

Part 2

Gray & Lewis Landuse
Planners

SHIRE OF SHARK BAY LOCAL PLANNING STRATEGY

BACKGROUND AND INFORMATION ANALYSIS

May 2013

ADVERTISING

The Shire of Shark Bay Local Planning Strategy certified for advertising on 27 November 2012.

Signed for and on behalf of the Western Australian Planning Commission

*An officer of the Commission duly authorised by the Commission
(pursuant to the Planning and Development Act 2005)*

Date _____

ADOPTED

The Shire of Shark Bay hereby adopts the Local Planning Strategy, at the Ordinary meeting of the Council held on the 29th day of May 2013.

SHIRE PRESIDENT

CHIEF EXECUTIVE OFFICER

ENDORSEMENT

Endorsed by the Western Australian Planning Commission on

*An officer of the Commission duly authorised by the Commission
(pursuant to the Planning and Development Act 2005)*

Date _____

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LIST OF ACRONYMS USED IN THIS STRATEGY:

ABS	Australian Bureau of Statistics
ACRIS	Australian Collaborative Rangeland Information System
DEC	Department of Environment and Conservation
DoP	Department of Planning
DoW	Department of Water
LPS	Local Planning Strategy
MRWA	Main Roads WA
NRMMC	Natural Resource Management Ministerial Council
NRM	Natural Resource Management
ODP	Outline Development Plan
SPP	State Planning Policy
UCL	Unallocated Crown Land
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WALGA	Western Australian Local Government Association
WAPC	Western Australian Planning Commission
WWTP	Waste Water Treatment Plant

1.0 INTRODUCTION

1.1 Background

Landuse planning provides a mechanism for careful allocation and ordering of land for activities and purposes in a way to cater for strategic growth and to minimise landuse conflict.

The landuse planning system in Western Australian is based on the Planning and Development Act 2005.

The Shire of Shark Bay Local Planning Scheme No 3 is the statutory document that currently controls zoning, residential densities, landuse permissibility and development control.

Much of the area in the Shire of Shark Bay, including the islands, waters and adjacent environment is registered on the World Heritage List.

1.2 The Role and Purpose of a Local Planning Strategy

Provision for preparation of a Local Planning Strategy exists under the Town Planning Regulations 1967.

Local Planning Strategies are non statutory strategic planning tools which set out a Council's general objectives, aims and intentions for long term growth and change. Strategies should also provide some reflection of the community's aspirations and cater for identified and future population needs.

A Local Planning Strategy provides an overarching planning framework and can more clearly express a local government's vision and objectives for future planning and development. Strategies play a valuable role in outlining how long term objectives can be achieved, and act as a sound basis for future local planning scheme amendments and reviews.

1.3 The Format and Structure of the Local Planning Strategy

A review of the Model Scheme Text by the Western Australian Planning Commission (WAPC) has necessitated reassessment of the Planning Schemes Manual (2000). As an interim measure the WAPC has released a Local Planning Manual (March 2010) which includes guidance on the preparation and format for new Local Planning Strategies.

This Strategy is based on the Local Planning Manual 2010 and is presented in two parts;

- Part 1** The Strategy which outlines the major characteristics and issues relevant to future planning and development for the Shire of Shark Bay, and incorporates strategic plan and actions required to implement the strategy and Council's objectives.

- Part 2** The Background Information and Analysis which examines the state and local planning context, and provides a rationale for the Strategy.

1.4 Strategy Area and Regional Setting

The Shire of Shark Bay covers an area of approximately 25,423km² and is comprised of two peninsulas located on the most western point of Australia with approximately 1,500 kilometres of coastline (comprising the peninsulas and adjacent islands).

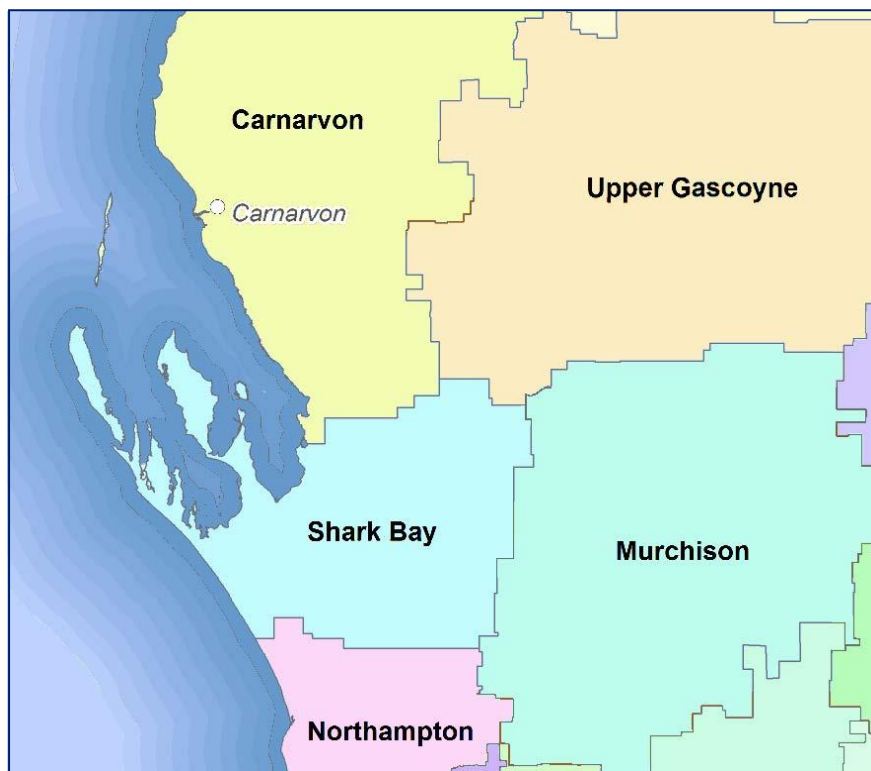


Figure 1 – Location plan : Shire of Shark Bay local government boundary

The town of Denham, the main settlement and administrative centre within the Shire, is some 833 km from Perth and has a permanent population of approximately 984.

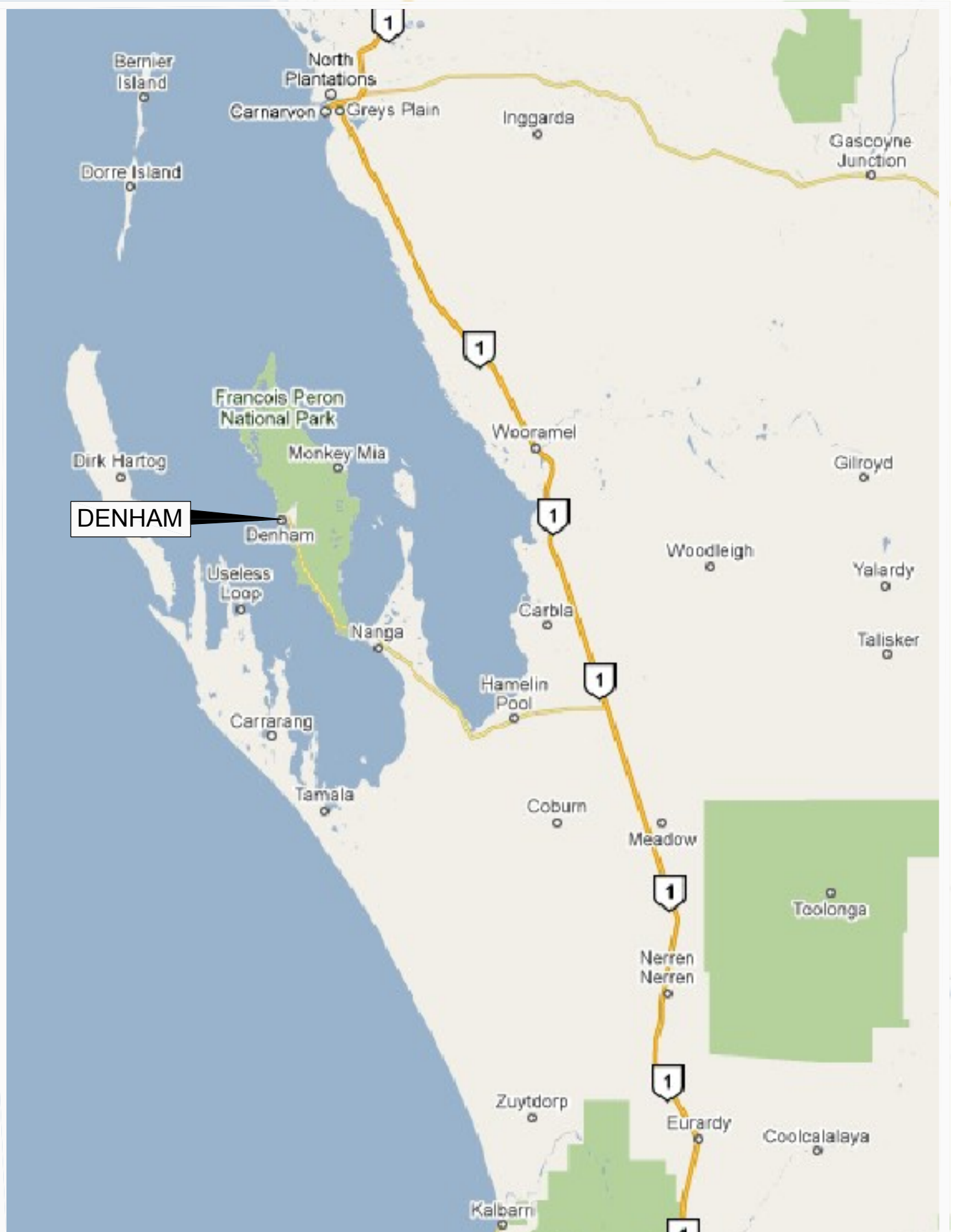
There are also a number of small communities; they are Useless Loop (a private mining site), Monkey Mia (a popular resort where Dolphins come in), Nanga and Hamelin Pool. The Overlander and The Billabong are roadhouses on the North West Coastal Highway.

Shark Bay was inscribed as a World Heritage Site in 1991 which has had a significant impact on the Shire and its community. The site was the first to be classified on the Australian World Heritage List and includes many protected areas and conservation reserves, including Shark Bay Marine Park, Francois Peron National Park, Hamelin Pool Marine Nature Reserve, Zuytdorp Nature Reserve and numerous protected islands. Denham and Useless Loop both fall within the boundary of the World Heritage site but are specifically excluded from it.

The Local Planning Strategy background includes information on the whole of the Shire but focuses on Denham as the main townsite ('Strategy area') – refer Figure 2.

Planning Implications:

- The Shire is more focused on control over development and strategic planning for Denham Townsite as it is outside of the Special Control Area for the World Heritage Area on the existing Shire Scheme map.
- Due to the World Heritage Listing there are other relevant government agencies which will need to be consulted with as part of the Strategy development.
- Denham and Shark Bay is isolated from Perth however has a local airport which is important infrastructure.



LOCATION PLAN
DENHAM TOWNSITE
SHIRE OF SHARK BAY

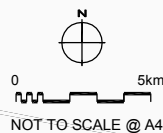


Figure 2

Suite 5, 2 Hardy Street
 South Perth, WA 6151
 T (08) 9474 1722
 F (08) 9474 1172
 perth@graylewis.com.au

2.0 STATE AND REGIONAL PLANNING CONTEXT

2.1 State Planning Framework

The State Planning Framework unites existing State and regional policies, strategies and guidelines within a central framework which provides a context for decision-making on land use and development in Western Australia.

The Framework policy was initially gazetted on 22 December 1998 as Statement of Planning Policy No 8. Subsequently, a variation to the policy, Statement of Planning Policy No 1 (Variation No 1) State Planning Framework Policy, was gazetted on 30 May 2000. The Statement of Planning Policy (renamed as State Planning Policy in the Planning and Development Act 2005) was further updated to include additional regional strategies, regional and sub-regional structure plans, strategic policies and operational policies that have been endorsed by the WAPC since May 2000.

The general principles for land use and development which originally formed part of State Planning Policy No 1 have been incorporated into the more current State Planning Strategy.

2.2 State Planning Strategy

The State Planning Strategy is a land use planning strategy for Western Australia's development up to 2029. The Strategy provides a vision to assist strategic decision-making and a set of principles by which coordinated, sustainable development will be implemented.

The Strategy is not a fixed blueprint, but provides a framework for strategic planning and identifies five key principles for all state and regional plans, policies and strategies as follows:

Environmental principle: To protect and enhance the key natural and cultural assets of the State and deliver to all Western Australians a high quality of life which is based on environmentally sustainable principles.

Community principle: To respond to social changes and facilitate the creation of vibrant, accessible, safe and self-reliant communities.

Economic principles: To actively assist in the creation of regional wealth, support the development of new industries and encourage economic activity in accordance with sustainable development principles.

Infrastructure principle: To facilitate strategic development by ensuring land use, transport and public utilities are mutually supportive.

Regional development principle: To assist the development of regional Western Australia by taking account of the region's special assets and accommodating the individual requirements of each region.

The Strategy sets out a vision for each administrative region in the State along with specific regional strategies and actions in the context of that region's land use planning and development.

The Shire of Shark Bay forms part of the Gascoyne Region for which the Strategy states:

“In the next three decades, the Gascoyne Region will expand through increased development of tourism, horticulture, mining, fishing and aquaculture.

The Shark Bay World Heritage Area, the Ningaloo Marine Park and Cape Range National Park, as well as the hinterland attractions of Mt Augustus and the Kennedy Ranges will be among the prime environmental tourism assets in the State.

Indigenous tourism experiences will also play a growing role in the development of tourism in the region. The region’s population will increase significantly as its economy grows and major centres will develop. The region will achieve the highest standards of marine and terrestrial environment management and protection to ensure that its natural assets are well managed and, where necessary, protected.”

The Strategy’s Regional Vision for the Gascoyne Region includes ‘*Protection and Management of Ningaloo Marine Park and Shark Bay World Heritage Area*’. An action under the Strategy is to ‘*implement and update over time the Shark Bay Regional Strategy*’.

2.3 Shark Bay Regional Strategy

The first Regional Plan for Shark Bay was released in 1988. In 1991, Shark Bay was subsequently included on the World Heritage List which recognised it as one of the most remarkable places on earth.

A review of the 1988 Shark Bay Region Plan was undertaken by the Western Australian Planning Commission (WAPC) as part the then Strategic Landuse Planning Program. A Shark Bay Regional Strategy was compiled to provide a broad planning framework however has not been further developed.

The Regional Strategy sets out a broad principles, objectives and actions to implement objectives. It is an umbrella statement which aimed to guide other initiatives, however the actions traversed a wide range of government agencies and there was no clear custodian.

The Regional Strategy provides a wide range of actions which cannot all be summarised. Of some relevance as background to this Local Planning Strategy the Regional Strategy identifies that;

- a. Denham has the capacity to further build on its role as the regional centre.
- b. The marine environment is central to almost all aspects of the region’s economy including tourism, commercial fishing, recreational fishing, boating, sailing, windsurfing, science and research and World Heritage Protection.
- c. Marine activity development would benefit from development of a Marina.
- d. Western expansion of Monkey Mia should be supported with aquiculture precinct.
- e. Townscape and main street programs should be initiated for Denham.
- f. The continued operation of Useless Loop as a private company town servicing the Shark Bay salt operations is recognised.

- g. Outside Denham there are nodes which provide opportunities for overnight tourism and accommodation.
- h. Transport connections and road development could be improved.
- i. Local processes should be integrated and local and regional offices of government given the authority and autonomy to negotiate, make decisions and solve problems.
- j. Initiatives for diversification on pastoral properties, particularly for tourism and recreation, should be investigated and implemented.
- k. Regional and local activities and initiatives with the protection and management of World Heritage values should be implemented.
- l. Alternatives for obtaining water compatible with environmental values of the region should be investigated.

2.4 State Planning Policies

State planning policies are prepared and adopted by the WAPC under statutory procedures set out in Part 3 of the Planning and Development Act 2005. The process of preparing a state planning policy also includes public consultation and consideration by the Planning Minister and the Governor.

The WAPC and local governments must have regard to the provisions of state planning policies when preparing or amending local planning schemes, and when making decisions on planning matters.

There a wide range of state planning policies which guide subdivision and development. Policies are reviewed from to time so current versions should be obtained by interested parties from the WAPC.

There is no need to replicate the detail of information contained in State Planning Policies within this Strategy, however a brief summary of the Policies most relevant to the Strategy and Shire of Shark Bay are listed below for ease of reference.

2.4.1 State Planning Policy 2 – Environment and Natural Resources

The environment and natural resources policy defines the principles and considerations that represent good and responsible planning in terms of environment and natural resource issues within the framework of the State Planning Strategy.

Relevant objectives of the policy are to:

- *Integrate environment and natural resource management with broader land use planning and decision-making.*
- *Protect, conserve and enhance the natural environment.*
- *Promote and assist in the wise and sustainable use and management of natural resources.*

2.4.2 State Planning Policy 2.4 – Basic Raw Materials

This policy sets out the matters which are to be taken into account and given effect to by the WAPC and local governments in considering zoning, subdivision and development applications for extractive industries.

2.4.3 State Planning Policy 2.5 – Agricultural and Rural Landuse Planning

The policy focuses on agricultural land throughout the state, and outlines the requirements for any rural subdivision. The policy examines issues such as protection of agricultural land, planning for rural settlements, minimizing landuse conflict, and managing natural resources.

It also outlines the requirements for local governments in the preparation of local planning schemes and local planning strategies and is to be applied to all rural land in the state.

2.4.4 State Planning Policy 2.6 – State Coastal Planning

This policy addresses land use planning and development issues specifically as they relate to the protection and management of the coast of Western Australia. The policy requires strategic plans to guide local planning, development setbacks for protection against coastal processes such as erosion and storms, and the provision of coastal foreshore reserves.

The policy provides high order guidance for decision-making on coastal planning matters and applies statewide. Implementation is through local planning schemes, and regional and local strategies.

Relevant objectives of the policy are to:

- *protect, conserve and enhance coastal values, particularly in areas of landscape, nature conservation, indigenous and cultural significance;*
- *provide for public foreshore areas and access to these on the coast;*
- *ensure the identification of appropriate areas for the sustainable use of the coast for housing, tourism, recreation, ocean access, maritime industry, commercial and other activities; and*
- *ensure that the location of coastal facilities and development takes into account coastal processes including erosion, accretion, storm surge, tides, wave conditions, sea level change and biophysical criteria.*

2.4.5 State Planning Policy 2.9 – Water Resources

This policy is directly related to the overarching sector policy SPP 2 Environment and Natural Resources and provides clarification and additional guidance to planning decision-makers for consideration of water resources in land use planning.

Relevant objectives of this policy are to:

- *Protect, conserve and enhance water resources that are identified as having significant economic, social, cultural and/or environmental values;*
- *Assist in ensuring the availability of suitable water resources to maintain essential requirements for human and all other biological life with attention to maintaining or improving the quality and quantity of water resources; and*
- *Promote and assist in the management and sustainable use of water resources.*

The *Better Urban Water Management* (BUWM) (WAPC 2008) is an implementation mechanism for SPP 2.9.

2.4.6 State Planning Policy 3 – Urban Growth and Settlement

This policy sets out the principles and considerations which apply to planning for urban growth and settlements in Western Australia.

The Policy recognises that for the regions, the *State Planning Strategy* promotes the consolidation and expansion of existing settlements to make regional communities sustainable in the long-term.

There is likewise a need to avoid ad-hoc and disbursed new settlements and the expansion of existing settlements which are remote from existing and planned services and will create competition with towns better placed to accommodate growth and expansion.

The Policy identifies the need for local governments preparing local planning strategies to assess housing demand and the type of additional housing for which they should plan.

2.4.7 State Planning Policy 3.1 – Residential Design Codes

The purpose of the Residential Design Codes (R-Codes) is to provide a comprehensive basis for the control, through local government, of residential development throughout Western Australia.

The R Code densities applied to residential zoned land dictate the minimum and average site area per dwelling (leading to subdivision potential), and minimum site requirements for new development (such as setbacks, open space requirements, car parking and the like).

They are intended to cover all requirements for planning control. The R-Codes do not address the physical construction requirements or the internal arrangements of buildings - these are matters controlled by the Building Code of Australia.

2.4.8 State Planning Policy 3.2 – Aboriginal Communities

This Policy examines planning for existing remote aboriginal communities, however its general principles could be applied to the wide range of isolated and remote smaller communities.

The Policy allows for the development of broad layout plans as a mechanism to reflect the growth aspirations of the resident community and traditional owners based on sound planning principles including consideration of known cultural, environmental, economic, tenure and infrastructure constraints, opportunities and requirements.

The Policy suggests that Local Planning Schemes recognise areas with approved layout plans in a broad 'settlement' zone.

2.4.9 State Planning Policy 3.4 – Natural Hazards and Disasters

This policy provides guidance to the WAPC in the undertaking of its planning responsibilities.

The Policy looks to include planning for natural disasters as a key element in both statutory and non-statutory planning documents, and to use planning instruments to minimise the adverse impacts of natural disasters on communities, the economy and the environment.

2.4.10 State Planning Policy 3.5 – Historic Heritage Conservation

This policy applies principally to historic cultural heritage including heritage areas, buildings and structures, historic cemeteries and gardens, man-made landscapes and historic or archaeological sites with or without built features, such as Cape Inscription at Dirk Hartog Island. This policy applies to places and areas of significance at both State and local level.

2.4.11 State Planning Policy 3.6 – Developer Contributions for Infrastructure

This Policy recognises that local governments face increasing pressure to provide services as a result of population and economic growth. Developer contributions can be pursued for the construction of facilities and infrastructure outside normal subdivisional requirements.

The Policy provides local governments with more guidance on the scope and framework for development contributions of this nature.

2.4.12 State Planning Policy 4.1 – State Industrial Buffer Policy

This Policy examines the need to protect and identify buffers for specific landuses such as industrial, waste water treatment plants, extractive industries and landuses that may have potential to impact through emissions.

The Policy establishes objectives and principles and how the principles should be applied to define and secure buffer areas and who should pay for them.

2.4.13 State Planning Policy 5.2 – Telecommunications Infrastructure

This Policy has limited impact on a strategy level, however deals with development assessment and determination of applications for planning approval of telecommunications facilities.

2.4.14 State Planning Policy 6.3 – Ningaloo Coast

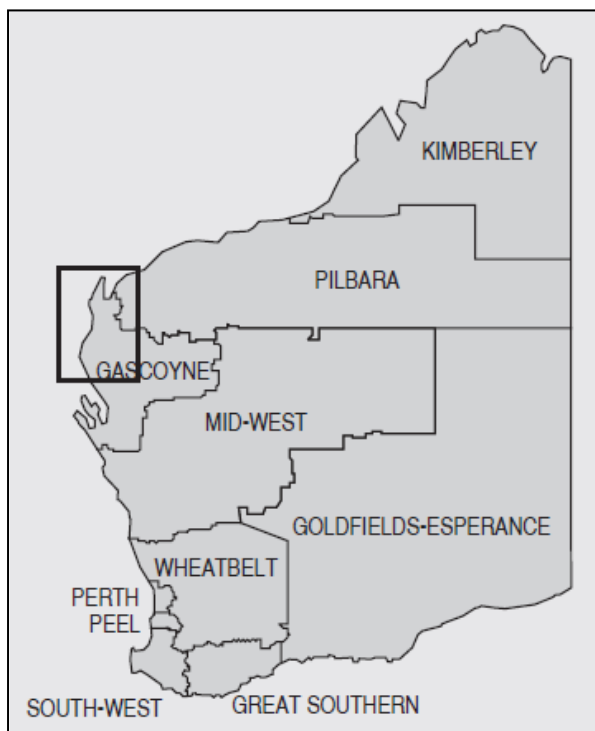


Figure 3 – Plan showing Ningaloo Coast Policy Area
Source: WAPC State Planning Policy 6.3

This Policy does not specifically apply to Shark Bay however it is important to recognise as it covers the coastline between Carnarvon and Exmouth to the immediate north – refer [Figure 3](#).

The guiding objectives whilst not specifically applicable are considered relevant in examining any strategy for the Shire.

It is important that the Shire's Strategy be prepared having regard for future planning for the surrounding Gascoyne region, and the regional context of the nearby Ningaloo Coast.

The four key objectives of the policy are;

- *Provide state agencies, local government, community and proponents with clear guidance regarding acceptable and sustainable development on the Ningaloo coast.*
- *Maintain the Ningaloo coast as an all-seasons recreation and nature-based tourism destination and limit growth with managed staged development, to ensure that the community continues to enjoy a remote and natural experience.*
- *Preserve and protect the natural environment and enhance and rehabilitate degraded areas within the environment.*
- *Consolidate future residential, commercial, higher-impact tourism and industrial development in the towns of Carnarvon and Exmouth and provide strategic directions for their future growth.*

Planning Implications:

- The Shark Bay Regional Strategy provides useful background into the activities and different landuses located in Shark Bay, however due to its age much of the information has become outdated and many of the relevant agencies names have changed. It's relevance for landuse planning may be limited unless it is updated and reviewed. It is a broad document and includes several environmental objectives and actions relating to the World Heritage status.
- The Local Planning Strategy needs to be consistent with the relevant State Planning Policies.
- Future planning on a state level may consider including Shark Bay as part of a wider regional plan, as part of the Ningaloo Coast or the Gascoyne.

3.0 LOCAL PLANNING CONTEXT

3.1 Shire of Shark Bay Local Planning Scheme No 3

The Shire of Shark Bay Local Planning Scheme No 3 ('the Scheme') is the current statutory document controlling the zoning, landuse permissibility and development standards for the Shire.

The Scheme includes a wide range of zones, with a number of special use zones which are designated for specific uses. Many of the special use zones are predominantly residential with allowances for tourist accommodation, and all require structure plans.

With the exception of the main Denham townsite and its immediate surrounds, large areas of Shark Bay are included in a World Heritage Area recognised through a Special Control Area in the Shire's Scheme. Almost all development within the SCA requires planning approval to ensure development is in accordance with World Heritage Values.

The Scheme was gazetted in March 2008 with only a few subsequent amendments. The status and land tenure of some areas (pastoral leases) have changed since introduction of the Scheme. For example, Dirk Hartog island contains some freehold lots and the State Government has set aside the remainder as national park (mainly for conservation with some controlled camping). The island is still zoned 'Rural' under the Scheme.

Planning Implications:

- The Shire's Local Planning Strategy may act as a guide and basis for future scheme amendments, an omnibus amendment, or full Scheme Review.
- The status of some landholdings in the World Heritage Area has changed since the Scheme was introduced, and zonings for these need to be reviewed in consultation with government departments.
- There may be opportunities to reduce and consolidate the number of Special Use zones utilised throughout the Scheme area.

3.2 Denham Town Centre Strategy (November 2006)

The Denham Town Centre Strategy provides direction for future landuse development for land zoned 'Town Centre' under the Shires Scheme – refer Figure 4.

The existing Town Centre Strategy map is included for reference as Figure 5 and generally includes the land mainly along the waterfront generally bounded by Knight Terrace, Stella Rowley Drive, Hughes Street, Mainland Street and includes a pocket between Brockman Street and Durlacher Street.

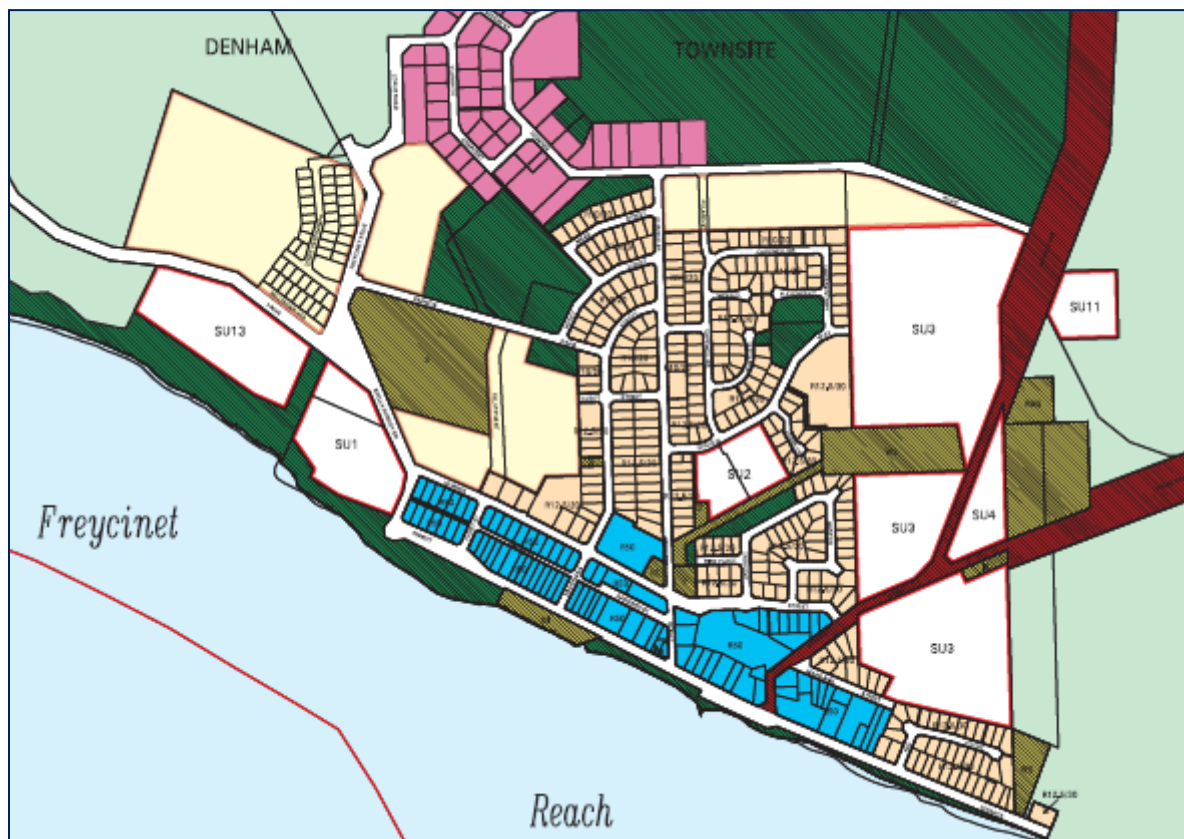


Figure 4 – Extract of Local Planning Scheme No 3 zoning map with the Town Centre zone shown in blue
Source: WAPC

The Town Centre Strategy recognises that there is a significant amount of land adjacent to the Denham foreshore zoned 'Town Centre', and its primary role is to provide for retail, commerce, community and tourist centre needs.

The Strategy identifies that the amount of land zoned 'Town Centre' is sufficient for existing and future needs and aims to consolidate activities to contribute to a 'sense of vibrancy for the centre'.

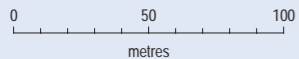


Denham town centre strategy
Land use precincts

Figure 2



SCALE 1:2000



Source: cadastral based on information provided with the permission of DLI PA 23-2003

Aerial photography - ortho-rectified source: Dept of Land Information (DLI) flown: September 2001 scale 1:8000 positional accuracy +/- 4 metres

denham_aerial.dgn
13 Jul 2006
Produced by Statutory Mapping Section, Spatial Information & Research - Mapping & GeoSpatial Data, Department for Planning and Infrastructure, on behalf of the Western Australian Planning Commission, Perth WA

FIGURE 5

It recognises that growth in the Town Centre will be closely linked to growth of residential and tourist facilities.

The Strategy divides the Town Centre into a number of recognisable precincts and provides recommendations for priority landuses within each precinct. The Strategy also offers some guidelines for future streetscape and building character, with a focus on maintaining sea views, interactive shopfronts, providing shelter and a pedestrian friendly built environment.

The Strategy Map has been reviewed concurrent with the development of this Local Planning Strategy. The existing Town Centre Strategy will become superseded and replaced by this Local Planning Strategy.

Planning Implications:

- The Denham Town Centre Strategy provides a sound basis for landuse planning however requires updating.
- There have been a number of changes in the Town Centre since 2006 which need to be identified and acknowledged in this Local Planning Strategy.
- A portion of Precinct 3 north of Hughes Street was originally proposed as 'Town Centre' however was not included in the Town Centre zone. It contains residential uses and a church.
- The Scheme provisions relating to the Town Centre may require further review following finalisation of this Local Planning Strategy.

3.3 Shark Bay Plan for the Future

This plan outlines the Shire's principal activities for five years (1 July 2009 to 30 June 2014) and the impact these activities are expected to have on the Shire's financial position.

The plan provides insight into current Shire projects, and many have positive influences on economy, tourism, social impact, streetscape and community development.

The Shire's Mission Statement is;

To preserve and enhance the quality of life of the people of Shark Bay by providing quality Local Government services through effective and responsible leadership and management.

The Shire's Plan for the Future Vision Statement is;

To be an outstanding provider of Local Government services for the benefit of the community.

All of the Principle Activities are relevant to the Local Planning Strategy, however the most directly related activities and objectives are summarised below:

➤ **Foreshore Development**

The foreshore development will be an ongoing project involving planning and consultation with the community. The objective is to provide residents and visitors alike with a foreshore area that improves the quality of life of residents and is an attraction to entice visitors to the area.

It should be noted that the Shire has already provided a number of amenities along the foreshore such as toilets, fish cleaning areas, car parking and boat ramps, seating areas, gazebos, and a children's playground.

➤ **Underground Power**

The installation of underground power in the Denham central town precinct area - Hughes Street from Brockman Street to Durlacher Street and down both streets to Knight Terrace.

➤ **Shire Office Upgrade and refurbishment**

The Shire's 'Plan for the Future' identifies the need for upgrading of the Shire Administration Centre Building to include improved library facilities & Council chambers.

The objective is to provide a Shire Administration Centre to facilitate the provision of a high quality of coordinated customer service to the local community and visitors to Shark Bay.

The existing Shire Office is located on prime land in the Town Centre and there may an opportunity for the land to be utilised for other purposes, and investigate alternative sites suitable for a new Council office and Council Chambers.

➤ **Operating and maintaining the Shark Bay World Heritage Discovery Centre.**

The objectives are:

1. To provide a high quality educational experience to the local community and visitors to Shark Bay.
2. To provide a high level of visitor and information centre services to visitors and local business working in the tourist industry.
3. To operate as a commercially viable and self funded business unit of the Shire.

➤ **Community Development and Recreation**

A Community Leisure Plan to be undertaken to provide direction to courses of action required to fulfil the community's recreational needs.

The objective is to provide residents with a community building for recreational and cultural use that will raise the quality of life of residents.

Since compilation of 'Plan for the Future', the Shire has substantially progressed plans for a new Recreation Centre adjacent to the existing oval in Francis Street (Reserve 36163).

The new Centre will be located immediate opposite the new Shark Bay School (constructed approximate 4-5 years ago) and is in close proximity to the Bowling Club and local mini golf (run by the Yadgalah Aboriginal Corporation Inc).

➤ **Shark Bay World Heritage Drive and Tourism/ Area Promotion**

The Shire has constructed a sign posted world heritage drive that starts from the intersection adjacent to the Overlander Roadhouse and ends at Monkey Mia. It takes in the many attractions along the Denham-Hamelin Road.

The objective is to add to the Shark Bay tourism experience, adding to the number of nights stayed per visitor and ensuring the sustainability of tourism in Shark Bay for the future bringing many tangible benefits to the local community.

➤ **Community Amenities**

The Shire will continue to upgrade and maintain community amenities such as the cemetery and Pioneer Park.

The objective is to ensure that community amenities are maintained to a standard that adds to the aesthetics of the townsite of Denham.

➤ **Townscape Construction**

Achieve the objective to provide for the future development of the Denham Town Centre and the town's ability to attract commercial development by constructing retaining walls and pedestrian access ways linking Knight Terrace and Hughes Street.

These works have been substantially completed as the Shire has constructed a ramped pedestrian pathway connecting from Barnard Street to Hughes Street, with landscaping in the retaining walls.

This has provided an important link as Hughes Street is on a substantially higher level than Barnard Street and Knight Terrace.



New ramped pathway and retaining walls recently constructed to link Barnard Street and Hughes Street. Landscaping has been planted and ropes along the bollards will be installed signage in Knight Terrace (July 2010)

Planning Implications:

- The Shire is continuing to undertake improvement works to ensure the Town Centre is a vibrant centre. Pursuit of further streetscape improvements may impact positively on local businesses and local economy.
- The Shire is undertaking a number of building projects which will have a positive influence on the Town Centre and local community.
- The Shire has undertaken works to improve pedestrian links between Knight Terrace and Hughes Street. There may be further opportunities to develop signed walking routes throughout the Town Centre and along the Knight Terrace foreshore to encourage tourists to walk throughout the entire townsite.
- There are improved facilities for tourists through the development of the Shark Bay Heritage drive.
- The Shark Bay World Heritage Discovery Centre plays an important role in the Town Centre and attracts tourists into the townsite. Increases in tourism may place pressure on local services and infrastructure, which needs to be considered.

3.4 Shark Bay Accommodation Supply and Demand

The final report dated June 2009 was prepared by Edge Tourism and Marketing for Tourism Western Australian as an analysis of 20 year tourism requirements for the Shire of Shark Bay . Tourism is a major industry in Shark Bay and has an estimated growth rate of 0.8% between 2008 and 2028.

The report notes that almost 50% of visitation to Shark Bay consists of intrastate visitors for overnight stays in the Shire. The annual average of overnight visitors for the eight years to 2008 were as follows;

➤	Intrastate	53,300
➤	Interstate	21,600
➤	International	41,500
➤	Total	116,400

In the Scheme, most tourist accommodation uses such as motel, hotel, camping area, caravan park, and short term accommodation are discretionary uses in the 'Town Centre' zone. Larger scale tourist accommodation or special tourist areas, such as Monkey Mia, are catered for through 'Special Use' zones as it provides greater flexibility for development.

The Edge report concludes that the most popular forms of accommodation are caravanning/camping, backpacker hostel, 3 star or below motel or self contained accommodation.

The planned new supply to 2028 will result in an increase of approximately 28% in estimated functional accommodation in Shark Bay, from 1,018,241 to 1,299,496 visitor nights total capacity.

The modelling to 2028 indicates no significant gaps in supply of tourist accommodation within a 20 year timeframe. There is a projected excess of supply over demand in the backpacker, caravan park, and holiday home accommodation. The demand for hotel/motel/mixed resort accommodation is high.

Shark Bay is the fourth most popular camping destination for Perth residents.

Planning Implications:

- There is sufficient available tourist accommodation to cater for current and future needs; particularly in the form of caravan parks, backpackers accommodation and holiday homes.
- There may be future needs for additional hotel, motel and mixed resort style accommodation (particularly 4 star or higher), dependent on demand.
- There are opportunities to provide greater flexibility for some of the special use sites that may cater for future tourism needs.
- The Shire has a challenge as there is anecdotal evidence of declining tourism numbers which may affect the local economy.
- In the future development of a Tourism Strategy may become vital.

4.0 LOCAL PROFILE

4.1 Climate

Shark Bay is at the meeting point of three major climatic regions. It's climate is semi-arid to arid, typically characterised by hot dry summers and mild winters. Summer temperatures generally range between 20°C and 35°C; and winter temperatures generally between 10°C and 20°C. Between 1988 and 2009, the average minimum temperature in Denham was 17.6 degrees, and the average maximum temperature was 26.6 degrees Celsius.

Average annual precipitation is relatively low and was recorded as 159 mm for 1999. The mean average yearly rainfall between 1893 and 2009 was 223.7. The average monthly rainfall (mm) between 1988 to 2001 is summarised below:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7.6	14.7	14.1	14.4	39.5	55.7	41.2	22.4	7.9	6.2	3.2	1.3

Table 1 – Average Monthly Rainfall

Source: All information on climate obtained from the Australian Government Bureau of Meteorology

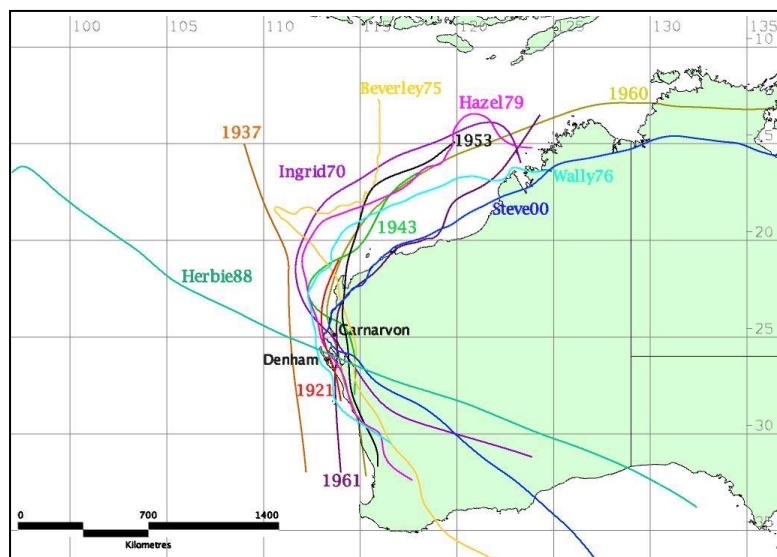


Figure 6 – Plan showing cyclone occurrences

Source: Bureau of Meteorology

Accordingly to information from the Bureau of Meteorology, a cyclone impact causing wind gusts in excess of 90 km/h in the vicinity of Carnarvon and Shark Bay occurs about once every five years on average— refer Figure 6.

Cyclones that impact on Carnarvon typically form over warm ocean waters to the north of the state.

The typical steering of these systems is to the southwest and they tend to take a more southerly track (towards Shark Bay). In general, the Bureau indicates that cyclones weaken as the move southwards over cooler water.

Planning Implications:

- In the Town Centre, pedestrian shelter from the weather is an important consideration, and the current Scheme requires new development to provide awnings, verandas or an overhang.
- There are key constraints of cyclonic storm and coastal processes.

4.2 Physical Features

Shark Bay is large semi enclosed bay on the low lying coast of the Indian Ocean. The coastline is comprised of two wide bays formed by two peninsulas, Edel Land and Peron, three large outlying islands (Bernier, Dorre and Dirk Hartog), and an eastern coastal strip. The Shire has regard for relevant State Planning Policy 2.6, in dealing with any coastal development or issues.

The area has three distinctive landscape types –

- Edel Land is typified by a series of white sandy elongated dunes cemented to loose limestone and the western side ends abruptly with spectacular cliffs on the ocean. The elongated inlets and bays of the eastern side are peppered with small rocky islands.
- Dirk Hartog, Dorre and Bernier Islands are extended limestone islands overlaid with sand dunes.
- Peron Peninsula has red sand hills and low rolling sandy plains with salt and gypsum pans, interspersed with interdune gypsum filled depressions – hollows known as '*birridas*'. Thousands of years ago, when sea levels were much higher than at present, most birridas were landlocked saline lakes. In more recent times the sea has invaded some birridas, such as Big Lagoon, to form shallow inland bays.
- The coastal strip extending north to Carnarvon features tidal flats and an adjacent low-lying plain.

One of the main marine features of the bay is steep salinity gradient. Oceanic water from Leeuwin current flows through the channel between Dorre and Dirk Hartog islands and the south passage introducing warm low salinity tropical water. A combination of wind and tidal currents produces an anti clockwise circulation in the bay.

The Gascoyne and Wooramel intermittent Rivers drain into the Bay from the east. Due to low rainfall, high evaporation and permeable soils there is minimal surface runoff. Freshwater soaks occur at coastal locations on Peron Peninsula and at other locations in Shark Bay.

Planning Implications:

- Due to the low rainfall, water provision and responsible water use is an important local issue.

4.3 Natural Heritage

Shark Bay has a wide range of diverse marine landscapes and coastlines with a variety of unique marine environments, including some found nowhere else in the world. Shark Bay's natural heritage areas are of outstanding global significance hence it was inscribed on the World Heritage list in 1991 for its natural heritage values.

To be inscribed, areas must be of outstanding universal value and meet at least one of ten selection criteria set by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). Shark Bay is one of 16 Australian areas on the World Heritage List.

The Shark Bay World Heritage Area covers more than 2.2 million hectares and has a coastline more than 1,500 km long. It features diverse landscapes and seascapes, lagoons, cliffs, dunes and islands.

There are a number of national and marine parks, nature reserves, and unique marine locations / environments in Shark Bay.

- **Francois Peron National Park / South Peron**



Coastline cliffs

The Francois Peron National Park is part of the Peron Peninsula which was originally operated as a sheep station (from the late 1880s) until the government purchased it in 1990. The park is 52,000 hectares of undulating sandy plains and has exceptional coastal views and scenery.

Peron Peninsula includes:

- Eagle Bluff, Fowler's Camp, Goulet Bluff and Whale Bone are all located on south Peron and provide camping opportunities. Eagle Bluff – the most developed of these sites, located approximately 20 kilometres south of Denham with a raised boardwalk for viewing of marine life, and a carpark.
- Shell Beach – Located approximately 45 minutes south of Denham and is comprised of a 60 kilometre coastline consisting of shells.
- Nanga Bay – A quiet bay located approximately 10 kilometres from shell beach on the western side of the Peron Peninsula.

The Francois Peron National Park caters for a wide range of activities including bush camping, four-wheel driving, fishing, boating, sightseeing and bush walking. Eagle Bluff is the most developed site with a boardwalk (for marine viewing) and a carpark.

- **Monkey Mia**

Monkey Mia is likely the most well known area within the Shire due to its popularity of the Monkey Mia resort and as a tourist attraction where people can interact directly with dolphins who visit the area on a daily basis. Monkey Mia is 24km from Denham and 151km from the North West Coastal Highway.

- **Hamelin Pool Marine Nature Reserve**

Hamelin Pool contains the most diverse and abundant examples of living stromatolites in the world. Cyanobacteria were some of the first living creatures on Earth and stromatolites are formed by these organisms. They are ancient structures and considered living fossils. A 200m boardwalk gives access to the stromatolites environment and has been developed with interpretive signage.

- **Dirk Hartog Island**

The arrival of Dirk Hartog in 1616 marked the first European landing on Australia's western coast, therefore this island is prominent and well known in maritime history. Dirk Hartog island contains steep cliffs on the western side which gradually slope eastwards towards a low limestone coastline.

It was historically used as pastoral lease for sheep grazing and is now a national park. As part of negotiations to create the island as a national park, the government created three freehold lots on the island which are currently undeveloped. The situation is problematic as the three freehold lots have not been adequately zoned under the Shire's Scheme, and there are issues as to how the lots will be developed due to the location in the World Heritage area and the logistics of transporting materials to the island.

- **Edel Land**

To the south of Dirk Hartog Island and separated by ocean is Edel Land. Its most western point is known as Steep Point - named by a Dutchman, William de Vlamingh. It is a popular fishing location and the area is carefully managed by DEC and has an on site contract ranger service.

Edel land also includes False Entrance, Crayfish Bay and Shelter Bay (with boat launching).

There are cliffs on the western side of Edel Land known as Zuytdorp Cliffs. The Cliffs form an almost unbroken arc between Steep Point and the township of Kalbarri to the south. Some portions are over some 200 kilometres. The cliffs were named after the Dutch ship the Zuytdorp which was wrecked against the cliffs in 1712.

Planning Implications:

- Natural heritage is and will continue to be protected under the World Heritage Listing.
- Shark Bay has unique natural heritage on a world scale which is recognised under the provisions of the existing Local Planning Scheme No 3.
- Shark Bay has a wide variety of natural attractions so landuse planning needs to continue to have regard for the high tourism needs without compromising the needs of local residents.
- Government actions to acquire some land for conservation due to world heritage values are not co-ordinated through the Shire. Additional land has been acquired for a range of purposes, mostly to meet the requirements for a comprehensive, adequate and representative reserve system. There are a number of examples where recommendations for the acquisition of specific lands for addition to the reserve system predate world heritage considerations. As a subsequence, the Scheme does not have adequate landuse controls in place for some of the land in the World Heritage Area and / or some reserves.

- Zoning anomalies (such as the rural zoning applied to Dirk Hartog Island) may need to be corrected through an omnibus amendment or future scheme review.

4.4 Natural Resource Management

Natural Resource Management (NRM) regions are based on catchments or bioregions. The Shire of Shark Bay falls within 'The Rangelands' natural resource management (NRM) region which covers approximately 1.85 million square kilometres representing 90 per cent of Western Australia and more than 75 per cent of the coastline.

The Rangelands NRM Strategy was developed by the Rangelands NRM Co-ordinating Group. The Strategy identifies natural assets, targets and actions for long term management. NRM is aimed at supporting and encouraging the sustainable use of natural resources which includes land, flora & fauna, fresh water and coastal marine environment.

The Rangelands NRM includes significant conservation areas involving national parks, nature reserves, conservation parks, marine parks and reserves and two World Heritage-listed areas (including Shark Bay). The region contains wide biological diversity, including many threatened species of plants, animals and ecological communities. Although the region contains a large proportion of the nation's natural assets it has a relatively low population to address and manage natural resources issues.

The EnviroPlanning project is a partnership between the Western Australian Local Government Association (WALGA), DoP and WAPC. In April 2007 a review of the Rangelands Natural Resource Management Strategy was undertaken as an 'EnviroPlanning' project to determine the level to which it acknowledges, guides, integrates and supports the land use planning process in achieving NRM outcomes.

4.4.1 Principles for Sustainable Resource Management in the Rangelands

The Australian Collaborative Rangeland Information System (ACRIS) report, "Rangelands 2008-Taking the Pulse", highlighted national issues that could underpin further national policy development.

In light of the ACRIS report, the Natural Resource Management Ministerial Council (NRMMC) endorsed the 'Principles for Sustainable Resource Management in the Rangelands' in April 2010, updating the 1999 *National Guidelines and Principles for Rangelands Management*.

The Federal Department of the Environment, Water, Heritage and the Arts prepared the publication on behalf of the Rangelands Task Group, convened under the Natural Resource Management Ministerial Council (NRMMC).

The document recognises that there are a wide range of challenges throughout the Rangelands including maintaining biodiversity, fire management, weed invasion, grazing impact, feral animals, extraction and ownership of water, climate change and mining and other landuses. It establishes broad principles for sustainable resource management.

4.4.2 Parties Involved in Natural Resource Management

A large proportion of the Shire area, apart from the Denham townsite and immediate surrounds, is within the World Heritage Area. The Shark Bay World Heritage Area incorporates several different tenure types including private, leasehold, town, national and marine parks, other Reserves and Unallocated Crown Land.

The Australian Government has primary responsibility for the development and implementation of national policy on World Heritage matters, and for reporting to UNESCO on the management of Australia's World Heritage properties. However, many agencies and groups share management responsibilities for the World Heritage Area, including all three levels of government and private land owners.

Protection and conservation of the World Heritage-listed Shark Bay is a task which has been shared through participatory consultation.

There were two consultative committees which provided advice to a Ministerial Council - the Shark Bay Community Consultative Committee and the Shark Bay Scientific Advisory Committee.

The Community Consultative Committee advised the Ministerial Council on the protection, conservation, presentation and management of the area from the community's perspective.

The Scientific Advisory Committee provided the Ministerial Council on scientific research priorities, new information, scientific-basis for management and appropriateness of research. This results in decisions being made based on the best available scientific information and research.

The Western Australian Department of Environment and Conservation (or DEC, formerly the Department of Conservation and Land Management) is the lead agency for the day-to-day management of Shark Bay's World Heritage values. DEC advises that the two Committees have been disbanded and will be replaced by a new consolidated Committee which will deal with both scientific and community issues.

The DEC is responsible for:

- a. managing terrestrial and marine estate under the Conservation and Land Management Act 1984, Wildlife Conservation Act 1950, Environmental Protection Act 1986 and other relevant state and federal legislation;
- b. overseeing the development and implementation of management plans (terrestrial and marine);
- c. liaising with agencies, land owners and other parties to ensure that development and management activities do not threaten World Heritage values;
- d. consulting with agencies and the community to identify and regularly review priorities for the protection of World Heritage values;
- e. conducting or encouraging relevant research; and
- f. distributing information and implementing educational activities.

The DEC also reports to the Australian Government on the protection, conservation, presentation, rehabilitation and transmission to future generations of the World Heritage Area, as per the requirements of the World Heritage Convention.

There have been a number of funded NRM projects undertaken in Shark Bay over the years including education and promotion of Shark Bay Heritage values to tourists, restoration dune works such as at Eagle Bluff, and research into marine life.

4.4.3 Management Plans

Management plans are vital to address the protection, conservation and presentation of Shark Bay's natural and cultural values. They incorporate legislative requirements with scientific and community information, interests and concerns, and provide a way forward for the management of the World Heritage Area.

The following Management Plans apply:

- a. Shark Bay World Heritage Property Strategic Plan 2008-2020 (DEC 2008)
- b. Shark Bay Marine Reserves Management Plan 1996 – 2006
- c. Shark Bay Terrestrial Reserves and proposed reserve Additions Draft Management Plan 2007
- d. Fisheries Environmental Management Plan for the Gascoyne Region (2002)
- e. Shire of Shark Bay Denham Foreshore Management Plan 2004-2014 (Jill Powell & Associates)

Planning Implications:

- Natural Resource Management in Shark Bay falls largely under the day to day role of the Department of Environment and Conservation (DEC).
- Funding opportunities for natural resource management projects should be pursued by all levels of government.

4.5 Water Management

Water management is the activity of planning, developing, distributing, managing, and optimum use of water resources under defined water polices and regulations. It may include:

- a. management of water treatment of drinking water, industrial water, sewage or wastewater;
- b. management of water resources;
- c. management of irrigation;
- d. management of the water table.

4.5.1 Drinking Water supply

Denham's water supply is currently sourced from artesian bores, which draw brackish water with high levels of salinity and hardness.

Denham is on a unique dual supply system of saline and desalinated water. Some of the water is treated at the desalination plant, stored in a tank and distributed around the town for drinking water purposes. Some untreated water is stored in a separate tank for distribution around the town for non-potable use.

It is very costly to produce the desalinated water and therefore it is piped to the point of use by a separate reticulation system and each property has a separate meter.

In 2007 the Department of Water released the 'Denham North and Denham South (D7-7) water reserves drinking water source protection plan Denham - Town Water Supply' (Dow 2007).

The report recognised that a gazetted water reserve was located at the eastern end of Knight Terrace, and proposed a new water reserve to the east of Leeds Court – refer [Figure 7](#).

At release of the report Scheme 3 was still in development, however it noted that "Landuse zonings and activity levels in and around both water reserves are not expected to change in the near future. A new Town Planning Scheme was due for finalisation in March 2006 and has now closed for public comment. It is expected to be finalised within the next 6 months and is not expected to affect the Water Reserves."

The Water Source Protection Plan has been implemented and both of the water reserves are zoned 'Public Purpose – Water Supply' under the Shire's Scheme. Council may consider implementing a Special Control Area over the Water Reserves as part of any Scheme review.



Figure 7 – Water Reserve Areas
Source: Department of Water brochure on 'Protecting your drinking water'

The main landuses in the Denham north and south water reserves are a water treatment tank and tank compound.



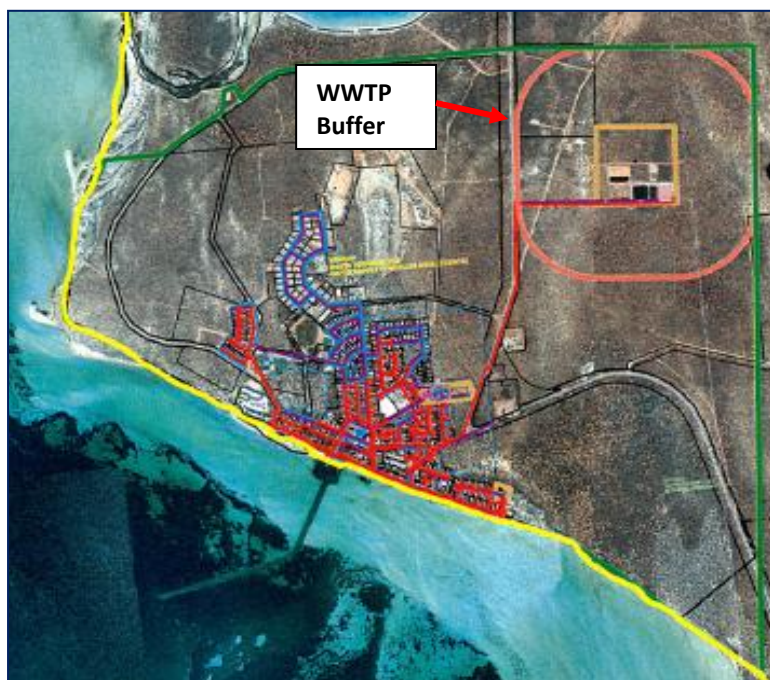
Watertanks and compound

The Department's report identified that current landuses can continue and that *"the risk of contamination from existing and proposed landuses is negligible..."*.

There are a number of Department of Water guidelines and water protection notes which should be taken into consideration during normal development and subdivision processes for any land near the water reserves.

4.5.2 Waste Water Treatment Plant (WWTP)

The majority of Denham and the areas closest to the coastal foreshore and Knight Road have been provided with sewerage through an infill sewer program. Some of the northern sections of the main Denham townsite remain unsewered. Those undeveloped properties continue to rely on on-site treatment and disposal systems.



The Denham WWTP is located at Lot 1 Shark Bay Road, Denham and currently comprises 3 oxidation lagoons and 2 infiltration/evaporation lagoons for treated waste water disposal. The plant treats waste water to a secondary standard. Current WWTP design capacity is 500KL/day.

The Waste Water Treatment Plant is located a sufficient distance outside of the townsite so that buffers will not impact on any planned residential areas – refer Figure 8.

Figure 8 – Buffer to Waste Water Treatment Plant
Source: Water Corporation

4.5.3 Stormwater Management

The Shire has examined improved stormwater management options in recent years and gained advice from Greenfield Technical Services to resolve drainage issues in the townsite.

Ground levels increase dramatically in the townsite from south to north so water runoff naturally occurs towards the ocean.

Dealing with drainage for some areas of the townsite has been problematic as:

- a. The total catchment area that drains down into Knight Terrace (between Brockman Street and Durlacher Street) is significant at approximately 95 hectares.
- b. The ocean is located to the immediate south of Knight Terrace and tide levels can vary up to 1.5 metres. At peak tides the sea water can overflow into the grassed and foreshore areas located between Knight Terrace and the beach. There are high tide occurrences where sea water can flow into the Knight Terrace road reserve.
- c. There isn't suitable undeveloped land for construction of retention structures such as a sump or detention basin near the foreshore.
- d. There are areas with shallow water table which limit underground sumps as a solution.

➤ Hughes Street Drainage

A 2007 examination of drainage in the area (concentrating on Hughes Street) identified a series of catchments.

The performance of the drainage system during the 1 in 100 year event was identified as a critical drainage issue in examining options to improve drainage in Hughes Street.

There is an existing drainage sump located in the south east corner of the Hughes Street / Durlacher Street intersection however it has a limited capacity (approximately 660m³) only catering for an annual event. If it was to be incorporated into proposed drainage upgrades then either a second sump would be required for a 1 in 10 year event, or an overflow facility would need to operate. Due to these major constraints, use of the existing sump in future drainage upgrades was not considered a feasible option.

Consequently advice on drainage options in July 1997 identified the best method for disposal of both the 1 in 10 year and 1 in 100 years events was to disperse drainage catchment runoff into Brockman and Durlacher Street allowing it to flow within the road pavement into Knight Terrace. It was also identified that discharge should be split between the two streets.

Since 2007, drainage upgrades have occurred in Hughes Street and have resulted in some increase of runoff into Knight Terrace. Consequently, the Shire has continued to seek independent advice on drainage options for Knight Terrace and cost is a major issue.

➤ Knight Terrace

Ponding may occur at the Brockman Street / Knight Terrace and Durlacher Street / Knight Terrace intersections during large rainfall events. There are limited options for improved drainage and any stormwater dispersed into the ocean would need to be treated (nutrient stripping) and meet Department of Water requirements.

The Shire recently (May 2010) gained advice on a range of basic treatment options including the use of Gross Pollutant Traps (GPT's), secondary and tertiary stormwater treatment devices. All of the current options are costly and there may be further investigation into the pumping stormwater from Knight Terrace to a suitable site uphill.

Examination of drainage improvements are ongoing by the Shire however are subject to cost feasibility. If any future plans do involve discharge into the ocean, then high water quality levels would need to be maintained.

4.5.4 Flood Levels

Areas of the townsite are subject to inundation, particularly those located adjacent to the coast along Knight Terrace. The land along Knight Terrace is low lying and subject to storm surge as it is only two to three metres above the sea level.

As part of a review of the Shire's previous Town Planning Scheme No 2 engineering consultants were engaged to examine the Denham Foreshore Reserve and appropriate foreshore setbacks. The report mainly concentrated on the western end.

The Shire's Scheme requires minimum floor levels not less than RL 3.2 metres AHD for any land subject to inundation. A number of historical buildings are built with lower floor levels, however the minimum levels are applied to all new development.

Planning Implications:

- Water supply is limited and there is a need for continued liaison with Water Corporation over new developments and progression of larger structure plans/subdivision.
- Some local drainage issues need to be resolved in the longer term (however are subject to budget considerations). The low rainfall means problems are limited to specific high intensity rainfall events.
- Lack of sewer in the northern part of town acts as a constraint and approaches need to be made to the government for funding and extension of sewerage.
- Flood levels have been largely examined as part of the development of the current Scheme.
- Currently the Scheme requires minimum AHD levels to be applied to all buildings in areas subject to inundation. Increased flexibility could be examined to allow lower levels for detached non habitable buildings (such as outbuildings).
- The increased floor levels applied to new development will represent a challenge in dealing with streetscape and interfaces between existing buildings and new development of Knight Terrace.
- A flexible approach needs to be undertaken to water management where there is lack of available data, however best practice needs to be encouraged.

4.6 Population and Housing

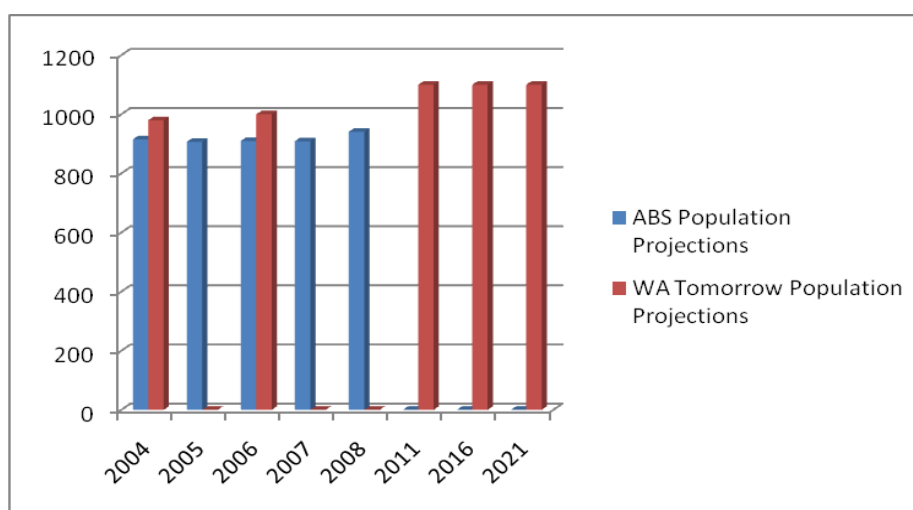
4.6.1 Population – Shark Bay Shire Area

The Australian Bureau of Statistics and WAPC estimate increased population growth for the Shire of Shark Bay as summarised below;

	2004	2005	2006	2007	2008	2011	2016	2021
ABS Population Projections	915	907	910	909	941	-	-	-
WA Tomorrow Population Projections (WAPC)	980	-	1000	-	-	1100	1100	1100

Table 2: Population figures

The WAPC projects a population increase to 1,100 by 2011, and an annual growth of 1.9% between 2008 and 2013 as illustrated below.



Graph 1: Population projections based on figures sourced from ABS projections and WA Tomorrow (WAPC)

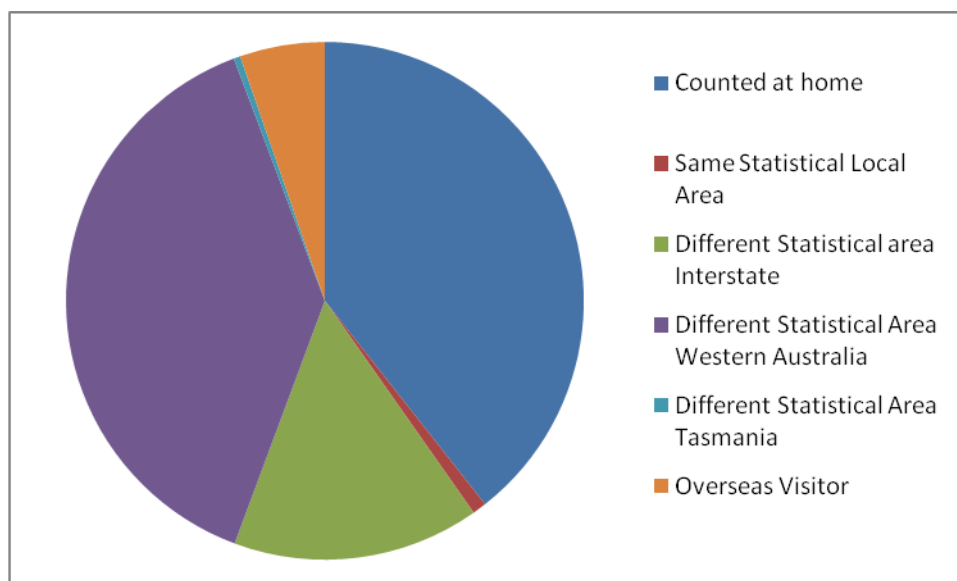
On Census night in 2006, the total number of people counted was 1,943 however this included interstate and overseas visitors.

The WAPC and ABS projections do not represent population pressure caused by service populations such as tourists and seasonal workforces. This is recognised in similar tourist destinations such as Exmouth in the 'WAPC Regional Hotspots Land Supply Update (November 2008)'.

In examining population, it needs to be acknowledged that Shark Bay attracts well over 100,000 visitors per year, and the average projected stay is 5.09 nights. The population impact of tourism particularly is illustrated by examining the 'State of Usual Residence' for the 2006 Census.

Out of the 1,940 total persons, 781 were counted at home or in the same statistical area (40%), and the remainder normally resided outside of the area in WA, interstate or overseas.

The graph below reaffirms the high number of visitors to Shark Bay from within WA.



Graph 2: Illustration of 'State of Usual Residence on Census Night (all persons) based on ABS 2006 census

4.6.2 Population Characteristics – Denham

The majority of the Shire's population resides in Denham therefore it is important to examine the characteristics of the Denham urban population.

For the Strategy, an overview and snapshot of the main population characteristics are examined below. All figures are based on the 2006 Census and persons who usually reside in the Denham urban area.

4.6.2.1 Person Characteristics

The 2006 Census shows that there were 607 persons usually resident in the Denham urban centre (excluding tourists) of which 51.6% were males and 48.4% were females. Of the total population in Denham (Urban Locality) 11.2% were Indigenous persons, compared with 2.3% Indigenous persons in Australia.

4.6.2.2 Age

13.7% of the Denham urban population were children aged between 0-14 years, and 36.1% were persons aged 55 years and over. The median age of persons in Denham was 47 years compared with 37 years for persons in Australia.

4.6.2.3 Labour force and Occupation

During the week prior to the Census, 319 persons aged 15 and over were in the labour force, and 154 usual residents aged 15 years and over were not in the labour force. The most common occupations were labourers (20.1%), managers (17.1%), professionals (15.8%), Clerical and administrative workers (12.8%) and trades workers (11.5%).

4.6.2.4 Family Characteristics

In 2006 the majority of the 164 families in Denham were couples without children (65.9%) compared with 27.4% couples with children and 6.7% single parent families.

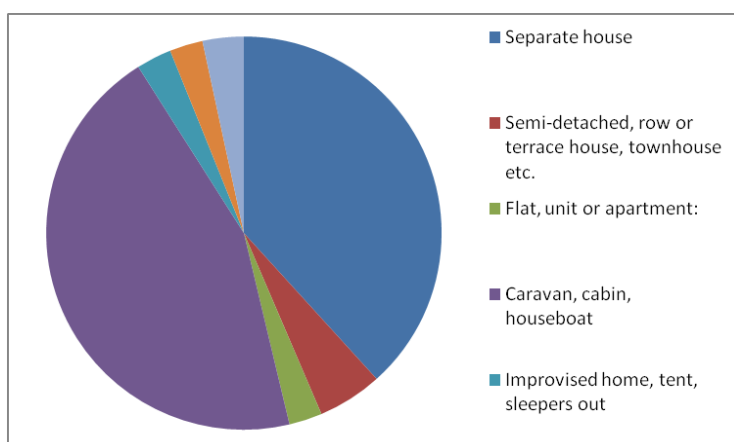
4.6.3 Housing

The 2006 Census shows a dominance of 'other dwelling types' in the Shire such as caravans, tents etc however this is partially a reflection of the high number of visitor population – refer Table 3.

Dwelling Type	1	2	3	4	5	6 or more	Visitor only household	Total
Separate house	48	92	26	26	12	8	31	243
Semi-detached, row or terrace house, townhouse etc. with:								
1 storey	11	10	3	3	3	0	15	45
2 or more storeys	0	0	0	0	0	0	3	3
Total	11	10	3	3	3	0	18	48
Flat, unit or apartment:								
In a 1 or 2 storey block	4	3	0	0	0	0	14	21
In a 3 storey block	0	0	0	0	0	0	0	0
In a 4 or more storey block	0	0	0	0	0	0	0	0
Attached to a house	0	0	0	0	0	0	0	0
Total	4	3	0	0	0	0	14	21
Other dwelling:								
Caravan, cabin, houseboat	19	24	3	0	0	0	300	346
Improvised home, tent, sleepers out	3	0	0	0	0	0	23	26
House or flat attached to a shop, office, etc.	3	7	4	0	0	0	3	17
Total	25	31	7	0	0	0	326	389
Not stated	4	3	0	0	0	0	11	18
Total	92	139	36	29	15	8	400	719

Table 3 – Number of Persons Usually Resident
Source: ABS

Fifty five percent (400 people) were visitors only to the area. The single detached house is still one of the main forms of dwelling type once visitors are disregarded.



Graph 3: Private dwellings based on ABS 2006 census

Despite the above, the dwelling structure from the 2006 census for Shark Bay based on 'Persons in occupied private dwellings (excluding overseas visitors)' also shows a reasonably high proportion of accommodation is through caravans (44%).

Planning Implications:

- Increases in population need to be planned for and accommodated with examination of existing and future available areas for urban growth. This Strategy needs to examine the existing and future availability of land for residential and the impact on infrastructure.
- Population projections do not represent the high number of visitors to the area and pressures that tourism places on local infrastructure. Tourist accommodation and facilities needs to be considered in addition to housing for local residents.
- Any development and works in the Town Centre should be carefully managed so that the character of the area for local residents is not undermined.
- Although not reflected in statistics, informal discussions with the Shire has indicated that a proportion of the population stays in Shark Bay for part of the year, and may reside in other areas, such as Perth, for other parts of the year.
- The average age of persons residing in the Denham Urban area is above the average for Australia.
- There are indications that there is an increasing aging population which has implications on the type of housing that needs to be provided. There may also be a future increase in demand for health care, aged services and a wider variety of housing choice.
- Currently there are not sufficient services to adequately cater for the growing needs of aged persons, as there is no permanent doctor in the area, or a hospital. Population growth through retirees may occur if there are supporting medical facilities.
- In many areas close to the Town Centre construction of higher density development is costly due to topography challenges. Higher densities may be examined for corner lots to facilitate development throughout existing residential areas that have sewer.
- Flexible codes may be replaced by flat density codes to simplify the Scheme. New residential subdivision will still require services such as sewer.

4.7 Economy and Employment

4.7.1 Agriculture

Pastoralism was one of Shark Bay's earliest and longest-running industries. The dry climate was well-suited to merino sheep, and the first pastoral leases were granted in the 1860s. Drought and falling wool prices eventually forced many pastoralists to switch to cattle or goats, or turn to tourism.

Historically provision of fresh water combined with a series of major droughts have represented major problem for continued agriculture. The collapse of the wool market in the 1990s forced stations to further reduce their flocks and look for alternative income.

Stations still operating in Shark Bay include Tamala and Carrarang (with cattle instead of sheep). Tamala Station allows access for visitors and tourists for camping. The coastline of these stations is becoming popular for people with boats and kayaks.

As understanding of Shark Bay's natural values increases, more pastoral lands have been purchased for conservation. Examples include;

- a. Peron, a 100,000 hectare station grazed since 1881, was bought by the Western Australian Government in 1990. It is now the site of Project Eden, a conservation initiative to rejuvenate the degraded ecosystem and release captive-bred threatened species into the wild.
- b. Two other pastoral leases, Nanga and Dirk Hartog Island, have also been purchased in part for conservation by the government. Unfortunately the land has not been rezoned to recognise the conservation status.

4.7.2 Fishing

Shark Bay supports Western Australia's major fisheries for prawns, scallops, snapper and western sand whiting. Fishing is one of the main industries in Shark Bay and is worth millions of dollars. Commercial fishing in Shark Bay became an effective alternative to the weakening Peel Industry in the 1930's.

4.7.2.1 Beach Seine Fishing

Local Shark Bay fishermen, many Aboriginal, used shallow-draught pearling cutters to go net fishing in the shallow and flat areas of the Bay coastline. Their fishing technique is known as beach seining and incorporates knowledge and skills gathered over thousands of years and is still used today.

Shark Bay's beach seine fishery targets mainly sand whiting, however bream, sea mullet, tailor and snapper are also caught. Fishing licenses are limited and cannot be sold or exchanged. They can only be handed down within Shark Bay families which ensures continuation of traditional fishery and that there is careful preservation of fish stocks.

4.7.2.2 Commercial Fishing – Deep water harvest

Larger vessels operating mostly out of Carnarvon, at the northern boundary of Shark Bay, catch a variety of other species. Like the beach seiners these commercial operators work under strict management arrangements, such as restrictions on boat size, catch size and fishing gear.

According to the State Fisheries report for 2008/2009 commercial fishing is a very significant industry in the Gascoyne region, with *'3 of the State's more valuable fisheries – the Shark Bay Prawn, Exmouth Gulf Prawn and Shark Bay Scallop Fisheries – landing combined catches valued in the range of \$40 – \$50 m annually. These fisheries have operated sustainably in the region since the mid 1960s and are internationally recognised as 'best practice' in terms of management and research.'*



Above: Jetty on Knight Terrace foreshore

4.7.2.3 Fishing and Tourist Charters

There are several tourist charter boats available for recreational fishing, snorkelling and diving tours.

4.7.3 Salt Production



Salt (sodium chloride) is an industrial chemical extracted from the sea or saline inland waters by solar evaporation, and in other countries by mining naturally occurring deposits. The salt so produced includes chemicals such as magnesium and potassium chlorides, sulfates, iodides and bromides. It is used for human consumption and industrial chemical processes.

Since the early 1960s, salt has been produced and harvested from large evaporative lagoons on Heirisson prong by Shark Bay Resources Ltd and then stockpiled for export.

In 1973 Mitsui invested in Shark Bay Salt Joint Venture and expanded sales to a range of Asian countries. In February 2005 Mitsui increased its holding in Shark Bay Salt to 100%.

The mine has a small closed townsite for workers which is not generally open to visitors. Facilities such as an elementary school are provided for workers and their families.

4.7.4 Pearl Farm

The Blue Lagoon Pearl Farm is located just off Red Bluff and is approximately an 8 minute boat trip from Monkey Mia across Red Cliff Bay. The farm involves seeding, cultivating and harvesting of pearls. The farm is also open to tourists for daily tours.

The Blue Lagoon Pearl Farm are leaders in hatchery technology and can produce approximately 18 million baby shell in only 8 weeks.

Blue Lagoon Pearls started operations in late 1993 at Red Cliff Bay, off the Peron peninsula, have been operating for over 17 years and have three licenses in Shark Bay.

While being built upon Pearling and Fishing industries, Denham and the surrounding areas rely more and more upon tourism for employment and growth.

Planning Implications:

- There is a small range of local industries. The main industries are the salt mine, fishing, and there is a high reliance on tourism for employment.
- There may be further opportunities for aquaculture however this depends on the market, stringent environmental requirements and demand.

4.8 Retail and Commerce

The Denham Townsite contains a range of retail services including two local food stores (IGA includes petrol bowsers), a service station, a bakery, a laundromat, a local pottery store, a hotel / motel with local bottle shop, several restaurants and cafes, real estate office, a hairdresser, a TAB, pharmacy , newsagency and post office.

There are also a number of tour booking offices / services and activities available on the foreshore such as quad bike hire / tours. Some of the tourist accommodation units include small gift shops / sale of souvenirs. There appears to be a lack of clothing stores apart from a local surf shop.

Planning Implications:

- The Denham Town Centre will continue to be the main retail precinct servicing both the townsite and the wider Shark Bay locality.
- There is sufficient land available in the Town Centre to cater for a wide range of retail uses and opportunities to consolidate the extent of the 'Town Centre' zone.
- There are peak tourist seasons which have a positive impact on the local economy, however due to the lower permanent population it may be challenging for some businesses to be sustained throughout the entire year.
- The town appears to be relatively well serviced for its small population.
- The main issue is that there is only a relatively small permanent population to support businesses, and there are peak tourist periods which place additional demands on local services.
- Existing local food stores are older developments with poor carparking, access and traffic circulation problems. A new consolidated supermarket with better access would be more beneficial in the longer term, however would be dictated by market forces.
- There needs to be an increased focus over landuse compatibility.

4.9 Tourism and Visitors, including attractors and facilities

4.9.1 Major Attractions and Facilities

The inclusion of Shark Bay on the World Heritage List is a clear recognition of its unique features, special marine environment, and distinctive attractions. There is a wide range of tourist attractions, places to visit and tourist facilities available in the Shire.

Major attractions include the Shark Bay Marine Park, Peron Peninsula, Shell Beach, Eagle Bluff, Dirk Hartog Island, Hamelin Pool, Steep Point, Zuytdorp cliffs, Little Lagoon and Big Lagoon.

Monkey Mia is perhaps the most well know destination in Shark Bay as it is world famous for the pod of friendly dolphins that visit the shore most days to be hand fed in their natural habitat.

Tourist activities include snorkelling, swimming, boating, fishing, camping, diving, and four wheel driving. There are is an extensive variety of commercial tours available to service the tourist industry.

There is also a range of activities available in the Denham Townsite such as the Shark Bay World Heritage Discovery Centre. The Centre not only provides important tourist information but also has a high educational value as it utilises artefacts, specimens, models, photo galleries, and electronic media to inform visitors of Shark bays Indigenous and European culture, maritime and pastoral history, the flora and fauna of the region and its many unique characteristics.

Denham also includes other local attractions such as the foreshore adjacent to the main town centre in Knight Terrace, St Andrews church, the Old Pearler Centre, Pioneer Park and a range of local shops, accommodation and local tours (four wheel drive tours, boat charters for fishing, diving and snorkelling etc).

4.9.2 Visitor Statistics

Based on the annual average of the financial years 2004 / 05, 2005 / 06 and 2006 / 07 the annual number of visitors is 98,500 with an average length of stay of 3.7 days.

Table 4	Average Annual Visitors (2007/08/09)	Percentage
Estimated Visitors		
Domestic	60,000	61%
International	38,500	39%
Total	98,500	100%
Estimated Visitor Nights		
Domestic	274,700	75%
International	93,700	25%
Total	368,400	100%
Average Length of Stay		
Domestic	4.6	-
International	2.4	-
Total	3.7	-

Table 4 – Average Annual Visitors

Source: Tourism WA- Shire of Shark Bay Overnight Visitor Fact Sheet (years ending 2007/08/09)

The majority of domestic visitors were comprised of adult couples, friends/ relatives and families whereas the majority of international visitors were travelling alone. It should be noted however that some of this information was based on a small sample size.

Table 5	Average Annual Visitors (2207/08/09)	Percentage
Estimated Domestic Visitors		
Adult couple	18, 300	31%
Friends/relatives	18, 300	31%
Family Group – parents and children	16,700*	28%
Travelling alone	2,300*	4%

Other	4,000*	7%
Total	60,000	100%
Estimated International Visitors		
Adult couple	14,800	38%
Friends/relatives	3,900	10%
Family Group – parents and children	2,000	5%
Travelling alone	17,700	46%
Other	100*	-
Total	38,500	100%

Table 5 – Types of Visitors

Source: Tourism WA- Shire of Shark Bay Overnight Visitor Fact Sheet (years ending 2007/08/09)

* Small sample size so caution should be used when reporting these estimates due to lower levels of reliability.

The annual average room occupancy rate for hotels, motel and serviced apartments ranged from 56% in 2007, 53.3% in 2008 and 51.4% in 2009 (based on ABS).

Based on information from Tourism WA, the average total visitor expenditure is approximately forty one (41) million.

Table 6	Per Trip (\$)	Per Night (\$)	Total Spent (\$ Millions)
Overnight Visitors			
Domestic (Intrastate and Interstate)	\$492	\$100	\$37
International	\$128	\$48	\$4

Table 6 –Visitor Expenditure

Source: Tourism WA- Shire of Shark Bay Overnight Visitor Fact Sheet (years ending 2007/08/09)

Tourism is a key contributor to and a key growth area for the local economy and plays an important role in generating employment opportunities and supporting local businesses.

Planning Implications:

- There is an increasing focus on tourism for employment and growth opportunities. Tourism is a major industry in the Shire.
- Tourist numbers can vary and are affected by the wider economic climate.
- There are peak tourist seasons which have a positive impact on the local economy.
- Based on the Shires 'Shark Bay Accommodation Supply and Demand Study' and average occupancy rates for 2007/2009, there appears to be sufficient tourist accommodation available in the short to medium term.
- There may need to be some future consideration of increasing the range of accommodation available and whether there is any niche/demand for 4 star accommodation.
- A challenge for the Shire is examination and pursuit of methods whereby the Council can assist in attracting more visitors in the area in off peak times to better utilise the existing infrastructure and provide more continuous support for local businesses reliant on the tourist industry.
- Council also faces the challenge of planning strategically for tourist related uses in a manner that does not compromise the amenity of the town for its permanent residents.
- Due to the World Heritage Listing, much of the development in and around Shark Bay is subject to consultation with a number of agencies, committees and the Ministerial Council.

4.10 Recreation and Open Space

Within the wider World Heritage area of Shark Bay there are large expanses of open space and recreational areas in the form of beaches, extensive national parks, nature reserves and conservation parks.

There are also significant areas (approximately 56,607 hectares) of Unallocated Crown Land, shire reserves and unmanaged reserves. DEC advises that a large portion of the UCL near the Denham townsite is proposed Conservation Park. Adjacent to the Denham Townsite is an extensive Shire common.

In the main Denham Townsite there are also several areas zoned 'Parks and Recreation' under the Scheme including;

- The Foreshore – the foreshore area is located between Knight Street and the coastal waters. Sections of the foreshore are grassed with amenities such as seating, a playground, fish cleaning areas, gazebos, toilets and boat ramps.

Extensive car and boat trailer parking exists adjacent to the foreshore.



Carparking and children's playground in Knight Terrace (July 2010)

- The Oval – There is an existing oval located on Francis Street (Reserve 36163) which is grassed and relatively well maintained. Adjacent to the oval are tennis courts. The Shire is proposing a new recreation centre which will overlook the oval area.



Above: Tennis courts and local oval (July 2010)

- The Bowling Club – the bowling club is a popular local gathering place located adjacent to the oval, on the corner of Francis Road and Hoult Street. There is sufficient land available for any future expansion of the club.
- Reserve 40381 is undeveloped open space which has been kept in a relatively natural form. It is located on the corner of Edward Street and Fletcher Court, with frontage to Spaven Way.
- Reserve 33517 is managed by the Yadgalah Aboriginal Corporation and contains a mini golf course.
- Reserve 49809 is a large Shire common with an approximate area of 1139.2 hectares. The 'common' forms an important part of the Shires history.
- Reserve 32295 is undeveloped, and the Shire has some interest in potential for staff housing development on the land (subject to community consultation and liaison with State and Services).

Planning Implications:

- The area is well serviced by open space and recreation opportunities will be further increased once the Shire develops a new Community Recreation Centre.
- There is no immediate need to plan for any increase of open space, and in future subdivisions the Shire may encourage the use of cash in lieu of land to further enhance existing open space areas.
- Maintenance and minimising water use is a major consideration for open space areas.
- Reserve 36136 is proposed to be used for a wide range of community uses.
- Reserve 33517 is largely used for community services.
- There is potential for infill residential lots on Reserve 32295.

4.11 Community Facilities

The Shire is serviced by a number of community facilities including the Denham Occasional Day Care centre (used for day care as well as some local activities such as craft and bridge), the Shire hall, the Council office (which includes a library), a telecentre, the bowling club, the golf course, silver chain, the local police station, ambulance, a crisis centre and the Shark Bay School with combined kindergarten, primary and secondary on one campus.

The Shire is undertaking several building projects including a planned new state of the art recreation centre / community sports centre, possible upgrading or relocation of the Council office and a new telecentre.

The Shire has evidence of demand and a need for land to accommodate some local organisations such as St Johns Ambulance and State Emergency Services. In the future there may be a need to accommodate a small medical centre.

Planning Implications:

- For a small population there is a good range of local services available, however there is no permanent doctor or hospital in the town which may be a future issue due to aging population/ retiree's needs.

- The Shire is continuing to facilitate and pursue a number of local community building projects which will further enhance the amenities available in the town for local residents and visitors.
- There is evidence of a need for land to cater for some local community services and organisations.

4.12 Rural Landuse, Subdivision, and Development

Significant areas of the Shire outside of the main townsite are contained within the World Heritage area, including Rural zoned land on the two Peninsula and surrounding islands.

Many agricultural farms (and islands) located in the World Heritage area have been acquired by the government for conservation. As some acquisitions have occurred after gazettal of the Scheme, not all conservation areas and national parks are recognised with a 'Parks and Recreation' or 'Conservation' classification.

Three freehold lots have been created on Dirk Hartog Island and are zoned Rural. Retention of the Rural zoning is considered inappropriate and warrants future review (so appropriate landuse controls and environmental conditions can be addressed).

There are still several operating pastoral stations in the south portion of the World Heritage Area such as Tamala and Carrarang. They form part of the limestone dominated landscape between Steep Point and Kalbarri. Limited visitor access is permitted to Tamala however tourism use is incidental and the stations are predominantly still run as a pastoral business.

There has been some proposals for expansion of the Nanga Bay Resort however no plans have come to fruition. Nanga Bay resort is a 25 hectare lot which historically formed part a sheep station and is now used for tourist accommodation.

Outside of the World Heritage area there is a north south wedge of Rural zoned land either side of the North West Coastal Highway. Any minor subdivision within the Rural wedge is to be in accordance with relevant WAPC Policies.

Planning Implications:

- Acquisition of land by government has occurred to protect conservations areas however some conservation areas (such as Dirk Hartog Island) are still zoned 'Rural' under the Shire's Scheme. The government has not initiated rezoning as part of acquisitions, or changes in land lease agreements.
- Any developments in the World Heritage Area may involve consultation with other authorities and have regard to EPA Guidelines specific to the Shark Bay World Heritage Property.
- The main subdivision and development has continued to be within Denham townsite.

4.13 Urban Design, Character and Heritage

4.13.1 Urban Design

There are a number of urban design challenges in dealing with the main Denham Town Centre including;

- a. The Town Centre is an extensive area and the Shire has undertaken several foreshore improvements which contribute to the streetscape, such as grassed areas, seating areas and a children's playground.

- b. There is a steep gradient behind Knight Terrace away from the coast. As recognised by the existing Denham Town Centre Strategy the dramatic change in levels affects the way in which Knight Terrace, Barnard Street and Hughes Street interact.
- c. The identity and history of Denham as a fishing town remains relevant and the town has maintained its relaxed scenic coastal character. This may be further built on through further streetscape works, introduction of plaque walkways, public art and a common theme in streetscape elements.
- d. There is an opportunity to further improve the existing streetscape for local businesses, residents and visitors. The challenge would be to ensure that the relaxed character of the area is not lost and the towns character is enhanced by adding more interest points.
- e. Knight Terrace is extremely long so there need to be attractions / improved pedestrian networks along the whole street to encourage pedestrian traffic from west to east and visa versa.
- f. There is reasonably good pedestrian access along the foreshore, however more developed and defined pedestrian routes may encourage people to walk around the whole town centre area.
- g. Currently the western end has a higher concentration of mixed activities and uses.
- h. Knight Terrace is wide and may benefit from some central median strips for safe pedestrian crossing.
- i. There are extensive car and boat parking areas along Knight Terrace which are functional and necessary, however are somewhat stark in appearance. There may be opportunities to soften the visual impact of extensive hardstand areas by using landscaping or other elements to break up the extensive bitumen (eg limestone/ rock walls for separation to the road, public art, screens).



Extensive hardstand parking areas on the foreshore adjacent to Knight Terrace – (July 2010)

- j. Pedestrian shelters are needed along Knight Terrace for protection from the weather. Verandas, awnings or other forms of shelter may be developed in the medium term.
- k. There is a range of building styles in the Town Centre. The new Shark Bay World Heritage Discovery centre has a distinctive modern style and is a dominant feature of the main street. It will be complemented by the new government office space on adjacent land.

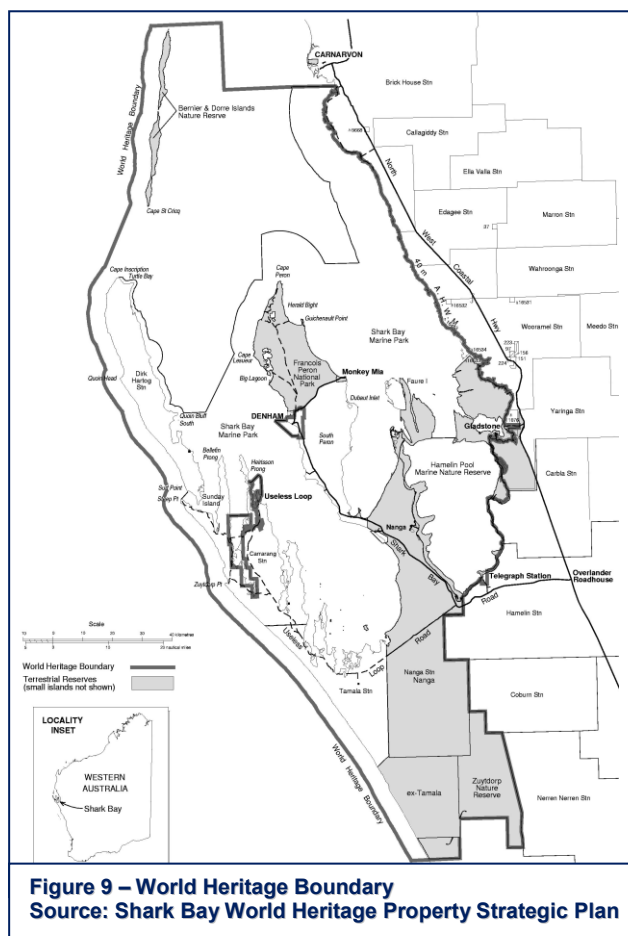
4.13.2 Heritage

4.13.2.1 World Heritage

As explained throughout the Strategy, a large majority of the Shire area falls under a World Heritage area due to its unique qualities – refer Figure 9.

The property encompasses about 22,000 sq km, is 66% marine and has about 1,500 km of coastline. Shark Bay was inscribed on the World Heritage List in 1991 on the basis of its “natural heritage” values.

The World Heritage Boundary is recognised by a Special Control Area under the Shire’s Scheme.



4.13.2.2 State Heritage

The Cape Inscription Lighthouse and quarters on Dirk Hartog Island are listed on the State Register of Heritage Places under the Heritage of Western Australia Act 1990.

Cape Inscription is associated with the first landing by a European in Australia, Dirk Hartog in 1616, and exploration by De Vlamingh in 1697 and by King in 1822. The lighthouse at Cape Inscription has provided a navigational aid to shipping from the time of its construction in 1910 and, as such, has contributed to the safety of sea travel from that time.

4.13.2.3 Shire of Shark Bay Municipal Inventory of Heritage Places (1997)

The Shire of Shark Bay Municipal Inventory lists a number of sites including:

- 40 Mile Water Shed
- Bassett House
- Canning Factory Site
- Cape Inscription Lighthouse & Quarters
- Carrarang Homestead
- Carrarang Lifeboat (ruins)
- Denham Cemetery
- Denham Post Office (fmr)
- Denham Townsite Buildings
- Denham-Hamelin Pool Telegraph Line
- Denham/Shark Bay Fire Station
- Dirk Hartog Island

- Dirk Hartog Island Station
- Flagpole
- Grave of Thomas Carmody
- Hamelin Pool Post Office, Post Master's Qtrs & Telegraph Station (fmr)
- Hamelin Station Homestead & Outbuildings
- Jetty at Denham Townsite
- L'Haridon Bight Shell Spits
- Ma Fletcher's Cottage
- Monkey Mia Grave Site
- Nanga No.1 Bore
- Old Hospital
- Pearl Buyer's Cottage
- Pearl Camps - site
- Peron Homestead
- Peron No. 1 Bore
- Pioneer Museum
- Pioneer Park & Denham War memorial
- Point Petit Bore
- Poland House
- Police Lock-up, Shark Bay
- Ronberg House
- Shark Bay Area
- Shark Bay Honour Roll, foyer Heritage Resort
- Shark Bay Police Station
- Shark Bay Primary School
- Shark Bay Road Board Office (fmr)
- Shark Bay Shire Office
- Shell Quarry
- Shipwrecks
- St Andrew's Anglican Church
- Standring House
- Tamala Homestead, Outbuildings and Cottage Ruins
- Uranie Land Camp
- Winship House
- Wolgedda Pioneer Cottage

The Inventory likely requires updating as some of the buildings listed may have been demolished. Any review and update would be dependent on funding opportunities.

4.13.2.4 *Interpretation and Conservation Management Plan (2004)*

The Shire commissioned an 'Interpretation and Conservation Management Plan' for "Olde Shark Bay" to provide proper guidance for appropriate conservation management, historic interpretation and planning for the future.

The Management Plan examines a number of sites such as;

- Ma Fletchers house – 25 Knight Terrace
- Ronburg House – 29 Knight Terrace
- Bassett house – 31 Knight Terrace
- Pearl buyers cottage – 41 Knight Terrace
- Standring House – 55 Knight terrace

- Old Police lockup – 6 Denham Hamelin Road
- Road Board Office – Francis Road
- Old Jetty – Knight Terrace

Generally the report recommends that places be retained insitu where possible or achieve relocation as a preferred alternative to demolition.

4.13.2.5 Aboriginal Heritage

Places of Aboriginal significance have not been included in the Municipal Inventory however it is an important heritage issue that the Shire is to consider as part of the normal planning process, in consultation with the Department of Indigenous Affairs (DIA).

The DIA has a range of key functions including preserving and protecting Indigenous heritage by supporting the work of the Aboriginal Cultural and Material Committee. Heritage places can be researched by the DIA which has a register system of known and recorded places.

Further sites are likely to exist than are recognised or entered on the Register system and not all sites may not be known by the Department. The Aboriginal Heritage Act 1972 protects and preserves Aboriginal Heritage and culture in Western Australia, including or site or object that is of significance to Aboriginal people, or has historical, anthropological or ethnographic interest.

The Act protects Aboriginal sites whether they or not they have previously been reported or recorded. It is an offence under Section 17 of the Act to excavate, destroy, damage, conceal or in any way alter an Aboriginal site. Prosecution may incur fines of \$20,000 for an individual or \$50,000 for a company.

Areas near water, wetland and river systems are likely to have Aboriginal association or significance.

The DIA prefers that development plans be modified to avoid damaging or altering any site. If this is not possible and in order to avoid a breach of the *Aboriginal Heritage Act 1972*, the land owner should submit a Notice under Section 18 of that Act to the Aboriginal Cultural Material Committee, seeking prior written consent from the Minister for Aboriginal Affairs to use the land.

Cultural Heritage Due Diligence Guidelines have been released by Government to assist land users in complying with the *Aboriginal Heritage Act (1972)* and in identifying reasonable and practicable measures for ensuring that activities are managed to avoid or minimise harm to Aboriginal sites. The Shire refers all Scheme Amendments to the DIA for advice, and can refer developments to the DIA if considered appropriate.

Planning Implications:

- The Municipal Inventory should be reviewed and updated in the future however it is dependent on budget considerations and funding opportunities.
- The World Heritage area is already well protected by other legislation, however appropriate zonings need to continue to be put in place to recognise changes in land tenure or purchase of land by the government for conservation.
- Aboriginal heritage is to be researched as required under the Aboriginal Heritage Act 1972.

4.14 Traffic, Transport and Infrastructure

4.14.1 Road network

Shark Bay Road is the main road connecting into Denham from the North West Coast Highway (which continues on to Carnarvon).

Main Roads WA is responsible for the whole of the North West Coast Highway, Shark Bay Road and Monkey Mia Road in the Shire. Monkey Mia Road provides access directly from the Denham townsite to Monkey Mia (approximately 24 kilometres).

The Shire is responsible for most other roads, although DEC advises they have responsibility for roads in the Shire such as the entry road to Francois Peron National Park. The main Denham townsite is concentrated along Knight Terrace through to Hughes Street. All roads in the town are sealed.

Any Main Roads plans to seal new roads to remote areas of the Shire may have wider implications in terms of increasing uncontrolled access to environmentally sensitive areas, changing characteristics which may be valued by tourists (eg four wheel driving areas) and rubbish management.

4.14.2 Airport

There are several connecting flights per week from Geraldton and Perth to the Monkey Mia airport. The airport is approximately a 10 minute drive from both Denham and Monkey Mia.

4.14.3 Buses

A bus company and a range of tours operating from surrounding major towns along the coast include trips to Denham and Monkey Mia. The majority operate from Perth, Geraldton and Carnarvon.

4.14.4 Sewerage

The original Water Corporation licence area for the Denham Operating Area for provision of sewerage covers the main Denham Town Centre and the immediate surrounds – refer Figure 10.

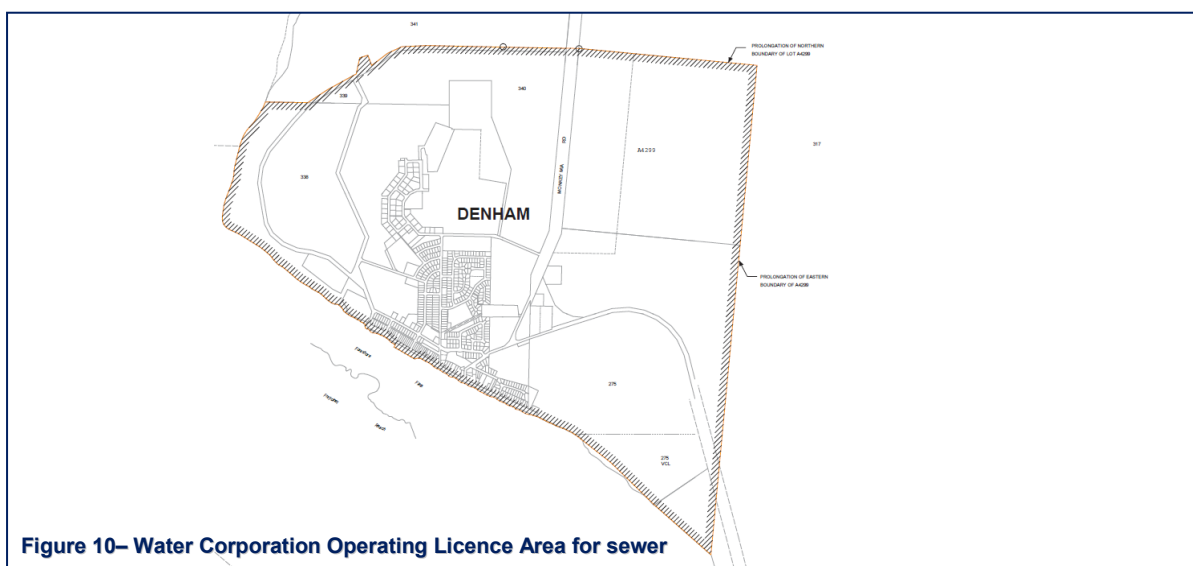


Figure 10– Water Corporation Operating Licence Area for sewer

The Water Corporation no longer have to undergo an extensive process for changes to old operating licence areas.

It should however be noted that sewerage has not been fully extended to the northern sections of town - **Figure 11**. Sewerage has been extended to the west of the Denham townsite to service stage 1 of Landcorp's subdivision (Denham Estate).



Figure 11– Plan showing sewer (not extended to north of town)
Source: Water Corporation

4.14.5 Water

The Water Corporation licence area for the Denham Operating Area for provision of water covered the main Denham Town Centre and the immediate surrounds (for a 6,000 metre radius) – refer **Figure 12**.

As explained in section 4.5.1, Denham is serviced by a dual supply system of saline and desalinated water.

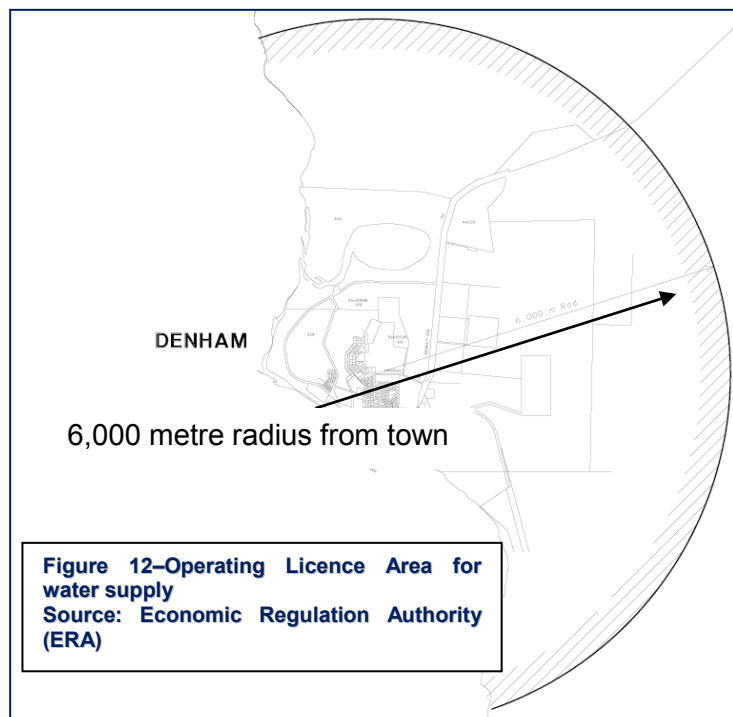


Figure 12–Operating Licence Area for water supply
Source: Economic Regulation Authority (ERA)

Planning Implications:

- Major roads are recognised in the Scheme as Primary Regional Roads, which designation should be retained.
- The local road network is well established.
- The Shire may investigate any funding opportunities for continuing maintenance and upgrading of local roads and drainage associated with roads.
- The local airport is valuable to service tourist needs, and is located in an area where no noise or buffers impact on sensitive landuses.
- Opportunities for sewerage extension to the north need to be pursued.
- Any upgrading by Main Roads needs to involve consultation due to wider implications for tourist management.

5.0 Opportunities and Constraints

The World Heritage listing applicable to a significant portion of Shark Bay creates immense opportunities for tourism which is a major source of employment, as well as promotion of the attractions in the area. There is always opportunity to continue to build on the tourist industry, and Shark Bay has a unique range of attractions.

The low permanent population could be seen as a constraint as increases in population would assist to sustain the local economy and more businesses in non tourist peaks. Population growth is difficult to predict and there is a high transient tourist population for part of the year, which places pressure on local infrastructure. Denham could attract increased population for retirees however currently lacks the services required, such as a permanent doctor, to attract and retain older persons.

For the World Heritage area the Shire is only one of many stakeholders involved in ongoing planning, management and promotion of the area. This in itself could be seen as a constraint as the Shire is often not involved in decisions such as changes in land tenure or purchase of land for conservation.

In terms of physical constraints, the challenges for the Shire include;

- a. The proximity of development to the coast and lack of coastal setbacks. Coastal risks are a planning implication and constraints can be associated with storm surge, coastal processes and setbacks.
- b. Flooding in the Town Centre as a result of major and intense storm events, and need to implement minimum floor areas which causes streetscape and design challenges for interaction between existing and new development.
- c. The topography of the townsite which results in high construction costs, and presents difficulties in provision of pedestrian links and bike paths.
- d. Drainage issues and natural water runoff. Recognition of limited available information for water management.
- e. Limitations on further infill development in the north portion of the town due to lack of sewerage extensions.
- f. Water quality and need to preserve water.
- g. Maintenance of buffers to the Waste Water Treatment Plant.

- h. Buffers to the local airport and Waste Water Treatment Plant (although they are relatively distanced from the town).
- i. Lack of land available for drainage basins or ponds.
- j. Buffers to the local airport and Waste Water Treatment Plant (although they are relatively distanced from the town).
- k. Expansion to the north is constrained by the existing Industrial area and substantial areas zoned for 'Parks and Recreation'.

Opportunities include;

- a. The Shire has an existing land bank of 'development ready' released residential lots so can cater for any sudden unexpected increase in population growth. Population increases in regional areas can occur suddenly as a result of industry booms (eg mining / tourism).
- b. The Shire is serviced with an excellent school which services the needs of families by catering for kindergarten, primary and high school students.
- c. The Shire is proactively undertaking a number of significant building projects to improve services for its local community, such as a new recreation centre and telecentre. There is an opportunity to relocate the Shire office and a new government office space is planned in Knight Terrace, and will house a number of agencies including DEC.
- d. There are opportunities to further enhance the attractiveness of the town through an urban design study and continuing streetscape improvements. It would also be beneficial to expand on the existing pedestrian networks and seek funding for bike paths.
- e. Consolidating the Town Centre zone, refining the scheme provisions to include specific objectives and roles for the precincts identified in the Town Centre Strategy, and limiting retail uses to specific locations.
- f. Reducing and refining the number of Special Use sites in and around the townsite, and consider introducing 'Development' zones subject to structure plans. Examining opportunities for increased development flexibility where possible.
- g. Ensuring any retained 'Special Use' zones list landuses that are defined in the Scheme.
- h. Reviewing the permissibility of uses for some Special Use sites near to existing residential areas.
- i. Considering broadening of landuse permissibility's for undeveloped Special Use sites.
- j. Changing the zoning of Dirk Hartog Island and other areas that have been clearly designated by the government for conservation, or to recognise changes in land tenure / pastoral leases.

- k. Longer term urban development can occur to the west of Denham once existing areas are fully developed.
- l. Amendment No 2 has been gazetted and has create flexibility for the establishment of new businesses. Amendment 2 expanded on permissible uses for Part North Loc 59 Denham-Hamelin Road, Denham.
- m. The area is well serviced with tourist accommodation and continual improvements to infrastructure can be pursued. A future Tourism Strategy may be pursued.
- n. There are outstanding scenic attributes throughout the Shire area and coastal views.
- o. The Shire is well serviced with public open space and a planned Recreation Centre.
- p. Promoting the local Industrial area through entry statements and signage from town.
- q. Planning for future businesses that may have larger land requirements, such as service commercial.

6.0 Key Issues

The “Planning Implications” for Sections are explained throughout Part 2 of the Strategy for ease of reference.

The Shire already has a number of sound strategic planning documents, such as the Town Centre Strategy, which can be further built on through the Local Planning Strategy and any future Scheme Amendments or Scheme review.

One of the key issues for Denham is sustaining existing businesses throughout the year as tourist numbers fluctuate and are seasonal. Another key issue for the Shire is attracting an increased permanent population and to diversify employment and business opportunities.

Tourism is an important industry for the Shire however does place pressures on ongoing maintenance of infrastructure. The Shire has relatively limited resources and has to balance the need to service tourists whilst trying to preserve amenity for the local community.

Due to the amount of existing available subdivided residential land, opportunities for further expansion to the west combined with undeveloped special use sites, the Shire is considered to be well catered for in terms of current and future residential supply.

Denham Townsite is an important node and local centre in the Shire. Continued streetscape improvements could build on the existing attractions of the town. It is important to try and retain the relaxed atmosphere associated with the town, as that is one of major attributes.