
WILSON INLET MANAGEMENT AUTHORITY
&
SHIRE OF DENMARK

DENMARK FORESHORE, WILSON INLET
MANAGEMENT PLAN



WATER RESOURCE MANAGEMENT SERIES

WATERS AND RIVERS COMMISSION REPORT WRM1 1996



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DENMARK FORESHORE WILSON INLET

MANAGEMENT PLAN

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the Shire of Denmark and
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Preface

The Denmark Foreshore is a significant part of the Denmark landscape, from both cultural and geographical perspectives. As this plan shows, the community holds this area in high regard.

The Shire of Denmark and the Wilson Inlet Management Authority have responded to the community by preparing this management plan for the Denmark Foreshore. The process of its preparation has been community-based, and has involved both the Shire Council and WIMA in detailed assessment of the plan's contents.

The community has had the opportunity to comment on aspects of the draft plan through workshops and submission periods. This provided detailed feedback, and ensured that the plan takes account of community wishes and addresses all the important issues.

We believe that this process has provided us with a clear and far-sighted management plan for the Denmark Foreshore, which is understood and supported by the community. We ask for your assistance in supporting the implementation of this plan.



Cr Jan Nekel
President
Denmark Shire



Mr Matt Stephens
Chairman
Wilson Inlet Management Authority

The Community Vision for the Foreshore

"The Denmark Foreshore in twenty years' time is a place where....

- the vegetation and landforms around the Inlet provide a natural green belt and a buffer between the urban/rural development of Denmark and the Wilson Inlet;*
- the natural vegetation has been enhanced from its present state through revegetation and rehabilitation of degraded areas; and*
- a range of well-designed and well-managed recreational facilities, highly valued by the community, are available in specific development nodes."*

Summary of Plan

This Plan provides a management framework for part of the foreshore of Wilson Inlet. The area covers reserves only, and runs from the Denmark Rivermouth to the mouth of the Inlet, as shown in the map opposite.

A wide range of management issues have been identified, and the key issues are summarised below. A zoning plan dealing with these issues has been devised after careful examination of the social and environmental aspects of the area (see Map 2 in Part 4).

This zoning plan provides *recreational development nodes* along the foreshore. These are surrounded by conservation areas, some of which will cater for passive recreation as well.

The plan is to concentrate recreation in specific manageable areas, to prevent the spread of recreational development all along the foreshore. The recreation nodes should cater for the full range of recreational activities considered appropriate for the Denmark Foreshore.

Management Issues

A wide range of management issues have been considered in the development of this Plan. The key issues are outlined below.

Vegetation Clearance

Foreshore vegetation plays an important role in the natural function of waterways. It traps nutrients and pollutants draining from surrounding land, and helps to reduce erosion by stabilising banks. Foreshore areas also provide valuable habitat for waterbirds and other fauna. The maintenance and enhancement of this valuable resource is therefore essential.

The recommendations in this Plan are intended to control clearing along the foreshore, maintain the existing vegetation in a natural and healthy state, and re-establish vegetation in degraded areas.

Fauna Protection

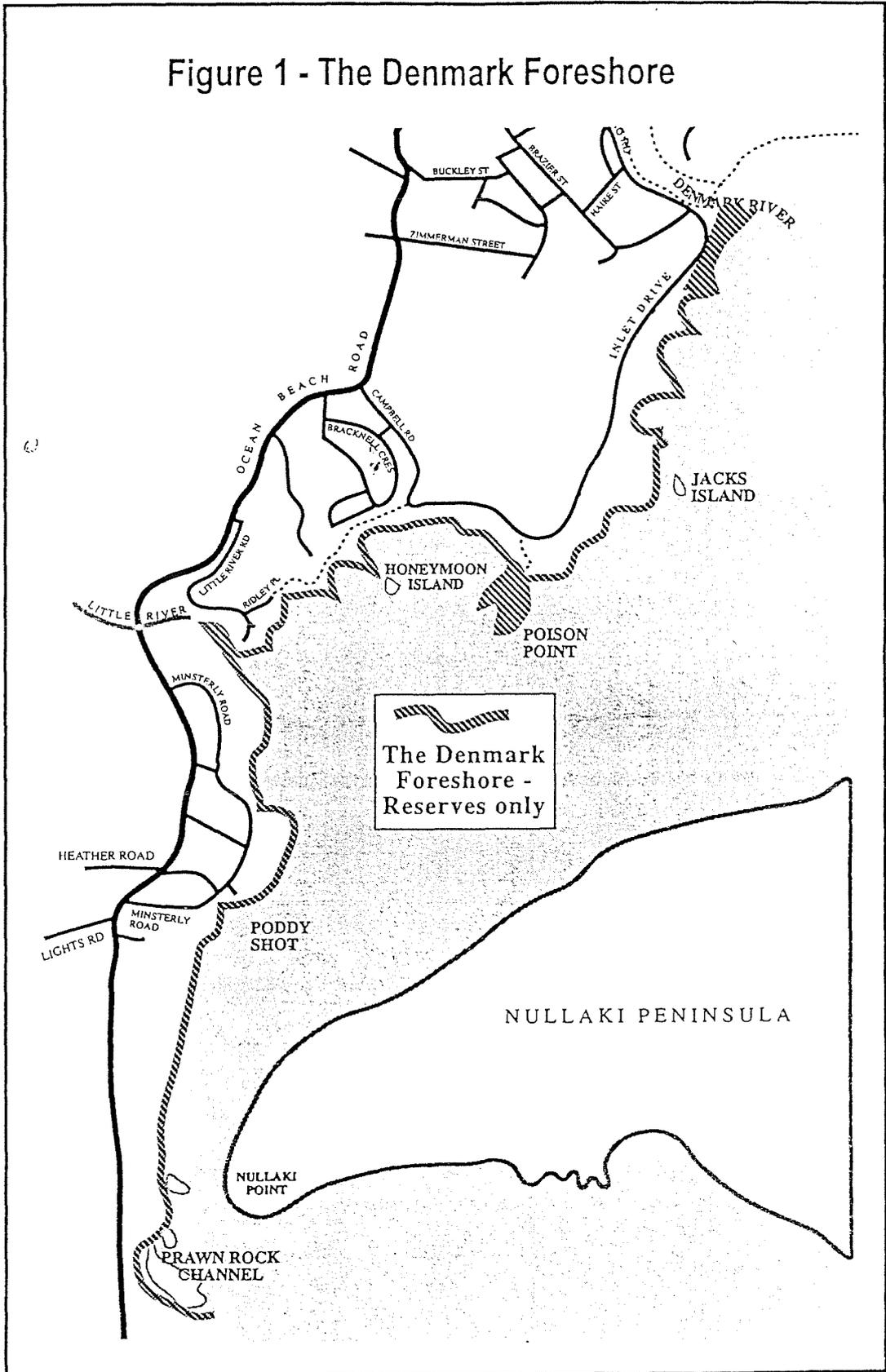
The foreshore provides areas of importance for native fauna, in particular birds (including waterbirds, waders and other birds) and terrestrial animals such as bandicoots. However little is known about the fauna along the foreshore.

The Plan recommendations are intended to ensure the continued provision of adequate habitat for terrestrial fauna, and protection for waterbirds and waders on the Inlet. Fauna surveys along the foreshore should be undertaken to properly identify areas with significant fauna populations. This will assist in developing more specific management controls for the protection of fauna.

Landscape Protection

The Denmark Foreshore provides a visual backdrop to the Inlet. Significant community concern exists over the impacts of any structures on the natural scenic beauty.

Figure 1 - The Denmark Foreshore



This Plan includes a list of general landscape and building guidelines. All buildings on the Denmark Foreshore reserves should comply with these, to ensure that all foreshore structures complement the landscape.

Public Access

The public has a right to access the Inlet via foreshore reserves. A number of well-defined access points already exist along the foreshore, many with a long history of use. This Plan embodies a commitment to continue public access, and to manage access to minimise degradation of the environment.

Recreation Management for the Foreshore

Environmental damage and conflict between land uses along the Denmark Foreshore is likely to occur if there is no planning and management of recreation along the foreshore.

A list of general recreational guidelines is included in the Plan. Compliance with these should ensure that all foreshore recreational developments are compatible with the natural environment and aesthetic qualities of the foreshore. This will also reduce conflicts between different recreational uses.

Recreational Development Areas

All recreational use of the foreshore has the potential to degrade soils and vegetation. Careful management is required to ensure sustainable use of foreshore recreational areas.

This Plan will concentrate recreation in a number of high quality, well-designed recreation areas and facilities. These are called recreation areas and sites, and will have minimal environmental impact.

The development areas chosen include existing sites and new sites best suited to taking additional recreation pressures. They will collectively cater for the full range of recreational activities considered appropriate for the Denmark Foreshore.

Specific recommendations are provided to deal with the most pressing management issues for these nodes, in particular management of vegetation.

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Part 1 - Management Directions

1.1 Planning Context

Background

The Denmark Foreshore is part of a rapidly growing town, located in an area of great natural beauty.

As a consequence, the Denmark Foreshore and adjacent areas are attractive for many different and competing land uses. These include residential, recreational and commercial developments.

Increasing pressure for development on the Denmark Foreshore of Wilson Inlet, in particular intensive recreational development, has highlighted the need for a planning and management strategy. Both the Shire of Denmark and the Wilson Inlet Management Authority (WIMA) have acknowledged the need for a management plan.

This Management Plan provides guidance and direction for current and future planning of land uses and land management along the Denmark Foreshore. It is based on information about the area and substantial community consultation.

The Denmark Foreshore is extensively used for community-based recreation, and also has significant environmental value. This Plan is directed primarily at protection of these two aspects.

The Denmark Foreshore comprises a number of reserves vested in the Denmark Shire, which the Shire is responsible for managing. The Wilson Inlet Management Authority is responsible for managing the foreshore land associated with the Wilson Inlet. WIMA's overall aims are to protect the waterway environment and provide for long-term sustainable use.

This Management Plan defines planning zones for the Denmark Foreshore. These will guide decisions made by the Denmark Shire Council and WIMA, and assist them in management and in responding to community concerns.

The Plan has been jointly funded by the Denmark Shire and the Wilson Inlet Management Authority.

The Principle of Sustainable Use

Environmental deterioration can be slow and difficult to notice, taking place bit by bit over periods of many years. Constant checking is required to recognise and avoid such deterioration.

A commitment to avoid this long-term deterioration of the foreshore environment underpins all decisions about land use in this Plan. The primary purpose of any land use decision is to maintain the environmental quality of the foreshore for the long-term enjoyment of the community. This is "sustainable use" of the foreshore.

Definition of the Denmark Foreshore

The Denmark Foreshore covered by this Management Plan consists of a line of reserves stretching along the Inlet foreshore from the Denmark Rivermouth to the cliffs at the mouth of Wilson Inlet. It is shown in Map 4.1 in Part 4. The reserves are also shown on Map 4.1, and are listed with their vesting in Appendix 5.1.

The Values of the Denmark Foreshore

Wilson Inlet has been an important component of the Denmark culture for many years. This is due to its close proximity to Denmark and its location between the town and the ocean. The foreshore is attractive as a recreational resource, and a place with significant local history.

The Denmark Foreshore fulfils a great variety of roles by:

- providing habitat for birds and other fauna;
- protecting the fringing estuarine environment;
- providing a natural vegetation buffer that protects the soil from erosion, reduces sedimentation of the Inlet, and helps prevent pollutants from entering the Inlet;
- protecting nature, heritage and landscape values in the area;
- providing opportunities for passive and active recreation, for residents and visitors; and
- contributing to the region's tourism industry.

The character of the Denmark Foreshore is vulnerable to degradation. The foreshore should not be the site of development activities that do not require a foreshore location, are already available, or could be successfully sited elsewhere in the Denmark area.

The community vision for the area requires that management of the foreshore should ensure:

- protection of natural landscape features;
- access to the Inlet shore and foreshore reserves for low-impact recreation; and
- provision of a range of recreational developments that cater for all ages and interests.

1.2 Planning Process

The development of this Plan involved the Denmark Shire Council, the Wilson Inlet Management Authority (WIMA), the Denmark community, and the Denmark Foreshore Plan Advisory Committee (DFPAC).

The process of producing the Plan was primarily carried out by the DFPAC (in consultation with the community), and through the Shire Council and WIMA.

The Committee had significant public representation, with membership as follows:

Mrs Sandra Shakespeare	Community Representative
Ms Diane Harwood	Community Representative
Mr Sam Warne	Community Representative
Mrs Sandy Carter	WIMA Representative
Mr Rob Versluis	Denmark Shire Representative
Mr Phil Shephard	Denmark Shire Staff
Mr Anthony Sutton	WIMA Staff
Mr Simon Neville	Planning Coordinator and Committee Chairperson

The major functions of the Committee were:

- to plan and oversee the planning process, including public participation and information gathering;
- to participate in the planning process, in particular the development and refinement of planning principles, management issues, and a management zoning plan;
- to provide briefings to representative groups or sections of the community, and to gather information from these groups; and
- to consider findings and information from previous reports and studies and incorporate these as appropriate.

The Committee held approximately 20 meetings over nine months from September 1994 to June 1995, during which all aspects of the Plan were discussed.

Community Input

The contribution of the Denmark community has been critical in the development of this Management Plan.

In the initial planning stage, a leaflet was produced outlining the aims of the planning process, and calling for comments on the foreshore. Over forty submissions were received, which was an excellent response.

A general attitude to the foreshore was evident in public submissions. The community wants opportunities to access and enjoy the foreshore, but above all, wants it protected for the future.

These responses were important to the Committee's initial discussions on the general planning framework and the zoning strategy.

Representatives of community groups and some commercial interests with proposals for the foreshore have addressed the Committee.

Further major community input to the Plan prior to its release as a draft document was provided through a workshop held on 13 May 1995.

1.3 Management Plan Objective

The objective of the Management Plan for the Denmark Foreshore of Wilson Inlet is consistent with the objectives of the participating bodies: the Denmark Shire Council and the Wilson Inlet Management Authority. It is:

To manage the foreshore so that it remains essentially as it is, the scarce and beautiful surround to the Inlet, while continuing to provide for a range of recreational demands.

1.4 Foreshore Zoning Plan

The Zoning Plan for the Denmark Foreshore is based on discussions with the Denmark Foreshore Plan Advisory Committee, in consultation with the Denmark community. The Plan responds to a broad range of management issues, and provides a guide for the future planning and management of the Denmark Foreshore.

Planning Zones

Planning zones show the main planning purpose for sections of the Denmark Foreshore. The Zoning Plan provides for protection of the special values of the foreshore, while accommodating the largest possible range of land uses. Zones are also used to address foreshore management issues.

The full zoning scheme is shown in the Zoning Table opposite, and includes purpose, appropriate activities and management guidelines for each zone. The zoning of the Denmark Foreshore is illustrated in Map 4.2 in Part 4.

The three zones in the scheme are as follows:

1) *Conservation*

Purpose: To conserve the ecological, historical and landscape values of the Denmark Foreshore.

2) *Conservation / Passive Recreation*

Purpose: To ensure the conservation of ecological, historical and landscape values of the Denmark Foreshore, while providing for certain compatible passive recreation activities.

3) *Recreational Development*

Purpose: To manage recreational development on the Denmark Foreshore in a manner that minimises the impact on other values, and in a manner that is compatible with the long-term maintenance of the entire foreshore environment.

Appropriate Activities

The Denmark Foreshore Plan Advisory Committee discussed land uses for the Denmark Foreshore at length, and agreed to a set of principles to guide land use decisions.

The principles were used by the Committee to produce lists of acceptable activities for each foreshore planning zone. These activities are shown in the Zoning Table.

Management Guidelines

A set of management guidelines has been produced for each zone. These are listed in the Zoning Table. Any decisions on the introduction of acceptable activities into any area, or the management of existing activities, must take account of the Guidelines.

Recommendation

- 1 *(Priority Recommendation) That the Denmark Shire Council and WIMA accept the Zoning Plan presented here, as a plan for the development and management of the Denmark Foreshore.*

	Conservation Zone	Conservation / Passive Recreation Zone	Recreational Development Zone
Purpose	To conserve the ecological, historical and landscape values of the Denmark Foreshore.	To ensure the conservation of ecological, historical and landscape values of the Denmark Foreshore, while providing for certain compatible passive recreation activities.	To manage recreational development on the Foreshore in a manner that minimises the impact on other values, and in a manner compatible with the long-term maintenance of the entire Foreshore environment.
Examples of Activities & Land Uses [Acceptable in normal circumstances with proper management, and subject to the management guidelines below.]	<ul style="list-style-type: none"> • Photography • Walking • Bird watching • Walk trails 	<ul style="list-style-type: none"> • Photography • Walking • Bird watching • Walk trails • Lookouts • Picnicking • Dog exercising 	<ul style="list-style-type: none"> • Photography • Walking • Bird watching • Walk/bicycle trails • Lookouts • Picnicking • Dog exercising • Swimming • Cycling • Wind surfing • Toilets • Jetties • Prof. fishing access • Car parks • Boat landings • Boat launching • Kiosks • Club rooms • Marinas • Support facilities for water-based activities • Sailing • Motorboat hire • Restaurant • Houseboat mooring
Management Guidelines	<ul style="list-style-type: none"> • This zone will be managed to maintain and enhance habitat for flora & fauna. • Human activities consistent with the primary purpose will be allowed, subject to suitability at specific sites. This does not include development for active recreation, further buildings or other built facilities. • No vegetation clearing - except for rehabilitation purposes and approved access paths. • Only controlled foot access will be permitted/encouraged. • Only limited and careful signposting. • Prescribed burning should only take place when specifically required by an approved fuel reduction/fire management plan. • Site plans of specific areas may be required to be prepared prior to development of access paths. • Regular monitoring of impacts and for adherence to conditions is the responsibility of the Denmark Shire and WIMA. 	<ul style="list-style-type: none"> • The zone will be managed to maintain and enhance habitat for flora & fauna, while allowing for some passive recreational activities. • Passive recreational activities which are consistent with the primary purpose, and require limited built facilities will be allowed, subject to suitability at specific sites. • Development will be limited to passive recreational facilities such as lookouts, walk trails and board walks. • Vegetation clearing should be limited to the absolute minimum, and facilities shall be designed to suit the natural environment, not alter it. • Some existing recreation areas may require redesign and rehabilitation. • Access should primarily use established paths, which should be managed in accordance with the purpose of the zone. • Any prescribed burning needs to be assessed on a site-by-site basis, subject to an approved fuel reduction/fire management plan. • New requests for recreation facilities should be carefully assessed for suitability and necessity. • Site plans of specific areas may be required prior to development of access paths and other facilities. 	<ul style="list-style-type: none"> • The zone will be managed to facilitate recreational developments which will service and benefit the community, but have minimal impacts on the environment. • Recreational developments for passive and active recreation which are consistent with the primary purpose will be allowed, subject to suitability at specific nodes or sites shown in the Tables in Section 2 A7. • Recreational development in these nodes should not affect the amenity of surrounding areas. • Vegetation clearing should be strictly limited to that necessary to provide the approved facilities. • All site planning should take account of possible flood effects associated with possible future water levels in the Inlet. • Built components should follow the General Landscape and Building Guidelines in Section A-3. • No large scale commercial developments will be allowed. • Shore-based activities required for Inlet management should be located in appropriate recreational development nodes. • Site development must allow for community input, and all buildings or other development considered on a case by case basis, subject to planning guidelines, in accordance with the purpose of this zone. • Site plans of development nodes must be prepared prior to the further development of facilities.
Notes	There is a non-conforming use - cycling - along the Campbell Rd/Ridley Place Dual Use path, in an area zoned Conservation. This should be retained.	Dogs are expected to be exercised on a leash.	There is a non-conforming use - Caravan park - in the Denmark Rivermouth site, which is in an area zoned Recreational Development. This should be retained in the immediate future.

Table 1 - Zoning Table

Part 2 - Management Issues

A - Management Issues within the Foreshore Reserves

A1. Flora

Background

The Denmark Region lies in the South West Botanical Province, Darling Botanical District, Warren sub-district. This sub-district is typified by tall forests of karri, with forests of jarrah and marri on leached sands. Paperbarks and sedge swamps occur in the valleys.

The vegetation along the Denmark Foreshore can be grouped into the following main vegetation associations:

- Shrub/Sedge Communities - dominated by the rush *Juncus kraussii*, as well as samphire (*Sarcocornia quinqueflora*)
- Shrubland/heathland
- Paperbark Woodland (dominated by *Melaleuca cuticularis*)
- Schlerophyll Woodland - dominated by marri (*E. calophylla*) and jarrah (*E. marginata*) trees, with melaleuca
- Schlerophyll Forest- dominated by marri and jarrah trees
- Schlerophyll Tall Forest- dominated by karri (*E. diversicolor*) trees.

Preliminary flora lists are included in Appendix 5.2.

Foreshore vegetation plays an important role in the natural function of waterways, providing valuable habitat for waterbirds and other fauna. Foreshore vegetation also reduces nutrients and pollutants draining from surrounding land, and may help minimise erosion by stabilising the waterway's banks. Maintenance and enhancement of this valuable resource is essential. Unauthorised vegetation clearing in foreshore reserves is prohibited under the Waterways Conservation Act.

In areas where foreshore vegetation is degraded, regeneration and revegetation may occur. Although regeneration is preferable, in areas of severe degradation it may be necessary to replant local species. Erosion control techniques should be employed where appropriate.

Issues

- The vegetation of Denmark Foreshore reserves is subject to great pressure from clearing for new or expanded activities. There is also gradual degradation from foot traffic, as well as the invasion of weeds.
- Vegetation clearance or degradation is evident in a number of areas, in particular where landowners have created views of the Inlet through the Denmark Foreshore reserve. Rehabilitation of foreshore areas should be encouraged. Continual vigilance and monitoring are required to avoid incremental loss of vegetation.

DENMARK FORESHORE PLAN

Objectives

To control clearing along the Denmark Foreshore, and maintain the existing vegetation in a natural and healthy state.

- To rehabilitate (using local plant species) Denmark Foreshore areas degraded by past and present land uses.

Recommendations

- A1.1 Clearing of native vegetation in Denmark Foreshore reserves should not be permitted, other than in areas required to facilitate the objectives of this Plan.*
- A1.2 Penalties for unauthorised clearing of native vegetation, and dumping of garden waste in the Denmark Foreshore reserves should be enforced.*
- A1.3 Clearing permits for the removal of introduced/foreign plant and tree species or to assist in the regeneration of local species should only be implemented by qualified or properly-supervised people.*
- A1.4 (Priority Recommendation) A Denmark Foreshore rehabilitation plan, consistent with relevant policies of the Denmark Shire and WIMA, should be prepared. This should identify degraded areas, and include a programme for their revegetation with existing or compatible species,.***
- A1.5 Clearing of vegetation under permit, other than for weed control, should be permitted only in Recreation and Development Zones and consistent with an approved site plan.*
- A1.6 Strategic revegetation should be considered as a condition of certain necessary clearing.*
- A1.7 The Denmark Shire Council and WIMA should undertake a program of public education regarding the values, uses and protection of Foreshore vegetation.*
- A1.8 (Priority Recommendation) The Denmark Shire Council should investigate issuing foreshore clearing regulations and policies to owners of properties with a boundary in common with the Denmark Foreshore reserve:***
- i) On receipt of rezoning applications;*
 - ii) On receipt of subdivision applications;*
 - iii) Following transfer to new property owners; and*
 - iv) With the issue of a building licence.*

A2. Fauna Protection

Background

The Denmark Foreshore provides a habitat for both land and water based animals. With continued clearing of the adjoining land for housing, the foreshore area is becoming an important refuge for the fauna of Denmark, particularly threatened species such as the Southern Brown Bandicoot.

The foreshore vegetation can also minimise disturbance to waterbirds and waders feeding in the shallow waters of the Inlet.

Issues

- Little is known about the fauna along the Denmark Foreshore, particularly terrestrial animals. A preliminary fauna list is included in Appendix 5.3.
- Activity along the foreshore, including vegetation clearing, clearly disturbs fauna habitat, and may impact on existing populations.

Objective

- To ensure the continued provision of adequate habitat for terrestrial fauna, and protection for waterbirds and waders.

Recommendations

- A2.1 *Clearing of native vegetation in Denmark Foreshore reserves should not be permitted, other than in areas required to facilitate the objectives of this Plan.*
- A2.2 *(Priority Recommendation) Fauna surveys along the Denmark Foreshore should be undertaken to properly identify areas with significant fauna populations, and to establish more specific management controls for the protection of fauna. Such fauna surveys to include an investigation of the impact of feral and domestic animals, and habitat disturbance on the fauna of the Foreshore.*
- A2.3 *Following the completion of the Fauna survey, the Denmark Shire Council and WIMA should undertake a program of public education regarding the importance of preventing their domestic animals from straying into the Foreshore reserve.*

A3. Landscape Protection

Background

The Denmark Foreshore has played a substantial part in local history. Significant community concern exists over the impacts of any structures on the natural scenic beauty.

A number of historic sites are located along the Denmark Foreshore. It is important that designs for facilities and buildings are in keeping with the aesthetics of the natural foreshore environment.

Plans for foreshore sites should consider incorporating the character of historical sites such as Randall's Boat Shed and Rickett's Store, and past activity such as the existence of Aboriginal fish traps or long-standing fishing use on the Inlet.

Issues

Without guidelines for building design and siting (including associated structures such as car parks, signs, fences and railings), the quality and aesthetics of the foreshore may be impaired. Furthermore, without coordination different buildings or structures may fail to complement each other.

Objective

To ensure that all structures located on the Denmark Foreshore complement the visual qualities of the surrounding landscape.

General Landscape and Building Guidelines

- Alterations to the landscape should be subtle, remaining subordinate to its natural elements by borrowing extensively from form, line, colour, texture and scale of the surrounding landscape;
- Where structures are required, their designs, materials and colours should complement surrounding landscape elements, and they should be carefully sited away from major natural focal points (such as headlands or ridgelines). Vegetation or landform screening should be used;
- The visual impact of any development on the view from the Inlet itself should be considered. Visual impact assessment of developments should be included with the application for development;
- Degraded landscapes such as earthworks associated with a new facility or structure should be rehabilitated immediately after completion of construction.

Recommendation

- A3.1 *All buildings on Denmark Foreshore reserves should comply with the General Landscape and Building Guidelines.*

A4. Public Access

Background

The public has a right to gain access to the Inlet along the foreshore reserve. A number of access points already exist, many with a long history of traditional use.

There are concerns within the community that public access may threaten the security of private property along the foreshore.

Any poorly managed access point has the potential to contribute to degradation of the foreshore. For example, uncontrolled access can cause accelerated erosion of foreshore areas and destruction of important foreshore vegetation.

It may be necessary to formalise access points, and limit the use of unmanaged tracks. Access should be restricted where this will cause degradation of vegetation or soils, or disturb native animals dependent on the foreshore environment.

Issue

Whilst there is a commitment to public access, it must be balanced against the need to protect and properly manage the foreshore.

Objective

To maintain public access to the Denmark Foreshore and Inlet without causing degradation of the environment.

Recommendations

- A4.1 *All necessary existing public access points (listed in Section A7) should be maintained, monitored and, where necessary, re-designed in accordance with the above objective.*
- A4.2 *Points of access should be sited and designed to be environmentally sustainable.*
- A4.3 *Public access to waterbird habitat and breeding grounds should not be provided or encouraged where it is to the detriment of these areas and their fauna values.*
- A4.4 *Access should be managed through education and the minimal use of signs and rails.*

A5. Aboriginal and European Heritage

Background

The western foreshore of Wilson Inlet contains a number of sites which form part of Denmark's Aboriginal and European heritage.

Evidence of Aboriginal use of the foreshore survives in the form of archaeological sites, such as stone fish traps. The use of the foreshore over the last one hundred years by the Denmark community has been recorded in written or photographic form. An example of the latter is the photographs of the holiday shacks in the Prawn Rock Channel area in the 1930s. Physical evidence of early European use consists mainly of the remnants of built structures, such as jetties.

Issues

- All Aboriginal sites are protected under the *WA Aboriginal Heritage Act 1972*.

- There is a need to identify all the Aboriginal and European sites on the foreshore and, where necessary, take action to protect them.
- Opportunities exist to develop interpretive and educational material which incorporates the Aboriginal and European heritage of the foreshore.

Objectives

- To protect the Aboriginal and European heritage of the Denmark foreshore.
- To encourage greater understanding and appreciation of the Aboriginal and European heritage of the Denmark Foreshore.

Recommendations

- A5.1 *All major recreational development proposals must be referred to the Aboriginal Affairs Department to ensure Aboriginal sites are protected.*
- A5.2 *A register of heritage sites on the foreshore should be developed, to ensure the identification and protection of such sites.*
- A5.3 *Anthropological and archaeological surveys of the area should be encouraged.*
- A5.4 *The cultural heritage of the area should be incorporated into any educational or display materials for the foreshore.*

A6. Recreation Management for the Foreshore

Background

The Denmark Foreshore offers a variety of recreational opportunities (e.g. sightseeing, walking, picnicking) and provides support facilities for a range of water-based activities (e.g. boating, fishing).

Issues

- Environmental damage and conflict between land uses is likely in the absence of planning and management of recreational use along the foreshore.
- Guidelines are required for the design and siting of recreational facilities and other structures (such as car parks, signs, fences and railings etc). This will help prevent these facilities detracting from the quality and aesthetics of the foreshore.

Objective

- To ensure that all foreshore recreational developments are compatible with the natural environment and aesthetic qualities of the foreshore.
- To ensure that foreshore recreational developments do not lead to conflicts between different recreational users.

General Recreational Guidelines

- Nature-based recreation - e.g. bird watching - should be encouraged.
- Recreational development should be designed to provide opportunities for all people.
- New facilities should not be provided if they already exist close to the Denmark Foreshore.
- Combined facilities will be encouraged.
- All recreational facilities should blend in with the natural environment, using appropriate design, vegetation screening and site location (see General Landscape and Building Guidelines).
- People should be required to take their litter home. Bins should not be provided in low-use areas.

- Where bins are provided, they should have lids and be sited together with any signs, preferably adjacent to entrances/exits from the site.
- Any future pedestrian boardwalks or bridges should be designed and constructed to minimise impacts on the foreshore environment.
- Existing cleared areas should be used for parking and picnic areas (shady if possible), but only if the site is capable of maintaining the level of use intended in locations proposed in this Plan.
- Shade trees (local foreshore species) should be provided within parking/picnic areas.
- Proper drainage on tracks is essential to avoid puddling and erosion. Track surfacing should be carefully planned - bitumen can cause a problem with leaching, while the use of gravel needs to be carefully monitored to avoid the introduction of dieback.

Recommendation

A6.1 Any recreation on the Denmark Foreshore reserve area should conform with the General Recreational Guidelines.

A7. Recreational Development Areas

Background

Any recreational use of the foreshore, in particular intensive use, can degrade soils, vegetation or the foreshore landscape. Careful management is required to ensure sustainable use of foreshore recreational areas.

A planned approach to recreational management can include concentrating recreational development in specific sites.

Issue

Without adherence to well-considered planning guidelines, recreational development may occupy substantial amounts of the foreshore. This can result in damage to the foreshore, and reduce its value for other users.

Objectives

- To develop and implement planning guidelines for the Denmark Foreshore.
- To provide a range of high quality, well-designed recreation areas and facilities which blend with the foreshore landscape, have minimal environmental impact, and allow a variety of recreational experiences.

Strategy

A number of development areas and sites have been identified in Tables 2 and 3 (below), based on historical precedent and site attributes. They represent sites best suited to taking additional use pressures, and will collectively cater for the full range of recreational activities considered appropriate for the foreshore.

Note that this Plan does not itself specifically propose these facilities: it simply recognises sites that may be suitable.

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Table 2 - MAJOR Recreational Development Areas (see Map 4.2 for location)

Site	Facilities (Existing and Proposed)	Examples of Activities (Existing and Proposed)
1 Denmark Rivermouth	Currently caravan park and camping area, boat launching ramp, yachting area, public recreation area, walk trail & picnic tables, public toilets. (to become a major site in the future +20 years)	Professional fishing Sailing Sailboarding Boat launching Swimming Picnicking BBQ recreation
2 Yacht Club Reserve	Yacht Club and Marina, boat launching ramp, yachting area, small public recreation area, picnic tables, public toilets, Clubhouse.	Sailing Boat launching Swimming Picnicking BBQ recreation.
3 Poddyshot Recreation Area	Currently boat launching ramp, jetties, public recreation area, public toilets. Parking area to be improved, vegetation to be rehabilitated. Possible walk trail to Prawn Rock Channel Area	Professional fishing Boat launching Boat mooring (incl possible commercial) Sailing Sailboarding Swimming
4 Prawn Rock Recreation Area	Walk trails, swimming areas, small car parks, Picnic & BBQ areas, possible kiosk/tea rooms all located on already cleared areas of the foreshore. Rehabilitation of vegetation.	Sailboarding Swimming Picnicking BBQ recreation Bird watching

Table 3 - MINOR Recreational Development Sites (see Map 4.2 for location)

Site	Facilities (Existing and Proposed)	Examples of Activities (Existing and Proposed)
1 Poison Point Boat Sites	Limited facilities - minor car parks, jetty and boat moorings	Professional fishing Walk trails Picnicking Bird watching
2. Inlet Drive Lookout	Limited facilities - parking for less than 5 cars with lookout.	Lookout Walking Photography
3 Roberts Rd Recreation Site	Limited facilities - access to the foreshore via path.	Walk trails Bird watching
4 Campbell Rd Recreation Site	Limited facilities - parking for less than 5 cars at the bottom of Campbell Road, on the edge of the foreshore reserve.	Picnicking Walk trails Bird watching
5 Rainbow Close Recreation Site	Limited facilities - parking for less than 5 cars. See Rec. A7.9.	Walking Bird watching Photography Professional fishing
6. Ocean Beach Road Recreation Site	Limited facilities - parking for less than 5 cars, lookout.	Lookout Walking Bird watching Photography

Recommendations

- A7.1 *Intensive recreational activities and facilities (such as boating facilities or BBQ areas) should be limited to the development areas identified in this Management Plan.*
- A7.2 *Recreational facilities should be located in areas where access can be easily achieved, subject to land capability assessment.*
- A7.3 *Recreational development should be sympathetic to the surrounding landscape, and compatible with the protection and conservation of native vegetation.*
- A7.4 *Vegetation clearing should be limited, and where practical subject to replanting once development is complete.*
- A7.5 *All recreational development should consider potential sea-level rise and the possible impacts of future bar-opening regimes.*
- A7.6 *The use of recreational areas should complement other use of the Inlet. It should not be for the benefit of just one group or individual. The full potential of development areas may be utilised through the provision of joint facilities.*
- A7.7 (Priority Recommendation) *By June 1996, the Denmark Shire Council, Albany Shire Council and WIMA should have provided a schedule for the completion of a plan for the entire Wilson Inlet foreshore.***
- A7.8 *WIMA and the Denmark Shire Council should recognise that the development of the Prawn Rock Recreation Area depends on the continued existence of the Prawn Rock Channel.*
- A7.9 *In consultation with the local community, a site plan for the Rainbow Close Recreation Site should be developed.*
- A7.10 *In the short term, the Rivermouth Caravan Park site should be improved through the further development of public facilities on the Rivermouth Site foreshore, including better delineation of the boundaries of the Caravan Park, and demarcation of the public foreshore.*
- Depending on the Shire of Denmark resources and deliberations at the time, the Rivermouth Caravan Park may be removed from this site at the end of its lease, and the entire area developed for public recreation.*

A8. Parking

Background

Car parking is often required for foreshore recreation activities. The development of large car parking areas can detract from the natural setting of an area.

Issue

Without controls and planning, car parking areas may develop which are not in character with the foreshore.

Objective

To ensure that car parking areas are located, designed and constructed to enhance the existing character of the foreshore.

Recommendations

- A8.1 *Car parking should be provided to service Denmark Foreshore recreational areas.*

- A8.2 *Parking areas should utilise local materials where appropriate, to reduce the visual impacts of these areas.*
- A8.3 *Car parking areas should be divided into pockets linked by access paths and screened by the natural topography and landscaping.*
- A8.4 *Bicycle parking facilities should be provided within all (new) car parking areas.*
- A8.5 *Car parks should be located on the landward boundary of the reserve, rather than towards the shoreline.*
- A8.6 *(Priority Recommendation) Existing shade trees in parking areas should be protected by post and rail or other effective barriers, with first priority given to the Poddysht development node.*

A9. Pedestrian Traffic

Background

The impact of pedestrians on the natural environment is less than that of motor vehicles. However, it is still important to guide people through the natural environment so that damage is minimised.

Issue

Pedestrian traffic will accompany recreational development on the foreshore.

Objective

To ensure that pedestrian access is controlled within the Denmark Foreshore.

Recommendations

- A9.1 *A system of access paths should be planned to link recreation and development areas. Such links may utilise roads and paths outside the foreshore reserve.*
- A9.2 *All trails and paths should be clearly marked with appropriate signs.*
- A9.3 *Disused paths and tracks should be closed and rehabilitated, following the completion of formalised access paths.*

A10. Jetties and Boat Launching Sites

Background

Many jetties and boat launching sites are found along the Denmark Foreshore. Most of these, although located on the foreshore reserve, are privately maintained.

Only two jetties within the study area - at Poddysht and the Rivermouth - have dredged channels that provide year-round use. Most private jetties have no provision for public access.

The Department of Transport carried out a survey of jetties on Wilson Inlet in 1992. This survey confirmed the existence of numerous unlicensed private jetties along the Inlet. Unfortunately, the information gathered was not fully investigated and collated, and survey results are not available.

Current Department of Transport policy limits the number of new jetties which can be constructed on the foreshore for public use, and precludes the construction of more private jetties. This policy, and the lack of suitable sites, means that the small number of jetties and boat launching sites available to the public are of great value.

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Issues

There is a lack of information regarding the legal status of all jetties and boat launching sites on Wilson Inlet. The existence of unlicensed jetties and boat launching sites is cause for concern from a management perspective.

No additional jetties and boat launching sites will be approved by the Department of Transport under their current policy. However it may be possible to have derelict jetties removed, and replaced by new jetties.

It will be difficult to provide additional public access jetties, due to the limited sites available.

Objectives

To ensure that all jetties and boat launching sites are licensed, properly constructed and maintained.

To maximise the public use of existing public jetties and boat launching sites.

Recommendations

A10.1 (Priority Recommendation) *The survey of jetties and boat launching sites commenced in 1992 by the Department of Transport should be completed and its findings made public.*

A10.2 *The public use of jetties and boat launching sites which are located in places with good public access should be maximised.*

A10.3 *Only licensed jetties and boat launching sites should be retained along the Denmark Foreshore.*

A10.4 *Jetties and boat launching sites which fail to meet the Department of Transport standards should be up-graded to meet these standards or removed.*

A10.5 *Jetties and boat launching sites with access by dredged channel should be re-designated as public jetties and boat launching sites by negotiation with private owners where necessary.*

A11. Commercial Activities

Background

The Denmark Foreshore contains a number of sites of great value for commercial activities.

Concerns exist about the environmental sensitivity of the Inlet for some operations, and the possible impact of commercial enterprises on other users of the foreshore, on the environment, and on residents adjacent to the foreshore.

Issue

Because of the limited number of development sites along the foreshore, there may be conflict between the commercial use of such sites and the public benefits enjoyed by the community from access to them.

Objective

To ensure that commercial use of the Denmark Foreshore and Inlet improves the public amenity and enjoyment of the Inlet.

Recommendations

A11.1 *That commercial operations be permitted on appropriate sites on the Denmark Foreshore as shown in this Plan, subject to application of leases, permits and strict conditions. These conditions will include the ability to revoke permits or leases if environmental or operating conditions are breached.*

A11.2 *Commercial operations must be appropriate for the development nodes in question, and meet the General Recreational Guidelines and the General Landscape and Building Guidelines.*

A11.3 *A percentage of commercial operating fees, deemed to be reasonable, should be paid into a trust account, to be used for the management of foreshore areas.*

A11.1 Houseboats

Background

Houseboats have been run on Walpole-Nornalup Inlet and other inlets/estuaries in the south-west for some years, and commercial interests would like to conduct a similar business on the Wilson Inlet. The Denmark Foreshore contains the best available sites to base houseboats.

Concerns exist about the environmental sensitivity of the Inlet for such an operation, and the possible impact on other users and residents immediately adjacent to the foreshore.

Issue

Conflicts may exist between the use of public resources (in particular the limited mooring sites along the foreshore) for such a commercial venture, and the public benefits enjoyed by the community from access to these resources. There may also be environmental impacts from increased access to the Inlet shorelines from users of houseboats on the Inlet.

Objective

To ensure commercial houseboat operations improve the public amenity and enjoyment of the Inlet, without degrading the foreshore environment.

Recommendation

A11.4 *A houseboat operation could be permitted to operate from an appropriate site on the Denmark Foreshore if management and environmental controls are stipulated and enforced, and conflict with other users of the Inlet is minimal. Strict conditions should include the ability to revoke leases or permits if their environmental or operating conditions are breached.*

A12. Fire Management

Background

Fire is a significant concern for residents with properties close to densely vegetated areas along the Denmark Foreshore, and for the authorities responsible for the management of this vegetation.

Some fire management techniques – in particular regular burning, slashing and/or clearing – can have significant detrimental effects on both the ecology and the aesthetics of areas on or near the Inlet foreshore.

Issue

The reduction of fire risk through management is essential but this brings conflict over the appropriate techniques to use.

Objective

To ensure the provision of adequate and appropriate fire management planning and controls, without adversely affecting the conservation, recreational and aesthetic values of the Denmark Foreshore.

Recommendations

A12.1 A fire hazard reduction plan for the Denmark Foreshore should be prepared and implemented by the Denmark Shire Council. The plan should consider the following elements:

- inclusion of an implementation schedule;*
- an ongoing maintenance plan for fuel reduction where this is required;*
- the provision and maintenance of strategic fire trails;*
- fuel-reduced buffers on private property adjoining the foreshore reserve;*
- a full array of fire hazard reduction methods, from prescribed burning through to selective hand clearing; and*
- ecological factors related to burning.*

A13. Joint Facilities

Background

A number of community organisations associated with the Inlet (including the Denmark Boating and Angling Club, Denmark Yacht Club, and the Denmark Sea Search and Rescue Club), have plans for facilities on the foreshore, some on sites currently under natural vegetation and gazetted for parkland.

Sites for built facilities on the foreshore are very restricted. One of these is Reserve 36714 - Recreation (Yacht Club), which is the site for a proposed marina and yacht club, and has already been cleared.

Issue

Multiple built facilities on the foreshore will have greater environmental and aesthetic impacts than a single facility. This is particularly true if siting involves clearing of vegetation for buildings, car parks and access.

Objective

To ensure that the provision of necessary facilities on the foreshore reserve causes the least environmental impact.

Recommendations

- A13.1 Organisations requiring foreshore facilities should be encouraged to use joint facilities.*
- A13.2 Facilities built on the foreshore reserve should if possible be designed to service multiple organisations.*
- A13.3 Reserve R36714 has been identified as an appropriate foreshore site for clubrooms and the other water-based facilities.*
- A13.4 The Denmark Boating and Angling Club, Denmark Yacht Club, and the Denmark Sea Search and Rescue Club should liaise in respect to resolving a joint headquarters site.*

A14. Reserve Vesting and Use

Background

Purposes of reserves along the foreshore include Recreation, Recreation (Yacht Club), Parkland, Public Recreation and Camping (see Appendix 5.1).

The vesting of one reserve along the foreshore is currently suspended pending the processing of proposed changes to its purpose by the Department of Land Administration.

Issues

Proposals for foreshore reserves could introduce uses or activities contrary to the vesting purpose of the reserve.

Objective

To ensure:

- that the purpose for which foreshore reserves are vested is properly reflected in any approved land use or development, and
- that any change of purpose reflects community aspirations as expressed in this Management Plan.

Recommendations

A14.1 Foreshore land use decisions by WIMA and the Shire should be consistent with the gazetted purpose of the foreshore reserves.

A14.2 Where the purpose of a reserve is to be amended, the Denmark Shire Council should ensure that the new purpose reflects the community aspirations for the Denmark Foreshore, as expressed in this Plan.

A15. Establishment and Width of Foreshore Reserves

Background

WIMA's objective is to enable the public to enjoy access to foreshore areas, and to protect environmentally sensitive areas. Purchasing foreshore land from private ownership is expensive. However foreshore land may be made available for reservation through the subdivision process. This involves land being ceded free of cost to the Crown as a condition of subdivision under Section 20A of the Town Planning and Development Act.

At the time of subdivision an assessment of foreshore land and its suitability for reservation is made by the Western Australian Planning Commission. Advice is provided by authorities concerned with the protection and enhancement of waterway and foreshore areas. The assessment should consider factors such as the width required for foreshore protection, protection of fringing Inlet fauna habitat, public access and appropriate vesting (if unvested).

Issue

The width of the foreshore varies, but in many places is very narrow. Wider reserves provide scope for management alternatives, and will in most cases better protect the Inlet.

Building developments very close to the foreshore reserve make extensions to the reserve impractical. Substantial setbacks may allow for future extensions.

Objective

To ensure that the width of the Denmark Foreshore reserve recognises the inherent value of this area.

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Recommendations

- A15.1 The Denmark Shire and WIMA should prepare a policy to ensure that the width of the Denmark Foreshore reserve is adequate for community and environmental purposes.*
- A15.2 The Denmark Shire should ensure that building setbacks adjacent to the foreshore are consistent with the objective above.*
- A15.3 The Denmark Shire Council and WIMA should progressively erect small boundary markers with low visual impact at the corners of private properties adjoining the foreshore reserve. Priority should be given to the first 500 m either side of access points to the foreshore reserve.*

B - Management Issues Within Adjoining Land Areas

B1. Vegetation Clearing on Private Land and Residential Development and Subdivision

Background

Few controls exist on clearing of vegetation on private residential land, although most Special Rural and Special Residential zones now tend to incorporate controls. There is an increasing recognition in the community of the value of vegetation for a range of conservation and aesthetic purposes.

Land next to Wilson Inlet has great value for residential subdivision. However, subdivision would have visual or environmental impacts on the foreshore and the Inlet, through:

- replacing natural vistas with built environments;
- reducing the ability of natural vegetation to act as a bio-filter for nutrients draining towards the Inlet; and
- adding additional nutrient loads to the Inlet from septic systems and other runoff.

Issue

Clearing of vegetation may affect the quality of water entering the Inlet. In addition, clearing of vegetation close to the Inlet spoils the view from the Inlet and from lookout points on the Denmark Foreshore.

Objectives

- To minimise clearing of vegetation near the foreshore from residential subdivisions or other building development.
- To minimise the environmental impact of vegetation clearing resulting from residential subdivisions or other building development.

Recommendations

- B1.1 An education programme should be undertaken by WIMA and the Denmark Shire Council to inform landowners of the value of vegetation near the foreshore, and the need to prevent weed encroachment from private land.*
- B1.2 A policy should be prepared by the Denmark Shire Council and WIMA on the preservation of vegetation near the Inlet foreshore.*
- B1.3 A policy should be prepared by the Denmark Shire Council and WIMA on the preservation of existing stands of vegetation on private property upon subdivision.*
- B1.4 The Denmark Shire Council, in conjunction with WIMA, should prepare design guidelines for building development around the Wilson Inlet foreshore. These guidelines should include:*
- *Building design and height controls;*
 - *Siting and setbacks;*
 - *Landscaping (including strategic replanting);*
 - *Engineering and services;*

- *Stormwater and wastewater management;*
- *Vegetation clearing; and*
- *Fencing*

for adoption as Town Planning Scheme Policy to control building development.

B2. Roads and the Foreshore

Background

Road reserves exist along the foreshore, although Denmark Shire Council has in the past closed some and amalgamated them with the foreshore reserve.

Issue

Road reserves and carriageways have often created barriers to public access to the foreshore, which has led to the under-utilisation of the area.

Objective

To reduce the impact of roads upon the use of foreshore and adjacent areas around Wilson Inlet.

Recommendations

- B2.1 That the Denmark Shire Council favour the use of spur roads to service development instead of roads parallel to the foreshore.*
- B2.2 That Council initiate the closure of unused road reserves and their amalgamation into the Denmark Foreshore reserve.*
- B2.3 That roads located within or adjacent to the Denmark Foreshore reserve be designed and constructed as no-through road, low speed, low volume access, and incorporate vegetation (landscape) corridors for screening from the foreshore.*

B3. Stormwater Management

Background

Stormwater comes from urban areas and roads. Poorly controlled stormwater may bring weeds into the foreshore area, or contribute silt from erosion.

Stormwater should not discharge directly into waterways. It should preferably be retained on site where it can drain into the groundwater, or slowly filter down through soils and vegetation to the Inlet. The retention of vegetation along waterways assists in removing pollutants from stormwater prior to its entering the Inlet.

Design of stormwater drains is best addressed at re-zoning, subdivision and development stages.

Issue

Because stormwater will continue to collect on land adjacent to the foreshore, management is required to minimise the impact of nutrients on water quality.

Objective

To manage stormwater reaching the Inlet, so as to reduce the amounts of pollutants and silt contained in it.

Recommendations

- B3.1 *A stormwater management policy should be prepared by WIMA and the Denmark Shire Council to include:*
- controls on discharge of water,*
 - maintenance of waterway vegetation,*
 - upkeep of culverts and road drainage, and*
 - careful design of walk trails, car parks and any other facility on the foreshore itself.*
- B3.2 *There should be no direct stormwater discharge onto the foreshore reserve, and nutrient stripping basins should always be located on land outside the foreshore reserve.*
- B3.3 *WAWA should, as a matter of urgency, address the release of nutrient-rich water from the Denmark sewage treatment plant to the Inlet, through the rapid implementation of up-graded treatment facilities.*

C - Management Issues on the Inlet

C1. Watercraft Noise Pollution and Speed

Background

Concerns exist about the proliferation of fast-moving, noisy watercraft, due to the increasing popularity of Wilson Inlet for water-based activities. The effect that these may have on other recreational users, residents, and flora and fauna (especially birdlife) needs to be addressed. The generally low speeds of motorised fishing boats do not appear to create a problem.

The Department of Transport (DOT) is the body responsible for control of watercraft, including enforcing speed limits.

An existing water-ski area is located at Crusoe/Rudgyard beach.

Issue

Watercraft speeds must be controlled on the Wilson Inlet.

Objective

To reduce environmental damage and pollution of the Denmark Foreshore and Inlet by controlling watercraft on the Inlet.

Recommendations

- C1.1** *(Priority Recommendation) Clear signs should be provided by the Shire and WIMA at all public launching points addressing regulations, the location of the designated water-ski area, and details of penalties for breaches of regulations.*
- C1.2** *The Department of Transport needs to increase its presence on Wilson Inlet in order to fulfil its regulatory role.*
- C1.3** *All water activity involving fast or noisy craft should be concentrated in one area. The existing designated water-ski area is an appropriate site.*
- C1.4** *The Denmark Shire and WIMA should publicise these regulations, and Inlet water craft control issues generally, through education publications.*
- C1.5** *Existing launching facilities near the Crusoe/Rudgyard beach water-ski area should be upgraded. The use of these will reduce the need to travel across the Inlet from the Denmark Foreshore.*

Part 3 - Plan Implementation

This Plan contains a large number of recommendations. These fall into two categories:

- 1) Recommendations regarding the development of management plans by the Shire of Denmark and WIMA covering specific issues including fire, fauna, etc.; and
- 2) Recommendations regarding future planning, decision-making and policy-setting by these bodies.

The implementation of recommendations involving specific management plans will require some commitment by the Denmark Shire Council and WIMA. Priorities for these plans are suggested below.

In most cases the implementation of the recommendations in the second category above will not have significant budget implications, and can be dealt with in the normal course of Shire/WIMA business.

Denmark Shire Council

The Denmark Foreshore Plan provides Council with direction on developments for the foreshore area and is consistent with a number of objectives of Town Planning Scheme No. 3.

The Denmark Foreshore Plan may be adopted by Council as a Town Planning Policy within Town Planning Scheme No. 3, while certain elements of the Foreshore Plan may be included within the General Provisions contained in that Town Planning Scheme.

This will ensure that the Foreshore Plan is integral to decision-making regarding the reserves adjacent to the Inlet, as well as development around the foreshore area.

WIMA

This Plan will ensure that WIMA gives consistent advice on development proposals for the foreshore. It will also help WIMA to develop more detailed policies and plans for management of the Denmark Foreshore.

3.1 Priorities

Priority Recommendations

The following recommendations have the highest priority, and should be implemented in the first year:

- A1.4 *A Denmark Foreshore rehabilitation plan, consistent with relevant policies of the Denmark Shire and WIMA, should be prepared. This should identify degraded areas and sites needing weed eradication, and include a programme for revegetation with existing or compatible species.*
- Ai.8 *The Denmark Shire Council should investigate issuing foreshore clearing regulations and policies to owners of properties with a boundary in common with the Denmark Foreshore reserve:*
- i) *On receipt of rezoning applications;*
 - ii) *On receipt of subdivision applications;*
 - iii) *Following transfer to new property owners; and*
 - iv) *With the issue of a building licence.*

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- A2.2 *Fauna surveys along the Denmark Foreshore should be undertaken to properly identify areas with significant fauna populations, and to establish more specific management controls for the protection of fauna.*
- A7.7 *By June 1996, the Denmark Shire Council, Albany Shire Council and WIMA should have provided a schedule for the completion of a plan for the entire Wilson Inlet foreshore.*
- A8.6 *Existing shade trees in parking areas should be protected by post and rail or other effective barriers, with first priority given to the Poddyshot development node.*
- A10.1 *The survey of jetties and boat launching sites commenced in 1992 by the Department of Transport should be completed and its findings made public.*
- C1.1 *Clear signs should be provided by the Shire and WIMA at all public launching points addressing regulations, the location of the designated water-ski area, and details of penalties for breaches of regulations.*

Other Recommendations

Subject to finances and resources, other recommendations should be implemented during the next five years (1996-2000). These recommendations need to be prioritised and reviewed annually for budget purposes. After five years, the status of all recommendations will be reviewed.

Recommendation

- 2** *Following adoption of the Denmark Foreshore Plan by the Denmark Shire and WIMA, priority recommendations should be implemented as soon as resources allow. Other recommendations should be prioritised by Shire and WIMA staff, and implemented where possible over the next five years (1996-2000). Progress of plan implementation should be reviewed in the year 2000.*

3.2 Management Responsibilities

Management of the reserves covered by this Plan is primarily the responsibility of the Denmark Shire, as it is the body in which most of the reserves are vested. The Shire's responsibilities include:

- the reservation of land used or likely to be used for public or community purpose;
- provision for the protection of the natural environment and landscape from inappropriate development;
- the recognition and protection of buildings and places of importance to the townscape and cultural heritage;
- the provision for such development as is required to accommodate the lifestyles appropriate to the area; and
- the setting aside as reserves for public use land required for active or passive recreation.

WIMA is responsible, under the Waterways Conservation Act, for the protection of Wilson Inlet, its waterways and associated lands. WIMA has two major goals of management: conservation of the environment, and maintenance of public amenity.

A large number of other authorities have management responsibilities on the Denmark Foreshore. These include:

- Department of Transport - control and regulation of watercraft and water safety, including enforcing speed limits;
- Department of Conservation and Land Management - administration of the Wildlife Conservation Act as it pertains to the conservation of flora and fauna;
- Bush Fires Board - planning of fire management on Crown lands;
- Department of Environment - administration of the Environmental Protection Act regarding environmental impact assessment and pollution control;
- Fisheries Department - management and regulation of recreational and commercial fishing on the Inlet;
- Water Authority of WA - management and planning of water resources;
- WA Planning Commission - assessment of foreshore land for reserves.

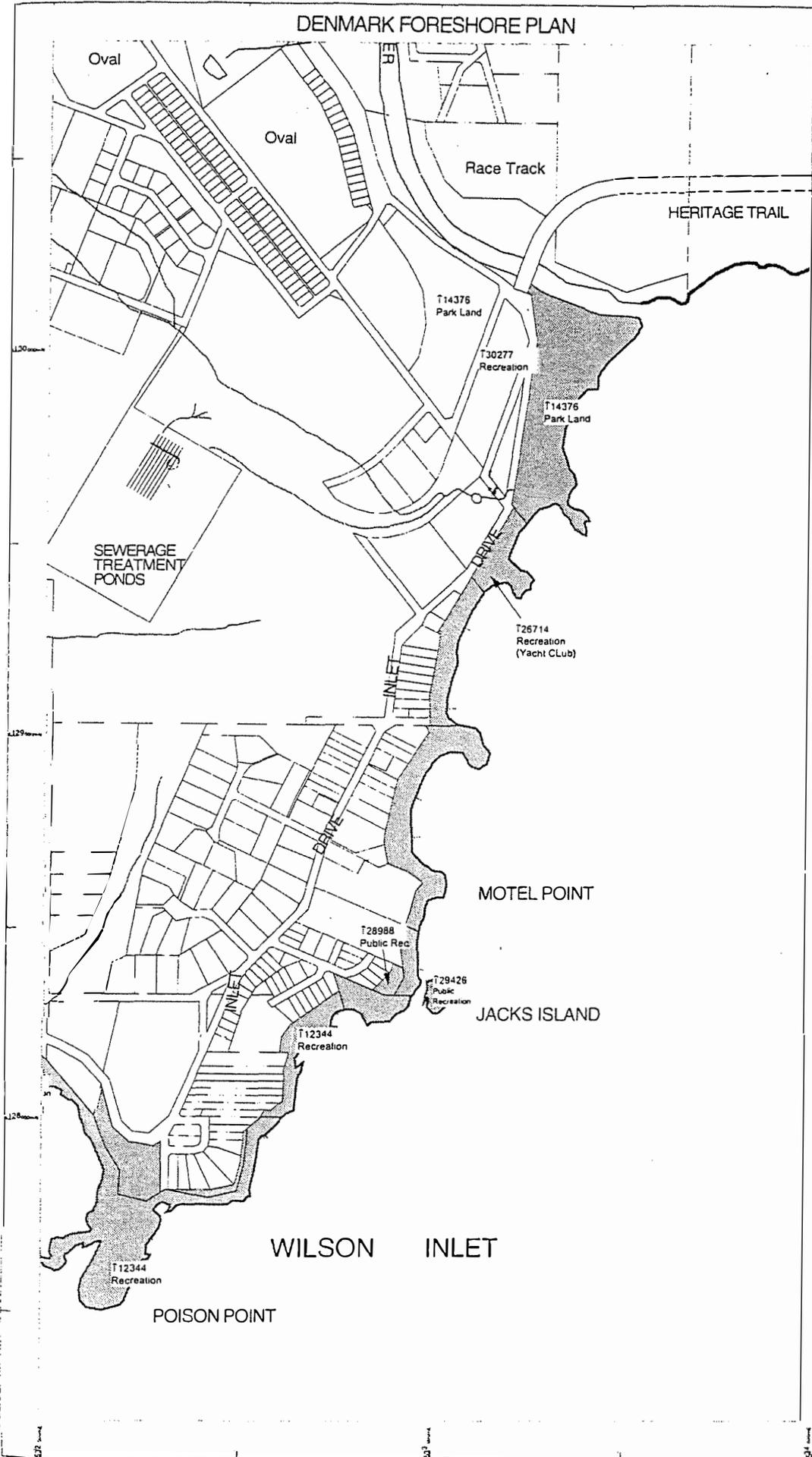
3.3 Funding

The implementation of this Plan will be undertaken within the annual works programme of the Shire and WIMA, and will be subject to the availability of funds.

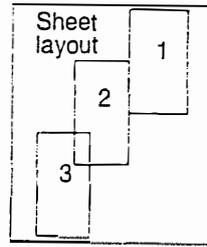
Recommendation

- 3 *(Priority Recommendation) Following adoption of the Denmark Foreshore Plan by the Denmark Shire and WIMA, a joint budget for implementation should be prepared, detailing sources of revenue and including target implementation and/or completion dates where appropriate.*

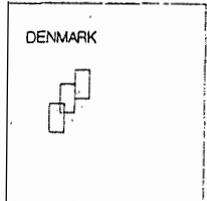
4.1. Base Map - Topography and Cadastre



BASE MAP
Sheet 1 of 3



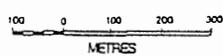
- Reference**
- Road
 - Location boundary
 - Major drainage line
 - Minor drainage line
 - Lake
 - Dam
 - Jetty



Projection:
Universal Transverse Mercator
Gnd: A.M.G., zone 50
Date: February, 1995
Source Data:
Based on field survey and interpretation of 1:5000 Orthophoto maps prepared by Dept. of Lands and Surveys, West. Aust.
Cadastral digital information supplied by the Dept. of Land Administration West. Aust.
Prepared for the Wilson Inlet Management Authority and the Shire of Denmark as part of the Denmark Foreshore Plan.
Project co-ordinator S.Neville
Produced by:
Watershed Digital Mapping
RMB 1015 Denmark WA 6333
Ph (098) 482 428

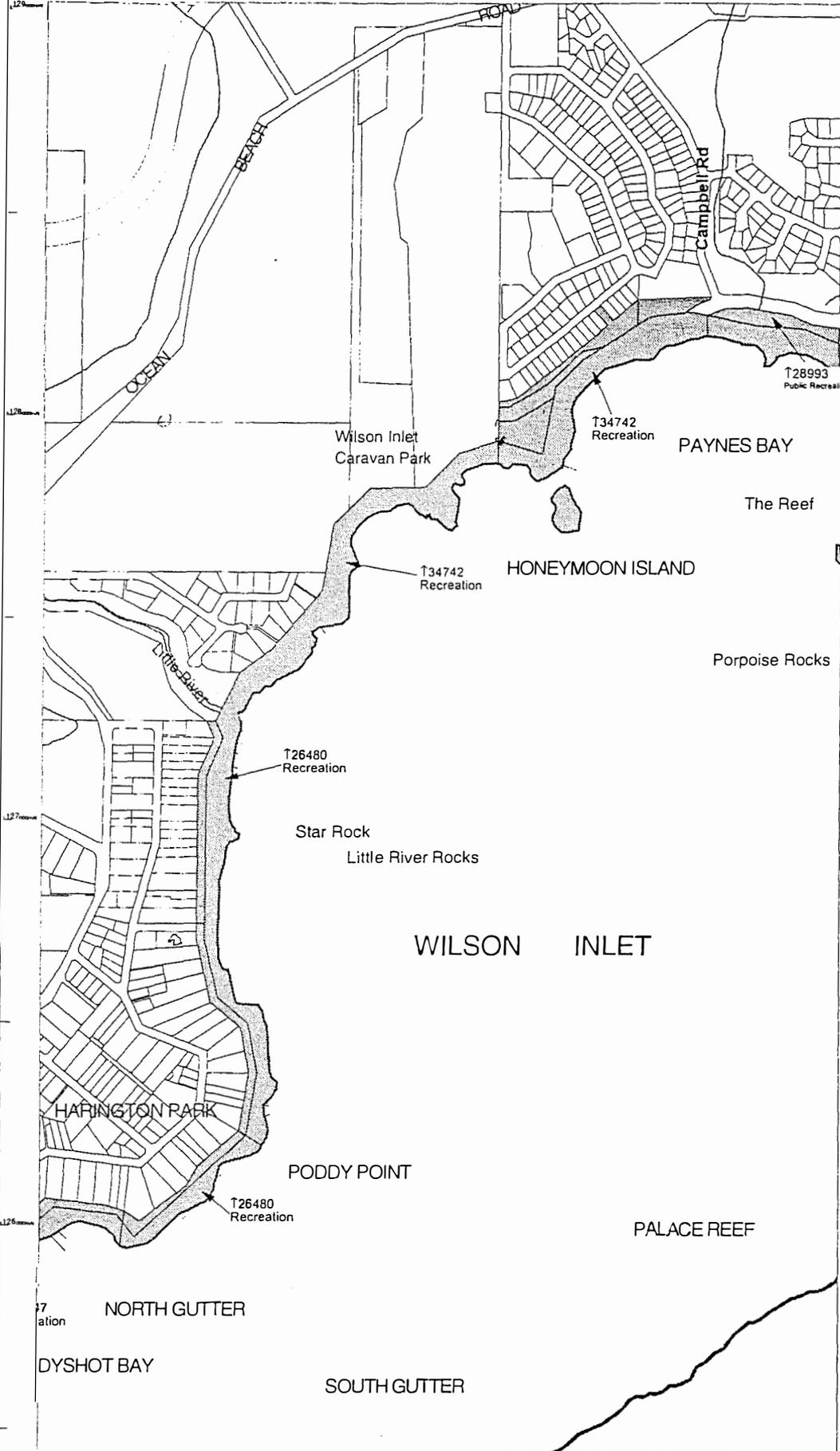
Denmark Foreshore Reserves

The area covered by the Denmark Foreshore Plan

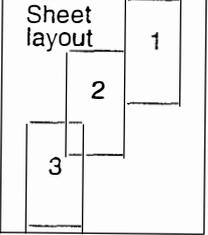


WILSON INLET
MANAGEMENT AUTHORITY

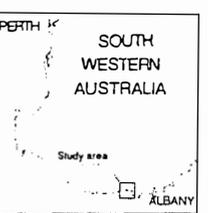
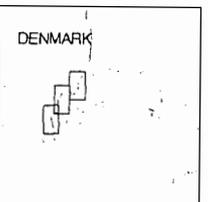
DENMARK FORESHORE PLAN



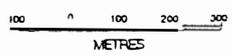
BASE MAP
Sheet 2 of 3



- Reference
- Road
 - Location boundary
 - Major drainage line
 - Minor drainage line
 - Lake
 - Dam
 - Jetty

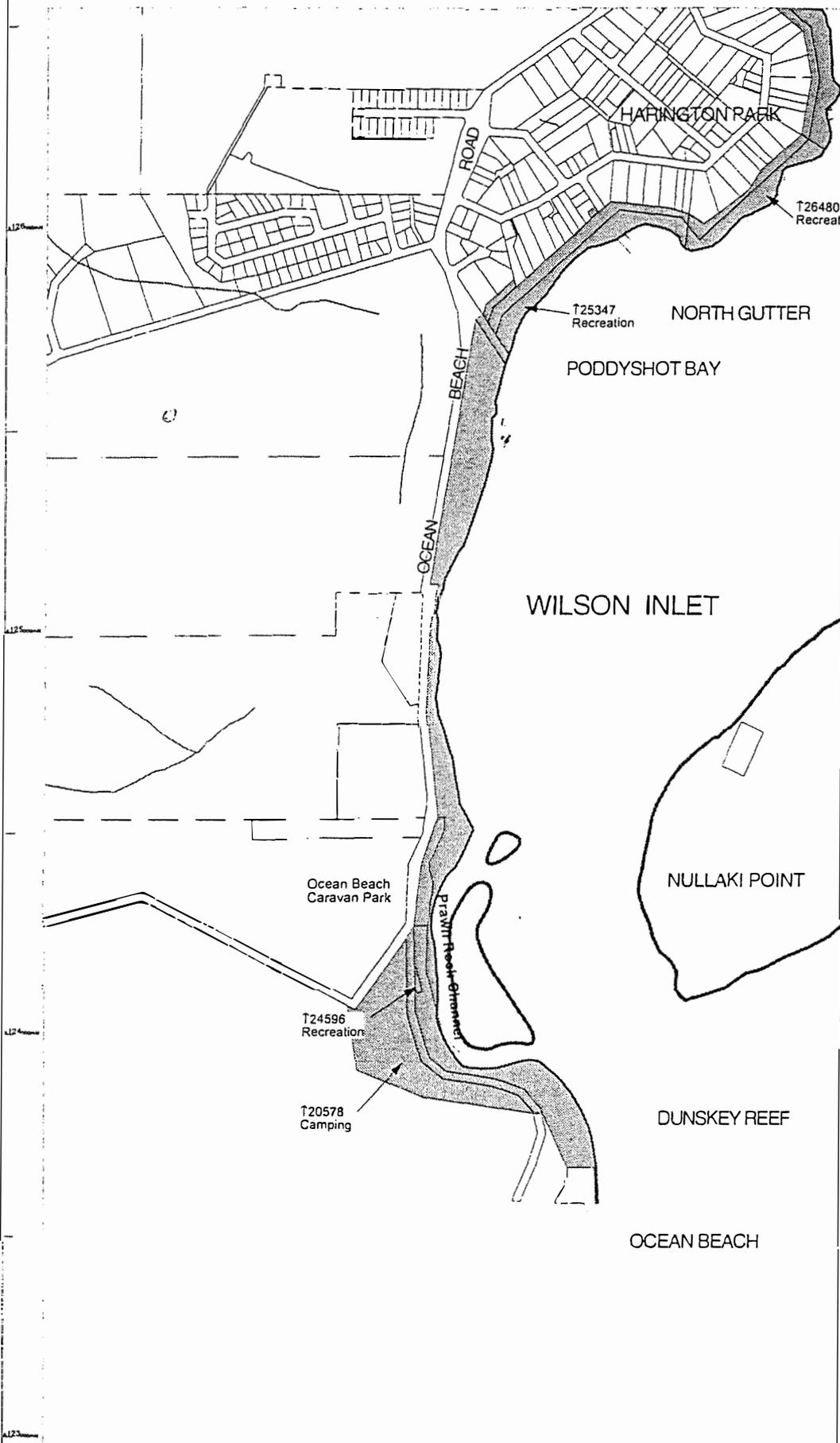


Projection:
Universal Transverse Mercator
Gnd. A.M.G., zone 50
Date: February, 1995
Source Data:
Based on field survey and interpretation of 1:5000 Ortho-photo maps prepared by Dept. of Lands and Surveys, West. Aust.
Cadastral digital information supplied by the Dept. of Land Administration West. Aust.
Prepared for the Wilson Inlet Management Authority and the Shire of Denmark as part of the Denmark Foreshore Plan.
Project co-ordinator S. Neville
Produced by:
Watershed Digital Mapping
RMB 1015 Denmark WA 6333
Ph (098) 482 428

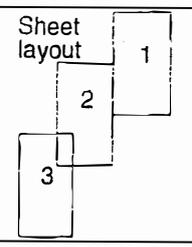


WILSON INLET
MANAGEMENT AUTHORITY

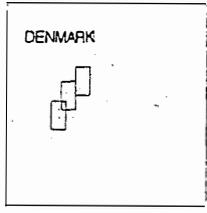
DENMARK FORESHORE PLAN



BASE MAP
Sheet 3 of 3



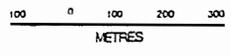
- Reference
- Road
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Projection:
Universal Transverse Mercator
Grid: A.M.G., zone 50
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Project co-ordinator: S.Neville
Produced by:
Watershed Digital Mapping
RMB 1015 Denmark WA 6332
Ph (098) 482 428

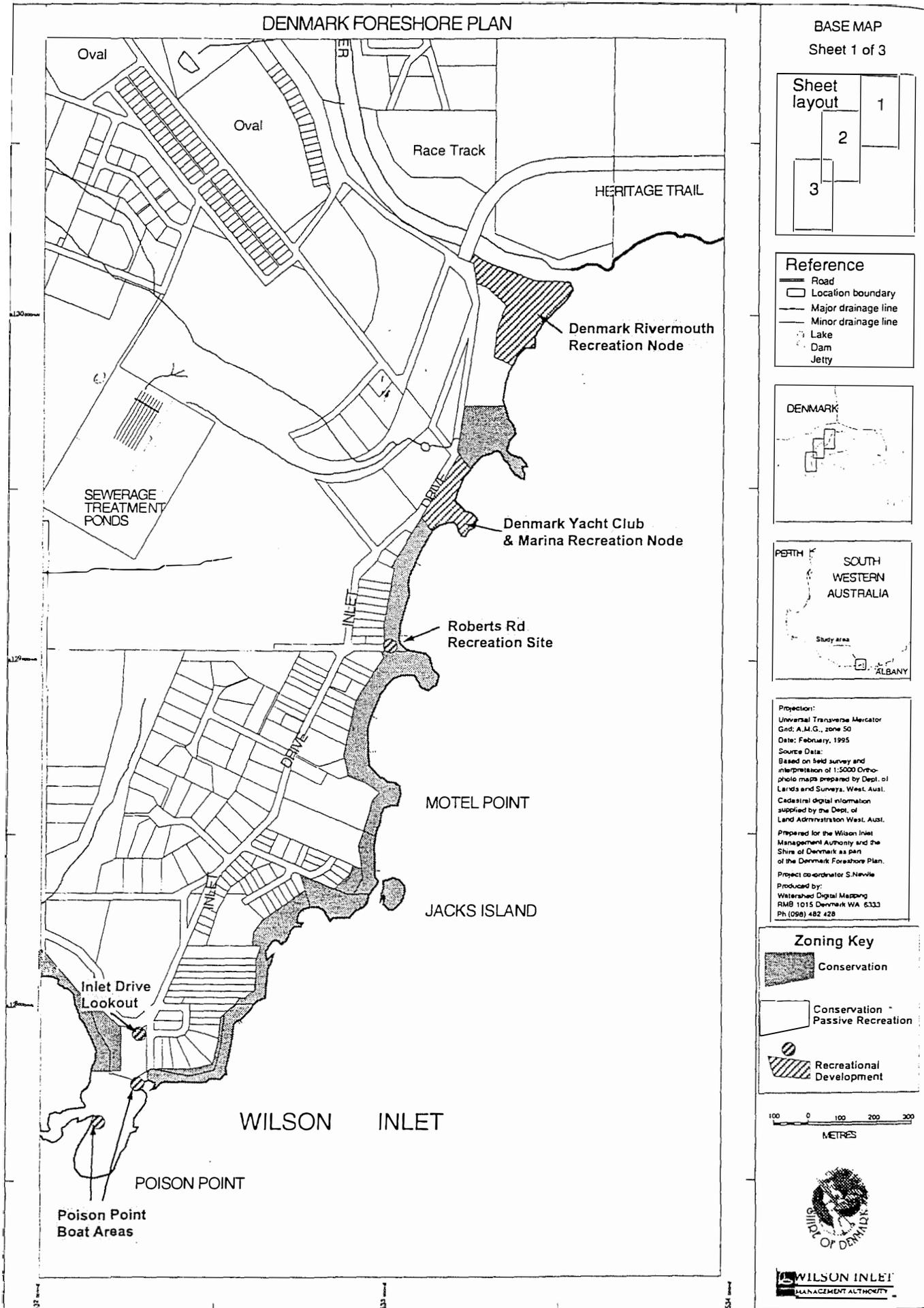
Denmark Foreshore Reserves

The area covered by the Denmark Foreshore Plan

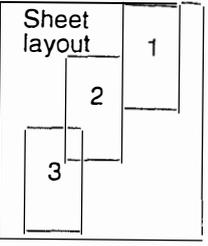


WILSON INLET MANAGEMENT AUTHORITY

4.2. Foreshore Management Zones

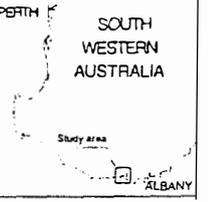
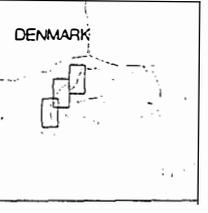


BASE MAP
Sheet 1 of 3



Reference

	Road
	Location boundary
	Major drainage line
	Minor drainage line
	Lake
	Dam
	Jetty



Projection:
Universal Transverse Mercator
Gnd: A.M.G., zone 50
Date: February, 1995

Source Data:
Based on field survey and interpretation of 1:5000 Orthophoto maps prepared by Dept. of Lands and Surveys, West. Aust.
Cadastral digital information supplied by the Dept. of Land Administration West. Aust.

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Project co-ordinator S.Neville

Produced by:
Waterhead Digital Mapping
RMB 1015 Denmark WA 6333
Ph (098) 482 428

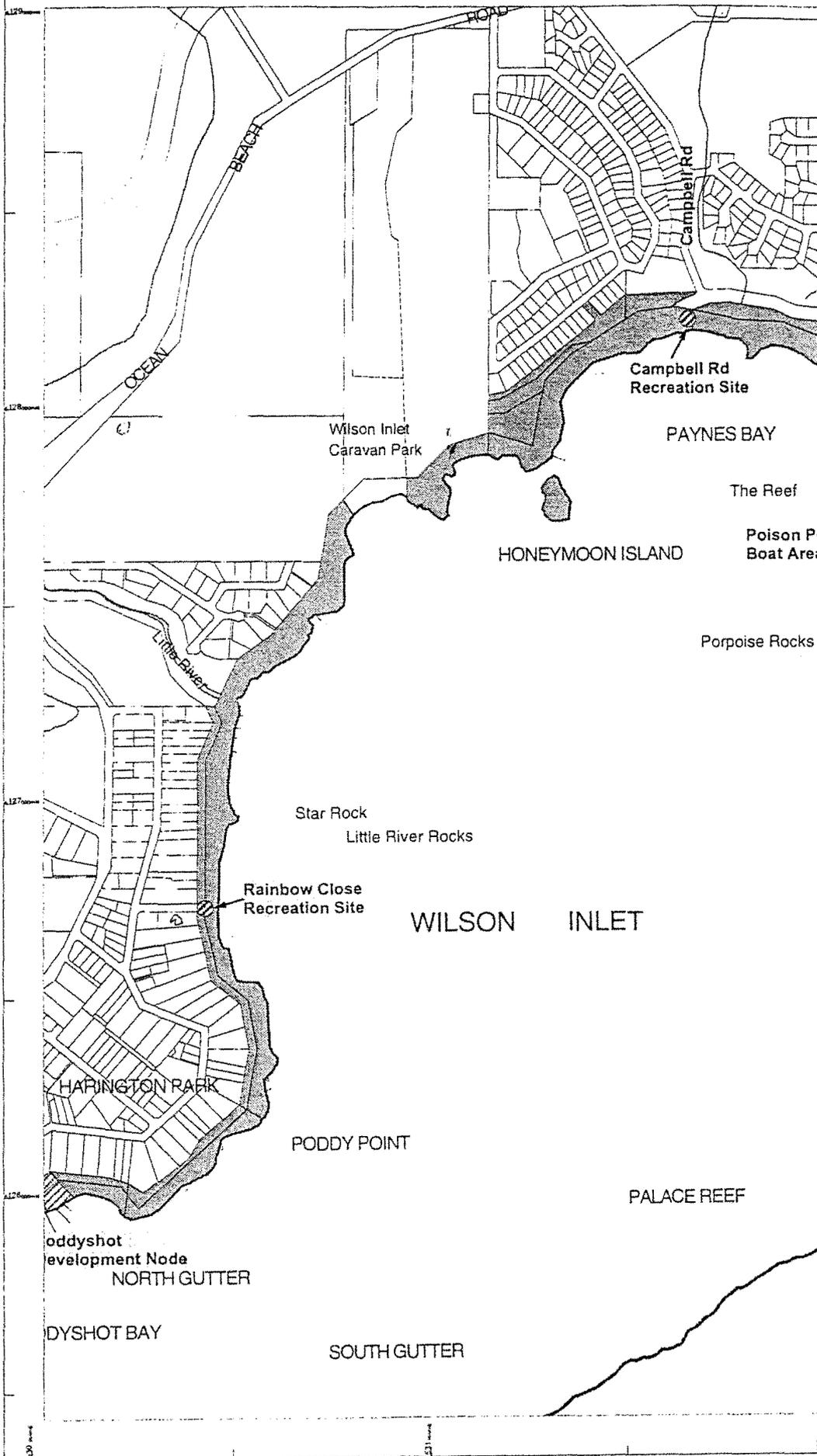
Zoning Key

	Conservation
	Conservation - Passive Recreation
	Recreational Development

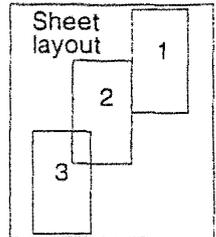


WILSON INLET
MANAGEMENT AUTHORITY

DENMARK FORESHORE PLAN

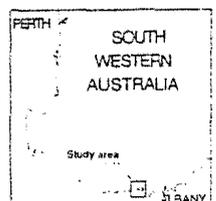
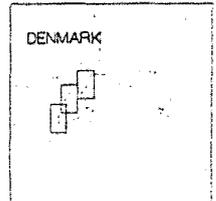


BASE MAP
Sheet 2 of 3



Reference

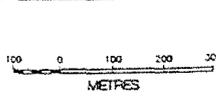
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Projection:
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 Gnd: A.M.G., zone 50
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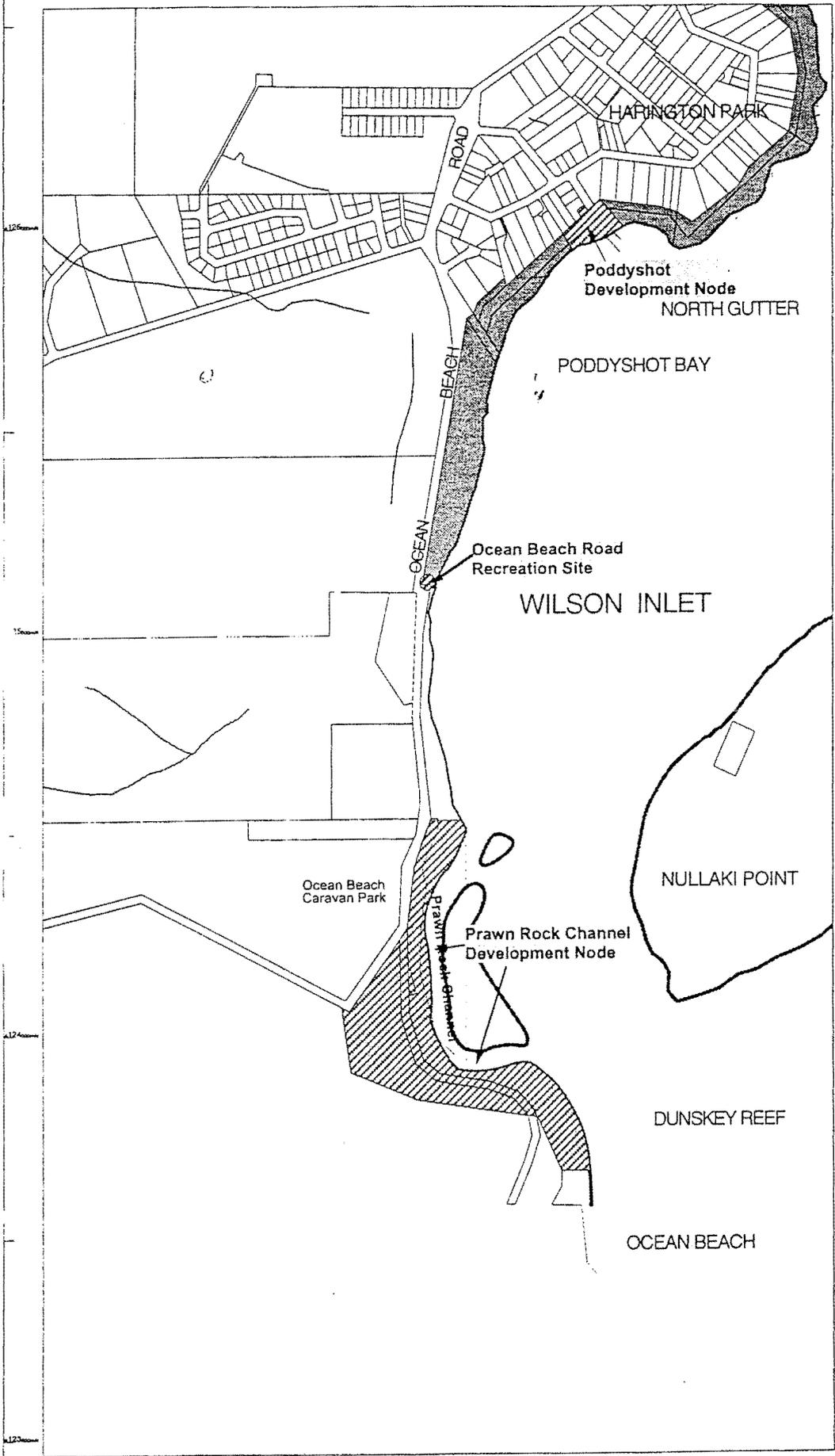
Zoning Key

- Conservation
- Conservation - Passive Recreation
- Recreational Development

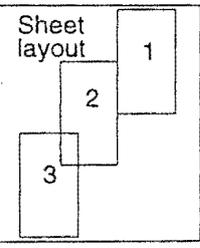


WILSON INLET
MANAGEMENT AUTHORITY

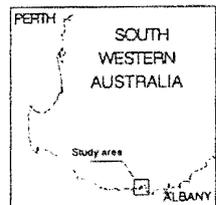
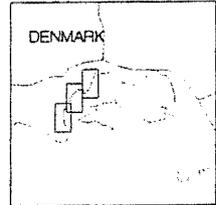
DENMARK FORESHORE PLAN



BASE MAP
Sheet 3 of 3

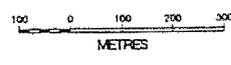


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- Zoning Key
- Conservation
 - Conservation - Passive Recreation
 - Recreational Development



WILSON INLET MANAGEMENT AUTHORITY

Part 5 - Appendices

5.1 List of Reserves

<u>Zoning</u>	<u>Location</u>	<u>Present Use</u>
R20578	Ocean Beach Road	Camping
R12344	Poisson Point Road	Recreation
R34742	Little River to Paynes Bay	Recreation
R28993	Inlet Drive	Public Recreation
R28998	Harper St	Public Recreation
R36714	Inlet Drive	Recreation (Yacht Club)
R14376	Inlet Drive	Parklands
R26480	Nr Minsterly Rd	Recreation
R25347	Ocean Beach Rd	Foreshore Management
R24596	Ocean Beach Rd	Recreation

NB - Some other areas of public land along the foreshore are not currently reserves vested in the Council, but are in the process of being vested. This includes parcels of land being ceded to the Shire Council during the process of subdivision.

5.2 Preliminary Flora List

Aquatic flora:

ruppia seagrass (*Ruppia megacarpa*)
brown algae (*Cytoseira trinodis*)
red algae (*Gracilaria verrucosa*)
green algae (*Chaetomorpha* sp., *Cladophera* sp.)

Terrestrial flora:

rush (*Juncus kraussii*)
sedges (*Isolepis nodosa*, *Baumea juncea*)
Samolus repens
samphire (*Sarcocornia quinqueflora*)
paperbark (*Melaleuca cuticularis*)
Melaleuca incana
Casuarina obesa
Agonis fasciculata
marri (*E. calophylla*)
jarrah (*E. marginata*)
karri (*E. diversicolor*)

Introduced species:

salt water couch (*Sporolobus virginicus*)
buffalo grass (*Stenotaphrum secundatum*)
pampas grass (*Cortaderia seccoana*)
coastal teatree (*Leptospermum laevegatum*)
watsonia (*Bulbifera* sp.)

5.3 Preliminary Fauna List

Birds

Waterbirds

A total of 73 species of waterbird were observed on Wilson Inlet up to 1988. Some common or significant waterbird species are listed below:

Australian pelican (*Pelecanus conspicillatus*)
little black cormorant (*Phalacrocorax sulcirostris*)
little pied cormorant (*Phalacrocorax melanoleucos*)
black swan (*Cygnus atratus*)
Australian shelduck (*Tadorna tadornoides*)
Pacific black duck (*Anas superciliosa*)
grey teal (*Anas gibberifrons*)
Australian shoveller (*Anas rhynchotis*)
blue-billed duck (*Oxyura australis*)
musk duck (*Biziura lobata*)
Eurasian coot (*Fulica atra*)
pied oystercatcher (*Haematopus longirostris*)
sooty oystercatcher (*Haematopus fuliginosus*)
black-winged stilt (*Himantopus himantopus*)
banded stilt (*Cladorhynchus leucocephalus*)
red-necked avocet (*Recurvirostra novaehollandiae*)
silver gull (*Larus novaehollandiae*)

Terrestrial species

silvereye (*Zosterops lateralis*)
western rosella (*Platyercus icterotis*)
New Holland honeyeater (*Phylidonyris novaehollandiae*)
grey fantail (*Rhipidura fuliginosa*)
red wattlebird (*Anthochaera carunculata*)
tawny frogmouth (*Podargus strigoides*)
whistling kite (*Haliastur sphenuris*)
nankeen kestrel (*Falco cenchroides*)
Port Lincoln ringneck (*Barnardius zonarius*)
purple-crowned lorikeet (*Glossopsitta porphyrocephala*)
red-capped parrot (*Purpureicephalus spurius*)

Mammals

southern brown bandicoot (*Isodon obesulus*)
yellow-footed antechinus (*Antechinus flavipes*)
bush rat (*Rattus fuscipes*)
honey possum (*Tarsipes rostratus*)
grey-bellied dunnart (*Sminthopsis griseoventer*)

Reptiles

dugite (*Pseudonaja affinis*)
tiger snake (*Notechis scutatis*)
skinks
geckos

Amphibians

moaning frog (*Heleioporus eyrei*)
western banjo frog (*Limnodynastes dorsalis*)

Inlet Fish

Some commercial species

sandy sprat (*Hyperlopus vittatus*)
cobble (*Cnidoglanis macrocephalis*)
King George whiting (*Sillaginodes punctata*)
tailer (*Pomatomus saltator*)
silver trevally (*Pseudocaranx dentex*)
Western Australian salmon (*Arripis truttaceus*)
black bream (*Acanthopagrus butcheri*)
pink snapper (*Chrysophrys auratus*)
mulloway (*Phabdosargus sarpa*)
yelloweye mullet (*Aldritechetta forsteri*)
sea mullet (*Mugil cephalus*)
blue mackerel (*Scomber australasicus*)

from Hodgkin E., & Clark R., (1988) Wilson, Irwin and Parry Inlets, Environmental Protection Authority, WA, Estuarine Studies Series No. 3.