



Department of
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Preston River to Ocean Regional Park

Establishment Plan Proposal
Final report

April 2011



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This proposal provides the framework for the Preston River to Ocean Regional Park, and represents a significant step towards the creation of a regional park for Greater Bunbury. Valuable input from the public, community consultative committee and technical advisory group have contributed to the formulation of this Establishment Plan Proposal.

The concept of a continuous reserve from the Preston River to the Coast has been central to planning in Greater Bunbury for many years and has received strong, ongoing community support. I acknowledge the significant personal contribution of Dr Bernhard Bischoff, who first proposed the park twenty years ago. He has contributed significantly to this plan and provided ongoing input as a member of the interim advisory committee.

The proposed park includes Manea Park, Shearwater Tuart Forest and The Maidens, extending east to west spanning a distance of seven kilometres. It contains a unique sequence of landform and vegetation complexes that are characteristic of the Swan Coastal Plain.

With the Greater Bunbury Region Scheme now in operation, regional open space reservations are in place over the land identified for the park, affording statutory protection of the unique conservation and recreational values they hold.

I thank all of the people who have contributed to the Preston River to Ocean Regional Park, and encourage the community's ongoing input in its future use and management. The challenge will now be to implement this proposal for the benefit of the community.

John Day MLA
Minister for Planning

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Summary



The proposal to develop a regional park system for Greater Bunbury has been a vision for many years. The intention to progress the establishment of the Preston River to Ocean Regional Park was initially recommended in the Greater Bunbury Structure Plan, which was adopted by the Western Australian Planning Commission (WAPC) under the Bunbury-Wellington Region Plan in November 1995.

The proposal is for the creation of a 893 hectare regional park providing a continuous reserve on the southern flank of the City of Bunbury extending west from the Preston River to Manea Park, College Grove, the Shearwater Tuart Forest through The Maidens bushland on the coast.

The land is reserved as regional open space in the Greater Bunbury Region Scheme (GBRS), and may be expanded to include additional adjacent land in the future through amendments to the scheme.

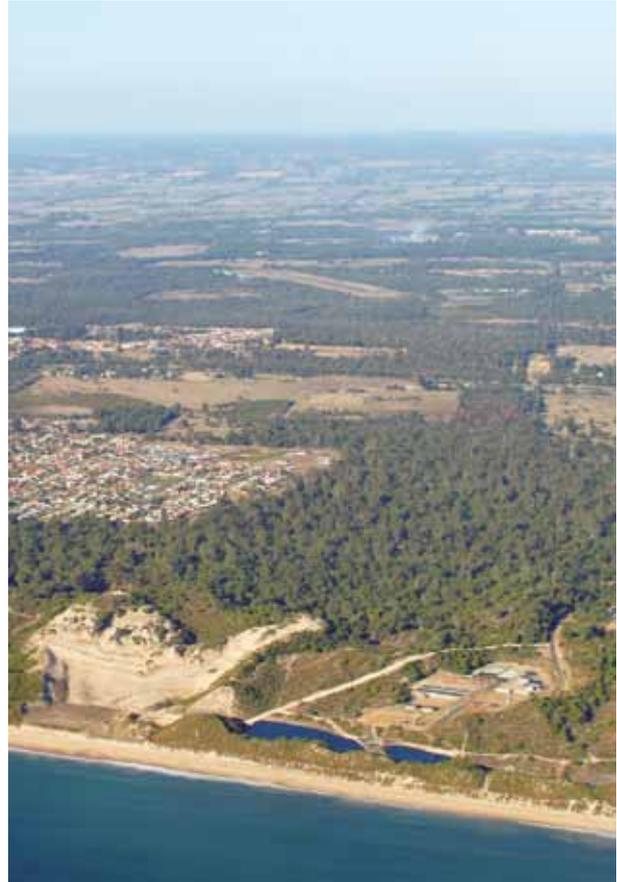
The Department of Environment and Conservation (DEC) will act as the coordinating agency for the planning, development and management of the regional park. The vesting and management boundaries for each agency are proposed to be drawn along recreation and conservation lines, with the City of Bunbury accepting the vesting of existing and future recreational nodes (figure 5), and ultimately the DEC taking responsibility for the majority of the conservation of natural bushland areas.

This general principle does not preclude the local governments from continuing to manage their existing bushland reserves if they so wish, provided the management is in accordance with the recommendations of the future park management plan.

The final tenure arrangements for the park will be confirmed in the management plan, which will be prepared by DEC under the provisions of the *Conservation and Land Management Act 1984*, in close consultation with stakeholders.

The private land in the park boundary will be purchased according to a prioritised voluntary acquisition program and as it becomes available.

State government agencies holding land in the park (the Water Corporation and the Department of Housing) have the option to transfer their landholdings to the Conservation Commission of WA for DEC management or retain and manage them independently.



If freehold land is retained by these agencies and managed independently, such management would be required to be in accordance with the outcomes and recommendations of the DEC management plan.

This report provides a broad framework for the creation of the regional park. The detailed identification and description of the physical resource, and specific administration, development and management recommendations for the park will be progressed at a later stage.

The objectives of this plan are:

- To provide the broad guidelines for the establishment of the regional park which will assist in the preparation of a draft and final management plan.
- To provide a reference document for the preparation of a joint cabinet submission requesting Cabinet to allocate funds for the administration, development and ongoing management of the park.
- To provide a proposal for the land area to be included in the park.
- To propose the management responsibility for reserves that make up the regional park.

Figure 1 shows the location of the proposed regional park in the GBRS area. The name Preston River to Ocean Regional Park is intended as a working name for identification purposes only, and may be subject to change.

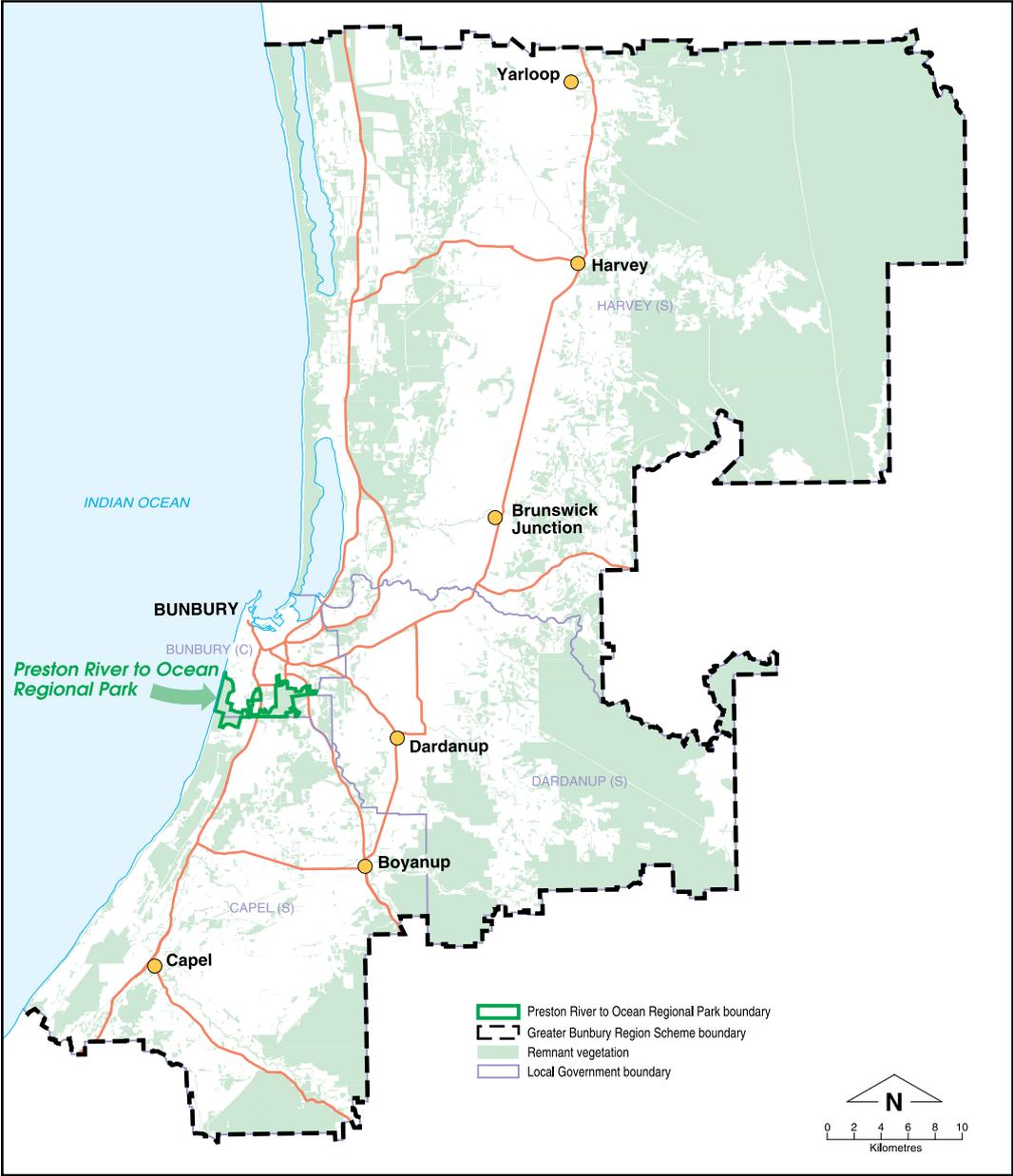


Figure 1: Location of park within Greater Bunbury Region Scheme area



1.

Introduction

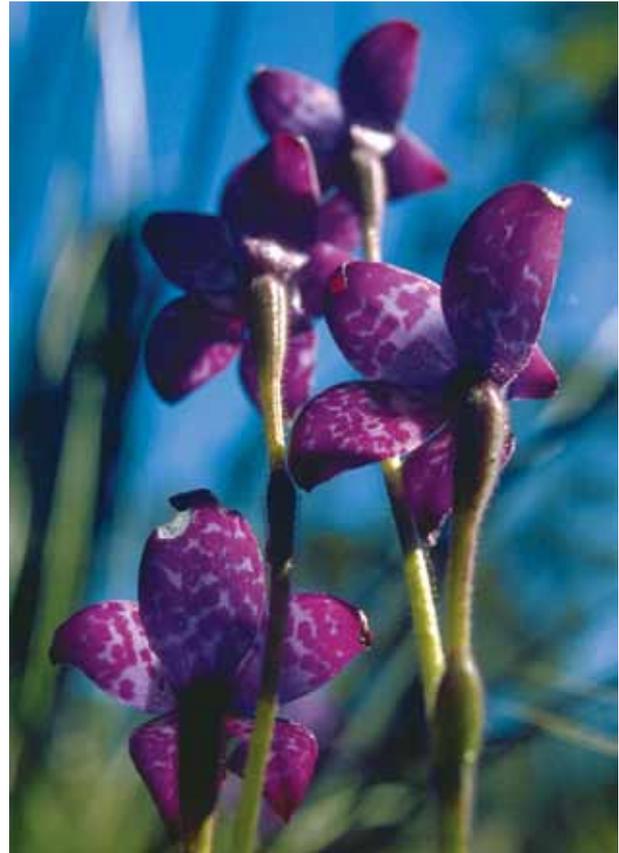
Regional parks are areas of regional open space that are identified by statutory planning procedures as having regionally significant conservation, landscape, recreation and education values.

The State Government is committed to the establishment of regional parks to satisfy the increasing need for the protection of conservation areas in proximity to urban areas, to provide for the recreational demands of expanding urban development and to preserve areas of high landscape amenity.

The Preston River to Ocean Regional Park is one of the first of such parks considered for establishment outside the Perth metropolitan area and forms an integral part of the GBRS.

The development of a regional park system is undertaken in recognition of the rapid growth of the City of Bunbury, and the adjoining urban areas in the Shires of Capel, Dardanup and Harvey, and the need to provide a regional open space reservation to complement the land uses inherent in the region scheme.

The park will provide opportunities for recreation and conservation in the natural environment. This regional park proposal emphasises conservation of the environmental values and research, learning interaction, discovery and opportunities for low impact recreation compatible with those values. The creation of this park will assist in providing a substantial education, recreation and conservation resource for the existing and future population of Greater Bunbury.



This establishment plan has been prepared to deliver the following outcomes:

- To provide a definition of what constitutes a regional park.
- To identify the need for and rationale behind the creation of the park.
- To define the land proposed for inclusion in the park.
- To describe in a concise manner the qualities of the park.
- To propose a model for the vesting and management of the park.
- To provide an overview of the statutory processes the park will be subject to in the future, such as vesting procedures, management plan preparation and GBRS amendments for the reservation of land to allow for additions to the park.



The preparation of this establishment plan is not intended to provide detailed resource information, or present proposals for park administration, development initiatives or management programs. Such matters will be investigated and determined following park foundation and presented as outcomes arising from the preparation of the management plan.

2.

The need for a regional park system for the Greater Bunbury region

Greater Bunbury is Western Australia's second largest population centre and has been subject to unprecedented growth in recent years, which is forecast to continue into the future. The population increase from 2001 to 2031 is projected to be in the order of 65,000 to 100,000. Consequently there is a strong demand for the provision of regional open space that satisfies the emerging recreation and conservation needs of a rapidly growing community.

There is a need to accommodate such expansion of the population and infrastructure with the development of a guided planning mechanism, similar to the Metropolitan Region Scheme (MRS) and the Peel Region Scheme (PRS). Central to the preparation of a region scheme is the reservation of land for regional open space, and beyond that, the establishment of a regional parks system.

The Perth metropolitan area currently has eleven regional parks, which were planned, assembled and developed by the WAPC as an integral part of the MRS planning process. Land was reserved as parks and recreation in the MRS (the equivalent reservation in the GBRS is regional open space), acquired as it became available from private landowners, and amalgamated to form the basis for the regional parks. A period of interim management by the WAPC followed, after which the management of the land owned by the WAPC was progressively transferred to the Crown for vesting in the Conservation Commission of WA for management by the DEC. The DEC was also given the responsibility to coordinate the management of parks containing a mix of land tenures managed by different authorities.

The concept of regional open space was initially formulated in the Stephenson Hepburn report of 1955. Regional parks are defined as regional open space areas identified through the planning

process that exhibit outstanding conservation, landscape and recreation values.

The size and regional importance of Greater Bunbury and its comprehensive level of services and infrastructure, together with the projections for its future growth have culminated in the development of its own region planning scheme. The reservation of land for regional open space and the ultimate identification of a regional parks network is integral to the vision for the establishment of a region scheme for Bunbury.

The City of Bunbury is fortunate in that a substantial amount of the public open space suitable for the establishment of a regional park is already in existence, and thus can be implemented with only minor land acquisition from other sources. While there is an obvious need for review and amendment at regular intervals, the basis for the park system can be identified, and subject to amalgamation, linkage and boundary modification, be integrated and assembled as a holistic unit without fundamental changes to the existing open space network. At this time there is a total of 893 hectares of contiguous public open space proposed for the Preston River to Ocean Regional Park, extending some seven kilometres inland from the coast.

The proposed Preston River to Ocean Regional Park satisfies the criteria for the establishment of a regional park, with a dominance of areas with significant conservation and landscape values, together with existing recreation amenities. Other areas identified in the GBRS will become regional open space when acquired and included in the regional park. Figure 6 shows an aerial photograph with proposed park boundary imposed.



3.

Background

3.1 Overview of the Greater Bunbury Regional Park planning process

An environmental link from the Preston River to the ocean was recommended in the Greater Bunbury Structure Plan adopted by the WAPC under the Bunbury–Wellington Region Plan in November 1995.

Three major tracts of bushland, which form the basis for the park are owned or vested with the Department of Housing and the City of Bunbury. The first most westerly is the 'Maidens' coastal dune area, vested partly with the Minister for Housing and partly owned by the City of Bunbury (Freehold town lot 626).

The second is the Usher Dalyellup Tuart Forest, which is located in the City of Bunbury and Shire of Capel. In late 2000, the then Minister for Housing advised that the then Ministry for Housing (MfH) had decided against development of its land for housing, but would allocate the land as regional open space. The Minister also instructed the MfH to prepare a management plan for the ocean to Bussell Highway section of the park in consultation with the City of Bunbury, Shire of Capel, community and environmental groups and relevant government departments.



A steering committee comprising representatives of these groups and stakeholders oversaw the appointment of consultants to prepare a management plan and undertake public consultation. The WAPC, while not having any direct management responsibility was nevertheless represented on the steering committee in recognition of its general planning role for the region, and the relationship between the region scheme and management plan.

The draft management plan was released for public comment in March 2002 and completed in June 2002. The majority of this land is under the current management of the City of Bunbury.

The Department for Conservation and Environment, The Darling System System 6 Part 2 recommendation C70.1 states:

“That areas of public open space, containing attractive and important features such as The Maidens and important stands of tuart be set aside at the time of subdivision of the coastal land south of Bunbury”.

The third bushland reserve is Manea Park, which is a 206 hectare Crown reserve vested in the City of Bunbury and is located to the south of the city. It has been earmarked since 1972 by the Bunbury City Council as worthy of protection and enhancement for conservation.

In 1999, the City of Bunbury, through the Manea Park Management Committee engaged consultants to prepare a management plan for the park. Current management practices for the park are in accordance with the prepared management plan.

An interim community consultative committee, comprising state and local government members, conservation group representatives, indigenous groups and local business interests was established to provide community input to the establishment of the Preston River to Ocean Regional Park. Additionally, a technical advisory group was established to provide technical advice and recommendations from state and local government departments.

The membership of the committees is listed in appendix 2.

Following public submissions on the draft plan, the submissions were considered by the interim

Community Consultative Committee and Technical Advisory Group, and following their consideration a finalised report was referred to the WAPC for approval and forwarded to the Minister for Planning.

The Minister for Planning, possibly in conjunction with the Minister for the Environment will ultimately seek final approval for the park through a Cabinet minute supporting establishment, vesting and funding requirements for the park.

3.2 The Preston River to Ocean Regional Park concept

The regional park is aligned in a seven kilometre east-west corridor on the southern flank of the City of Bunbury. It is predominantly located in the City of Bunbury, although 88 hectares fall in the Shire of Capel. A total of 893 hectares is proposed for inclusion in the park and presents as a contiguous tract of land extending from the western bank of the Preston River to the coast. While there has been some land clearing in the past, presumably for pastoral purposes, the land is in a relatively undegraded state, with more than 80% of its remnant vegetation intact. The park has two wide north-south expanses, the coastal reserve spanning two and a half kilometres and Manea Park to the east, also with a span of two and a half kilometres. The connecting corridors have an average width of 250 metres.

The park is virtually undeveloped, except for a network of paths in The Maidens coastal reserve, Dalyellup and Manea Park (2.3 km Pultenaea Loop), car parks, a lookout and one recreational playground, picnic and BBQ node, also at The Maidens. The park includes Manea Park, which is vested with the City of Bunbury. The Maidens and Manea Park are managed for their conservation and nature based recreation values and are currently reserved for regional open space in the City of Bunbury's Town Planning Scheme No 7. The majority of the proposed park is already reserved for regional open space in both the local planning scheme and GBRS.

There are a number of privately owned lots proposed for inclusion, with the remainder of the land being freehold and Crown land vested with the City of Bunbury and freehold land held by the Department of Housing (subject to joint venture agreements with private businesses), Water Corporation and Main Roads Western Australia.

While the conservation of the land and its biodiversity attributes is the primary objective for the creation of the park, there will be demand for increased recreation infrastructure as public use of the park increases. It is anticipated that such development would be located on or in proximity to the urban and/or regional open space interface. The goal for recreation will be to manage the park for compatible uses, tourism, sports and leisure in a manner that minimises impact on the ecosystem, and conflict between visitors. Issues relating to recreation, education, tourism, development and use will be considered and determined at the time of the preparation of the regional park management plan, coordinated by the DEC.

The coastal reserve parallel to the beach foreshore and extending inland to beyond The Maidens is a popular recreational area providing pedestrian access to the beach from the road system and dedicated parking areas. This area remains intact in terms of its vegetation and landscape integrity; however, its usage patterns suggest its classification under natural environment uses and its management by DEC.

The major proportion of the park is natural bushland with limited public access and is proposed to be vested in the Conservation Commission of WA, subject to the agreement of the relevant parties. This land would then be managed by DEC, and will require a special allocation of funds provided by the State Government for its administration, development and management. Final tenure and management arrangements for the park will be addressed in the management plan to be prepared by DEC in close consultation with relevant stakeholders.

Figure 7 indicates the GBRS including the Preston River to Ocean Regional Park and adjacent regional open space proposals.

Figure 3 indicates the cadastral boundaries and current land ownership of the park. A schedule of the current ownership and lot details for the land proposed to be included in the regional park is listed in Appendix 1. The proposed tenure arrangements for the park will be addressed in the management plan prepared by DEC.

4.

Values of the Preston River to Ocean Regional Park

The values of the park are the biological, physical, social and cultural qualities and attributes that deliver such an important asset to the Greater Bunbury area.

4.1 Values of regional and state significance

The regional and state significance is spelt out in the following quote from Keighery and Keighery, 1999: The sequence of vegetated landforms (Quindalup/Spearwood/Bassendean Dunes-Pinjarra Plain) encompassed in the Corridor is unusual in the (Swan Coastal) Plain and does not appear to occur elsewhere'.

It is the 'corridor' that is the subject of this establishment report. Despite being unusual the sequence represented in the proposed park can be regarded as representative of the Swan Coastal Plain in general. In a continuous sequence 4 of the 5 major landform and vegetation complexes characteristic of the Swan Coastal Plain occur here in a compact 7 kilometre long east-west aligned bush belt. The east west alignment at right angles to the coast and the generally coast parallel formations gives the park special significance. While it is interrupted by three major roads that leave Bunbury in a southerly direction the interfaces between the vegetated landforms are basically intact.

The significance for the residents of Bunbury and its region is manifold ranging from education to recreation, relaxation and enjoyment of nature. Because it provides a bush connection from the Preston River to the ocean its ecological significance extends beyond the region and may lead to a link from the coast to the forested hinterland, a connection essential to long term sustainability of ecology and biodiversity of the area. State-wide significance derives from the fact that it provides a virtual textbook cross section of the coastal plain formations that can be referred to in areas where fragmentation of the remnant bushland make interpretation difficult.

4.2 Description of physical and biological values

4.2.1 Topography

The major formations occurring in the park are topographically quite distinct. The very eastern extremity of the park is flat except for the Preston River, which has created a channel some six metres deep, with associated drainage channels. Manea Park is characterised by an irregular pattern of wetlands and low sandy rises. It has its own drainage system which gently slopes from 12-14 metres in the south to 10-12 metres Australian height datum (AHD) in the north and centres around Eedle Creek (a winding and shallow channel that drains into the Preston River north of the park).

The sandy rises increase toward the west (maximum height 22 metres AHD). From the western end of Manea Park to the coast, north-south aligned topographical features replace the irregular pattern. West of the Manea Park and College Grove boundary the ground rises gradually from 22-25 metres, then more steeply to the College Grove ridge (43 metres) from where it falls to Bussell Highway and the 5-Mile Brook plain, which is generally 4-6 metres AHD. While the ridge on its eastern side shows clear evidence of a dunal origin, the western slope does not fit the dunal pattern and appears to be of erosional origin.

The Hay Park and 5-Mile Brook plain is flat with a shallow central depression draining north toward the Big Swamp. West of the plain and Parade Road, the ground rises to form two ridges (18 metres and 26 metres high). From there for a distance of up to one kilometre the ground slopes gradually west to a swale almost at sea level. Here the landscape changes dramatically, rising to the coastal dune field, which shows a great variety of lively landforms and is crowned by dune peaks with a maximum elevation of 66 metres AHD in The Maidens. From this point, the dune field slopes gradually in a westerly direction until it suddenly drops 20-30 metres toward the beach below. The beach is sloping and narrow, generally lacking primary dunes. From the ocean the beach is protected by an aeolian type limestone reef, which is exposed at low tide. The high and steep slopes of the dune field are under threat from human activity. They are gradually being stripped of their protective vegetation, a process that is clearly advancing from north to south.

4.2.2 Geology

The geological history, apart from explaining the origin of the coastal plain is a fascinating story in itself about the breaking up of the Gondwana continent which starts with the opening up of a fault controlled trough along the Darling Fault, today visible as the Darling Scarp. A gradually widening trough called the Bunbury Trough, a part of the Perth Basin was filled with some 5000m³ of nonmarine sediments during approximately 125 million years from the Permian to Jurassic and early Cretaceous periods. The Jurassic is represented by the Yarragadee Formation, well known for its important aquifers. The exact origin of the Bunbury Basalt (dated in one instance as 136 million years old), which overlies beds of the Leederville Formation, which in turn overlies the Yarragadee Formation is not fully proven. One theory is that valleys in the Leederville Formation provided pathways for the flow of basalt from a source in the Antarctic. Multiple sources along a series of fractures are also regarded as a possibility.

4.2.3 Geomorphology and soils

In contrast to the basalt the Coastal Plain sequence goes back only 2-3 million years. It covers the massive Perth Basin like a veneer. Four of the five major landform and vegetation complexes



characteristic of the coastal plain are represented in the Preston River to Ocean Regional Park in one continuous belt of remnant vegetation (refer to chapter 4.1). A fifth complex, the Yoongarillup complex adds to the variety of the landforms and vegetation present in the park. Its sedimentation can be divided into two distinct phases. First, the alluvial (fluvial) sediments of the Pinjarra Plain Formation are carried down from the hinterland in the east by the ancient Preston River. This alluvial phase is followed by the Aeolian phase during which the Bassendean, Spearwood and Quindalup dune systems are built up by the ocean and westerly storms. The Yoongarillup sediments filled a shallow estuary, created between two parallel Spearwood dunes during a time of higher sea levels only a few thousand years ago. The same high sea level is also responsible for the truncation of the Quindalup dune field, which drops abruptly to the beach at the western end of the park.

4.2.3.1 Pinjarra plain

The Pinjarra plain system consists of mainly finely grained sediments carried down from the weathering granitic hinterland by the ancient Preston River to form a slightly terraced flood plain. It forms the base of the coastal plain sequence in the park and occurs in the eastern section.

The soils are largely impervious brown silts and silty clays, which are commonly masked by a veneer of aeolian sands or black sandy soils which formed in swamps of a much younger age. In places an iron hard pan has developed in the weathering profile and may be encountered on the surface as brown lumps comparable to coffee rock.

4.2.3.2 Bassendean dunes

As the alluvial sedimentation decreases, the aeolian deposition from the west increases and eventually takes over. The Bassendean sand which represents the first of the three dune systems covers much of the Pinjarra plain as low elongated rises or as a thin veneer spread widely over the plain by wind and river. It varies in thickness from a few centimetres to several metres. The soils consist of siliceous grey fine sand, which is leached and of low fertility and water retentive capacity. The Bassendean increases in thickness and extent toward the west. It dominates the eastern half of College Grove until it disappears under the overlying Spearwood dunes, the second major aeolian formation.



4.2.3.3 Spearwood dunes

The occurrences of the Spearwood formation is characterised by deep pale yellow and cream coloured sands over a core of aeolianite type limestone. Aeolianite is a non-marine limestone, which forms within or at the base of calcareous dunes as the result of vadose water trickling through the dune, dissolving lime and redepositing it as concretions, often around tree roots and near the groundwater horizon. This limestone can be everything from delicately tubular, to massive and layered. In the sand pit in the south-west corner of College Grove the limestone appears as well formed pinnacles which should be protected as a significant feature of the park.

Spearwood occurs in the park in two separate areas, one east of Bussell Highway, and the other west of Parade Road. How the once continuous dune field became divided by a 750 metre wide plain is explained in section 4.2.3.5 - the Yoongarillup plain. In College Grove, Spearwood overlies Bassendean. Their interfaces on the east and west side of the ridge are marked by the vegetation change from tuart and peppermint to *Banksia attenuata* woodland. The western area extends from Parade Road to its interface with the younger Quindalup dunes. There are two ridges of Spearwood, one in Usher (18 metres AHD), the other in the Shearwater area (26 metres). From there it slopes gradually to the swale at the base of the steep lee slope of the Quindalup dunes. In this swale two small wetlands have formed an unusual ecological niche. Limestone occurs on the two ridges as well as in the southern of the two wetlands, where it seems to form a floor that continues under the Quindalup dune system toward the beach.

4.2.3.4 Quindalup dunes

The Quindalup dunes make up the kilometre wide coastal area of the park. The dune material is predominantly cream and white medium grained, calcareous sand, which becomes increasingly unconsolidated toward the coast.

At least three phases of the Quindalup formation can be identified, two of which are well consolidated. The earliest phase advanced the furthest to the east and is represented by parabolic forms. Over these a dune field advanced which reaches a height of 66 metres and 62 metres in the peaks, named The Maidens. The third more recent and not yet concluded phase is responsible for unconsolidated sandy landforms along the western edge of the dune field that are easily eroded and susceptible to uncontrolled human activity.

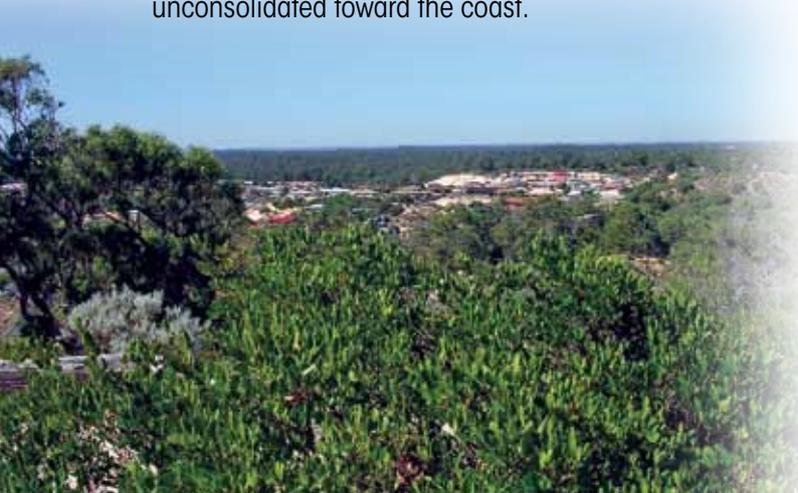
The large blow-out in the south-west corner of the park on land owned by the Water Corporation appears to be a natural feature and an indication that morphology of the Quindalup Dune system continues to evolve under active coastal processes. Off-road vehicles have done considerable damage to the fragile vegetation threatening to reactivate the dunes.

All along the park's coastline the Quindalup dune field is truncated, evidence of higher sea levels than at the time of the dune formation. The vegetation could keep pace with the speed of the natural erosion and recolonise the landscape of unconsolidated sands but is unable to tolerate the present level of insensitive human activity.

4.2.3.5 Yoongarillup plain

The Yoongarillup plain is flanked by occurrences of Bassendean and Spearwood to the east and west. The landforms and their vegetation suggest that the plain is the result of erosion by a marine or estuarine intrusion during times when the sea level was a few metres higher than the present day, a situation that existed only a few thousand years ago. The plain includes the Hay Park playing fields and some valuable remnant vegetation between the Bunbury Recreation Centre and Bussell Highway. The remnant Hay Park bushland contains black and grey calcareous soils, where lack of trees and the availability of water supplied by the nearby raised and irrigated playing fields is causing the spread of salinity, killing existing vegetation and supporting samphire.

Figure 2 displays the landform and soil profile distribution throughout the park, which determines the vegetation associations. The ground contours are presented to provide topographical information. Note: the base mapping for this plan is an enlargement of a plan of general land classification units sourced from the Western Australian Department of Agriculture and Food, and has been amended to provide more detailed and accurate information.





4.2.4 Vegetation and flora

The Preston River to Ocean Regional Park contains a diverse array of vegetation. In the park are more than a dozen floristic community types, most of which have a restricted distribution and occur in wetlands and damp lands. The flora of more than 600 plant species which includes at least 100 introduced species have been recorded.

According to DEC databases there are four species of Priority 4 Flora-poorly known taxa, three species of priority 3 Flora- poorly known taxa and one recorded occurrence of Declared Rare Flora known to occur within the proposed park area. Most of these are located in and around Manea Park. It is also noted that there are at least four recorded occurrences of Threatened Ecological Communities, particularly adjacent to Hay Park, as well as throughout Manea Park. The vegetation condition varies greatly, but is generally good to very good.

Because of a history of grazing and cultivation in some parts of the park, and its proximity to residential development and infrastructure, exotic weeds are a problem and will require determined management in the short to medium term. Increased public access in the future will exacerbate the problem.

The following description of the complex framework of vegetation is very simplified, and limited to the tree species, which comprise the over storey. Because the vegetation varies with the geomorphologic and soil formations it is these units that are the basis for the descriptions. Other factors influencing the vegetation are the position relative to the groundwater and seasonal flooding. Many trees, in particular eucalypts, melaleucas and banksias vary as to the species while the genera persist. On coastal dunes it is exposure to the sun and the prevailing weather that are the dominant influence.

Pinjarra plain (alluvial soils)

Melaleuca preissiana, *Melaleuca raphiophylla* woodland commonly with *Acacia saligna* on damplands, *Melaleuca viminea* and *Melaleuca raphiophylla* woodland in wetlands, Marri (*Corymbia calophylla*) woodland in undulating country.

Preston River

Riverine woodland with flooded gum (*Eucalyptus rudis*), marri (*Corymbia calophylla*) and Western Australian (WA) peppermint (*Agonis flexuosa*) dominates the vegetation along the Preston River.

Eedle Creek

Riparian woodland with *Melaleuca raphiophylla*.

Bassendean dunes

Jarrah (*Eucalyptus marginata*), *Banksia attenuata* woodland, often with marri (*Corymbia calophylla*) lower in the landscape.

Spearwood dunes

Tuart (*Eucalyptus gomphocephala*) and WA peppermint (*Agonis flexuosa*) woodland, dune swales with tuart and *Acacia saligna* over sword-sedge (*Lepidosperma gladiatum*).

Quindalup dunes

Tuart (*Eucalyptus gomphocephala*) and WA peppermint (*Agonis flexuosa*) woodland on sheltered slopes, with *Acacia* shrubland and coastal heath on exposed sites.

Yoongarillup plain

Marri woodland along the edges on slightly higher ground, *Melaleuca preissiana* and *Banksia littoralis* woodland lower down, with flooded gum (*Eucalyptus rudis*) and *Melaleuca raphiophylla* in the lowest part.



It can be observed that the landscape types in the proposed Preston River to Ocean Regional Park provide a comprehensive display of the majority of vegetation associations and landscape elements in existence on this segment of the Swan Coastal Plain.

Figure 4 provides information on the vegetation associations in existence. Note: the information on this plan is from a combination of sources and is not an officially recognised document.

4.2.5 Fauna

Specific studies to determine the variety and quantity of vertebrate fauna in the proposed regional park boundary have yet to be undertaken, and are anticipated to be initiated when the management plan is in the process of preparation. Alan Tingay and Associates prepared a report on the vertebrate fauna of the Dalyellup Beach estate in 1998. The study did not cover the entire Usher Dalyellup Park and extended to the south to include cleared and grazed areas. Part of the proposed regional park falls in this area; however, the findings serve only to identify the animal groups present in the general area, and cannot be assumed to accurately represent the extent of fauna presence and activity for the land that is the subject of this study.

The study identified a total of 78 species of vertebrate fauna, which were observed during March 1998. All the species had widespread distributions with none restricted to habitats in the study area. A total of four species of amphibians, 16 reptile species, 52 bird species and six native mammals were identified (Alan Tingay and Associates 1998).

An extensive literature review undertaken as part of the study concluded that an additional 91 native species, consisting of five amphibians, 12 reptiles, 60 bird species and 14 native mammals could occur in the habitat types available. There are at least four species of threatened fauna known to occur within the park area.

4.3 Social and cultural heritage

Detailed ethnographic and archaeological surveys of the land proposed for the park have not been undertaken. The Preston River is a significant Aboriginal mythological site in association with site ID 16713 (Collie River Waughal-Ngarngungudditj Walgu). All rivers that flow into the Leschenault Inlet are perceived by the Aboriginal community to be part of the same mythological site complex (Goode 2002).

College Grove has been identified as an old hunting and camping area traditionally used by elder Noongahs, who would access the Preston River and adjacent swamplands (Manea Park, College Grove and 5-Mile Brook) for fresh water supplies and hunting. The woodland areas in Dalyellup, Shearwater and College Grove were important corridors used for hunting and accessing the coast for fishing (Parker and Lantzke 2001).

The establishment of the Swan River colony in 1829 resulted in a number of expeditions southwards to map the landscape and determine suitable areas for potential townsites and settlements. In 1829, Lieutenant Preston and Dr Collie led an expedition to explore the coastal plain. Travelling by whaleboats, the group entered the Leschenault Inlet and progressed the exploration by using rowboats to explore the river systems of the Collie and Preston rivers which were named after the doctor and lieutenant.

In 1836, Lieutenant Bunbury led the first overland journey across the coastal plain from the Pinjarra military post where he was situated, across the Murray and Vasse rivers, mapping and exploring the landscape in between. In the Bunbury district, Bunbury recorded a large number of Bibbulmun people (between 100 and 200) travelling with the party out of curiosity of the newcomers. The party camped at the Preston River in the Picton area which is recorded in the journal as 'a place where large numbers of natives camped'.



Early European land uses were confined primarily to activities involving small scale timber logging and agriculture. Old sawpits are in evidence in the Dalyellup area, and there are remnants of an early coastal track extending from the south, possibly from Minninup House at Ludlow.

The conical peaks of The Maidens were significant navigational landmarks that assisted the early French and English maritime explorers as they sailed close to the coast.

4.4 Recreation and land use

The park area is serviced with limited recreational facilities with present use confined to passive activities. There is a City of Bunbury developed and managed public recreation site at The Maidens with BBQ, playground, car parking and ablution facilities available. Nearby is an extensive network of formal and informal walk trails to the beach, and a 60 metre high lookout offering expansive city, hinterland and coastal views. The area is popular as a principal access for fishing and swimming purposes.

Loughton Park has a playground, picnic facilities and car parking facilities available.

A walk trail system is also in place at the Shearwater Tuart Forest, with access through the woodland.

Manea Park is serviced with a pedestrian walk trail, known as the Pultenaea Loop, a bridle trail and vehicular access for management. The remainder of the land proposed for inclusion in the park has no developed access trail network in place; however, the need for east-west and north-south access, and general linkages through the park will be considered in the management plan.

Recent adjacent residential development and the resultant growth in the population living in the Usher, Dalyellup and College Grove areas is likely to result in significant recreational impact on the regional park, with demand for the provision of access trails linking the urban areas and potentially a circuit route through the park.

The majority of the reserve has been recently fenced on the urban and road reserve interface to ensure a high level of protection and general park security from unauthorised vehicle intrusion. However, there is evidence of uncontrolled four

wheel drive vehicle use on the beach, which is unauthorised. The four wheel drive access has now been fenced off.

Further investigations as part of the management planning process will determine the appropriate recreation uses compatible with the regional park, and the balance between the provision of recreation amenity, public access and conservation.

Major uses abutting the park and outside of the boundary consist of the Bunbury airport, Edith Cowan University campus, the Bunbury Regional Prison and the Water Corporation sewerage treatment plant. The Water Corporation has advised that its land in the park may be required for infrastructure expansion; however, timelines for any such works are unknown. The adjacent land zonings consist of industrial land to the north-east, rural to the south and various urban areas to the south and north of the park.

5.

Park establishment and administration

5.1 Park management

This establishment plan identifies and defines three broad management zones for the park:

- conservation and protection
- natural environment uses
- recreation.

These zones have been used previously in DEC management plans. The vesting and management responsibilities for the agencies involved will be guided according to these zones. It is anticipated that classification zones of similar description or intent are likely to be adopted in the future management plan.

Conservation and protection constitutes the majority of the park and represents the remnant vegetated areas of high conservation and landscape value. These areas will be managed with the aim of preventing disturbance to the bushland environment by restricting public access through the area to dedicated trails and where possible, enhancing their conservation values.

The significant conservation values of the Preston River to Ocean Regional Park are such that a large proportion could appropriately be managed by DEC under the *Conservation and Land Management Act 1984*. Other state government agencies may prefer to retain and continue to manage their landholdings in the park using in-house or contracted staff. This will be acceptable, provided that such management accords with the recommendations of the future management plan. The Water Corporation owns Lots 1 and 2 adjacent to the sewerage treatment plant on the south-west coastal fringe of the park, and there may be a need to expand the treatment plant infrastructure to their land inside the park boundary in the future. The Water Corporation has no objection for their land to be included in the park.

Natural environment uses refers to natural environments that have some level of developed amenity, are subject to significant visitor numbers

and are used as access for recreation purposes that do not adversely affect the natural environment. Such activities may include bushwalking, cycling and fishing. A higher level of management will be required than for the conservation and protection areas, with the similar aim to prevent random public movement through the area causing bushland degradation. Areas will be managed for public access, conservation and enhancement of flora and fauna habitats.

Recreation refers to areas set aside for passive and active recreation and may include built facilities, irrigated playing fields, barbeque sites and playgrounds. This classification includes infrastructure such as parking and site services. These areas would be subject to a structured grounds management program.

The type and scale of any facilities provided will depend on the conservation values of the surrounding area, community demand and appropriate management of the park.

Existing recreation facilities and proposed management zones are indicated in Figure 5.

The land that is the subject of the regional park proposal has been identified as a result of structure plans, local planning schemes, Crown land, existing parks and remnant vegetation and has been reserved as regional open space in the GBR. The City of Bunbury is currently managing the majority of the land proposed for the park, including Manea Park, the endowment lands, the coastal reserve and The Maidens area. The City also provides land management services to the Department of Housing for its land between Usher and Dalyellup.

The DEC will coordinate the preparation of a formal management plan which will be undertaken in association with stakeholders and will address such issues as pests, weeds, fire control, access and facilities, tourism and education. Information and recommendations derived from existing management plans undertaken by other agencies will be incorporated where they can make a contribution to the preparation of the plan.

The management plan will provide broad direction for the protection and enhancement of the conservation, recreation and landscape values of the park. It will do this by developing strategies aimed at conserving the special features of the park and providing for future community requirements. It should address such matters as park vision, landscape, flora and fauna

description and analysis, tenure and management, conservation and rehabilitation, control of weeds, fire and pests, greenway corridors and links, cultural heritage, visitor access, circulation and safety, signage, sustainability matters, community involvement, interpretation and education, plan implementation and performance assessment. This document is prepared in close consultation with stakeholders, with input from the general public through the normal advertising processes.

5.2 Land vestings

This document proposes a broad framework for the establishment of a regional park and does not provide for the final details of land tenure and vesting arrangements which, subject to suitable agreements being reached, will be progressed at a later date in consultation with the relevant stakeholders.

For effective and coordinated management of the park, the land must be vested in the appropriate agencies. Those areas to be managed by DEC require vesting with the Conservation Commission of WA under the *Conservation and Land Management Act 1984*.

Areas to be managed by the City of Bunbury, or in the future, the Shire of Capel will also require appropriate vesting. Vestings are created or bestowed by the Department of Regional Development and Lands under direction from the agencies involved.

Broadly, it is proposed that conservation and protection and natural environment use management zones should be vested in the Conservation Commission of WA and managed by DEC for the purposes of conservation, for scientific study and education with recreation activities being compatible with the conservation of the natural environment. Whilst DEC may be the agency best placed to manage the Conservation and Protection zoned land, it is by no means unacceptable for local government authorities to manage such areas within the park, such as the land in the Five Mile Brook area which will remain under the City of Bunbury's management.

The DEC is the appropriate vesting agency for the conservation and bushland regions of the park, with the local governments more suited to the provision of traditional recreation, sporting facilities

and associated infrastructure, the majority of which is likely to be patronised by the local community.

In areas where there are built recreation amenities and developed sports fields, the City of Bunbury would accept management responsibility. Similarly, any recreational amenities developed in the Shire of Capel would be developed by and vested in the shire, and managed under its own resources.

There may be a future demand for active recreation sites on the fringe of the park in proximity to recently developed residential areas. These will be subject to statutory planning approvals, and likely be vested in the respective local government for development and management. It is desirable for the City of Bunbury and Shire of Capel to consider their future requirements for active recreation facilities (i.e. sporting ovals and regional complexes etc.) so that such areas can remain vested in them where appropriate and the land can be appropriately zoned in the final management plan. In this way future delays and difficulties in establishing such facilities within the park can be minimised.

5.3 Acquisition and additions to the park

While establishment of the Preston River to Ocean Regional Park as a part of the GBRS is a priority, it is recognised that adjacent and other lands in proximity to the park may satisfy the criteria for additions to the park in the future.

These additional lands would be considered for reservation as regional open space in the GBRS through a scheme amendment process.

Criteria for consideration of additional land for inclusion in the park would include:

- The presence and availability of pristine or high quality undisturbed remnant vegetation with physical linkage or proximity to the current park boundary.
- The presence of declared rare flora.
- The presence of a vegetation unit in proximity to the park which is not adequately represented elsewhere.
- The need to extend landscape protection over adjacent land for conservation or landscape amenity purposes.
- The desire to increase the width of linkage corridors to improve public access and wildlife movement through the regional park.



- The need for land additions to satisfy an increased requirement for management access.
- The desire to increase the area of particular landscape elements e.g. river foreshore.
- The inclusion of land for a recreation activity compatible with the objectives of the park.
- Consolidation of the park.

Based on such criteria, there may be other land identified as suitable for inclusion in the regional park. Following reservation for regional open space in the GBRS, the WAPC would proceed with acquisition when the land becomes available for purchase. Following creation of the park, the land acquired by the WAPC for incorporation in the regional park will most likely be managed on behalf of the WAPC by DEC pursuant to section 16 of the *Conservation and Land Management Act 1984*. The DEC will prepare a management plan for the regional park following commencement of its management role.

5.4 Community involvement

The views and support of the general community in the planning for regional parks is an integral part of the consultation process. This is required for establishment, at the time of inception, when the management plans are in preparation and in the longer term with the convening of a DEC community advisory committee.

With this in mind, the establishment of a community consultative committee has assisted the Preston River to Ocean Regional Park planning process.

Apart from the opportunity to comment on the establishment plan, the broader community will have the opportunity to provide comment on the planning, development and management of the park at the time of the preparation of the DEC management plan.

5.5 Future planning and review process

A DEC prepared management plan will be the guiding document for the planning, development and management of the park into the future. A community advisory committee, appointed by the Minister for the Environment will be convened to oversee preparation of the management plan and to guide the forward planning for the park. The management plan is expected to have a life span of 10 years, followed by review and update.

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Appendices



Appendix 1 Schedule of land for inclusion in the Preston River to Ocean Regional Park

Land description	Ownership
Reserve 670 Bunbury Town Lot 1180	State Government-City of Bunbury (endowment land)
Reserve 11998 Bunbury Town Lot 1179	State Government
Reserve 35449 Bunbury Town Lot 614	State Government –City of Bunbury (land vested)
Reserve 35020 Bunbury Town Lot 613	State Government -City of Bunbury (land vested)
Bunbury Town Lot 626	City of Bunbury (freehold)
Lot 1	State Government – Water Corporation
Lot 2	State Government – Water Corporation
Reserve 39062 Bunbury Town Lot 650	State Government
Lot 303	State Government – State Housing Commission
Lot 2001	State Government – State Housing Commission
Lot 304	State Government - State Housing Commission (Dallyellup Beach partnership)
Lot 9003	State Government - State Housing Commission (Dallyellup Beach partnership)
Lot 9001	State Government - State Housing Commission (Dalyellup Beach partnership)
Reserve 46267 Lot 5000 Wellington Location 6066	State Government
Bunbury Town Lot 632	City of Bunbury (freehold)
Lot 8	Commercial organisation - Kingslane P/L
Lot 4	Private owner- J. Cranston
Lot 3	Private owner - F and G Dichiera
Bunbury Town Lot 1175	State Government - unallocated Crown land
Reserve 16044 Bunbury Town Lot 937	State Government - rifle range
Reserve 32963 Bunbury Town Lot 940	State Government – City of Bunbury (land vested, recreation and parklands)
Reserve 36316 Bunbury Town Lot 939	State Government – City of Bunbury (land vested)
Reserve 670 Bunbury Town Lot 1052	State Government – City of Bunbury (endowment land)
Lot 91	Commissioner of Main Roads
Reserve 670 Bunbury Town Lot 1051	State Government – City of Bunbury (endowment land)
Reserve 670 Bunbury Town Lot 1018	State Government – City of Bunbury (endowment land)
Reserve 40664 Bunbury Town Lot 706	State Government – City of Bunbury (land vested)
Reserve 670 Bunbury Town Lot 1050	State Government – City of Bunbury (endowment land)
Lot 1	Commercial organisation - Rawling Road P/L
Lot 5	Commercial organisation - Rawling Road P/L
Reserve 3136-213 Bunbury Town Lot 3001	State Government - City of Bunbury (land vested)
Lot 417	WAPC
Lot 1085	State Government – City of Bunbury (land vested)
Lot 935	State Government
Lot 568	State Government – City of Bunbury (land vested)
Lot 617	State Government – City of Bunbury (land vested)
Lot 567	State Government – City of Bunbury (land vested)
Lot 500	State Government – State Housing Commission
Lot 450	State Government – State Housing Commission
Lot 451	State Government – State Housing Commission
Lot 452	State Government – State Housing Commission
Lot 6092 (Reserve 46486)	State Government – City of Bunbury (land vested)

Appendix 2 Committee memberships

Membership of the community consultative committee

Name	Position
Members in the original formulation of the plan	
Parliamentary representative	
Tony Dean MLA	Member for Bunbury
Local government councillors	
Cr Dave Hart	City of Bunbury
Cr David Smith	City of Bunbury
Cr Kingsley Gibson	Shire of Capel
Conservation group representative	
Shirley Fisher	Bunbury Naturalist Group
John Sherwood	South West Environment Centre
Interest group representative	
Dr Bernhard Bischoff	Manea Park Management Committee
Damon Wilmore	South West Mountain Bike Club/Bunbury Bicycle
Noongar representative	
Kevin Fitzgerald	South West Aboriginal Land and Sea Council
Water Corporation	
Geoff Kendall	Manager Wastewater SW Region
Satterley Property Group	
Graeme Morris	Project Manager- Dallyellup Beach
Members for 2006-2007 plan	
Local government councillors	
Cr Brendan Kelly	City of Bunbury
Cr Ross Slater	City of Bunbury
Cr David Smith	City of Bunbury
Cr Kingsley Gibson	Shire of Capel
Conservation group representative	
Shirley Fisher	Bunbury Naturalist Group
John Sherwood	South West Environment Centre
Interest group representative	
Dr Bernhard Bischoff	Manea Park Management Committee
Noongar representative	
Kevin Fitzgerald	South West Aboriginal Land and Sea Council
Water Corporation	
Peter Spencer	Manager Wastewater SW Region
Satterley Property Group	
Graeme Morris	Project Manager- Dallyellup Beach



Name	Position
Members for 2008-2010 plan	
Local government councillors	
Cr Brendan Kelly	City of Bunbury
Cr Ross Slater	City of Bunbury
Mayor David Smith	City of Bunbury
Cr Kingsley Gibson	Shire of Capel
Conservation group representatives	
Shirley Fisher	Bunbury Naturalist Group
John Sherwood	South West Environment Centre
Interest group representative	
Dr Bernhard Bischoff	Manea Park Management Committee
Noongar Representative	
Kevin Fitzgerald	South West Aboriginal Land and Sea Council
Water Corporation	
Peter Spencer	Manager Wastewater SW Region
Satterley Property Group	
Matthew Whyte	Project Manager - Dalyellup Beach

Membership of the technical advisory group

Name	Position
Members in the original formulation of the plan	
Department of Conservation and Land Management	
Tim Bowra	Manager, Regional Parks Unit
Peter Hanly	Regional Planning Officer, Bunbury Region Office
Department of Environment	
Mike McKenna	Environmental Officer
City of Bunbury	
Tony Brun	Executive Manager, City Life
Jason Foster	Environmental Planner
Department for Housing	
Richard Elliott	Manager, Strategic Planning and Land
Shire of Capel	
Glen Bishop	Manager Planning and Development Services
Department of Indigenous Affairs	
Anthony Galante	Regional Manager
Department of Land Administration	
Bob Hamilton	Project Officer, Bunbury
Coastcare	
Jason Smith	Facilitator, South West Region
Members for 2006-2007 plan	
Western Australian Planning Commission	
Jim Chesterman	Landscape Architect WAPC Property and Management Services
Department of Planning	
Marion Gartrell	Planning Manager, Greater Bunbury Region Scheme, South West Planning
City of Bunbury	
Ben Deeley	Environmental Officer
Department of Environment and Conservation	
Peter Hanly	Environmental Officer
Brendan Dooley	Regional Parks Co-ordinator
Jacinta Overman	Senior Planning Officer
Department of Housing and Works	
Richard Elliott	Manager, Strategic Planning and Land
Shire of Capel	
Chris Burwood	Manager Planning, Development and Environment Services
Department of Indigenous Affairs	
Anthony Galante	Regional Manager
Department of Regional Development and Lands	
Kevin Harrison	State Land Officer, Bunbury
Coastcare	
Jason Smith	Facilitator, South West Region



Name	Position
Members for the 2008-2010 plan	
City of Bunbury	
Ben Deeley	Senior Environment Officer
Michael Scott	Executive Manager City Services
Geoff Klem	Executive Manager City Development
Shire of Capel	
Chris Burwood	Manager Planning and Development Services
Glen Bishop	Senior Planning Officer
Department of Environment and Conservation	
Simon Dobner	Planning Officer, Community and Regional Parks Branch
Aminya Ennis	Environmental Officer
Peter Henderson	Program Leader Parks and Visitor Services
Department of Planning	
Jim Chesterman	Landscape Architect
Ross Parker	Manager Park Services
Marion Gartrell	Planning Manager
Kath La Nauze	Senior Planning Officer
Danny Cullen	Project Officer
Department of Regional Development and Lands	
Kevin Harrison	Senior State Land Officer
Department of Housing	
Richard Elliot	Manager Land Planning and Acquisition
South West Catchment Council	
Troy Fynmore	Regional Coastal NRM Facilitator
Mosquito Control Expert	
Scott Dandridge	Shire of Harvey, Mosquito Control Advisory Committee Member

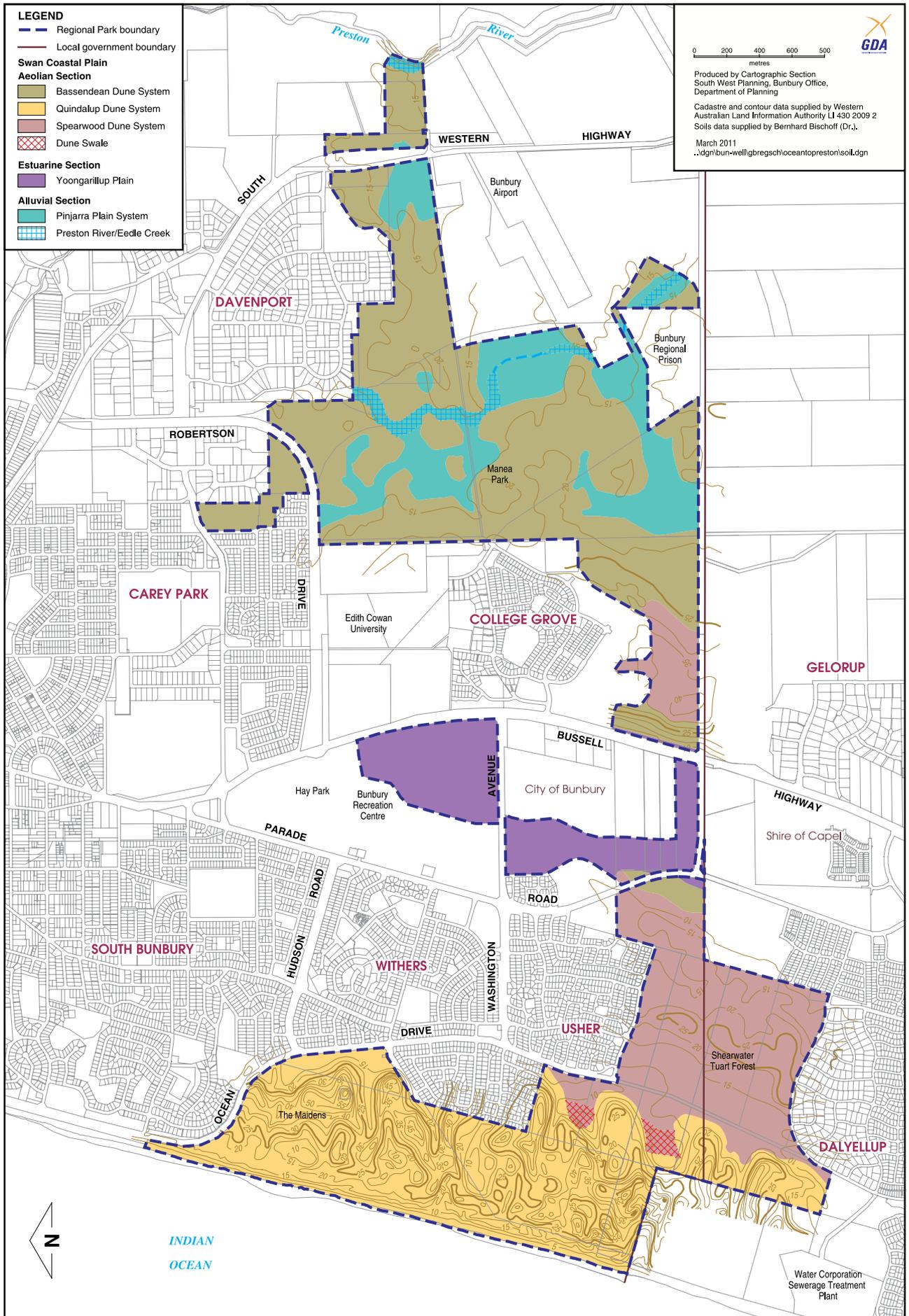


Figure 2 Landforms and topography

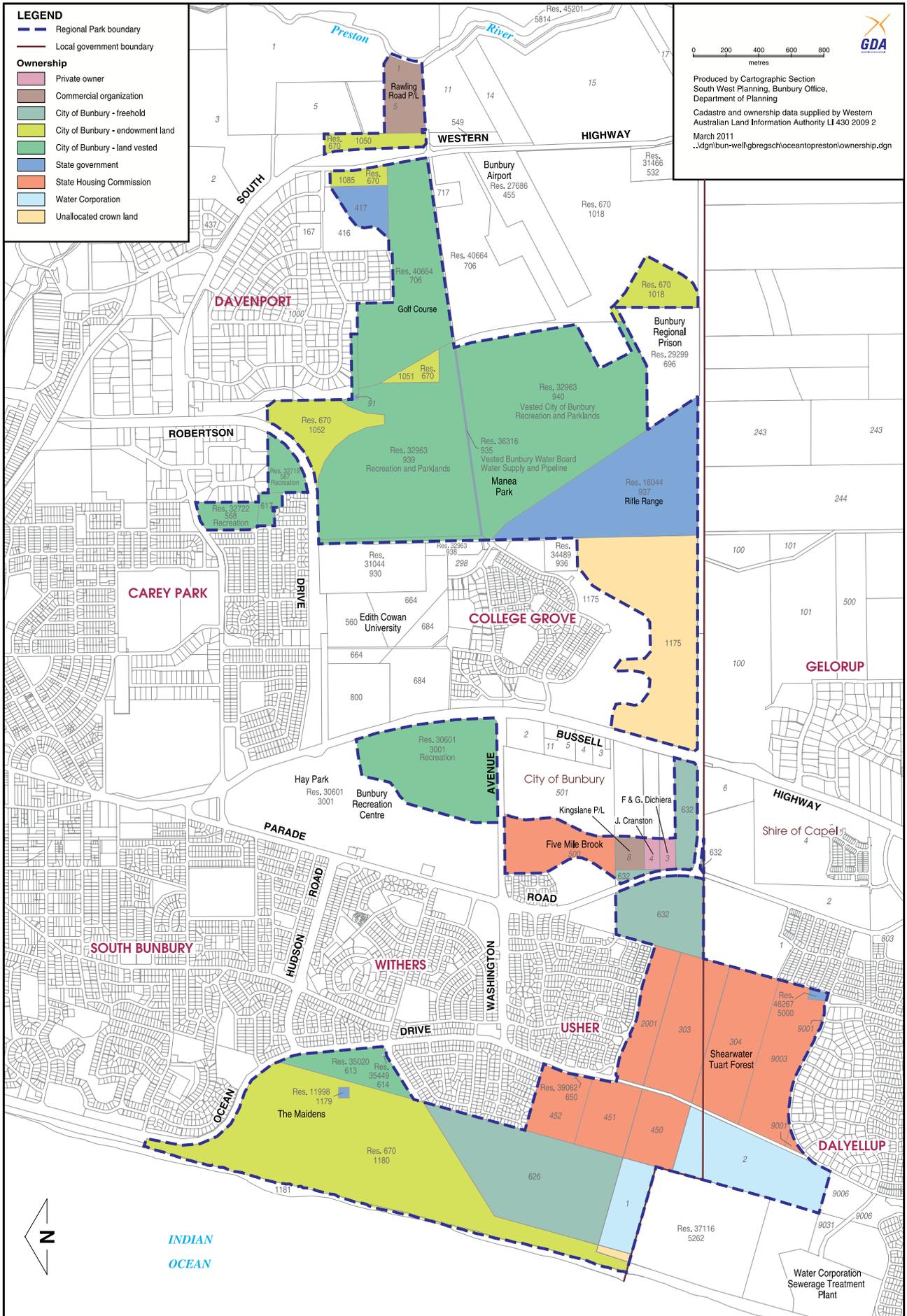


Figure 3 Land ownership

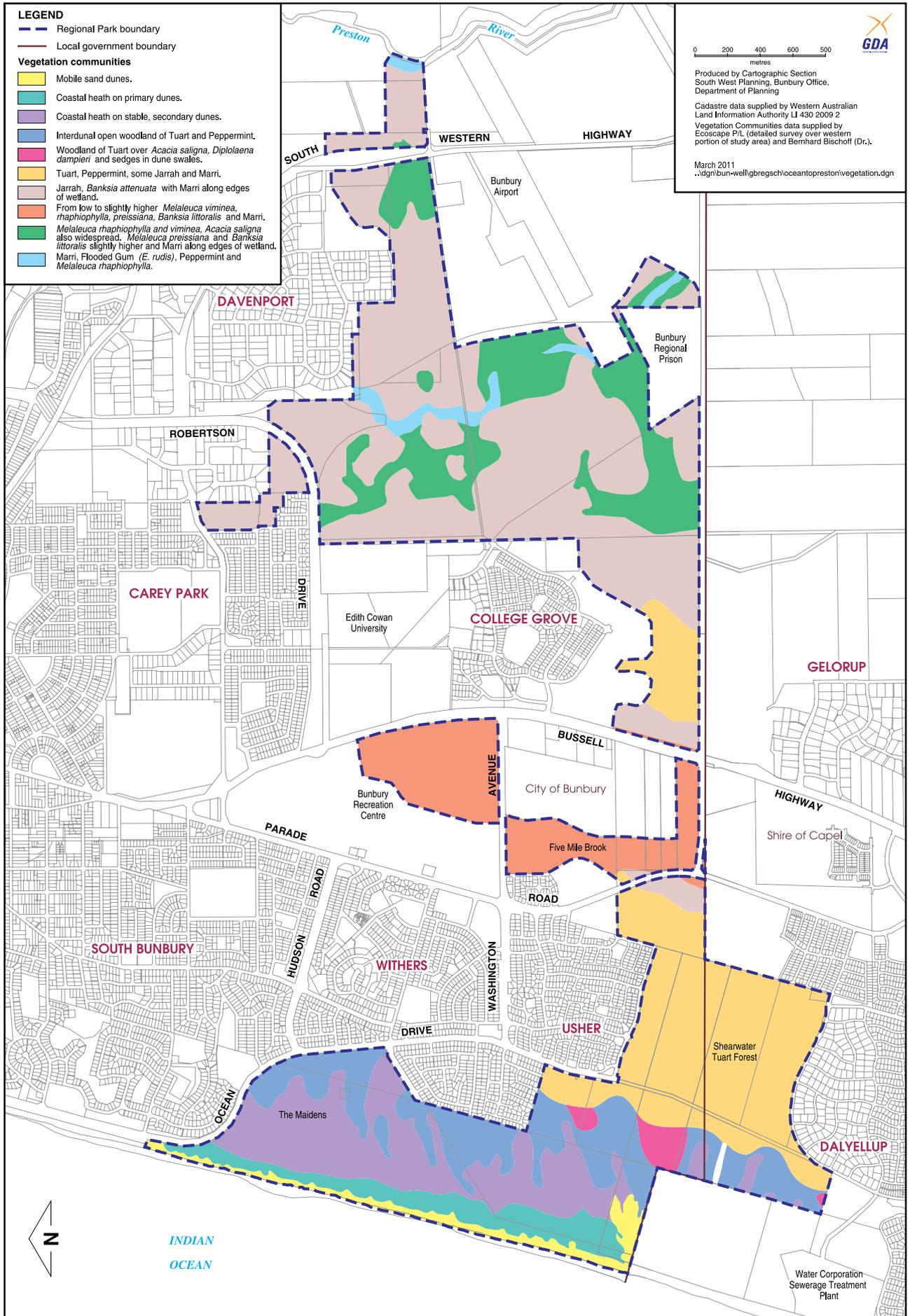


Figure 4 Vegetation profile

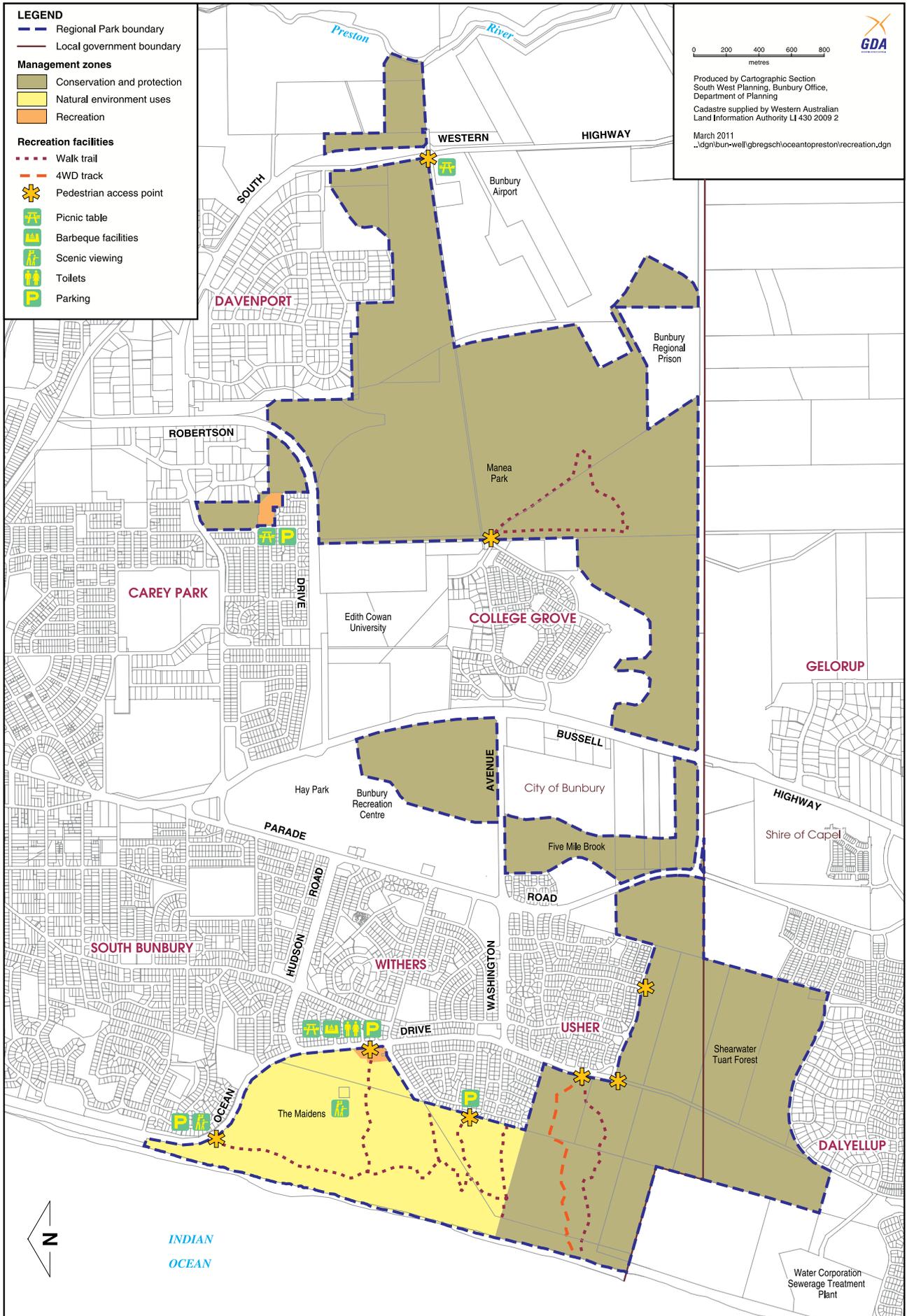


Figure 5 Existing recreation facilities and proposed management zones

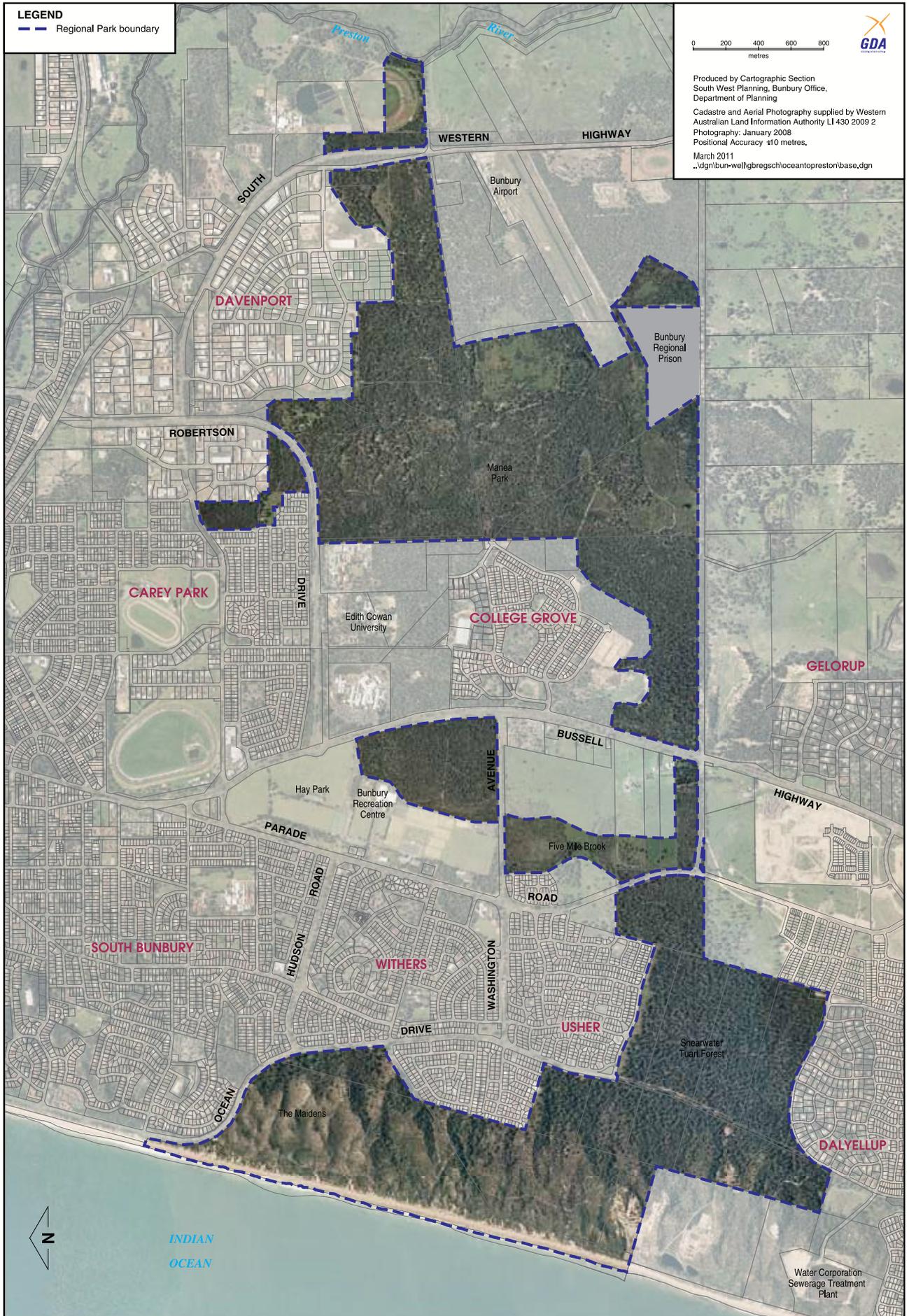


Figure 6 Aerial photograph with proposed park boundary

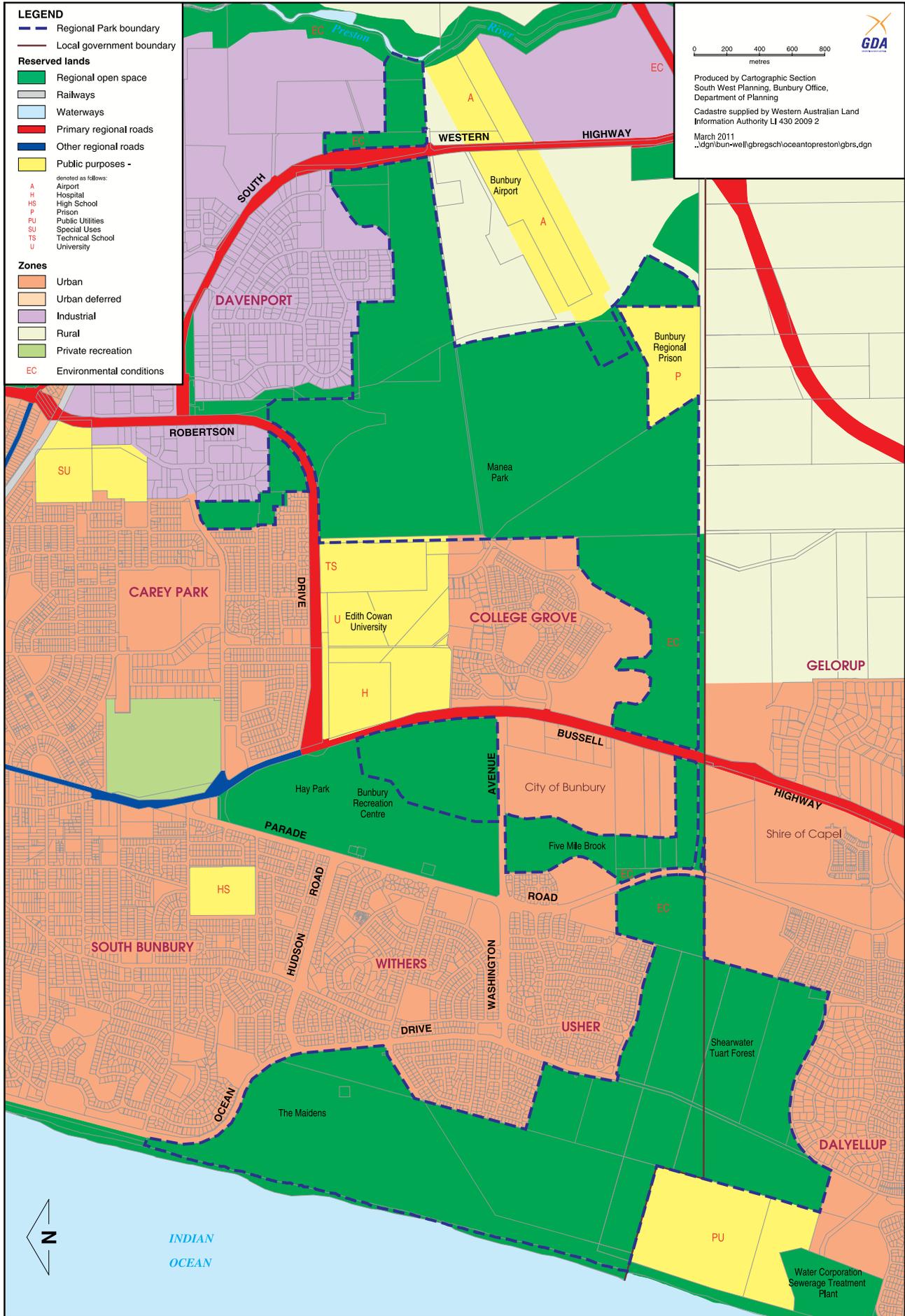


Figure 7 The Greater Bunbury Region Scheme