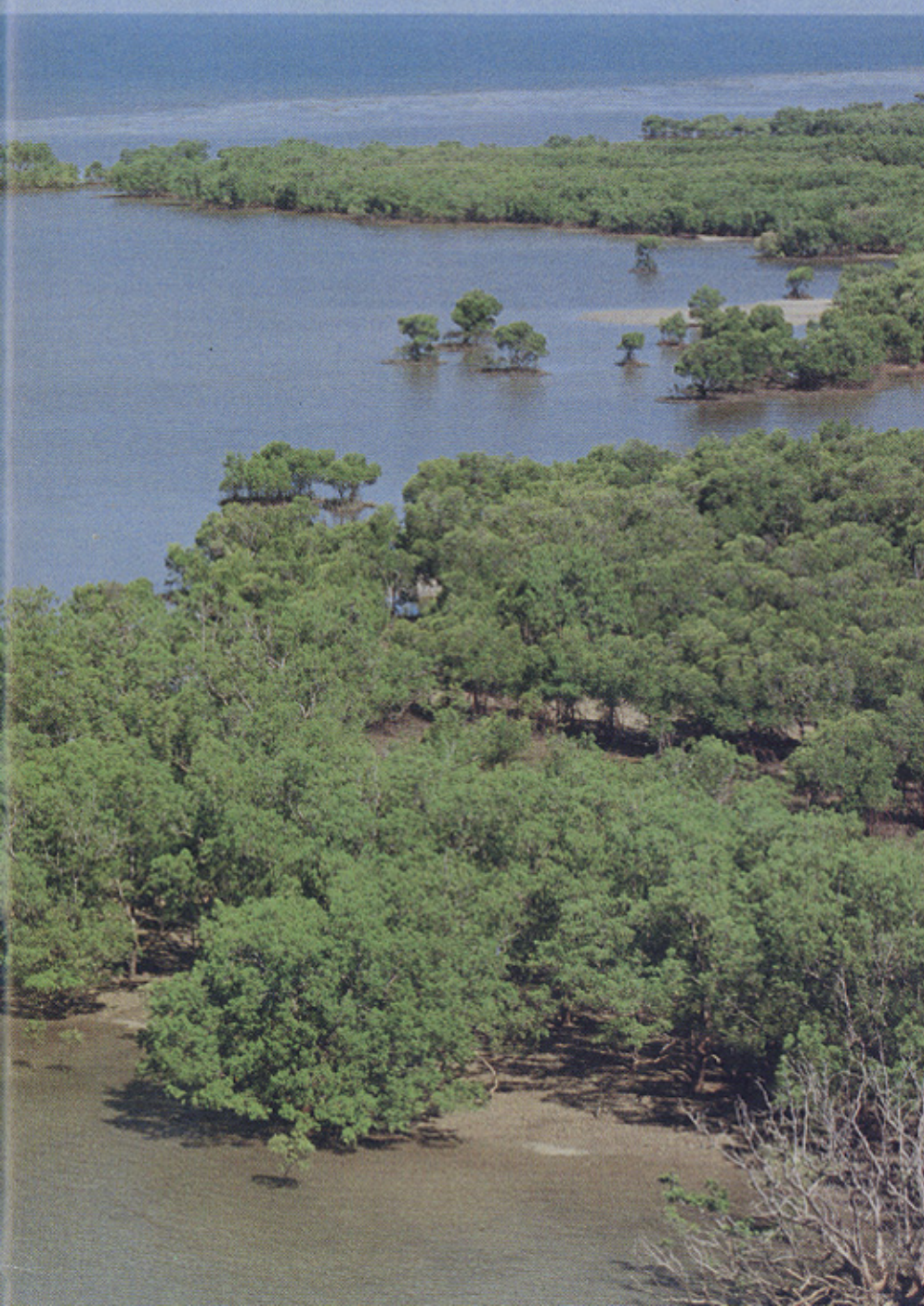


GUNN POINT PENINSULA LAND USE STRUCTURE PLAN 1990



Northern Territory Department
of Lands and Housing

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FOREWORD



*The Gunn Point Peninsula Land Use Structure Plan 1990 establishes the Government's broad land use intentions for this part of the Darwin Region. Further related information can be gained by reference to the related land use plans for the Litchfield Shire, the Darwin Region as a whole and the Murrumujuk (Shoal Bay) coastal area. This document is not a statutory control document. That function will be maintained through planning instruments prepared under other provisions of the **Planning Act**.*

This plan concentrates on the broadscale location, of and inter-relationships between, the proposed land uses. It does not propose a timetable for implementation, as this is a matter for subsequent strategy planning work, taking cognizance of social needs and economic factors.

*The land use proposals in this plan will lead to amendments in the current statutory plan as more detailed planning and development proposals unfold. As the structure plan is a statement of broad policy, all authorities and developers will have to conform to the objectives outlined. Under the powers vested in me under section 66A (1) of the **Planning Act**, I declare the "Gunn Point Peninsula Land Use Structure Plan 1990" to be planning and development objectives of the Northern Territory.*

As plans of this kind are reviewed and refined from time to time, I invite any persons wishing to make comments to assist in this process to address their submissions to:

*The Secretary
Department of Lands & Housing
PO Box 40246
CASUARINA NT 0811*

A large, stylized handwritten signature in dark ink. The signature appears to read 'Daryl Manzie' with a long, sweeping underline that extends to the right.

DARYL W. MANZIE
Minister for Lands and Housing
February 1990

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BACKGROUND

The Darwin Regional Structure Plan 1984 was published under section 66A(1) of the *Planning Act* as planning and development objectives of the Territory. More extensive study of land use in the Darwin Region was undertaken in 1989, resulting in the published Darwin Regional Land Use Structure Plan 1990.

The Darwin Rural Area Strategy Plan Draft was prepared during 1987 and adopted by the Northern Territory Planning Authority as an interim plan to provide guidelines and directions for development within the area administered by the Litchfield Shire Council. The final document has been published as the Litchfield Land Use Structure Plan 1990.

The Litchfield Land Use Structure Plan establishes broad principles for future land uses in the Litchfield Shire as a basis for more detailed planning and development. Gunn Point Peninsula has been identified as an area within which more detailed planning should be undertaken. This Gunn Point Peninsula Land Use Structure Plan 1990 is published as a consequence.

An additional report, "Evaluation of Options for Development of Weekender and Urban Residential Development, Gunn Point, NT" was prepared for the Department of Lands and Housing in June 1987. This report supported a small settlement at Shoal Bay, which is proposed to be named Murrumujuk, and recommended the development of limited weekend accommodation at Point Stephens. This Gunn Point Peninsula Land Use Structure Plan has further

refined the concepts proposed in the report of June 1987. Further detail on future development at Shoal Bay is contained in the related publication Murrumujuk Land Use Concept Plan 1990.

REGIONAL CONTEXT

A map showing the regional setting of the Gunn Point Peninsula is at *Figure 1*. The peninsula is within a driving time of about an hour from Darwin Central Business District, and within forty minutes driving time of Palmerston Town Centre. These times do not greatly exceed the commuting times for a number of existing residents of the Litchfield Shire who have selected rural living as their preferred lifestyle. The peninsula has attributes which will make it potentially suitable for a range of land uses including agriculture, horticulture, aquaculture, rural industry, recreation, tourism, urban development, and rural living.

This Gunn Point Peninsula Land Use Structure Plan 1990 has been prepared to refine the land use structure and establish an infrastructure framework for the peninsula to the extent that the plan is adopted as planning and development objectives of the Territory under section 66A(1) of the *Planning Act*.

PLAN AREA

The area covered by this structure plan extends over the whole of the Gunn Point Peninsula between the Howard and Adelaide Rivers. The plan area is shown on the location map.



*Leaders Creek,
offering conservation
and recreation
potential*

Fig 1



PHYSICAL CONSTRAINTS

TOPOGRAPHY AND LAND CAPABILITY

Landform

The Gunn Point Peninsula is generally flat terrain with grades below 5% except at the cliff adjacent to the beach at Murrumujuk. Most of the area has an elevation of 20 to 30 metres above sea level. The foreshore is flat, sandy beach or mangroves along the Murrumujuk section, low (1.5 metre) cliffs into a rocky foreshore at Point Stephens and elsewhere is generally covered with extensive mangroves.

Leaders Creek provides the main relief in the area, with its tidal reach and swamps and lagoons upstream. The Murrumujuk area is drained by a limited creek system.

In the Murrumujuk area the land rises steeply from a well defined foreshore to an elevation of approximately 15 metres then falls gently inland to the prison farm. To the north is a small tidal creek system which penetrates the peninsula for some distance.

The peninsula elsewhere is drained by numerous tidal and freshwater watercourses, and contains many inland swamps and lagoons. The main development constraints presented by topography are the floodways of these watercourses and lagoons. The major floodways are the Adelaide River to the east and the Howard River to the west.

Land Units

Land unit mapping of Gunn Point Peninsula was completed in 1984 by the Conservation Commission. The peninsula is classified into eight broad land units. These units are:

- plateau areas
- upland depressions commonly draining internally
- gently undulating footslopes to plateau
- rugged terrain
- lower footslopes and seepage areas
- drainage floors
- nearly level alluvial plains
- littoral areas

The Litchfield Land Use Structure Plan 1990 took into consideration the characteristics of the land units when determining broad land uses for Gunn Point Peninsula.

COASTAL GEOMORPHOLOGY

The western coast fronts a shallow sea (18 metre line about 10 kilometres offshore) with a muddy bottom and some sandy patches. There are coral reefs around Gunn Point and elsewhere mangrove or sandy beaches. There is a deep channel separating the south-west Vernon Island and the northern point of the peninsula. The Gunn Point Peninsula foreshore is Recent Cainozoic Coastal and River Alluvium backed by Cainozoic Sediments of clayey, coarse quartz sandstone, sand and gravel. The Cretaceous Bathurst Island Formation forms the surface stratum underlain by the lower Proterozoic Wildman Siltstone and Coomalie Dolomite, these forming the local aquifer.

Extensive areas of mangroves cover the coastline



Fig 2

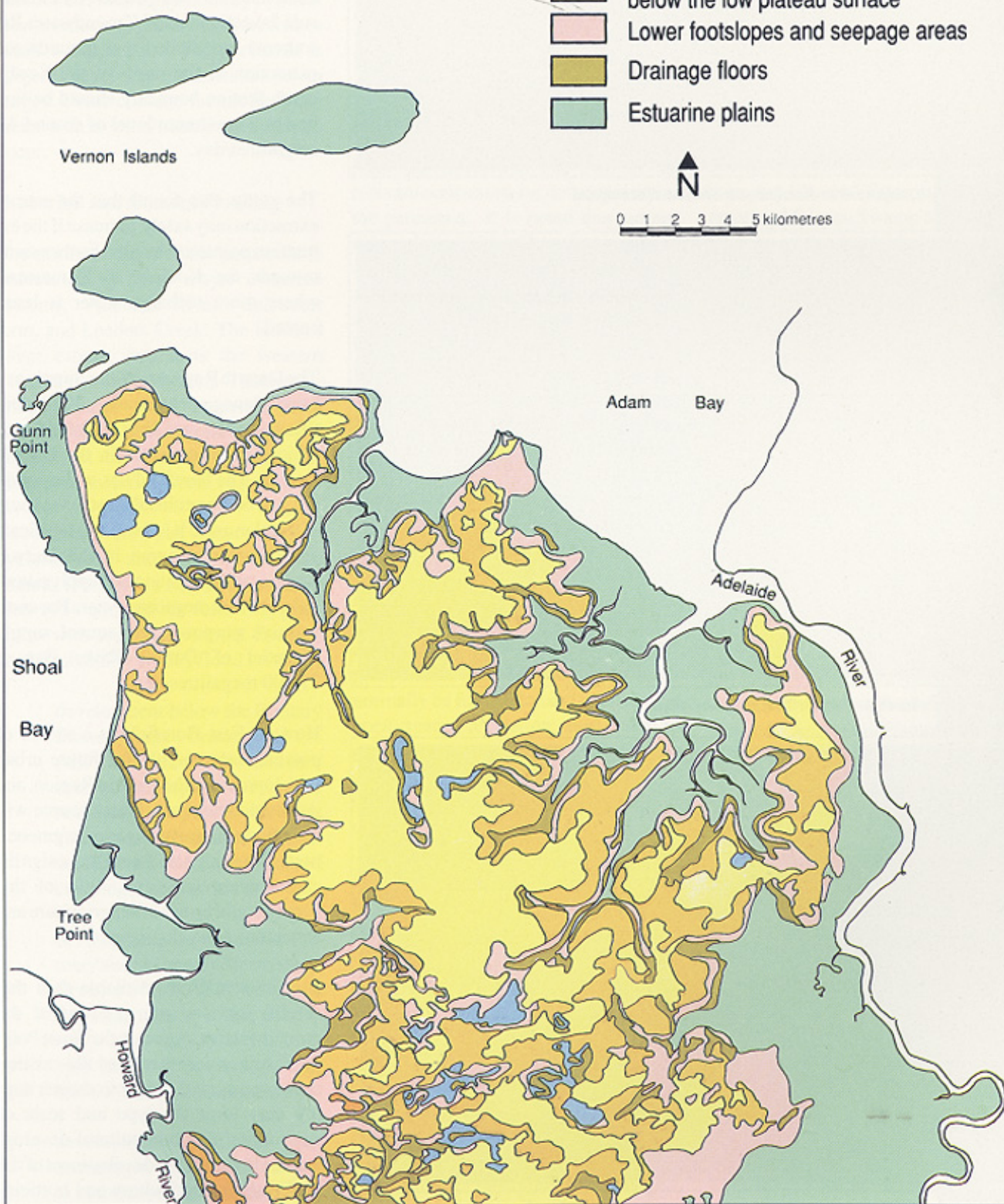
LANDFORM

LEGEND

- Low plateau surface
- Plateau drainage areas
- Sideslopes and gentle gradients below the low plateau surface
- Lower footslopes and seepage areas
- Drainage floors
- Estuarine plains



0 1 2 3 4 5 kilometres





Inland lagoon, adjacent to Koolpinyah Station Homestead



The Vernon Islands to the north of the Peninsula



The Adelaide River, a major estuarine system at the east of the plan area

GROUNDWATER RESOURCES

The peninsula has reasonable groundwater resources. However, large scale extraction in the northern part of the plan area could lead to salt water intrusion in the aquifer. Groundwater resources in the northern parts of the peninsula are naturally saline. A report completed in 1985 (Gunn Point Peninsula Investigation of Groundwater Resources) concluded that groundwater extraction to the north of the Koolpinyah Station boundary should be limited to a maximum level of around 4.2 megalitres/day.

The study also found that the rate of extraction may safely increase if the extraction points are located further south towards the Koolpinyah Homestead, where more recharge water is intercepted.

The Darwin Regional Water Supply and Land Management Strategy 1988 identified the Howard East Borefield as a major source of water in the Darwin Region. The borefield lies in the southern part of the peninsula just to the south of the plan area. It is the most significant groundwater resource in the Darwin Region, and has an annual supply potential of 16 400 megalitres/year. For comparative purposes, the annual supply potential of Darwin River Dam is 37 000 megalitres/year.

Howard East Borefield is a source of potable water supply for future urban development in the Darwin Region, and its development as a water source will be included in early stages of augmentation. The study also found that a significant amount (possibly 70%) of this supply could be used for agriculture and aquaculture development.

It is evident from available data that careful use and management of the groundwater resources in the Gunn Point Peninsula is necessary and the existing characteristics of the groundwater supply may limit the type and scale of agricultural and horticultural development. However, the development of the Peninsula for agriculture and horticulture would be enhanced greatly by the

availability of water for irrigation purposes from the Howard East Borefield. A more detailed study of these issues will be needed once an indication of the types and location of horticultural and agricultural uses are known.

FLOODING AND DRAINAGE

Stormwater drainage is mainly by sheet flow overland to either the shore line or small watercourses. The peninsula is subject to cyclones and attendant storm surges. These climatic factors limit the areas within which settlement should occur.

Estuarine and Coastal Flooding

The northern coast of the peninsula is intersected by three major estuarine systems, Adelaide River, Saltwater Arm, and Leaders Creek. The Howard River estuary intersects the western boundary of the study area. These estuarine systems have extensive tidal floodplains which constrain human settlement but are valuable resources for conservation and regional recreation.

The whole of the coast is susceptible to cyclones and attendant storm surge hazard. The Darwin Regional Structure Plan 1984 adopted the following principles with regard to Annual Exceedance Probability (AEP) flood levels:

- development below the Primary Storm Surge Contour (1.0% AEP) will be limited to land uses such as open space, recreation, non-essential public facilities (wastewater treatment works excepted) and short stay tourist camping / caravan areas;
- development between the Primary and Secondary Storm Surge Contour (0.1% AEP) will allow the same uses as within the primary area, and extend allowable uses to include industrial and commercial land uses; and
- development specifically not encouraged within land subject to inundation by storm surge includes residential, noxious and

hazardous industry, strategic services (power generation, defence installations, schools, hospitals, public shelters, etc) and major transport links.

The Greater Darwin Storm Surge Study prepared in 1983 predicted the 1.0% AEP levels as 5.0 metres Australian Height Datum (AHD) at Tree Point, 4.6 metres AHD at Gunn Point, and 4.3 metres AHD at Point Stephens.

The predicted 0.1% AEP levels are 6.4 metres AHD at Tree Point, 5.8 metres AHD at Gunn Point, and 5.3 metres AHD at Point Stephens. These levels have been adopted in this plan as the relevant constraints for development on the peninsula. It is noted that current discussions on the Greenhouse Effect suggest the possibility of a rise in ambient sea levels and increased cyclone activity within 50 years. These adopted levels may, therefore, be revised as more information becomes available.

Streams and Floodways

The peninsula is drained by numerous watercourses, the flood regimes of which constrain development. In common with normal Australian practice, this structure plan endorses the principle that flood levels representing 1.0% AEP should be recognised as a guide to determining land use. In particular development below 1.0% AEP levels should normally be limited to land uses such as open space, recreation, non-essential public facilities and short-stay tourist caravan/camping areas. In some specific cases industrial and commercial uses may be acceptable.

Land subject to inundation at 1.0% AEP levels should not be used for residential, public utilities and community services (such as power generation and schools) or major transport links unless improved drainage, landfilling or other mitigating measures are undertaken.

INSECT BREEDING AREAS

Mangrove fringes along the coast, and inland swamps and lagoons are breeding habitats of mosquitoes and midges. Some species of mosquitoes are disease

vectors and therefore present a hazard to human health, whilst midges and all mosquito species can present a severe nuisance.

Minimisation of the effects of insect breeding areas on human habitation can be achieved by provision of buffer zones where warranted, increasing lot sizes near significant sources and avoiding activities that can lead to new sources. As an example, for areas such as tidally influenced brackish reed swamps found just above the mangroves, the Department of Health and Community Services recommends a buffer of 1.6 kilometres between these areas and residential development. This would be the case for Howard Swamp, the creeks entering Melacca Swamp and the lower portions of the Adelaide River system.

The location of significant breeding areas require further investigations and detailed strategies for the provision of buffer areas.

FLORA AND FAUNA

A number of areas on Gunn Point Peninsula are considered to be of Territory wide conservation significance. Gunn Point Peninsula is botanically rich. There is considerable diversity of plant life not found elsewhere close to Darwin.

The vegetation on the peninsula is predominately open Eucalyptus forest and woodland of stringybark and woollybutt, with Acacia understorey over various grasses in the more elevated areas. Significant areas of closed forest occur near the coast on lower, poorly draining areas, including important monsoon forests. Floodplain areas associated with Leaders Creek and Adelaide River and much of the coastline support extensive mangroves.

The peninsula is also relatively abundant in habitats of rare or endangered species of plants and animals. These habitats are of intrinsic value for conservation, and for scientific and educational purposes. Disturbance to these areas should be avoided.

The Howard River monsoon forest extends over the whole of the estuary be-

tween the Hope Inlet coastline and the existing hunting reserve. It is a habitat of a rare palm species *Ptychosperma bleeseri*, which is endemic to the Darwin Region and found only in small pockets. It is a thin clumping feather-leaved palm and its rarity affords it a very high conservation status.

The tidal portion of Adelaide River, from its mouth to 90 kilometres up stream, is an important breeding habitat

for saltwater crocodiles, and a source of eggs for research into the species. Melacca Swamp, on the Adelaide River, has been acquired from Pastoral Lease 547 for conservation purposes. It is a key freshwater swamp used by saltwater crocodiles as a nesting place.

Part of Tree Point is also a conservation area administered by the Conservation Commission. The peninsula contains

one of a very few relatively undisturbed roosting sites for wading birds. It is a resource of national significance.

The whole of the Point Stephens Peninsula contains virtually intact monsoon forest of very high regional significance. The forest is dense, with a substantial vine thicket and is important as a bird habitat. The area is highly susceptible to damage from human activity.

The Ginger Palmers site on the north of the Peninsula contains smaller patches of monsoon forest of regional significance which is under some threat from cyclone and fire damage.

The Dry Monsoon forest contains the orchid *Malaxis* and is the only known site of this plant and thus is considered to have Territory wide significance.



*Ginger Palmers site
on the north of the Peninsula*

Towards Tree Point conservation area



SOCIAL CONSIDERATIONS

EXISTING LAND USE

Gunn Point Peninsula and the Vernon Islands to the north are used by residents of the Darwin Region for recreational fishing and camping. Recreational fishing occurs at Point Stephens and a boat launching area is provided at Leaders Creek. Informal camping occurs at Leaders Creek, Ginger Palmers area and areas of the Murrumujuk foreshore. In some places squatters have established shacks along the foreshore for use as weekend accommodation. The Murrumujuk area is also used by day trippers for picnicking and leisure activities. An informal public camping area with toilet facilities has been established at Murrumujuk.

The Gunn Point Prison was established in 1972 on land formerly set aside for a Forestry Reserve. This is a low security prison and comprises approximately 2000 hectares. A review into the Northern Territory Correctional Services in 1984 recommended the closure of the Gunn Point Prison Farm and the construction of a new prison in the Katherine Region. The Government has announced its long term intentions to relocate the prison farm to a more suitable site. In the meantime, a reduction in the prison farm size has been endorsed and increased security measures, such as improved fencing, will be undertaken.

There is a low level of pastoral activity carried out on the peninsula (with minimal improvements having been undertaken) and an Aboriginal living area at Tree Point.

Melacca Swamp and Tree Point are conservation areas, whilst part of Howard Swamp is a hunting reserve.

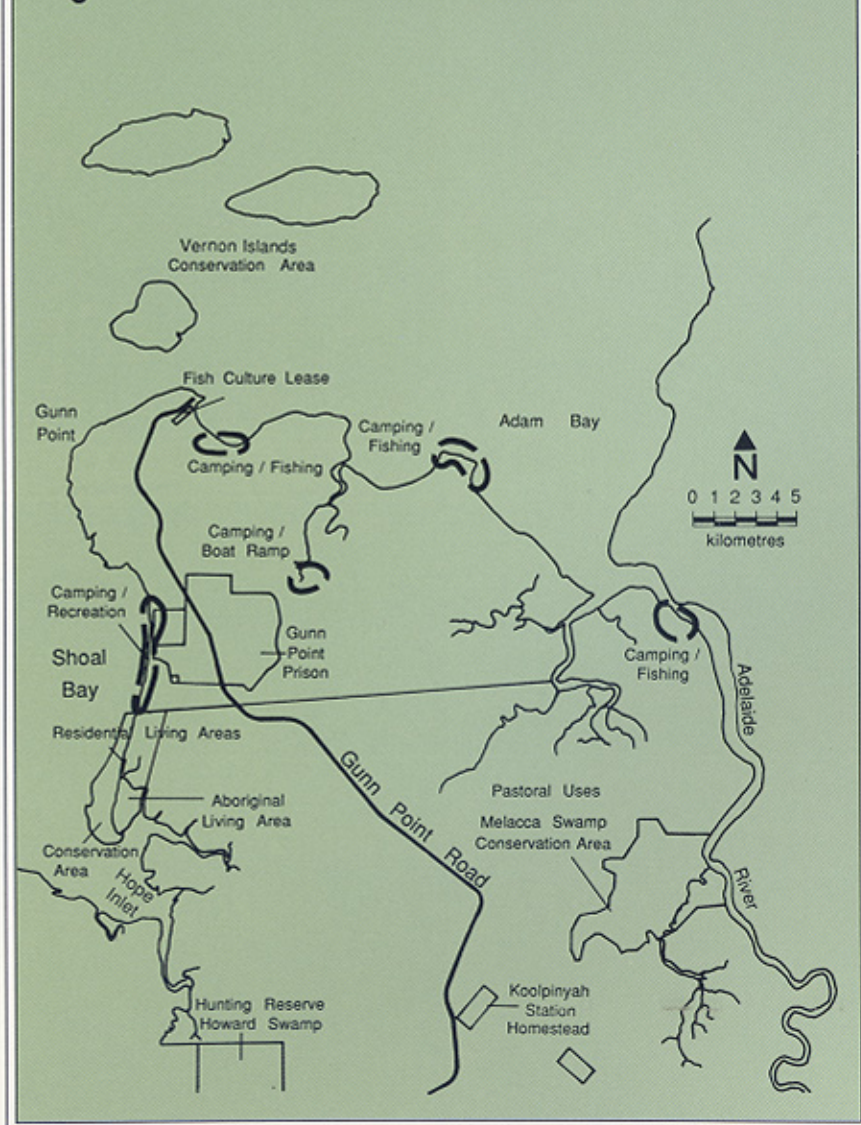
LAND TENURE

Approximately half the land area of Gunn Point Peninsula is within Pastoral Lease 547 (Koolpinyah Station). The boundary of the pastoral lease extends

from north of Tree Point Peninsula to Salt Water Arm, and includes the estuarine plain between Salt Water Arm and the western bank of the Adelaide River.

A few small parcels along the northern coastline have been leased for short periods for low key aquaculture purposes. No substantial physical development of these sites has occurred.

Fig 3 EXISTING LAND USE



Portion 1378, a freehold parcel lying between the existing prison farm and the western foreshore, was acquired by the Territory in 1984. It is held by the Northern Territory Land Corporation. The Northern Territory Land Corporation also holds N.T. Portion 2626 under Crown lease.

The Conservation Commission of the Northern Territory manages and controls Melacca Swamp and an area of Tree Point (Section 3101) for fauna conservation purposes. A reserve, managed by the Commission, is also declared over part of Howard Swamp for hunting purposes.

Section 3104, an area on Tree Point, is a Crown lease for an Aboriginal living area, and held by the Tree Point Ab-

original Association Incorporated. Immediately to the north are two small freehold lots (Section 3102 and Section 3103), which were formerly mining tenements.

ADMINISTRATIVE AUTHORITIES

Local Government

The peninsula is within the municipal boundary of the Litchfield Shire.

Planning Instrument Boundary

The whole of the peninsula is within Planning Area 3 and is subject to the Darwin Rural Area Plan 1983.

The peninsula is zoned Rural Living 2 (RL 2).

The provisions of this zone allow for 8 hectare minimum lot sizes, with waivers of this size at the discretion of the Planning Authority.

The permitted uses in this zone include agriculture, detached dwellings and forestry with a wide range of uses permitted only with specific consent. The prohibited uses in this zone are abattoir, fuel depot, offensive or hazardous industry and sawmill.

Custodial Services

The Gunn Point Prison Farm is controlled and managed by the Custodial Services Division of the Department of Health and Community Services.

Conservation Commission

The northern portion of the coast is managed by the Conservation Commission. The Commission also controls and manages the Melacca Swamp and Tree Point conservation areas.

Service Authorities

Gunn Point Road from the intersection of Howard Springs Road to the prison farm, is maintained by the Roads Division of the Department of Transport and Works.

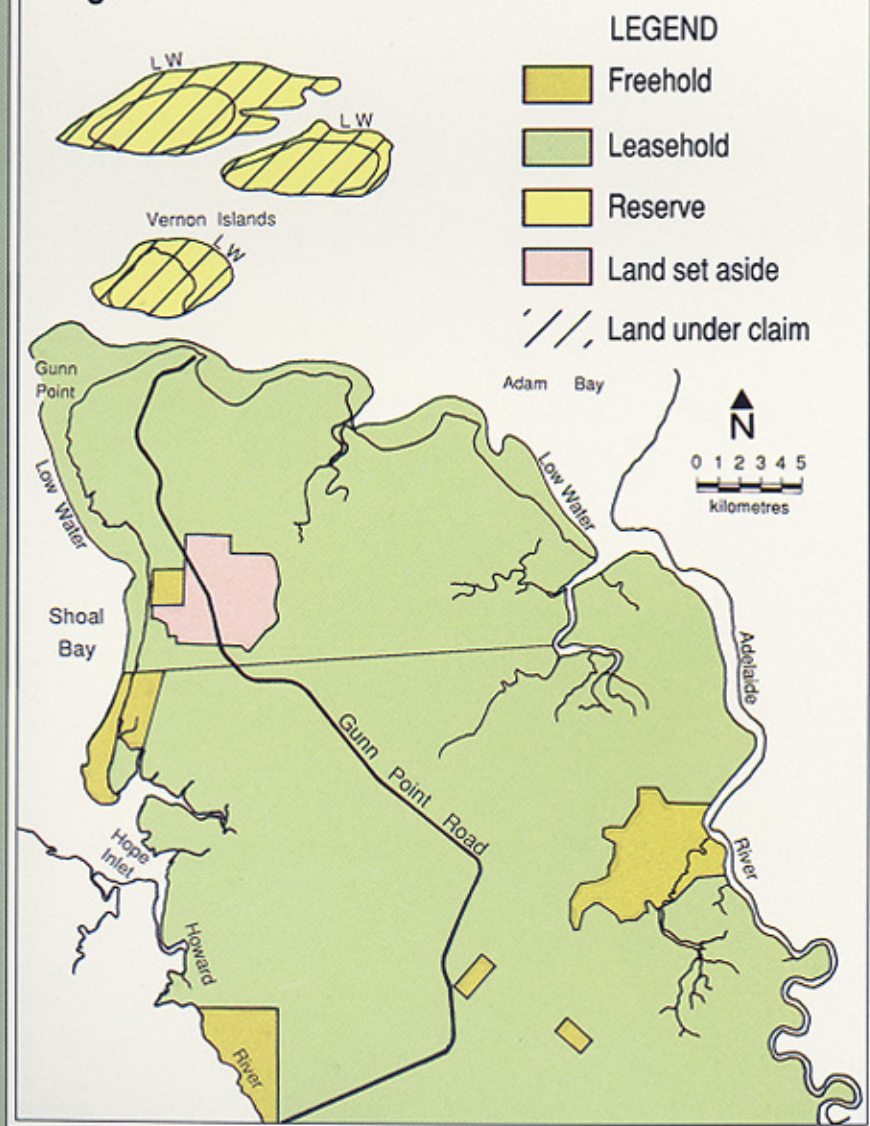
The powerline to the prison farm is maintained by the Power and Water Authority. The Power and Water Authority has also constructed a bore about 14 kilometres to the south of the Murrumbidgee area.

HERITAGE AND SITES OF SIGNIFICANCE TO ABORIGINES

Nine sites of significance to Aboriginal people are known to exist on Gunn Point Peninsula. An extensive area on the Tree Point Peninsula is significant and is included in the Tree Point conservation area and in the Aboriginal living area at the southern tip of the peninsula.

Fig 4

LAND TENURE



The Aboriginal Areas Protection Authority believes there are Aboriginal middens in the Point Stephens area, though no precise records are available. Similarly a site near Leaders Creek is said to consist of five or six Tiwi burial poles or pukamani poles, though no large scale mapping indicating a specific location is available.

Other sites are at Melacca Creek (within a crocodile breeding area), at the mouth of Adelaide River, in the estuarine creek system between Tree Point Peninsula and Howard Peninsula (three sites), at the Murrumujuk foreshore (three sites) and at the north-western tip of Gunn Point Peninsula.

The plan area is not rich in terms of its association with recorded Aboriginal occupation.

Although some sites have already been recorded and registered in this area, this should not be taken to mean that there are no further sites in the area. Aboriginal people frequently choose not to disclose the existence or whereabouts of sites of significance until they are perceived to be under threat from development. It is likely, therefore, that further sites will be registered in the future.



Koolpinyah Pastoral Lease extends over the southern part of the Peninsula



Gunn Point Road provides vehicular access to the Peninsula

Leaders Creek public boat ramp



DEVELOPMENT OPPORTUNITIES

CONSERVATION AND RECREATION

Gunn Point Peninsula is a major recreation resource for the people of the Darwin Region, comprising numerous watercourses and coastal features attractive for a wide variety of recreational experiences. These activities include fishing, camping, swimming, boating, hunting, diving, wildlife observation, bushwalking, trail riding and four-wheel driving.

The Adelaide River is a recreational area of regional significance for barramundi fishing, camping, boating and wildlife observation. It is also important for the local tourist industry. A number of tour services have been established to cater for interstate and international tourist interest in wildlife of the region. This factor presents opportunities for further development of tour services, including the establishment of fishing and hunting lodges and vessel and vehicle charter operations.

Howard Swamp is the nearest hunting reserve to Darwin and is a popular destination for wildfowl hunting.

Leaders Creek is a well-used fishing and boating destination.

The beaches at Murrumujuk and Tree Point Peninsula are very popular weekend camping, fishing and picnicking sites. Sandy beaches are a scarce resource throughout the region so that the western beaches of Gunn Point Peninsula attract day visitors from all parts of the Darwin Region.

The pressures for recreation places will increase as the regional population grows and the urban margin is extended. Thus, elements of the peninsula, particularly those on the coast and adjacent to watercourses, should be maintained to enhance enjoyment by the region's population. Parts of those natural features attractive for recreation will be developed to a level consistent with their intended use. Those parts which are relatively more developed will relieve pressures on other parts of the coast and waterways which should be only minimally disturbed.



Offshore reef to the north of the Peninsula



Access to Howard Swamp

Beach at Murrumujuk, on the western coastline



PRIMARY INDUSTRY AND MINING

Agriculture, Horticulture and Grazing

Soil types on the peninsula are suitable for intensive development for agriculture and horticulture. These soil types are relatively scarce in the Darwin Region.

The peninsula also has relatively plentiful groundwater resources compared to the rest of the Darwin Region. Although large scale extraction could lead to salt water intrusion, these supplies are still useful for a wide range of agricultural pursuits.

A substantial part of the Gunn Point Peninsula is already naturally affected by salt water intrusion with groundwater salinities in the main aquifer exceeding 1 000 milligrams/litre in the vicinity of, and to the north of the Koolpinyah Station. The salinity contours and the location of the Howard East borefield are shown on the Groundwater Resources map.

According to the Australian Water Resources Council and the Victorian Rural Water Commission, groundwater with a salinity between 500 and 1 500 milligrams/litre total soluble salts is suitable for watering of all livestock, irrigation and most farm purposes other than potable supply.

Saline groundwater containing between 1 500 and 5 000 milligrams/litre total soluble salts is suitable for selective irrigation and watering of almost all livestock.

Saline groundwater containing more than 5 000 milligrams/litre total soluble salts is suitable for a diminishing range of salt-tolerant livestock. As a general guide, and depending on the type of pasture and availability of supplementary freshwater, horses can be watered with supplies containing maximum salt concentrations of 6 000 milligrams/litre and beef cattle will tolerate up to 10 000 milligrams/litre.

In addition, the Howard East Borefield further south is estimated to be able to yield 16 400 megalitres/year and will form part of the Darwin Region's public water supply system in the early stages of augmentation. The water source is likely to be shared between potable supply and agricultural supply, with approximately 70% of the source being available for irrigation.

Pastoral activity is currently carried out on Gunn Point Peninsula, a substantial portion of which is included in Pastoral Lease 547 (Koolpinyah Station). Most of those parts of the holding which have been improved, will not be affected by potential changes to land use on the peninsula envisaged in this structure plan.

Aquaculture

The fishing industry is the third most important sector of the Territory economy. Fishery production is an important export commodity and the Department of Primary Industry and Fisheries is actively interested in approaches from the industry which would lead to acceptable projects for increased seafood

production in the Territory. Aquaculture is a potentially large-scale industry on the peninsula. Areas which are suitable for the development of large-scale aquacultural enterprises (Hope Inlet and Point Stephens) are noted.

These areas have been identified as having appropriate geophysical characteristics suitable for aquaculture. They are in intertidal zones and have different characteristics of salinity, degree of access, area and depth of water at high tide. Detailed investigations to prove the suitability of these sites is required.

Intensive Animal Production

Regional population growth and the proximity of markets for agricultural products in South-East Asia indicate development opportunities for intensive animal production on the peninsula.

Likely development opportunities arise from demand for lot-fed cattle, and from a substantial market in Singapore, Hong Kong and Taiwan for pig meats.

The establishment of any intensive animal enterprise on the peninsula will be subject to specific environmental assessment and controls.

Mining

The peninsula contains the only known high grade clay deposit adjacent to Darwin. It is extensive and would support any local ceramics industry. Some preliminary investigative work had been undertaken to assess the potential of the resource but this has been inconclusive in both delineating the deposit and determining its characteristics. Additional work would need to be undertaken to ascertain the quality of the kaolin deposit for use in papermaking. Analysis in 1973 indicated that the weathered kaolinitic clays are suitable, with appropriate blending, for the manufacture of bricks, whiteware, extruded heavy clayware and hand-thrown pottery. There has been periodic commercial interest in the deposit. Any extraction must take into account the relatively higher uses for which the peninsula is suitable. Mining in this area may be a suitable interim use for the land, before the uses described in the land use structure are established.



Potential sites for aquaculture exist on the Peninsula

RESIDENTIAL DEVELOPMENT

Urban and Semi-Rural Living

Enquiries for land releases for urban-sized lots signal a demand for lots smaller than those generally available in the Litchfield Shire. There is also a potential demand arising from the fact that proposals to subdivide into relatively small lots in the Litchfield Shire have been actively discouraged, and that the smallest lot size that has ever been permitted since the rural area came under planning control is 4 000 square metres. However the Litchfield Land Use Structure Plan 1990 has endorsed urban resid-

ential lots in district centres and identified some areas suitable for rural living lots of 1 hectare minimum area.

There is a demand for urban-sized lots in a rural setting and the demand is likely to be even stronger for lots of this type if they are in proximity to scenic beaches and recreation features and if they are provided with urban standard services in association with other community facilities. These proposed lots are also located a considerable distance away from established rural living areas so as not to impact on the amenity of existing residents in the Litchfield Shire.

The extent of urban development which

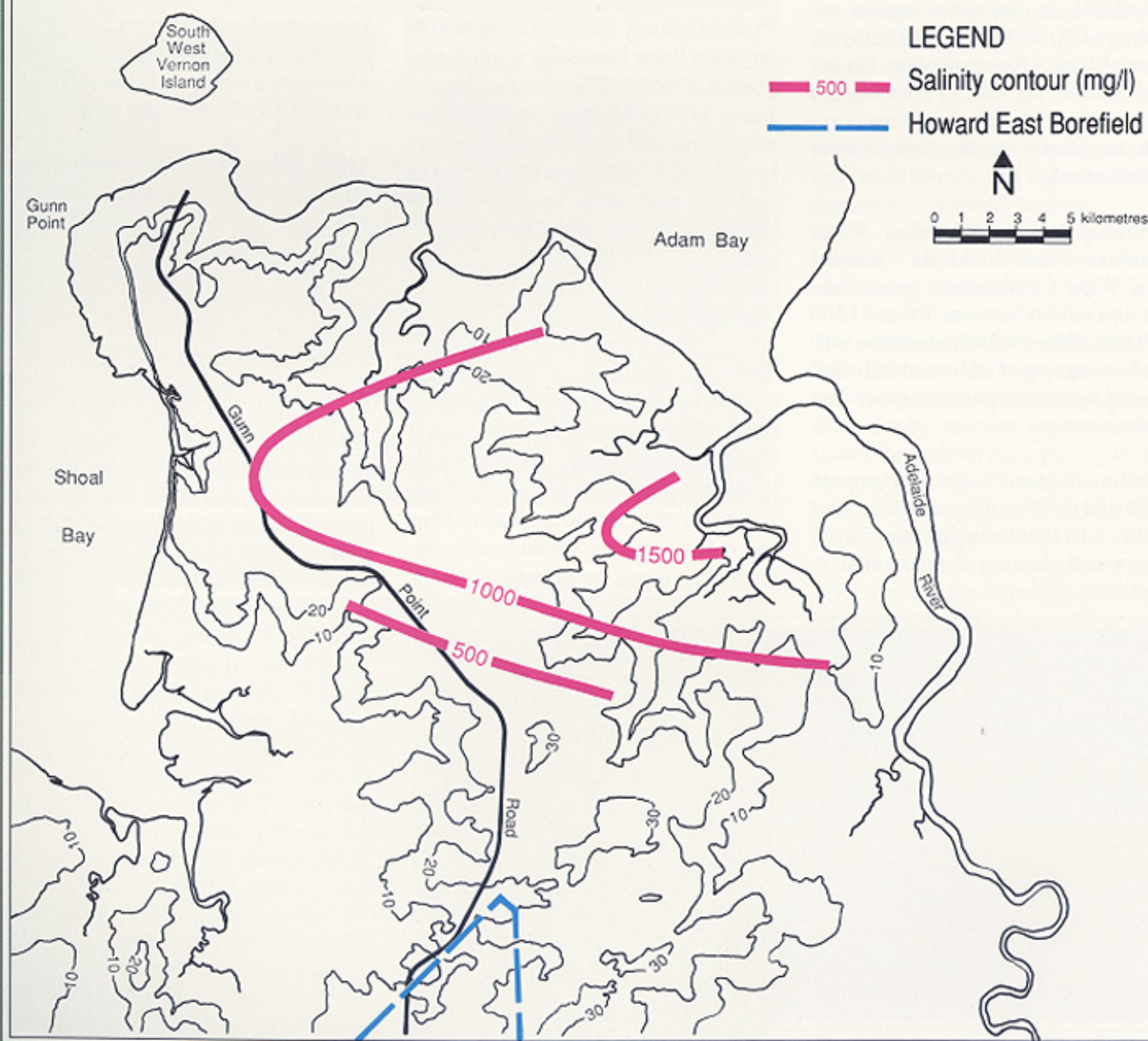
will occur on Gunn Point Peninsula is discussed in the complementary Murrumbidgee Land Use Concept Plan 1990.

Rural Living

Rural living is the preferred option of a substantial proportion of residents in the Darwin Region, as is evidenced by the extent of such development in the rural hinterland. In 1971 the percentage of the regional population residing in the rural area was 4.4% and this had increased to 10% in 1986. Many established parts of the Litchfield Shire are about thirty to forty-five minutes driving time from the Darwin Central Busi-

Fig 5

GROUNDWATER RESOURCES



ness District, and within fifteen to thirty minutes driving time of Palmerston Town Centre. It can be assumed that a proportion of residents who select a rural lifestyle will accept a work journey of up to one hour.

Parts of the peninsula are suitable for development for rural living. Improvements in road access and water supply, and the scenic qualities of the peninsula, will make the area attractive for rural living in much the same way as the existing settled parts of the Litchfield Shire. Some people (eg. retired and self-employed) will be unaffected by the distance from sources of employment.

The attractions for permanent rural living will be enhanced if a range of community facilities, such as schools, shops, and service industries, is provided.

Farm-Based Living

The development of the peninsula for agriculture and aquaculture will lead to the establishment of farm-based households, which will further increase the population on the peninsula.

Weekend Living

The potential for weekend living arises from the limited degree to which this need is being met in the Darwin Region and the natural attractions of Gunn Point Peninsula. Most cities in Australia have locations at which their residents can establish weekend and holiday cottages. These weekend cottages are usually sited near beaches, major river systems and natural and scenic attractions which offer recreational opportunities.

Aboriginal Living

An existing Aboriginal living area is established at Tree Point. No other specific areas are envisaged at this time.

COMMERCIAL DEVELOPMENT

Retail and Commercial Services

With the establishment of a permanent population at Murrumbidgee, opportunity

exists for retailing and commercial outlets to service surrounding residents. Tourists and day trippers will also comprise a significant sector for demand of these services.

It is envisaged that the commercial area within Murrumbidgee will also service the Gunn Point Peninsula. Demand for retail and commercial services will arise from residents and workers on the peninsula who are involved in activities such as agricultural and horticultural production, aquaculture and intensive animal industries.

Tourism

In the Darwin Region Road Development Strategy, Gunn Point was identified as an area of significant recreational potential. The report projected a visitation rate of approximately 50 000 persons per year (day trippers and longer term visitors) by 1990. With the introduction of improved road access, local services and facilities in the area, the visitation rate would be expected to increase rapidly to well above this figure.

The popularity of Gunn Point Peninsula is already evidenced by the high level of

use by informal campers, recreational fishermen and day trippers.

The provision of services to Murrumbidgee would also make this area attractive interstate and international visitors. A higher level of visitation by residents of the Darwin Region is also expected. Facilities such as formal camps, picnic grounds and caravan parks are provided.

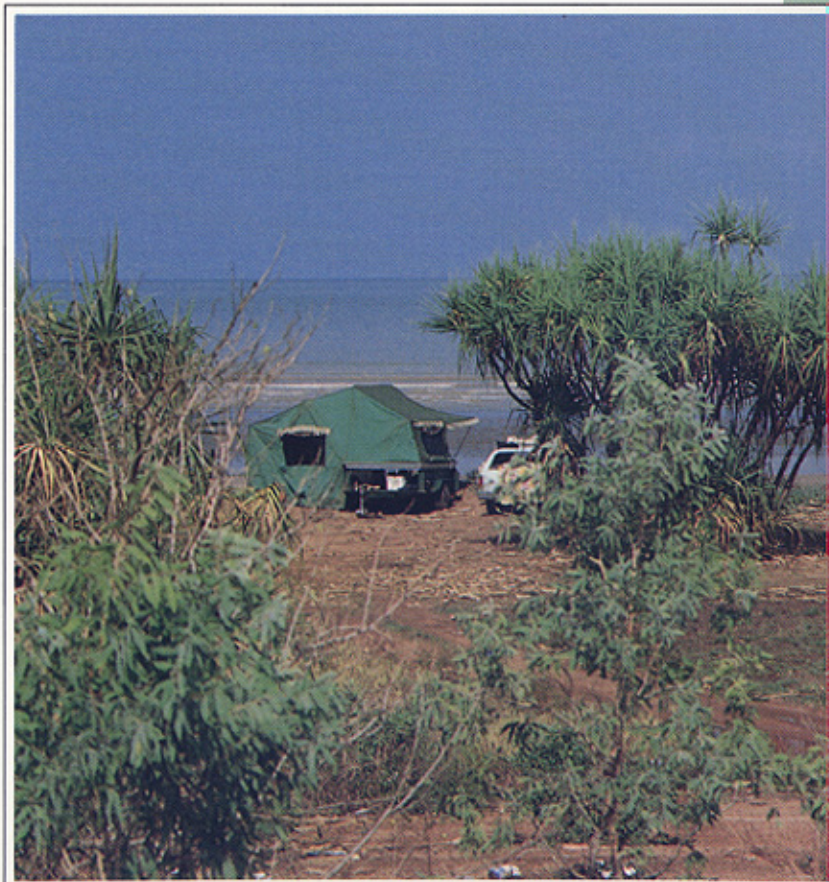
The establishment of a Coastal Resource Management Area would allow controlled access and visitation to the area, enhancing its scenic attractiveness.

Service Commercial and Light Industry

It is expected that a demand will exist for small service commercial and light industries to service the needs of permanent residents, boat users and the surrounding rural based population.

This area may also be attractive for the relocation of existing businesses and the establishment of new businesses would be relevant to those uses which are not reliant on being close to a market or point of supply. Land in the area would have the added benefit of owners and workers being able to live nearby in a scenic location.

Informal camping at Murrumbidgee



LAND USE STRUCTURE

The proposed land use structure for Gunn Point Peninsula is shown on the Gunn Point Peninsula Land Use Structure Plan 1990 at the back of the publication.

CONSERVATION AND RECREATION

Coastal Park

The whole of the coast within the plan area is included in a broad land use unit designated in this plan as the Coastal Park. This system extends continuously between the estuaries of the Howard and Adelaide Rivers and includes the Melacca Swamp and Tree Point fauna conservation areas. The Howard Swamp Hunting Reserve will be extended to include adjacent waterways, thereby increasing the area available for hunting and fishing.

The inclusion of this new park in the Gunn Point Peninsula Land Use Structure Plan 1990 will provide a continuous link between these coastlands and other coastal resources relating to the Vernon Islands and Cape Hotham.

The park includes elements which contribute significantly to the conservation, recreation, scientific and fisheries resources of the Darwin Region and will be managed and developed as an

integrated system to balance competing and complementary needs.

The degree to which specific areas will be modified to meet regional needs for recreational and commercial fishing will be determined by the particulars of the development proposal and detailed site assessments. Modification and development of land within the park will take into account the following guiding principles:

- (1) Habitats of rare and endangered species of plants and animals and sites of scientific distinction will normally be preserved and protected. These features should be left as free from modification as practicable. Access to these features should be at a level which involves minimal disturbance.
- (2) Development of any aquaculture industry will occur within the guidelines of an integrated Coastal Management Plan devised jointly by conservation and fisheries authorities. Sites near Hope Inlet and around Point Stephens will be made available for the development of aquaculture, subject to satisfactory conditions determined in the Coastal Management Plan. The fishery will be managed to promote a viable industry.
- (3) The majority of the coast and Adelaide River floodplain is potentially valuable for low intensity recreational uses such as recreational fishing, boating, camping, nature observation and diving in areas with lesser crocodile risk. Some modification such as improved access roads and construction of boat ramps are to be expected and encouraged.
- (4) Murrumujuk Beach will be developed and promoted for relatively intensive recreational uses, such as picnicking, swimming and sailboarding. The provision of fencing will be needed to control vehicle access to the beach area.

Source of water supply for Murrumujuk



- (5) Potential locations for weekend cottages have been identified at Point Stephens and Glyde Point. Of these two locations, Point Stephens has relatively higher conservation and scientific values owing to the presence of undisturbed monsoon forest. Both locations should be evaluated in more detail in the Coastal Management Plan, to determine the extent of modification necessary to provide for this use. Other potential sites for the development of weekend cottages are at Leaders Creek and Port Daly.

PRIMARY INDUSTRY

Agriculture, Horticulture and Grazing

Land having suitable soils will be developed for agriculture and horticulture. The rate at which development for these purposes will occur will be determined by a number of economic factors but, as a guiding principle, the value of this land principally for agriculture and horticulture should be recognised in land use and subdivision decisions.

The lot size appropriate to each individual case will vary with detailed assessment of the site and with the type of activity to be conducted. However, as a guide, lot sizes between 25 and 100 hectares should be expected. To facilitate establishment of viable production units, the subdivision of land into lots of less than 25 hectares should occur only where it can be demonstrated that specific site conditions warrant subdivision into smaller holdings whilst maintaining productive viability.

Aquaculture

Locations suitable for saline / marine aquaculture development are shown within the Coastal Park. They are at Hope Inlet and on either side of Point Stephens.

These areas will remain within the Coastal Park and will be available for other uses consistent with the intrinsic

values of the coast until they are required to be developed for aquaculture purposes. When they are required for aquaculture, joint management plans will be devised between the conservation and fisheries authorities to enable the land to be leased and used for aquaculture.

Intensive Animal Production

An area near Gunn Point Road and close to power and town water supplies is indicated for intensive animal industry. The area is large enough to separate these industries from each other and compatible agricultural uses can locate between these industries. Individual enterprises will be sited in this location, subject to assessment of operations and application of environmental management controls.

The pattern of existing settlement in the Litchfield Shire, and known land use commitments, indicates that there are very few other sites where such enterprises may establish.

RESIDENTIAL DEVELOPMENT

Urban and Semi-Rural Living

The extent of urban development which will occur on Gunn Point Peninsula is included in the Murrumujuk Land Use Concept Plan 1990. A range of residential lots sizes are proposed. Urban lots (1 000 square metres minimum area), sites for medium density housing and semi-rural lots (5 000 square metres minimum area) and rural residential lots (2 hectare minimum area) will be developed on the west coast of the peninsula overlooking Murrumujuk Beach.

Rural Living

Areas suitable for rural residential subdivision are shown in proximity to Murrumujuk. These areas have been selected because recreational and community services will be available nearby. It is also the area most likely to come under the influence of cooling sea breezes.

The type of rural residential development which will occur will be equivalent to that provided for in the Darwin Rural Area Plan. Generally, lots of less than two hectares in area will be discouraged.

Aboriginal Living

An existing Aboriginal living area is established at Tree Point. The structure plan recognises this as a permanent use of the land. At this stage no other sites are planned.

Weekend Living

No specific areas are shown for weekend living. The Murrumujuk Land Use Concept Plan shows camping sites which can be used by both residents of and visitors to the region. Sites which may be developed for weekend living have been identified at Point Stephens and Glyde Point. Development at these locations will be undertaken as part of an integrated plan of management for the coast. The scale and siting of development will take into account the conservation and recreation values of each site to ensure that features of rare distinction are protected and the enjoyment of the coast is enhanced.

Provision of services to these areas would be minimal. This is because of the prohibitively high cost of providing services and the need to retain the characteristics of an impermanent settlement. Basic services would include an access track and a possible central location of a potable water supply for use by the occasional visitors. Formalised refuse removal may be necessary to minimise environmental damage.

Farm-Based Living

The development of agriculture and aquaculture industries will generate a need for farm-based living. Dwellings will be allowed on land subdivided for these purposes.

COMMERCIAL DEVELOPMENT

Retail and Commercial Services

Retail and commercial services will be provided at Murrumujuk. The scale of the facilities will reflect the needs of a resident population as well as a large number of visitors likely to be attracted to the centre for recreation activities. Commercial activities elsewhere on Gunn Point Peninsula are not likely to be significant.

Tourism

Sites are shown in the Murrumujuk Land Use Concept Plan 1990 for camping areas, and within the retail and commercial service area a site for a caravan park has been indicated. It is envisaged that the coastal reserve will provide areas for tourist activities such as picnicking, boating and walking. These will be at strategic locations from Murrumujuk to the Adelaide River floodplain.

Service Commercial and Light Industry

Service commercial and light industry are to be accommodated at Murrumujuk.

The land shown on the Murrumujuk Plan is sufficient to facilitate the establishment of a range of these uses likely to be needed for a resident population and also for those services needed by tourists and visitors. Such development will not be encouraged elsewhere on Gunn Point Peninsula.

COMMUNITY SERVICES AND FACILITIES

Education

Sites are shown for the construction of pre-schools, primary schools and a secondary school at Murrumujuk. It is not expected that schools will be provided elsewhere within the plan area.

Health and Welfare

A large tract of land has been shown on the Murrumujuk Plan for community uses. The extent of the land will be sufficient to accommodate health and welfare services needed by the population of the peninsula.

Emergency Services

Land has been shown on the Murrumujuk Plan for all services neces-

sary for the safety of the public, including fire station, ambulance station, and police station. In time other rural fire stations may be located on the peninsula.

Public Utilities

Two large sites are provided for public utilities in the Murrumujuk Plan. These sites are for water supply and sewage treatment and refuse disposal purposes. Other public utility installations can be accommodated as the needs arise.

Recreation Facilities

Land has been provided for recreation facilities to encourage an enhanced appreciation of the coast and river systems of the peninsula and for the development of recreation facilities at Murrumujuk.

Where appropriate areas of parkland have been provided along the beaches and streams. The range of uses that can be accommodated in this area may include ovals, pocket playgrounds, barbecues, picnic areas, boat ramps and toilets where appropriate.

Coastal Park near Tree Point



IMPLEMENTATION

LAND USE CONTROLS

Tenure

To enable this plan to be implemented, it is desirable that the land should be under the control of the N.T. Government. This will allow a co-ordinated approach to land development and release.

The subsequent tenure of the land to be released to private interests will be at the discretion of the Government. Options for land tenure include freehold, leasehold or development leases convertible to freehold.

In considering tenure type, cognizance needs to be given to proposed land use, availability of alternative land and the existing government policy in relation to land release.

Planning Instrument

A refinement of the existing zoning provisions over this peninsula is necessary because the Rural Living 2 zone is not considered adequate to control the types and range of development proposed.

Coastal Management Policy

The Northern Territory Government has adopted a broad Coastal Management Policy to enable an integrated approach to conservation and development in coastal areas.

Specific objectives of the Coastal Management Policy are:

- protection of the coast from physical and aesthetic deterioration through erosion, pollution and misuse;
- maximisation of public access to coastal recreation opportunities to the extent consistent with necessary coastal protection and other planned development;

- ensuring major development proposals affecting the coastal zone are subject to environmental assessment;
- ensuring planning priority is given to uses dependent on a coastal location;
- protection of areas of high conservation value by establishing marine and coastal national parks and reserves;
- identification and protection of areas of cultural and historical importance;
- promotion of rehabilitation and enhancement of damaged and degraded areas within the coastal zone;
- encouragement of research into coastal processes and matters related to coastal zone planning and management; and
- ensuring that any proposed significant change in the policy is reviewed by interested agencies and the public.

Cognizance of the above objectives is needed for the preparation of the detailed Coastal Resource Management Plan and when considering any zoning changes.

Environmental Assessment Act

The provisions of the *Environmental Assessment Act* need to be considered in the further refinement of this plan. Detailed investigation may be required in environmentally sensitive areas.

STAGING

This plan does not propose a timetable for development. However, the release of land for development purposes should reflect the demand at that time.

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The key role of consulting Town Planner and Economist, Ms. June D'Rozario in preparing this plan is especially acknowledged.







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Fig 6

GUNN POINT PENINSULA LAND USE STRUCTURE PLAN 1990

LEGEND

-  Rural residential 2.0 ha minimum
-  Agriculture / Horticulture / Grazing
-  Intensive animal production
-  Aboriginal living area
-  Coastal park
-  Aquaculture

IMPORTANT
Map to be read
in conjunction
with entire document

