommendations of the Exmouth Water Reserve - Water Source Protection Plan and designate the catchment area as the Exmouth Groundwater Catchment Reserve (LG/WRC, MfP, GDC).

Planning Units 2 and 3 - Cape Range and Ningaloo

Planning Objective

- To retain the wilderness values of the fragile coastal environment of the west coast which is of national significance.

Guidelines and Actions

- Assess the land north of Cape Range National Park, for inclusion in the National Park as part of the review of the Cape Range National Park Management Plan. This review should be undertaken as a matter of priority. In the interim, protection from inappropriate development will be provided through the provisions of the Shire of Exmouth Town Planning Scheme (CALM, LG, WAPC, EPA, DOLA).
- Extend the Cape Range National Park in the medium to long term to include the RAAF bombing range and the Ningaloo pastoral lease. In the interim, promote negotiations between CALM, Defence and Ningaloo pastoral lessees for the purpose of establishing a management agreement over the coastal portion of the RAAF bombing range and Ningaloo pastoral lease (CALM/Defence, LG, MfP).
- Investigate the transfer of Commonwealth roads within the RAAF bombing range to State and local government (GDC/LG/Defence).
- Support a limited amount of development, preferably in the form of wilderness lodge style accommodation (i.e. low-impact accommodation) in order to retain the wilderness values of the west coast. Other forms of tourism development will be considered only where it is demonstrated that it will protect the wilderness values and environmental sensitivities of the west coast (CALM/LG, WATC, DEP, MfP, WAPC, GDC).

EXECUTIVE SUMMARY

- Limit the development of tourism accommodation in the short to medium term to two of the following general locations:

- Milyering
- Lefroy Bay
- Winderabandi
- Ningaloo,

in addition to a site north of Yardie Creek offered to the preferred developer of the resort at the Exmouth Marina in accordance with Cabinet's decision.

(WAPC/WATC/CALM, LG, EPA)

- Assess development along the west coast in accordance with the Gascoyne Coast Planning Coordinating Committee's Environmental and Planning Guidelines for Tourism Development on the North West Cape, which may be further assessed by the EPA if deemed to be environmentally significant (WAPC, DEP, CALM, MfP, LGs).
- Investigate the viability of alternative sources of power generation for heating, air-conditioning and power generation for low-impact tourism development at specified locations along the west coast (OE, WP, LG, GDC, WAPC).
- Set back all development along the west coast from sensitive and unstable coastal landforms and areas prone to potential sea level rises from both storm surge and tsunamis (CALM, LGs, DEP, MfP).
- Investigate the alignment and construct the Ningaloo access road to Type 3 formed gravel road standard (MRWA, DoT, LG).
- Investigate the construction of the Ningaloo to Yardie Creek track to a Type 2 formed road (MRWA, DoT, LG, CALM, DEP, GDC, WAPC).
- Investigate the construction of the Coral Bay to Ningaloo track to a Type 2 formed road (MRWA, DoT, LG, CALM, DEP, GDC, WAPC).
- Investigate the environmental and economic feasibility of upgrading and extending Charles Knife Road, and carefully design and manage the road (MRWA, DoT, LG, CALM, DEP, GDC, WAPC).

Planning Unit 4 - Exmouth Gulf

Planning Objective

- To promote sustainable uses that enable diversification of the economy while protecting the fragile environment.

Guidelines and Actions

- Promote the development of aquaculture projects in the area, including pearls, clams and wet fish (FWA, GDC, DEP, LG).
- Protect and manage the southern and eastern side of Exmouth Gulf as a Marine Park (CALM, FWA, GDC).

EXECUTIVE SUMMARY

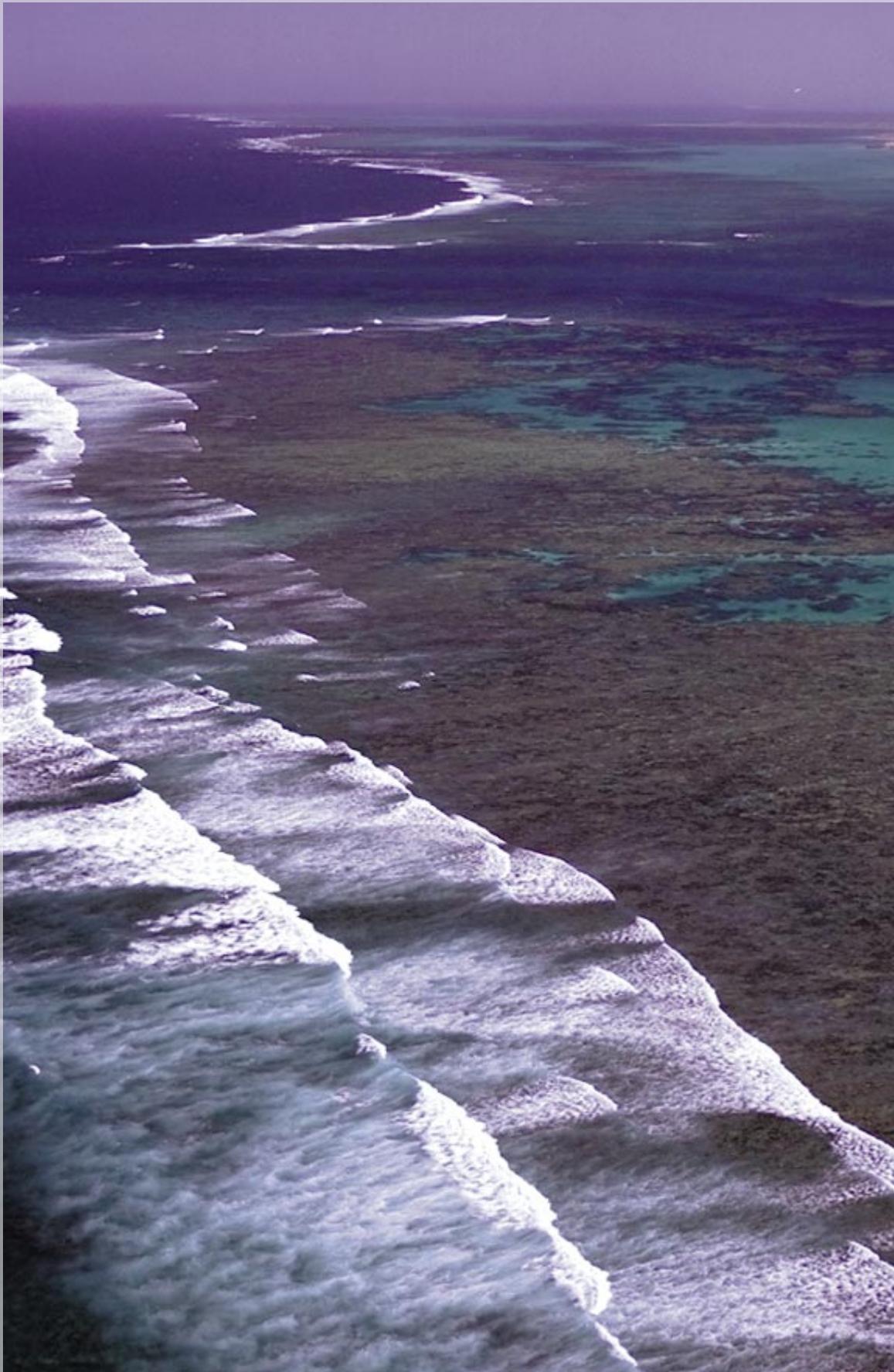
- Encourage Fisheries Western Australia to prepare an aquaculture development plan aimed at identifying specific sites in the Exmouth Gulf for aquaculture (GDC, FWA, MfP, WRC).
- Promote the diversification of uses on pastoral land such as small-scale/low-impact tourism and recreation development, in keeping with local environmental constraints (WATC, DOLA, LG, GDC, PBWA, AgWA).
- Promote the identification on pastoral land of inland sites suitable for aquaculture (DOLA/AgWA, PBWA, GDC).

IMPLEMENTATION

Guidelines and Actions

- Use the Structure Plan as a guide in any review of the Shire of Exmouth Town Planning Scheme and the Shire of Carnarvon District Planning Scheme (LG, MfP).
- The Gascoyne Coast Planning Coordinating Committee to undertake ongoing monitoring and review of the Structure Plan (GCPCC).
- Review the Structure Plan every five years integrating relevant outcomes and recommendations of related studies, as they are finalised (MfP).





PART ONE: BACKGROUND

1.1 Introduction

The North West Cape is both resource rich and environmentally sensitive. Exmouth is a relaxed coastal settlement that is becoming increasingly important as a tourism destination and base for travel around the North West Cape. The result is increased visitor numbers, additional demand for tourism developments and pressure on the town's infrastructure.

The aim of this Structure Plan is to explore and evaluate tourism, recreation, residential, commercial and industrial potential of the North West Cape while protecting its environmental and historical values.

The primary focus of the Structure Plan is:

- To promote sustainable uses that enable diversification of the economy while protecting the fragile environment of the North West Cape.

Objectives supporting this are:

- To conserve land with significant environmental value.
- To protect groundwater as part of the human and subterranean environment.
- To retain the wilderness values of the fragile coastal environment of the west coast which is of national significance.
- To provide for the orderly development of the Exmouth townsite.
- To provide adequate land in a variety of lot sizes, appropriately located and serviced, for the residential, commercial, recreational, cultural and industrial needs of Exmouth, to cater for the future development of the town.
- To minimise the impact on the natural environment of future industrial development.
- To identify and agree a defined character for Exmouth in its existing and future role as a sub-regional

tourism and service centre, bearing in mind the environmental and aesthetic fragility of the surrounding sub-region.

- To appropriately locate large-scale tourism development in serviced areas and provide opportunities for a range of accommodation types.

The Structure Plan for Exmouth-Learmonth (North West Cape) has been prepared by the Ministry for Planning under the guidance and direction of the Gascoyne Coast Planning Coordinating Committee (GCPCC) which consists of:

- Anne Arnold, Chairman - Western Australian Planning Commission
- Terry Cahill - Gascoyne Development Commission
- Peter Sharp - Department of Conservation and Land Management
- Garry Middle - Department of Environmental Protection
- Gino Garbellini - Chamber of Commerce and Industry
- Stephanie Tonkin - Western Australian Tourism Commission (until July 1998)
- Terry McVeigh - Western Australian Tourism Commission (from July 1998)
- Peter Green - Shire of Exmouth
- Cas Muntz - Shire of Carnarvon
- Les Moss - Shire of Shark Bay
- Suzanne Woolhouse, Project Officer - Ministry for Planning

The Gascoyne *Coast Regional Strategy* (March 1996) provided a regional planning framework which addresses opportunities and constraints for future development of the North West Cape while acknowledging values of the natural environment.

In 1996 the Gascoyne Development Commission formed a technical advisory group consisting of representatives of relevant government departments to identify and address issues associated with

PART ONE

development on the North West Cape and adjacent waters. This group, known as the North West Cape Technical Advisory Group, has been appointed by the GCPCC to provide technical advice for the preparation of this Structure Plan.

The North West Cape Technical Advisory Group consists of:

Mr Doug Bathgate, Chairman - Gascoyne Development Commission

Mr Geoff Klem - Office of the Deputy Premier

Mr Max Poole - Ministry for Planning

Ms Suzanne Woolhouse - Ministry for Planning

Mr Chris Kojan - Department of Minerals and Energy

Dr Bill Humphreys - WA Museum

Mr Gary Whisson - Department of Environmental Protection

Mr Doug Myers - Department of Conservation and Land Management

Mr Kerry Graham - Shire of Exmouth

Ms Marion Blackwell - National Parks and Nature Conservation Authority

Mr Ron Caunce - Water and Rivers Commission

Mr Matt Duxbury - Western Power

Mr Graeme Groom - Department of Land Administration

Mr Doug Brindal - Department of Transport

Mr Meikle Meecham - Pastoralists and Graziers Association

Mr Chris Smith - Department of Resources Development

Cmdr John Cooper - Harold E Holt Naval Communications Station

1.2 Study Area

The study area is known as the North West Cape. It extends from the Australian continent at a latitude of 22° south. It is the nearest point of the Australian continent to the edge of the Continental Shelf.

In a regional context, the study area forms the northern part of the Gascoyne Region. The study area includes most of the Shire of Exmouth and the northern part of the Shire of Carnarvon and is shown on Figure 1.

The town of Exmouth is located on the north-east coast of the study area.

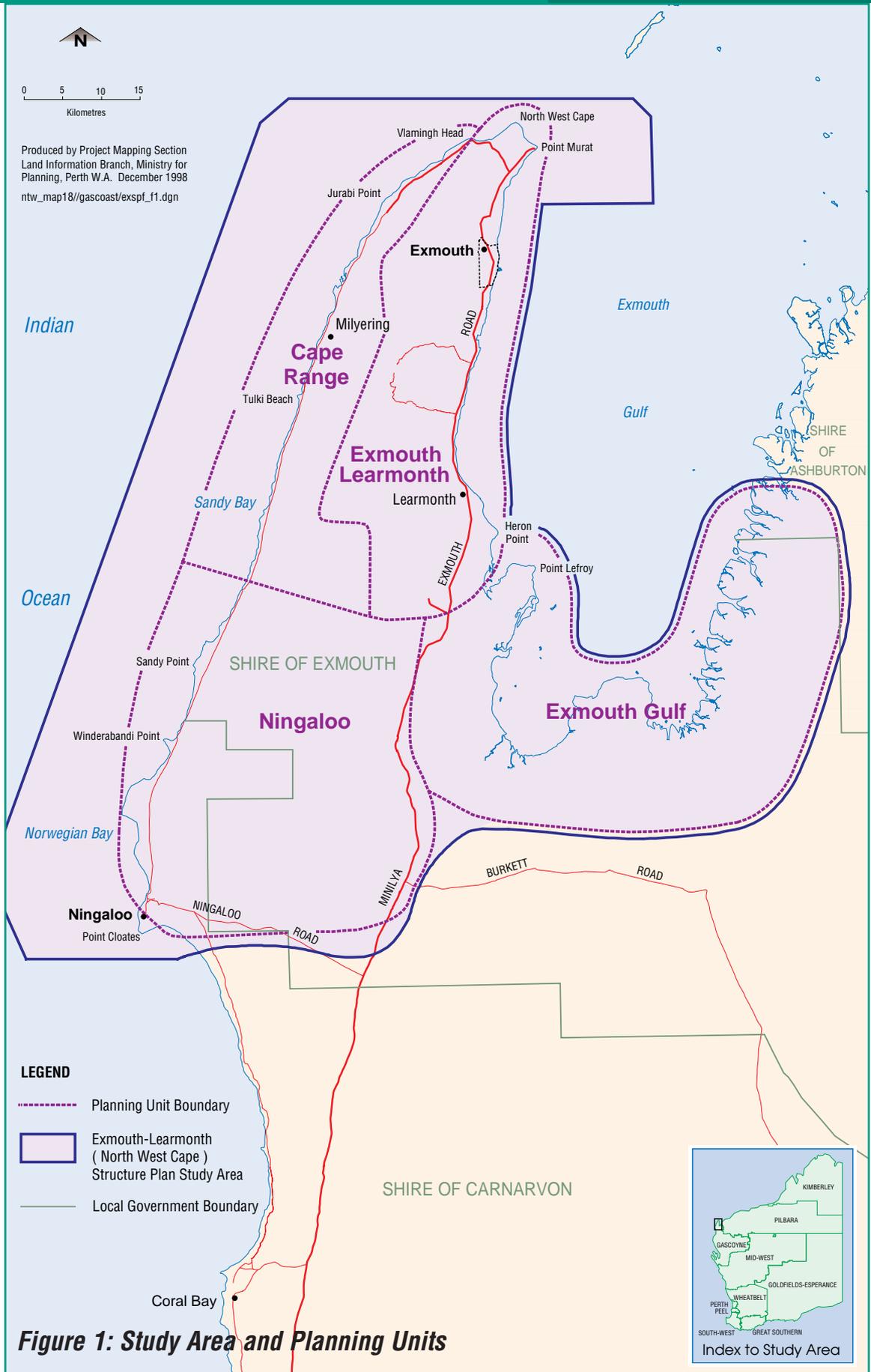
1.3 Outline of Planning Units

The study area was previously based on five Planning Units that were identified in the *Gascoyne Coast Regional Strategy* (Planning Units 5, 6, 7, 8 and 9). To suit the purposes of this study, these have been consolidated to four Planning Units (refer Figure 1) which are based on geomorphological and ecological characteristics with opportunities and constraints associated with planning of the area. The four Planning Units of the Structure Plan are:

- Planning Unit 1 - Exmouth-Learmonth
- Planning Unit 2 - Cape Range
- Planning Unit 3 - Ningaloo
- Planning Unit 4 - Exmouth Gulf

The natural and social/economic characteristics, major land use issues and planning considerations of each unit are outlined in Appendix 1.

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1.4 Study Approach

The Structure Plan will address the study area at two levels:

- A. Planning Unit 1 is the area of focus, given the high pressure for development. This unit is the subject of a detailed structure plan.
- B. Planning Units 2, 3 and 4 provide the sub-regional context for Planning Unit 1. Although they are examined in less detail than Planning Unit 1, the Structure Plan provides appropriate planning direction for future development.

Assessment of these Planning Units is provided in Part 3 of the Structure Plan.

Structure plans are accepted as a flexible means of integrating land capability and opportunities for future growth. Although they are non-statutory documents, they form an integral part of the planning process. It is the function of structure planning to interpret strategic goals and objectives into the more precise physical arrangement of land uses¹. At the sub-regional level structure plans can define the:

- Extent and location of future urban land and open space.
- Arrangement and location of future transport infrastructure and infrastructure or servicing corridors.
- Arrangement and location of activity centres, including employment areas, areas zoned for industry, commercial hierarchy, social institutions such as universities, hospitals, tourism and recreation facilities.

This Structure Plan shows the recommended land uses for the study area of Planning Unit 1. The report

recommends the most appropriate type, scale, form and location of activities and infrastructure.

In order to evaluate the opportunities within the study area, a physical assessment of the area was undertaken and a land capability/suitability study of Planning Unit 1 was prepared.

Implementation of the plan will be the responsibility of State and local government agencies.

The Structure Plan provides a framework for consideration of development proposals and guidance for the preparation of the Shire of Exmouth's Town Planning Scheme and the northern part of the Shire of Carnarvon District Zoning Scheme.

1.5 Previous Planning Studies

In 1988 the State Planning Commission assisted the Shire of Exmouth in preparing a structure plan for the Exmouth townsite. The *Exmouth Structure Plan* (December 1988) is now in need of review. The *Exmouth Coastal Strategy* (March 1992) was released by the Department of Planning and Urban Development on behalf of the Exmouth Shire Council. The strategy was prepared for Council to assist with the management and development of the land along the Exmouth coastline.

More recently major proposals for development of the coast between Carnarvon and the North West Cape led to the preparation of the *Gascoyne Coast Regional Strategy*. This strategy provides the regional framework for development of the North West Cape.

The State Planning Strategy (December 1997) recommended that a detailed structure plan be undertaken for the

¹ There is frequently confusion over what is meant by strategic plans and structure plans. Strategic plans refer to the setting of broad objectives and guidelines for the development of any area without being too precise on the exact form that the development will take and its exact locations. By their nature, structure plans show the future land use pattern and are more precise.

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Exmouth-Learmonth area. The strategy recognises that over the next 30 years the Gascoyne Region will become the State's premier water-based, environmental tourism area, centred on Ningaloo Marine Park and the Shark Bay World Heritage Area. In view of the strong potential for growth in this part of the region, and to provide a detailed framework for land use development over the foreseeable future, the need for a structure plan in the Exmouth-Learmonth area was recognised.

In March 1997 the North West Cape Technical Advisory Group completed a paper titled *North West Cape and Adjacent Waters (Planning and Management) Technical Working Paper No. 1*. This paper identified current and foreseen proposals for development in the area. It summarised the information held within Government and the private sector about key economic activities, management implications of activity interactions, and the infrastructure requirements of each activity. The information in this paper provided a useful background for the Structure Plan which represents an appropriate progression towards addressing the issues that the paper identified.

The above studies provided the regional context for the plan and contained useful technical information that was considered in its preparation. A number of other relevant reports that were also considered are listed in the references.



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PART TWO: OVERVIEW AND ANALYSIS OF THE STUDY AREA

2.1 *Physical, Natural and Environmental Characteristics*

2.1.1 *Climate*

North West Cape is situated in a semi-arid to arid region of the State. The Exmouth climate is characterised by a hot summer, temperate conditions during the remainder of the year and a low annual rainfall. Generally, cloud cover is greatest in June and minimal in September-October. In this respect, the region is favoured as a tourism retreat and for coastal recreation from March to October.

The region experiences variations in temperature depending on geographical location. On the western side of the peninsula, air temperature monitoring at Tantabiddi Well has shown an average daily temperature in the low 20s. Temperatures at Exmouth on the eastern side of the Cape vary more widely, with average maximum ranges from 23.7°C in July, to 36.8°C in January.

The sources of rain include tropical cyclones, incursion of warm moist air from the Kimberley Region, and mid-latitude depressions, which can bring falls in excess of 100mm per day.

Tropical cyclones, with wind speeds in excess of 40-50 knots, occur approximately every three to five years, with less intensive systems occurring annually from January to March.

Prevailing winds tend to be southerly. Morning south to south-west winds tend to prevail throughout the year. The afternoon sea breezes tend to be less than 30kmh in velocity on the eastern side of Cape Range, but reach 45kmh on the west during spring and summer afternoons.

Some commentators contend that climatic changes, including the greenhouse effect,

could result in changes to sea level and the occurrence of storms. These two factors could lead to an increase in the frequency of floods and increased erosion along the region's entire coastline. The Department of Transport, Marine and Harbours Division, and the Institution of Engineers Australia are monitoring changes in sea level on an ongoing basis. The frequency of tropical cyclones may increase, and this is currently being investigated by the CSIRO.

2.1.2 *Oceanography*

The Ningaloo Marine Park is located on the western side of the Cape. The park contains the largest fringing coral reef in Australia, forming a discontinuous barrier to the coast, and encloses a lagoon varying in width from 200 metres to more than six kilometres.

A rocky shore platform comprising lithified marine and alluvial material extends along the entire western shore of Exmouth Gulf. It slopes seaward from the foot of the beach to about the five-metre depth contour. Coastal movement is limited by this shore platform which is erosion resistant. This view is supported by shoreline movement plots prepared by the Division of Marine and Harbours which indicate that coastal movement has been negligible over the past 24 years. The coastal dunes are well vegetated and stable, fronting the low-energy beaches within the Gulf.

The *Ningaloo Marine Park Management Plan 1989-1999* (1989) highlighted that tidal range is greater at the northern end than the southern end of the Marine Park.

The west coast of the North West Cape was affected by waves caused by a tsunami² in June 1994. Tsunamis are random events that cannot be predicted or specifically planned for. However, the potential hazards from such events require that a

² A tsunami is a long high sea wave caused by underwater earthquakes or other disturbances which is popularly called a tidal wave.

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conservative approach be taken to development adjacent to the coast, and reinforce the need for adequate coastal reserves.

2.1.3 Geology and Geomorphology

The North West Cape peninsula is composed of Cainozoic³ (Tertiary and Quaternary) marine limestone and sediments, which form part of the northern Carnarvon Basin geological province. Cape Range, which forms the spine of the North West Cape peninsula, resulted from the tectonic uplifting of the area during the late Cainozoic era. The offshore Carnarvon Basin contains significant petroleum resources.

The Range itself is composed of Tertiary limestone, which forms the Cape Range Anticline. The formations are well exposed in the gorges that dissect the Range. The Trealla and Tulki Limestone formations in the eastern part of the Range contain large resources of high grade limestone.

The Quaternary sediments include the alluvial fans of the eastern coastal plain, the terrestrial dunes of the northern peninsula, the recent beach dunes which surround the peninsula and the saline mud flats and associated mangrove communities which predominate in the southern and eastern parts of the Exmouth Gulf.

The geomorphology of the peninsula reflects its geology. Cape Range reaches a maximum elevation of about 300m. Caves, gorges and other karst⁴ features occur throughout the peninsula and are abundant within the Range itself.

The tectonic uplifting has produced the alluvial fans which cover large parts of the

coastal plain, on the eastern side of the peninsula. The uplifting is also expressed in the emergent and warped coral reef complexes that have been exposed as terraces along the western side of the peninsula. These terraces are of global significance as they provide an excellent representation of past sea levels.

2.1.4 Vegetation

For an arid area the North West Cape peninsula is very rich in flora. Although very little detailed botanical work has been carried out (Department of Environmental Protection, 1997) it is an area of high conservation significance.

The peninsula is situated in the Carnarvon Basin area, falling into the Eremaean Botanical Province, dominated by arid, perennial shrub association. In general, the distribution of vegetation in the area varies with geology and geomorphology and hence can be related to the land systems of the Carnarvon Basin (WA Department of Agriculture, 1987). The vegetation complexes south of Shothole Canyon Road have been degraded as a result of grazing activity.

2.1.5 Environmental Issues

The growth of the population and the number of tourists to Exmouth and the North West Cape is placing demands upon the environment. These demands include the use of land for development, increased use of coastal areas, particularly the west coast, use of groundwater resources and the discharge of stormwater and effluent into the ocean. The planned growth of Exmouth will have further impacts on the environment.

³ The Cainozoic (modern life) era commenced about 60 million years ago and is divided into the Tertiary and Quaternary periods. The Quaternary period commenced about one million years ago.

⁴ Karst is formed by the percolation of water through limestone sinkholes and the subsequent dissolution of minerals. The process occurs over a long period of time and is closely linked to the occurrence and distribution of rare and internationally significant species of subterranean fauna. The karst landscapes also have development implications as their inherent properties constrain engineering works and waste disposal.



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The significant environmental attributes of the Cape Range Geological Province as identified by the Environmental Protection Authority (1998) are:

1. Biological diversity

- Terrestrial Flora - unusually the examples of all three botanical provinces are represented in the Province, with a number of unique minor vegetation complexes which are confined to Cape Range itself.
- Terrestrial Fauna - is rich and diverse, particularly in reptiles. There are 14 species present which are declared rare or likely to become extinct.
- Cape Range National Park - covers approximately 50,580 hectares of the Cape Range geological feature. Extensions to include land to the north, east and south have been planned but not yet implemented.
- Marine Fauna - includes over 460 species of fish associated with Ningaloo Reef.

2. Karst and Subterranean Fauna

- Karst Formations - the Province contains extensive karst formations and has been identified as a possible World Heritage Area. Two types of subterranean fauna live in the area: troglobites (terrestrial) and stygofauna (aquatic). Any major hydrological changes would be a threat to both kinds of cave fauna. Management of karst at Cape Range may be guided by the local adoption of international policies and practices such as International Union for Conservation of Nature and Natural Resources (IUCN) Guidelines for Cave and Karst Protection (Watson et al, 1997).
- Stygofauna - Cape Range contains a great diversity of stygofauna which is endemic to the Cape Range peninsula and contains classes, orders, genera and species not otherwise represented in the southern hemisphere. Genetic

differences also exist between the east and west coastal plain populations, which is important in terms of biodiversity.

- Troglobites - with at least 55 species of troglobite, Cape Range peninsula has some of the most diverse karst fauna in the world. It supports a rich troglobite and troglophile arachnid and myriapod fauna population which comprises approximately half of the known terrestrial subterranean fauna of Australia. The caves and subterranean waterways of the Cape Range peninsula are of critical importance in maintaining the troglobitic fauna of the peninsula.

3. Coral Reef

- Ningaloo Reef - is the largest fringing coral reef in Australia, with the reef proper beginning in the vicinity of Gnarraloo Bay to the south and continuing north around into the Exmouth Gulf to Bundegi Reef, a distance of approximately 270km. The reef lagoon varies from 200m to over 6km in width and supports over 460 species of fish and 200 species of coral. The reef is internationally famous for its diving and the visits of whale sharks each year to the area.
- Ningaloo Marine Park - covers an area of 430,000 hectares and includes waters under State and Commonwealth jurisdictions which is managed as one area by CALM.

4. Landscape

- Tertiary limestone canyons, coastal dunes, alluvial fans, tidal estuaries and the Ningaloo Reef attest to the outstanding landscape values and emphasise the interconnectiveness of the land and sea in this area.

5. Exmouth Gulf

- Marine Environment and Mangroves - the Marine Parks and Reserves Selection Working Group Report (CALM, 1994)

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recommended that the near-shore waters on the eastern and south-western sides of Exmouth Gulf be considered for reservation for the protection of mangal habitat, prawn and fish nursery areas, turtle and dugong feeding areas, and coastal marine fauna and flora generally, emphasising the importance of the area to nature conservation and sustaining local fisheries.

As a result of the environmental values of the North West Cape, the area is subject to increasing visitor pressure and public interest. Although the level of predicted population growth is relatively low in State terms, it is important that such a sensitive environment is carefully planned.

The limited amount of water is the greatest restriction to settlement at Exmouth. Management of this precious resource is the main issue affecting future land use in the North West Cape. The limestone formations throughout the Cape are characterised by cave features with associated stygofauna (specialised subterranean aquatic species), troglofauna (specialised subterranean terrestrial species) and contain underground streams and caverns (Hamilton-Smith et al, 1998). These underground streams are a good source of domestic water for the town of Exmouth. However, the Water Corporation (1996) suggests that the greatest care must be taken to maintain the aquifer habitat, which includes endemic stygofauna and troglofauna, and manage groundwater abstraction in a sustainable way. It is important that pollutants and/or wastes (including sewage and toxic sludge from rubbish tips, fertilisers and pesticides) do not enter the system. Because the land is extremely sensitive, septic tanks should be used only in suitable areas and in low density.

For the purposes of this Structure Plan a land capability/suitability study was

commissioned by the Gascoyne Coast Planning Coordinating Committee and prepared by Land Assessment Pty Ltd in 1997. The potential for a number of different land uses was considered on the basis of the land's ability to sustain the specified land use without resulting in significant onsite or offsite degradation or damage to the land resources which include geology, soils, landforms, hydrology, vegetation and climate. Furthermore, environmental sustainability was considered, particularly in relation to its potential impact on the karst landscape features, stygofauna, troglofauna and groundwater.

The findings of this land capability/suitability study were used as the starting point for determining the land use allocation in the Structure Plan. However, there were situations in which the location of a particular land use is determined by other factors other than the inherent capability of the land. For example, the provision of anaerobic treatment units (ATU) or reticulated sewerage, instead of septic tanks for the disposal of household sewage, allows development in areas identified as being otherwise incapable of development.

2.2 Existing Land Use and Proposals

2.2.1 Conservation

The Ningaloo Marine Park covers an area of 4,300 square kilometres and includes both State and Commonwealth waters. It is managed by CALM under an agreement supported by Environment Australia. The Cape Range National Park, encompassing 50,581ha, is a Class A Reserve vested in the National Parks and Nature Conservation Authority and is managed by CALM. A management plan for the park was prepared in 1987. Proposed extensions to the National Park include those

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recommended by the Conservation Reserves for Western Australia (1975), Cape Range National Park Management Plan 1987-1997 (1987) and the North West Cape Tourism Development Study (1993) (refer Figure 6).

Two areas of coastal land at the northern end of Cape Range peninsula are reserved for the purpose of Recreation and Coastal Management (Reserves 40279 - Jurabi Coastal Park, 40278 - Bundegi Coastal Park) and jointly vested and managed by CALM and the Exmouth Shire Council.

2.2.2 Exmouth Townsite

Exmouth is the only townsite on the North West Cape and the second largest settlement in the Gascoyne Region. In 1997 it had an estimated resident population of 2,110. This increases to 3,908, when visitors are included during peak times (Australian Bureau of Statistics, 1996 & 1997). It provides services, including education (K-12 school) and health care. There are a number of developments either under way or proposed for Exmouth. These include:

- Exmouth boat harbour marina residential development: the marina will be supported by a residential subdivision inland of the marina site which has the potential to produce up to 400 lots.
- Learmonth Airport: upgrading of the Learmonth Airport, particularly the airport terminal, to provide the opportunity for international tourist access.

2.2.3 Residential

The Exmouth townsite's residential areas extend to the south-west and north-west of the town centre. The Department of Land Administration (DOLA) has released 31 residential lots on the north-west side of the Exmouth townsite. A further 62 lots

have approval for subsequent release if required. These will be the last residential land releases in this direction as any further expansion would interfere with the operations of the Commonwealth Naval Communications Station Harold E Holt.

Further expansion of the townsite is constrained by the rugged terrain of the Cape, the Exmouth water supply borefield both to the west and south, and by the naval communications station to the north (refer Figure 2). The growth of the Exmouth townsite is limited to a southern direction at least in the 30-year time frame of this Structure Plan. Beyond that there may be potential for expansion to the north should the Commonwealth downgrade its activities on this land.

The proposed Exmouth boat harbour marina residential development is three kilometres south-east of the existing town centre. Most of this land will accommodate residential development, but is yet to receive environmental approval or native title clearance. The most recent plans indicate a potential of up to 400 residential lots plus tourism resort accommodation.

2.2.4 Commonwealth Land

At this stage the Commonwealth intends to continue its operations on the naval communications station for at least the next 30 years, and there is no intention to transfer the land to the State. The Commonwealth has indicated that there are opportunities for the lease or transfer of some parcels of the land for activities that would not affect the station's operations. Low-impact commercial activities such as aquaculture or small-scale tourism and educational activities may be accommodated, but large-scale commercial/residential/tourism activities are unlikely to be supported. These activities should be undertaken in accordance with State legislation and be subject to planning and development

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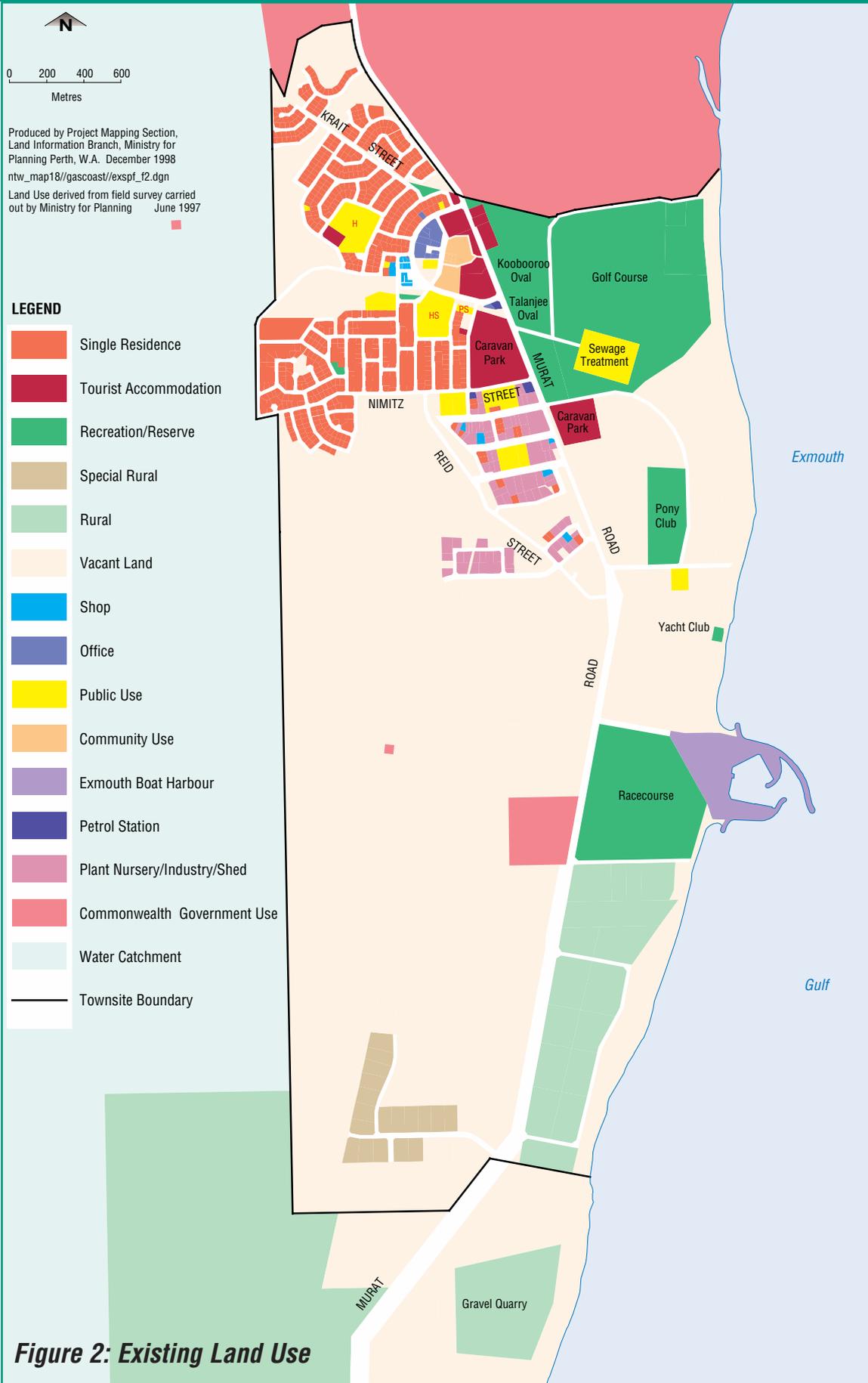


Figure 2: Existing Land Use

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approval. The location of activities on the station would be supported only if they operated under the same financial structure as businesses within the townsite (i.e. payment of rates and taxes, etc).

The Commonwealth has advised that it may be prepared to permit the use of a small parcel of land adjacent to the Exmouth townsite as a location for a new sewerage plant, which may also dispose of effluent from the naval communications station.

The Commonwealth intends to retain ownership of the RAAF bombing range which abuts Cape Range National Park. However, the Department of Defence is negotiating a management agreement with the Department of Conservation and Land Management (CALM) for the coastal strip.

Point Murat contains a deep-water pier and was established as part of the naval communications station. It is used periodically as a loading point by rig support vessels in the hydrocarbon industry. Should a decision be made to have a base for this industry in Exmouth, use could be made of the existing facility as an offloading point for transfer to an industrial area to the south.

Agreements have been made for professional fishermen to use berthing facilities at the site. However, with the development of the Exmouth boat harbour, fishermen are less likely to use Point Murat and more likely to use facilities at the boat harbour.

2.2.5 Industrial

The existing industrial area south of the townsite contains the power station and the following uses: dive shops, concrete batching plants, transport depots, motor repair businesses and plant nurseries.

This development is exposed to the main entry to the town. Some land use conflicts

with adjacent residential development are evident, such as noise nuisance from the power station and from freezer trucks parked overnight in transport depot yards.

The Shire of Exmouth's new town planning scheme recommends the expansion of this area to provide for mixed use, light industrial and industrial use zones in a graded manner from Nimitz Street to Koolinda Way.

This Structure Plan recognises the need for a large industrial area to accommodate the anticipated future growth of the sub-region. The new industrial area approximately 8km south of the town centre is seen as the location for industrial uses which have a synergy with the approved limestone barge loading facility and have a requirement for coastal access. The industrial area within the townsite should accommodate light industry and service commercial uses, and be limited in its extent with adequate buffering to residential areas.

2.2.6 Recreation and Tourism

There is currently a recreation and tourist use precinct on the east side of Murat Road. The area contains the town's major recreational uses, including a football oval, cricket oval, squash centre, golf course, racecourse and pony club. A 25-lot strata subdivision for short-stay accommodation is under construction opposite the Potshot Hotel Resort. This precinct also contains tourism uses in the former Norcape Lodge site which include a caravan park and unit accommodation, Argosy Court, Ningaloo Holiday Caravan Resort and Exmouth Cape Tourist Village.

The Norcape Lodge site is suitable for redevelopment and has been suggested for incorporation in the proposed marina residential development. DOLA has made an area north of this site extending to the old pistol club available for development of tourist accommodation. An agreement

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between DOLA, Shire of Exmouth, Gascoyne Development Commission and LandCorp is in place preventing the development of this site for tourism purposes until tourism development at the marina is completed.

The pony club and wastewater treatment plant are proposed for relocation.

2.2.7 Special Residential / Rural-Residential

Special residential development generally comprises lots with areas larger than the typical residential lot size, usually between 2,000m² and 4,000m². There are currently no special residential lots in Exmouth.

Rural-residential lots normally range from one to four hectares and are unsewered. There is one area of rural-residential lots in Exmouth (refer Figure 2) located on the south side of the town, west of Murat Road and adjoining the proposed racecourse site. These lots were created with the intention of catering for horse owners. In reality, they have been acquired and developed by people other than those with an interest in equestrian activities. DOLA is currently considering the release of the next stage of this subdivision by extension of Heron Way.

South of the existing urban centre the land is unallocated Crown land with the exception of a freehold lot to the east of Murat Road. Within the townsite an area east of Murat Road is Crown leased allotments, ranging from 1.5ha to 8ha which are used for stabling purposes. DOLA is considering proposals for change of tenure but continued rural-residential use of this land.

Outside the townsite boundary the land in Planning Unit 1 is mostly pastoral leasehold or is unallocated Crown land (refer Figure 4). Some existing uses of the rural land

south of the townsite include the Kailis fish processing complex, pearl farming activities and the solar research facility.

2.3 Social and Demographic Considerations

2.3.1 Population

As shown in Table 1 there are three components of Exmouth Shire's population - permanent population, permanent population with anticipated developments, and visitors. Numbers of visitors have been growing in the past few decades and in the peak period, from March to October, the local population may double as happened in 1996. The growth rate of visitors has also been higher than the permanent population growth since 1981, and it is expected that this trend will continue at least into the near future. Numbers may even exceed local population size. This factor should be taken into consideration when planning the infrastructure for the Shire, though during the summer, visitor numbers may be low.

TABLE 1: POPULATION EXMOUTH SHIRE (MfP Resident Population Statistics)

| Year | Permanent Population (PP) | PP (with projects) | Population (including visitors) |
|------|-----------------------------|--------------------|---------------------------------|
| 1991 | 2,437 ^(a) | n/a | 3,820 |
| 1996 | 2,058 ^(a) | n/a | 3,908 |
| 1997 | 2,110 ^(a) | n/a | n/a |
| 2001 | 2,250 | 2,600 | 4,850 |
| 2006 | 2,400 | 3,000 | 5,520 |
| 2011 | 2,550 | 3,150 | 6,083 |
| 2016 | 2,750 | 3,350 | 6,650 |
| 2021 | 2,950 | 3,550 | 7,238 |
| 2027 | 3,200 | 3,800 | 7,800 |

Source: Ministry for Planning, Research Branch based on Australian Bureau of Statistics data

^(a) 1991, 1996 and 1997 ABS Estimated Resident Population (Cat 3235.5)

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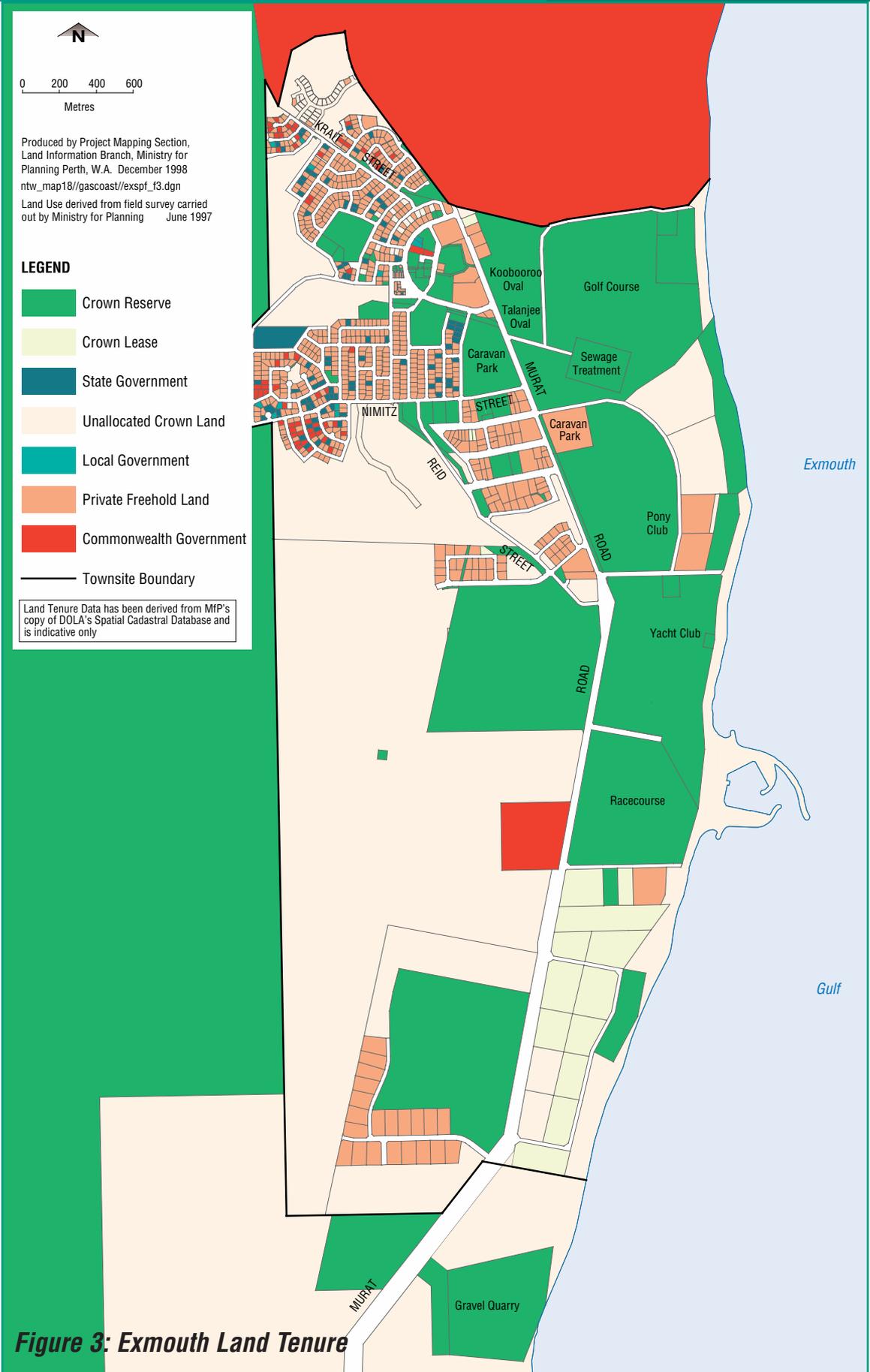
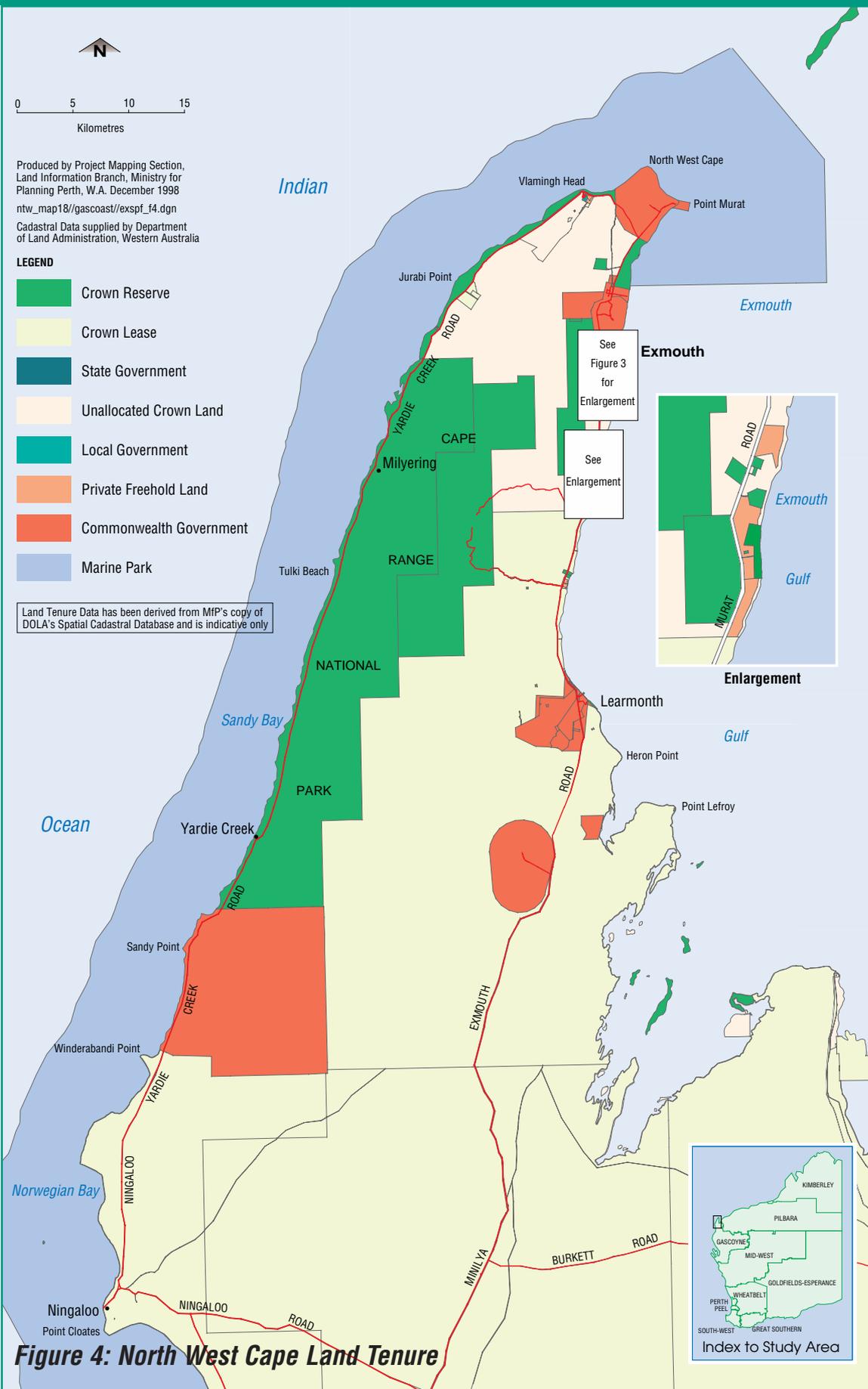


Figure 3: Exmouth Land Tenure

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In the period between 1981 and 1996, permanent resident population grew from 2,180 to 2,437 in 1991 and then declined to 2,083 in 1996 as a result of the departure of United States defence personnel from the naval communications station in 1992. Ministry for Planning forecasts indicate that the permanent population of the Shire, as shown in Table 1, will continue to grow and will reach 3,200 by 2027. This figure could reach 3,800 if all potential projects currently under consideration eventuate. Peak period population, including visitors, could reach 7,800.

2.3.2 Workforce

As shown in Table 2 the main employers in Exmouth are local small businesses and businesses associated directly with tourism (these account for 48 percent of employment). Government activities,

including employment on the naval communications station, account for over 36 percent. Future new projects may add up to 450 jobs in mining, aquaculture, tourism and an immigration reception centre.

2.4 Heritage Considerations

2.4.1 Aboriginal Heritage

The Western Australian Museum has evidence of Aboriginal occupation of the North West Cape dating back at least 25,000 years continuously until at least 400 years ago. Aboriginal people from the Jinigudira tribe camped in the coastal dunes, in rock shelters of the Cape Range, and in the foothills. However, there are very few Aboriginal people with any knowledge of the North West Cape area, or resident there.

TABLE 2: EMPLOYMENT STRUCTURE IN THE EXMOUTH SHIRE IN 1991

| Industry | Employment (actual numbers) | Employment (%) |
|------------------------------|-----------------------------|----------------|
| Naval Communications Station | 173 | 17.2 |
| Commonwealth Government | 30 | 3 |
| State Government | 134 | 13.3 |
| Foreign Government | 12 | 1.2 |
| Fishing/Aquaculture | 132 | 13 |
| Direct Tourism Business | 174 | 17.3 |
| Local Small Business | 309 | 31 |
| Local Government | 30 | 3 |
| Pastoral | 11 | 1 |
| TOTAL | 1,005 | 100 |

Source: Shire of Exmouth Employment Survey (October 1997).

The North West Cape is rich in Aboriginal history. Advice from the Aboriginal Affairs Department indicates that there are 110 listed Aboriginal sites within the study area. It is possible that some sites may exist that have not yet been entered on the Register of Aboriginal Sites⁵.

The vast majority of the recorded sites comprising middens (shell and bone fragments) and artefacts (stone tools and utensils) are of archaeological significance. Research suggests that small limestone caves located on the western foothills of Cape Range contain the oldest reliably dated archaeological site (40,000 years) in northern Western Australia (Morse, 1993).

⁵ The *Aboriginal Heritage Act 1872* protects all Aboriginal sites in Western Australia whether or not they are known to the Aboriginal Affairs Department. There is a statutory obligation to protect Aboriginal sites, recorded or not, under the *Aboriginal Heritage Act*. Any proposal with the potential to affect or disturb an Aboriginal site must be referred to the Department of Aboriginal Affairs for assessment. The provisions of the Act are that prior to a proposed development/activity, it is recommended that suitably qualified consultants are engaged to conduct ethnographic and archaeological surveys of the area. This should ensure all Aboriginal groups are consulted so that all sites on the designated land are avoided or identified. Such a survey would involve archival research, consultations and on-the-ground inspections.

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The limited information on the extent, significance and location of Aboriginal sites presents difficulties for planning and management. More detailed information is required to enable definitive action and resolve potential land use conflicts.

At the strategic level it is important to recognise the protected status of these sites and to ensure that known sites are preserved. Any development or change in land use will require site-specific surveys to determine the extent of recorded sites and possibility that other sites may be potentially affected.

There is a native title claim over the whole North West Cape. This is the Gnulli Claim No. WC92/28 lodged in April 1997. DOLA has advised that this claim will go through the full determination process in accordance with the *Commonwealth Native Title Act 1993* as amended. Any applications for subdivision of Crown land or conversions from Crown land to freehold status will also be required to go through this process.

2.4.2 Non-Aboriginal Cultural Heritage

The first recorded landing on the North West Cape by non-Aboriginals was by the Dutch ship *Mauritius* in 1618. Like many other Dutch vessels, it had sailed too far east on its way to Java and arrived on the Australian coast by accident. Two centuries later, French ships visited the area and the peninsula was named Cape Murat after Napoleon's brother-in-law. Since this time, the exploration, settlement and development of the subject area has resulted in certain places coming to be considered as having cultural heritage significance to non-Aboriginal people.

Some cultural heritage places may be considered of sufficient significance to warrant conservation so that they will be available for future generations to enjoy. The value of a place may lie in its aesthetic,

historic, scientific or social significance, or a combination of these. In this regard, the Structure Plan should recognise those places which are significant, and promote their conservation and management. In order to conserve places of cultural heritage significance, national, State and local governments can provide legal protection, conservation and management guidelines, and incentives to owners of these places to care for the heritage values of their properties.

Several places within the Shire of Exmouth have been identified and assessed as having cultural heritage significance to the nation or State, while others have a more limited significance primarily for local people. The only place within the study area which has been clearly identified as having national cultural heritage significance is the Vlamingh Head Lighthouse and Quarters. It is included on the Register of the National Estate and the Western Australian Register of Heritage Places, as well as being classified by the National Trust, which has also classified several other places within the Shire of Exmouth. The Vlamingh Head Lighthouse stands on the northern tip of the Cape Range. It was built in 1912 and was operated by two lightkeepers until it was decommissioned in 1967. Close to the lighthouse on the top of Vlamingh Head are the remains of a World War II Aircraft Warning Radar Installation.

At a local level, and in accordance with the *Heritage of Western Australia Act 1990*, the Shire of Exmouth has compiled a Municipal Inventory of Heritage Places considered by local people to be significant. Community consultation is an important component of this process. The inventory is in an advanced stage of completion, and the places identified in the draft are shown in Table 3.

It is the responsibility of the Shire of Exmouth to decide whether to include

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TABLE 3: PLACES OF NON-ABORIGINAL CULTURAL HERITAGE SIGNIFICANCE IN THE SHIRE OF EXMOUTH

| | |
|--------------------------------|---------------------------------------|
| 1. Bundegi-Cape Well | 12. Shothole Canyon |
| 2. Cape Range No. 1 Oil Well | 13. Staff House Lot 44 |
| 3. Cape Range No. 2 Oil Well | 14. Tantabiddi Well |
| 4. Charles Knife Road | 15. Transit House Lot 263 |
| 5. First Trees in Exmouth | 16. Vlamingh Head Lighthouse |
| 6. FJ Reddy's Grave | 17. Vlamingh Head Lighthouse Quarters |
| 7. Giralia Station | 18. Vlamingh Head Radar |
| 8. Operation Potshot Site | 19. VLF Towers |
| 9. Pier, Point Murat | 20. Wapet Jetty |
| 10. Rough Range No. 1 Oil Well | 21. Yardie Creek |
| 11. Shire Library Building | |

Source: Shire of Exmouth Municipal Inventory of Heritage Places

those heritage places on its Municipal Inventory in its Town Planning Scheme, and owners will be invited to make submissions in this regard. Inclusion of the Municipal Inventory in the Town Planning Scheme will enable the Shire to make special provision, such as controls on subdivision or demolition, for the conservation of places which its residents believe are significant to the cultural heritage of the study area.

2.4.3 Places of Environmental and Scientific Interest

The North West Cape has a number of previously identified places of environmental and scientific interest, which in some cases are biodiverse and contain threatened ecosystems and geological formations. Substantial areas have been set aside for terrestrial reserves, National Parks and Marine Parks. As well, the

environmental heritage significance of several places within the subject area has been recognised by their inclusion in the Register of the National Estate, which is maintained by the Australian Heritage Commission.

The Register of the National Estate has six listings for this area⁶ which cover the majority of the North West Cape and the Ningaloo Marine Park (Table 4). Another submission by the Geological Society of Australia has identified several geological heritage sites which have been recommended to the Australian Heritage Commission by the National

Trust for inclusion on the National Heritage Register.

The primary reason for each of the above listings is as follows:

018864

- the protection of part of a major geological structure, the Cape Range Anticline;

Table 4: Register of the National Estate Listings for the North West Cape Area

| Register of the National Estate - Listing Name | Database No. | Legal Status |
|--|--------------|--------------|
| Cape Range Geological Site | 018864 | Registered |
| Cape Range National Park and Surrounds | 010798 | Registered |
| Cape Range and Adjacent Coastal Plain | 018865 | Interim List |
| Ningaloo Marine Park and Proposed Additions | 017346 | Registered |
| Ningaloo Reef Tract | 010796 | Registered |
| Murion Islands and Adjacent Marine Areas | 017564 | Registered |

⁶ See Register of the National Estate for full listing details.

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010798

- the flora and fauna of the eastern and western coastal plains together with that of Cape Range, representing all three botanical provinces of WA;

018865

- the karst and subterranean environments of the Cape Range, which support a rich and diverse troglobite fauna, making it one of the world's most faunistically diverse karst areas;

017346

- the Ningaloo Reef is the longest fringing barrier reef in Australia, and one of the few extensive fringing reefs in the southern hemisphere, and has four species of rare or threatened marine mammals, three species of turtle, the rare whale shark and more than 25 species of trans-equatorial migratory wading birds⁷ which utilise the area;

010796

- a lagoon on the seaward side of the Ningaloo Reef with varied reef communities;

017564

- low limestone islands with spur and groove reefs to the north-west, and shallow lagoons and offshore reefs to the south-east, which have luxuriant coral formations and an extensive array of fish fauna thought to approximate 400 species.

The listings provide an indication of the national importance of the areas listed for their environmental and heritage values. Proposals in these areas which require Commonwealth involvement should be cognisant of these values.

In addition to the above, the behaviour of whale sharks and viewing of turtle nesting are aspects of environmental and scientific interest in the Cape which appeal to the visiting tourists.

2.5 Economic Considerations

The economic development potential of the North West Cape is based on its natural resources. While natural constraints such as water availability and land capability will limit many industries, carefully planned and managed tourism has the potential to generate significant economic growth.

Other potential areas of economic growth are:

- pastoral activity;
- aquaculture;
- export industries such as prawning and pearling which can capitalise on the possible development of Learmonth for regular international flights; and
- mining and extractive industries.

2.5.1 Pastoral Activities

There are four pastoral stations in the study area, Ningaloo, Exmouth Gulf, Bullara and Giralia.

The Select Committee on Cape Range National Park and Ningaloo Marine Park proposes that the pastoral lease at Ningaloo Station be added to the Cape Range National Park when it expires in 2015. Although this land may not be transferred to the conservation estate in the next 10 years, CALM is negotiating with the lessees to reach agreement for the interim management of the land or purchase of the land.

The *Gascoyne Coast Regional Strategy* provides for the continuation of the remaining pastoral activity on the North West Cape. Coastal pastoral areas that are more environmentally sensitive should undertake diversification of pastoral pursuits into small-scale / low-impact tourism and recreation development, in

⁷ The migratory species are listed in the schedules to the Japan-Australia and China-Australia Migratory Bird Agreements.



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keeping with local environmental constraints.

A committee, formed to investigate pastoral issues in the Gascoyne Region, has produced the *Gascoyne-Murchison Rangeland Strategy* (1997). This strategy makes a number of recommendations aimed at ensuring that the industry which is declining in economic terms becomes sustainable by the promotion of biodiversity, tourism and cultural values. The strategy recommends:

- identification of tourism pathways to redevelop significant heritage sites, provide signage and market the tourist product;
- identification of inland sites suitable for aquaculture;
- reassessment of road infrastructure provision and promotion of better access to the hinterland to support pastoral and tourism uses;
- identification of opportunities for new economic activities; and
- encouraging CALM to participate in diversification options.

A Gascoyne-Murchison Strategy Group has been established to oversee implementation of the strategy.

2.5.2 Aquaculture

According to the *Gascoyne Aquaculture Development Plan* (1996) Exmouth Gulf has some potential for aquaculture. Exmouth Gulf has limited supplies of fresh water, its eastern and southern sections are difficult to access, have virtually no infrastructure and turbidity levels are high. Cyclone tidal surges are amplified due to the Gulf's shape, a factor which will therefore limit the potential of its eastern edge. However, the main impediment to aquaculture is land tenure, as much of the land comprises Commonwealth and State Government land, nature reserves, some freehold sites and pastoral leases.

Current proposals include the establishment of a site on Commonwealth land north of Exmouth within the naval communications station. This proposal has the preliminary support of the Department of Defence.

Cape Sea Farms Pty Ltd plans to establish a 120ha prawn farm on the coast at Heron Point, 35 kilometres south of Exmouth.

In addition, pearling is going through a stage of rapid development. Fisheries Western Australia has issued approximately five pearling licences within the Gulf. Given the ideal conditions for pearling, the activities of this industry have the potential to double over the next 10 years.

Fisheries Western Australia proposes to prepare an Exmouth Gulf Marine Farming Development Plan which is aimed at identifying specific sites for aquaculture and pearling. This will be commenced in early 1999.

Some of the current issues that need to be addressed are:

- Need for new access roads to southern and eastern coasts of the Gulf and improved access to other coastal locations.
- Conflicts with recreational boat users and management of environmental impacts.
- Access to ecotourism sites limited by aquaculture activities.
- Land tenure and native title claims.

2.5.3 Mining and Extractive Industries

Oil and Gas

Exmouth has a comparatively minor service function for the oil and gas industry. Currently there is no production of oil or gas in Exmouth Gulf or in close proximity to the North West Cape. However, recent interest in petroleum permits in State and Commonwealth waters in the

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vicinity of the Cape is indicative of continued belief in the area's potential.

The Australian Petroleum Production and Exploration Association advises that drilling for oil and gas will continue off the coast of the North West Cape. Due to the environmental sensitivity of the Cape and its failure to produce major discoveries, it is unlikely to be the preferred location for large-scale petroleum processing.

Offshore gas deposits exist close to the North West Cape and, subject to further drilling and commercial considerations, could be used to provide energy to industry and urban activity in the general area.

The provision of a small gas-fired power station has been prioritised by the Office of Energy to replace the existing diesel-fired power station.

Should the industry seek to develop production facilities on the Cape, possible siting options will require further detailed investigation. However, hydrocarbon industry onshore storage requirements could be accommodated at two locations, Point Murat and the strategic industrial site south of the townsite.

The potential also exists for the construction of a pipeline from wells offshore to carry gas down the Cape to the Dampier-Bunbury Natural Gas Pipeline. As demonstrated on the Burrup Peninsula, pipelines can be laid in an environmentally sensitive manner. The advantage of such a pipeline is the availability of accessible gas supplies for industries on the Cape.

For the time being the industry sees Dampier as its port of choice in terms of gas processing given the existing and proposed expansions to infrastructure.

Limestone and Construction Materials

Within the study area, deposits of high-grade limestone are present, which are covered by a number of general

exploration and prospecting licences for a wide range of mineral resources. The limestone resource is immense and could generate significant wealth. It is important to the future development of industrial capacity that relatively cheap energy (gas) becomes available, particularly if the quicklime industry is to be developed.

Exmouth Limestone Pty Ltd proposes to develop a limestone mine and quicklime plant approximately eight kilometres south of Exmouth, and to transport limestone and quicklime from the mine site through a barge loading facility located on the coast immediately east of the mine site. This facility has the potential to be developed into a multiple user berthing facility for any industrial activity which may occur in close proximity. The limestone mine/quicklime plant, the use of Point Murat as a temporary loading facility and the proposed barge loading and storage facility have environmental approval from the Minister for the Environment.

2.5.4 Tourism

Exmouth, as well as Coral Bay and Denham/Monkey Mia, is one of the major tourist destinations in the Gascoyne Region. It is also the base for tourism in the North West Cape, and is most popular during the milder months of March to October. Its accommodation includes:

- Hotels and Unit Accommodation - Argosy Court, Villa Rentals, Potshot Inn and numerous private holiday homes; and
- Caravan Parks - Ningaloo Caravan Holiday Resort and Cape Tourist Village.

Tourism developments on the North West Cape include unit accommodation in the vicinity of the Vlamingh Head Lighthouse, Yardie Creek Homestead and Caravan Park. There are also designated camp sites with basic infrastructure in the Cape Range National Park.

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A survey of tourists on the North West Cape was undertaken by Curtin University in mid-April 1997 (just after the Easter break). With some 200 people questioned, this is the largest tourism survey that has been carried out on the North West Cape in recent years, and assisted in identifying tourism trends in the sub-region for that time of year. However, due to seasonal fluctuations in the visitor market it is unlikely to be representative of the market for the whole year.

Surveys were undertaken in the Exmouth townsite and at west coastal locations, including Milyering and Yardie Creek. Some of the results are outlined below:

- Most visitors came to the region by car with smaller numbers arriving by air and bus.
- Fifty percent of those surveyed stayed from one to seven days, 30 percent stayed from seven to 14 days, and nine percent stayed from 14 to 21 days.
- Most visitors were from Western Australia, with lesser numbers from overseas (mainly northern Europe) and interstate.
- Of 188 persons, 109 said they would like to stay on the west coast and 70 said they would not like to. Of those who wanted to stay on the west coast 44.7 percent wanted to camp, 17 percent wanted budget accommodation, 8.8 percent wanted three star accommodation and 11.4 percent wanted five star accommodation.
- Thirty-six percent of visitors to Exmouth had been to Coral Bay and 24 percent to Carnarvon as part of the same trip. Links to other locations in the State were not significant.
- Most visitors surveyed gave water-based recreation as the main reason for visiting the area, followed by those who visited to have a holiday. The four most popular activities were whale shark

tours, diving, fishing and lying on the beach.

It can be concluded from the above that visitors are largely from WA and stay for less than 14 days. The lower end of accommodation is in higher demand, and people appear to prefer to spend their money on activities as opposed to accommodation.

Western Australian Tourism Commission Statistics for visitors to the entire Gascoyne, who stayed in commercial accommodation in 1996, show that 54 percent of visitors came from Western Australia, 31 percent from interstate and 15 percent from overseas. This represents a 7 percent increase in the numbers of visitors from interstate and overseas on the previous year.

Major issues that have previously been identified by the Western Australian Tourism Commission in relation to tourism in the North West Cape are:

- Inadequate infrastructure and distance from major population and centres are impediments to developing the tourism industry.
- Remoteness and nature-based activity is an attraction.
- Accommodation capacity and diversity is currently low or poor.
- Impact of large-scale resorts on nature-based character of tourism.
- Access to the west coast.
- Upgrading of Learmonth Airport to cater for the possibility of direct international air transport.
- Additional development in or near Exmouth requiring significant power generation will attract headworks charges to enable existing station to be upgraded.
- Low-volume seasonality and high infrastructure/service costs lead to a high investment risk.

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- Dominance of intrastate visitors in visitor profiles.

The Exmouth boat harbour marina development has the potential to address a number of these issues and offer a range of accommodation types. This proposal has not yet been finalised. Work on upgrading the airport has commenced and is due to be completed by July 1999.

2.6 Infrastructure Requirements

2.6.1 Power Generation

Existing diesel-generated power stations are located in the Exmouth town and at the naval communications station.

The Exmouth power station has a 4.7MW capacity. It distributes power via 11kV overhead lines southwards to Learmonth serving the present fishing industry based on the Gulf, and northwards to Vlamingh

Head Caravan Park.

Western Power has advised that this capacity is fully committed to the current peak demand and any additional loads will require more generating plant.

Proposed limestone extraction, and downstream processing of limestone and other natural resources will require additional power. This may be within the capacity of existing facilities, although preliminary investigations with Western Power indicate that headworks charges would be required to enable upgrading. Demands from expansion of the town and associated development such as the boat harbour would also fall into this category.

The 18MW generator at the naval communications station generates power at 60hz. The Department of Defence has indicated that there is spare capacity it is interested in



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selling. However, it would require conversion to 50hz for use in the existing power network.

From a planning perspective, one power source which could accommodate the anticipated increase in population, tourist activity and industry such as limestone mining would be preferable. However, economics could dictate that use of dual sources is efficient. It is important that the impact of power infrastructure on the development of the townsite is minimised.

The Structure Plan provides for a site in the new strategic industrial site south of Exmouth for a gas-fired power station should this be required.

2.6.2 Water Supply

The water supply for Exmouth comes from the Cape Range Group (superficial aquifer). It is recharged by direct infiltration of rainfall events, and indirectly through the beds of ephemeral streams - also brought about by rainfall events. The quality of the town water supply varies. All developments outside the townsite, including the naval communications station, Learmonth Airport and fish processing factories, have their own bore supplies. Supplies of fresh water throughout the study area are extremely limited.

The Water and Rivers Commission (WRC) has investigated the availability of water supply on the North West Cape and the protection of groundwater reserves.

Water Allocation

For the purposes of sustainable groundwater management, the WRC has divided the North West Cape into two sections - north and south.

- North of the light aircraft landing strip 1,500 megalitres (ML) of potable groundwater per annum is available for allocation, of which some 1,255ML is presently being utilised with a further

229ML earmarked for public water supply. This leaves approximately 16ML available for further allocation.

- South of the light aircraft landing strip, an additional 4,700ML of potable groundwater per annum is available, of which 147ML is being utilised. This leaves approximately 4,553ML of groundwater available for allocation. Availability will be re-evaluated in the future, on an incremental basis as the resource's response to increases in utilisation are monitored.

The Birdrong Sandstone is the only available artesian water source in the area. Bores that intersect this aquifer, throughout the Carnarvon Basin, have been known to yield between 500 and 4,500 kL/day. Bores have been constructed into the Birdrong Sandstone at a depth of between 1,080 and 1,120m in the Exmouth region, yielding saline water of between 19,800 and 33,040 mg/L Total Dissolved Salts (TDS). This is approaching the salinity of seawater which is about 35,000 mg/L TDS.

The Minister for the Environment has recently approved a proposal to extend the Exmouth water supply borefield for the purpose of increasing the supply of potable water.

The WRC recommends that a hydrogeological investigation, including chloride analysis of rainfall, be undertaken in the area south of the existing Water Corporation wellfield to obtain a better understanding of rainfall recharge within the area. Such a study, however is unlikely to identify new groundwater resources.

Based on current population projections the limited water supply will place constraints on the growth of Exmouth in the next 10 to 20 years. Groundwater for industrial uses is limited, and other sources such as further water resource use efficiency and desalination of seawater require investigation.

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Groundwater Protection

The WRC (1996b) has prepared a water resource protection plan for the Exmouth Town Water Supply which is gazetted under the *Country Areas Water Supply Act 1947*. To protect the water supply a new water reserve boundary is proposed (see Figure 5). The boundary of the water reserve covers the entire capture zone area of existing and proposed production bores. In defining the proposed water reserve, care has been taken to ensure areas not directly contributing recharge to existing and proposed public water supply bores are excluded as there is significant demand for land to be made available for other uses

at Exmouth. The water reserve will be managed for Priority 1 source protection and strict limitations on land use will apply. Retention of natural vegetation and ecosystem maintenance are considered the most compatible land uses in the water reserve.

The risk of groundwater pollution within the groundwater protection reserve is of particular concern, since the water resource is to be used as a source of public water supply, and because of potential impacts on the unique stygofauna and troglobite fauna associated with the groundwater system within the karstic geological formations of the Cape Range.

The WRC has determined a range of compatible, restricted and incompatible land uses within the water reserve which can be found in its Water Quality Protection Note: Land Use Compatibility in Public Drinking Water Source Areas.

2.6.3 Industrial Activity

There is currently one industrial area in the Exmouth townsite and a small area used for light industrial activity on the naval communications station.

The requirement for limestone loading facilities south of Exmouth, the existing fish processing and aquaculture developments, and the need to relocate some of the industrial activity out of the townsite suggest that a node for industrial activity is required south of Exmouth. This should take advantage of a potential new gas-fired power station in the longer term at the same site. It also represents an opportunity for relocation of

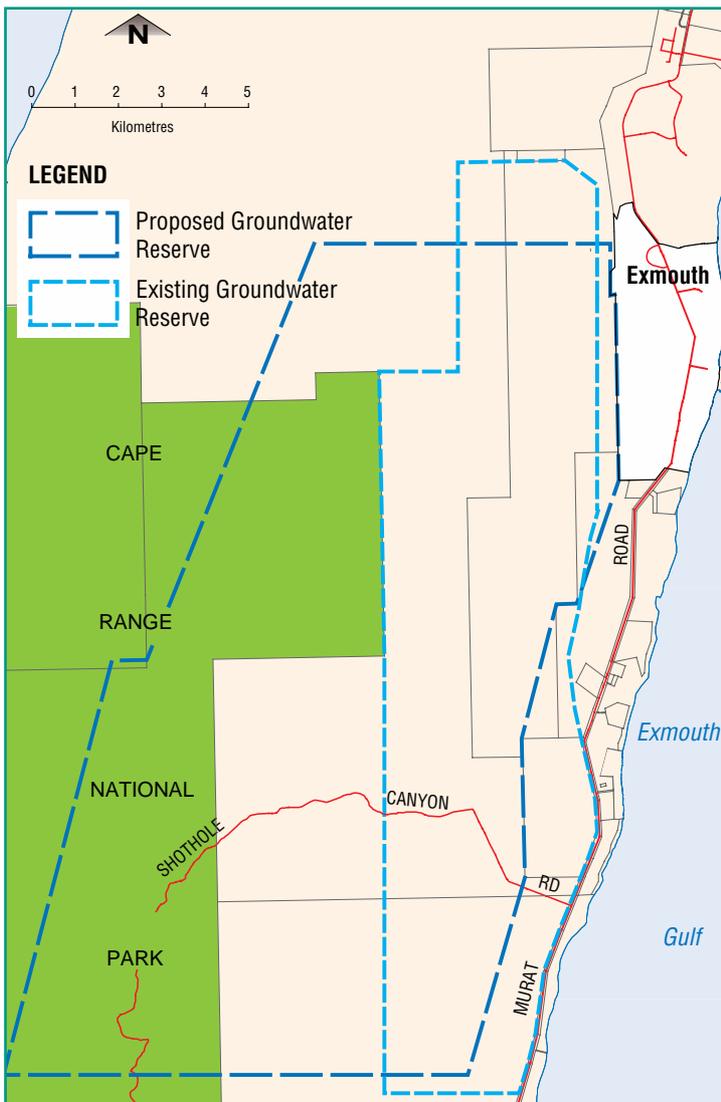


Figure 5: Groundwater Reserves

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fishing vessels and processing activity from Kailis Fisheries' current site, east of Learmonth airport, to the new strategic industrial site.

Three options for an industrial site south of Exmouth have been examined and the advantages and disadvantages of each location were examined. The sites were:

- Lot 51, Lyndon Location 221
- Reserve 32867 Murat Road (Light Aircraft Landing Facility)
- Learmonth

Lot 51, Lyndon Location 221 was deemed to be the most suitable site for the following reasons:

- Outside proposed Groundwater Protection Reserve.
- Close to known water sources.
- Synergy with proposed limestone mine, quicklime industry and barge loading facility allowing the consolidation of industrial uses.
- Potential sharing of gas facility as power source with Whitecrest P/L.
- Land capable and suitable for industrial use.
- Access to Murat Road.
- Proximity to potential employees at Exmouth.
- Low infrastructure and transport costs.
- Access to potential port/barge loading facility.
- A ridge parallel to Murat Road enables potential development to be partially screened from view.

2.6.4 Port Facilities

There are small boat jetties at Learmonth and Bundegi, and a facility for larger shipping vessels at the navy pier at Point Murat.

The Learmonth facility is subject to tidal changes, and is used mainly for trawler refuelling, while charter boats operate from the Bundegi facility. Boat ramps exist at Tantabiddi, Bundegi and the Exmouth town beach.

The Exmouth boat harbour was officially opened in September 1997. It is the first stage of the boat harbour development. The harbour allows for berthing, refuelling and small boat repair. It includes a 75-metre wharf, a two-lane boat launching ramp, eight unserviced mooring pens for fishing trawlers, 18 serviced mooring pens for charter vessels, 24 serviced general-purpose floating pens to accommodate recreational and small commercial vessels, lay-by berths for larger vessels across the end of the mooring pen catwalks and leasehold land available for the development of harbour support industries and facilities.

The Exmouth boat harbour will provide a focus for recreational and tourist boating and marine-related activity, and associated marine light industrial activity. The second stage will provide a residential subdivision with canals, harbour extensions and resort hotel development.

Development of alternative uses of the land at Point Murat section of the naval communications station suggests that the pier at Point Murat may be appropriately consolidated as a combined Department of Defence and marine science/port facility.

The proposed limestone barge loading facility and emerging strategic industrial site south of Exmouth suggests a potential to concentrate industrial port-related activity in this location. It represents an

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opportunity for relocation of fishing vessels and processing activity from Kailis Fisheries' current site, east of Learmonth airport, to the new strategic industrial site.

Hence, three distinct nodes of boat harbour/port functions are emerging.

2.6.5 Sub-regional Roads

The North West Coastal Highway is the major strategic link for the sub-region. The current road network provides limited access to major attractions along the west coast and is susceptible to periodic flooding. This can cause serious disruptions for local businesses and residents as well as affecting transport of freight and movement of people through the region.

The *Roads 2020 Regional Road Development Strategy Gascoyne Region* (1997) outlined the development requirements for the most important roads in the region to the year 2020 and contains a prioritised list of proposals for meeting these needs. The following recommendations of the strategy are recognised and reflected in the Structure Plan:

- Burkett Road - is an east-west link between two major north-south freight/service routes. It is also a major tourist road providing a link to the Pilbara. The sealing of this road to Type 4 sealed standard was completed in November 1997.
- Ningaloo access road - provides access to the Ningaloo Station homestead and provides access for tourists. Increasing traffic places high maintenance demands on the existing unsealed road surface. Upgrading will allow for increasing traffic requiring access to the Ningaloo area with tourist loop access to Exmouth via the coast. It is proposed to be constructed to Type 3 formed gravel road standard.

- Ningaloo to Yardie Creek - upgrade existing access by investigating construction of a Type 2 formed road between Yardie Creek and Ningaloo.
- Coral Bay to Ningaloo - upgrade existing access by investigating construction of a Type 2 formed road between Coral Bay and Ningaloo.
- Charles Knife/Shothole Canyon Roads - the development of a sealed circuit road on the North West Cape requires further investigation. CALM's Cape Range National Park Management Plan 1987-1997 signals the development of a link road between Shothole Canyon and Yardie Creek Road, emerging at Milyering. Preliminary studies by CALM indicate that a road out of Shothole Canyon would be difficult to achieve from an engineering and environmental perspective. Upgrading and extension of Charles Knife Road is considered more achievable and environmentally acceptable. The road would contribute to tourism in the Cape. Further investigation into this option is required.

A number of roads within the Cape are currently owned by the Commonwealth Government i.e. RAAF bombing range, Learmonth Airport and at the naval communications station. There are access and management issues associated with these roads and investigations into their transfer to local government should be undertaken.

2.6.6 Airport

Learmonth Air Base is located 37 kilometres south of the Exmouth townsite. The base was built during World War II and upgraded between 1970 and 1974. The Shire of Exmouth domestic airport shares the runway with the RAAF base and operates the aviation component of the airport. The existing civil aviation facilities are serviced from the RAAF water and electrical reticulation system. Substantial

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development of the civilian facilities at Learmonth would therefore affect the airfield and would require Defence approval.

The Department of Defence is spending \$60 - \$70 million upgrading its facilities at the RAAF Base in Learmonth for the expansion of its operational facilities. The improvement program has commenced and includes upgrading lighting and resheeting the landing strip, taxiways and hard stand areas. There is also a proposal for the acquisition of additional land from the adjoining pastoral lease.

In addition the Exmouth Development Trust has committed \$4 million towards the anticipated cost required for redeveloping the existing civilian airport facility at Learmonth to accommodate international flights and export of produce from the region. The redevelopment commenced in October 1998 and is expected to be completed by July 1999. There will be capacity on the existing site for accommodation of cold storage facilities.

The Shire of Exmouth has approved new plans for the Learmonth Air Terminal building and the extension of the apron and road accesses adjacent to the existing terminal. The floor plan was designed to ensure that the terminal, which would cater primarily for domestic passengers, would be capable of allowing for international charter traffic, expected to develop once the impact of the Western Australian Tourism Commission marketing strategies are felt. Provision has been made for the easy installation of air conditioning, luggage handling equipment and extra check-in counters with increase in traffic demand. The character of the new building will reflect the area's surrounding coral reefs and the sparseness of the Gascoyne Region.

Frequent domestic air services will facilitate the further development of

tourism, but there should also be detailed research into the provision of regular international air services in the long term. This will be accommodated by the redevelopment of the airport and other associated tourism infrastructure.

Currently there are no direct air freight services from the Gascoyne and produce is taken on passenger aircraft to Perth. As the volume of primary produce increases, the need for direct air freight services may also increase. Should regular international flights be implemented, then the use of Learmonth would become a viable option for the export of primary produce.

2.7 Constraints To Development on the North West Cape

Throughout the North West Cape the availability of infrastructure (water, sewerage and power services) and the sensitivity of the environment are major limiting factors to development.

2.7.1 Environmental Considerations

The Cape Range Province is an important environmental resource to the people of Western Australia, not only because of the magnificent coral reef contained within the Ningaloo Marine Park which borders the Cape, but also because the limestone karst formation which forms the Cape supports the world's most diverse subterranean fauna, as well as landscape qualities and biological diversity within and outside Cape Range National Park.

The Environmental Protection Authority in April 1998 released *Environmental Protection of Cape Range Province - Preliminary Position Statement* to outline the Authority's views on a matter which it considers of environmental importance.

The Province is environmentally sensitive and will require the use of a systems management approach, based on a sound

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understanding of the ecological interactions and processes that sustain the ecosystem structure and function. The environmental decisions and management will also need to take account of intergenerational equity.

The key to the long-term environmental protection and management of the Cape Range Province will be to carry out development in a manner which ensures the long-term ability of the area to accommodate human use pressures. The EPA concerns specifically relate to the availability, management and use of key natural resources, including:

- the maintenance of ecological processes and important habitats;
- the needs of conservation;
- the availability of land which is suitable for development, taking account of environmental constraints;
- the availability of potable water; and
- the need for key infrastructure to support a reasonable level of development.

The EPA has indicated that to address the above, it will use the 12 specific principles contained in section three of *Environmental Protection of Cape Range Province - Preliminary Position Statement* to underpin environmental assessment and decision-making in the Province.

2.7.2 Water Supply

The principal limiting factor to increased population and tourist numbers in Exmouth is the capacity of the present water supply, which consists of a low yielding borefield on the eastern foot of Cape Range, drawing from a thin lens of fresh groundwater overlying saline water. EPA approval of the southern extension of the Water Corporation borefields was given in 1997.

As an alternative to developing new water supply schemes, the WRC is focusing on more efficient use of available water. It is preparing a preliminary study proposal into the potential for water use efficiency in Exmouth. It is anticipated that the more efficient use of groundwater by current users will free up further water for the development of the town and remainder of the North West Cape.

Although the WRC has determined that there is sufficient water available for the next 10 to 20 years based on more efficient use of the available supply, the availability of groundwater on a sustainable basis is questionable but is fundamental to the type and extent of future development in the North West Cape. The demands on the groundwater resources are not confined to human use. There is also the need to recognise the importance of groundwater as part of a subterranean environment which supports fauna of national and international significance. An upgrading of the level of research associated with the groundwater resource is urgently required to ensure environmental, social and economic objectives are met.

2.7.3 Power Generation

The existing Western Power diesel-fired power station which generates electricity for the town supply is close to residential areas within the townsite and should be considered for relocation because of noise levels. Opportunities to relocate the station will be created by the provision of a new industrial site allowing the future development of a gas-fired power station close to the townsite should a gas source become available.



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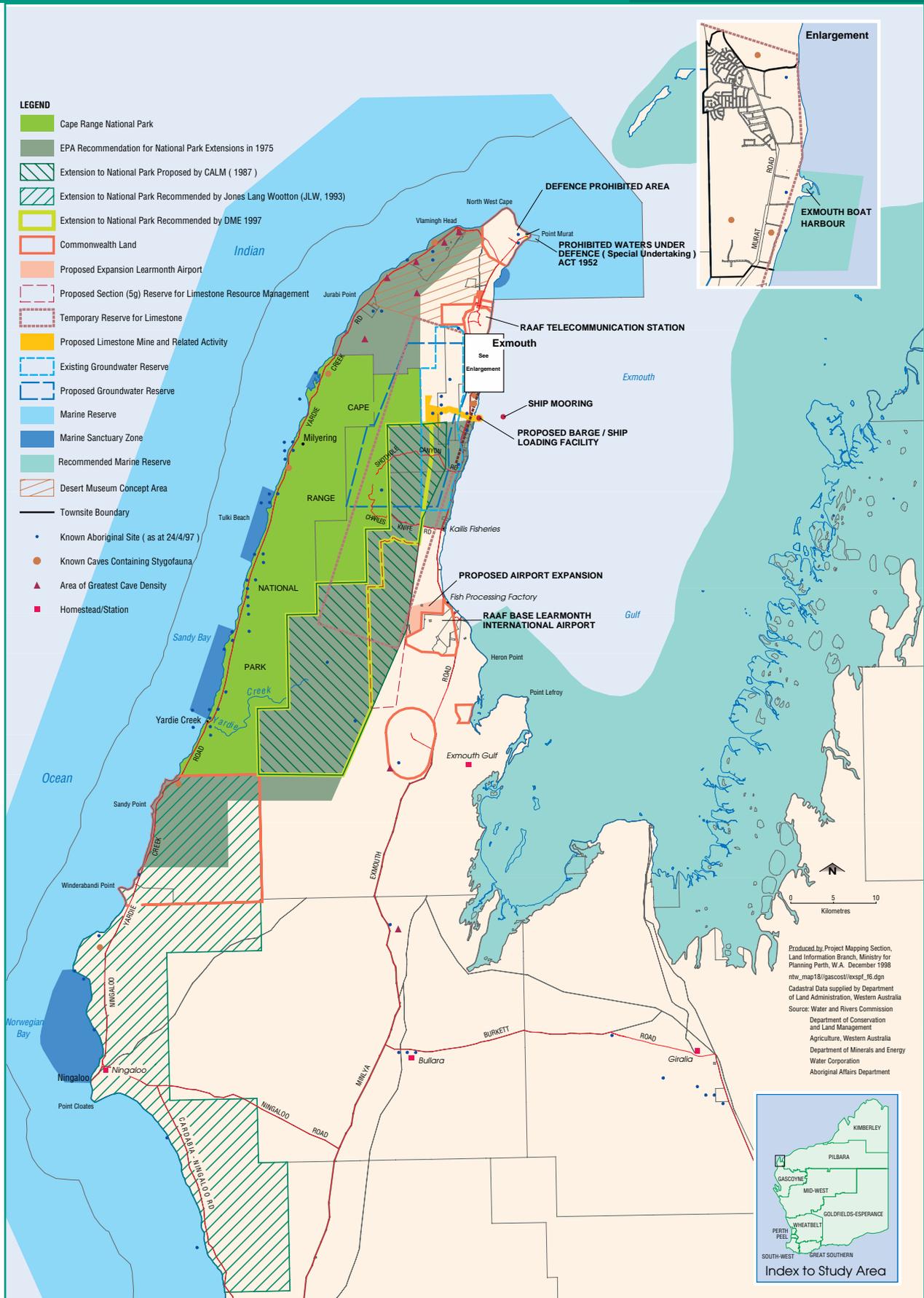
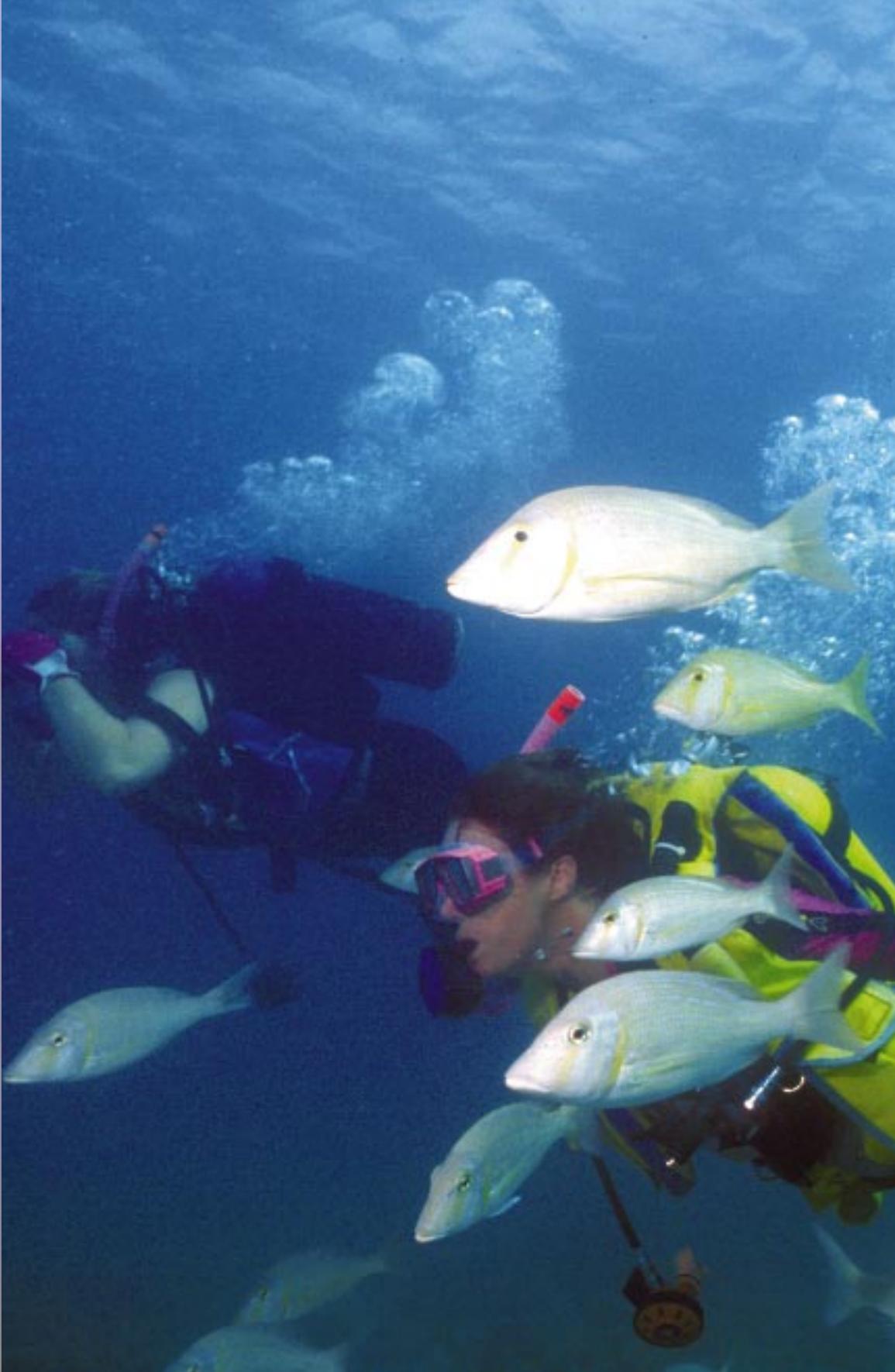


Figure 6: Physical Constraints/Opportunities

Photograph courtesy of WA Tourism Commission



PART THREE: STRUCTURE PLAN AND POLICY FRAMEWORK

3.1 The Structure Plan

This section outlines the proposals contained in the Structure Plan (refer Figures 7 and 9). The explanation of the proposals is drawn from the background and analysis of Parts 1 and 2, a land capability/suitability study and other sources. It presents a policy framework based on objectives, strategies and guidelines with the discussion defined by Planning Units and categories of land use. At the end of each guideline a lead agency(ies) in bold type and associated agencies are listed as responsible for implementing the guideline (refer Appendix 1 for glossary of abbreviations).

3.2 Planning Unit 1 - Exmouth-Learmonth

Planning Objective

- To provide for the orderly development of the Exmouth townsite.

Exmouth is the principal settlement of the North West Cape. As a fundamental objective, the Structure Plan is seeking to consolidate urban activities within the Exmouth townsite, in order to capitalise on existing infrastructure and to enhance the range of services and opportunities within the urban area. Development outside the Exmouth townsite should complement the existing settlement and should not rely on either the duplication or unnecessary extension and expansion of existing services and facilities.

3.2.1 Residential

Planning Objective

- To provide for sufficient and appropriately serviced land to accommodate future housing needs.

The plan proposes an extension of urban development within the southern portion

of the existing townsite (refer Figure 7). Expansion is proposed to be restricted to the existing townsite boundary to avoid unnecessary expansion and duplication of existing infrastructure and services. The extension of residential development in a southerly direction has largely been determined by existing constraints and the capability of land.

The Structure Plan proposes that future residential areas should take the shape of discrete residential cells which will provide future residents with a better sense of local identity. It is proposed that future urban cells be interspersed with either public open space (POS) or native vegetation greenways. Future growth should also be integrated with the proposed Exmouth boat harbour marina residential development to provide continuity to the town's structure.

The Structure Plan identifies a sufficient supply of residential land within the Exmouth townsite to accommodate the anticipated population growth for the North West Cape. The high costs of providing services and the limited supply of potable water mean that care should be taken when planning future growth in the town. In accepting the need to accommodate growth, the Structure Plan specifically does not provide for residential development outside the existing boundary of the Exmouth townsite to avoid unnecessary extensions of existing infrastructure such as water, power and sewerage and avoiding the need for possible duplication of services already available within the town.

The Structure Plan for Exmouth townsite allocates residential land for a minimum population of approximately 5,200 persons (excluding rural-residential areas). This exceeds the estimated maximum permanent population of 3,800 to the year 2027. In addition, long-term urban expansion can occur on land immediately south of the existing urban centre within the townsite boundary, east of Murat Road.

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Some urban consolidation within the established parts of the town will also provide opportunities for increased housing supply and choice.

The major constraint to urban development beyond 10 to 20 years is the limited supply of potable groundwater. In the short term, options such as water resource use efficiency and desalination are being examined by the WRC to more efficiently utilise existing resources. The availability of water however, is fundamental to the type and extent of future development for the North West Cape area. If the population of Exmouth exceeds current forecasts it will be necessary to increase the level of research on the whole groundwater resource.

Guidelines and Actions

- Focus all new development on the Exmouth townsite to avoid unnecessary expansion and duplication of infrastructure such as water, power and sewerage (**MfP**, LG, DOLA).
- Examine opportunities for higher density development on vacant lots or infill development within the existing residential areas of Exmouth (**LG**, MfP).
- Develop the Exmouth marina residential component in accordance with any conditions contained in agreements between the State Government and a prospective developer (**LandCorp/LG**, MfP, GDC, DOCAT, WAPC).
- Restrict residential development to within the existing Exmouth townsite boundary (**LG/MfP/DOLA**).
- Encourage future subdivision design to reflect the function of Exmouth as a coastal Western Australian community (**LG/MfP/DOLA**).
- Future urban development to recognise physical characteristics as identified in the land capability/suitability assessment with appropriate development techniques to be applied, particularly on the moderately dissected lower slopes of Cape Range (**LG/DOLA/MfP**).
- Base any development within the townsite on appropriate water-sensitive design criteria suited to a karst environment, to minimise water requirements and manage drainage issues and impacts on karst and the associated stygofauna (**LG/DEP/Proponent/WRC**, DOLA, MfP, GDC).
- Future subdivisions should provide a geotechnical assessment to support any proposed new development (**LG/DEP/MfP/Proponent**).
- Examine options for water resource use efficiency and desalination of groundwater as soon as possible (**WRC**, WC).
- Undertake and upgrade the level of research associated with the groundwater resource to ensure environmental, social and economic objectives are met as soon as possible (**WRC**, WC, GDC).

3.2.2 Special Residential / Rural-Residential

Planning Objective

- To provide appropriately located special residential/rural-residential lots, within the Exmouth townsite, connected to services whenever possible.

The arid and fragile nature of the North West Cape means that it has a limited capacity to support larger and remote lots. The Structure Plan therefore proposes only limited opportunities for the expansion of this type of development.

It is recommended that a limited expansion of the existing pocket of rural-residential lots on Heron Way on the land abutting the proposed racecourse to the south of the townsite. The land is considered appropriate for rural-residential as:

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- it caters for the limited demand for horse lots associated with the racecourse in the townsite;
- high-quality housing development has occurred in this area since the land was sold in freehold;
- the land is currently serviced with reticulated water; and
- is in close proximity to the existing development within the townsite.

Should the race club choose not to relocate to the new site, this land also could be made available for further rural-residential development.

An Outline Development Plan (ODP) should be prepared for the land south of the marina. The uses proposed should be integrated with and complementary to the proposed marina uses. The ODP should allow for staged development of the area from an interim use of special residential to its proposed long-term residential use. The ODP should address a range of issues including providing for a gradation of lot sizes from 1ha in the south to 2000m² for the land adjoining the marina, subject to land capability, building envelope definition, service infrastructure and possible options for staged subdivision to its long-term residential use upon the availability of service infrastructure.

The Structure Plan does not propose further rural-residential areas outside the townsite. The land adjacent to Pebble Beach (Lyndon Locations 222 & 223) has been included in a Conservation and Land Use Investigation Area to recognise its suitability for development in the long term should the supply of land within the Exmouth townsite be insufficient.

Guidelines and Actions

- Provide for a minimum lot size of 1ha in the designated rural-residential area on Heron Way, with a requirement that all lots to be connected to reticulated water

and if practicable sewerage (**LG/WC**, MfP, DOLA, WRC).

- Promote the development of 1ha rural-residential on the site of the proposed racecourse to provide a consolidation of the existing use, with a requirement for all lots to be connected to reticulated water and if practicable sewerage, if the site is not required as a racecourse (**DOLA**, LG, MfP).

3.2.3 Commonwealth Land

Planning Objective

- To locate on Commonwealth land adjoining the townsite activities that complement the Exmouth townsite and do not conflict with defence activities.

This area contains the most capable and suitable land for urban development close to the Exmouth townsite. However, the Commonwealth intends to continue its operations on the naval communications station for at least the next 30 years, and has no intention of transferring the land to the State in freehold. There are opportunities for the lease or transfer of some parcels of the land for activities that would not affect the station's operations. These non-defence activities such as budget accommodation and light industrial are not supported as they would detract from primacy of the Exmouth townsite and operate under a different planning and commercial environment from businesses in the townsite.

In addition, the relocation of the wastewater treatment plant to the southern portion of the Commonwealth land is being pursued by the Water Corporation. The relocation should be promoted.

Guidelines and Actions

- Discourage non-defence activities at the naval communications station which would detract from the consolidation of

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the Exmouth townsite as the principal service centre (**Defence/LG**, GDC, MfP).

- Promote relocation of the wastewater treatment plant to the naval communications station land north of Willersdorf Road, subject to Defence and environmental approval (**WC/Defence**, LG, DEP, MfP).

3.2.4 Commercial

Planning Objective

- To provide adequate land, appropriately located and serviced, for the commercial needs of Exmouth.

Exmouth Town Centre

The town centre, bounded by Murat Road, Maidstone Crescent and Kennedy Street, is currently the main focus for the sub-region in terms of shopping and commercial activity.

Retail floor space requirements based on an estimated population of 3,800 for 2027 and the current ratio of floor space provision of 1.97m²/person (surveyed figure estimate - Shire of Exmouth), indicate a retail floor space of 7,500 to 8,000m² will be required by the year 2027.

The town centre currently has 5,170m² floor space and within the land zoned town centre (including the parkland on Maidstone Crescent) has capacity at least to double this amount.

Although the figures indicate adequate land for town centre expansion, there is demand for use of land within the industrial area for commercial uses. This indicates that although the land in the town centre is zoned appropriately, it is not necessarily available for development. The Shire of Exmouth should be encouraged to facilitate the provision of available commercial land.

The proposed Exmouth boat harbour marina residential development will

provide opportunities for shopping and commercial activity. However, the town centre should be retained as the major centre for this activity. It is likely that some commercial and shopping activity, particularly for tourists i.e. tourist operators, tourist retail outlets, restaurants and cafes, will seek to locate at the marina. Therefore with the aim of retaining the commercial focus on Exmouth town centre, it is important that it continues to be promoted in terms of retail and commercial activity.

In terms of land supply, there appears to be adequate land to cater for growth at least for the next 30 years. In addition, the Shire of Exmouth wishes to relocate the existing swimming pool from Council land in the town centre to the tourism and recreation precinct east of the town centre to enable expansion.

Guidelines and Actions

- Locate all major commercial development i.e. retail, office and civic within the Exmouth town centre (**LG**, MfP).
- Identify and facilitate development of land available for commercial uses within the townsite (**LG**, MfP).

3.2.5 Industrial

Planning Objectives

- To provide adequate land, appropriately located and serviced, for a range of industrial uses.
- To minimise the impact on the natural environment of future industrial development.

Townsite Industrial Area

The existing industrial area in the Exmouth townsite is located in the path of future development and is on the entry road to the townsite. At present some land use

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conflicts with surrounding residential land uses are evident, such as noise nuisance from the power station and from freezer trucks parked overnight in transport depot yards.

It is recommended that a portion of the existing industrial area in the Exmouth townsite be retained and expanded to the south-west for industrial activities which:

- depend on convenient access;

- do not require a large site;
- do not require a significant buffer distance separation from sensitive uses as recommended by the EPA; and
- are part of the business fabric of the townsite.

It is recommended that provision be made for an industrial area outside the townsite where provision can be made for those industries requiring a large site, and for

which the EPA guidelines recommend a large buffer distance from sensitive uses.

The remainder of the existing industrial area will be designated Mixed Use Light Industrial / Commercial and will form the interface between the remaining industrial activities and the marina development. The proposed mixed use area is more compatible with the uses developing on the land surrounding this area which are predominantly residential in nature.

Given that this area will gain more prominence as the entrance into Exmouth townsite, it is considered it should be redeveloped and appropriate landscape buffers provided to create a pleasing entry statement, and should be integrated with the boat harbour marina development.



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Strategic Industrial Site

An industrial area to accommodate anticipated future growth is required for the following reasons:

- Emerging industrial node due to increased resource development i.e. limestone, oil and gas, fin/shellfish processing and energy generation.
- To accommodate relocation of existing industrial uses from the Exmouth townsite which generate nuisance (noise, dust, vibration, and fumes/smoke) and which need a larger area of land.

The mining of limestone by Exmouth Limestone has environmental approval. The development of a quicklime processing plant associated with this industry is unlikely to occur in the short to medium term, as quicklime facilities in Kwinana have been established and are likely to continue to be used in the foreseeable future. In the medium to long term in conjunction with the availability of gas, the development of a quicklime industry is a strong possibility, however this is anticipated to be located at the Exmouth Limestone mine site on Lot 50, Lyndon Location 221.

Development of Lot 51, Lyndon Location 221 as the strategic industrial site will be subject to the preparation of a detailed structure plan, which will address the scale and type of development, buffer requirements and infrastructure provision. Industry should be based on water-sensitive criteria suited to a karst environment to minimise water requirements, and to manage drainage issues and impacts on karst and associated stygofauna.

The intention is that the strategic industrial site at Lot

51, Lyndon Location 221 be set aside for the purpose of accommodating a range of general industrial uses which will be limited to:

- gas fired power station;
- heavy transport depot;
- concrete batching plant;
- off-shore storage facilities for the hydrocarbon industry (pipes etc.);
- fish processing and handling;
- warehousing; and
- limestone-related industries.

The proposed strategic industrial site is likely to be assessed by the EPA and if necessary statutory environmental conditions will be applied by the Minister for the Environment. In addition, where appropriate the uses proposed for the site may require operating licences under Part V of the *Environmental Protection Act 1995*, which will ensure that these industries are consistent with best environmental practice.

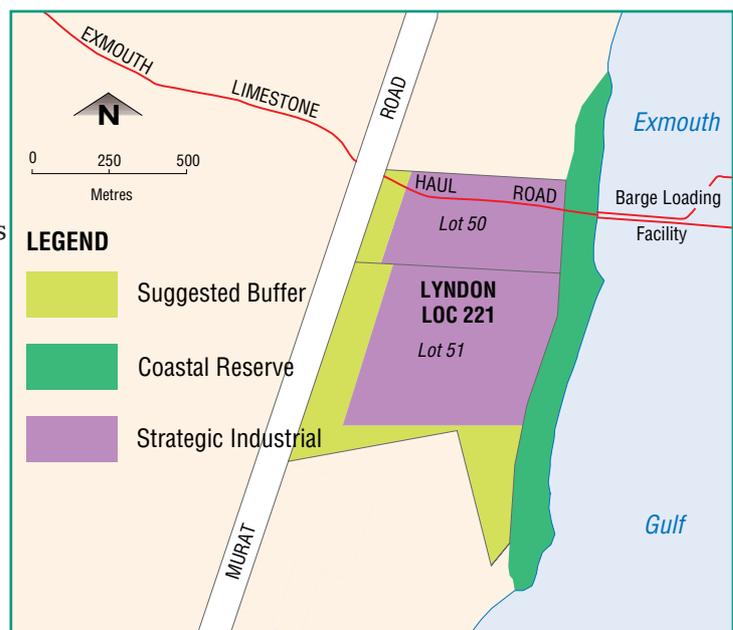


Figure 8: Proposed Strategic Industrial Site

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Guidelines and Actions

- Prepare a detailed structure plan, including geotechnical assessment, for the proposed strategic industrial site on Lot 51, Lyndon Location 221 (LG/MfP).
- The development of the strategic industrial site to incorporate appropriate water-sensitive design criteria suited to a karst environment to minimise water requirements, manage drainage issues and impacts on karst and associated stygofauna (LG/DEP/Proponent/WRC).
- Address limitations to development as outlined in the land capability/suitability assessment as part of any proposed industrial development (LG/DOLA/MfP).

3.2.6 Recreation and Cultural Facilities

Planning Objective

- To provide adequate appropriately located land for the recreational, community and cultural needs of Exmouth.

The provision of recreation areas and cultural facilities becomes increasingly important as a town grows. Recreation facilities and open space is currently well provided for in Exmouth.

A sporting, recreation and public open space precinct has been developed on the east side of Murat Road and the Exmouth town centre. The relocation of the pony club will enable expansion of sporting and recreation facilities in this area. The same applies to the likely relocation of the existing wastewater treatment plant from this location to Commonwealth land north of the existing townsite.

This area should continue to accommodate sporting and recreation uses given its central location. In addition, the development of cultural facilities such as theatres, cinemas or appropriate education facilities should be encouraged.

Guidelines and Actions

- Proposed residential areas should incorporate adequate provision of public open space or native landscaped areas (LG/MfP/DOLA).
- Prepare a recreation and cultural needs strategy for Exmouth and allocate the appropriately recreation, community and cultural facilities (LG).
- Provide appropriate access to coastal areas from the townsite through the recreation precinct (LG).

3.2.7 Urban Design and Townscape

Planning Objectives

- To identify and agree a defined character for Exmouth in its existing and future role as a sub-regional tourism and service centre, bearing in mind the environmental and aesthetic fragility of the surrounding sub-region.
- To initiate and adopt design guidelines, in support of the identified and agreed character, to inspire and guide all future development in the town, and to encourage all development to be environmentally and climatically responsive and sustainable.
- To harmonise and minimise the visual and physical intrusiveness of all development activities in the town, within and upon the surrounding natural environments in terms of colours, materials, volume and scale.

No townscape plan has yet been prepared for the Exmouth townsite. The Council has adopted an Exmouth Town Centre Development Strategy which incorporates elements of townscape and streetscape for the Exmouth Town Centre. Given the potential for development over the next 30 years, design guidelines are needed to

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ensure that all development contributes to an identified and unified character supporting the unique “sense of place”, essentially the experience of Exmouth.

The Exmouth community, including the Shire working with an experienced townscape consultant or the Ministry for Planning’s Townscape Officer, should identify the existing character and elements that contribute to the character of the town using the Townscape Program Processes as identified in the Townscape Easy Guide (1998). This should be followed by an analysis of the town’s issues and opportunities, weaknesses and strengths and the development of a townscape plan, for adoption by the Shire, that includes policies/strategies as well as a staged program of works in an identified time frame. The retention and enhancement of special attributes such as historic buildings or trees with improved landscaping, including pedestrian areas, car parking, access and street furniture, could reinforce the character and attractiveness of the town.

Public Places Enhancement Strategy - Consideration should be given to the legibility of the major pedestrian areas/routes, their safety and general amenity, especially shade provision. Consideration should also be given to accessibility to and provision for the needs of groups within the community, within the foreseeable future, including the aged, children and people with disabilities.

Design Guidelines - The town’s identified and agreed character should be further supported and enhanced by design guidelines drawn up as a part of the townscape plan. Special emphasis should be placed upon the integrated design of the public/private interface. It may be necessary to include the Objectives of the Guidelines in the Town Planning Scheme, by an amendment to the Scheme, giving them the weight of law and thus ensuring

that future development meets these community objectives.

The community may wish to access the MfP’s Townscape Program formally or undertake an equivalent program independently. In either case the Townscape Officer in the Ministry and/or private consultants are available for advice and assistance. It is recommended that the processes mentioned above be followed and a townscape plan, including appropriate strategies and design guidelines, be prepared.

Guidelines and Actions

- Prepare a townscape plan for the Exmouth townsite (LG, MfP).
- Prepare a detailed town centre plan addressing car parking, pedestrian and traffic movement (LG, MfP).

3.2.8 Tourism Development

Planning Objective

- To appropriately locate large-scale tourism development in serviced areas and provide opportunities for a range of accommodation types.

To take advantage of existing infrastructure and services, and proximity to Learmonth Airport, the location of tourism development in the North West Cape is preferred within, or close to the existing urban settlement at Exmouth. Exmouth is a suitable base for travel throughout the region given its access to major tourist routes.

The Structure Plan supports the development of large-scale tourism infrastructure and accommodation within the Exmouth townsite. Sites along the west coast are considered less desirable for large-scale development and should be considered only for day visits or low-impact / small-scale accommodation facilities.

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The Minilya-Exmouth/Murat Road is an essential part of the service infrastructure needed to support the tourist industry. A corridor between Learmonth Airport and Exmouth townsite where landscaping and built structures are managed in accordance with a visual amenity plan, should be defined. This visual amenity corridor should cover an area approximately 200m each side of the road.

Guidelines and Actions

- Encourage large-scale tourism development such as hotels, motels and resorts to locate within the Exmouth townsite at a scale and design which accords with the (to be prepared) townscape and landscape plans for Exmouth (LG, WATC, MfP, WAPC).
- Address limitations to development as outlined in the land capability/suitability assessment as part of any proposed tourism development (LG/DOLA/MfP).
- Prepare foreshore management plans in association with any tourism development in accordance with WAPC policy (LG, MfP).
- Develop sites along the beachfront for recreation e.g. barbecue and picnic facilities in settings with natural vegetation and landscaped areas (LG).
- Rationalise and upgrade access and parking facilities to the town beaches, particularly the beach abutting the marina (LG).
- Prepare a visual amenity plan to control landscaping and building development on the land each side of the Minilya-Exmouth/Murat Road between the Learmonth Airport and Exmouth townsite (LG, MfP).

3.2.9 Conservation

Planning Objectives

- To conserve land with significant environmental value.
- To protect groundwater as part of the human and subterranean environment.

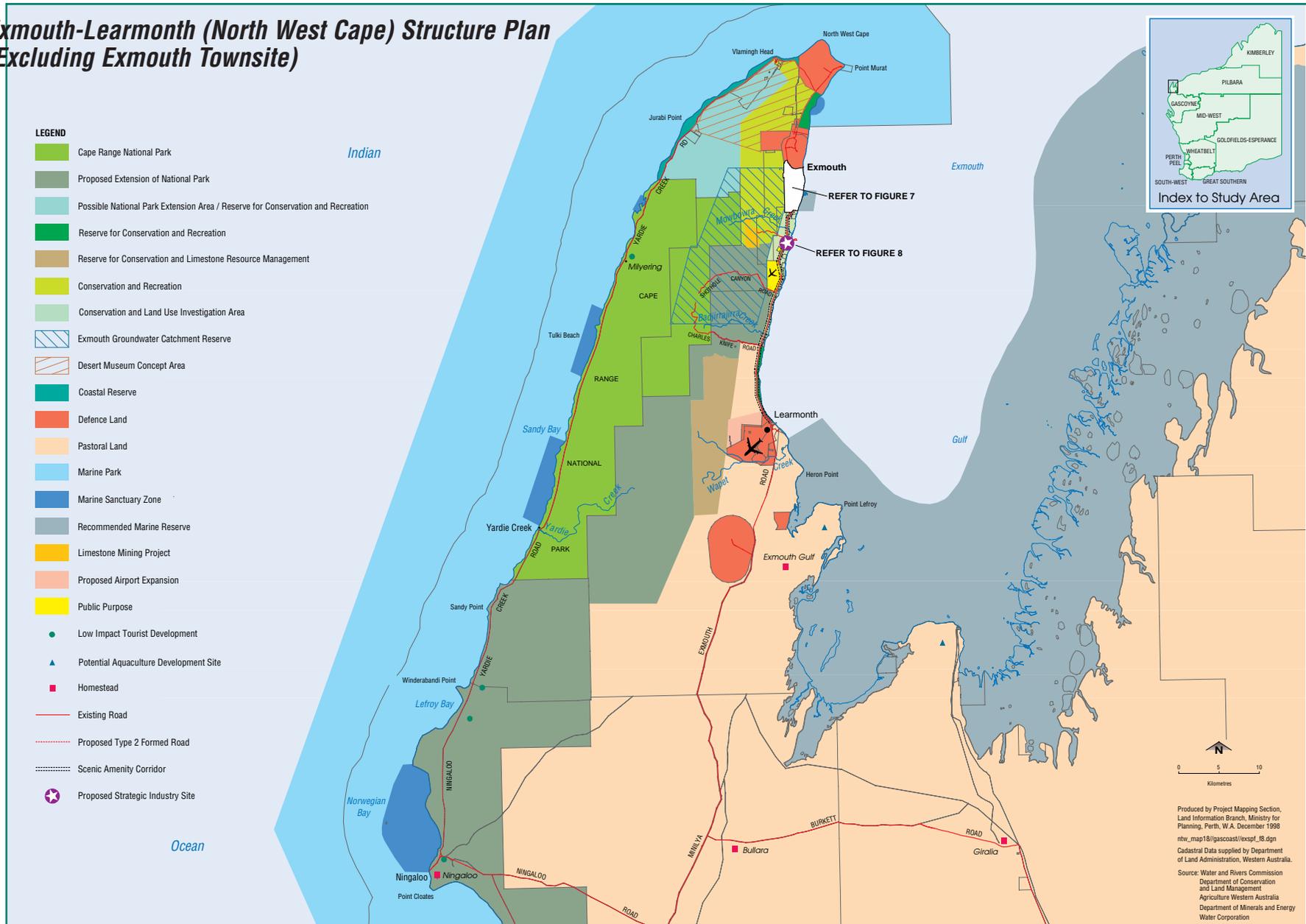
The scientific and environmental values of Planning Unit 1 are considerable and worthy of conservation, though the area is currently experiencing development pressure through limestone mining and other proposals around Exmouth. Many of the environmental features are vulnerable to the excessive drawing of water and problems that could arise in terms of the special hydroponic, ground stability and ecological conditions operating above and below the water table.

Within Planning Unit 1, proposed extensions to the Cape Range National Park include those recommended by *Conservation Reserves for Western Australia, Cape Range National Park Management Plan 1987-1997*, and by the Department of Minerals and Energy 1997 (illustrated in Figure 6).

The *Gascoyne Coast Regional Strategy* identified a portion of the EPA recommendations north of Cape Range National Park and the total CALM recommended areas as Conservation. The Conservation designation relates to those significant and sensitive areas where development should be limited to roads and day visit facilities, with environmental protection being the key design criterion in relation to all development decisions.

The proposed section 5(g) reserve under the *Conservation and Land Management Act 1985*, for the purpose of Conservation and Limestone Resources Management has the support of the Ministers for Mines and the Environment. Although the current CALM recommendations for extension of the

Figure 9: Exmouth-Learmonth (North West Cape) Structure Plan (Excluding Exmouth Townsite)



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National Park encroach on this area, recognition of the whole section 5(g) reserve has been agreed to.

This Structure Plan recommends:

- a. Extensions to Cape Range National Park to the east and south as proposed by CALM in its *Cape Range National Park Management Plan 1987-1997*, with the exception of land within the proposed section 5(g) reserve, and to the east as proposed by the EPA in *Conservation Reserves for Western Australia* to (but not including) the scenic amenity corridor along Murat Road south of Shot Hole Canyon Road.
- b. The proposed section 5(g) reserve be set aside for Conservation and Limestone Resource Management.
- c. In recognition of the environmental values of the unallocated Crown land north of Cape Range National Park the area should be managed jointly by CALM and the shire of Exmouth as a conservation and recreation area while investigations are carried out into possible management and vesting arrangements. The assessment should be carried out as part of the review of the Cape Range National Park Management Plan, which should be undertaken as a matter of priority. If the land achieves threshold values for National Park significance it should be vested in the NPNCA for conservation of flora and fauna. If not found to contain National Park values the land should be jointly vested in the Executive Director of CALM and the Shire of Exmouth as a reserve for conservation and recreation. In the interim, protection from inappropriate development will be provided through the provisions of the Shire of Exmouth Town Planning Scheme.
- d. Recognition of the need to undertake further investigations into the

conservation value of the land between the proposed eastern extensions to Cape Range National Park and the Gulf, south of the Exmouth townsite by designating the area Conservation and Land Use Investigation. Consideration should be given to including portions of the land in the Cape Range National Park. In the interim, development within this area should be limited, with environmental protection being the key criterion for all development decisions.

- e. Recognition of the conservation and recreation value of land north-west and west of the Exmouth townsite and the need to undertake further investigations into the value of this land for conservation and recreation purposes. In the interim, development within this area should be limited to roads and day visit facilities, with environmental protection being the key design criterion for all development decisions.
- f. Protection of the groundwater resource by the designation of a water catchment reservation over the area identified in the Exmouth Water Reserve - Water Source Protection Plan (1996).

The northern area referred to in (c) and (e) includes land which has been the subject of the proposed Desert Museum concept. The Desert Museum concept would be principally for the purposes of conservation, research and tourism and considered to be compatible with the conservation and recreation purpose for this area. Extension of the National Park to any areas north of the current boundary is supported only if the issues can be resolved; compatibility with the Desert Museum concept; management and leasing arrangement of the Desert Museum concept by local government; and rating of leasehold properties within the National Park extension.

The management of areas (d) and (e) should be undertaken by the Shire in

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association with CALM and the Water and Rivers Commission respectively.

Guidelines and Actions

- Extend the Cape Range National Park (see Figure 9) as proposed by:
 - CALM to the east and south in its Cape Range National Park Management Plan 1987-1997, with the exception of land within the proposed section 5(g) reserve; and
 - the EPA to the east in *Conservation Reserves for Western Australia* to (but not including) the scenic amenity corridor along Murat Road south of Shot Hole Canyon Road (CALM, LG, MfP).
- Set aside the proposed section 5(g) reserve under the *Conservation and Land Management Act*, for Conservation and Limestone Resource Management (DME/CALM/DEP).
- Assess the land north of Cape Range National Park, for inclusion in the National Park as part of the review of the Cape Range Management Plan. This review should be undertaken as a matter of priority. In the interim, protection from inappropriate development will be provided through the provisions of the Shire of Exmouth Town Planning Scheme (CALM, LG, WAPC, EPA, DOLA).
- Undertake investigations into the environmental value of the Conservation and Recreation Area (refer Figure 9) to the north-west and west of the Exmouth townsite (CALM/DEP, LG).
- Investigate management options for the Conservation and the Land Use Investigation Area and Conservation and Recreation Area (CALM/DEP/LG, GDC, PGA).
- Recognise the recommendations of the Exmouth Water Reserve - Water Source

Protection Plan and designate the catchment area as the Exmouth Groundwater Catchment Reserve (LG/WRC, MfP, GDC).

3.3 Planning Units 2 and 3 - Cape Range and Ningaloo

Planning Objective

- To retain the wilderness values of the fragile coastal environment of the west coast which is of national significance.

These Planning Units which contain the scenic west coast and Range landscape represent an internationally significant ecological, educational, scientific and recreational resource.

3.3.1 Current Use

The area contains a large part of the Cape Range National Park, the RAAF bombing range, the Ningaloo pastoral lease and abuts the Ningaloo Marine Park. Two areas of coastal land north of the Cape Range National Park are jointly managed by CALM and the Shire of Exmouth. These areas are known as the Jurabi and Bundegi Coastal Parks.

The RAAF bombing range was recommended for conservation in the *Gascoyne Coast Regional Strategy*. Recreational use of the RAAF bombing range has increased over the years, resulting in degradation of dune systems with a proliferation of vehicle tracks and camping areas. There is no active management on this part of the coast. CALM is negotiating with the Department of Defence for the purpose of establishing a management agreement over the coastal portion of this land. This should be promoted as an interim measure, until the land becomes National Park.

The State Government, through the recommendations of the Select Committee

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Report on Cape Range National Park and Ningaloo Marine Park, is pursuing excision of the coastal strip the length of Ningaloo Marine Park to CALM, to enable it to manage and control camping, vehicular use and other people-related activities.

3.3.2 Development on the West Coast

It is preferred that the location of large-scale tourism development is confined to the Exmouth townsite for the following reasons:

- To utilise existing infrastructure - roads, power, water, wastewater and disposal facilities.
- To consolidate the existing settlement - town centre, administration, recreation, community and cultural facilities.
- To maximise the Exmouth boat harbour infrastructure.
- To capitalise on the relative proximity to Learmonth Airport.
- To protect the fragile environment of the west coast.

The west coast is not preferred for large-scale development given its wilderness values, the lack of water resources, power generation capacities, wastewater treatment and disposal facilities and access difficulties. While new development should take place in Exmouth or close to existing infrastructure, a demand for wilderness accommodation from ecotourists and backpackers is acknowledged.

Accordingly as part of the planning process, guidelines have been prepared for low-impact / small-scale tourism development on the west coast. These incorporate standards for essential infrastructure and form of development, designed to protect the integrity of Cape Range and Ningaloo Marine Park. These guidelines are to be released by the Gascoyne Coast Planning Coordinating Committee as a separate technical paper

entitled Environmental and Planning Guidelines for Tourism Development on the North West Cape. The guidelines identify both environmental and planning constraints and opportunities. Proposals for tourism development will be evaluated in accordance with the guidelines.

The west coast is a fragile coastal environment of national significance, and its attraction is its wilderness, beauty and relative isolation. The development of major tourist accommodation could detract from its wilderness appeal.

There are opportunities in the Cape Range National Park for low-impact tourism and for scientific research facilities based on improving knowledge and appreciation of the ecology and natural resources. Management of these areas would be the responsibility of CALM, which currently provides a significant amount of information about the local environment at the Milyering Visitor Centre.

Any new accommodation facilities provided on the west coast should be low-impact wilderness lodge style, located at carefully selected sites between the northern boundary of Cape Range National Park and Ningaloo Station. A wilderness lodge or ecolodge is “development that has regard to long-range environmental and natural resource conservation and symbioses with human communities. In providing facilities and activities for visitors, special care must be taken not to destroy the very resources or qualities they come to experience. If development is necessary, it would be constructed from natural sustainable materials, generate its own energy from renewable resources such as solar or wind, and manage its own waste” (The Ecotourism Society, 1995).

The basis of this approach is to pursue development with a degree of sensitivity. Part of this sensitivity comes from a thorough investigation of the proposed site and a realistic assessment of a proposed

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tourism development project's expected impacts.

To ensure that the level of development can be monitored over a period of time and that it is environmentally sound and sustainable, it is recommended in the short to medium term only two of the following general locations be developed for accommodation:

- Milyering
- Lefroy Bay
- Winderabandi
- Ningaloo

All of the above sites were recommended as having potential for development as a tourism destination in North West Cape Tourism Development Study. In accordance with Cabinet's decision, the developer of the resort site at the Exmouth Marina, has first right of refusal to acquire similar development rights for the first west coast tourism development site, north of Yardie Creek on Crown Land (not pastoral lease or National Park), made available to the market. As a gauge, proponents of development on any of these sites should use the Gascoyne Coast Planning Coordinating Committee's Environmental and Planning Guidelines for Tourism Development on the North West Cape to identify the environmental constraints and possible management requirements for any proposal prior to submitting a formal application. However, it is likely that any development on the Cape's west coast would require some form of EPA assessment, given the sensitivity of the area and the high public interest in its protection.

The level of development should be monitored to ascertain its impact on the environment. Further development at additional sites should be considered in the long term only following an assessment of impacts from existing development.

Guidelines and Actions

- Assess the land north of Cape Range National Park, for inclusion in the National Park as part of the review of the Cape Range National Park Management Plan. This review should be undertaken as a matter of priority. In the interim, protection from inappropriate development will be provided through the provisions of the Shire of Exmouth Town Planning Scheme (**CALM**, LG, WAPC, EPA, DOLA).
- Extend the Cape Range National Park in the medium to long term to include the RAAF bombing range and the Ningaloo pastoral lease. In the interim, promote negotiations between CALM, Defence and Ningaloo pastoral lessees for the purpose of establishing a management agreement over the coastal portion of the RAAF bombing range and Ningaloo pastoral lease (**CALM/Defence**, LG, MfP).
- Investigate the transfer of Commonwealth roads within the RAAF bombing range to State and local government (**GDC/LG/Defence**).
- Support a limited amount of development, preferably in the form of wilderness lodge style accommodation (i.e. low-impact accommodation) in order to retain the wilderness values of the west coast. Other forms of tourism development will be considered only where it is demonstrated that it will protect the wilderness values and environmental sensitivities of the west coast (**CALM/LG**, WATC, DEP, MfP, WAPC, GDC).
- Limit the development of tourism accommodation in the short to medium term to two of the following general locations:
 - Milyering
 - Lefroy Bay
 - Winderabandi
 - Ningaloo,

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in addition to a site north of Yardie Creek offered to the preferred developer of the resort at the Exmouth Marina in accordance with Cabinet's decision. (**WAPC/WATC/CALM**, LG, EPA)

- Assess development along the west coast in accordance with the Gascoyne Coast Planning Coordinating Committee's Environmental and Planning Guidelines for Tourism Development on the North West Cape, which may be further assessed by the EPA if deemed to be environmentally significant (**WAPC**, DEP, CALM, MfP, LGs,).
- Investigate the viability of alternative sources of power generation and the disposal of effluent and solid waste for low-impact tourism development at specified locations along the west coast (**OE**, WP, LG, GDC, WAPC).
- Set back all development along the west coast from sensitive and unstable coastal landforms and areas prone to potential sea level rises from both storm surge and tsunamis (**CALM**, LGs, DEP, MfP).
- Investigate the alignment and construct the Ningaloo access road to Type 3 formed gravel road standard (**MRWA**, DoT, LG).
- Investigate the construction of the Ningaloo to Yardie Creek track to a Type 2 formed road (**MRWA**, DoT, LG, CALM, DEP, GDC, WAPC).
- Investigate the construction of the Coral Bay to Ningaloo track to a Type 2 formed road (**MRWA**, DoT, LG, CALM, DEP, GDC, WAPC).
- Investigate the environmental and economic feasibility of upgrading and extending Charles Knife Road, and carefully design and manage the road (**MRWA**, DoT, LG, CALM, DEP, GDC, WAPC).

3.4 Planning Unit 4 - Exmouth Gulf

Planning Objective

- To promote sustainable uses that enable diversification of the economy while protecting the fragile environment.

The mangrove and intertidal areas of this planning unit have very high conservation value due to their high biological productivity and importance as nurseries for prawns. The western coast of the Exmouth Gulf provides ideal conditions and potential for aquaculture, including the farming of pearls, clams and wet fish. With world demand exceeding fishing production capacity, the demand for aquaculture is likely to continue to increase. The Learmonth Airport, which is in close proximity, is a viable option for the transport of fresh produce from the study area.

Comprehensive management will be necessary to conserve the unique values of this area. The area proposed as a Marine Park in the Exmouth Gulf by CALM (1994) and the Gascoyne Aquaculture Development Plan (November 1996) is endorsed by the Structure Plan.

In 1998 Fisheries Western Australia proposes to commence an Exmouth Gulf Marine Farming Development Plan which is aimed at identifying specific sites for aquaculture and pearling. This unit also contains Rough Range which is rich in known limestone resources. Pastoralism is the main land use in this unit. The *Gascoyne Coast Regional Strategy* provides for the continuation of pastoral activity on two pastoral leases in this unit. Some pastoralists have diversified their economic base by offering tourism product and in particular, accommodation. Diversification has led in some cases to good returns and diminished dependence on stock.

The *Gascoyne-Murchison Rangeland Strategy* makes a number of

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recommendations aimed at ensuring that the economically declining industry remains sustainable by the promotion of biodiversity, tourism and cultural values.

Guidelines and Actions

- Promote the development of aquaculture projects in the area, including pearls, clams and wet fish (**FWA**, GDC, DEP, LG).
- Protect and manage the southern and eastern side of Exmouth Gulf as a Marine Park (**CALM**, FWA, GDC).
- Encourage Fisheries Western Australia to prepare an aquaculture development plan aimed at identifying specific sites in the Exmouth Gulf for aquaculture (**GDC**, FWA, MfP, WRC).
- Promote the diversification of uses on pastoral land such as small-scale / low- impact tourism and recreation development, in keeping with local environmental constraints (**WATC**, DOLA, LG, GDC, PBWA, AgWA).
- Promote the identification on pastoral land of inland sites suitable for aquaculture (**DOLA/AgWA**, PBWA, GDC).





PART FOUR: IMPLEMENTATION

This section outlines the means of implementing the Structure Plan. This is a strategic document which will form the basis of decision-making by State and local government.

4.1 Methods of Implementation

The implementation of the Structure Plan will be via:

- Its status as a Cabinet-endorsed policy which guides local strategic and statutory planning and relies significantly on the provisions and zoning plans of the Shires' Town Planning Schemes for implementation.
- Processes and instruments of planning and management agencies.

4.2 Levels of Implementation and Coordination

The Gascoyne Coast Planning Coordinating Committee will deal with land use issues and provide effective coordination, prioritisation and implementation of recommendations contained within the Structure Plan. Implementation of specific recommendations will be the responsibility of agencies identified and subject to the guidance of the GCPCC.

Many of the recommendations and implementation mechanisms rely on the involvement of local government within the region, in coordinating further localised planning and decisions about land use proposals.

4.3 Responsibility for Implementation

This plan was an initiative of the Western Australian Planning Commission as recommended in the *State Planning Strategy*. The GCPCC was formed to oversee regional planning issues in the Gascoyne Region and to coordinate the

implementation of plans prepared for the region, including this Structure Plan.

For each land use or activity a series of guidelines have been made. The principal agencies responsible for achieving those guidelines are listed, with the lead agency indicated in bold lettering. Implementation of specific recommendations will be the responsibility of the agencies identified, subject to the coordination and guidance of the GCPCC.

The Structure Plan should guide local government in its consideration of development proposals and will also guide the Commission in its deliberations on applications to subdivide land and when considering amendments to the Town Planning Schemes.

4.4 Monitoring and Review

The Structure Plan is a long-term plan and implementation will be a long-term process. The plan, which will need to be updated and reviewed over time as circumstances and priorities change, must be dynamic to reflect the current and future needs of the community.

It will be reviewed on a five-year basis to coincide with the review of the Shire of Exmouth Town Planning Scheme.

Guidelines and Actions

- Use the Structure Plan as a guide in any review of the Shire of Exmouth Town Planning Scheme and the Shire of Carnarvon District Planning Scheme (**LG**, MfP).
- The Gascoyne Coast Planning Coordinating Committee to undertake ongoing monitoring and review of the Structure Plan (**GCPCC**).
- Review the Structure Plan every five years integrating relevant outcomes and recommendations of related studies, as they are finalised (**MfP**).





Appendices

APPENDIX 1: GLOSSARY OF ABBREVIATIONS

The organisations listed at the end of each guideline in part three are defined below:

| | |
|---------|--|
| AHC | Australian Heritage Commission |
| AgWA | Agriculture Western Australia |
| CALM | Department of Conservation and Land Management |
| DOCAT | Department of Commerce and Trade |
| Defence | Department of Defence |
| DEP | Department of Environmental Protection |
| DOLA | Department of Land Administration |
| DME | Department of Minerals and Energy |
| DRD | Department of Resources Development |
| DoT | Department of Transport |
| FWA | Fisheries Western Australia |
| GDC | Gascoyne Development Commission |
| LG | Local Government |
| MfP | Ministry for Planning |
| MRWA | Main Roads Western Australia |
| OE | Office of Energy |
| PBWA | Pastoral Board of Western Australia |
| PGA | Pastoralists and Graziers Association |
| WAM | Western Australian Museum |
| WAPC | Western Australian Planning Commission |
| WATC | Western Australian Tourism Commission |
| WP | Western Power |
| WC | Water Corporation |
| WRC | Water and Rivers Commission |

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