



DRAFT

Bunbury- Geographie

sub-regional strategy

November 2020



Acknowledgement of Country

The Bunbury-Geographe sub-region is a contemporary description of portion of the ancestral lands of the Binjareb, Wilman, Wadandi and Ganeang Noongar people. The Western Australian Planning Commission acknowledges the First Australians as the traditional owners of these lands and pays respect to their Elders both past and present.

The *Noongar (Koorah, Nitja, Boordahwan) (Past, Present, Future) Recognition Act 2016* recognises the living cultural, spiritual, familial and social relationship that the Noongar people have with the Noongar lands; and includes the following recognition statement:

Noonakoort moort nitja burranginge noongar boodja

Noonakoort moort kwomba

Djinunge nitja mungarrt – koorah

Noonakoort moort yirra yarkinje kwomba noongar boodja

Koorah – nitja – boordahwan

Noonakoort moort yarkinje noongar boodja

Nyidiung koorah barmenje noonakoort moort

Wiernbirt domberrinje

Noonakoort moort koort boodja

Nitja gnulla moorditj karrl boodja

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COVID-19 implications

This Strategy plans for significant population and economic growth in the Bunbury-Geographe sub-region. The bulk of the background work for the Strategy was undertaken prior to the declaration of COVID-19 as a pandemic by the World Health Organisation in March 2020.

This event has had an unprecedented effect on the global economy. Uncertainty about the future is considerable.

While growth rates may be affected in the short and medium terms, this is a Strategy for the long term with capacity to respond to peaks and troughs. With the challenging environment posed by COVID-19, it is even more important to have a robust plan in place that can help deliver population and economic growth, as well as sustainable development.

Executive summary

The Bunbury-Geographe sub-region has experienced major growth and change over the past few decades.

The settlement of Bunbury has grown into a major population centre and serves not only as the administrative hub for the South West region, but also as the State's second city. Since 2001, the development of new residential estates such as Dalyellup, Glen Iris and Treendale has driven an increase to Bunbury's population of approximately 65 per cent.

The sub-regional centre of Collie is transitioning to a more sustainable economy with a greater range of industries, and a reduced reliance on coal mining.

These major centres are complemented by a diverse and productive hinterland, with a network of inland towns offering diverse lifestyle options and close linkages to the sub-region's broad economic base.

New residents are attracted to the area by its economic opportunities, beautiful natural setting and strong communities. Together these characteristics comprise the enviable Bunbury-Geographe lifestyle.

Planning is about shaping the future, and this Strategy seeks to help Bunbury-Geographe reach its full potential in the years ahead as the sub-region grows towards a population of 200,000 and beyond.

The Strategy sets out to achieve this by including an aspirational vision of the place we are seeking to create:

In 2050 Bunbury-Geographe is a diverse, dynamic, creative, vibrant and connected region, that is recognised for its quality of life, environmental values and sustainability. The sub-region has a robust and diverse economy that is adaptive and offers enviable liveability.

To help arrive at this vision, the Strategy outlines a set of principles to act as guideposts and to inform strategic directions that detail the specific steps to be taken on the path ahead. These principles and strategic directions are the key content of this Strategy and are presented in the following:

- Strategy alignment table (Figure 1, page vii), showing the alignment between themes, principles and strategic directions.
- Strategy map (page x), a spatial representation of the key strategic content.

Figure 1 – Strategy Alignment Table

THEME	PRINCIPLES	STRATEGIC DIRECTIONS
INTERVENTION	<p>Go beyond a business as usual approach to help the sub-region reach its full potential.</p> <p>A conscious step away from business as usual, seeking a deliberate step change that builds on the past but approaches the future differently, to provide a prosperous and sustainable future for Bunbury-Geographe.</p>	<ol style="list-style-type: none"> Promote Bunbury as Western Australia's second city, offering a range of employment and services as a genuine urban alternative to metropolitan Perth. Support a multi-government agreement such as a City Deal or Regional Deal for Bunbury-Geographe and potentially other parts of the South West region. Provide for the growth of the sub-region's population to 200,000 by identifying sufficient residential and employment land to cater for this target population. Recognise the broader aspiration for a population of 300,000 in the sub-region and respond to accelerated rates of growth by identifying additional residential and employment land, through regular monitoring and updating the Strategy as required.
	<p>Establish an agreed and achievable pattern of growth across the sub-region.</p> <p>Focusing growth in the larger settlements to maximise economic benefit and leverage existing infrastructure will help to ensure a sustainable future for the network of settlements that characterise the Bunbury-Geographe sub-region. Our settlements will continue to be attractive places to live, with high amenity and access to services.</p>	<ol style="list-style-type: none"> Adopt the settlement hierarchy for the Bunbury-Geographe sub-region in Section 8. Promote the growth of Bunbury as a Regional City by focusing major population and employment growth in Bunbury. Promote the growth of Collie as a Sub-regional Centre by facilitating planning proposals that will help to diversify the employment base and provide for a smooth economic transition in the future. Support the growth of Major Towns and Towns to reinforce their ongoing roles in the settlement network. Foster sustainable change in Villages to support resilient communities. Support proposals in Yarloop that assist in the redevelopment of the settlement following the 2016 Waroona-Yarloop Bushfire.
URBAN SETTLEMENT	<p>Promote a diverse urban form to cater for a range of lifestyle options and affordable housing choices.</p> <p>Lifestyle options and housing choice are at the heart of the Bunbury-Geographe lifestyle. Options include houses and units at varying densities and in a range of settings: inner urban, coastal suburban, hinterland towns and rural living. Promoting the offerings of a diverse urban form will maintain the Bunbury-Geographe lifestyle and retain the affordability benefits of living in regional WA.</p>	<ol style="list-style-type: none"> Promote the consolidation of Bunbury with a focus on medium and high density residential infill around activity centres, while respecting heritage values and the distinctive character of each locality. Support greenfield development in locations that have already been zoned or committed for residential purposes and have ready access to existing infrastructure and services. Designate East Treendale as an urban expansion area. East Treendale is defined as the land that is bound by Forrest Highway, Raymond Road and alignment of the Bunbury Outer Ring Road. Support the identification of new Rural Living areas contiguous or proximate to Collie, Major Towns and Towns, subject to the criteria contained in <i>State Planning Policy 2.5: Rural Planning. New Rural Living areas</i> are to be identified by local governments in local planning strategies and/or townsites strategies. Encourage local governments to prepare townsite strategies for hinterland towns to review supply of residential, industrial and commercial land and to identify and respond to opportunities and constraints.
	<p>Promote alternative and innovative solutions.</p> <p>Exploring alternatives, applying new technologies and embracing innovative solutions will help to address local challenges and opportunities.</p>	<ol style="list-style-type: none"> Encourage and incentivise lightweight construction methods to reduce demand for sand fill. Support and encourage fit for purpose technology to deliver innovative waste management and other local services. Encourage proponents of urban land developments to investigate alternative models of utility service delivery that provide a standard of service appropriate for the intended use, and that are capable of regulation by the Economic Regulatory Authority. Encourage new developments, including those in infill areas, to be more waterwise and create climate resilient public open space, sporting grounds and recreational venues.

Figure 1 – Strategy Alignment Table (Continued)

THEME	PRINCIPLES	STRATEGIC DIRECTIONS
ECONOMY	<p>Strengthen and diversify our economy.</p> <p>Bunbury-Geographe’s economic strengths and competitive advantages make the sub-region poised for prosperity. Expanding the economy and pursuing opportunities based on emerging and existing strengths will make Bunbury-Geographe more attractive to potential investors and will drive diversity and adaptability.</p>	<p>20. Reinforce the activity centre hierarchy for Greater Bunbury outlined in the WAPC’s <i>Activity Centres for Greater Bunbury Policy</i>.</p> <p>21. Ensure an adequate supply of industrial and commercial land across the sub-region to facilitate local employment.</p> <p>22. Support the provision of technological and digital infrastructure to underpin job creation in the knowledge economy.</p> <p>23. Encourage the establishment of a health and education super campus in Bunbury to offer innovative education opportunities.</p> <p>24. Facilitate the expansion and diversification of the tourism industry.</p> <p>25. Support investment in Kemerton Strategic Industrial Area and Shotts Strategic Industrial Area and facilitate proposals in accordance with relevant planning instruments.</p> <p>26. Retain identified light and general industrial areas for industrial use and protect from the encroachment of sensitive land uses.</p> <p>27. Protect priority agricultural land from incompatible land uses.</p> <p>28. Support expansion of the Bunbury Port and the establishment of an intermodal freight hub facility.</p>
	<p>Considering and responding to the implications of climate change.</p> <p>Appropriately identifying and managing climate impacts and risks will enhance the climate resilience of Bunbury-Geographe. Promoting and supporting emission reduction outcomes for Bunbury-Geographe will reduce the sub-region’s contribution to global climate change.</p>	<p>29. Recognise potential impacts and opportunities arising from climate change and initiatives to reduce greenhouse gas emissions.</p>
ENVIRONMENT	<p>Protect and enhance environmental values.</p> <p>Bunbury-Geographe’s natural setting is a key component of the sub-region’s liveability, attracting visitors as well as supporting community wellbeing. Protecting and enhancing the many valued natural assets will ensure best outcomes for the sub-region’s environment, economy and community.</p>	<p>30. Require planning instruments to identify and help protect, manage and enhance natural assets such as forests, rivers, estuaries, coastlines and areas of remnant vegetation.</p> <p>31. Focus the growth of settlements in locations where impacts on natural resources and the environment are minimised.</p> <p>32. Support the proposed creation of the Preston River to Ocean Regional Park and the Leschenault Regional Park, and protection of the greater Bunbury bushland corridor connecting the two.</p> <p>33. Preserve and enhance ecological linkages, including a presumption against further fragmentation of these linkages.</p> <p>34. Require planning instruments to identify and protect significant visual landscapes.</p>
	<p>Protect people and property from natural hazards.</p> <p>Appropriately managing the risk posed to settlements by natural hazards will protect life and livelihood.</p>	<p>35. Adopt a presumption against planning proposals within areas identified to be affected by coastal hazards.</p> <p>36. Adopt a presumption against planning proposals within areas identified to be affected by flooding.</p> <p>37. Support intensification of land use only where bushfire risk can be understood to be low and/or capable of being appropriately mitigated.</p>

Figure 1 – Strategy Alignment Table (Continued)

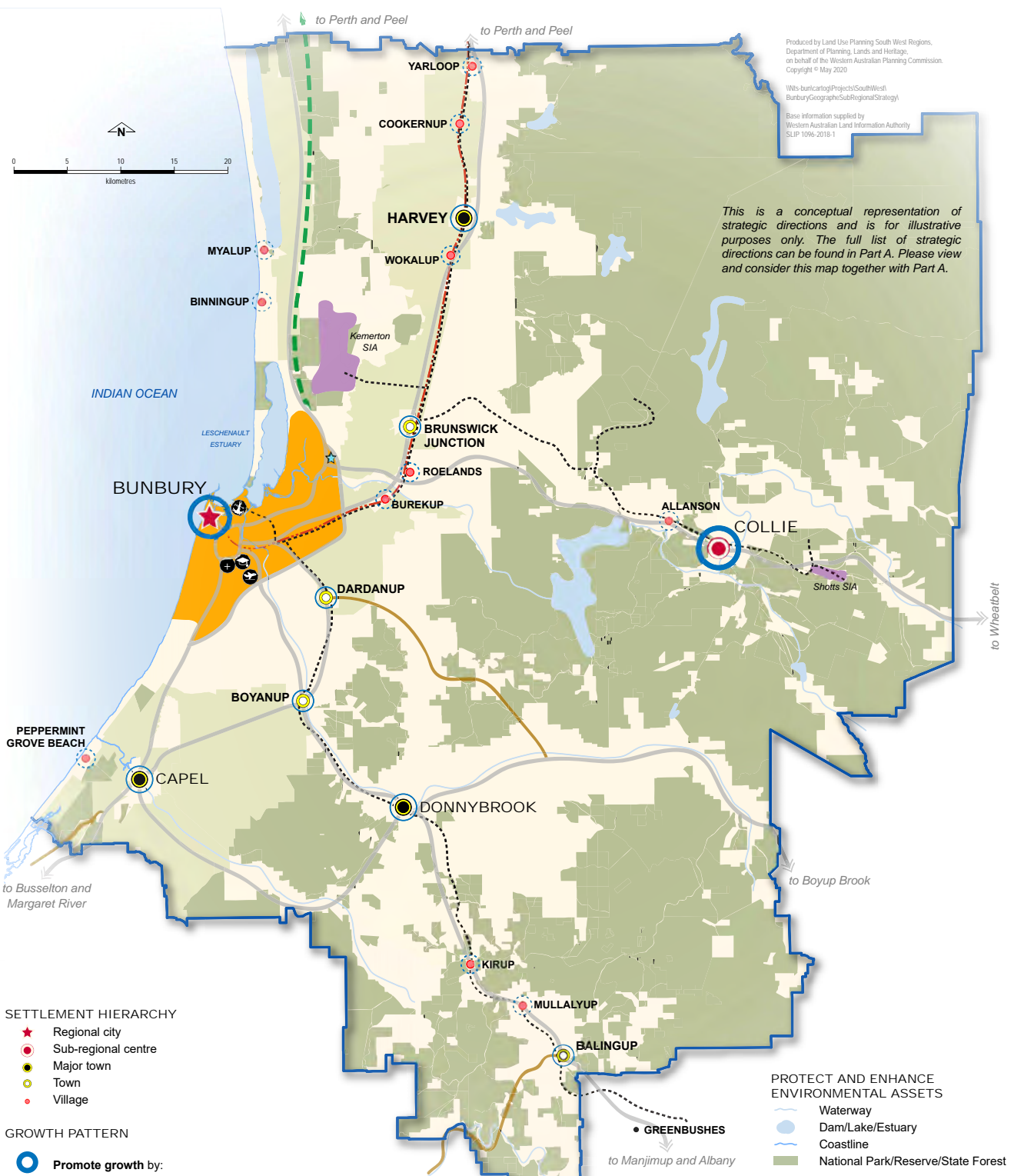
THEME	PRINCIPLES	STRATEGIC DIRECTIONS
TRANSPORT	<p>Improve transport connections within the sub-region and to adjoining areas.</p> <p>Bunbury-Geographe is strategically positioned as the gateway to the South West. Enhancing transport connectivity will reinforce existing linkages within the sub-region and redefine cross-regional relationships between Bunbury-Geographe and surrounding areas.</p>	<p>38. Support initiatives to connect and link Bunbury to the hinterland towns to create an integrated network, including public transport and regional bike network connection.</p> <p>39. Protect the Australind railway reserve and collaborate with State Government agencies on the potential relocation of the terminus to central Bunbury.</p> <p>40. Collaborate with State Government agencies on planning for a potential fast passenger rail connecting Perth and the South West Region, including securing a corridor in the Greater Bunbury Region Scheme if required.</p> <p>41. Support increasing the capacity of the existing freight rail network and future strategic rail network.</p> <p>42. Promote the sub-region’s tourist routes in planning instruments.</p> <p>43. Support improvements to the road and rail access to Bunbury Port and respond to any changes to the local and sub-regional transport network resulting from the expansion of the Port.</p>
UTILITIES AND SERVICES	<p>Ensure sustainable regional outcomes by coordinating the provision of infrastructure to support growth.</p> <p>The fair and equitable provision of infrastructure is key to communities remaining connected, sustainable and vibrant. The planning, upgrading and/or provision of new infrastructure across the sub-region to both stimulate growth and meet demand will help to ensure sustainable outcomes for Bunbury-Geographe.</p>	<p>44. Encourage organisations to undertake a comparative analysis when deciding on the allocation of resources between Bunbury-Geographe and other areas of the State.</p> <p>45. Direct future urban growth to locations that are well serviced by existing infrastructure networks.</p> <p>46. Support the provision of sufficient utility, transport, health, education, and community infrastructure/services to cater for a growing population and economy across the sub-region.</p> <p>47. Support the provision of catalyst infrastructure to stimulate economic investment and service the needs of Bunbury-Geographe communities.</p> <p>48. Support measures to improve water efficiency, and investigate and secure alternative water solutions where required.</p> <p>49. Collaborate with infrastructure providers to audit current capacity of electricity, water and sewer infrastructure to help quantify existing growth capacity and thresholds for upgrades.</p>
LIFESTYLE	<p>Retain, protect and leverage our regional character and the Bunbury-Geographe lifestyle.</p> <p>The character and lifestyle of Bunbury-Geographe are defining factors that set the sub-region apart from other areas, and are critical in attracting and retaining residents. Growth will be carefully managed to capitalise upon and ensure key features of character, diversity of housing choice and lifestyle are not lost.</p>	<p>50. Acknowledge the cumulative impacts of individual land developments throughout the sub-region on the Bunbury-Geographe lifestyle.</p> <p>51. Encourage local governments to protect local character by preparing and implementing design standards that require new development in existing urban areas to maintain and improve the streetscape and amenity of the locality. This can include the use of local planning schemes to vary the requirements of the R-Codes.</p> <p>52. Collaborate with local governments to undertake/review local heritage surveys, and designate heritage lists and/or areas.</p> <p>53. Embrace the Bunbury-Geographe lifestyle as a key attraction for new residents and visitors to the sub-region.</p> <p>54. Recognise and value the sub-region’s unique and connected communities.</p> <p>55. Inclusively align with and respect Aboriginal and historic heritage.</p> <p>56. Engage with native title holders as a stakeholder in the land use planning process.</p>

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This is a conceptual representation of strategic directions and is for illustrative purposes only. The full list of strategic directions can be found in Part A. Please view and consider this map together with Part A.



SETTLEMENT HIERARCHY

- ★ Regional city
- Sub-regional centre
- Major town
- Town
- Village

GROWTH PATTERN

- Promote growth by:**
 - focus major population and employment growth in Bunbury.
 - facilitate planning proposals in Collie that will increase economic growth, industry diversification and job creation opportunities.
 - supporting the provision of catalyst infrastructure.
- Support growth by:**
 - supporting planning proposals for land already identified for a change in use.
 - supporting the identification of new Rural Living areas, subject to locational criteria.
 - encouraging local governments to prepare townsite strategies.
 - encouraging light weight construction & alternative models of utility service delivery.
- Sustainable change** to support more resilient communities.

BUNBURY THE SECOND CITY

- Promote consolidation of Bunbury with a focus on medium and high density residential infill around activity centres and urban corridors.
- Designate East Treendale urban expansion area.

PROTECT AND ENHANCE ENVIRONMENTAL ASSETS

- Waterway
- Dam/Lake/Estuary
- Coastline
- National Park/Reserve/State Forest

IMPROVE TRANSPORT CONNECTIONS

- Develop an integrated transport network.
- Promote tourist routes in planning instruments.
- Protect the Australind railway reserve and respond to any decision to relocate terminus.
- Collaborate on a fast passenger rail, and secure a corridor if required (indicative alignment only).
- Support increasing the capacity of the existing freight rail network and future strategic freight rail alignments.

STRENGTHEN AND DIVERSIFY OUR ECONOMY

- Support investment in Strategic Industrial Areas and facilitate proposals.
- Protect priority agricultural land.
- Encourage establishment of a health and education super campus in Bunbury.
- Support expansion of Bunbury Port and improvements to rail and road access.

Strategy area

How to use this document

The Strategy can be used by any organisation or person seeking strategic guidance at a sub-regional scale on:

- land use planning and development in the Bunbury-Geographe sub-region
- the coordinated provision of infrastructure and/or services to accompany land development.

Specifically, the Strategy is intended to be used as follows:

LAND USE PLANNING	
WAPC	<ul style="list-style-type: none"> - Sets strategic direction for the Greater Bunbury Region Scheme. - Implements State Planning Policies at a sub-regional scale. - Assists local governments with local planning frameworks. - Guides planning decision-making.
Local Governments	<ul style="list-style-type: none"> - Informs preparation/amendment of local planning schemes and strategies. - Guides planning decision-making.
Public	<ul style="list-style-type: none"> - Provides a vision for the sub-region in the future. - Outlines high-level strategic directions, generally not at a scale based on individual properties.
INFRASTRUCTURE COORDINATION	
Infrastructure/service providers	<ul style="list-style-type: none"> - Provides a range of population scenarios and a target population to help inform the design of infrastructure and services. - Identifies areas of urban and industrial expansion and urban consolidation.

Figure 2

The Strategy comprises three elements:

Introduction

The introduction tells us where the Strategy is, why the Strategy is needed, how it has been prepared and what its limitations are. This includes defining the scope and describing the broader context within which the Strategy is situated.

Part A: Strategy

Part A is in effect the Strategy itself. It is the element that identifies what should be done to shape the future of the sub-region. Part A articulates a vision for the sub-region and identifies the principles and strategic directions required to achieve that vision.

Part B: Profile

Part B is a compilation of information that profiles the sub-region. It provides description and analysis of the sub-region's: people and culture; population; urban settlement; utilities and services; environment; economy, and; transport.

The profile also includes explanation of the sub-region's governance and administration arrangements, in particular the local government, regional development and planning regimes.

Part B does not prescribe strategic directions or actions. It is designed to provide background and analysis to inform the Strategy at Part A.



INTRODUCTION

1 Scope

1.1 Strategy area

The draft Bunbury-Geographe Sub-regional Strategy (the Strategy) applies to the land that comprises the following local governments:

- City of Bunbury
- Shire of Dardanup
- Shire of Donnybrook-Balingup
- Shire of Capel
- Shire of Collie
- Shire of Harvey

The name 'Bunbury-Wellington' has been used in the past for this sub-region. The Strategy uses the name Bunbury-Geographe to better reflect well-known geographic features of the area, such as Geographe Bay and the Geographe Wine Region.

1.2 Purpose

The Western Australian Planning Commission's *State Planning Policy 1: State Planning Framework* establishes that sub-regional strategies guide change and provide a basis for cooperative action to be taken by the State and local governments on land use and development.

The primary purpose of this Strategy is to plan for and manage growth in the Bunbury-Geographe sub-region. It does this by:

- establishing a **vision to 2050** to guide land use planning, expressing an agreed aspiration for the future of the sub-region, in the context of the State Planning Framework
- identifying **strategic directions** and **actions** required to implement the vision
- reaffirming the **status of Bunbury** as the State's second city
- defining the sub-region's **settlement hierarchy**
- identifying future **land requirements** for urban, industrial, commercial and other purposes

- directing the **sequencing of future development** to inform and support the preparation of amendments to the Greater Bunbury Region Scheme and local planning schemes
- providing a strategic context for **local governments** in preparing, reviewing and implementing local planning frameworks
- **profiling** the sub-region's urban settlements, transport networks, economy, environment and utilities/services.

1.3 Project governance

The Department of Planning, Lands and Heritage has partnered with a range of stakeholders to prepare the Strategy on behalf of the WAPC.

A Steering Group and five themed Working Groups were established to guide the preparation of the Strategy. The broad membership of the Steering Group included councillors from all relevant local governments and representatives from a range of key State Government entities.

Development of the Strategy included:

- four Steering Group meetings, including a visioning workshop with an independent facilitator
- 14 Working Group meetings
- a Strategic Workshop with an independent facilitator attended by 85 Steering and Working Group members
- a bus tour of the sub-region for WAPC members.

1.4 Methodology

The Strategy was initiated as a review of the WAPC's *Greater Bunbury Strategy*. This document included a commitment to be reviewed after five years. In December 2018 the WAPC resolved to review the *Greater Bunbury Strategy* and prepare a sub-regional strategy for Bunbury-Geographe.

Development of the Strategy followed the orderly and proper process outlined below:

1. Form an appropriate governance structure.
2. Establish a vision of the desired future of the sub-region, to provide a goal for the Strategy to work towards.
3. Undertake a regional land supply assessment for the sub-region.
4. Profile the sub-region's economy, environment, transport, urban settlements and utilities/services.
5. Identify the major planning issues in the sub-region.
6. Formulate strategic directions to respond to these issues.
7. Identify future actions required for implementation.

Preparation of this draft Strategy included consultation with relevant State government agencies and review by the Steering Group. The WAPC has given its consent for the Strategy to be advertised.

Public advertising of this Strategy provides an opportunity for people to have their say. All submissions received will be considered in the finalisation of the document. The Strategy will ultimately be considered for endorsement by the WAPC.

2 Context

2.1 The Bunbury-Geographe sub-region

The Bunbury-Geographe sub-region is located between 120 to 240 kilometres south of Perth CBD within the South West Region.

The South West is the State's most populous and economically diverse planning region outside of Perth. The region has experienced steady strong population growth over the past few decades, largely driven by the well-established economic infrastructure, agricultural and mineral resources and lifestyle opportunities. In 2019 the region had an estimated resident population of approximately 180,000 (ABS).

The northern boundary of Bunbury-Geographe adjoins the South Metropolitan Peel sub-region, part of the Perth-Peel conurbation. Perth, the State's capital city, has great primacy in the context of Western Australia's settlement hierarchy. The WAPC's *Perth and Peel@3.5million* (PP@3.5m) provides a spatial framework for a city of 3.5 million people in 2050. The vision and directions outlined in PP@3.5m will influence the growth of the Bunbury-Geographe sub-region due to the strong connections between the two.

To the south is the Leeuwin-Naturaliste sub-region. This sub-region has tourist destinations and agricultural districts of State significance. In recent decades settlements such as Busselton and Dunsborough have experienced high rates of population growth from new residents seeking a 'sea-change' or 'tree-change' lifestyle. The WAPC's *Leeuwin-Naturaliste Sub-regional Strategy* seeks to balance economic, social and environmental considerations over the next 20 years.

More than 80 per cent of the State's population live on the 300-kilometre extent of the Swan Coastal Plain from Yanchep in the north to Dunsborough in the south. Bunbury-Geographe is flanked by the capital city to the north and the State's premier tourism and lifestyle sub-region to the south. Decisions made now will determine whether Bunbury-Geographe will prosper due to its advantageous location.

The CSIRO's *Australian National Outlook 2019*¹ identifies the significant opportunities afforded by regional satellite cities such as Bunbury:

"A move of population and services to satellite cities that are tightly connected to the capital cities would improve the quality of life for both".
(CSIRO, 2019)

¹ www.csiro.au/en/Showcase/ANO

If visionary decisions are made today, it is possible that the ongoing growth of the capital cities will result in the rise of satellite cities that are able to offer a coastal suburban lifestyle within two hours' travel from a capital city. Satellite cities such as Wollongong, Newcastle, Geelong and Bunbury are expected to thrive into the future if connecting infrastructure is developed, such as high-speed rail, that enables access to capital city opportunity. With tight connectivity, the satellite city is expected to provide lifestyle and housing options that contrast to what is available in their respective capital cities.

Thoughtful decisions that integrate Bunbury-Geographe with Perth and Leeuwin-Naturaliste will benefit the sub-region and the State.

2.2 Geographies used in the Strategy

Land use planning occurs at various geographic scales. This Strategy refers to various – and often overlapping – geographies. These are summarised below.

2.2.1 South West Region and Bunbury-Geographe sub-region

The South West region is one of the 10 planning regions in Western Australia defined by the *Planning and Development Act 2005*.

The South West region comprises the local governments listed below; the WAPC's *South West Regional Planning and Infrastructure Framework* groups these into three sub-regions, as follows.

SUB-REGION	LOCAL GOVERNMENTS
Bunbury-Geographe:	Bunbury, Harvey, Dardanup, Capel, Collie, Donnybrook-Balingup
Leeuwin-Naturaliste:	Busselton, Augusta-Margaret River
Warren-Blackwood:	Boyup Brook, Bridgetown-Greenbushes, Nannup, Manjimup

Figure 3

2.2.2 Greater Bunbury

Greater Bunbury is defined by the WAPC's *Greater Bunbury Region Scheme* and comprises the full extent of the following local government areas:

- City of Bunbury
- Shire of Capel
- Shire of Dardanup
- Shire of Harvey

2.2.3 Bunbury

The spatial extent of 'Bunbury' is perceived differently in varying contexts. Bunbury is variously understood as:

- the locality of Bunbury
- the City of Bunbury
- the wider settlement of Bunbury, an urban agglomeration that extends across the City of Bunbury and includes contiguous developed areas in the Shires of Capel, Dardanup and Harvey. This is often referred to as 'the Bunbury Urban Area', although it includes land that is zoned for purposes other than urban.

Similarly, Perth is at once understood as a CBD locality, a small local government and a large metropolitan area.

The WAPC's *South West Regional Planning and Infrastructure Framework* (SWRPIF) establishes that, from a settlement perspective, Bunbury is regarded as one centre, encompassing the localities of Eaton, Australind, Dalyellup and others.

The Strategy adopts this approach of the SWRPIF as recognising the settlement of Bunbury in a wider sense. Unless otherwise specified, references to 'Bunbury' in the Strategy are to be understood in this way. 'Bunbury urban area' is used on occasion where distinction with the locality of Bunbury or the City of Bunbury is required.

This wider understanding of Bunbury does not discount that each locality has its own unique history, character and sense of place.

2.3 Planning

The context of this Strategy within the State Planning Framework is shown below. The Strategy is a third-tier strategic planning document, being preceded by the *State Planning Strategy 2050* (WAPC, 2014) and the *South West Regional Planning and Infrastructure Framework* (WAPC, 2015). It provides a clear line of sight between these higher order documents and local planning strategies, thereby connecting strategic planning at all tiers.

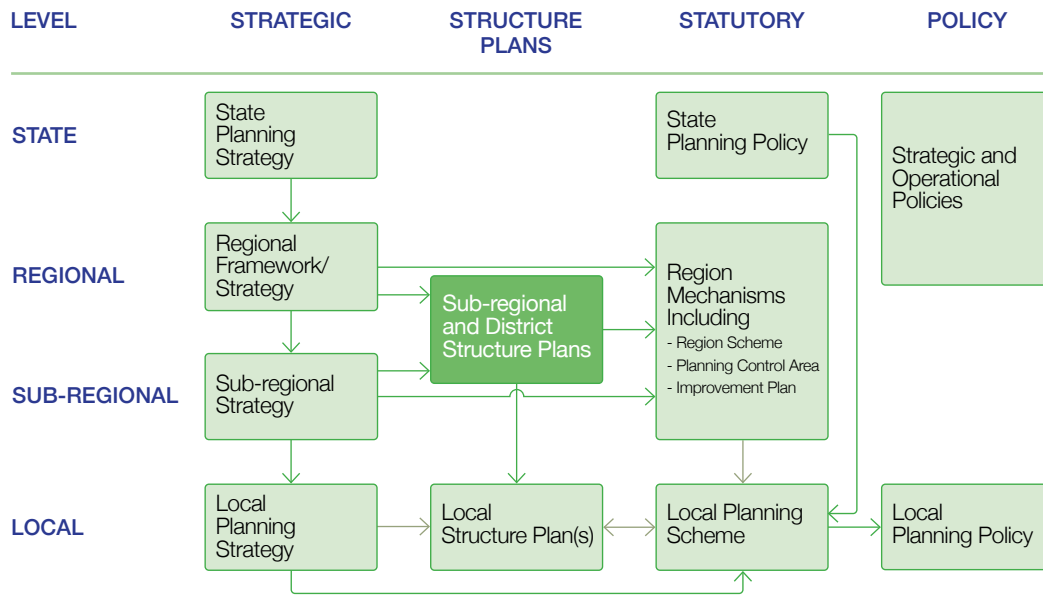


Figure 4

2.3.1 State Planning Strategy 2050

The *State Planning Strategy 2050* (SPS 2050) provides an overarching strategic guide for land use planning across Western Australia. The aim of the document is to provide a sound basis for the coordination and integration of land use planning across the State, regional and local jurisdictions.

The *SPS 2050* identifies Bunbury as a Regional Centre "positioning to become the State's second CBD". Collie is identified as a Sub-regional Centre.

A key principle of the *SPS 2050* is building the competitive and collaborative advantages of the regions. To achieve sustained growth, each region is to capitalise on its unique characteristics, assets and resources.

2.3.2 South West Regional Planning and Infrastructure Framework

The *South West Regional Planning and Infrastructure Framework* (SWRPIF) is a broad planning document that seeks to guide the future development of the South West region over the next 20 years.

The SWRPIF addresses the scale and distribution of future population growth and identifies strategies for dealing with economic growth, environmental issues, transport, water resources, agriculture and tourism. It also includes an infrastructure component that identifies the region's priorities in providing both social and economic infrastructure to support a growing population.

The vision for the South West Region, as set out in the Framework, is for a region:

'that generates high standards of social amenity, diverse economic activities and high-quality food, supported by effective and efficient infrastructure and at the same time preserving and enhancing the natural environment.'

The Framework establishes a settlement hierarchy for the South West based on existing populations, current and future growth rates, and infrastructure and services. The categorisation of settlements in the Bunbury-Geographe has been further considered through the preparation of this Strategy. See Section 8 for further direction and background.

2.3.3 Greater Bunbury Region Scheme

The need to coordinate urban growth across the City of Bunbury and adjacent local governments emerged during the housing boom of the early 2000s. This period saw the increasing encroachment of Bunbury's suburbs into surrounding jurisdictions, such as the development of the Dalyellup estate in the Shire of Capel.

The *Greater Bunbury Region Scheme* (GBRS) came into effect in 2007, giving the WAPC similar statutory control over the Greater Bunbury area as in the Perth Metropolitan and Peel regions. The GBRS defines the broad pattern of land uses across the City of Bunbury and the Shires of Capel, Dardanup and Harvey and provides a statutory mechanism to implement strategic planning.

2.3.4 Greater Bunbury Strategy

The WAPC's *Greater Bunbury Strategy* (2013) provides for the growth of Greater Bunbury to accommodate a population of 150,000 residents. The Strategy identifies new urban expansion areas for urban (Wanju) and industrial (Waterloo) purposes, for which district structure plans have subsequently been prepared and endorsed by the WAPC.

The Strategy also encourages the consolidation of existing urban areas to ensure a compact urban form. It recognises Bunbury as the State's second city and protects the Bunbury CBD as the regional centre for the South West.

The Strategy includes a requirement that it be reviewed after five years to ensure the adequacy of land supply to meet the future population growth. The Strategy remains in force until such time as the Bunbury-Geographe Sub-regional Strategy is endorsed by the WAPC.

2.3.5 Local planning

All six local governments in the Bunbury-Geographe sub-region have operational local planning schemes that govern land use and development. The *Planning and Development (Local Planning Schemes) Regulations 2015* require local governments to prepare a local planning strategy for any scheme that is approved within the district. An overview of the local planning strategies and schemes in effect over the sub-region is provided below:

LOCAL GOVERNMENT	LOCAL PLANNING STRATEGY	LOCAL PLANNING SCHEME
City of Bunbury	2018	LPS 8 (2018)
Shire of Capel	1999	LPS 7 (1998)
Shire of Collie	2020	LPS 5 (2009)
Shire of Dardanup	2015	LPS 3 (1979)
Shire of Donnybrook-Balingup	2014	LPS 7 (2014)
Shire of Harvey	2020	LPS 1 (1996)

Figure 5

This Strategy is intended to provide direction and support to local governments to deal with issues of State and regional significance. Relevant local planning schemes and strategies are likely to need review to ensure consistency with the direction in this Strategy.

2.4 Regional development

The State Government's regional development commitment is led by the Minister for Regional Development and coordinated through an integrated portfolio comprising the Department of Primary Industries and Regional Development (DPIRD) and nine Regional Development Commissions.

The Bunbury-Geographe Sub-region is located within the South West Region, as defined by the *Planning and Development Act 2005* and the *Regional Development Commissions Act 1993*. The South West Development Commission is responsible for coordinating and promoting the economic development of the region. This is achieved by:

- grant funding
- projects
- research activities

- provision of information
- facilitating interagency actions.

This Bunbury-Geographe Sub-regional Strategy embraces, and builds on, the following regional development documents.

2.4.1 South West Blueprint

The *South West Regional Blueprint* (SWDC, 2015) outlines a guide for future development of the South West Region to 2050. The Blueprint takes an aspirational view on how the South West Region can grow, create new jobs, build prosperity and provide the kind of lifestyle that is important to living in the region.

The Blueprint was jointly published by the South West Development Commission and Regional Development Australia South West.

2.4.2 Collie-Bunbury Economic Development Action Plan 2020-2026

The draft *Collie-Bunbury Economic Development Action Plan 2020-2026* (SWDC, 2020) outlines a coordinated response by the Western Australian Government, in partnership with local industry, workers and the community.

As a high-level strategy, the Action Plan aims to deliver an economic vision for industry and job creation. It is also a means to attract investment, deliver local outcomes through funding and to drive policy.

The Action Plan is aligned with the government's economic framework, Diversify WA and identified economic growth, industry diversification and job creation opportunities that will support the development of Collie-Bunbury economy to at least 2026.

The Action Plan identifies 39 actions aligned with four strategic focus areas:

1. Facilitating industry opportunities
2. Providing incentives for growth
3. Ensuring infrastructure is industry-ready
4. Developing the future workforce.

This Strategy supports the implementation, from a land use planning perspective, of the Action Plan.

2.4.3 Bunbury-Geographe Regional Growth Plan 2016

The *Bunbury-Geographe Growth Plan* was published in December 2016. The Growth Plan resulted from an initiative to support economic development and growth in selected regional centres and to:

- strengthen regional centre investment, business and employment growth capability
- accommodate regional population growth
- support the efficient and effective delivery of regional development and investment.

The Bunbury-Geographe Economic Alliance (BGEA) is the Growth Plan Partnerships that leads the implementation of the Growth Plan. The BGEA describes itself as:

a unique partnership encompassing community leadership through the six local governments of the Bunbury-Geographe sub-region, industry leadership in the resources, energy, transport, engineering, construction, water supply, timber processing, telecommunications, education, consulting and accounting sectors, and the regional leadership of the South West Development Commission.

The Growth Plan identifies 19 priority initiatives. This Strategy supports the implementation, from a land use planning perspective, of the Growth Plan.

3 Analysis

This section of the Strategy summarises the analysis of key land use planning considerations that emerged during the development of the Strategy, specifically:

- deliberations on high-level matters by the Steering Group
- technical input from the Working Groups
- preparation of a sub-regional profile (see Part B)
- preparation of the *Bunbury-Geographe Regional Land Supply Assessment*.

The analysis informs the key strategic content of this Strategy contained in Part A.

3.1 Issues

A profile of the sub-region is provided in Part B of the Strategy. The key land use planning issues for the sub-region identified in the profile are as follows:

Urban settlement

- The Bunbury urban area is located across the City of Bunbury, Shire of Harvey, Shire of Dardanup and Shire of Capel. This gives rise to the need for coordinated strategic planning for the Bunbury urban area across local government boundaries.
- The primacy of Perth over the rest of the State means that it attracts the majority of net interstate and overseas migrants to Western Australia. This poses a challenge for the population of Bunbury-Geographe to expand at the rate of growth that is desired.
- The feasibility of urban land development has been inhibited by low demand and high cost, relative to land values, of providing utility services and fill, especially in hinterland towns.
- The need to provide for diverse and affordable housing, while delivering a high quality of built form.
- The importance of conserving and enhancing the unique character, identity and sense of place of each settlement in the sub-region.

Economy

- Growth of the sub-region will require additional local employment through job creation. A number of factors, including fluctuating demand, technological advances and the reduction of carbon emissions are challenging some of Bunbury-Geographe's traditional industries including coal mining, energy generation, agriculture, retail and construction.
- Ensuring that land use planning supports implementation of the *Bunbury-Geographe Regional Growth Plan* and the draft *Collie-Bunbury Economic Development Action Plan*.
- The need to support government initiatives to help Collie manage the transition away from coal-powered electricity generation by encouraging the diversification of the employment base and the economy.

Environment

- Balancing growth with the protection of areas with high biodiversity significance and other environmental values.
- The need to sustainably manage natural resources, including minimising fill on development sites and encouraging lightweight construction.
- The need to respond to the potential impacts of climate change, including a drying climate and sea-level rise.
- Natural hazards (such as bushfire, coastal inundation/erosion and flooding) pose a risk to existing and future development.

Transport

- The need to integrate land use planning with long-term regional transport requirements.
- As the population and traffic congestion levels increase over time, particularly within the Bunbury urban area, there is a need to provide a more effective and efficient public transport system that provides connectivity and builds linkages across Bunbury, the wider sub-region and further afield.
- The importance of capturing opportunities provided by improved linkages with adjacent regions resulting from the Bunbury Outer Ring Road and improvements to Bussell Highway between Capel and Busselton.

- The opportunity for a fast passenger rail service connecting Bunbury with Perth and Busselton, including an appropriate location for a railway station in Bunbury.
- The need to plan for the efficient movement of freight from extraction sites to downstream processing and export facilities at Kemerton Strategic Industrial Area and the Port of Bunbury.

Utilities and services

- The sub-region's settlement pattern, large number of population centres and sensitive environment pose challenges for the efficient provision of some infrastructure, utilities and services.
- Technological improvements offer the opportunity for flexible, innovative and alternative servicing solutions arrangements.

3.2 Population scenarios

The Strategy considers various population scenarios to represent a range of growth trajectories into the future: baseline, growth and boom.

- **Baseline:** current population and employment growth trends continue.
- **Growth:** a steady rate of above trend population and employment growth (eg 10-20 per cent higher than historic levels).
- **Boom:** a steady above trend rate shocked with government intervention and/or major investment cycles.

The population scenarios include a range of *population forecasts* from WA Tomorrow (Scenarios 1 to 3), and two *aspirational populations* developed by the Steering Group (Scenarios 4 and 5). These are outlined in more detail below and are presented in Figure 6.

3.2.1 WA Tomorrow forecasts (Scenarios 1, 2 and 3)

The first three scenarios are derived from *Western Australia Tomorrow Population Report No. 11: medium term population forecasts for WA 2016 to 2031*. WA Tomorrow is a series of population forecasts based on historical trends. The forecasts represent the best estimate of future population size if trends in fertility, mortality and migration continue.

The WA Tomorrow forecast comprises five bands, each of which represents one-fifth of the 10,000 possible variations of the model. This Strategy uses the low, median and high bands for Bunbury-Geographe as population scenarios, as follows:

- Scenario 1 is based on Band A (low band)
- Scenario 2 is based on Band C (median band)
- Scenario 3 is based on Band E (high band)

Band C is the midpoint of the forecasts, with a 50 per cent probability that the actual number will be lower and a 50 per cent probability that it will be higher. Bands A and E have an equal probability level (10 per cent) that the actual number will be lower and higher respectively, and thus are equally as likely to occur as the other.

The WA Tomorrow forecasts are to 2031 only. They do not take into account the effects of unforeseen events that may change trends, such as significant shifts in government policy. As such, Scenarios 1 to 3 can be considered as "business as usual" scenarios.

3.2.2 Aspirational population scenarios (Scenarios 4 and 5)

Aspirational population scenarios for Bunbury-Geographe were developed by the Steering Group in a consultation process that engaged the South West Development Commission, the Bunbury Development Committee and the six relevant local governments.

The aspirational populations are hypothetical scenarios for an undefined point in the future, likely to be towards the end of the 2050 time horizon of the Strategy. They are termed 'aspirational' because they are based on the aspiration for the sub-region to reach its full potential, which will require a significant break from the current trajectory.

Scenario 4: The Strategy's 'A' aspiration population scenario is for 200,000 people living in the sub-region. This scenario provides for a growth trajectory significantly above the WA Tomorrow median forecast, and balances population expansion with maintaining the Bunbury-Geographe lifestyle.

Scenario 5: The Strategy's 'B' aspiration population scenario is for 300,000 people living in the sub-region. This scenario is generally based on the *Bunbury-Geographe Regional Growth Plan's* call to decentralise over 200,000 people from Perth-Peel to generate a population of 300,000.

3.2.3 Growth trajectories

The various population scenarios outlined above represent a range of demographic/economic growth trajectories, as follows:

POPULATION SCENARIOS						Growth trajectory
WA Tomorrow forecasts		2016	2021	2026	2031	
1	WA Tomorrow Band A (low)	106,000	103,000	108,000	115,000	Baseline
2	WA Tomorrow Band C (median)	106,000	111,000	119,000	127,000	
3	WA Tomorrow Band E (high)	106,000	120,000	129,000	139,000	
Aspirational						
4	Aspirational population scenario A	200,000				Growth
5	Aspirational population scenario B	300,000				Boom

Figure 6

The WA Tomorrow forecasts represent a baseline (or business as usual) trajectory, based on continued historic growth rates. For Bunbury-Geographe, a baseline trajectory may mean that it does not reach its full potential as a major regional city, comparable to cities such as Geelong, Wollongong and Townsville.

The aspirational population of 200,000 represents a growth trajectory, where a steady rate of above-trend expansion is achieved over a sustained period into the future.

The aspirational population of 300,000 represents a boom trajectory, where growth rates are shocked by government intervention and/or major investment cycles. Booms tend to be unsustainable and are often followed by a bust.

3.2.4 Target population

The Strategy does not predict an average annual growth rate or estimate a population size at a specific time. Rather, it recognises the aspiration for Bunbury-Geographe to reach its full potential, which would likely see the sub-region's population grow towards 200,000 over the next 20-30 years.

The Strategy therefore adopts 200,000 as a target population. In this context, the 'target population' is a simple reference point to inform land requirements and help guide the delivery of infrastructure and services.

The Strategy also recognises that settlements are complex systems: each part of the system has an effect on the whole, while the system as a whole affects each part. This produces a feedback loop where population growth and economic growth aligned.

Implementation of the Strategy will include regular monitoring of population growth and economic activity to determine whether the target population and associated strategic directions require updating. In this way the Strategy can respond to accelerated growth rates and will have robustness to deal with uncertain events over the 2050 time horizon that may impact on growth trajectories.

3.3 Land requirements

This Strategy has been prepared concurrently with, and is directly informed by, the *Bunbury-Geographe Regional Land Supply Assessment* (RLSA). The Department of Planning, Lands and Heritage prepares Regional Land Supply Assessments to assess land for future residential, industrial and commercial uses, providing context for the land use planning and infrastructure provision required to meet demand.

3.3.1 Residential land

The *Bunbury-Geographe Regional Land Supply Assessment* provides estimates of dwelling yields for greenfield development areas (five lots or greater) and infill areas (four lots or less). The table below includes the stock of private dwellings at the 2016 Census and the estimated dwelling yields of greenfield residential developments for selected settlements across the sub-region:

GREENFIELD DEVELOPMENT (5+ LOTS)		
Settlement	2016 dwelling stock	Estimated additional dwelling yield
Bunbury	31,070	28,300
Collie	3,360	210
Harvey	1,210	1,270
Donnybrook	1,090	1,640
Capel	850	1,840
Binningup	690	1,160
Boyanup	340	1,900
Brunswick	360	460
Dardanup	190	550
Total	39,160	37,330

Figure 7

Based on the sub-region's average household size of 2.5 people per dwelling, the combined dwelling yield of greenfield developments would cater for an additional 93,000 residents. Wanju, an urban expansion area identified by the Greater Bunbury Strategy, comprises approximately 50 per cent of the sub-region's greenfield potential (19,200 dwellings). A proportion of the remaining greenfield capacity exists in hinterland towns, where land development is not economically viable at present.

In addition, there is significant potential for infill development, especially in the Bunbury urban area where there is demand for such housing. The City of Bunbury conservatively estimates that there is potential for an additional 12,800 new infill dwellings within the City alone, with capacity to accommodate approximately 30,000 additional residents.

As with the WAPC's *Perth and Peel@3.5million* sub-regional frameworks, it is recommended that residential infill be focused around activity centres and urban corridors. This provides additional infill capacity around activity centres in the Shire of Dardanup (Eaton Fair), Shire of Harvey (Treendale) and Shire of Capel (Dalyellup).

Based on the sub-region's existing population of approximately 106,000 people, the combined dwelling yield potential from greenfield and infill areas has capacity to accommodate a population greater than the Strategy's 200,000 target population. As some of the greenfield potential in hinterland towns may go unrealised over the medium term due to market conditions, the Strategy identifies the East Treendale urban expansion area to round off the urban form of Bunbury and to provide additional capacity for the largest centre in the sub-region.

Based on the above, a sufficient volume of land has been identified for residential purposes in the Greater Bunbury Region Scheme and the various local planning schemes and strategies to cater for the target population of 200,000. Consumption rates of this land, both greenfield and infill, will be monitored on a regular basis to identify trends and respond as required.



3.3.2 Employment land

Employment land is broadly defined as land that can be used for employment generating activities, including land zoned for industrial and commercial purposes.

Planning for employment land is a complex process that takes place within a highly dynamic market. Economic conditions and population growth interact to drive demand for industrial and commercial land. Figure 8 shows the relationships between economic and demographic factors that influence demand for employment land.

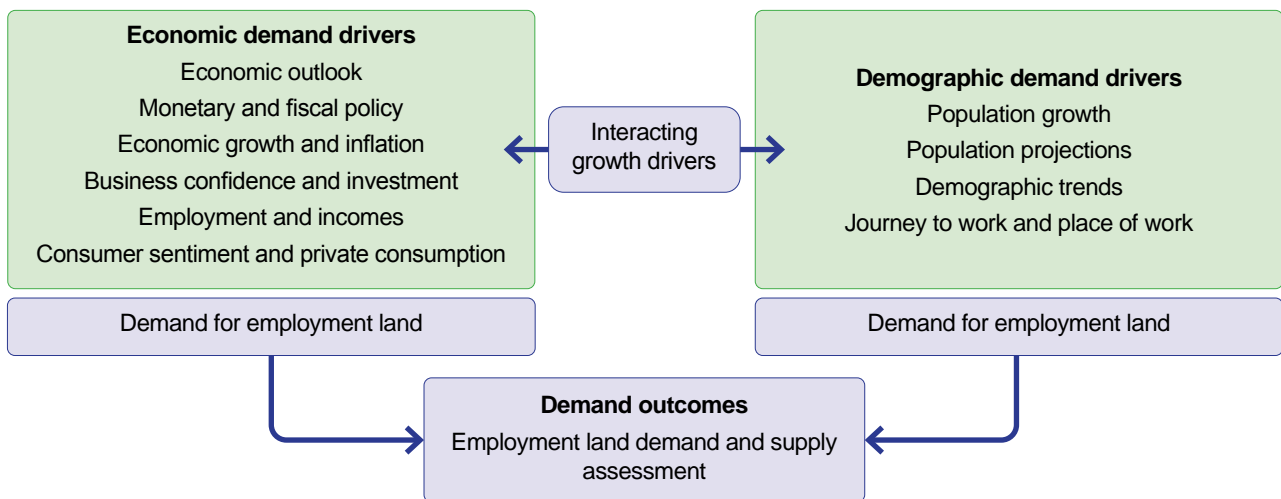


Figure 8



Industrial

The *Bunbury-Geographe Regional Land Supply Assessment* identifies the following stock of land zoned for industrial purposes:

- Light industry: 530 ha
- General industry: 590ha
- Industrial development: 240ha
- Kemerton Strategic Industrial Area: 2,025ha
- Shotts Strategic Industrial Area: 210ha

In addition to the above, the WAPC has approved the *Waterloo District Structure Plan* for the proposed 1,350ha Waterloo Industrial Park, and the Kemerton General Industrial Area is being brought to market by DevelopmentWA.

There are large stocks of land available for industrial expansion in the sub-region. This supply is sufficient to meet needs into the long term. Although take-up rates of land for industrial development in the sub-region have been slow, it must be considered in the context of market conditions. It is important to safeguard the current supply of industrial land to support the sub-region's population growth.

Commercial

The WAPC's *Activity Centres for Greater Bunbury Policy* establishes a hierarchy of activity centres as follows:

CATEGORY	ACTIVITY CENTRES
City Centre	Bunbury Central Business District
District centres	Bunbury Forum, Dalyellup, Eaton Fair, Parks Centre, Treendale
Neighbourhood centres	Australind, Bunbury City Plaza, Glen Iris, Kingston, Minnipup Forum
Special centres	Bunbury Regional and St John of God Hospitals, Edith Cowan University and South West Institute of Technology
Town centres	Major town centres: Capel, Dardanup, Harvey Minor town centres: Burekup, Boyanup, Brunswick Junction, Roelands

Figure 9

The Land Use and Employment Survey undertaken by the Department of Planning, Lands and Heritage in 2018 recorded a total floor space (net lettable area) of 853,140m² in commercial complexes across the sub-region. Of this approximately 11 per cent was vacant. In addition, the *Wanju District Structure Plan* provides for 56,000m² in retail floorspace and 48,000m² in commercial floorspace.

The City of Bunbury aspires to double its amount of commercial floorspace, commensurate with future regional and city population growth and increased tourism. There are several sites which have been identified for commercial development, including those at:

- The Bunbury Waterfront precinct, including Koombana North
- Glen Iris local centre (at the intersection of Forrest Hwy and Vittoria Rd)
- Wimbridge service commercial

In the Shire of Capel, the Dalyellup district centre is currently (2020) being developed, and will provide significant retail, business and community services for the large population emerging in Dalyellup and Gelorup. It will become the main activity centre in the Shire of Capel. Current estimates for the retail core of the district centre indicates that there will ultimately be a need for up to 20,000m² of retail floor space.

Expansion of the Eaton Fair activity centre is underway to provide an additional 9,500m² of shop/retail floor space, and increase the total commercial floor space across several precincts from 27,000m² to 59,500m².

In the Shire of Harvey, the Treendale District Centre Structure Plan identifies a maximum of 20,000m² of net lettable retail floor space. The first stage has been constructed, with a further 10,000m² to be delivered. The Structure Plan also identifies 2,800m² for office medical.

The stock of commercial land outlined above is likely to meet the needs of the sub-region over the medium to long term. Vacancy rates of commercial floorspace and levels of investment (value of building approvals for commercial buildings) will be monitored on a regular basis to identify trends and respond as required.





PART A STRATEGY

The Strategy is comprised of three main elements as shown in Figure 10.

The vision is an aspirational description of the type of place that we are seeking to create: a picture of the sub-region in the future.

Principles serve as guideposts in solving problems. They guide our assessment of issues and drive the formulation of strategic directions that seek to implement the vision.

Strategic directions are the key vehicle that outline how the vision will be implemented and how key issues will be managed.

The alignment between the principles and strategic directions can be seen in Figure 1 – Strategy Alignment Table.

Part A also identifies the further work required – in the form of responding to data gaps – to help the sub-region reach its full potential. It also provides detail on implementation, monitoring and review of the Strategy.

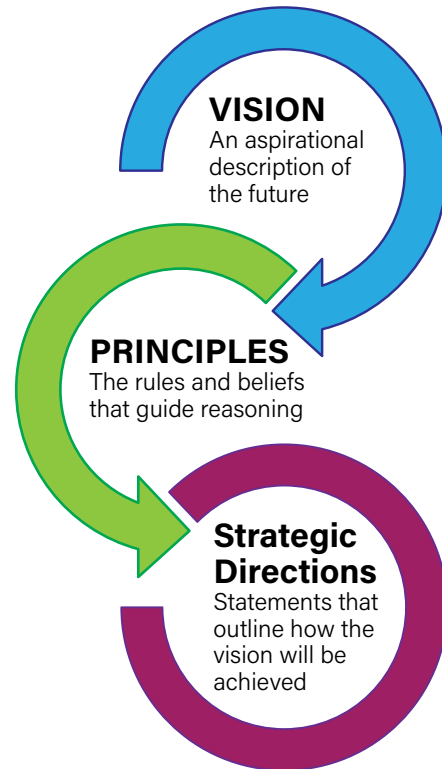


Figure 10

4 Vision

In 2050 Bunbury-Geographe is a diverse, dynamic, creative, vibrant and connected region, that is recognised for its quality of life, environmental values and sustainability. The sub-region has a robust and diverse economy that is adaptive and offers enviable liveability.

The vision gives rise to the guiding principles, and serves as a target or goal when devising strategic directions and future actions.



5 Principles

The guiding principles for the Strategy are as follows:

1. Go beyond a business-as-usual approach to help the sub-region reach its full potential.
A conscious step away from business as usual, seeking a deliberate step change that builds on the past but approaches the future differently, to provide a prosperous and sustainable future for Bunbury-Geographe.
2. Establish an agreed and achievable pattern of growth across the sub-region.
Focusing growth in the larger settlements to maximise economic benefit and leverage existing infrastructure will help to ensure a sustainable future for the network of settlements that characterise the Bunbury-Geographe sub-region. Our settlements will continue to be attractive places to live, with high amenity and access to services.
3. Promote a diverse urban form to cater for a range of lifestyle options and affordable housing choices.
Lifestyle options and housing choice are at the heart of the Bunbury-Geographe lifestyle. Options include houses and units at varying densities and in a range of settings: inner urban, coastal suburban, hinterland towns and rural living. Promoting the offerings of a diverse urban form will maintain the Bunbury-Geographe lifestyle and retain the affordability benefits of living in regional WA.
4. Promote alternative and innovative solutions.
Exploring alternatives, applying new technologies and embracing innovative solutions will help to address local challenges and opportunities.
5. Strengthen and diversify our economy.
Bunbury-Geographe's economic strengths and competitive advantages make the sub-region poised for prosperity. Expanding the economy and pursuing opportunities based on emerging and existing strengths will make Bunbury-Geographe more attractive to potential investors and will drive diversity and adaptability.
6. Considering and responding to the implications of climate change.
Appropriately identifying and managing climate impacts and risks will enhance the climate resilience of Bunbury-Geographe. Promoting and supporting emission reduction outcomes for Bunbury-Geographe will reduce the sub-region's contribution to global climate change.
7. Protect and enhance environmental values.
Bunbury-Geographe's natural setting is a key component of the sub-region's liveability - attracting visitors as well as supporting community wellbeing. Protecting and enhancing the many valued natural assets will ensure best outcomes for the sub-region's environment, economy and community.
8. Protect people and property from natural hazards.
Appropriately managing the risk posed to settlements by natural hazards will protect life and livelihood.
9. Improve transport connections within the sub-region and to adjoining areas.
Bunbury-Geographe is strategically positioned as gateway to the South West. Enhancing transport connectivity will reinforce existing linkages within the sub-region and redefine cross-regional relationships between Bunbury-Geographe and surrounding areas.
10. Ensure sustainable regional outcomes by coordinating the provision of infrastructure to support growth.
The fair and equitable provision of infrastructure is key to communities remaining connected, sustainable and vibrant. The planning, upgrading and/or provision of new infrastructure across the sub-region to both stimulate growth and meet demand will help to ensure sustainable outcomes for Bunbury-Geographe.
11. Retain, protect and leverage our regional character and the Bunbury-Geographe lifestyle.
The character and lifestyle of Bunbury-Geographe are defining factors that set the sub-region apart from other areas, and are critical in attracting and retaining residents. Growth will be carefully managed to capitalise upon and ensure key features of character, diversity of housing choice and lifestyle are not lost.

Figure 11 – Principles

6 Strategic directions

To support implementation of the State Planning Framework in the Bunbury-Geographe sub-region, the WAPC sets the strategic directions outlined in the following sections to guide its planning activities for the sub-region.

Where possible, the strategic directions are spatially represented on the strategy map. Bolded text denotes where a strategic direction is directly referenced on the strategy map.

The strategic directions are organised into themes that have emerged during preparation of the Strategy and that broadly align with the Working Groups formed to guide the development of the Strategy. The alignment between the principles and strategic directions can be seen in Figure 1 – Strategy Alignment Table.

Intervention

1. Promote Bunbury as Western Australia's second city, offering a range of employment and services as a genuine urban alternative to metropolitan Perth.
2. Support a multi-government agreement such as City Deal or Regional Deal for Bunbury-Geographe and potentially other parts of the South West region.
3. Provide for the growth of the sub-region's population to 200,000 by identifying sufficient residential and employment land to cater for this target population.
4. Recognise the broader aspiration for a population of 300,000 in the sub-region and respond to accelerated rates of growth by identifying additional residential and employment land, through regular monitoring and updating the Strategy as required.

Urban settlement

5. Adopt the **settlement hierarchy** for the Bunbury-Geographe sub-region in Section 8.
6. **Promote the growth of Bunbury** as a Regional City by focusing major population and employment growth in Bunbury.
7. **Promote the growth of Collie** as a Sub-regional Centre by facilitating planning proposals that will help to diversify the employment base and provide for a smooth economic transition in the future.

8. **Support the growth of Major Towns and Towns** to reinforce their ongoing roles in the settlement network.
9. **Foster sustainable change** in Villages to support resilient communities.
10. Support proposals in Yarloop that assist in the redevelopment of the settlement following the 2016 Waroona-Yarloop Bushfire.
11. **Promote the consolidation of Bunbury** with a focus on medium and high density residential infill around activity centres, while respecting heritage values and the distinctive character of each locality.
12. Support greenfield development in locations that have already been zoned or committed for residential purposes and have ready access to existing infrastructure and services.
13. Designate **East Treendale** as an urban expansion area. East Treendale is defined as the land that is bound by Forrest Highway, Raymond Road and alignment of the Bunbury Outer Ring Road.
14. Support the identification of **new Rural Living** areas contiguous or proximate to Collie, Major Towns and Towns, subject to the criteria contained in *State Planning Policy 2.5: Rural Planning*. New Rural Living areas are to be identified by local governments in local planning strategies and/or townsite strategies.
15. Encourage local governments to prepare **townsite strategies** for hinterland towns to review supply of residential, industrial and commercial land and to identify and respond to opportunities and constraints.
16. Encourage and incentivise **lightweight construction methods** to reduce demand for sand fill.
17. Support and encourage **fit for purpose technology** to deliver innovative waste management and other local services.
18. Encourage proponents of urban land developments to investigate **alternative models of utility service delivery** that provide a standard of service appropriate for the intended use, and that are capable of regulation by the Economic Regulatory Authority.
19. Encourage new developments, including those in infill areas, to be more waterwise and create climate resilient public open space, sporting grounds and recreational venues.

Economy

20. Reinforce the activity centre hierarchy outlined in the WAPC's *Activity Centres for Greater Bunbury Policy*.
21. Ensure an adequate supply of industrial and commercial land across the sub-region to facilitate local employment.
22. Support the provision of technological and digital infrastructure to underpin job creation in the knowledge economy.
23. Encourage the establishment of a health and education **super campus** in Bunbury to offer innovative education opportunities.
24. Facilitate the expansion and diversification of the **tourism industry**.
25. Support investment in **Kemerton Strategic Industrial Area** and **Shotts Strategic Industrial Area** and facilitate proposals in accordance with relevant planning instruments.
26. Retain identified light and general industrial areas for industrial use and protect them from the encroachment of sensitive land uses.
27. **Protect priority agricultural land** from incompatible land uses.
28. Support expansion of the **Bunbury Port** and the establishment of an intermodal freight hub facility.

Environment

29. Recognise potential impacts and opportunities arising from climate change and initiatives to reduce greenhouse gas emissions.
30. Require planning instruments to identify and help **protect, manage and enhance natural assets** such as forests, rivers, estuaries, coastlines and areas of remnant vegetation.
31. Focus the growth of settlements in locations where impacts on natural resources and the environment are minimised.
32. Support the proposed creation of the Preston River to Ocean Regional Park and the Leschenault Regional Park, and protection of the greater Bunbury bushland corridor connecting the two.
33. Preserve and enhance ecological linkages, including a presumption against further fragmentation of these linkages.
34. Require planning instruments to identify and protect significant visual landscapes.
35. Adopt a presumption against planning proposals within areas identified to be affected by coastal hazards.

36. Adopt a presumption against planning proposals within areas identified to be affected by flooding.
37. Support intensification of land use only where bushfire risk can be understood to be low and/or capable of being appropriately mitigated.

Transport

38. Support initiatives to connect and link Bunbury to the hinterland towns to create an integrated network, including public transport and regional bike network connection.
39. Protect the **Australind railway reserve** and collaborate with State Government agencies on the potential relocation of the terminus to central Bunbury.
40. Collaborate with State Government agencies on planning for a potential **fast passenger rail** connecting Perth and the South West Region, including securing a corridor in the Greater Bunbury Region Scheme if required.
41. Support increasing the capacity of the existing **freight rail** network and future strategic rail network.
42. Promote the sub-region's **tourist routes** in planning instruments.
43. Support improvements to the road and rail access to Bunbury Port and respond to any changes to the local and sub-regional transport network resulting from the expansion of the Port.



Utilities and services

45. Encourage organisations to undertake a comparative analysis when deciding on the allocation of resources between Bunbury-Geographe and other areas of the State.
46. Direct future urban growth to locations that are well serviced by existing infrastructure networks.
47. Support the provision of sufficient utility, transport, health, education, and community infrastructure/ services to cater for a growing population and economy across the sub-region.
48. Support the provision of **catalyst infrastructure** to stimulate economic investment and service the needs of Bunbury-Geographe communities.
49. Support measures to improve water efficiency and investigate and secure alternative water solutions where required.
50. Collaborate with infrastructure providers to audit current capacity of electricity, water and sewer infrastructure to help quantify existing growth capacity and thresholds for upgrades.

Lifestyle

51. Acknowledge the cumulative impacts of individual land developments throughout the sub-region on the Bunbury-Geographe lifestyle.
52. Encourage local governments to protect local character by preparing and implementing design standards that require new development in existing urban areas to maintain and improve the streetscape and amenity of the locality. This can include the use of local planning schemes to vary the requirements of the R-Codes.
53. Collaborate with local governments to undertake/ review local heritage surveys, and designate heritage lists and/or areas.
54. Embrace the Bunbury-Geographe lifestyle as a key attraction for new residents and visitors to the sub-region.
55. Recognise and value the sub-region's unique and connected communities.
56. Inclusively align with and respect Aboriginal and historic heritage.
57. Engage with native title holders as a stakeholder in the land use planning process.



7 Further work

For the Bunbury-Geographe sub-region to reach its full potential, further land use planning initiatives and other, more broad bodies of work will be required to fill data gaps that have been identified in the process of preparing this Strategy.

In progressing the orderly and proper land use planning for the sub-region, the WAPC will undertake the following to respond to known data gaps:

- prepare land supply assessments that review and monitor residential land supply in the sub-region
- expand the Urban Growth Monitor to include the monitoring of urban infill dynamics in the sub-region
- monitor the stock and consumption of industrial land in the sub-region to help ensure there is an adequate supply of land for employment and to support economic development

- prepare a study of the supply and demand of basic raw materials within the sub-region and the opportunities for alternative construction techniques to reduce demand from the building industry.

In the course of preparing the Strategy, it has been identified by stakeholders that further bodies of work are required to help Bunbury-Geographe go beyond the target population of 200,000 and towards its aspiration for 300,000 people living in the sub-region. The following were identified:

- Economic and Employment Strategy
- Environmental Capacity Study
- Population and Settlement Strategy
- Infrastructure Strategy.



8 Settlement hierarchy

The Strategy's Settlement Hierarchy (Figure 12) varies from that set out in the *South West Regional Planning and Infrastructure Framework*. Several of the hierarchy categories have been changed to more appropriately reflect the current role of the settlements within each category, and some settlements have changed categories and been added to the hierarchy.

HIERARCHY CATEGORY	SETTLEMENTS	CATEGORY DESCRIPTION
Regional City	Bunbury	<p>From a regional perspective, regional cities are typically dominant centres for population, economic activity and employment and are considered to offer the most extensive and diverse range of high-order services and functions. They play a significant role in developing much of a region's industry and employment and contain substantial hard infrastructure of regional significance.</p> <p>Regional cities often service a catchment that includes the majority of the regional population as well as industrial, retail, commerce, administration, government and social services. Importantly, they contain substantial regional health, education and recreation infrastructure. Typically, they contain a wide range of comparative retail, regional and branch offices of several government departments, and often provide a regional cultural and entertainment hub.</p>
Sub-regional Centre	Collie	<p>Sub-regional centres support the population and economic activities within their surrounding hinterlands through the provision of goods and services. The catchment areas of sub-regional centres usually extend beyond the immediate centre to include surrounding centres and districts and as such their services are utilised by a broader population.</p> <p>Retail services offered in sub-regional centres largely focus on the day-to-day needs of their service population, however some comparative retail may also occur, particularly in larger centres. Other commercial and light industrial activities, which generally exist to service the local economies, are important functions of sub-regional centres. Sub-regional centres often provide local government administrative functions and a range of social infrastructure and services, including local recreation, health services and secondary education.</p>
Major Towns	Capel Donnybrook Harvey	<p>Settlements within the major towns, towns and villages tiers offer a level of service that generally deals with the daily needs of their service population. Three separate tiers allow for distinction to be made where particular settlements service a larger population catchment and/or offer a greater number of services relative to others. How settlements are assigned to the respective tiers is considered within the context of that particular region.</p>
Towns	Balingup Boyanup Brunswick Junction Dardanup	
Villages	Allanson Binningup Burekup Cookernup Kirup Mullalyup Myalup Peppermint Grove Beach Roelands Wokalup Yarloop	

Figure 12 – Settlement hierarchy

9 Urban expansion area

An 'urban expansion area' is land that represents the logical expansion of an existing urban area.

The Strategy designates East Treendale as an urban expansion area. It is spatially defined as the land bound by Forrest Highway, Clifton Road and the Bunbury Outer Ring Road.

East Treendale is identified as an urban expansion area as it represents the logical extension of the urban front and "rounds off" the footprint of the Bunbury urban area west of the Bunbury Outer Ring Road.

Prior to rezoning of the land under the Greater Bunbury Region Scheme, a district structure plan is required to be prepared in collaboration with the local government and servicing agencies, and is to be endorsed by the Western Australian Planning Commission (WAPC). The district structure plan is to address the issues listed below, and any other issues arising from the application of the WAPC's State Planning Framework:

- Biodiversity value protection
- Bushfire risk
- Drainage
- Landscape value protection
- Protection of significant environmental values
- Utility services capacity
- Water source impact (groundwater and surface water)
- Regional road access
- Road and rail noise
- Basic raw material demand
- Geotechnical factors
- Aboriginal heritage.

The designation of the urban expansion area should not be construed as WAPC support for a change from the existing zoning, as this will depend on the outcome of the proponent investigating and responding to the above matters.

10 Strategy map

The strategy map is a spatial representation of the key strategic content of this Strategy.

The strategy map does not provide a high-level designation of land uses, as this is a function of the Greater Bunbury Region Scheme.

Rather, the strategy map provides a conceptual representation of the principles and strategic directions that have a spatial dimension. These are denoted by bolded text in Section 6 - Strategic directions.

It should be noted that not all principles and strategic directions have a spatial dimension and can be visually depicted on the strategy map. It is recommended that the strategy map and the strategic directions in Part A are viewed and considered together.

The strategy map can be seen on page ix.

11 Implementation

The vision for Bunbury-Geographe outlined in this Strategy is bold and ambitious. Achieving the vision will require a shared approach across government, industry and the community.

The principles and strategic directions contained in this Strategy will be implemented by the Western Australian Planning Commission in performing its functions under the *Planning and Development Act 2005*, including:

- administering the Greater Bunbury Region Scheme
- ensuring local planning strategies and schemes are consistent with the Strategy, and advising the Minister on such instruments
- monitoring and forecasting land supply for the timely supply of affordable residential land
- making statutory decisions on a range of planning application types, such as structure plans and subdivisions.

The Department of Planning, Lands and Heritage supports the WAPC and provides advice to the State Government, including other supporting departments and agencies. The Department will coordinate with local governments and infrastructure/service providers to align land use planning with infrastructure provision.

The role of local governments in implementation is to review and update their local planning frameworks to interpret at the local level the sub-regional scale direction provided by this Strategy. Local governments are also to maintain the spirit and intent of the Strategy in their role as planning decision makers.

Development of new urban land, as well as consolidation of existing urban areas, will require significant upgrades and additions to existing essential service networks. The Strategy outlines a clear intent for growth and provides a degree of confidence to infrastructure providers on the future growth trajectory of Bunbury-Geographe.

Alignment between the development industry and infrastructure providers will also be crucial to ensure the release of housing and employment land is commensurate with anticipated population growth.

Most importantly, implementation of the Strategy will largely be determined by market forces. The vision outlined in the Strategy will only be realised if households and the private sector make personal and business decisions to live in and invest in the Bunbury-Geographe sub-region.

12 Monitoring and review

The Strategy takes a long-term view to planning for the sub-region, with a time-horizon to 2050. The ongoing monitoring of land supply, population trends and infrastructure investment will ensure that the Strategy is responsive to changing rates of urban, population and economic growth.

The WAPC produces the annual Urban Growth Monitor to track the availability of land zoned for urban development in areas subject to a region scheme. The Urban Growth Monitor provides detailed information and analysis on other key stages of the land supply process including:

- consumption rates of urban zoned land
- how long the current land supply will last
- the rate of residential infill development
- density trends.

The WA Tomorrow population forecasts are produced by the WAPC in collaboration with the Department of Treasury. The forecasts represent a best estimate of future population size and age-sex structure if trends in fertility, mortality and migration continue.

Other monitoring tools undertaken by the Department of Planning, Lands and Heritage on behalf of the WAPC include:

- regional land supply assessments
- land use and employment survey
- State lot activity reports
- Housing Industry Forecasting Group reports and updates.

The Department will utilise these tools to monitor urban, population and economic growth in the Bunbury-Geographe sub-region, and to review the overall effectiveness of the Strategy. The Strategy's target population of 200,000 builds into the document a capacity to accommodate a level of growth beyond that anticipated over the short and medium terms. Should growth rates begin to accelerate, the Strategy will be updated to ensure additional urban and employment land is identified as required.

In this way the Strategy will be robust and have capacity to respond to unknown events and trends that may impact on growth trajectories throughout the 2050 time horizon of the Strategy.



PART **B** PROFILE

13 People and culture

13.1 Boodja Noongar

This Strategy acknowledges the traditional owners of the Bunbury-Geographe sub-region, past and present. The sub-region is predominantly within Noongar country and, in particular, the language groups of the Pinjarup/Binjareb, Wilman, Wardandi and Kaneang/Ganeang. Further south the language groups are the Pibelmen/Bibbulmun and Menang.

The Noongar people have lived in the sub-region for 60,000 years. Prior to British settlement Noongar people maintained a stable and successful society. Since settlement the landscape and dominant society of the sub-region has transformed. Despite the challenges of change Noongar people in the sub-region have maintained strong connection to boodja, kaartdijin and moort (country, knowledge and family).

13.2 Settlement

After the Swan River Colony was established in 1829, Dr Collie and Lieutenant Preston explored Goombarrup and surrounds. Bunbury township was mentioned in the Government Gazette in 1839, and lots were surveyed and declared open for selection in 1841.

From that time on, the port and local industries such as timber milling, coal mining and horse breeding began to establish. Rail lines were developed from 1893, connecting Bunbury to Perth and Donnybrook. Since settlement, Bunbury-Geographe has grown into a sub-region that may be defined by its diversity. A broad range of enterprises have flourished, and a remarkably multi-cultural society has grown roots on boodja Noongar.

13.3 Bunbury-Geographe lifestyle

The Bunbury-Geographe sub-region is renowned for its relaxed beach and rural lifestyle with the regional city of Bunbury providing the focus for higher-order facilities, services and employment opportunities.

Traffic congestion in the sub-region is negligible compared to larger centres, and housing is more affordable than most equivalent residential property in Perth. The opening of the Forrest Highway in 2009 transformed the accessibility of Bunbury to Perth and Peel by road making day trips to the capital far easier. Significant improvements have also been made along the Coalfields Highway to Collie.

The hinterland towns are located in productive agricultural areas with picturesque landscape backdrops and are relatively close to the urban area of Bunbury.

Providing opportunities for appropriate growth and high-quality development within and adjacent to the existing settlements while retaining, as much as possible, the lifestyle, sense of place, character and identity that residents currently enjoy is a challenge.

13.4 Native title and Aboriginal heritage

The *Native Title Act 1993* provides for the recognition and protection of Aboriginal and Torres Strait Islander people's native title rights and interests. Certain government actions, such as grants of freehold have been found to extinguish native title.

Native title is an important consideration in land use planning as land identified for certain developments may be subject to a native title claim or determination.

The South West Native Title Settlement is a native title agreement that has been negotiated between the Noongar people and the State. Details of the South West Native Title Settlement are recorded in six Indigenous Land Use Agreements (ILUAs): Ballardong, Gnaala Karla Booja, South West Boojarah, Wagyl Kaip & Southern Noongar, Whadjuk and Yued. The majority of the Strategy area is within the Gnaala Karla Booja ILUA area. A portion of the Strategy area southwest of Capel and Balingup is within the South West Boojarah ILUA. (Map 2)

A major component of the South West Native Title Settlement is the establishment of the Noongar Land Estate through the transfer of Crown land for cultural and economic development. Under the Settlement, the Noongar Boodja Trust will be a major landholder in the Wheatbelt and South West regions. Until the South West Native Title Settlement commences, the *Native Title Act 1993* (Commonwealth) still applies to all land users' planning activities in the Settlement Area.

The Settlement also establishes the Noongar Standard Heritage Agreement (NHSA) process, which provides a formal mechanism for State government agencies and instrumentalities to engage with the Noongar community on matters relating to Aboriginal heritage. The NHSA also assists government bodies to comply with the *Aboriginal Heritage Act 1972*.

Across the sub-region the *Aboriginal Heritage Act 1972* (WA) applies and will continue to do so after all native-title processes are resolved. Land users must always consider Aboriginal Heritage in their planning processes. The Department of Planning, Lands and Heritage can provide advice on the application of the *Aboriginal Heritage Act 1972*.

The sub-region contains a number of registered Aboriginal Sites and Other Places, as summarised below:

ABORIGINAL HERITAGE SITES/PLACES IN THE BUNBURY-GEOGRAPHE SUB-REGION			
LGA	Registered Sites	Other Places	Surveys
City of Bunbury	12	29	59
Shire of Capel	9	21	44
Shire of Collie	35	122	72
Shire of Dardanup	6	24	45
Shire of Donnybrook-Balingup	7	23	38
Shire of Harvey	29	119	91
TOTAL	98	338	349

Figure 13

13.5 Historic heritage

The sub-region is rich in historic heritage, which is reflected in the number of places that have been recognised within the area (see Map 1):

- 71 places included in the State Register of Heritage Places
- 377 places are included in heritage lists
- 942 places are included in the local heritage surveys.

LOCAL GOVERNMENT	REGISTERED HERITAGE PLACES	HERITAGE LIST PLACES	LOCAL HERITAGE SURVEY PLACES
City of Bunbury	35	173	222
Shire of Capel	7	37	176
Shire of Collie	8	101	148
Shire of Dardanup	3	0	67
Shire of Donnybrook-Balingup	11	0	69
Shire of Harvey	7	66	235
TOTAL -Sub-Region	71	377	917

Figure 14 – Historic heritage places by local government



14 Population

14.1 Sub-region

The estimated resident population (ERP) of the Bunbury-Geographe sub-region has increased from 79,088 in 2001 to 106,996 in 2019 (ABS, Estimated Resident Population). This represents an overall increase of 35.3 per cent at an average of approximately 1.70 per cent per annum. Population growth rates within the Bunbury-Geographe sub-region have fluctuated significantly over the past 15 years or so, largely following state-wide trends.

Growth rates were very strong from 2004 through to 2013 reflecting the state-wide resources boom and associated economic bounce. Since 2013, growth rates have reduced significantly, in line with the slowdown elsewhere in the State. From 2013-19, the sub-regional population has increased from 104,182 to 106,996 – an overall growth of just 2.7 per cent, representing an annual average of 0.4 per cent. Development rates have dipped correspondingly.

Under four of the five of the *WA Tomorrow* projection scenarios, it is the 65 years and over cohort that is likely to have the greatest level of growth by 2031, when compared to 0-19 years and 20-64 years. This older age group has 89 per cent of the overall growth under Band A and 51.5 per cent under Band C. Only in Band A does the working-age cohorts (20-64 years) have a slightly higher level of growth than the 65 years and above. These projections reflect the existing relatively older population of the sub-region compared to the State median age.

14.2 City of Bunbury

The City of Bunbury has experienced limited population growth over the past 20 years. The ERP has increased from 30,616 in 2001 to 31,644 in 2019, an overall increase of 1,028 residents (3.4 per cent). This represents an annual average increase of less than 0.2 per cent.

The overall increase in the period 2001-19 masks a decline in population year-on-year since 2013, when the population reached 32,951. Since then there has been a decline of 1,307 residents. This reflects a lowering of the average household size within the City.

The median age of the City's residents at the 2016 Census was 41 years, well above the State median of 36 years. For each of the age cohorts up to 45-49 years the proportions for the City are below that for the State, whereas for the cohorts 50-54 years and above the City's proportion are above those for the State.

Of all the local government areas the City has the lowest proportion of children aged 0-14 years, with 17.4 per cent of the total population.

The median forecast (Band C) in *WA Tomorrow* is for the City's population to increase to 34,640 by 2031, an annual average growth rate (AAGR) of 0.39 per cent. Most of this growth is in the retired age cohort with a 40 per cent increase projected for those aged 65 and over.

The Band E forecast is for the City's population to grow to approximately 37,390 by 2031 (0.9 per cent AAGR). Under this scenario the working age groups (20-64 years) still only grow at 2.8 per cent compared to over 53 per cent for 65 years and over.

14.3 Shire of Capel

The Shire of Capel has experienced the highest rate of growth between 2001 and 2019 of any of the local government areas within the sub-region. The resident population has increased from 7,136 (2001) to 18,161 (2019), representing a rise of 11,027, over 150 per cent.

This large increase is predominantly a result of the development within the urban expansion area of Dalyellup, to the south of Bunbury within the Shire of Capel. Dalyellup has grown from a resident population of 386 in 2001 to 9,667 in 2019.

There has also been growth in the rural living localities of Gelorup and Stratham (from 2,604 in 2001 to 3,104 in 2019, a 19 per cent increase), together with limited growth in Capel, Boyanup and Peppermint Grove Beach townsites and rural areas.

The median age of the Shire's residents at the 2016 Census was 36 years.

Under *WA Tomorrow* the Shire's population is forecast to increase to 23,600 under Band C (2.0 per cent AAGR), and up to 25,500 under Band E (2.57 per cent AAGR).

14.4 Shire of Collie

The Shire of Collie has two settlements, Collie townsite and the small settlement of Allanson to the west of the Collie townsite. Between 2001 and 2018 the Shire has lost population, with a decline from 9,109 (2001) to 8,672 (2019), amounting to a change of -4.8 per cent. However, this overall trend masks variations within that time, with:

- gains between 2001-2003
- losses between 2003-2007
- gains between 2007-2013, up to a high of 9,464 in 2013
- losses each year since 2013.

The median age of residents of the Shire at the 2016 Census was 41 years, well above the State median of 36 years. The 10-14 and 15-19 years cohorts were above the State proportions but the cohorts 20-24 up to 45-49 years were below the State averages. For the older cohorts of 50+ years each were above the State average.

The *WA Tomorrow* forecasts indicate that Collie is likely to lose further residents by 2031, ranging from 1,780 (-1.48 per cent AAGR) in Band A to 170 (-0.13 per cent AAGR) in Band D. Only Band E forecasts an increase in population by 2031 (680 residents, 0.49 per cent AAGR).

14.5 Shire of Dardanup

The Shire of Dardanup has experienced a relatively high rate of growth since 2001 with the resident population increasing by 5,458, just over 60 per cent, from 8,991 in 2001 to 14,449 in 2019. The majority of the development associated with that growth has been greenfield development at Millbridge and Eaton. There has also been significant retail and commercial development at and adjacent to Eaton Fair, with more proposed.

At the 2016 Census the Shire had a relatively young median age for its residents of 37 years. For each of the four age child cohorts, the proportion in the Shire is higher than that of the State. For the younger adults 20-49, each of the cohorts is lower than the State average and each of the older cohorts 55+ years is higher than the State average.

14.6 Shire of Donnybrook-Balingup

The Shire of Donnybrook-Balingup has experienced steady growth since 2001, from 4,710 residents to 6,095 in 2019, a 29 per cent increase. Just under 50 per cent of the Shire's total population is within the two largest settlements, Donnybrook and Balingup.

The Shire has a relatively elderly population with a median population at the 2016 Census of 47 years, the highest of the six local governments in the sub-region. 46.3 per cent of the Shire's population is aged 50 years and above, compared with 32 per cent for the State. Below 50 years the only age cohort above the State average is 10-14 years.

14.7 Shire of Harvey

The Shire of Harvey has experienced the second highest overall growth of the six local governments, with its population increasing from 18,526 (2001) to 27,975 (2019), an increase of 9449 or 51 per cent.

The median age for residents of the Shire of Harvey at the 2016 Census was 38 years, just above the State's median. The Shire has a relatively high proportion of 0-19 year-olds (29.2 per cent) and 45-79 years (38.3 per cent) but a low proportion in the 20-44 cohorts (36.8 per cent). The greatest concentration of children is in Australind, with the greatest concentration of older people in the Shire's hinterland towns and rural areas.

Under the *WA Tomorrow* (2018) forecasts, by 2031 the Shire of Harvey will have the largest resident population of all the Bunbury-Geographe local governments. The Band C forecast is for 35,200 residents (1.81 per cent AAGR), and the Band E forecast is for 37,860 (2.3 per cent AAGR).

15 Urban settlement

15.1 Introduction

The settlement pattern of Bunbury-Geographe is well defined with Bunbury recognised as the Regional City for the wider South West Region, Collie as a sub-regional centre, Harvey, Donnybrook and Capel as major service towns and several other smaller towns and villages (see Map 3).

15.2 Bunbury

The WAPC's *South West Regional Planning and Infrastructure Framework* establishes that, from a settlement perspective, Bunbury is regarded as one centre. The Strategy adopts this position of the SWRPIF and recognises Bunbury as the State's second city. The spatial extent of Bunbury is defined in this Strategy as the area west of the Bunbury Outer Ring Road alignment stretching from the northern boundary of Leschenault in the north to the southern boundary of the suburb of Dalyellup in the south.

It represents by far the largest settlement in the sub-region and the vast majority (67 per cent) of the sub-region's population, approximately 71,500 of 106,996 (2019).

As such, Bunbury is recognised as the Regional City for the South West region, and the State's second city, with all the facilities and services of a regional city including: public and private regional hospitals and other health facilities, State and Federal Government offices, regional entertainment centre and conference facilities, regional-level sporting facilities, Edith Cowan University campus, a Year 11/12 College, TAFE college, regional library and higher-order retailing and services. The Bunbury Port and significant industrial and service commercial areas are also located in Bunbury.

There are significant greenfield developments underway at Kingston, Treendale, Treendale South, Millbridge, Parkridge, Glen Iris/Moorlands and Dalyellup together with the urban expansion area of Tuart Brook. These amount to a potential dwelling yield of around 7800 dwellings. There are also some relatively minor low-density greenfield development sites at Meadow Landing, Gelorup, College Grove and Stratham, with significant infill and redevelopment opportunities in and around Bunbury CBD and other activity centres and corridors.

The Wanju urban expansion area, within the Shire of Dardanup, represents the bulk of the medium-long term greenfield residential development identified for Bunbury by the *Greater Bunbury Strategy* (WAPC, 2013) and, depending on the densities achieved, could accommodate approximately 19,200 dwellings based on the WAPC endorsed Wanju District Structure Plan.

15.3 Collie

Collie is the second largest settlement in the sub-region and is located some 60 kilometres inland from Bunbury. Collie has a range of services and facilities commensurate with a sub-regional centre including a district hospital, a State Senior High School, four State primary schools and a private primary school, recreation centre, swimming pool, local government office, an airstrip, and recreational and social facilities.

Collie serves the local population and a number of Wheatbelt settlements to the east. There are two coal mines, three power stations and two industrial areas close to the town and these provide a significant proportion of the local jobs. The Coalfields Highway has been significantly upgraded in recent years, improving travel times to Bunbury and further afield. Collie has the potential to accommodate alternative industrial land uses in the town's industrial areas, Shotts and Coolangatta.

At the 2016 Census the townsite's population was 7,192, representing a small increase from 6,998 at the 2011 Census. The median age is 41 years. The median household income for Collie was 32 per cent below the State median at the 2016 Census and median housing rentals are 28 per cent below the State median.

The most recent DPLH residential land supply assessment identified 10 sites around the Collie townsite with a potential total yield of just over 1,000 lots. The current annual yield of additional lots is around 25 dwellings.

15.4 Harvey

Harvey is situated within a rich and fertile agricultural area beneath the Darling Scarp. It is renowned for dairy, beef, horticulture and viticulture, which thrive on Harvey Water's irrigation associated with the Harvey Irrigation District. The areas to the north, south and west of the townsite lie within the Greater Bunbury Region Scheme's Strategic Agricultural Resource Policy Area, and are predominantly delineated by a network of irrigation channels.

The town serves as a local service centre for neighbouring rural areas and surrounding smaller settlements such as Wokalup, Cookernup, Yarloop, Benger and Myalup.

There are 13 potential residential development sites identified around the existing urban boundary to the townsite with an overall capacity of 1,260 dwellings which represents more than double the existing number of dwellings.

At the 2016 Census the townsite had a population 2,750 in 1206 dwellings, the third largest in the sub-region. The median age is 42 years and the age distribution for the town is skewed toward the 60 years and above cohorts (28.7 per cent compared to the State average of 19.3 per cent for these cohorts). The median household income for Harvey was 33 per cent below the State median at the 2016 Census.

15.5 Donnybrook

Donnybrook is an attractive rural service town in the Preston River valley some 37 kilometres south east from Bunbury. It is surrounded by agricultural uses, including horticulture, and the associated processing of food produce. The town has a wide range of local services and facilities including a State district high school (up to Year 10) and private and State primary schools.

At the 2016 Census the town had a resident population of 2,520 in 1094 dwellings. There are 14 potential residential development sites around the town estimated to accommodate at least 1,250 lots, which would provide for more than double the number of dwellings and resultant population. The median age is 42 years and the median household income is 33 per cent below the State median.

The age distribution of the local population is strongly skewed towards the age groups of children 14 years and under and adults aged 55 years and above.

15.6 Capel

Capel is the fifth largest settlement in the sub-region by population with 2,020 residents (850 dwellings) at the 2016 Census. The townsite is situated just east of Bussell Highway equidistant from Bunbury and Busselton (26 kilometres). The Capel River runs through the townsite in a south-east to north-west direction. There is sewer provision to the south-west of the river but none to the north-east, which limits development in that area.

The town has a State primary school and a Christian College. There are local services and facilities in the towns including post office, supermarket, cafes, pharmacy, local government offices, churches, recreation facilities, a pub and a light industrial area.

The *Bunbury-Geographe Residential Land Supply Assessment* identifies 27 potential urban development sites with a potential capacity of 1,740 dwellings, which if all were developed, would triple the dwelling stock.

At the 2016 Census the median age was 39 years and the 0-14 years and 45-84 years cohorts were above the State average proportions, with those in the 15-44 cohorts well below the State average. Median household incomes at the 2016 Census were 25 per cent of the State median and median weekly rents 14 per cent below the State median.

15.7 Boyanup

Boyanup is a rural hinterland town of just over 800 residents (as at the 2016 Census) located 21 kilometres south-east of Bunbury. The South Western Highway runs north-south through the townsite. The Greenbushes-Picton railway line runs through Boyanup. The Preston River runs around the eastern side of the town.

The town has a range of services and facilities including: tavern, chemist, general store and newsagent, café and lunch bar, post office, butcher, State primary school, churches, skate park, community hall, and liquor store. There is reticulated sewer provided on the western side of the river which is pumped south to the Water Corporation's Donnybrook Sewer Treatments Works.

The *Bunbury-Geographe Residential Land Supply Assessment* identifies nine potential residential development sites around the townsites with an estimated capacity of around 1,860 lots which, if all were developed, would increase the number of dwellings in Boyanup of about 550 per cent.

As with all the hinterland towns, the age distribution is strongly skewed to the age cohorts 50 years and over, although the proportion of 80 years and above is below the State average. The median age is 46 years and the median weekly income was only 7 per cent below the State median, the highest of all the settlements.

15.8 Brunswick Junction

Brunswick Junction is a small town situated 27 kilometres north east of Bunbury either side of the South Western Highway and adjacent railway line. It has a small range of local facilities including State and private primary schools, pub, local shops, caravan park, agricultural showgrounds and a stop for the Australind passenger rail service.

The settlement had a population of 772 residents housed in 361 dwellings at the 2016 Census. The median age was 45 years. Median incomes for Brunswick are significantly lower (67 per cent) than the State average.

15.9 Dardanup

Dardanup is a small town situated 15 kilometres south east of Bunbury centred to the east of Boyanup Picton Road. It lies at the entrance to the Ferguson Valley. It has a sports ground, private and state primary schools, tavern, veterinary centre, general store, pub, service station, library and council offices.

The settlement had a population of 447 persons at the 2016 Census with a median age of 41 years. For a hinterland settlement it has a relatively high proportion of children 0-14 years, at 22 per cent of the total population.

15.10 Balingup

Balingup is a small town situated in the Preston River valley on the South Western Highway, 67 kilometres south east of Bunbury. There is significant holiday home use of dwellings in the Balingup. Almost 25 per cent of 175 dwellings in Balingup were unoccupied at the time of the 2016 Census, indicating that there is a strong second home ownership in the townsite.

Balingup had a relatively small population of 268 at the time of the 2016 Census with a median age of 55 years, by far the highest of any settlement in the sub-region. However, it serves as a service centre for the surrounding rural hinterland and tourist centre. There is a State primary school, visitor centre, service station, cafes, churches, post office, sporting complex, tavern, general store and several visitor accommodation options. The Census also showed that median weekly household income was 18 per cent below that of State median household income.

15.11 Binningup

Binningup is a larger beachside settlement nestled behind the primary dune and with only a single access in and out. It is located approximately 28 kilometres north of Bunbury CBD. The nearest activity centre is at Australind, some 20 kilometres to the south. Binningup contains a general store with fuel pumps, a village hall, caravan park, bowling green and golf course. There is reticulated sewer and one kilometre north of the settlement is the de-salination plant.

At the 2016 Census the resident population was 1,227. Almost one third of the dwellings were unoccupied. The median age at the Census was 39 years. The age cohorts 5-14 years and 35-74 years were above the State average proportions while 0-4, 20-34, 75 years and above are below the State average.

There are long-standing residential development proposals to the south and east of the settlement which, if implemented, would significantly increase the number of dwellings.

15.12 Burekup

Burekup is a village situated immediately south of the South Western Highway, 15 kilometres east of Bunbury CBD within the Shire of Dardanup. The village has a general store and newsagent, State primary school, Anglican church, tennis and basketball courts and playing fields. The 2016 Census population of the settlement was 602 (225 dwellings). The median household income is 18 per cent above the State.

The median age is a comparatively young 33 years, by far the lowest of any settlement in the sub-region. Children aged 0-14 years make up 29 per cent of the resident population whereas those aged in the cohorts 50 years and above were far lower than the State average.

15.13 Allanson

Allanson is a village, seven kilometres to the west of Collie. It is one of the larger villages in the sub-region with a resident population at the 2016 Census of 555 persons (219 dwellings). The village has a State primary school, part-time post office and general store, and oval.

15.14 Cookernup

Cookernup is a village within the Shire of Harvey situated 10 kilometres north of Harvey. The village has a post office, community hall, Australind rail stop and a general store. At the 2016 Census the village had a population of 352 in 148 dwellings with a median age of 46 years.

15.15 Kirup

Kirup is a village within the Shire of Donnybrook-Balingup, situated 17 kilometres south of Donnybrook. In the wider locality, there was a population of 219 residents at the 2016 Census in 108 dwellings with a median age of 41 years.

15.16 Mullalyup

Mullalyup is a village, six kilometres south of Kirup. In the wider locality, there was a population of 152 residents in 83 dwellings at the 2016 Census, with the median age of 51 years.

15.17 Myalup

Myalup is a village in the Shire of Harvey approximately three kilometres north of Binningup. Myalup is on the coast and can only be accessed by a single road. At the 2016 Census the wider locality had a resident population of 353 persons in 295 dwellings of which 56.6 per cent were unoccupied.

15.18 Peppermint Grove Beach

Peppermint Grove Beach is a village in the Shire of Capel approximately 28 kilometres south of Bunbury CBD and six kilometres north west of Capel. Peppermint Grove Beach is on the coast and can only be accessed by a single road. There is a caravan park with associated shop with the nearest other services and facilities at Capel.

The settlement had a resident population of 466 at the 2016 Census, with a median age of 47 years. 46.7 per cent of the dwellings were unoccupied, reflecting a high second home ownership.

15.19 Roelands

Roelands is a village in the Shire of Harvey approximately 20 kilometres by road east of Bunbury and five kilometres south of Brunswick Junction. There is a private school/college immediately south of the village.

15.20 Yarloop

Yarloop is a village in the Shire of Harvey approximately 15 kilometres north of Harvey. Yarloop was devastated by a bushfire in January 2016 which destroyed many buildings. The number of residential dwellings reduced from 255 at the 2011 Census (482 residents) to 114 dwellings at the 2016 Census (224 residents). Since the 2016 bushfire Yarloop has been in a process of recovery and reconstruction. The primary school has reopened, and a new community centre built.

15.21 Key urban settlement issues

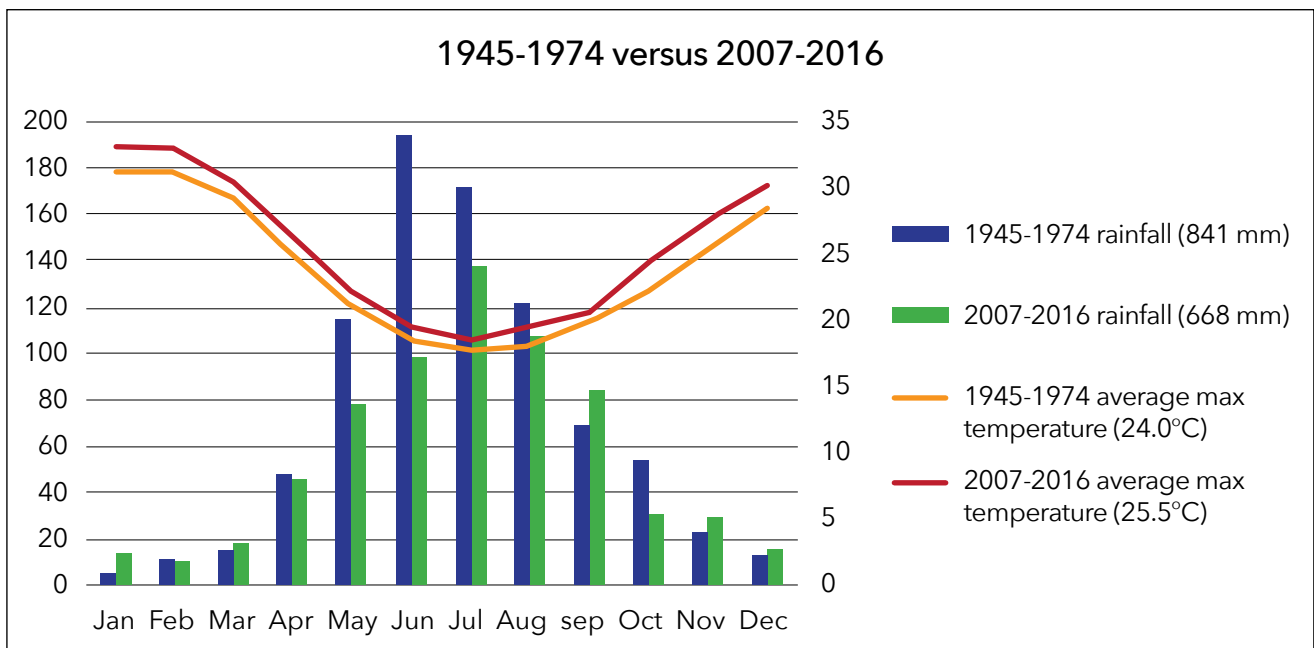
- The Bunbury urban area is located across four local government areas: the City of Bunbury, and the Shires of Harvey, Dardanup and Capel. This gives rise to the need for coordinated strategic planning for the Bunbury urban area across local government boundaries.
- Attracting new residents and investment to the sub-region is a challenge due to competition from Perth and the Leeuwin-Naturaliste sub-region. The primacy of Perth over the rest of the State means that it attracts the majority of net interstate and overseas migrants to Western Australia. The lifestyle attractions of Leeuwin-Naturaliste mean that it attracts sea-change migrants. This poses a challenge for the population growth in Bunbury-Geographe.
- With some exceptions, the feasibility of urban land development in the sub-region has been inhibited by low market demand establishing low land values, resulting in development costs, in particular essential services and fill, being prohibitively high. This situation is especially pronounced in hinterland towns.
- The need to provide for diverse and affordable housing, while also delivering a high quality of built form.
- The importance of conserving and enhancing the unique character, identity and sense of place of each settlement in the sub-region.

16 Environment

16.1 Climate

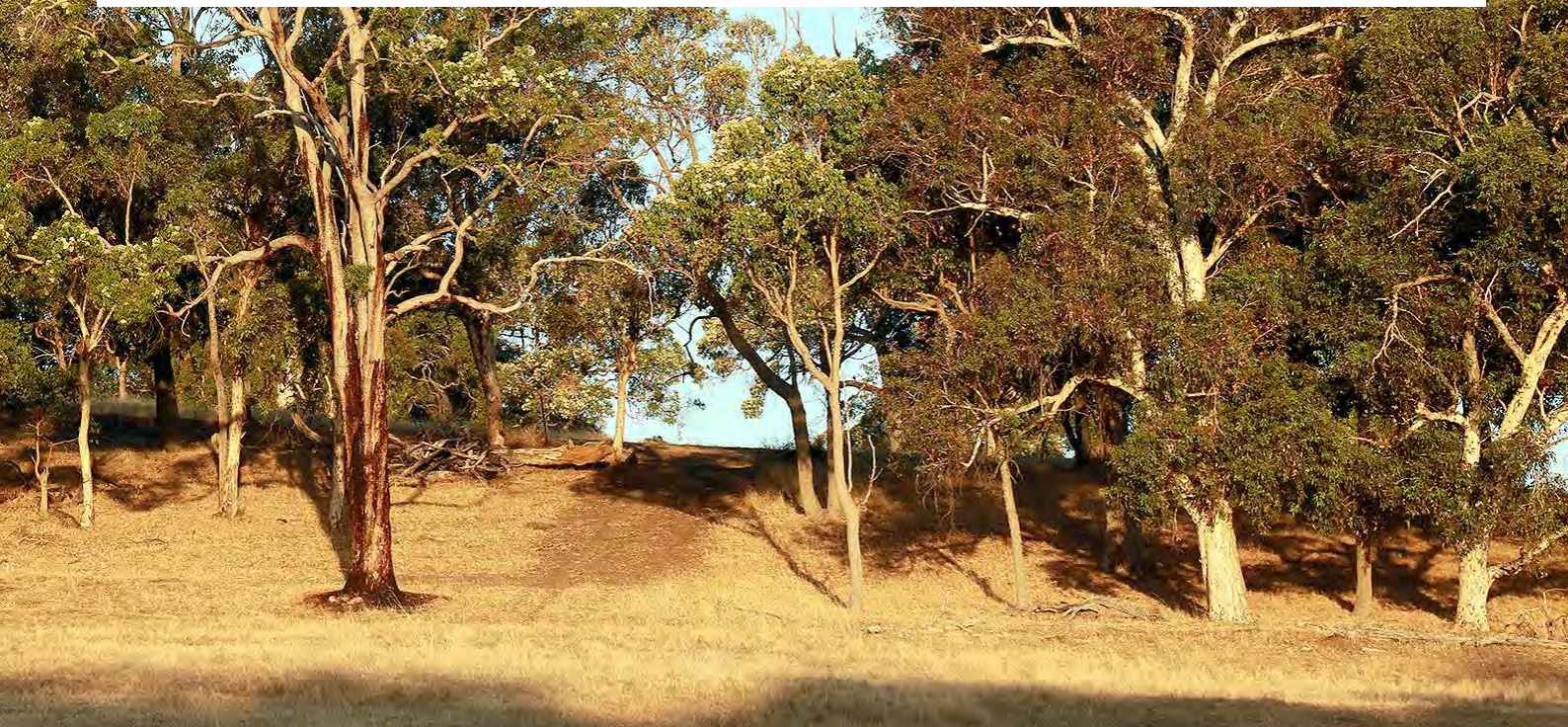
The sub-region has a temperate Mediterranean climate with wet and cool winters and dry and warm summers. Climate change has resulted in a drier climate during the winters and slightly wetter summers, although overall annual average rainfall is decreasing, see Figure 15. Temperatures are cooler inland compared to the coast in winter and warmer in summer.

A changing climate - Monthly Rainfall v's Temperature



Source: Department of Water and Environment Regulation

Figure 15 – Comparison of Bunbury’s monthly average rainfall and maxima, 1945-74 to 2007-16.



16.2 Landscape and soils

The Bunbury-Geographe sub-region is broadly divided into two distinct landscape units:

- the Darling Plateau - an ancient 'Archaeon Block' to the east of the sub-region with a moderately dissected lateritic plateau on granite with incised valleys, with its western boundary formed by the Darling Fault extending north and south
- the Swan Coastal Plain - to the west of the Darling Fault, and north and west of the Whicher Scarp, with Phanerozoic² sedimentary deposits of the Perth Basin.

These two broad landscape units are also identified as the Swan Coastal Plain and Jarrah Forest, in the *Interim Biogeographic Regionalisation for Australia* (IBRA) (Version 7, 2016). The Jarrah Forest IBRA region is split into two sub-regions:

- JAF01, northern Jarrah Forest
- JAF02, southern Jarrah Forest, with the boundary broadly along the line of the Coalfields Highway.

The whole of the Swan Coastal Plain within the sub-region lies within the IBRA sub-region SWA02 Perth.

On its coastal fringes, the Swan Coastal Plain comprises gently undulating coastal dunes and estuaries, from Preston Beach to Bunbury, running parallel to the coast. Almost two thirds of the coastal plain is made up of the wetlands and woodlands of the Pinjarra Plain (see Map 4). Much of the Pinjarra Plain is subject to waterlogging and inundation (see Map 5) during the wet winter and early spring months.

On the Pinjarra Plain there are *"few remaining areas of native vegetation and what does remain occurs in small remnants many of which are trees over pasture. It is expected that all remnants will contain threatened ecological communities."* (EPA, 2003).

Work from 2001 indicated that almost 80 per cent of the original native vegetation on the southern Swan Coastal Plain within Greater Bunbury has been cleared and that the vast majority (almost 90 per cent) of the remaining remnant vegetation is in areas of less than five hectares.

To the east and north of Bunbury the inland boundary of the Swan Coastal Plain is formed by the foothills of the Darling Range and the Darling Scarp.

To the east and south-east of Bunbury the inland boundary of the coastal plain is formed by the Whicher Scarp. Beyond the Whicher Scarp, to the south-east of Boyanup townsite, lies the Donnybrook sunklands, a gently undulating lateritic plateau dissected by shallow valleys and comprising a single soil landscape zone.

16.3 Acid sulfate soils

On the Swan Coastal Plain, there are acid sulfate soils which when exposed to air react with oxygen and water to produce iron compounds and sulfuric acid. The latter can release other substances, including heavy metals, from the soil into the surrounding environment and waterways.

The acid sulfate soil (ASS) risk mapping within the sub-region indicates 'high to moderate risk' within three metres of the surface associated with the coastal dunes, river valleys and low-lying depressions. The remainder of the coastal plain within the sub-region is predominantly mapped as 'moderate to low risk'.

16.4 Biodiversity

The Bunbury-Geographe sub-region is part of the South Western Australia Global Biodiversity Hotspot which stretches across south west Western Australia from Geraldton in the north to Esperance in the south east. It is a region with a high concentration of rare and endangered species, hence its biodiversity hotspot classification (see Map 6).

Since 2001 there has been a 76 per cent increase in the number of species considered to be threatened, endangered or extinct. The Western Ringtail Possum is classified as critically endangered and faces increasing threats from climate change, habitat clearing and fragmentation and predation by feral and domestic animals. The Baudin's, Carnaby's and Red-tailed Cockatoos are also endangered species.

DBCA has reported that since 2001 in the wider South West region there has been an increase in threatened species:

- two additional mammal species classified as threatened
- nine additional bird species classified as threatened
- no additional reptile species classified as threatened

² Phanerozoic - the current geological Eon, covering the period from 541 million years ago until the present when visible life began to form and flourish.

- five additional fish species classified as threatened
- seven additional invertebrate species classified as threatened.

The natural vegetation of the Swan Coastal Plain has a rich understorey, including acacia and banksia species, and relatively few trees species, with the tuart, the only eucalypt endemic to the Swan Coastal Plain, marri and jarrah as the dominant. At the foot of the Darling Scarp there is a narrow band of jarrah-marri forest mixed with wandoo on heavier soils and sheoaks on sandier soils.

Behind the primary coastal dunes there is low scrub and heathland. Myrtles and buttercups are on the coastal flats and tuart and peppermint woodlands occur in the more inland sands above limestone.

Several plant communities are considered 'poorly represented', meaning there is less than 30 per cent remaining of the original pre-European extent.

As part of the work contributing to the establishment of the Greater Bunbury Region Scheme, the EPA published a strategy to identify regionally significant natural areas in its consideration of the Greater Bunbury portion of the Swan Coastal Plain (EPA, 2003).

Tuart Forest National Park

The Tuart Forest National Park (2049 hectares), comprising two separate Class 'A' reserves, is situated on the south-western boundary of the sub-region between Stirling Estate and Wonnerup. It protects the largest remaining tuart forest in the world and contains the largest and tallest specimens of tuart trees on the Swan Coastal Plain with some trees more than 33 metres tall and 10 metres in girth. The National Park also helps protect the State's largest population of the critically endangered western ringtail possum. There is a management plan for the National Park (DPAW, 2014)

Wellington National Park

Wellington National Park consists of 17,000 hectares of jarrah, marri and karri forests situated in the Shire of Collie, west of the Collie townsite, and focused around the Collie River valley. A management plan for the National Park was published in 2008 by the then Department of Environment and Conservation. The National Park has significant conservation, water supply and visitor / recreation roles.

Preston National Park

The Preston National Park is situated across four local government areas, including the Shire of Collie and Donnybrook-Balingup within the Bunbury-Geographe sub-region, and takes in parts of old-growth jarrah, marri and wandoo forests 30 kilometres south of Collie townsite. The National Park is split into two separate land parcels each of about 6000 hectares.

Yalgorup National Park

The Yalgorup National Park is located in the Shires of Harvey and Waroona and the City of Mandurah, on the western edge of the Swan Coastal Plain from just south of the Dawesville Cut in the north to Lake Preston in Myalup. It contains a system of 10 lakes, including Lake Preston, which is a significant habitat for migratory waterbirds and amphibians and is recognised under the international Ramsar Convention.

Leschenault Peninsula Conservation Park

The Leschenault Peninsula Conservation Park is an extensive (1,461 hectares) conservation park lying between the coast and Leschenault Estuary. There is an extensive peppermint and tuart woodland behind the foreshore dunes.

Bunbury Regional Park – Leschenault and Preston to Ocean

There has been a long-standing vision for two regional parks within the Greater Bunbury area which was advanced through the planning for the Greater Bunbury Region Scheme. This vision was realised initially when the *Preston to Ocean Regional Park Establishment Plan* was published in 2011 setting out the park in a seven kilometre east-west corridor on the southern flank of the City of Bunbury, extending from the western bank of the Preston River at Davenport to the coast.

In 2017 the *Leschenault Regional Park Establishment Plan* was published in 2017 setting out the proposals for the regional park, an area of 2,278 hectares, up to eight kilometres wide from the northern boundary of the City of Bunbury heading north into the Shires of Harvey and Dardanup. It includes land along the Brunswick River and lower Collie River westwards across the Swan Coastal Plain. It also includes the Leschenault Peninsula Conservation Park between the estuary and the ocean.

More recently it has been proposed to merge the regional park create a single regional park providing a contiguous regional reserve extending from the coast, encompassing the areas around the Leschenault Estuary and the riparian zone of the Collie and Brunswick Rivers.

16.5 Water

16.5.1 Surface Water

The sub-region lies within four surface water catchments:

- Leschenault - the Collie, Brunswick, Ferguson and Preston Rivers which drain in the Leschenault Estuary. Approximately 71 per cent of the Leschenault catchment is covered by native vegetation.
- Geographe - the Capel River.
- Warren-Blackwood - the Balingup Brook which flows into the Blackwood River.
- Peel-Harvey - the Harvey River which flows into the Peel-Harvey Estuary.

The level of surface water run-off within these catchments has been significantly diminishing over recent years due to climate change resulting in lower average annual rainfall.

Leschenault Catchment - Leschenault Estuary

The Leschenault Estuary is one of the larger waterbodies in WA with an area of 27 kilometres² and is approximately 14 kilometres long and two kilometres wide. It is a valuable natural asset in terms of waterbirds, fringing and aquatic vegetation and fish habitat. The estuary drains the catchments of the Wellesley, Brunswick, Ferguson, Collie and Preston rivers as well as receiving runoff from adjacent land and agricultural drains.

The estuary's catchment area is more than 1,900 kilometres², covering most of the Bunbury-Geographe sub-region. The estuary environment includes the main body of the estuary, which is very shallow (less than two metres deep), and the salt water portions of the Brunswick and Collie rivers.

The Preston River has been modified by the development of the Port of Bunbury, and is connected to the main body of the estuary. There is also a man-made cut opposite the confluence of the Collie and Brunswick rivers connecting the estuary to the ocean. The Wellington Dam on the Collie River is the largest surface water storage in the South West region.

The estuary supports a wide range of recreational activities for local residents and for a large tourism sector. The estuary and associated water bodies provide an aesthetic backdrop to the City of Bunbury and Australind.

The Leschenault estuary is heavily affected by eutrophication (through large loads of nutrients entering the wetlands, waterways and ocean) due to agricultural and urban land uses and is showing signs of stress. Projected urban development and intensification of land uses close to the estuary could potentially increase nutrient runoff to the waterways and the estuary.

Nitrogen and phosphorus loads reaching the estuary require reduction as a matter of urgency. The impending growth of the Greater Bunbury area is projected to increase the current loads to the estuary, particularly in the sub-catchments already in the 'recovery' or 'intervention' categories.

Geographe Catchment - Capel River

The Geographe catchment extends from Capel in the north to Eagle Bay in the west and east to Kirup. It is bounded by the Darling Range, the Whicher Range and the Leeuwin-Naturaliste Ridge. Below these ridges is an extensive coastal plain characterized by sandy soils and poorly drained flats, wetlands and river systems that flow to Geographe Bay.

Poor sandy soils, agricultural practices and urban expansion has led to water quality problems in the catchment's waterways from nutrient run-off. Reducing nutrients leaving rural and urban areas is a key priority for the *Vasse Geographe Strategy 2015-2019*.

Warren-Blackwood Catchment

The Blackwood River has a catchment of 28,100 kilometres² stretching well into the Wheatbelt region. Only the southern part of the Shire of Donnybrook-Balingup, including Balingup Brook and Mullalyup Brook, lie within the Blackwood catchment.

Peel-Harvey Catchment - Lake Preston

The Peel-Harvey Estuary and Yalgarup wetland system, including Lake Preston, are together on Ramsar's internationally-recognised list of Wetlands of International Importance under the Convention of Wetlands in 1990. This reflects their considerable ecological, recreational, commercial and scientific interest. The natural waterways run eastwards and northwards into the Peel-Harvey Estuary, while the Harvey Diversion Drain runs almost due west to flow into the ocean almost immediately south of the settlement of Myalup. Most of the Ramsar site lies to the north of the Bunbury-Geographe sub-region.

The Peel-Harvey Estuary and Yalgarrup system are internationally significant habitats for waterbirds and migratory wading birds. Thousands of waterbirds gather each year with over 80 species recorded, of which 27 are listed on the Japan-Australia Migratory Bird Agreement (JAMBA) and the China-Australia Migratory Bird Agreement (CAMBA) (Environmental Protection Authority, 2003).

The *Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System - Phosphorus Management* (EPA, 2008) aims to improve water quality by reducing phosphorus discharges from the catchment through changes to agricultural and urban practices and land-use planning.

16.5.2 Groundwater

There are two main groundwater flow systems:

- the unconfined Leederville aquifer in the superficial (near-surface) formations
- the confined Yarragadee aquifer in the underlying formations, that is water held within rock layers, stretching from Bunbury to Nannup.

16.5.3 Coast

The Bunbury-Geographe coast forms part of the Leeuwin-Naturaliste Marine Bio-region which is characterised by a high-energy, south-westerly swell affected coast with a relatively narrow continental shelf. Coastal waters are strongly influenced by the warm offshore Leeuwin Current and cooler inshore counter currents.

The coast is a significant element of the Bunbury-Geographe sub-region. It runs south to north from the Shire of Capel boundary with the City of Busselton, north of Wonnerup Estuary to the northern boundary of the Shire of Harvey with the Shire of Waroona, south of Preston Beach. It includes Koombana Bay and the entries to Leschenault Inlet and Estuary.

There are four settlements within the sub-region, close proximity to the coast and vulnerable to the possible impacts from a changing climate including coastal erosion, coastal and fluvial flooding and inundation:

- Bunbury
- Myalup
- Binningup
- Peppermint Grove Beach.

The coast is a vitally important environmental, economic, social and recreational resource for local residents and businesses, and visitors. There are

sandy beaches from the northern boundary of the sub-region south of Preston Beach through to Forrest Beach at the southern boundary of the sub-region. For the 25 kilometres north of Myalup the beach is only accessible by four-wheel drive vehicles with Lake Preston providing a barrier to access from inland.

The only interruption to the sandy coast of the sub-region is the rocky basalt outcrops at Wyalup Rocky Point at Bunbury. These have created the sandy cove of Koombana Bay, which has been modified to create the outer and inner harbours of the Port of Bunbury.

With increased population close to the coast there are rising pressures on the coastal and marine environments including those associated with:

- tourism and recreation, including 4WD access to beaches
- increased use of the foreshores
- sewage disposal
- nutrient run-off and other pollutants
- climate change and sea-level rise
- erosion, inundation and sediment transport
- marine debris
- invasive species.

There is constant pressure around the coast with additional development and increasing recreational use, which has intensified in recent years. The Transforming Bunbury Waterfront project has looked to capitalise on the aesthetic and locational assets of Koombana Bay to provide Bunbury with an even more attractive backdrop.

At the southern end of the sub-region's coast Geographe Bay supports extensive and diverse seagrass meadows that provide vital habitat for many fish and other marine fauna. It represents one of the most significant and valuable natural resources in the South West region. Protecting it from the impacts of nutrient pollution is a high priority, requiring a substantial on-going effort from governments, industry and the community. Of utmost importance is achieving the right balance between protecting the bay and wetlands and facilitating continued agricultural production and further urban growth in the catchment (*Vasse Wonnerup and Geographe Water Quality Improvement Plan, 2010*).

Coastal erosion and flooding are natural processes, and where settlements have been established near the dynamic coast there has been a pattern of retreating, reclaiming and defending. Today our settlements and lifestyle are much more solid and static. How we will adapt to the predicted changes is a very complex issue. Researchers, planners,

decision-makers and land managers are beginning to understand the range of processes involved and in identifying decision-making solutions and adaptation options.

The Peron-Naturaliste Partnership (PNP) is an incorporated group formed by nine local governments between Cape Peron and Cape Naturaliste in the south-west of Western Australia – Bunbury, Busselton, Capel, Dardanup, Harvey, Mandurah, Murray, Rockingham, Waroona. The overall objective of the PNP is to provide a regional mechanism to facilitate effective and timely adaptation responses to climate change. The partnership was formed in 2011, since then coastal adaptation coordinators have implemented a range of projects and actions to assist land managers and communities with adaptation planning.

In 2016 the Shire of Harvey developed a Coastal Hazard Risk Management and Adaptation Planning (CHRMAP), www.peronnaturaliste.org.au/projects/harvey-project/, for coastal planning and particularly in the management of coastal assets. The CHRMAP follows on from the regional Coastal Adaptation Decision Pathways project which identified areas where future impacts from coastal erosion and inundation are likely to affect the Harvey coast. The outcomes and recommendations provide direction for the Shire of Harvey in budget forecasts and spending on coastal assets and management.

16.6 Bushfire

The WAPC's *State Planning Policy 3.7: Planning in Bushfire Prone Areas* introduced significant implications for the planning sector and formalised the integration of fire protection into the planning process. It requires higher-order planning documents, such as sub-regional strategies, to include high-level consideration of relevant bushfire hazards when identifying or investigating land for future development.

The vast majority of the sub-region is identified by the Department of Fire and Emergency Services (DFES) as being bushfire prone (Map 7) with large areas of native vegetation, plantations and areas with significant slopes. Significant bushfire risks exist for many existing developments, settlements and infrastructure.

The State and local government, industry and the community will need to work collaboratively to reduce the risk to these vulnerable areas. Potential expansion areas within the sub-region are already cleared of most remnant vegetation thus reducing the bushfire risk. More detailed bushfire assessments will need to be undertaken at the structure plan, subdivision and development application stages.

16.7 Key environmental issues

- Balancing growth with the protection of areas with high biodiversity significance and other environmental values.
- The need to sustainably manage natural resources, including minimising fill on development sites and encouraging lightweight construction.
- The need to respond to the potential impacts of climate change, including a drying climate and sea-level rise.
- Natural hazards (such as bushfire, coastal inundation/erosion and flooding) pose a risk to existing and future development.



17 Economy

17.1 Covid-19

Since the WAPC commenced preparation of the Bunbury-Geographe Sub-Regional Strategy in 2019, economies, including in the Bunbury-Geographe sub-region, have been significantly impacted by the Covid-19 pandemic. The full extent of the pandemic's impact on the Western Australian economy is still emerging but the State Government is progressing key State financed projects to help stimulate growth.

It is timely that the South West Development Commission and the Department of Primary Industry and Regional Development have recently completed the Collie-Bunbury Development Action Plan for the sub-region. The Plan will provide direction to guide future growth of industry and coordinate regional economic development initiatives by government agencies with a resultant growth in employment opportunities across the sub-region.

The WAPC will continue to work with all key stakeholders to facilitate the sub-region's economic recovery.

17.2 Sub-regional overview

The Bunbury-Geographe sub-region supports a strong and diverse sub-regional economy that continues to attract residents to live and work in the area. The region has the most diversified economy of all the State's nine non-metropolitan regions.

There is great potential for increased economic development in the sub-region. Bunbury-Geographe enjoys a number of key advantages such as a large, broadly-skilled workforce; significant areas of residential land to enable population growth; a modern port and freight infrastructure; the construction of the Bunbury Outer Ring Road which will provide direct access to Perth via the Forrest Highway; and affordable housing and a relaxed lifestyle.

To facilitate continued economic growth, significant areas of industrial land have been identified within the Bunbury urban area at Waterloo and Picton. These industrial areas are expected to meet demand for affordable, well-located land that can be used for a variety of industrial and technological purposes. Given its close proximity to Perth, the sub-region has the potential to be the hub of the State's

technology development sector, now and into the future, particularly in collaboration with the tertiary institutions that are well-established in Bunbury.

Bunbury is the highest order centre and the largest regional city outside the Perth/Peel regions. Bunbury has long been regarded as the 'Second City of the State' and has the potential to not only strengthen this position but to expand upon it into the future with the right investment in industrial and technological industries. The economic expansion will be dependent upon both private and public investment as well appropriate government agencies promoting and facilitating the growth.

Bunbury functions as the commercial and administrative hub of the broader South West region and some parts of the western Wheatbelt region. Continued population growth in Bunbury and the broader South West region is likely to generate opportunities for further commercial and retail development. This, however, is tempered by the increasing popularity of on-line shopping that is becoming more prevalent.

Agriculture is a long-established industry in the sub-region (see Map 8) and has undergone significant changes over time. Deregulation of the dairy industry in 2000 saw sweeping changes to the industry, which has now settled back as a major contributor to the local economy. Fruit growing remains a significant industry in the Donnybrook area and continues to be a source food for the South West and Perth markets. The fruit industry is a large employer of seasonal labour and has not been overly affected by mechanisation.

Alumina from the Worsley Refinery is the major export through the Bunbury Port but uncertainty in the global economy has seen further expansion at Worsley delayed. However, production remains high and it retains its place as a major employer and contributor to the local economy. Minerals sands from local deposits (see Map 9) are also an important export commodity moved through the Port.

Collie is renowned for its coal mining and power generation (see Map 9). Both industries are still progressing, but the long-term future of both coal mining and the use of coal-fired power stations may impact the town. The State has invested significantly in Collie for generations and Collie remains critical to the existing State electricity generation and transmission network. Future technological change may likely require existing infrastructure based on Collie.

The Collie Futures Fund was set up by the State Government to transition Collie away from its traditional industries and look to the future through consideration of alternative industries. This currently includes Westrac's autonomous vehicle training

facility, which will become a national base to train mining technicians in innovative technology and equipment.

The long-established Bunbury Port continues to be a significant piece of freight infrastructure. It not only generates an income through its ship loading facilities but also as a distribution point for the sub-region's major exports which include alumina, aluminium hydroxide, minerals sands, silica sand, silicon dross, spodumene, scrap metal and woodchips.

The three major economic activity categories within the sub-region are:


- agriculture, forestry and fishing
- mining
- manufacturing.

Bunbury-Geographe is inherently linked to the global economy. The South West region's gross regional product decreased from \$15.05 billion to \$13.3 billion in 2018/19. During the same period, Bunbury-Geographe's gross regional product was \$8.5 billion, which represents 64 per cent of the South West region's overall gross regional product. This still sees most industry sectors within the sub-region continuing to perform strongly with no particular industry failing.

To facilitate the growth of the sub-regional economy, the WAPC recognises the need to promote the sustainable development of both traditional and new, innovative industries through proactive land use planning. In 2020 the WAPC endorsed the Waterloo and South Picton District Structure Plans that will provide over 1500 hectares of industrial and employment lands close to the City of Bunbury and the Bunbury Port.

17.3 Sectoral drivers

The key industry sectoral drivers of the Bunbury-Geographe sub-regional economy have been defined and described by Regional Development Australia - South West, as detailed below and in Figure 16³.

The industry sectors which correspond to a  in Figure 16 are among the top five (of 19 sectors) contributors to economic activity in the Bunbury-Geographe sub-region in relation to the following measures:

Value-added - represents the marginal economic value that is added by each industry sector in a defined region. Value-added is calculated by subtracting local expenditure and expenditure on regional imports from the output generated by an industry sector. Value-added by industry sector is the major element in the calculation of Gross Regional Product.

Employment - the key social outcome of economy development; employment data represents the number of people employed by businesses / organisations in each of the industry sectors in the Bunbury-Geographe sub-region.

Exports - represents the value of goods and services exported outside of the Bunbury-Geographe sub-region (including other regions in Western Australia) that have been generated by local businesses / organisations. Another way of defining exports is as an inflow of money into the sub-region, for example, visitor accommodation brings in money from people who live outside the sub-region's boundaries thus they are earning export equivalent dollars.

Backward linkages - details the industry sectors which spend the most on locally sourced intermediate goods and services per dollar of output. These industry sectors may not necessarily make the largest contributions to the sub-region's economy at present however due to well-developed local supply chains, they have a significant capacity to deliver broad-based economic benefits for the region.

³ Bunbury-Geographe Economic Profile, Regional Development Australia, May 2020

INDUSTRY SECTORS	BACKWARD LINKAGES	EXPORTS	EMPLOYMENT	VALUE-ADDED	TOTAL
Agriculture, Forestry and Fishing		✓			1
Mining		✓		✓	2
Manufacturing		✓	✓	✓	3
Electricity, Gas, Water and Waste Services	✓	✓			2
Construction	✓	✓	✓	✓	4
Wholesale Trade					0
Retail Trade			✓		1
Accommodation and Food Services					0
Transport, Postal and Warehousing	✓				1
Information Media and Telecommunications	✓				1
Financial and Insurance Services					0
Rental, Hiring and Real Estate Services				✓	1
Professional, Scientific and Technical Services					0
Administrative and Support Services					0
Public Administration and Safety					0
Education and Training			✓		1
Health Care and Social Assistance			✓	✓	2
Arts and Recreation Services	✓				1
Other Services					0

Figure 16 – Key propulsive sectors

Using these measures of economic activity, the key propulsive drivers of the Bunbury-Geographe sub-region's economy, in descending order from most significant, are:

INDUSTRY SECTORS	TOTAL
Construction	4
Manufacturing	3
Health Care and Social Assistance	2
Electricity, Gas, Water and Waste Services	2
Mining	2
Rental, Hiring and Real Estate Services	1
Retail Trade	1
Education and Training	1
Information Media and Telecommunications	1
Transport, Postal and Warehousing	1
Arts and Recreation Services	1
Agriculture, Forestry and Fishing	1

Figure 17 – Key propulsive drivers

17.4 Employment

While it is important to consider the overall gross regional product when considering the economic wellbeing of the Bunbury-Geographe sub-region, another important factor is the level of employment within individual industries. The level of employment has a direct impact on the social wellbeing of the local population and ensures as many people as possible are employed to further add to the local economy through their spending. Also, industries that have high employment numbers will be instrumental in attracting employees to the sub-region.

The table below shows the number of full-time equivalent (FTE) jobs by sector located within Bunbury-Geographe, based on a 38-hour work week ⁴.

INDUSTRY SECTORS	JOBS FTE	PROPORTION
Manufacturing	4,547	12.3
Construction	4,412	12.0
Health Care and Social Assistance	4,298	11.7
Retail = Trade	3,763	10.2
Education and Training	3,221	8.7
Public Administration and Safety	2,091	5.7
Mining	2,054	5.6
Agriculture, Forestry and Fishing	1,715	4.7
Transport, Postal and Warehousing	1,691	4.6
Other Services	1,648	4.5
Accommodation and Food Services	1,594	4.3
Professional, Scientific and Technical Services	1,216	3.3
Electricity, Gas, Water and Waste Services	1,049	2.8
Administrative and Support Services	868	2.4
Wholesale Trade	726	2.0
Rental, Hiring and Real Estate Services	660	1.8
Financial and Insurance Services	573	1.6
Arts and Recreation Services	408	1.1
Information Media and Telecommunications	287	0.8
Total	36,822	

Figure 18 – Level of employment by industry sector

The data presented in this table does not account for either casual or permanent part-time workers who also make up a considerable number of the workforce. Statistics for the sub-region show that approximately 30-32 per cent of the overall labour force are part-time workers, representing approximately 50,000 employees.

The data presented in this table does not describe economic growth drivers. For example, tourism is an important element of the sub-region's economy which is not identified as a sector in this data, as it employs people across a range of sectors.

⁴ Bunbury-Geographe Economic Profile, Regional Development Australia, May 2020

17.5 Industrial land supply

The DPLH *Greater Bunbury Regional Land Supply Assessment* (2015) identified that approximately 6,270 hectares of land were zoned for industrial use. There were a range of lot sizes on land zoned for industrial purposes in the Greater Bunbury sub-region, with many lots sized between 2,000 and 5,000 m².⁵

Another 510 hectares of industrial land is also located in Collie, of which 210 hectares is located within the Shotts Strategic Industrial Area and approximately 300 hectares in the Coolangatta Industrial Park, identified for General Industry. The Coolangatta industrial area is also adjacent to the Bluewaters Power Station.

The Kemerton Industrial Park has been identified as one of the State's strategic industrial areas for heavy industry to provide downstream processing and value-adding to the sub-region's extensive primary resources, for export or domestic markets. The site is close to available road, power and high-pressure gas pipeline access, and has the required buffers in place. There is also potential for a future rail connection to the park if required.

The Waterloo Industrial Park and the North Picton and South Picton Industrial Parks have potential for transport, logistics, general industry and agri-food processing. There are potential synergies between these parks and Bunbury Port.

There is a possibility to extend Iluka's North Capel mineral sands site. The existing North Capel industrial area has good access to road, rail, power, high-pressure gas pipeline, and a sizeable local resident workforce. It is considered that the site has good prospects as a special industry estate into the future.

Previous studies have also identified additional areas to accommodate general industry in the Preston Industrial Park. There appears to be demand for properties, however the proposed expansion site has significant constraints which require further investigation and negotiation to determine its development potential.

Light industrial land is an important contributor to enterprise, innovation and employment. There are a number of light industrial areas throughout the sub-region. Generally, demand for light industrial land is assessed by the local governments and identified in local planning strategies.

17.6 Basic raw materials

Basic raw materials (BRM) include sand, limestone, gravel, clay, gypsum and other construction and road building materials. The materials are finite and as the supply becomes more problematic, costs will rise, thereby increasing the cost of development including housing.

These materials are required for a number of uses with most relating to the construction industry including buildings, fill, roads and retaining walls. It is important to have access to local sources as this reduces costs and pollution associated with their transport.

There are numerous operating and potential BRM extraction sites in the sub-region (see Map 10). More than half of these are on Crown reserves vested with the local or State government for gravel.

The remaining extraction sites are administered by the various local governments under the *Planning and Development Act 2005*. In 2012 the then Department of Planning and WAPC prepared a *Basic Raw Materials Demand Study for the Bunbury and Busselton Region* (the Study), which identified the main BRM deposits and estimated future demand. The Study identifies a number of regionally-significant deposits that need protection from potential land uses that would restrict future extraction of these resources.

Demand for BRM in the Perth and Peel regions is expected to remain high, while access to deposits in those regions is expected to diminish. This is likely to have the effect of increased competition from Perth and Peel urban developments for access to BRM from the South West region. This could potentially have a major impact on the future growth in the sub-region, unless alternative supplies can be found, or alternative building construction methods are embraced, particularly lightweight construction techniques.

⁵ Greater Bunbury Regional Land Supply Update January 2015 (WAPC)

17.7 Lightweight construction

Residential building construction on the Swan Coastal Plain over the past 50 years has relied predominantly on single-storey brick and tile on a concrete slab, over land requiring significant sand-fill and other materials for ancillary works.

The *Basic Raw Materials Demand Study for the Bunbury and Busselton Region* identified that an average dwelling and supporting infrastructure requires 151 tonnes of hard rock, 255 tonnes of sand, 102 tonnes of clay and 155 tonnes of limestone including product required for road base, site works and building stone. These figures would have to be modified as development is moving away from prime, more easily developed sites to sites with Class P soils with a high-perched groundwater table sitting above a clay sub-soil, which requires more fill.

This type of construction is unlikely to be sustainable into the future as the availability of sand fill and associated building materials continues to decline and the cost continues to rise.

However, this will provide the opportunity for other methods of construction to compete with the traditional brick-and-tile. Lightweight construction homes require less fill and incorporate more renewable building products such as timber and lightweight composites for cladding and interior fit-out. Lightweight constructed homes can range in appearance from ultramodern to traditional weatherboard and there is an enormous variety of claddings and finishes available.

They lend themselves to the creation of homes with high environmental credentials and diverse openings for passive solar heating, natural light and ventilation. The availability of local timber in the South West provides the opportunity for such timber to be employed widely in the sub-region. This will also add to the potential for buildings to offer a local distinctiveness which is a major consideration for many who live in the sub-region.

Another benefit is that the timber precinct, which is located at Moore Road, Dardanup, could become the centre for a new lightweight timber construction plant that could service the entire South-West and beyond. Lightweight construction needs to be supported and encouraged.

17.8 Tourism

The Bunbury-Geographe sub-region is host to a unique landscape consisting of five significant rivers with scenic valleys, five major dams, around 80 kilometres of coastline, four national parks, two regional parks, State forest and picturesque rural land and the second city of the State. The sub-region's dairy, wine and horticultural industries are significant and gaining prominence in attracting food-wine inspired visitors. Future prospects for the sub-region are linked to population growth, rising global interest in nature and food-wine tourism experiences and more 'getaway' holidays nationally (the sub-region is within 1.5 hours drive south of Perth).

The main visitor segments visiting the region include visiting friends and relatives, family holiday makers, grey nomads, international free-independent-travellers, sports-recreation visitors and business-corporate. There is no dominant visitor segment but rather several significant groups that warrant targeted communication to drive year-round growth in visitation across the region.

The State Government has worked closely with the City of Bunbury with the upgrade to the Dolphin Discovery Centre, the revitalisation of the Koombana Beach foreshore and the Mangrove Cove walk trail around the Leschenault Inlet.

This transformation is likely to continue as the area around the CBD is further developed. There is significant potential to enhance Bunbury's appeal as a tourist destination which will increase demand for tourism facilities.

Historically the sub-region is associated with the rural amenity afforded by the large areas of agricultural production and the scenic beauty of the Darling Scarp and the various State forests that are found throughout the locality.

Significant progress has been made in the wine industry particularly in the Ferguson Valley and the increase in number of dining opportunities cellar door sales in these rural settings.

The State Government, through the Collie Futures Fund, has been progressing the expansion of tourism opportunities in the Collie area. Funding has been allocated for the various trails and mountain bike facilities as well as increasing the amount of short-stay accommodation to meet demands.

Another tourism consideration for the sub-region is the development of opportunities for heritage tourism. There are many places of State and local heritage significance that convey the story of the State and sub-region's history and development.

In 2014 visitors to the region generated an estimated \$333 million in expenditure, which supported 300+ businesses in tourism, employing around 2,980 FTEs, with around \$166 million paid in wages and salaries, contributing to a flow-on effect into the broader economy of approximately \$483 million⁶.

The Bunbury-Wellington and Boyup Brook Regional Tourism Development Strategy 2014-2019 was produced in collaboration by the local governments in the Bunbury-Wellington sub-region and joined by the Shire of Boyup Brook. The strategy looks at the opportunities that currently exist and ways to grow visitation, extend stay and increase yield.

As noted in section 17.4, tourism is an important element of the sub-region's economy which is not identified as a sector in this data, as it employs people across a range of sectors.

⁶ Bunbury-Wellington and Boyup Brook Regional Tourism Development Strategy 2014-2019



17.9 Regional Deals

A Regional Deal is an approach by the Australian Government to bring together the three levels of government, the community and the private sector as a partnership to work towards a shared vision for productive and liveable regions.

The partnership focuses on aligning planning, investment and governance necessary to accelerate growth and job creation, stimulate renewal of rural communities and drive economic reforms.

There is support among the local governments within the Bunbury-Geographe sub-region to progress a Regional Deal. Planning for such a deal could consider the South West region as a whole. The preparation of a proposal is outside the land-use planning process.

The Australian Government has approved Regional Deals in other states which have provided funding for a variety of projects across multiple Regional Council boundaries. For example, the Hinkler Regional Deal⁷ secured funding for a number of diverse projects including road upgrades, inner city transformation projects, a feasibility study for upgrading facilities at the Port of Bundaberg and a new Royal Flying Doctor training facility.

⁷ Hinkler Regional Deal Implementation Plan, 2020

17.10 Key economic issues

Growth of the sub-region will require additional local employment through job creation. A number of factors, including fluctuating demand, technological advances and the reduction of carbon emissions are challenging some of Bunbury-Geographe's traditional industries including coal mining, energy generation, agriculture, retail and construction.

Ensuring that land use planning supports implementation of the *Bunbury-Geographe Regional Growth Plan* and the draft *Collie-Bunbury Economic Development Action Plan*.

The need to support government initiatives to help Collie manage the transition away from coal-powered electricity generation by encouraging the diversification of the employment base and the economy.



18 Transport

18.1 Introduction

The future population and economic growth of Bunbury-Geographe will depend largely on the take-up of employment lands throughout the sub-region.

Intra and inter-regional links are vital to ensure the optimum connectivity between the sub-region and markets. This will also allow for the efficient movement of freight and people into and out of Bunbury-Geographe. The Department of Transport's *Western Australian Regional Freight Transport Network Plan* (2013) has already considered many of the issues affecting the sub-region. This plan considered all forms of transport for the area including road, rail and ports. Aviation was not considered as generally regional airports are primarily focused on moving people and not freight.

The Department of Transport's draft *South West Supply Chain Strategy* (2020) addresses the needs of local industry now and into the future.

18.2 Roads

The sub-region is serviced by a number of key primary and regional distributor roads (see Map 3) that provide critical local and regional linkages as well connectivity to the remainder of the State.

Forrest Highway

Forrest Highway, opened in September 2009, is the main road linking Perth to the South West. It is 95 kilometres long and extends from the Kwinana Freeway east of Mandurah around the Peel Inlet to Lake Clifton and heads south to finish at Bunbury's Eelup Roundabout. There are many at-grade intersections along the alignment providing access onto and off the highway and connectivity for both private and freight vehicles.

Whilst all these intersections are at-grade Main Roads WA is considering future grade separated intersections within Bunbury, particularly around the newer suburbs in the Shires of Dardanup and Harvey.

Preliminary investigations by the Public Transport Authority (PTA) on the proposed route of a future fast train service from Perth to Bunbury considered the median strip of the Forrest Highway. These investigations have not been finalised.

South Western Highway

The South Western Highway begins in Perth's southern suburbs and runs through to Walpole in the Shire of Manjimup with a total length of 513 kilometres. The highway enters the Bunbury-Geographe sub-region in the Shire of Harvey just a few kilometres north of the Yarloop townsite. It continues down through the City of Bunbury and then further south to the Shire of Donnybrook-Balingup border just north of the Greenbushes townsite. Within the boundaries of the sub-region the highway is approximately 120 kilometres long. Historically the highway was the original connection road between Perth and the local rural communities and was built adjacent to the rail line connecting the South West to Perth.

The highway plays a significant part in sub-region's economy with much of the freight for the area transported on heavy haulage vehicles. The recent large-scale mining of spodumene at Greenbushes has seen a significant increase in road transport as the ore is trucked to Bunbury and through to Perth, as the rail line between Greenbushes and Bunbury has not been used for over 40 years. The future of the rail line is still being considered, so until then, the road remains a significant freight link. The highway is an important tourist route for both interstate and intrastate visitors and the problems of the coexistence of freight and tourist traffic continues to be addressed by Main Roads WA.

Bussell Highway

Bussell Highway runs south of Bunbury providing access to the City of Busselton and the Shires of Capel and Augusta-Margaret River. While the road is in good condition, the deregulation of the transport industry, industry development and an increasing population is placing pressure on the road system. Rapid population growth along the coast, together with increasing volumes of tourists and freight vehicles, has led to increasing traffic volumes on this highway and generated a need for traffic to bypass the City of Bunbury for better access and travel times to Perth.

Bunbury Outer Ring Road

The *Greater Bunbury Region Plan*⁸ first identified the alignment of Bunbury Outer Ring Road (BORR) in 1986. The vision for the BORR at that time was that the road would cater for increasing volumes of commuter, tourist and commercial traffic coming to Bunbury, and travelling to areas further south.

The proposed BORR is 27 kilometres long and branches off Forrest Highway in the north near Clifton Road and joins Bussell Highway in the south in Gelorup. The central section of the BORR was completed in 2013 in conjunction with the extension to the Port Access Road.

The Commonwealth and State governments announced in May 2018 that the final two stages of the BORR were to be constructed with the Federal Government providing \$560 million and \$290 million being provided by the State Government. The new road is expected to lead to safety improvements with less congestion and the separation of local and regional traffic. Productivity gains are expected from a dedicated free-flowing freight route to the port and tourism opportunities with new and improved access to Bunbury-Geographe, Margaret River region and the wider South West.

Port Access Road

The Port Access Road, also known as Willinge Drive, provides direct access from stage one of the Bunbury Outer Ring Road in the south, near the Moore Road timber precinct, through to the Bunbury Port.

The Port Access Road provides direct access to the port from the lower South West and the Leeuwin-Naturaliste sub-region without the need for heavy haulage vehicles to travel through Bunbury. This alleviates traffic congestion in Bunbury and makes freight delivery more efficient and economic.

Once the Bunbury Outer Ring Road is completed, it will remove most port-related heavy haulage vehicles from Forrest Highway in the vicinity of the suburbs of Treendale, Millbridge, Eaton and Vittoria Heights and direct them to the Port Access Road.

Coalfields Highway

The Coalfields Highway runs east from the South Western Highway at Roelands, through Collie and intersects with the Albany Highway at West Arthur in the Wheatbelt region. The highway acts as the major road freight, tourist and local route between Collie and the coast and has been upgraded over the years to improve safety and efficiency.

⁸ State Planning Commission (1986)

18.3 Freight rail

As part of the *Western Australian Regional Freight Transport Network Plan* (2013) the Department of Transport reviewed the rail services in the South West and, in particular, the infrastructure within the Bunbury-Geographe sub-region.

The South West rail network includes the South West Main rail line from Kwinana to the Port of Bunbury. The South West Main is part of the National Land Transport Network, servicing a number of other lines, extending east to Collie from Brunswick Junction and west to the Bunbury passenger terminal.

Freight volumes on the South West Main are already substantial, as the line currently carries the majority of the region's bulk freight movements and the track in its current configuration is nearing capacity, particularly in the southern sections from Brunswick Junction to discharge points within the port.

The *Western Australian Regional Freight Transport Network Plan* identified a number of upgrades that will be required to keep the line functional and operational into the future. In the medium term, the South West Main will require progressive upgrading to increase the overall train-carrying capacity. Longer-term upgrades include lengthening sidings to accommodate longer trains particularly as most crossing loops and sidings south of Pinjarra are less than 700 metres.

If industrial development occurs in both the Collie Basin and the Shotts Industrial Estate, the Brunswick to Collie rail corridor may be required as a freight route. The existing rail configuration is unlikely to be able to provide adequate capacity for this level of demand without major track-strengthening and capacity upgrades being undertaken, including section duplications.

The Department of Transport's draft *South West Supply Chain Strategy* (2020) identifies the Greenbushes to Picton rail line as a potential rail supply chain to support the Talison Lithium Mine.

18.4 Port of Bunbury

The Port of Bunbury is the major commercial deep-water port for Western Australia's South West region. The port recorded a throughput of 16.7 million tonnes in 2018-19, comprised mainly of alumina exports (65 per cent).

Other port export trades include woodchips (9 per cent), mineral sands (7 per cent), spodumene (5 per cent), silica sands (2 per cent), grain (2 per cent), copper concentrate (1 per cent), and other (1 per cent).

Imports through the port include caustic soda, mineral sands, fertilisers, coal, oil/petroleum, and timber products⁹.

Port throughput could grow to more than 30 million tonnes per annum by 2030¹⁰ with the bulk of these commodities being transported by rail. A significant number of products are still transported by road, including mineral sands, grain, spodumene, woodchips/logs, and silica sands.

The port's operations are currently split between the Outer Harbour and the Inner Harbours. Berths 1 and 2 in the Outer Harbour are used as general purpose, cruise ship, tugboat moorings and methanol facilities. The Outer Harbour functions are winding down and the future of the area will depend on the long-term planning the Southern Ports Authority has for the area.

There are currently five berths within the Inner Harbour and these are used for the following commodities: woodchips and grain, alumina and caustic soda; general purpose uses; and bulk materials.

Planning for the port has been ongoing with the *Bunbury Port Inner Harbour Structure Plan* released in September 2009. The purpose of the structure plan was to guide development and decision-making in the Inner Harbour. The structure plan was to provide greater certainty of land use and development for port users, the Port Authority and other decision-making authorities, neighbouring landowners and the wider community¹¹.

Recently, the Southern Ports Authority has been preparing a new draft plan for the port (2020).

The Westport Taskforce was established by the Minister for Transport in September 2017 to develop a Strategy to guide the Government on the long-term development and growth of the Inner Harbour at Fremantle; the Outer Harbour at Kwinana; the required rail and road networks; and the potential for the Port of Bunbury to contribute to growing trade needs. The Strategy looked at Perth and the South West's freight, trade and logistics requirements for the next 50-100 years¹².

The Westport Taskforce findings consider that Bunbury Port was unlikely to compare favourably with Fremantle and Kwinana in terms of handling container imports destined for consumers in the Perth metropolitan area.

In August 2019¹³ the Westport Taskforce advised key stakeholders that the Bunbury Port had not been included because the cost of additional infrastructure, as well as the higher operational costs of transporting goods across long distances, which would likely be passed onto consumers.

However, the findings did include options to facilitate the growth of the South West's container trade with a view to establishing a niche container operation at Bunbury Port. This will require the Department of Transport, the Department of Planning, Lands and Heritage, Southern Ports Authority and Bunbury stakeholders undertaking more detailed supply chain work to confirm the most suitable location for a future Inter-modal Terminal (IMT) and to better understand requirements for integrating IMTs into the South West rail supply chain any other expansion options Southern ports is contemplating.

⁹ Southern Port Annual Report 2019

¹⁰ Western Australian Regional Freight Transport Network Plan 2013

¹¹ Bunbury Port Inner Harbour Structure Plan 2009

¹² Facts about Westport December 2018

¹³ Westport Beacon August 2019

18.5 Airport

Bunbury Airport is the local airport servicing the City of Bunbury and the surrounding local government areas of the Shires of Capel, Dardanup, Donnybrook-Balingup and Harvey. The Bunbury Airport is located eight kilometres south-east of the city centre and is used largely as a facility for general aviation, pilot training and emergency services.

The Airport has a single sealed runway, which is 1,222 metres long by 18 metres wide. Expansion of the airport is constrained to the north-east by the South Western Highway and to the south-west by Manea Park and the Bunbury Regional Prison.

Bunbury Airport currently averages 13,000 aircraft movements per annum and is the home to a permanent rescue helicopter base operated by the Department of Fire and Emergency Services, seasonal water bombers operated by the Parks and Wildlife Services section of the Department of Biodiversity, Conservation and Attractions and significant visitation by the Royal Flying Doctor Service (RFDS).

The City of Bunbury, who owns and operates the airport, is currently (2020) preparing a new airport master plan in accordance with the Civil Aviation Safety Authority guidelines. This aims to establish the role of Bunbury Airport and guide its planning, development and operation over the 20-year period 2020-2040.

18.6 Public transport

Local bus service

The Bunbury urban area has been serviced by public bus services for many years and is run as part of the PTA's Trans-Regional services that are provided in major regional centres throughout the State.

The Bunbury service is contracted to Swan Transit South West and operates as TransBunbury, providing a range of services from Australind in the north through to Dalyellup in the south. Any expansion of these services would require a demonstrated need and would have to be considered by both PTA and TransBunbury.

The bus station in the Bunbury CBD, which was previously the Bunbury train station, is owned by the City of Bunbury and leased to the PTA. The City is negotiating with the PTA over the future use of the site and would prefer the bus station to be integrated into a potential relocated train station for the Australind, or the proposed Perth Bunbury fast train.

Inter-regional coach service

Currently there are two operators for the interregional coach services. Both South West Coach Lines and Transwa Road Coaches service the South West and connect Bunbury-Geographe directly with Perth.

Passenger rail - The Australind

The Australind, operated by Transwa, provides a service between the Perth central station and the Bunbury station located in Wollaston, a suburb south-east of Bunbury CBD.

The Australind provides a twice-daily service between Bunbury and Perth and services 10 hinterland towns. The trip usually takes approximately two hours 30 minutes.

The State Government announced an upgrade to the train infrastructure with new trains and rolling stock to be built and in service by 2022.

Passenger rail - Perth Bunbury Fast Train

The PTA has been considering a fast train service between Perth and Bunbury for a number of years. The *Greater Bunbury Strategy 2013* identified possible locations for the rail alignment and stations. Planning is ongoing and will consider links with local public transport.

Issues to be considered in the planning for a fast train include the connections into Perth to enable the train to travel at the speeds required, the rail alignment from Perth through Greater Bunbury, and the alignment into Bunbury.

The City of Bunbury has expressed a preference that a Bunbury fast train terminus be located in or as close as possible to the CBD. One option is locating it in the vicinity of the Dolphin Discovery Centre on Koombana Drive with a bus service to the CBD.

In relation to identifying a site for a new station(s) consideration should be given to the co-location of a future train and bus stations and that public transport corridors are identified early in the process so that future land use planning is co-ordinated with site selection.

The City of Bunbury is in the process of preparing a housing strategy (2020) based on infill opportunities and increasing the population of Bunbury. Early identification of public transport corridors would enable the City to plan for growth corridors based on transport-oriented design principles.

The City of Bunbury and the City of Busselton are the two largest non-metropolitan cities within the State. In preparing the Bunbury-Geographe Sub-Regional Strategy stakeholders have raised the issue of improved connectivity between the cities, particularly in relation to public transport options. Planning for these options and the identification of appropriate corridors could lead to further growth around established settlements such as Capel.

The WAPC is supportive of this direction and recommends that the PTA, City of Bunbury, the Department of Planning Lands and Heritage and other key stakeholders work towards formulating an integrated transport plan to address these and any other public transport issues that arise for the strategy.

Taxi services

The Bunbury area has been serviced by a local taxi service for many years. The service has expanded with a number of new operators having now entered the market. The taxi service continues to provide a direct service for those people unable to access private motor vehicle or bus services.

18.7 Cycling

Various studies have identified major benefits in areas with high levels of cycling, including economic, environmental and social benefits. While there are significant benefits to the amenity in encouraging increased bicycle travel, the major improvement for the Bunbury-Geographe sub-region is significant health benefits derived from the activity. It also helps to create more vibrant and welcoming communities.

The key to increasing cycling is providing infrastructure which is not only safe and convenient, but also competitive against other modes of transport¹⁴. To achieve this, cycling needs to be prioritised and given due consideration in any land use and transport planning.

Previous network planning was undertaken by the South West Development Commission (SWDC) in 2012¹⁵ which provided guidance for the cycle network and listed key projects to facilitate the expansion of the network, particularly identifying key gaps and deficiencies.

The *Bunbury-Wellington 2050 Cycling Strategy* provides guidance and direction to 2050. This Strategy has identified five types of routes that make up the network:

- **Primary routes** afford cyclists with safe and generally uninterrupted journeys and are generally completely separated from motorised traffic. Due to this, major road and rail corridors, and river and ocean foreshores tend to be the most practical locations.
- **Secondary routes** are usually located within urban or built-up environments. They provide access to and from important trip attractors such as shopping centres, industrial areas, as well as education, health and sporting precincts. They are located adjacent to arterial roads and take the form of protected on-road bike lanes.
- **Local routes** collect cycling traffic from residential areas and distribute it to secondary and primary networks. Local routes permit access to a range of lower order destinations such as local shops and parks.
- **Tourist trails** are long-distance, predominantly unsealed trails which are typically used to connect towns. These trails provide users with a more passive cycling experience. However, in some cases, tourist trails cater to other types of user including bushwalkers, horse-riders and occasionally motorbike-riders.
- **Road cycling routes** provide cyclists the opportunity to engage in the longer form of cycling activities with distances of 100 kilometres or more being achieved. Road cycling is one of the most popular forms of recreation in Australia and there is now a need to provide road cycling routes which cater for the needs and aspirations of people cycling long distances for training, sport or recreational purposes.

With the construction of the Bunbury Outer Ring Road (BORR) scheduled to commence in 2021, the alignment of the principal shared path being constructed as part the overall project will no longer connect to the local network within the Bunbury urban area. This will require another east-west cycle linkage from the BORR back into Australind. As such the *Bunbury-Wellington 2050 Cycling Strategy* will need to be reviewed to address this matter.

¹⁴ Bunbury-Wellington 2050 Cycling Strategy, Department of Transport, 2018

¹⁵ Greater Bunbury Regional Bicycle Master Plan, SWDC, 2012

18.8 Key transport issues

- The need to integrate land use planning with long-term regional transport requirements.
- As the population and traffic congestion levels increase over time, particularly within the Bunbury urban area, there is a need to provide a more effective and efficient public transport system that provides connectivity and builds linkages across Bunbury, the wider sub-region and further afield.
- The importance of capturing opportunities provided by improved linkages with adjacent regions resulting from the Bunbury Outer Ring Road and improvements to Bussell Highway between Capel and Busselton.
- The opportunity for a fast passenger rail service connecting Bunbury with Perth and Busselton, including an appropriate location for a railway station in Bunbury.
- The need to plan for the efficient movement of freight from Greenbushes to downstream processing and export facilities at Kemerton Industrial Area and the Port of Bunbury.

19 Utilities and services

19.1 Water supply

The provision of a water supply for residential, agricultural, mining and industrial uses, as well as water quality management of drinking water resources, will be a key challenge for future planning in the sub-region. The future demand for potable water in the sub-region is expected to increase between 120 and 200 per cent in the 30-year period to 2050 for the wider South West region.

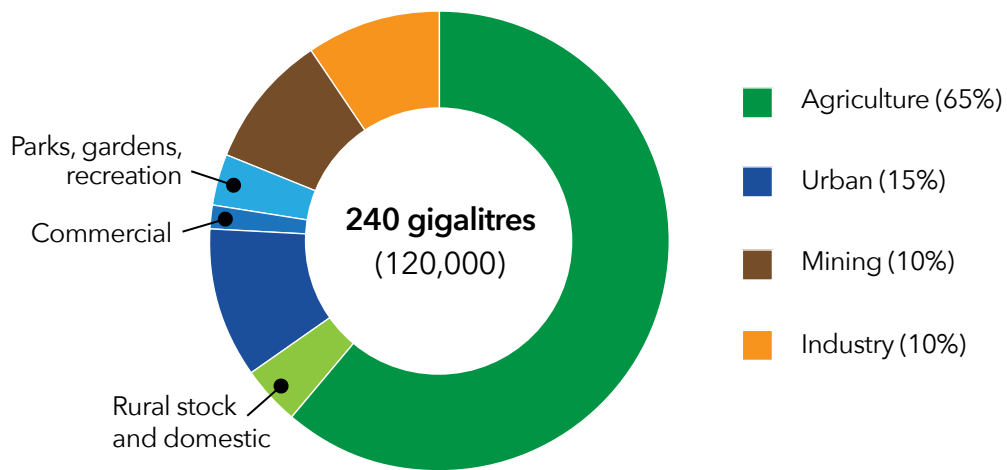
Aqwest currently provides potable water to the urban area of Bunbury, the northern part of Dalyellup and Picton Industrial Area (approximately 17,000 customers), while the Water Corporation provides potable water to the settlements in the remainder of the sub-region. Aqwest's water is pumped from the Yarragadee Aquifer, the large fresh water aquifer which stretches from Bunbury to Nannup. Outside the settlements, residential properties either rely on rainwater tanks or groundwater bores for their potable water.

DWER has indicated that future water supply source options for the region include:

- establishing new or expanding existing ground or surface water sources, including accessing water reserved for future public water supply
- desalination of seawater or saline ground/surface water
- wastewater recycling for potable or non-potable supply
- storm water harvesting for potable or non-potable supply
- combination of alternative sources to meet fit-for-purpose demands.

Water currently reserved in the Bunbury Groundwater Area may only just meet projected demand to 2060 beyond current entitlements for the existing Dalyellup, Bunbury, Eaton, Australind, Boyanup and Dardanup schemes. However, potential future water demand following development at Wanju, combined with estimated demand from the existing schemes, results in a total projected demand greater than the current licensed entitlements and water reserved for public water supply.

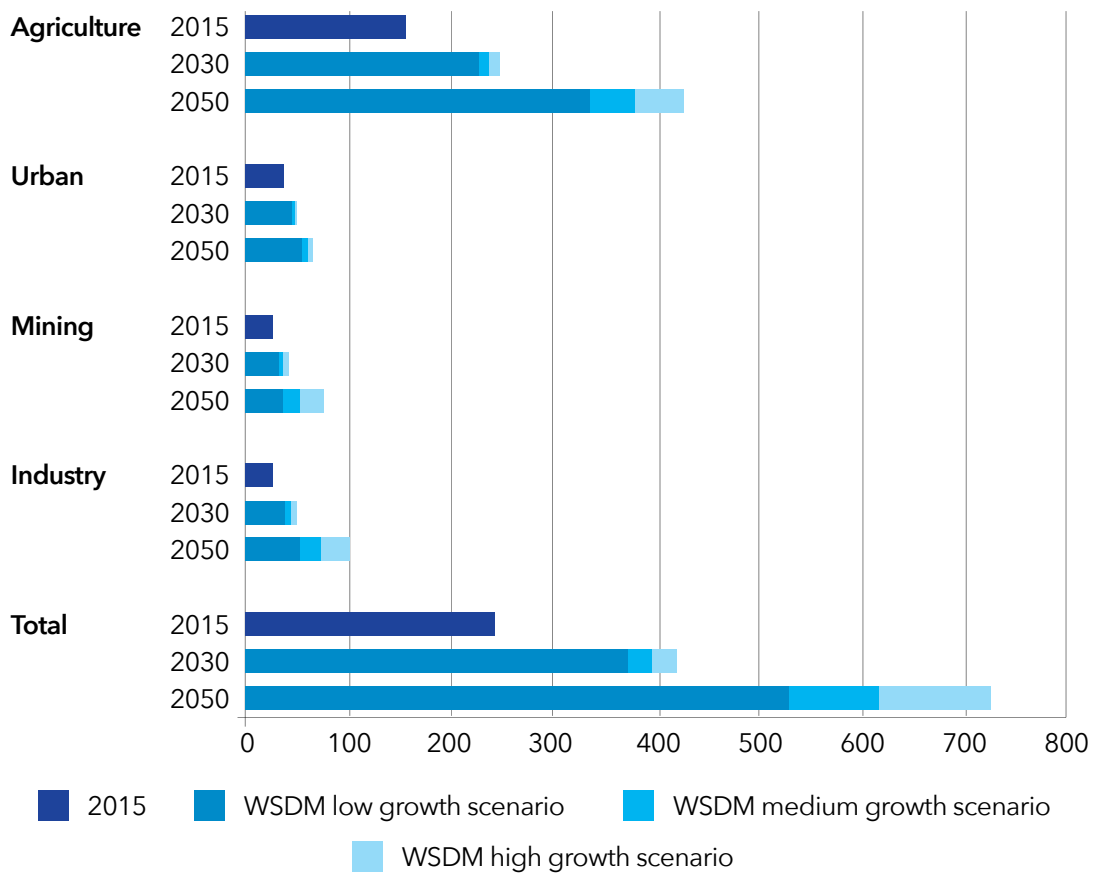
Water use in the South West region



Source: Department of Water and Environment Regulation

Figure 19 – Water use in the South West Region

Projected water demand in the South West



Source: Department of Water and Environment Regulation

Figure 20 – Projected water demand in the South West Region

19.2 Non-potable water

Figure 20 above shows that the overwhelming amount of surface water in the South West region is used for irrigated agriculture. This is provided by Harvey Water which is licensed to draw 137GL annually from the Waroona, Drakesbrook, Logue Brook, Harvey and Wellington Dams, as well as the Wokalup pipe-head.

The non-potable water is piped to agricultural areas from just south of Waroona in the north to Dardanup in the south, using gravity pressure through 495 kilometres of closed pipes and 256 kilometres of open channels.

There is also a small local Preston Valley Irrigation Co-operative that serves Donnybrook.

Impacts on existing surface and groundwater resources from a drying climate and current practises along with increasing demand, is resulting in the need to investigate alternative water sources and delivery infrastructure for industrial demands, including irrigated agriculture.

Increasing urban growth, climate change and reduced access to ground and surface water are also driving the need for a long-term strategy to supply water for green space irrigation to existing and future proposed urban communities.

Without intervention the problem of both potable and non-potable water demand exceeding supply will continue to grow. This will result in reduced access to safe and reliable drinking water; stifling of economic development; and a decreased ability to create liveable communities with certainty of supply for public open space, schools and community recreation facilities.

19.3 Wastewater

The Water Corporation provides and operates reticulated mains sewer for the following settlements (see Map 11):

- Bunbury urban area north (Kemerton Sewage Treatment Plan (STP))
Bunbury urban area south (Dalyellup STP)
- Capel (Capel STP)
- Donnybrook and Boyanup (Donnybrook STP)
- Dardanup (Dardanup STP)
- Burekup (Burekup STP)

- Collie (Collie STP)
- Brunswick Junction (Brunswick Junction STP)
- Harvey (Harvey STP) and
- Binningup (Binningup STP).

The Government Sewerage Policy (September 2019) outlines the State's policy position for the requirements for unsewered areas. The Policy states that:

"It is acknowledged on-site sewage disposal technology has advanced considerably since the 1990s and early 2000s, mainly in the form of secondary treatment systems. However, there are still significant risks associated with the use of on-site systems and there is limited evidence that the advanced technology performs as described under real-life conditions."

The minimum requirements include:

- within sewage sensitive areas (see Map 12), the minimum lot size for residential development without sewer connection is one hectare¹⁶
- within public drinking water source areas (P1, P2 and P3) (see Map 12), the minimum lot size is one to four hectares without sewer connection in rural, rural residential / rural living zones¹⁷
- outside public drinking water sources and sewer sensitive areas, for urban/industrial subdivision outside towns the minimum lot size is 2,000 square metres¹⁸.

¹⁶ Apart from land in a sewage sensitive area already zoned for urban use with a residential density coding of R2 to R10 under a local planning scheme or strategy endorsed by the WAPC which may be subdivided in accordance with existing density coding.

¹⁷ Smaller lots in sewage sensitive areas may be considered for non-residential, commercial and industrial subdivision on a case-by-case basis where it can be demonstrated that the proposal meet the minimum site requirements and the responsible authority, in consultation with relevant agencies is satisfied that the proposal is consistent with the objectives of this policy.

¹⁸ For heavy soils, secondary treatment systems will be required to achieve this lot size.

19.4 Electricity

The sub-region is supplied with energy from Western Power's South West Interconnected System (SWIS), which is an interconnected network emanating from Western Australia's major base load power generators.

There are three coal-fired powered power stations near Collie that provide the bulk of the State's electricity. Muja Power Station, 22 kilometres east of Collie, has a capacity of 854 MW of electricity. Two of four operating units of Muja are to be retired from October 2022 removing 400 MW of capacity.

Collie Power Station was commissioned in 1999 with a capacity of 300 MW. A third coal-fired station – Bluewaters Power Station – was opened in 2009 by Griffin Coal, 4.5 kilometres north-east of Collie with a capacity of 416 MW, providing 15 per cent of the State's electricity supply.

The penetration of renewable energy resources, in particular household solar photovoltaic (PV), wind, and large-scale solar, into SWIS over the past 10 years has been significant and now accounts for around 16 per cent of supply in the SWIS area. While this has opened considerable opportunities, it also has provided significant challenges to the energy industry, particularly with respect to power security and reliability.

The future role of renewables in the energy sector will only continue to grow with improvements in technology and associated lowering of costs. To assist in identifying the whole range of energy options for the future the State Government is undertaking a 'Whole of System Plan' to establish a structured and coordinated approach to planning the power system for the South West.

19.5 Gas

The Dampier to Bunbury Natural Gas Pipeline runs underground north-south through the Shire of Harvey ending immediately north of Clifton Road, Brunswick, just east of Forrest Highway. The pipeline services the ATCO high pressure gas pipeline and also the Worsley refinery (see Map 11).

The ATCO pipelines service Kemerton Strategic Industrial Area, Harvey townsite, Brunswick Junction townsite, Australind, Eaton, Millbridge, the City of Bunbury, Picton, Dalyellup, Boyanup, Iluka mine site Capel, the Capel townsite and further south to Busselton. The ATCO pipelines are underground.

19.6 Telecommunications

A range of telecommunications services exist within the sub-region, depending on location and accessibility to settlements. The more remote rural parts of the sub-region have telecommunications services which generally are more limited. Mobile services are generally available throughout the sub-region, however, there are gaps in coverage in some rural areas.

The State Government's Regional Mobile Telecommunications Project resulted in improved services in the sub-region through new and upgraded infrastructure. The National Broadband Network (NBN) has enabled improved access to information and services and provides opportunities for the establishment of new technology-based businesses.

19.7 Waste management

Each local government has its own waste transfer station and landfill site:

- Capel Waste Transfer Station, Capel, Shire of Capel
- Dardanup Waste Transfer Station and Recycling Centre, Dardanup, Shire of Dardanup
- Banksia Road Organic Processing Facility, Bunbury-Harvey Regional Council, Crooked Brook, Shire of Dardanup – not a public facility
- Stanley Road Waste Management Facility, Bunbury-Harvey Regional Council, Wellesley, Shire of Harvey
- Richardson Road Refuse Centre, Uduc, Shire of Harvey
- Collie Waste Transfer Station, Collie, Shire of Collie.

Bunbury-Harvey Regional Council (BHRC) is a statutory local government authority (Regional Council) established in 1990 by the City of Bunbury and the Shire of Harvey. The primary purpose of BHRC is waste recovery and disposal. BHRC is not responsible for waste collection services as that sits with individual councils.

The BHRC has two main areas of operations – the Stanley Road Waste Management Facility and the Banksia Road Organics Processing Facility.

BHRC owns and manages the Stanley Road Waste Management Facility, which encompasses a waste transfer station and a Class II landfill site.

The Banksia Road Organics Processing Facility is managed by BHRC on behalf of the Wellington Regional Group of Councils, which comprises the City of Bunbury, Shire of Harvey, Shire of Capel, Shire of Dardanup, Shire of Collie, Shire of Donnybrook-Balingup and the Shire of Boyup Brook.

In addition, Cleanaway operates a solid waste management facility at Lot 2 Banksia Road, Crooked Brook. The premises are not open to the public and are licensed by DWER with the general permissions being for:

- Category 64 - putrescible landfill site
- Category 61 - liquid waste facility.

The permission for the facility is to accept up to 303,000 tonnes per annum of Class III solid waste and 353,000 tonnes per annum of liquid waste.

The South West Regional Waste Group (SWRWG) is an informal collaboration between local governments in the South West region of Western Australia that, among other initiatives, is seeking to identify suitable alternative waste management strategies/technologies that can be deployed on a regional scale.

The SWRWG is seeking to engage with prospective technology/service providers for purposes of identifying and forming a broad understanding of:

- the most suitable waste treatment technology alternative to landfill that is commercially viable for the SWRWG and strategically aligned with the group's objectives
- the most suitable legal/ownership structure and/or commercial arrangement between the SWRWG and a potential supplier/operator of the preferred solution.

19.8 Education

The sub-region is well served by educational institutions with Edith Cowan University (ECU) - South West, based in the health and education campus on the outskirts of Bunbury. It offers a comprehensive range of tertiary courses in arts, business, engineering, nursing, teacher education and social work. There is an emphasis on local, mature-age students often studying part-time.

For tertiary vocational training, a TAFE campus also on the health and education campus at Bunbury offers a wide range of industry courses with flexible study options.

Manea Senior College is also based at Bunbury's health and education campus and is a specialist Year 11 and 12 senior college, the largest provider of Year 11 and 12 courses in the sub-region with around 650 students. There is also the WA College of Agriculture Harvey, based at Wokalup, south of Harvey. There are 128 boarding students plus day students from academic years 10, 11 and 12. The college operates a substantial farm with several different agricultural and horticultural elements.

There are State high schools at Australind Senior High School (SHS), Eaton Community College, Bunbury SHS, Newton Moore SHS and Dalyellup College within the Bunbury urban area, together with two secondary private schools: Bunbury Catholic College (having two campuses) and Bunbury Cathedral Grammar School. The Bunbury Baptist College, at Dalyellup, opened in 2019 to students in Year 7 and intends to work up to Year 12 by 2024.

There are two other senior high schools at Collie and Harvey and a district high school (up to year 10) at Donnybrook. There are a number of public primary schools in the Bunbury urban area and other settlements, together with some private schools. Djidi Djidi is a primary school in Bunbury that include Noongar culture and language in the life of the school. College Row and Bunbury Regional Community College are two specialist schools in the sub-region.

19.9 Health

The major health facilities in the sub-region are based at the South West Regional Health Campus at Bunbury with the Bunbury Regional Hospital and St John of God Private Hospital sharing some facilities. It incorporates 24-hour emergency care with a wide range of support services including an acute psychiatric unit, coronary care unit, cancer centre, domiciliary care unit, geriatric assessment unit, hospice care unit, maintenance renal dialysis unit, obstetric services, paediatric services and a dental unit.

The South West Aboriginal Health Service is also based at the health campus and runs a mobile health clinic to regional areas.

There are district hospitals at Harvey, Donnybrook and Collie. The Collie Health Service provide a range of health services including an emergency department, a domiciliary care unit, geriatric assessment unit and obstetric services. As part of the Southern Inland Health Initiatives capital works program, Collie Health Service underwent redevelopment in 2017 to improve health care services in the South West region.

Donnybrook Hospital is a public hospital facility that provides a range of health services to those living in Donnybrook and surrounding areas. Its services include emergency services, a domiciliary care unit, geriatric assessment unit and a nursing home care unit.

Harvey Health Service is a public hospital facility that provides a range of health services to those living in Harvey and surrounding areas. Its services include emergency services, a domiciliary care unit, geriatric assessment unit and a nursing home care unit. As part of the Southern Inland Health Initiatives capital works program, Harvey Health Service underwent redevelopment in 2017 to improve health care services in the South West region.

As mentioned earlier, the sub-region has a significantly ageing population, proportionally much older than the State average. This characteristic presents additional medical requirements for communities.

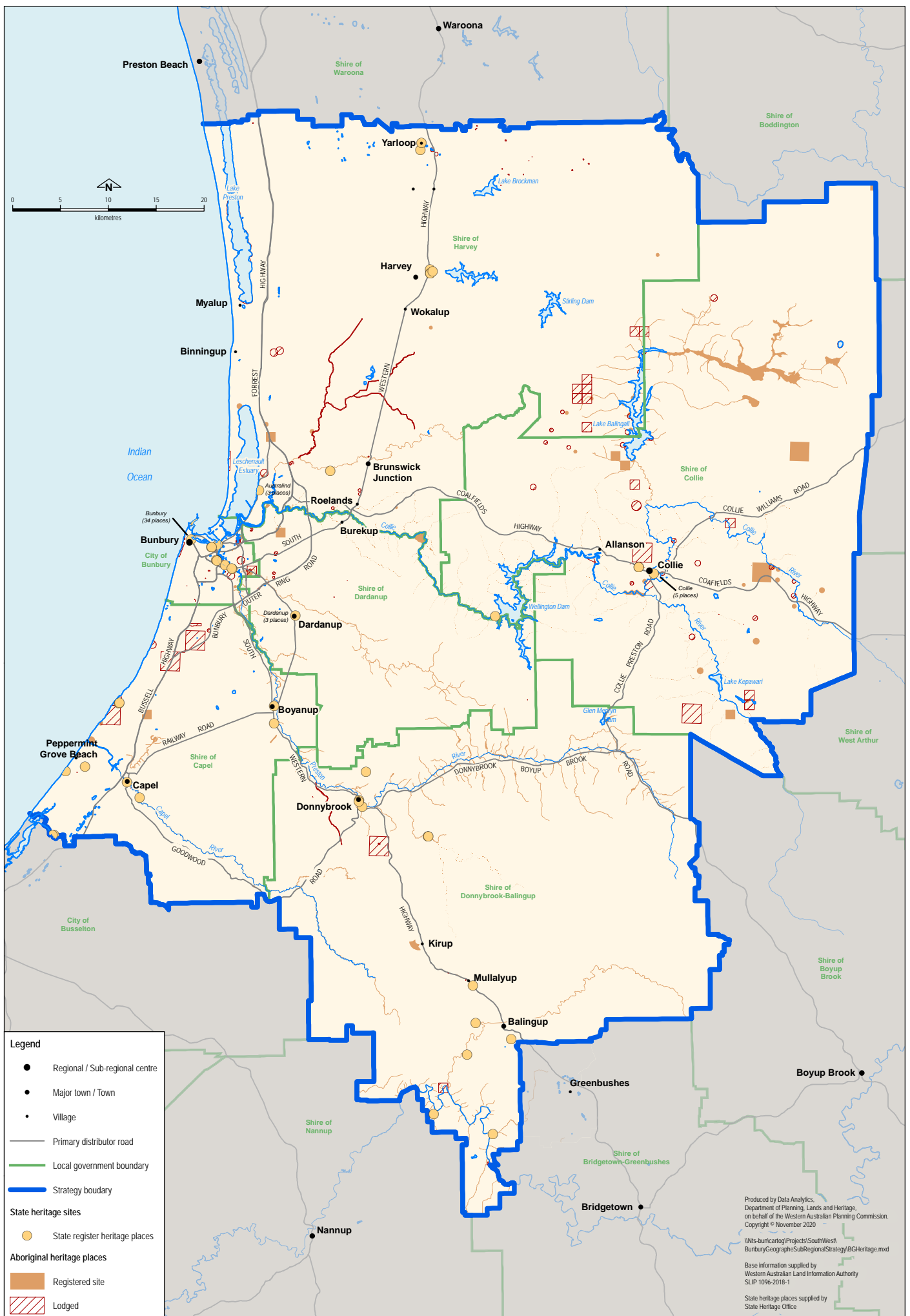
19.10 Key utility and servicing issues

- The sub-region's settlement pattern, large number of population centres and sensitive environment pose challenges for the efficient provision of some infrastructure, utilities and services.
- The opportunity posed by technological improvements to help provide flexible, innovative and alternative servicing solutions arrangements.

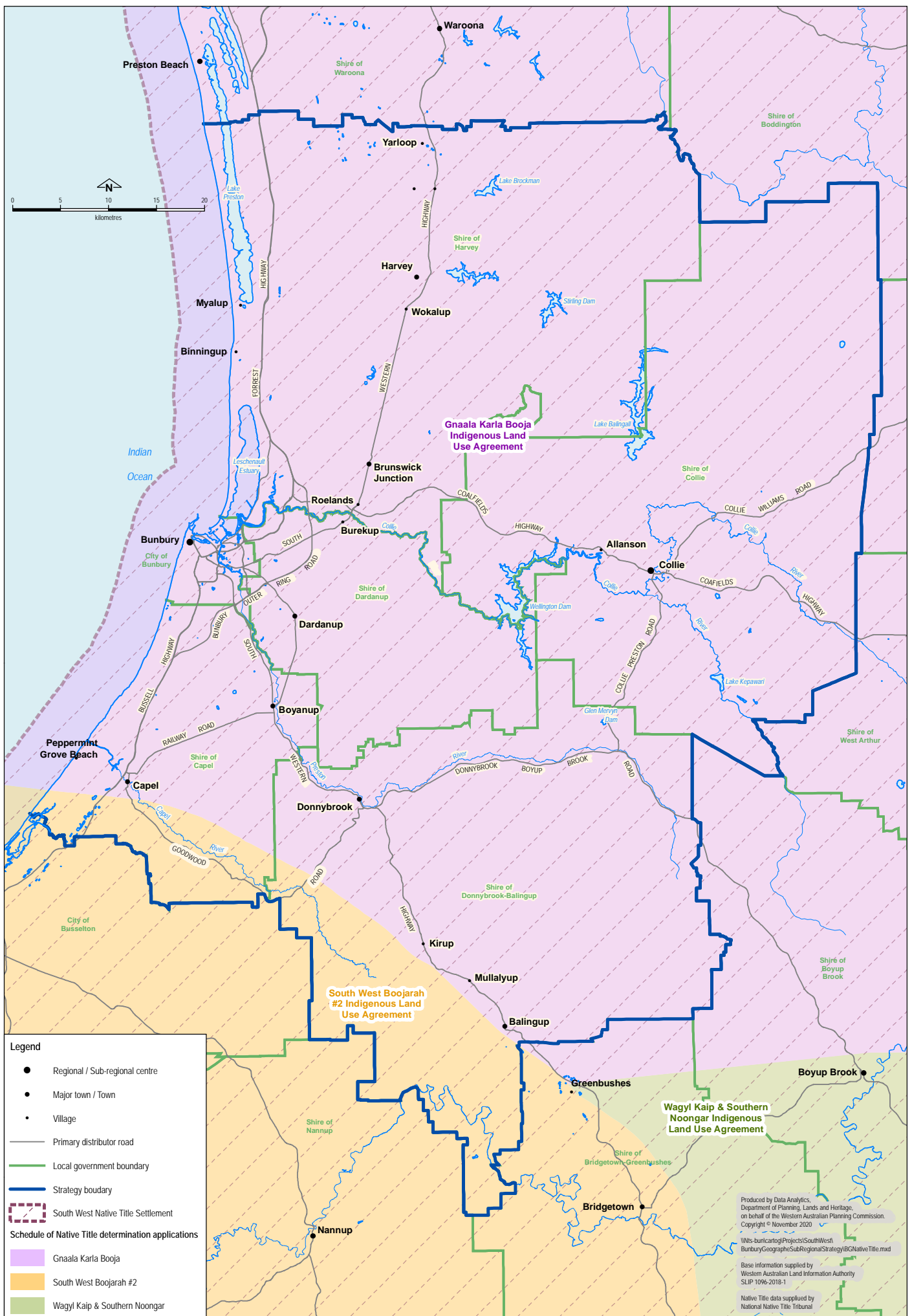


PROFILE MAPS

Full resolution versions of the profile maps will be available for download upon publication of the draft Strategy.



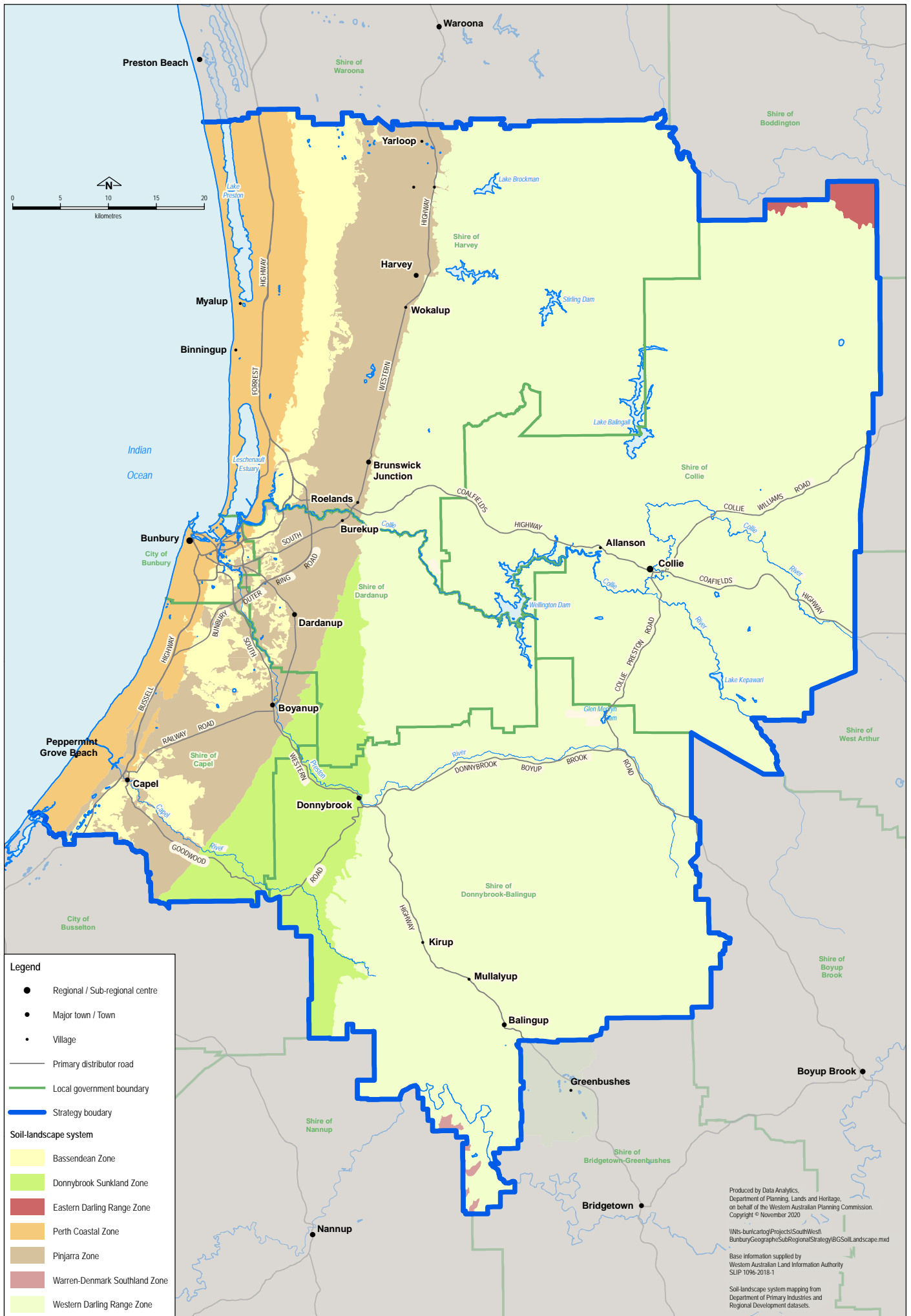
Map 1: Historic and Aboriginal Heritage



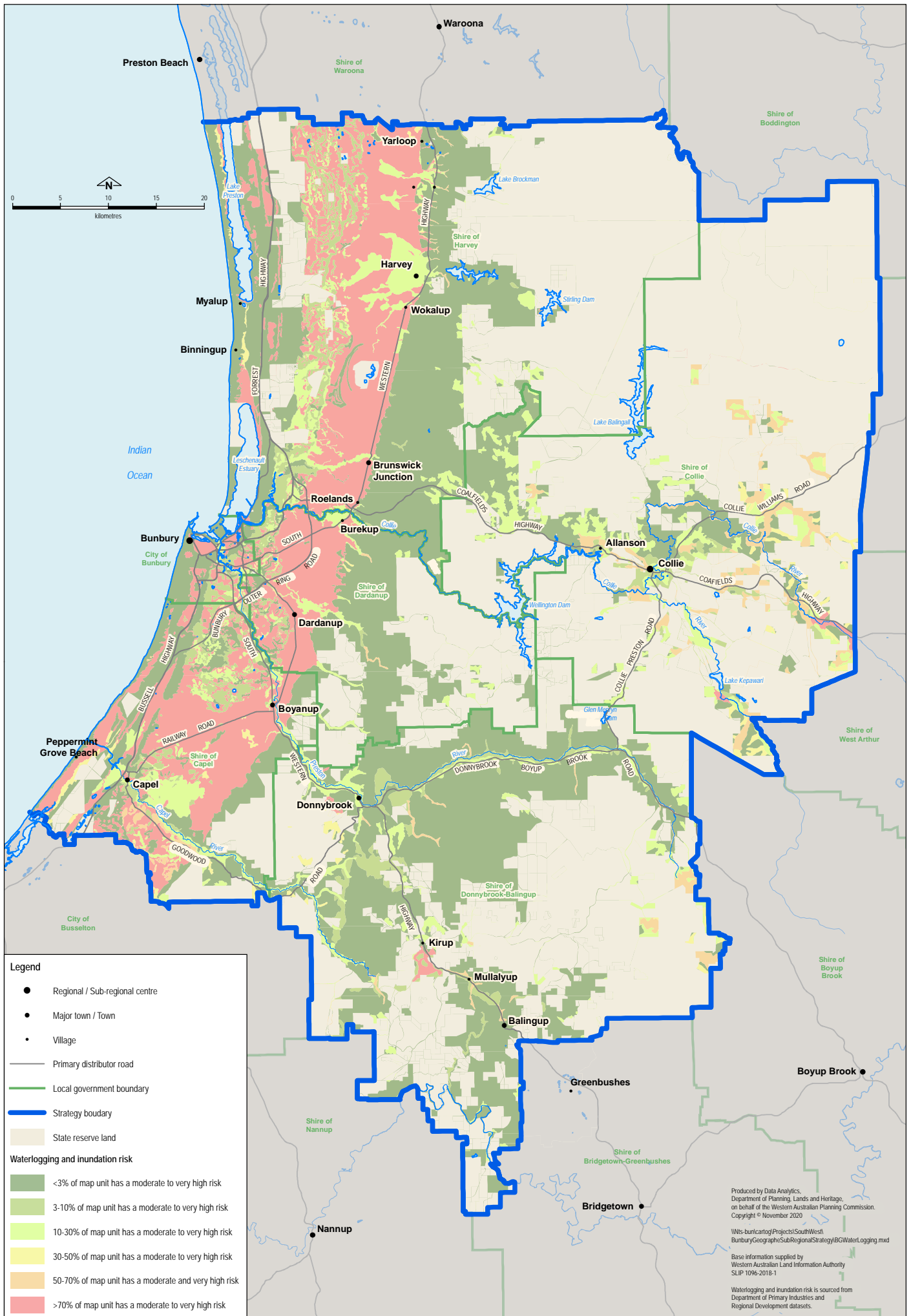
Map 2: Native Title Settlement Proposals



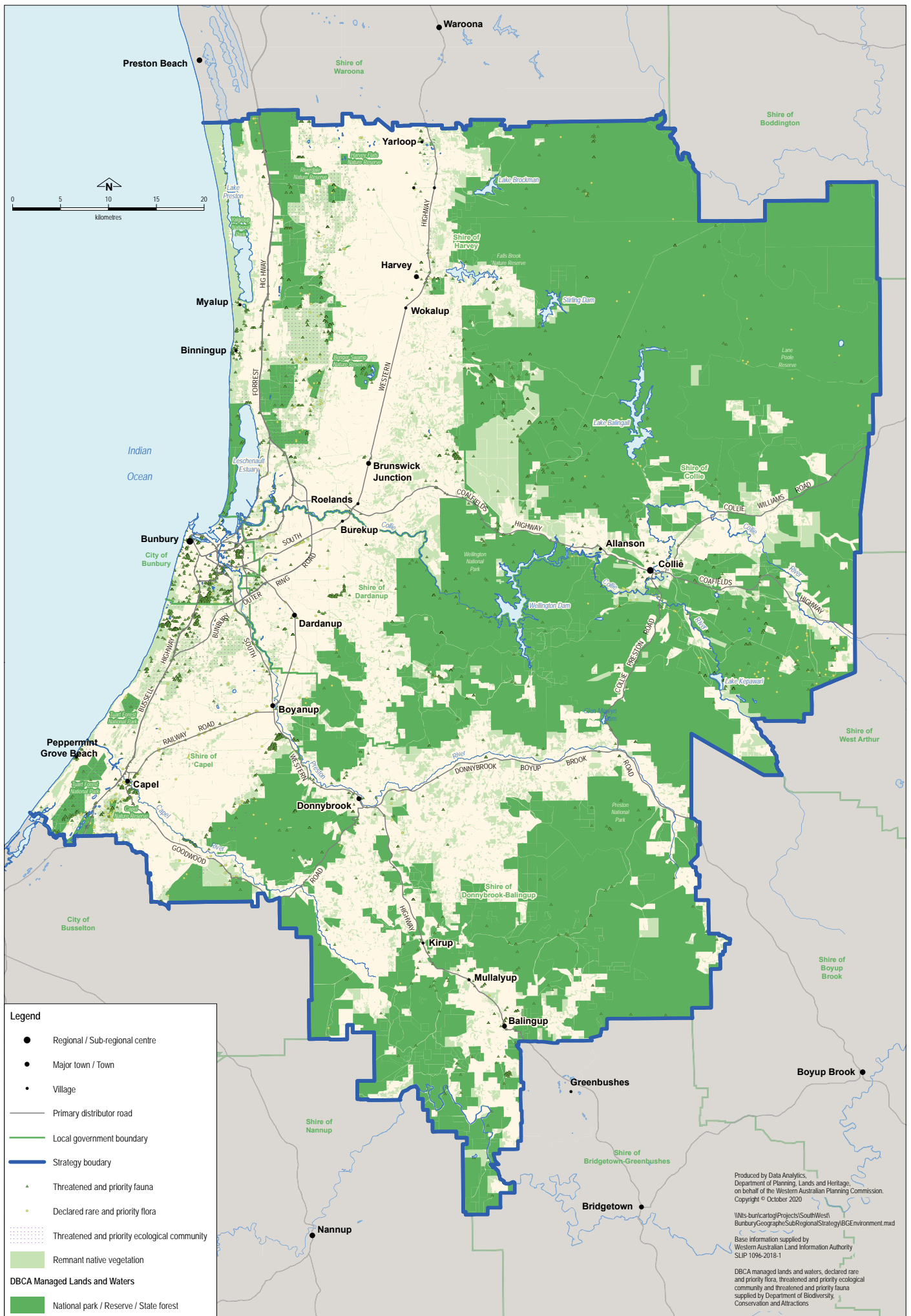
Map 3: Settlement and Transport



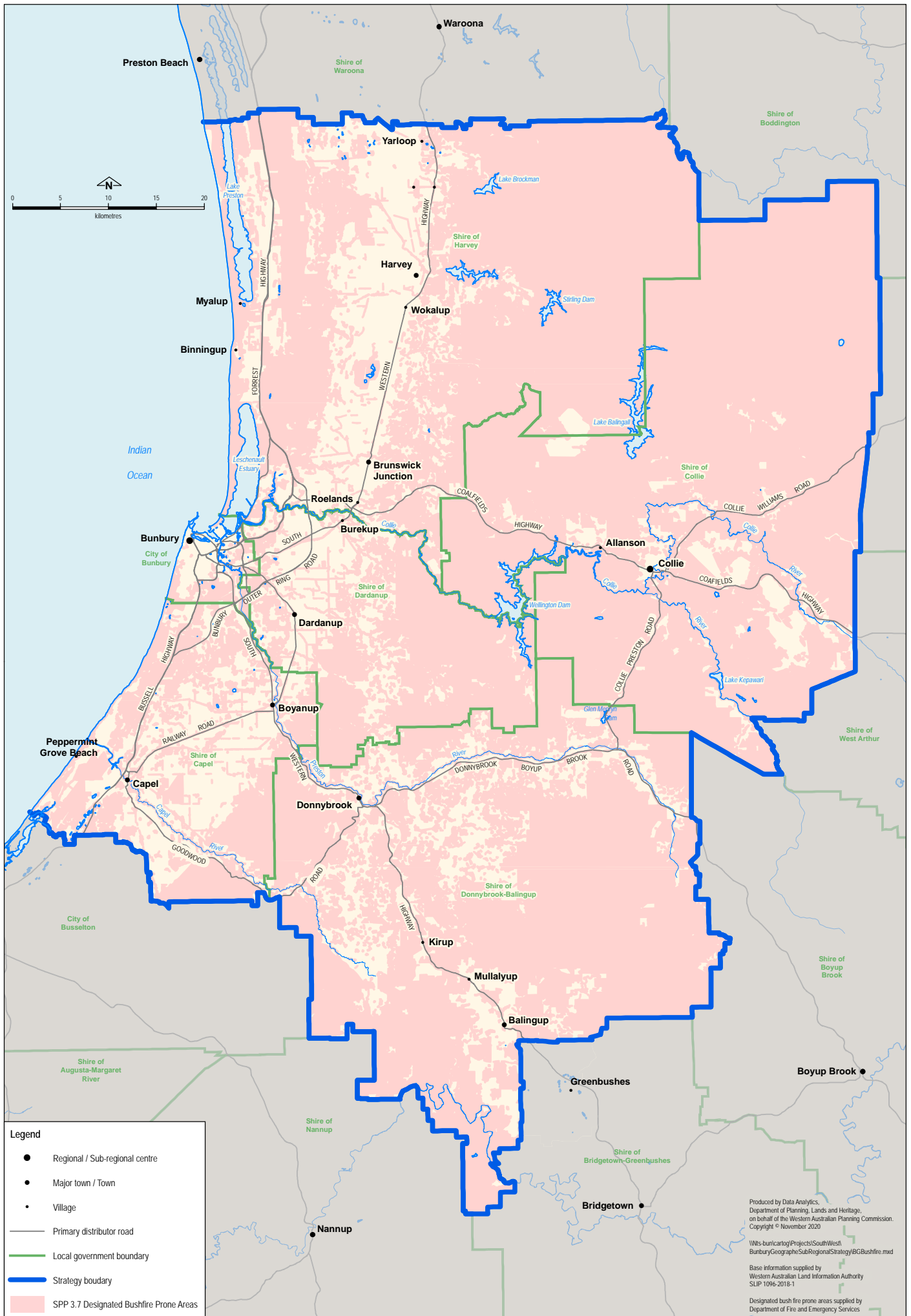
Map 4: Soil Landscape Systems



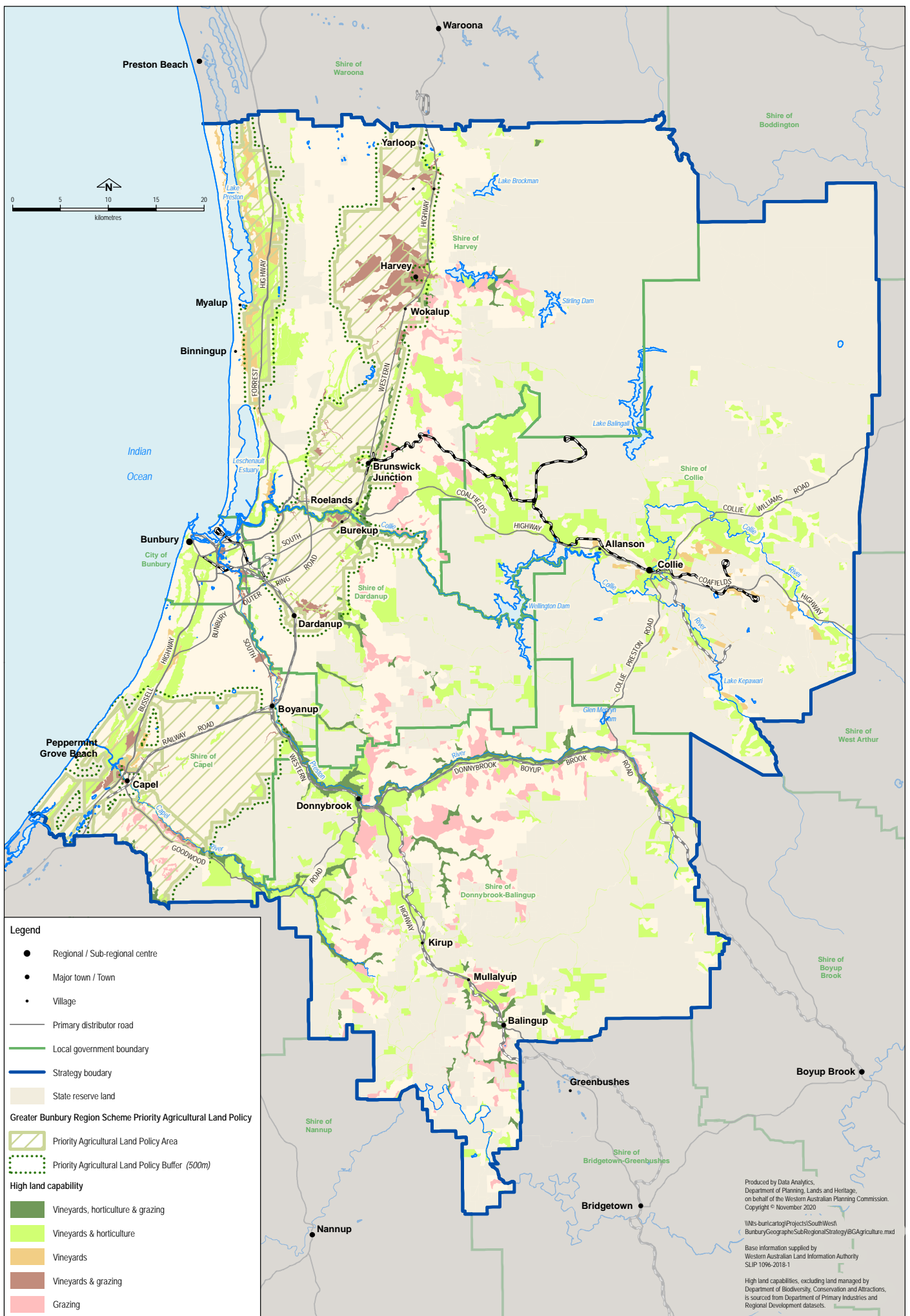
Map 5: Waterlogging and Inundation Risk



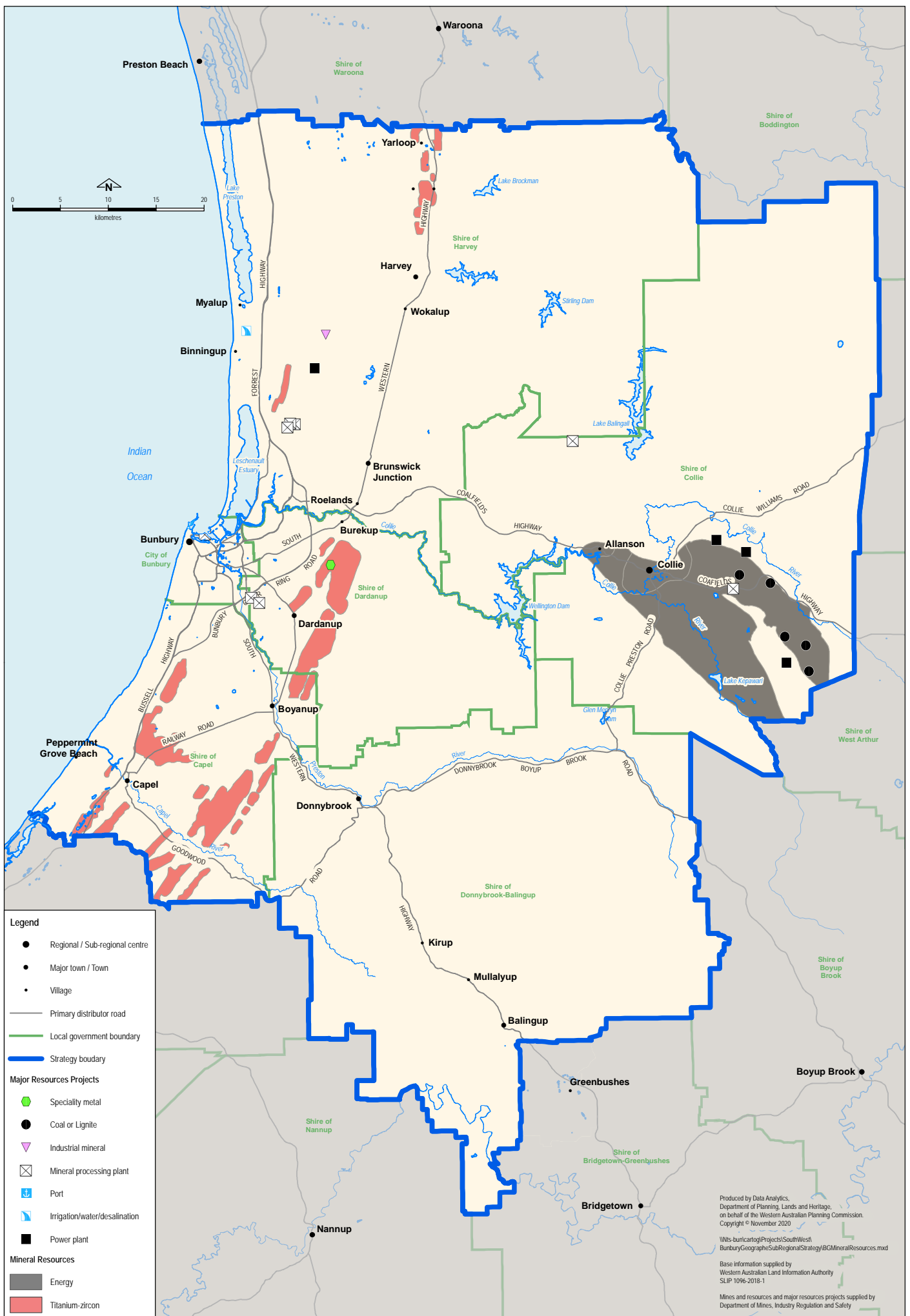
Map 6: Natural Environment



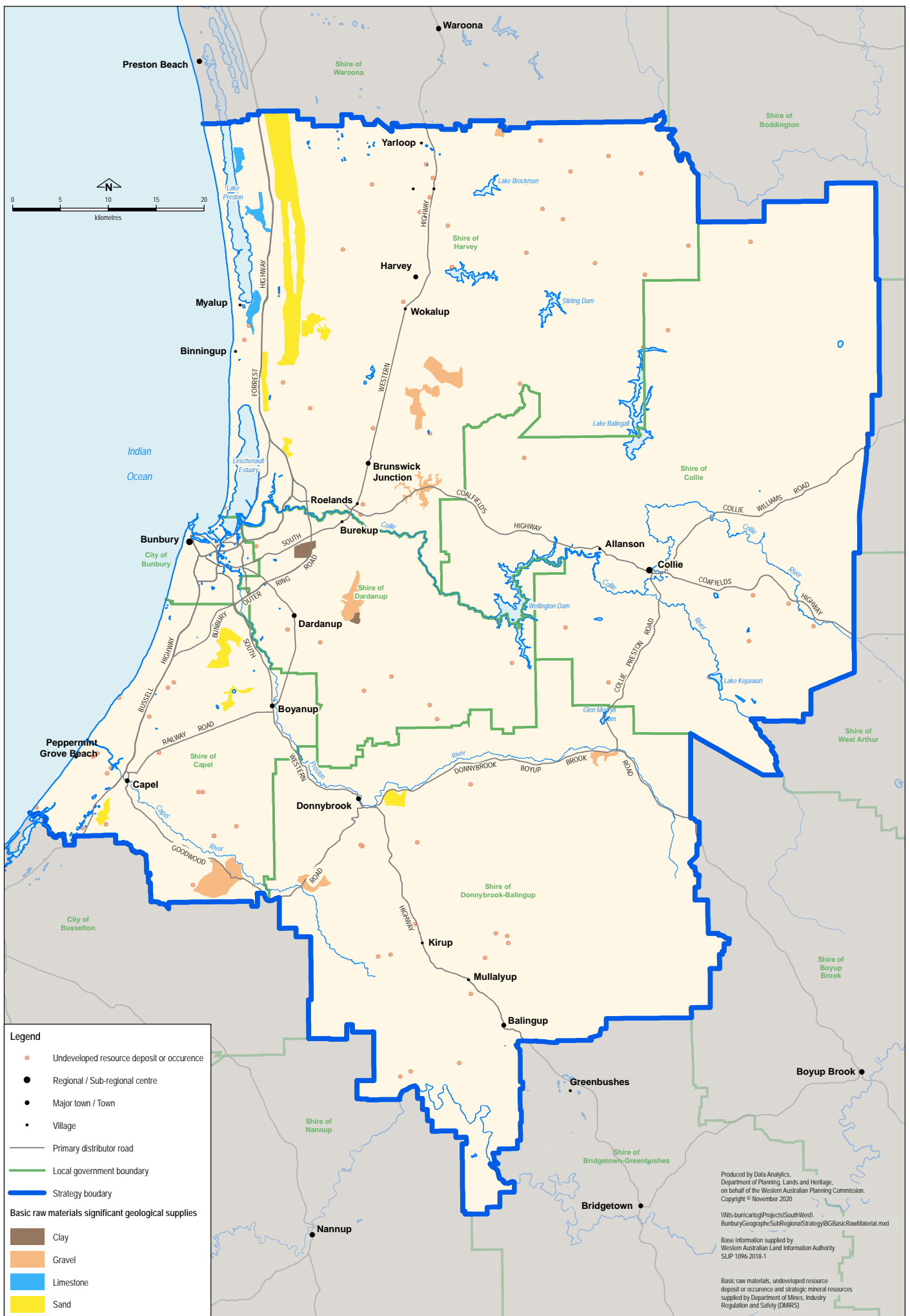
Map 7: Bushfire Prone Areas



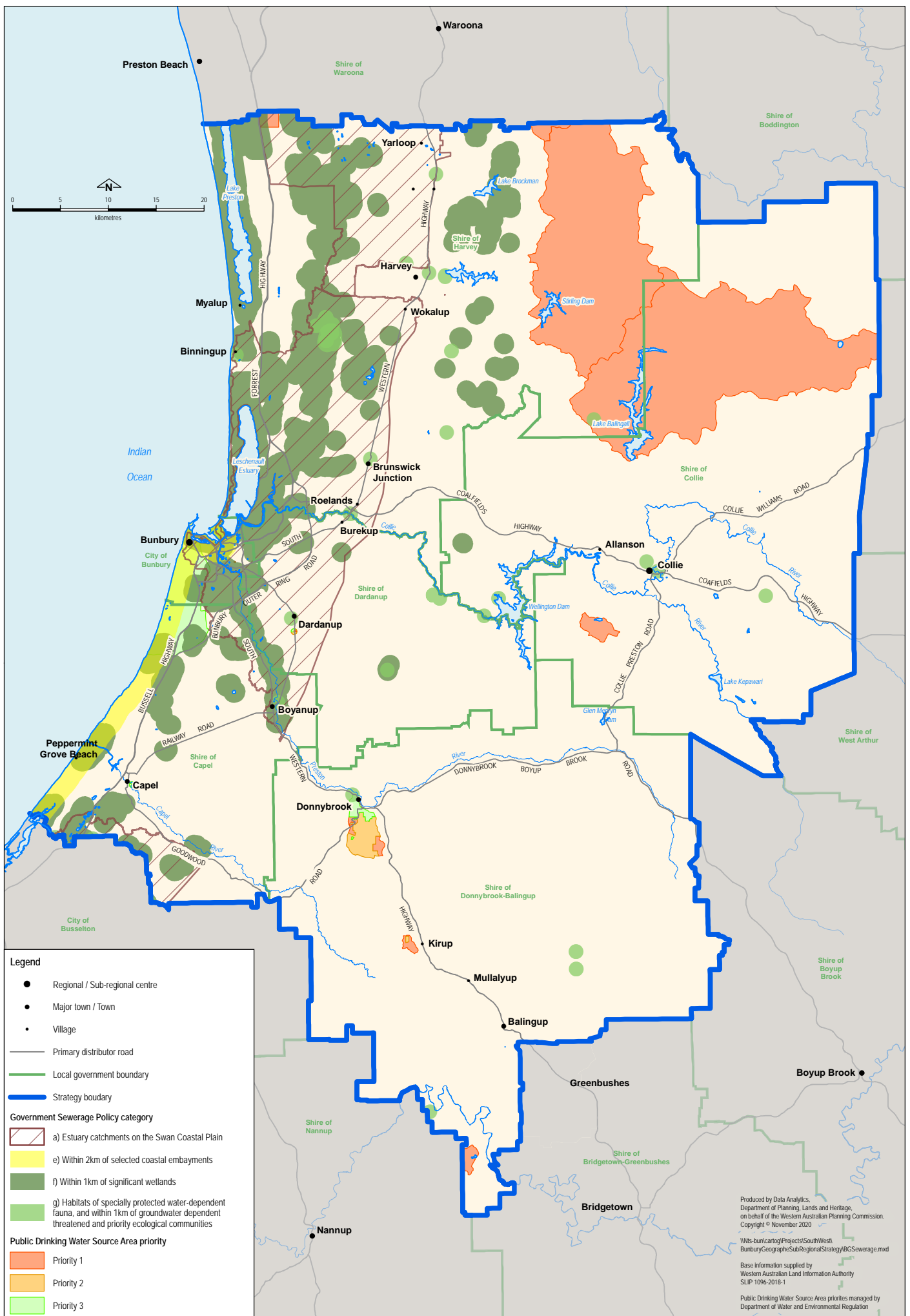
Map 8: Agriculture



Map 9: Mineral Resources and Activity



Map 10: Basic Raw Materials



Map 12: Sewerage and Public Drinking Water Sensitive Areas