



Department of Planning,  
Lands and Heritage



Western  
Australian  
Planning  
Commission

# Bunbury- Geographe

## Sub-regional Strategy

January 2022



# Acknowledgement of Country

The Bunbury-Geographe sub-region is a contemporary description of a 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 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*

*Wierrnbirt domberrinje*

*Noonakoort moort koort boodja*

*Nitja gnulla moorditj karrl boodja*

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## Chairman's Foreword

Bunbury-Geographe in Western Australia's south west offers residents and visitors a unique lifestyle based on the sub-region's beautiful natural settings, strong communities and economic opportunities.

This enviable lifestyle, together with the sub-region's strategic location, has driven strong population and economic growth in recent decades.

The *Bunbury-Geographe Sub-regional Strategy* plans for further growth to unlock the sub-region's vast potential. It provides clear directions and actions to guide the future planning and development of land within the sub-region to 2050. The Strategy supports the growth of local communities and plans for a substantial increase in the sub-region's population and economy. With this comes a variety of new challenges, requiring a balance between benefiting existing attributes and maximising strengths while looking ahead to the needs of future residents and visitors to the sub-region.

Specifically, the Strategy identifies the Bunbury Metropolitan Area and promotes it as Western Australia's second city. It also supports investment to diversify Collie's economy and grow the hinterland settlements in the sub-region.

I commend the comprehensive and collaborative approach taken in the preparation of the Strategy. I extend my appreciation to the members of the Steering Group, especially to the Chair of the Bunbury Development Committee and the elected members from the six local governments, who represented their respective communities with passion and vision. I also acknowledge all of the other stakeholders who contributed to or made submissions during the development of the Strategy.

**David Caddy**  
Chairman  
Western Australian Planning Commission







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Image courtesy City of Bunbury



# EXECUTIVE SUMMARY

Over the past few decades, the Bunbury-Geographe sub-region has gone a long way to fulfil its considerable potential through its strategic location, natural resources and diverse economy.

Around the sub-region's largest centre of Bunbury, the development of new urban areas such as Dalyellup, Glen Iris and Treendale has seen the population and economy grow to a metropolitan level. The Strategy recognises this and identifies the Bunbury Metropolitan Area as the contiguous built-up area that extends across the City of Bunbury and into neighbouring localities in the Shires of Capel, Dardanup and Harvey.

The Bunbury Metropolitan Area is the driving force for development within the sub-region, and serves as a commercial, administrative and employment hub for the wider South West region. The role of the Bunbury Metropolitan Area as Western Australia's second city will continue to increase in importance as the population grows towards 200,000 and beyond.

The sub-regional centre of Collie is experiencing change of a different nature, and is transitioning to a more sustainable economy with a greater range of industries. The Strategy supports investment and initiatives to help Collie with this economic transition.

These major centres are complemented by a diverse and productive hinterland, with a network of inland settlements offering diverse lifestyle options and close linkages to the sub-region's broad economic base. The Strategy supports the growth of these hinterland towns to reinforce their ongoing role in the settlement network.

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.

The sub-region has been undergoing considerable change, and it has further capacity to grow and reach its potential as a population centre and economic area of strategic importance to Western Australia. The Strategy plans for a step change in the magnitude of Bunbury-Geographe's population and economy, in a manner that leverages the sub-region's strengths and maintains its uniqueness.

The Strategy has a time horizon of 2050 and 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.

The Strategy is comprised of two main parts as follows:

## Part A: Strategy

The key strategic content. Part A articulates a vision for the sub-region and identifies guiding principles and the strategic directions required to achieve that vision.

## Part B: Profile

The supporting information. Part B profiles the sub-region's people and culture, population, urban settlement, utilities and services, environment, economy, and transport.



# INTRODUCTION



# Status

The *Bunbury-Geographe Sub-regional Strategy* (the Strategy) forms parts of the Western Australian planning framework under *State Planning Policy 1: State Planning Framework*.

The Strategy is a third-tier strategic planning document, as shown in Figure 1. It provides a clear line of sight between:

- the higher order *State Planning Strategy 2050* and *South West Regional Planning and Infrastructure Framework* of the Western Australian Planning Commission, and
- the local planning strategies of the respective local governments.

The Strategy therefore connects strategic planning at all tiers.

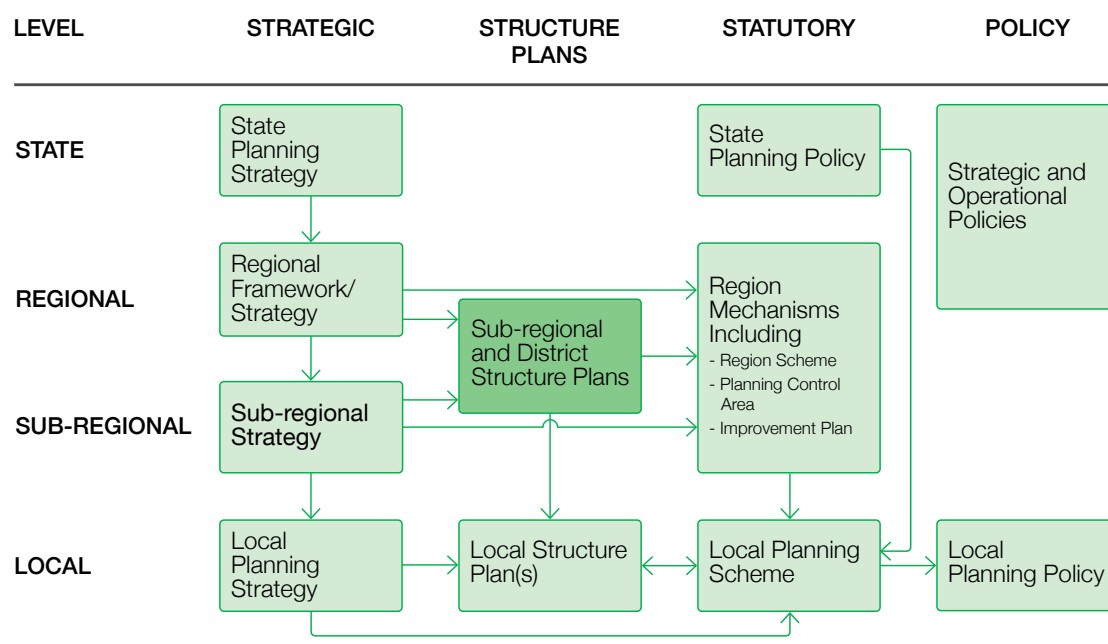
# Strategy area

The Strategy applies to the following local government areas:

- 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.

Figure 1 – Western Australian Planning Framework



# 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 to the year 2050. 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 residential and employment purposes
- 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.

# Methodology

The Strategy was prepared by the Department of Planning, Lands and Heritage on behalf of the WAPC.

A Steering Group and five themed Working Groups were established to guide the preparation of the Strategy. The functions and membership of these groups can be seen in Appendix 1.

Development of the Strategy included:

- five 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.

The draft Strategy was advertised from November 2020 to February 2021. A total of 38 submissions were received.



Strategic workshop held at the Bunbury Dolphin Discovery Centre



# Key planning 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 Metropolitan 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 Metropolitan 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 *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 and alternative road construction materials and methods.
- The need to respond to the potential impacts of climate change, including a drying climate, reducing groundwater and surface water availability, and sea-level rise.
- Natural hazards (such as bushfire, coastal inundation/erosion and flooding) pose a risk to existing and future development.

## Utilities and services

- The sub-region's geographically dispersed settlement pattern, with a relatively small population spread across a number of settlements and sensitive environment, poses challenges for the efficient provision of infrastructure, utilities and services.
- Technological improvements offer the opportunity for flexible, innovative and alternative servicing solutions arrangements.
- The need to investigate and plan for alternative water sources and servicing strategies to meet long-term potable and non-potable water demands.

## 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 Metropolitan Area, there is a need to provide a more effective and efficient public transport system that provides connectivity and builds linkages across the Bunbury Metropolitan Area, 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 the Bunbury Metropolitan Area with Perth and Busselton, including an appropriate location for a railway station in the Bunbury Metropolitan Area.
- 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.





Image courtesy Shire of Dardanup



A scenic river with a waterfall and people playing. The image is split into two main color zones: a vibrant green on the left and a deep blue on the right. A large, semi-transparent white letter 'A' is centered, with the word 'PART' written vertically to its left and 'STRATEGY' written horizontally to its right. In the background, a river flows over a series of low concrete dams, creating a series of small waterfalls. Several people are seen enjoying the water: some are standing on the grassy banks, while others are on a metal walkway with railings that runs along the edge of the falls. The overall atmosphere is one of a peaceful, natural recreational area.

# PART A STRATEGY



## 1. Vision

The vision for the Bunbury-Geographe sub-region is:

***By 2050, Bunbury-Geographe will be internationally recognised as the home of Western Australia's second city, connected by an enviable lifestyle, diverse economy, unique natural environment and sustainable values.***

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

## 2. Principles

The guiding principles for the Strategy are shown in Figure 2 – Strategy Table.

The principles guide the assessment of key issues and drive the formulation of the strategic directions listed in the following section. The Strategy Table shows the alignment between the principles and strategic directions.

## 3. Strategic directions

To support implementation of the State Planning Framework in the Bunbury-Geographe sub-region, the WAPC sets the strategic directions outlined in Figure 2 – Strategy Table to guide its planning activities for the sub-region.

The strategic directions state what is to be achieved or desired, and contribute to the achievement of the vision.

Where possible, the strategic directions are spatially or conceptually 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. The alignment between the principles and strategic directions can be seen in Figure 2 – Strategy Table.

Figure 2 – Strategy Table

THEME	PRINCIPLES	STRATEGIC DIRECTIONS
GROWTH	<p><b>Go beyond a business as usual approach to help the sub-region reach its full potential.</b></p> <p><i>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</i></p>	<ol style="list-style-type: none"> <li>1. Promote the <b>Bunbury Metropolitan Area as Western Australia's second city</b>, offering a range of employment and services as a genuine urban alternative to metropolitan Perth.</li> <li>2. 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.</li> <li>3. 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.</li> </ol>
	<p><b>Establish an agreed and achievable pattern of growth across the sub-region.</b></p> <p><i>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. Settlements will continue to be attractive places to live, with high amenity and access to services.</i></p>	<ol style="list-style-type: none"> <li>4. Adopt the <b>settlement hierarchy</b> for the Bunbury-Geographe sub-region in Section 5.</li> <li>5. <b>Promote the growth of the Bunbury Metropolitan Area as a Regional City</b> and the focus of major population and employment growth in the sub-region.</li> <li>6. <b>Promote the growth of Collie</b> 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.</li> <li>7. <b>Support the growth of Major Towns and Towns</b> to reinforce their ongoing roles in the settlement network.</li> <li>8. <b>Foster sustainable change in Villages</b> to support resilient communities.</li> <li>9. Support proposals in Yarloop that assist in the redevelopment of the settlement following the 2016 Waroona-Yarloop Bushfire.</li> </ol>
URBAN SETTLEMENT	<p><b>Promote a diverse urban form to cater for a range of lifestyle options and affordable housing choices.</b></p> <p><i>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 Western Australia.</i></p>	<ol style="list-style-type: none"> <li>10. Promote a consolidated urban form for the Bunbury Metropolitan Area through urban infill and increased residential densities around activity centres and other areas identified in a local planning strategy, while respecting heritage values and the distinctive character of each locality.</li> <li>11. Support greenfield development in locations that have already been zoned or committed for residential purposes, and that are contiguous to existing urban areas with ready access to existing infrastructure and services.</li> <li>12. Designate the <b>East Treendale Urban Expansion Area</b>. The extent of the East Treendale Urban Expansion Area is shown in Figure 7.</li> <li>13. Designate the <b>Clifton Road Rural Living Precinct</b>. The extent of the Clifton Road Rural Living Precinct is shown in Figure 7.</li> <li>14. Designate the <b>Treendale Road Rural Living Precinct</b>. The extent of the Treendale Road Rural Living Precinct is shown in Figure 7.</li> <li>15. Provide for the designation of new rural living areas in locations contiguous with the following settlements: Collie, Donnybrook, Harvey, Balingup, Brunswick Junction, Dardanup, Allanson, Burekup, Cookernup, Kirup, Mullalyup, Roelands, Wokalup, Yarloop. Proposals for new rural living areas are to address the planning requirements for rural living precincts contained in <i>State Planning Policy 2.5: Rural Planning</i>. New rural living areas are to be designated in a local planning strategy and/or a local planning scheme.</li> <li>16. Require local governments to use local planning strategies to review stocks of residential and employment land to identify and respond to opportunities and constraints.</li> </ol>
	<p><b>Promote alternative and innovative solutions.</b></p> <p><i>Exploring alternatives, applying new technologies and embracing innovative solutions will help to address local challenges and opportunities.</i></p>	<ol style="list-style-type: none"> <li>17. Support and encourage fit for purpose technology to deliver innovative waste management solutions which support the objectives and targets of the <i>Waste Authority's Waste Avoidance and Resource Recovery Strategy 2030</i>.</li> <li>18. Support 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.</li> <li>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.</li> </ol>



THEME	PRINCIPLES	STRATEGIC DIRECTIONS
ECONOMY	<p><b>Strengthen and diversify the economy.</b></p> <p><i>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.</i></p>	<ol style="list-style-type: none"> <li>20. Adopt the activity centre hierarchy for the Greater Bunbury Region Scheme area in Section 6.</li> <li>21. Require local governments to undertake activity centre planning in accordance with <i>State Planning Policy 4.2: Activity Centres</i>.</li> <li>22. Ensure an adequate supply of industrial and commercial land across the sub-region to facilitate local employment.</li> <li>23. Protect strategic basic raw materials in the sub-region from the encroachment of incompatible land uses that would restrict future extraction.</li> <li>24. Undertake a study of the supply and demand of basic raw materials within the sub-region and the opportunities for alternative building construction techniques to reduce demand from the building and construction industries.</li> <li>25. Facilitate the expansion and diversification of the tourism industry, and promote the flexibility of rural zones to accommodate rural-based tourism uses.</li> <li>26. Support initiatives and investment in Kemerton Strategic Industrial Area and Shotts Strategic Industrial Area to make land project ready, and facilitate proposals in accordance with relevant planning instruments.</li> <li>27. Retain identified light and general industrial areas for industrial use and protect from the encroachment of sensitive land uses.</li> <li>28. Protect priority agricultural land from incompatible land uses.</li> <li>29. Support expansion of the Bunbury Port and the establishment of an intermodal freight hub facility in the Waterloo industrial area, or another suitable location that has direct access to inter-regional road and rail infrastructure.</li> </ol>
ENVIRONMENT	<p><b>Consider and respond to the implications of climate change.</b></p> <p><i>Appropriately identifying and managing climate impacts and risks will enhance the climate resilience of Bunbury-Geographe. Promoting and supporting emission reduction outcomes for the sub-region will reduce its contribution to global climate change.</i></p>	<ol style="list-style-type: none"> <li>30. Recognise potential impacts and opportunities arising from climate change and initiatives to reduce greenhouse gas emissions in planning instruments.</li> </ol>
	<p><b>Protect and enhance environmental values in the context of climate change.</b></p> <p><i>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.</i></p>	<ol style="list-style-type: none"> <li>31. Require planning instruments to identify and <b>protect, manage and enhance environmental assets</b> such as forests, rivers, estuaries, coastlines and areas of remnant vegetation.</li> <li>32. Focus the growth of settlements in locations where impacts on natural resources and the environment are minimised.</li> <li>33. Preserve and enhance ecological linkages, including a presumption against further fragmentation of these linkages, in planning instruments.</li> <li>34. Require local governments to use local planning strategies to identify and protect significant visual landscapes.</li> </ol>
	<p><b>Protect people and property from natural hazards.</b></p> <p><i>Appropriately managing the risk posed to settlements by natural hazards will protect life and livelihood.</i></p>	<ol style="list-style-type: none"> <li>35. Adopt a presumption against planning proposals within areas identified to be affected by coastal hazards and flooding.</li> <li>36. Support intensification of land use only where bushfire risk can be understood to be low and/or capable of being appropriately mitigated without adversely impacting biodiversity conservation.</li> </ol>

THEME	PRINCIPLES	STRATEGIC DIRECTIONS
TRANSPORT	<p><b>Improve transport connections within the sub-region and to adjoining areas.</b></p> <p><i>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.</i></p>	<p>37. Support initiatives to connect and link the Bunbury Metropolitan Area to the hinterland settlements to create an <b>integrated network</b>, including public transport and regional bike network connection.</p> <p>38. Retain the <b>Australind railway reserve</b> and collaborate with State Government agencies on the potential relocation of the terminus to central Bunbury.</p> <p>39. Collaborate with State Government agencies on planning for a potential <b>fast passenger rail</b> connecting Perth and the South West region, including securing a corridor in appropriate planning instruments.</p> <p>40. Support increasing the capacity of the existing <b>freight rail network</b> and future strategic freight rail alignments.</p> <p>41. Promote the sub-region's <b>tourist routes</b> in planning instruments.</p> <p>42. Support improvements to the <b>road and rail access to Bunbury Port</b> 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><b>Ensure sustainable regional outcomes by coordinating the provision of infrastructure to support growth.</b></p> <p><i>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.</i></p>	<p>43. Direct future urban growth to locations that are well serviced by existing infrastructure networks.</p> <p>44. 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>45. Support the delivery of infrastructure projects and regulatory process improvements identified by the Industrial Lands Authority and Infrastructure WA.</p> <p>46. Support measures to improve water efficiency and re-use of grey water where appropriate.</p> <p>47. Collaborate with infrastructure providers to audit current capacity of electricity, water and wastewater infrastructure to help quantify existing growth capacity and thresholds for upgrades, and to develop servicing strategies to meet long-term potable and non-potable water demands.</p>
LIFESTYLE	<p><b>Retain, protect and leverage the sub-regional character and the Bunbury-Geographe lifestyle.</b></p> <p><i>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.</i></p>	<p>48. 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>49. Collaborate with local governments to undertake/review local heritage surveys, and designate heritage lists and/or areas.</p> <p>50. Engage with Gnaarla Karla Boodja Regional Corporation (proposed), South West Boorah Regional Corporation (proposed) and Aboriginal heritage knowledge holders as stakeholders in the land use planning process.</p>





## 4. 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.

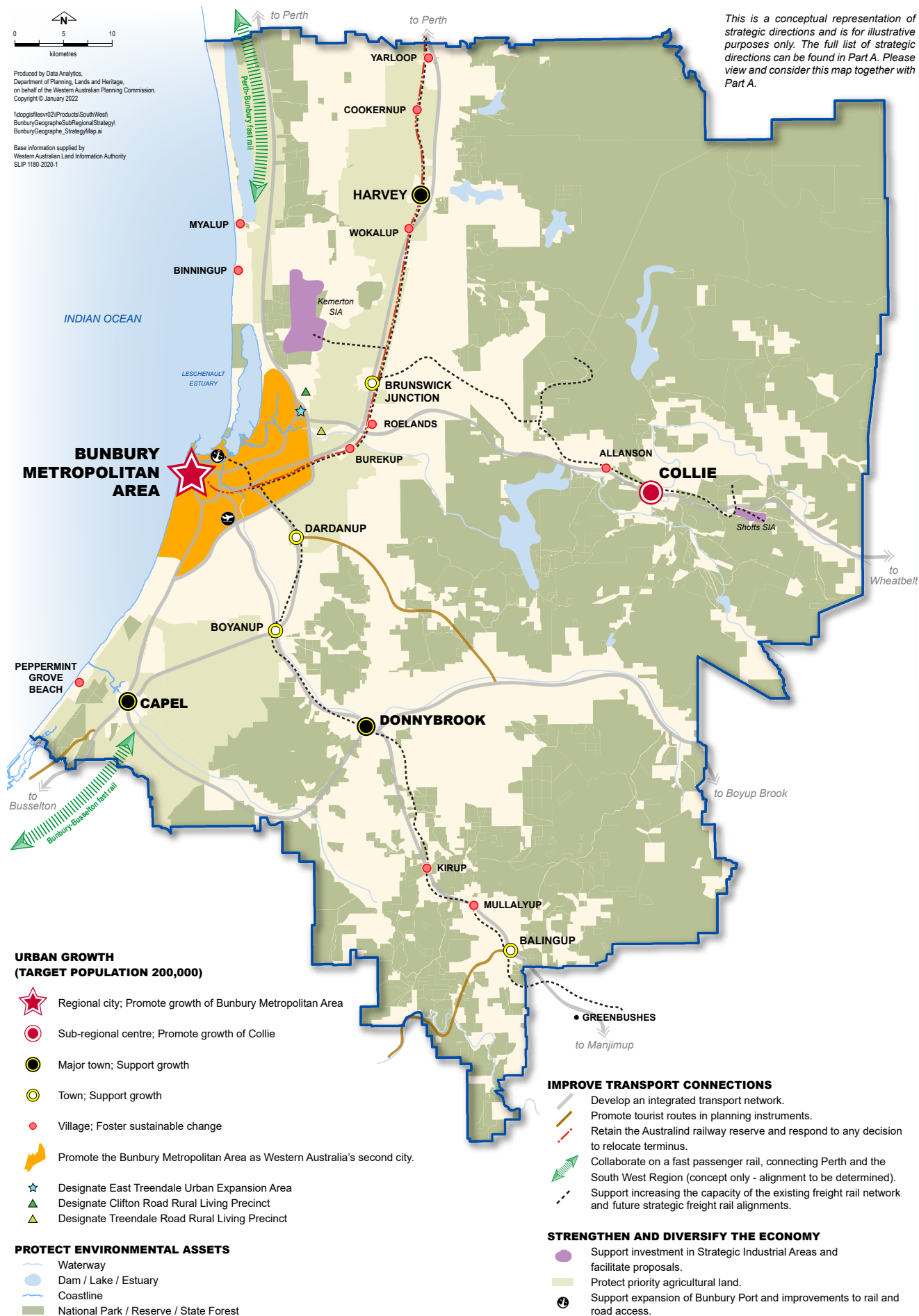
Rather, the strategy map provides a conceptual representation of the principles and strategic directions that have a spatial dimension. These are denoted by bolded text in Section 3 – Strategic directions.

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 is shown on the following page.



# Strategy map





## 5. Settlement hierarchy

The Strategy's settlement hierarchy (Figure 3) 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 or been added to the hierarchy.

Figure 3 – Settlement hierarchy

HIERARCHY CATEGORY	SETTLEMENTS	CATEGORY DESCRIPTION
<b>REGIONAL CITY</b>	Bunbury Metropolitan Area	<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>
<b>SUB-REGIONAL CENTRE</b>	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>
<b>MAJOR TOWNS</b>	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. The assignment of settlements to the respective tiers is considered within the context of that particular region.</p>
<b>TOWNS</b>	Balingup Boyanup Brunswick Junction Burekup Dardanup	
<b>VILLAGES</b>	Allanson Binningup Cookernup Kirup Mullalyup Myalup Peppermint Grove Beach Roelands Wokalup Yarloop	

## 6. Activity centre hierarchy

Activity centres are multi-functional community focal points that include land uses such as commercial, retail, food and hospitality, entertainment, higher education, medical services and higher-density residential.

The WAPC's *State Planning Policy 4.2: Activity Centres* applies to activity centres within the Greater Bunbury Region Scheme area.

This Strategy adopts the following hierarchy of activity centres for the Greater Bunbury Region Scheme area:

Figure 4 – Activity centre hierarchy

Hierarchy Category	Activity Centre
Strategic Centre	Bunbury CBD
Specialised Centre	Bunbury Health and Education Precinct (College Grove)
Secondary Centre	Wanju (Waterloo)
District Centres	Bunbury Forum (East Bunbury) Dalyellup Eaton Fair (Eaton) Parks Centre (Carey Park) Treendale
Neighbourhood and Local Centres	Identified in the relevant Local Planning Strategy

## 7. Population

A key aspect of the Strategy is the size of the future population that is being planned for.

The *Bunbury-Geographe Regional Land Supply Assessment* provides a detailed analysis on the population profile for the sub-region.

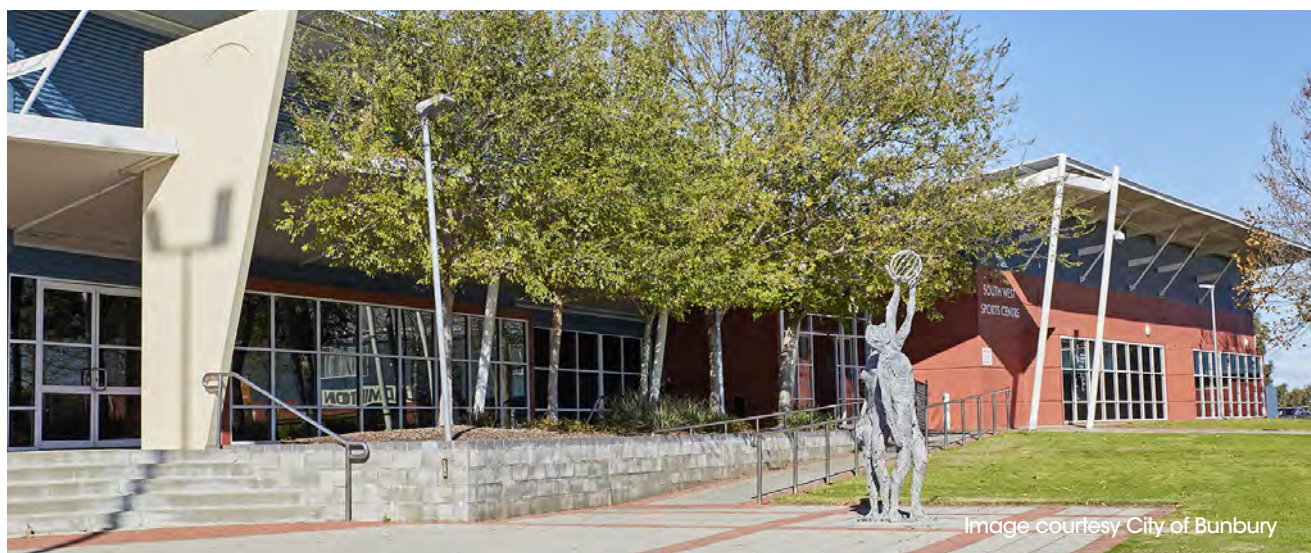
The below sections outline a range of population scenarios and growth trajectories, and the target population adapted by the Strategy

### 7.1 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 in the following sections and are presented in Figure 5.





## 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.

## 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.



Image courtesy City of Bunbury

## 7.2 Growth trajectories

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

Figure 5 – Growth Trajectories

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

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.

## 7.3 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 as a genuine urban alternative to Perth and Peel, 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 interact and can drive rapid change.

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.



## 8. Land requirements

The Strategy was prepared concurrently with, and is directly informed by, the *Bunbury-Geographe Regional Land Supply Assessment*. In terms of understanding the land requirements, it is recommended that the two documents are considered together.

The land requirements to meet the residential and employment needs of the target population are summarised in the following section.



### 8.1 Residential land

In considering the adequacy of residential land supply, the *Bunbury-Geographe Regional Land Supply Assessment* quantifies a supply of approximately 41,340 additional dwellings to be achieved through greenfield and major infill. Based on an average household size of 2.6 persons, this could support an additional 107,480 residents in the sub-region. Based on the existing population of approximately 106,000 people, this is sufficient to accommodate the Strategy's 200,000 target population.

Of the supply of 41,340 additional dwellings in the sub-region, approximately 25 per cent is located in the hinterland settlements. The feasibility of land development in these locations is often inhibited by the high cost, relative to land values, of providing utility services and fill.

As some of the additional dwelling potential in the hinterland settlements 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 the Bunbury Metropolitan Area and to provide additional capacity for the target population to be achieved.

In addition, the Strategy promotes a consolidated urban form for the Bunbury Metropolitan Area through urban infill and higher densities around activity centres and other areas identified in a local planning strategy. There is already significant potential for 'background infill', which refers to the additional dwelling potential from a residential lot that has been subdivided to a size consistent with the urban form, and that can be further subdivided based on the general site requirements for the applicable density code (such as a 1,000m<sup>2</sup> lot with a density code of R30).

The *Bunbury-Geographe Regional Land Supply Assessment* estimates that there is potential for between approximately 6,000 to 20,000 additional dwellings through background infill in the Bunbury Metropolitan Area, based on existing residential densities.

Based on the above, a sufficient volume of land has been in existing planning instruments to cater for the target population of 200,000. Consumption rates of this land will be monitored on a regular basis to identify trends and respond as required.

## 8.2 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.

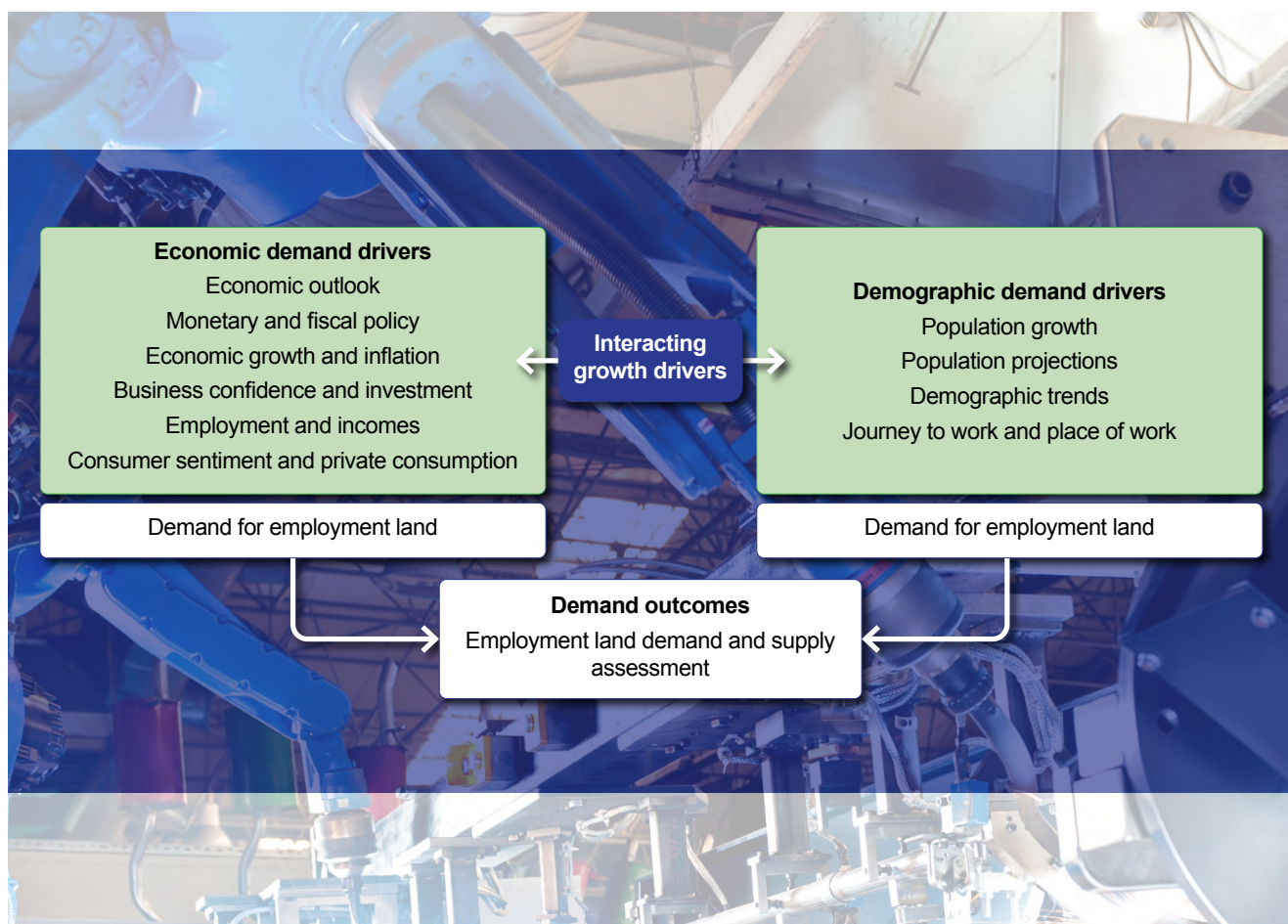
Planning for employment land is a complex process that takes place within a highly dynamic market. Economic conditions and population growth interact to drive demand for industrial and commercial land. Figure 6 shows the relationships between economic and demographic factors that influence demand for employment land.

Due to the cyclical nature of economic growth and the complexity of the interacting growth drivers, it is challenging to precisely quantify the required supply of employment land.

The *Bunbury-Geographe Regional Land Supply Assessment* identifies that there are large stocks of land available for industrial expansion in the sub-region. The Strategy supports initiatives and investments in the Kemerton and Shotts Strategic Industrial Areas to make land project ready, in order to facilitate industrial development and job creation in the sub-region. Examples include obtaining environmental approvals and providing infrastructure to deconstrain land. Investment in the Coolangatta Industrial Estate, identified as a future Strategic Industrial Area in the Shire of Collie's Local Planning Strategy, is equally supported.

The Strategy seeks to ensure an adequate supply of industrial and commercial land across the sub-region to facilitate local employment. This may involve local governments reviewing stocks of land zoned for general/light industrial and commercial purposes, to identify and respond to opportunities and constraints.

Figure 6 – Employment land drivers





## 9. Bunbury Metropolitan Area

The Strategy identifies the 'Bunbury Metropolitan Area'. This is broadly defined as the contiguous built-up area that extends across the City of Bunbury and into neighbouring localities in the Shires of Capel, Dardanup and Harvey.

The identification of the Bunbury Metropolitan Area is for strategic planning purposes – it is not a planning region prescribed by the *Planning and Development Act 2005* and it does not have clear, legally defined boundaries. Its extent can generally be understood as being from Australind in the north to Dalyellup and Gelorup in the south, with the alignments of the Forrest Highway and the Bunbury Outer Ring Road forming the outer boundary.

From a settlement perspective, the Bunbury Metropolitan Area is treated as a single settlement and is categorised as a Regional City in the settlement hierarchy.

Identifying the Bunbury Metropolitan Area highlights its role as a driving force for development within the Bunbury–Geographe sub-region, and as a commercial, administrative and employment hub for the wider South West region – Western Australia's most populous region outside Perth. The role of the Bunbury Metropolitan Area in the State's settlement hierarchy will continue to increase in importance as the population grows towards 200,000. The Strategy therefore promotes Bunbury Metropolitan Area as the State's second city.

In order to round-off its urban form, the Strategy designates East Treendale as an urban expansion area. The Strategy does not provide for the residential expansion of the Bunbury Metropolitan Area beyond the alignment of the Bunbury Outer Ring Road.

Consistent with this, the Strategy promotes a more consolidated urban form for the Bunbury Metropolitan Area through urban infill and increased residential densities around activity centres.

Local governments are to utilise their respective local planning frameworks to identify specific locations for increased residential densities around activity centres, and other areas considered appropriate for an increase in residential density.



Image courtesy City of Bunbury

## 10. East Treendale Urban Expansion Area

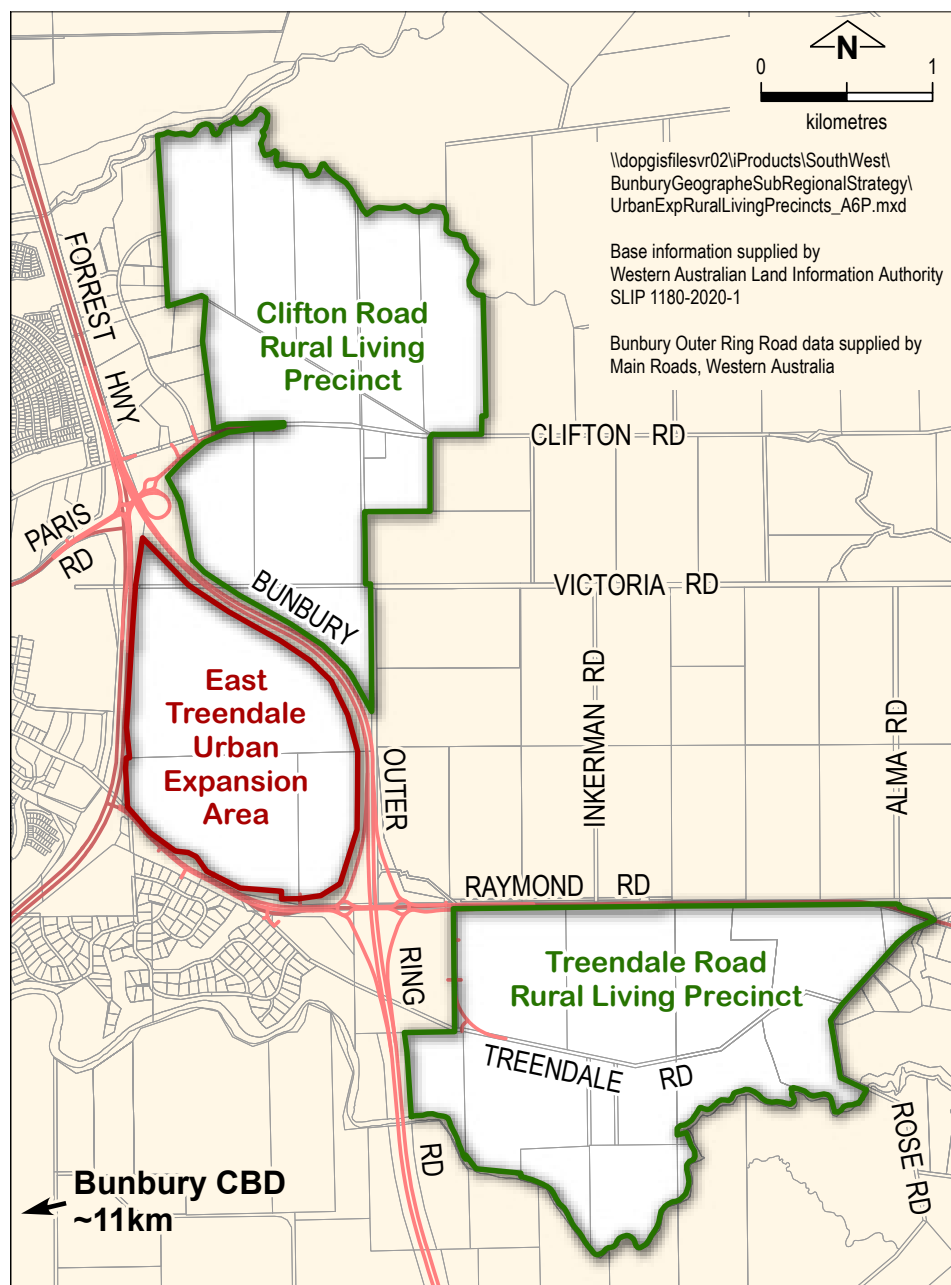
The Strategy designates the East Treendale Urban Expansion Area. It is spatially defined as the land bound by Forrest Highway, Clifton Road and the Bunbury Outer Ring Road. (see Figure 7)

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 Metropolitan Area west of the Bunbury Outer Ring Road.

The following activities will be required prior to the potential subdivision and development of the land for urban purposes:

- amendment of the Greater Bunbury Region Scheme to rezone the land to Urban Deferred, including consideration of regional reserves
- transfer of the land from the Urban Deferred zone to the Urban zone in the Greater Bunbury Region Scheme
- amendment of the Shire of Harvey local planning scheme
- preparation of a structure plan and approval by the WAPC.

Figure 7 – East Treendale Urban Expansion Area and Rural Living Precincts





## 11. Rural living areas

‘Rural living’ is an umbrella term used to describe a range of zones that provide for low density residential uses in an estate or precinct, generally characterised by a grouping of lots in the order of one to 40 hectares. The main Rural Living zones are:

- Rural Residential  
(for lot sizes in the range of 1 ha to 4 ha).
- Rural Smallholdings  
(for lot sizes in the range of 4 ha to 40 ha).

Strategic Directions 13 and 14 designate the Clifton Road Rural Living Precinct and the Treendale Road Rural Living Precinct respectively. The spatial extent of these are shown in Figure 7. For each precinct, preparation of a structure plan and approval by the WAPC will be required prior to subdivision of the land for rural living purposes.

Strategic Direction 15 provides for the designation of new rural living areas in locations contiguous with selected settlements. The rationale for requiring new rural living to be in locations contiguous to settlements, as opposed to locations remote from settlements, is as follows:

- provide social and economic benefit to existing settlements, thereby adding vitality
- facilitate connection to existing utility infrastructure networks, such as drinking water
- reduce the servicing and maintenance costs to local governments
- minimise strain on firefighting services in the event of a bushfire.

The term ‘contiguous’ should be understood in the context of *State Planning Policy 3.0: Urban Growth and Settlement*, which states that planning for rural living development should give preference to locations near existing settlements with available services and facilities in order to support the local community and avoid locations where services are not available or costly extensions are necessary.

Local governments are to utilise their respective local planning frameworks to identify specific locations for new rural living areas. New rural living areas are to be consistent with the planning requirements for rural living precincts outlined in Section 5.3(c) of *State Planning Policy 2.5: Rural Planning*.



## 12. 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 WAPC will help to implement the Strategy 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.



Image courtesy City of Bunbury

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 infrastructure and service providers to align their respective capital works programs with the directions of this Strategy.

The role of local governments in implementation is to interpret at the local level the sub-regional scale direction provided by this Strategy. This may involve the reviewing and updating of their respective local planning frameworks over time. Local governments are also to maintain the spirit and intent of the Strategy in their role as planning decision-makers.

The Gnaarla Karla Boodja Regional Corporation and South West Boorah Regional Corporation are expected to commence operations during the life of this Strategy. Engagement with those regional corporations to implement the Strategy may be required at that time.

Details on the actions required of the WAPC and local government to implement the strategic directions is provided in Appendix 2.

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.



## 13. 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.

These tools will be utilised 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 in a capacity to accommodate a level of growth beyond that anticipated over the short and medium terms. If growth rates begin to accelerate, the Strategy will be updated to ensure additional residential 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.

## 14. Amendments

The Strategy may be amended from time to time by resolution of the WAPC. The Strategy can be amended in response to a factor that impacts on the strategic planning for the sub-region, including but not limited to the following:

- changed or newly created policy under the State Planning Framework
- new or emerging trends, issues or opportunities
- new data or information with a high degree of significance on planning for the sub-region
- situations where the WAPC considers that changes to the Strategy are required for the purposes of orderly and proper planning.

Amendments to the Strategy will be listed in Appendix 3 – Amendments.







# PART B PROFILE



## 15. Context

### 15.1 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 (Australian Bureau of Statistics).

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 areas.

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. Decisions can be made strategically to ensure the prosperity of the Bunbury-Geographe sub-region due to its advantageous location.

The CSIRO's *Australian National Outlook 2019* 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)*

It is possible that the ongoing growth of capital cities will result in the rise of satellite cities that are able to offer a coastal suburban lifestyle within two hours' travel from the capital city. Satellite cities such as Wollongong, 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 opportunities. With tight connectivity, the satellite city is expected to provide lifestyle and housing options that contrast with 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.

## 15.2 Planning

### 15.2.1 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 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.

### 15.2.2 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 to 2035.

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 5 for further direction and background.

### 15.2.3 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 the City 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 Western Australian Planning Commission 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.

### 15.2.4 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 *Greater Bunbury 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 *Greater Bunbury 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 *Greater Bunbury 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 *Greater Bunbury Strategy* remains in force until this Strategy is endorsed by the WAPC.



## 15.2.5 Local planning

All six local governments in the Bunbury-Geographe sub-region have operational local planning schemes (LPS) 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:

**Figure 8 – Local Planning Schemes and Strategies**

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)

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 of this Strategy.

## 15.3 Regional development

### 15.3.1 South West Regional Blueprint

The *South West Regional Blueprint* (the Blueprint) (South West Development Commission (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 the region.

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

### 15.3.2 Collie-Bunbury Economic Development Action Plan 2020-2026

The *Collie-Bunbury Economic Development Action Plan 2020-2026* (the Action Plan) (SWDC, 2020) outlines a coordinated response by the State 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 the 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.

### 15.3.3 Bunbury-Geographe Regional Growth Plan

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

- strengthening regional centre investment, business and employment growth capability
- accommodating regional population growth
- supporting the efficient and effective delivery of regional development and investment.

The Bunbury Geographe Economic Alliance (BGEA) 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.

## 16. People and culture

### 16.1 Noongar Boodja

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

The Noongar people have lived in the sub-region for more than 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).





## 16.2 Settlement

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

From that time on, the port and local industries, such as timber milling, coal mining and horse breeding, began to establish. Rail lines connecting Bunbury to Perth and Donnybrook were constructed in 1893. 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.

## 16.3 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 land have been found to extinguish native title.

Generally, 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. However, due to the South West Native Title Settlement, from April 2021 the *Native Title Act 1993* ceased to apply in the sub-region.

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 Boorah #2, Wagyl Kaip and 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 Boorah #2 ILUA (see Map 1).

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 South West Native Title Settlement, the Noongar Boodja Trust will be a major landholder in the Wheatbelt and South West regions. The South West Native Title Settlement commenced in 2021.

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

Across the sub-region the *Aboriginal Heritage Act 1972* 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 Heritage registered sites and places, see data snapshot (September 2021) summary below (see Map 1).

Figure 9 – Aboriginal heritage sites and places by local government

Aboriginal Heritage Sites and Places in the Bunbury-Geographe Sub-Region		
Local Government Area	Registered Sites	Places
City of Bunbury	12	29
Shire of Capel	9	21
Shire of Collie	35	122
Shire of Dardanup	6	24
Shire of Donnybrook-Balingup	7	23
Shire of Harvey	29	119
<b>TOTAL</b>	<b>98</b>	<b>338</b>

## 16.4 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.

In terms of State heritage significance, there is a total of 71 places on the State Register of Heritage Places located across the six local governments that comprise the sub-region (see Map 1).

The local governments of the City of Bunbury and the Shires of Capel, Collie and Harvey have Heritage Lists, which have statutory effect through the respective local planning schemes. The number of historic heritage places on the local governments' heritage lists and local heritage surveys are shown in the table below.

Figure 10 – Historic heritage places

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
<b>TOTAL –Sub-Region</b>	<b>71</b>	<b>377</b>	<b>917</b>



## 16.5 Bunbury-Geographe lifestyle

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

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

The Strategy seeks to achieve a balance between providing opportunities for appropriate growth and high-quality development within existing settlements while retaining, as much as possible, the lifestyle, sense of place, character and identity that residents currently enjoy.



Image courtesy Shire of Dardanup



## 16.6 Population

The estimated resident population (ERP) of the Bunbury-Geographe sub-region has increased from 79,088 in 2001 to 106,996 in 2019 (Australian Bureau of Statistics (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.

Figure 11 shows recent census counts for the local governments in Bunbury-Geographe. The census counts for individual settlements in the sub-region are provided in Figure 12.

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 resource boom and associated economic bounce. Since 2013, growth rates have reduced, in line with the slowdown elsewhere in the State. From 2013-19, the sub-region's population 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.

Under four of the five *WA Tomorrow* projection scenarios, the 65 years and over cohort is likely to have the greatest level of growth by 2031. These projections reflect the existing relatively older population of the sub-region compared to the State median age.

**Figure 11 – 2001– 2016 Census counts for Bunbury-Geographe local governments**

Local Government	2001 Census	2006 Census	2011 Census	2016 Census
City of Bunbury	28,564	29,702	31,348	31,919
Shire of Capel	6,517	10,206	14,638	17,123
Shire of Collie	8,387	8,614	9,127	8,798
Shire of Dardanup	8,332	10,339	12,405	14,033
Shire of Donnybrook-Balingup	4,297	4,741	5,320	5,870
Shire of Harvey	17,224	19,556	23,237	26,553
<b>TOTAL</b>	<b>73,321</b>	<b>83,158</b>	<b>96,075</b>	<b>104,296</b>



Image courtesy Shire of Dardanup

## 17. Urban settlement

The settlement pattern of Bunbury-Geographe is well defined with the Bunbury Metropolitan Area serving as the regional city for the sub-region and the wider South West region, Collie as a sub-regional centre, Harvey, Donnybrook and Capel as major towns and several other smaller towns and villages (see Section 5).

Figure 12 shows the population count for each settlement from the 2016 ABS Census.

### 17.1 Regional City

#### Bunbury Metropolitan Area

The Bunbury Metropolitan Area represents the largest settlement in the sub-region and is home to approximately 67 per cent of the sub-region's population. It is recognised as a regional city, and the State's second city, with facilities and services including: public and private regional hospitals and other health facilities, State and Australian 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 Port of Bunbury and significant industrial and service commercial areas are also located in the Bunbury Metropolitan Area.

There are significant greenfield developments underway at Kingston, Treendale, Treendale South, Millbridge, Parkridge, Glen Iris/Moorlands and Dalyellup together with the urban expansion of Tuart Brook. 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 District Structure Plan was endorsed by the WAPC in 2020.

Figure 12 – 2016 ABS Census count for Bunbury-Geographe settlements

Settlement (ABS structure)	2016 Census
Bunbury Metropolitan Area (Significant Urban Area)	72,402
Collie (Urban Centre/Locality)	7,192
Harvey (Urban Centre/Locality)	2,750
Donnybrook (Urban Centre/Locality)	2,520
Capel (Urban Centre/Locality)	2,020
Binningup (Urban Centre/Locality)	1,227
Roelands (State Suburb)	845
Boyanup (Urban Centre/Locality)	806
Brunswick Junction (Urban Centre/Locality)	772
Burekup (Urban Centre/Locality)	602
Allanson (Urban Centre/Locality)	555
Peppermint Grove Beach (Urban Centre/Locality)	466
Dardanup (Urban Centre/Locality)	447
Wokalup (State Suburb)	373
Myalup (State Suburb)	353
Cookernup (Urban Centre/Locality)	352
Balingup (Urban Centre/Locality)	268
Yarloop (Urban Centre/Locality)	224
Kirup (State Suburb)	219
Mullalyup (State Suburb)	152



## 17.2 Sub-regional centre

### Collie

Collie is the second largest settlement in the sub-region and is located approximately 60 kilometres inland from Bunbury CBD. 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 Shotts and Coolangatta industrial areas.

## 17.3 Major towns

### Capel

Capel is a major town situated just east of Bussell Highway, and is equidistant from Bunbury CBD 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.

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

### Donnybrook

Donnybrook is a major town in the Preston River valley approximately 37 kilometres south east of Bunbury CBD. It is surrounded by agricultural uses, including horticulture, and the associated processing of food produce. Donnybrook 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.

### Harvey

Harvey is a major town situated within a rich and fertile agricultural area beneath the Darling Scarp approximately 45 kilometres from Bunbury CBD. 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 GBRS 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, and Myalup.



Image courtesy Shire of Capel

Capel River mouth

## 17.4 Towns

### Balingup

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

Balingup acts as a service and tourist centre for the surrounding rural hinterland. There is a State primary school, visitor centre, service station, cafes, churches, post office, sporting complex, tavern, general store and several visitor accommodation options.

### Boyanup

Boyanup is a town located 21 kilometres south-east of Bunbury CBD. The South Western Highway runs north-south through the townsite. The Greenbushes-Picton railway line also runs through Boyanup. The Preston River borders 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.

### Brunswick Junction

Brunswick Junction is a town situated 27 kilometres north east of Bunbury CBD 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.

### Burekup

Burekup is a town situated immediately south of the South Western Highway, 15 kilometres east of Bunbury CBD. It has a general store and newsagent, State primary school, Anglican church, tennis and basketball courts and playing fields.

### Dardanup

Dardanup is a town situated 15 kilometres south east of Bunbury CBD 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.

## 17.5 Villages

### Allanson

Allanson is located seven kilometres to the west of Collie. It is one of the larger villages in the sub-region. Allanson has a State primary school, part-time post office and general store, and oval.

### Binningup

Binningup is a larger beachside settlement nestled behind the primary dune and can only be accessed by a single road. It is located approximately 28 kilometres north of Bunbury CBD. The nearest activity centre is at Australind, approximately 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 desalination plant.

### Cookernup

Cookernup is a village situated 10 kilometres north of Harvey. It has a post office, community hall, Australind rail stop and a general store.

### Kirup

Kirup is a village situated 17 kilometres south of Donnybrook. It has a primary school, tavern and a local fresh produce grocer as well as extensive orchards and vineyards.



## Mullalyup

Mullalyup is a village six kilometres south of Kirup. It is known for the Blackwood River Valley and agricultural land uses.

## Myalup

Myalup is a village approximately three kilometres north of Binningup. Myalup is on the coast and can only be accessed by a single road. It has a general store, community centre, one caravan park and beachfront chalet accommodation. Myalup is known for its pristine white sand beach and stromatolites.

## Peppermint Grove Beach

Peppermint Grove Beach is a village 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 an associated shop. The nearest services and facilities are at Capel.

## Roelands

Roelands is a village approximately 20 kilometres east of Bunbury CBD and five kilometres south of Brunswick Junction. There is a private school/college immediately south of the village.

## Wokalup

Wokalup is a village located approximately 4 kilometres south of Harvey. The village makes use of services located in Harvey. There is a cheese making tourist attraction and WA College of Agriculture campus located in Wokalup.

## Yarloop

Yarloop is located approximately 15 kilometres north of Harvey. Yarloop was devastated by a bushfire in January 2016 which destroyed many buildings. Since the 2016 bushfire Yarloop has been in a process of recovery and reconstruction. The primary school has reopened, and a new community centre has been built.



Peppermint Grove Beach

## 18. Economy

### 18.1 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. There is also potential for increased economic development.

The region has the most diversified economy of all the State's nine non-metropolitan regions. The most significant industry sectors driving the sub-regional economy are:

- Construction
- Manufacturing
- Health Care and Social Assistance
- Electricity, Gas, Water and Waste Services
- Mining
- Rental, Hiring and Real Estate Services
- Retail Trade
- Education and Training
- Information Media and Telecommunications
- Transport, Postal and Warehousing
- Arts and Recreational Services
- Agriculture, Forestry and Fishing.

The sub-region has a number of key advantages such as a large, broadly-skilled workforce; significant areas of residential land to enable population growth; 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, areas of industrial land have been identified within the Bunbury Metropolitan 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 proximity to Perth, the sub-region has the potential to be the hub of the State's technology development sector, particularly in collaboration with the tertiary institutions that are well-established in Bunbury.

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 online shopping.

Agriculture is a long-established industry in the sub-region (see Map 8). A wide range of agriculture is supported by the availability of large parcels of cleared and developed land, diverse soil types and the availability of good quality ground and surface water for irrigation. Beef and dairy cattle grazing underpins the subregion's livestock industries and have their value added to by domestic and export meat and dairy processing facilities in Bunbury, Harvey and Brunswick. Fruit production remains significant in the Donnybrook and Harvey areas. The Myalup area is a thriving vegetable growing area focused on the local and export market. The Geographe Wine Region is located in the sub-region, with wine grapes and wineries located from Harvey to Capel, the Ferguson valley and near Collie and Donnybrook.

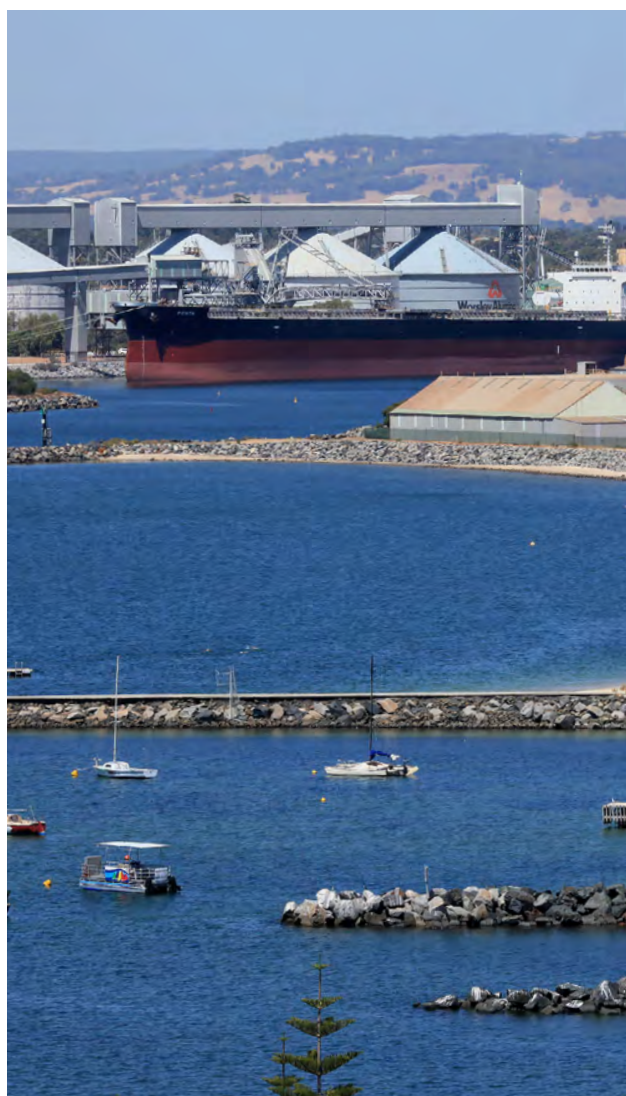
Alumina from the Worsley Refinery is the major export through the Port of Bunbury but uncertainty in the global economy has seen further expansion at Worsley Refinery delayed. Production remains high and it retains its place as a major employer and contributor to the local economy (see Map 9). Minerals sands from local deposits 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. Collie has received significant investment from the State and remains critical to the existing State electricity generation and transmission network. Future technological changes may still 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. Current initiatives include Westrac's autonomous vehicle training facility, the Renergi Waste to Energy, Cannaponics Medicinal Cannabis, Hollista Colltech and the International graphite hub.

The long-established Port of Bunbury 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.



## 18.2 Employment

When considering the economic well-being of the Bunbury-Geographe sub-region, an important factor is the level of employment within individual industry sectors. The level of employment has a direct impact on the social well-being of the local population and enables as many people as possible to add to the local economy through spending.

Figure 13 shows the number of full-time equivalent (FTE) jobs by industry sector located within the sub-region, based on a 38-hour work week <sup>1</sup>.

**Figure 13 – Level of employment by industry sector (Bunbury-Geographe Economic Profile, Regional Development Australia, May 2020)**

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
<b>Total</b>	<b>36,822</b>	

<sup>1</sup> Bunbury-Geographe Economic Profile, Regional Development Australia, May 2020

## 18.3 Industrial land

The *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 m<sup>2</sup>.

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. There is also potential for a future rail connection to the industrial 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 the Port of Bunbury.

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.

## 18.4 Basic raw materials

Basic raw materials (BRM) include sand, limestone, gravel, clay, gypsum, hard rock, agricultural lime and other construction and road building materials.

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 transportation.

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*.

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 increase demand for BRM from the South West region.

To avoid land degradation and/or sterilisation, post extraction the landscape should preferably be restored to conditions that are similar to the surrounding environment, including physical and biological processes and be able to be used in accordance with the current zoning.

## 18.5 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. This type of construction may become less sustainable into the future as the availability of fill sand and associated building materials continues to decline and the cost continues to rise.

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 construction homes can range in appearance from ultramodern to traditional weatherboard and there is a variety of claddings and finishes available.

Lightweight construction homes enable 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 local resources to be utilised widely in the sub-region, allowing for buildings to offer a local distinctiveness.

The timber precinct located at Moore Road in Dardanup has the potential to become the centre for a new lightweight timber construction plant servicing the entire South West and beyond.

## 18.6 Tourism

The Bunbury-Geographe sub-region is host to a unique natural 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. The sub-region's dairy, wine and horticultural industries are gaining prominence in attracting food and wine inspired visitors. Future tourism prospects for the sub-region are linked to population growth, rising global interest in nature, food and wine tourism experiences and the promotion of more local 'getaway' holidays.

The State Government has worked closely with the City of Bunbury regarding 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 Bunbury CBD is further developed.

In more rural areas, particularly the Ferguson Valley, there has been significant progress in the food and wine industry which serves as an important tourism attractor.

Specific to the Collie area, the State Government, through the Collie Futures Fund, has been progressing the expansion of tourism opportunities. 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.

A consideration for future tourism in 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.



Image courtesy Shire of Dardanup

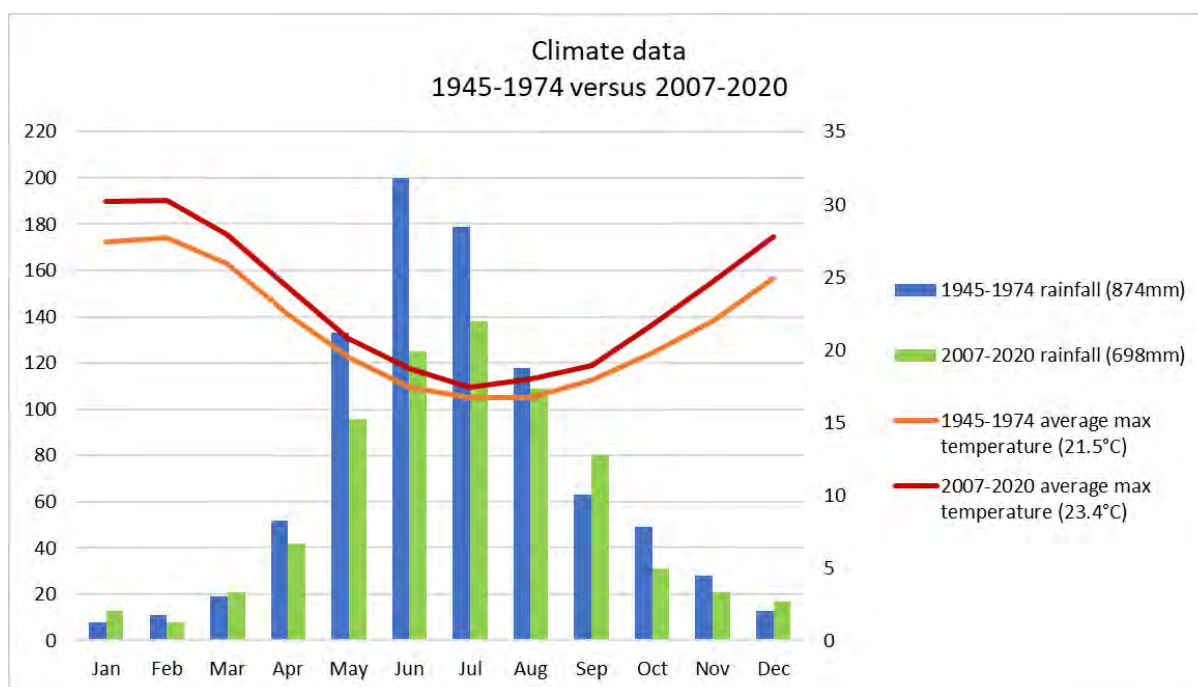
# 19. Environment

## 19.1 Climate

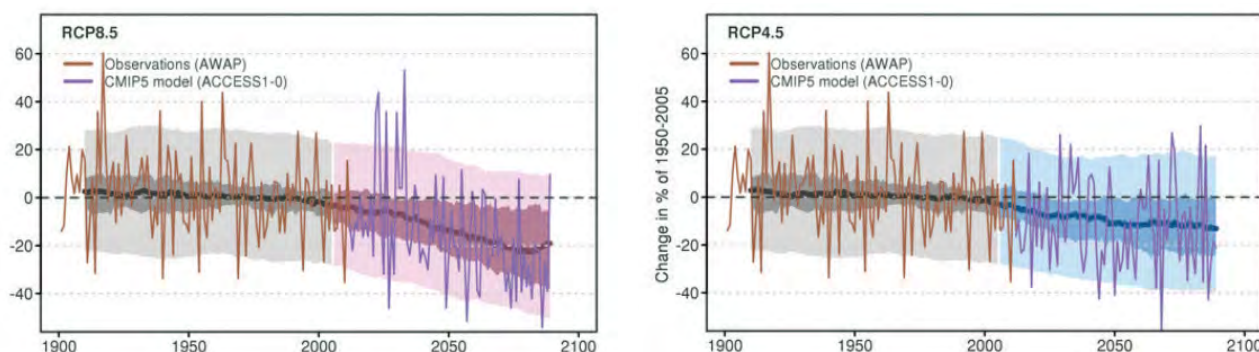
The sub-region has a temperate Mediterranean climate with wet and cool winters and dry and warm summers. Climate change has resulted in a drier climate during the winters and slightly wetter summers, although overall annual average rainfall is decreasing (see Figure 14). Compared to the coast, temperatures are cooler inland in winter and warmer in summer.

Climate modelling from CSIRO and Bureau of Meteorology indicates the South West is projected to experience higher average temperatures and an ongoing decline in annual rainfall in the future. As an example, two sets of projections for rainfall decline are presented in Figure 15, created using two global greenhouse gas emission scenarios: RCP 4.5 representing an intermediate emissions pathway, and RCP 8.5 representing a high emissions pathway. Global emissions are currently closely tracking the RCP 8.5 pathway. The grey shading indicates the period of the historical simulation, while two future scenarios are shown with colour-coded shading: RCP 8.5 (purple) and RCP 4.5 (blue).

**Figure 14 – Comparison of Bunbury’s monthly average rainfall and average maximum temperature 1945-1974 to 2007-2020 (1945-1974 and 2007-2020 data sourced from weather station 009514 Bunbury Post Office and 009965 Bunbury respectively, Bureau of Meteorology, Australia).**



**Figure 15 – Time series for the Southern and South West Flatlands Annual Rainfall for 1910-2090, expressed as a percentage change relative to the 1950-2005 mean. (Hope, P. et al. 2015, Southern and South-Western Flatlands Cluster Report, Climate Change in Australia Projections for Australia’s Natural Resource Management Regions: Cluster Reports, eds. Ekström, M. et al., CSIRO and Bureau of Meteorology, Australia).**





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 lateric 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 Phanerozoic<sup>2</sup> sedimentary deposits of the Perth Basin.

The *Interim Biogeographic Regionalisation for Australia* (IBRA) (Version 7, 2016) also identifies portion of the sub-region as Jarrah Forest. The Jarrah Forest IBRA region is split into two sub-regions, northern Jarrah Forest (JAF01) and southern Jarrah Forest (JAF02).

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.

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.

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

## 19.2 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 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’.

## 19.3 Biodiversity

The Bunbury-Geographe sub-region is part of the South Western Australia Global Biodiversity Hotspot which stretches 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, including:

- two additional mammal species
- nine additional bird species
- five additional fish species
- seven additional invertebrate species.

The natural vegetation of the Swan Coastal Plain has a rich understory, including acacia and banksia species, and relatively few trees species, with the tuart, marri and jarrah as the dominant species. 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.

As part of the work contributing to the establishment of the GBRS, the Environmental Protection Authority (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).

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).

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

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

## 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.

## 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, and takes in parts of old-growth jarrah, marri and wandoo forests 30 kilometres south of the 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 across three local government areas, including the Shire of Harvey, on the western edge of the Swan Coastal Plain north from 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 – Preston to Ocean and Leschenault

There has been a long-standing vision for two regional parks within the Greater Bunbury area which was advanced through the planning for the GBRS. 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 side 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 setting out the proposals for the regional park. The plan includes land along the Brunswick River and lower Collie River westwards across the Swan Coastal Plain, and the Leschenault Peninsula Conservation Park between the estuary and the ocean.



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

It is noted that under the Noongar Standard Heritage Agreement, the Department of Biodiversity, Conservation and Attractions will enter into Cooperative and Joint Management Agreements with the Gnaarla Kaarla Boodja Regional Corporation (proposed) and South West Boojarah Regional Corporation (proposed).

Fragmentation of some ecological linkages still occurs, which impacts on conservation of biodiversity including the potential sustainability of critically endangered species. These linkages were assessed in 2009 and reported on in the *South West Regional Ecological Linkages Technical Report* (WALGA/DEC 2009).

## 19.4 Water

### 19.4.1 Surface water

The sub-region lies within four surface water catchments:

- Leschenault – the Wellesley, 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.

Surface water run-off and streamflow within these catchments have significantly diminished over recent years due to climate change. Availability will continue to be detrimentally impacted with continued reductions or persistence of lower than average annual rainfall. Such declines on streamflow are of a higher magnitude than those declines identified in rainfall.

## Leschenault Catchment – Leschenault Estuary

The Leschenault Estuary is one of the larger waterbodies in Western Australia with an area of 27 square kilometres. It is approximately 14 kilometres long and two kilometres wide. Leschenault Estuary 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 square kilometres, 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. Nitrogen and phosphorus loads reaching the estuary require reduction as a matter of urgency. Future urban development and intensification of land uses are projected to increase the current loads to the estuary, particularly in the sub-catchments already in the 'recovery' or 'intervention' categories, as identified in the *Leschenault Estuary Water Quality Improvement Plan* (DoW, 2012).

## Geographe Catchment – Capel River

The Geographe catchment extends from Gelorup 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.

The wetlands system is made up of the Vasse and Wonnerup estuaries and their exit channels, which are located to the west of the Bunbury-Geographe sub-region. More than 30,000 waterbirds comprising 90 different species make use of the habitat provided by the wetlands each year, making them one of the most important waterbird habitats in Western Australia. They are on the Ramsar Convention's internationally-recognised list of Wetlands of International Importance.

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 *Revitalising Geographe Waterways* initiative.

## Warren-Blackwood Catchment

The Blackwood River has a catchment of 28,100 square kilometres 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 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 Yalgarup wetland system are internationally significant habitats for waterbirds and migratory wading birds. Thousands of waterbirds gather each year with over 80 species recorded. 27 of these are listed on the Japan-Australia Migratory Bird Agreement and the China-Australia Migratory Bird Agreement (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. Further to this work, *Bindjareb Djilba: a Plan for the Protection of the Peel-Harvey Estuary*, was published by the *Department of Water and Environmental Regulation* (DWER) in 2020. It collates actions across the estuary and its catchment and asks for many groups to work together to protect the estuary's values for future generations.

## 19.4.2 Groundwater

The following descriptions relate to groundwater resources proclaimed under the *Rights in Water and Irrigation Act 1914*:

### Superficial and Surficial aquifers

The superficial aquifer generally extends from the coast to the Whicher and Darling scarps and forms the water table aquifer on the coastal plain. Much of this area comprises palusplain and as such experiences high seasonal water tables, expressing at surface.

The sediments on the Swan Coastal Plain are collectively termed the superficial formations and comprise the Yoganup, Guildford, Bassendean Sand, Tamala Limestone and Safety Bay Sand Formations. Apart from the coastal dunes, the formations are generally less than 10m thick (saturated thickness) and are only a few metres thick on the western part of the coastal plain.

The superficial aquifer is separated in places from the underlying Leederville Aquifer by a confining layer called the Mowen Aquitard.



## Leederville Aquifer

The Leederville Aquifer is a confined aquifer that underlies the superficial formations on the coastal plains and is separated by the Mowen Aquitard.

This aquifer is typically about 100m thick, reaching over 200m in places. The Leederville Aquifer is the most widely used aquifer on the Swan Coastal Plain, as it is relatively shallow, contains generally fresh groundwater and is higher yielding than the superficial aquifer.

The 2012–2015 South West groundwater areas allocation plan evaluation statement identified that rainfall in the South West is now about 16 per cent less than the long-term average. This climatic trend is set to continue, with almost all global climate models projecting lower rainfall in this part of the state over the coming decades. Reduced rainfall and higher temperatures mean less recharge to groundwater systems.

Since the last evaluation in 2012, groundwater levels in the Leederville Aquifers have continued to decline. A seawater interface was identified as being close to or intersecting the coast between Dunsborough and Bunbury in the South West groundwater areas allocation plan. Diminishing recharge and continued use of groundwater means we need to carefully manage the risk of the seawater interface moving further inland and affecting the quality of our freshwater groundwater resources.

## Yarragadee Aquifer

The Yarragadee Aquifer extends from the coast to the Darling Scarp for the majority of the sub-region area.

It is a mostly confined aquifer and is separated from the overlying Leederville Formation by the discontinuous aquitards formed by the Bunbury basalt and shale units of the Parmelia Formation. The Yarragadee Aquifer is unconfined where it subcrops beneath the superficial aquifer on the Swan Coastal Plain.

It is the largest aquifer system in the sub-region area, occurring throughout and contains mostly fresh groundwater. The aquifer thickness ranges from about 300 to 1700 m within the Bunbury Trough through the main part of the aquifer and is shallowest (approximately 15 m below surface) south of Bunbury.

Similar to the Leederville Aquifer and since the last evaluation in 2012, groundwater levels in the Yarragadee Aquifer have continued to decline. A seawater interface was identified as intersecting the coastline at Bunbury in the South West groundwater areas allocation plan. Diminishing recharge and continued use of groundwater means we need to carefully manage the risk of the seawater interface moving further inland and affecting the quality of our freshwater groundwater resources.

## Cattamarra Aquifer

The Cattamarra Aquifer is a regionally confined multi-layered aquifer composed of siltstone and shale interbedded with sandstone. The groundwater salinity is highly variable and ranges between 250 and 26,000mg/L TDS and in general, the groundwater salinity is lower in the south than in the north. The fresher quality groundwater in the southern part of the aquifer is likely to be attributed to the throughflow from the Yarragadee Aquifer.

In the area of the Kemerton Industrial Park, the groundwater is mostly brackish. The depth and the salinity of this aquifer restrict its utilisation for consumptive use and the measurement of water levels shows they are steady.

## Collie Coal Basin

The hydrogeology of the Collie Coal Basin is complex, with multiple aquifers separated by shale and coal seams with numerous faults throughout. The groundwater system of the Collie Coal Basin is highly modified. Underground and open-cut coal mining has affected the water quality which is generally acidic due to its contact with sulphide-bearing sediments.

The Collie Coal Basin has two distinct subareas, the Cardiff and Premier subareas. Each subarea has four resource groups named Nakina, Muja, Lower Collie Group and Stockton. In a pre-disturbance state it is unlikely that any significant flow of groundwater would have taken place from one aquifer to another, however as a result of mining there is a high degree of connectivity between certain resource groups.

Mine dewater is abstracted above the groundwater allocation limits within the Premier subarea. The surplus dewater is considered to be a resource, but it is not re-allocated up to an allocation limit. It is reused on an opportunity basis and within the licensed entitlement.

The area outside the Collie Coal Basin, but within the proclaimed groundwater area, has no significant water resources. Some areas of fractured rock aquifers may exist.

### 19.4.3 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 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. It includes Koombana Bay and the entries to Leschenault Inlet and Leschenault Estuary.

There are four settlements within the sub-region, in 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 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. 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. The Transforming Bunbury Waterfront project has looked to capitalise on the aesthetic and locational assets of Koombana Bay.





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.

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 government, 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. More recent settlements and lifestyles are more solid and static which adds complexity when considering future development.

The Peron-Naturaliste Partnership (PNP) is an incorporated group formed in 2011 by nine local governments between Cape Peron and Cape Naturaliste in the south-west of Western Australia – City of Bunbury, City of Busselton, Shire of Capel, Shire of Dardanup, Shire of Harvey, City of Mandurah, Shire of Murray, City of Rockingham and Shire of Waroona. The overall objective of the PNP is to provide a regional mechanism to facilitate effective and timely adaptation responses to climate change. 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 Plan (CHRMAP) for coastal planning, particularly in the management of coastal assets. The CHRMAP follows 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.

## 19.5 Bushfire

*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.

## 20. Transport

### 20.1 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 as 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 to Eelup Roundabout in Bunbury. There are many at-grade intersections along the alignment providing access onto and off the highway and connectivity for both private and freight vehicles.

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

#### 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, and exits at 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 connecting 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 role in sub-regional economy with much of the freight for the area transported on heavy haulage vehicles. The large-scale mining of spodumene at Greenbushes has seen a significant increase in road transport as the ore is trucked to Bunbury and then through to Perth, especially as there is currently no rail alternative. The highway is also an important tourist route and Main Roads WA is continuing to address the problems associated with the coexistence of freight and tourist traffic.

#### 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 tourism and freight, has led to increasing traffic volumes on this highway.

#### Bunbury Outer Ring Road

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

When completed, the BORR will be 27 kilometres long, branch off Forrest Highway in the north near Clifton Road and join Bussell Highway in the south at Gelorup. The central section of the BORR was completed in 2013 in conjunction with the extension to the Port Access Road.

In May 2018 the Australian and State governments announced that the final two stages of the BORR were to be constructed with the Australian Government providing \$560 million and the State Government providing \$290 million. The BORR is expected to lead to safety improvements, 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 the Bunbury-Geographe sub-region, Margaret River region and the wider South West.

#### Port Access Road

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

The Port Access Road provides direct access to the port without the need for heavy haulage vehicles to travel through heavily populated sections of the Bunbury Metropolitan Area. This alleviates traffic congestion in the Bunbury Metropolitan Area and makes freight delivery more efficient and economic.



Completion of the Bunbury Outer Ring Road 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.

## 20.2 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, 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. 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 and draft South West Supply Chain Strategy* identify 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.

## 20.3 Port of Bunbury

The Port of Bunbury is the major commercial deep-water port for the 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 exports include woodchips (9 per cent), mineral sands (7 per cent), spodumene (5 per cent), silica sands (2 per cent), grain (2 per cent) and copper concentrate (1 per cent).

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

The *Western Australian Regional Freight Transport Network Plan 2013* identified that port throughput could grow to more than 30 million tonnes per annum by 2030 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 Harbour. Berths 1 and 2 in the Outer Harbour are used for 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: 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 Southern Ports Authority commenced preparation of a master plan for the port in 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 considered the freight, trade and logistics requirements for Perth and the South West for the next 50 to 100 years.

The Westport Taskforce findings concluded that the Port of Bunbury was unlikely to compare favourably with Fremantle and Kwinana in terms of handling container imports destined for consumers in the Perth metropolitan area due to costs of additional infrastructure and higher operational costs.

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 the Port of Bunbury. This will require more detailed supply chain investigation to confirm the most suitable location for a future Inter-modal Terminal (IMT) and to better understand requirements for integrating an IMT into the South West rail and any other expansion options contemplated by the Southern Ports Authority.

## 20.4 Airport

Bunbury Airport is the local airport servicing the City of Bunbury and the surrounding local government areas. The Bunbury Airport is located eight kilometres south-east of the Bunbury CBD and is used largely as a facility for general aviation, pilot training and emergency services.

The airport has a single sealed runway. 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 houses a permanent rescue helicopter base operated by DFES, accommodates seasonal water bombers operated by the Parks and Wildlife Services section of DBCA and has significant visitation by the Royal Flying Doctor Service.

The City of Bunbury, who own and operate the airport, adopted the *Bunbury Geographe Airport Master Plan 2020-2040* in July 2020. The master plan aims to further establish the role of Bunbury Airport and guide its planning, development and operation to 2040.

## 20.5 Public transport

### Local bus service

The Bunbury Metropolitan Area is serviced by public buses as part of the Public Transport Authority Trans-Regional services that are provided in major regional centres throughout the State. The bus station in the Bunbury CBD is owned by the City of Bunbury and leased to the Public Transport Authority (PTA).

The Bunbury Metropolitan Area 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 consideration by both PTA and TransBunbury.

### Inter-regional coach service

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

### Passenger rail - The Australind

The Australind, operated by Transwa, provides a service between the Perth Railway 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, stopping at 10 hinterland towns. A one-way trip 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.



## Future Perth-Bunbury fast rail service

The PTA has been considering a fast train service between Perth and Bunbury for a number of years. In 2020 funding was secured from the Australian and State Governments for the PTA to undertake further investigation, including the development of a strategic business case for a fast rail service, to more fully assess key problems, potential opportunities and benefits and costs to improve regional transport accessibility south of Perth.

The areas of focus for the next phase of work include:

- Consideration of the role of a potential fast rail between Perth and the South West region of WA, optimal alignment outcomes, and its relationship to the existing Australind service and alignment. This will include potential public transport connections to the fast rail service and/or further route expansion beyond Bunbury, taking into account the balance between potential train speed, route length and stopping locations.
- Consideration of population and economic growth conditions, and analysis of related demand forecasts, to understand potential use of any new fast rail infrastructure and services.
- Potential timing for investment and delivery, acknowledging that based on current population densities and travel patterns the introduction of fast rail in Western Australia is considered to be a longer-term initiative.

## Taxi services

The Bunbury Metropolitan Area has a local taxi service. The service has expanded, and a number of new operators have entered the market.

## Cycling

Various studies have identified major benefits in areas with high levels of cycling, including economic, environmental and social benefits. Increased cycling has significant potential health benefits for the sub-region and could assist in creating more vibrant and welcoming communities.

The Department of Transport's Bunbury-Wellington 2050 Cycling Strategy indicates the key to increasing cycling is providing infrastructure which is not only safe and convenient, but also competitive with other modes of transport. 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 SWDC in the Greater Bunbury Regional Bicycle Master Plan 2012, which provided guidance for the cycle network and listed key projects to facilitate the expansion of the network, particularly identifying key gaps and deficiencies.

As part of the construction of the BORR, the principal shared path will no longer connect to the local cycle network within the Bunbury Metropolitan Area. An east-west cycle linkage from the BORR to the Bunbury Metropolitan Area may need to be considered in the future.



Image courtesy City of Bunbury

## 21. Utilities and services

### 21.1 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 45 and 85 per cent in the 30-year period to 2050 for the wider South West region, based on the Strategy's baseline and growth trajectories respectively.

Aqwest currently provides potable water to 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. The Yarragadee Aquifer, which stretches from Bunbury to Nannup, is the primary water source for most towns in the sub-region. DWER has reserved water in the Yarragadee and Leederville aquifers for future public water supply. 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 sub-region include:

- establishing new or expanding existing ground/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
- stormwater harvesting for potable or non-potable supply
- combination of alternative sources to meet fit-for-purpose demands.

DWER has worked with the water service providers to assess their projected demands against water resource availability. Improved water efficiency is a crucial part of the future, with a residential water use target of 100 kilolitres per person per year by 2030. Existing entitlements and water currently reserved in the Bunbury Groundwater Area meets projected demand to 2060 for existing

schemes based on WA Tomorrow forecasts, if water efficiency targets are met. However, the water demand for existing schemes and new development areas to meet a population target of 200,000 is projected to exceed current licensed entitlements and water reserved for public water supply. Alternative water sources will need to be investigated to meet long-term water demands in line with the population targets.

### 21.2 Non-potable water

Figure 16 shows that agriculture uses the greatest amount of water in the sub-region. Agriculture accounts for over half the water used in the region (62 per cent), compared to Western Australia as a whole where agriculture is about one third of the total water use. Agriculture accesses groundwater and surface water as a self-supply source and surface water is also provided by Harvey Water and Preston Valley as irrigation co-operatives.

Harvey Water provides water from storages from the Waroona, Drakesbrook, Logue Brook, Harvey and Wellington Dams, as well as the Wokalup pipe-head. This water is either piped or released 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. The Preston Valley Irrigation Co-operative provides surface water from the Glen Mervyn Dam to customers between Mumballup and Argyle, either side of Donnybrook, via seasonal releases.

Current water abstraction for coal mining is largely for dewatering to ensure mines can operate safely and efficiently. Dewatering provides a large short-term supply of water that is generally of a high quality and is predominantly used for power generation in Collie.

About half of the water used in urban areas and localities is self-supplied and half is from a scheme. There is high ratio of self-supplied non-potable urban water use due to the availability of fresh, shallow groundwater from the superficial and Leederville aquifers that has to date been relatively cheap to access for both domestic use and local government use.

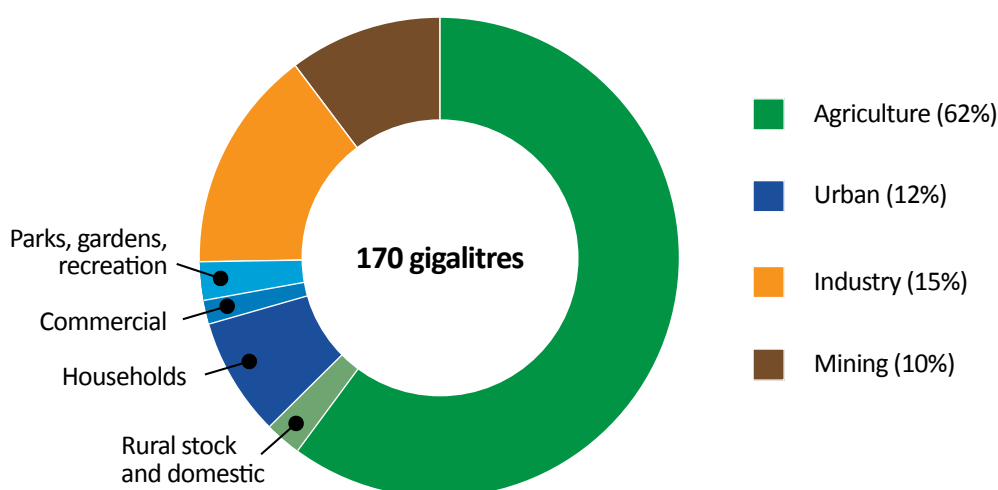


Impacts on existing surface and groundwater resources from a drying climate and current practices along with increasing demand, is resulting in the need to investigate alternative water sources and delivery infrastructure for industrial demands, including agriculture. Increasing urban growth, climate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

The first option is always to promote water use efficiency and encourage users to reduce their water use. The State, in association with water utilities and industries, has developed an extensive range of Waterwise programs to deliver water use

efficiency and build better communities. These programs provide advice and guidelines for schools, golf courses, councils, sports grounds, aquatic centres, garden bores, urban greening schemes and urban canopy schemes in high risk neighbourhoods with heat sinks. 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. Success will be dependent on early planning and scalable solutions and a collaborative approach to implementation.

Figure 16 – Water use in Bunbury-Geographe sub-region



## 21.3 Wastewater

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

- Bunbury Metropolitan Area
- Capel
- Donnybrook
- Boyanup
- Dardanup
- Burekup
- Collie
- Brunswick Junction
- Harvey
- Binningup.

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

*"It is acknowledged that on-site sewage disposal technologies have advanced considerably in recent decades, however there are still significant risks associated with their use. The installation, operation and on-going maintenance requirements for advanced on-site systems are more involved than for conventional septic systems... On-site sewage systems servicing individual lots are therefore not considered an appropriate alternative to reticulated sewerage for most subdivision and development. In some instances however, they are an acceptable method of servicing, particularly for low density urban and industrial development outside public drinking water source areas and sewage sensitive areas, where reticulated sewerage is not feasible."*

The minimum requirements for on-site sewerage disposal are detailed in the *Government Sewerage Policy*.

## 21.4 Electricity

The sub-region is supplied with energy from the Western Power 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 most of the State's electricity. Muja Power Station has a capacity of 854 MW of electricity. Two of the four operating units at Muja Power Station are to be retired in October 2022, removing 400 MW of capacity. Collie Power Station has a capacity of 300 MW. Bluewaters Power Station has a capacity of 416 MW, providing 15 per cent of the State's electricity supply.

The contribution from renewable energy resources, in particular solar and wind, into SWIS has been significant and accounts for approximately 16 per cent of supply. While this has opened considerable opportunities, it has also provided challenges to the energy industry, particularly with respect to power security and reliability.

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

## 21.5 Gas

The Dampier to Bunbury Natural Gas Pipeline runs underground north-south through the Shire of Harvey ending immediately north of Clifton Road in 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 underground pipelines service Kemerton Strategic Industrial Area, Harvey townsite, Brunswick Junction townsite, Australind, Eaton, Millbridge, the City of Bunbury, Picton, Dalyellup, Boyanup, Iluka mine site, the Capel townsite and further south to Busselton.



## 21.6 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 generally more limited telecommunications services. 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 has enabled improved access to information and services and provides opportunities for the establishment of new technology-based businesses.

## 21.7 Waste management

Local governments tend to have their own waste transfer station and landfill site:

- Shire of Capel - Capel Waste Transfer Station
- Shire of Dardanup - Dardanup Waste Transfer Station and Recycling Centre; Banksia Road Organic Processing Facility (not a public facility)
- Shire of Harvey - Stanley Road Waste Management Facility; Richardson Road Refuse Centre
- Shire of Collie - Collie Waste Transfer Station.

Bunbury-Harvey Regional Council (BHRC) is a statutory local government authority 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 – this is the responsibility of individual councils. The BHRC has two main areas of operations – the Banksia Road Organics Processing Facility and the Stanley Road Waste Management 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.

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

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

The facility is able 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 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.

## 21.8 Education

The sub-region is well served by educational institutions, in particular those located in the Bunbury educational precinct. The precinct comprises of Edith Cowan University – South West (ECU), the South West Regional College of TAFE, Manea Senior College, and the Bunbury Health Campus.

ECU 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, the South West Regional College of TAFE offers a wide range of industry courses with flexible study options.

Manea Senior College is a specialist Year 11 and 12 senior college and is the largest provider of Year 11 and 12 courses in the sub-region with approximately 650 students.

Other educational institutions in the sub-region include:

- The WA College of Agriculture Harvey, based at Wokalup, which offers Year 10, 11 and 12 courses. The college operates a substantial farm with several different agricultural and horticultural elements.
- Bunbury Regional Community College, a specialist school that provides an alternative to mainstream high schools.
- College Row, a special needs school in the Bunbury Metropolitan Area catering for Kindergarten to Year 12.
- Public high schools
  - Australind Senior High School
  - Eaton Community College
  - Bunbury Senior High School
  - Newton Moore Senior High School
  - Dalzellup College
  - Collie Senior High School
  - Harvey Senior High School
  - Donnybrook District High School (Kindergarten-Year 10 across two campuses)
- Private high schools
  - Bunbury Catholic College (two campuses)
  - Bunbury Cathedral Grammar School
  - Bunbury Baptist College.
- Djidi Djidi, a primary school in the Bunbury Metropolitan Area that includes Noongar culture and language in the life of the school.
- Public primary and senior schools in other settlements in the sub-region.

## 21.9 Health

The major health facilities in the sub-region are based at the South West Regional Health Campus in the Bunbury Metropolitan Area. The Bunbury Regional Hospital and St John of God Private Hospital share some facilities. The health campus 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 Collie, Donnybrook and Harvey. 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 the 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 the 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.

The demographics of the sub-region shows a significantly ageing population, presenting additional medical challenges and requirements for communities.





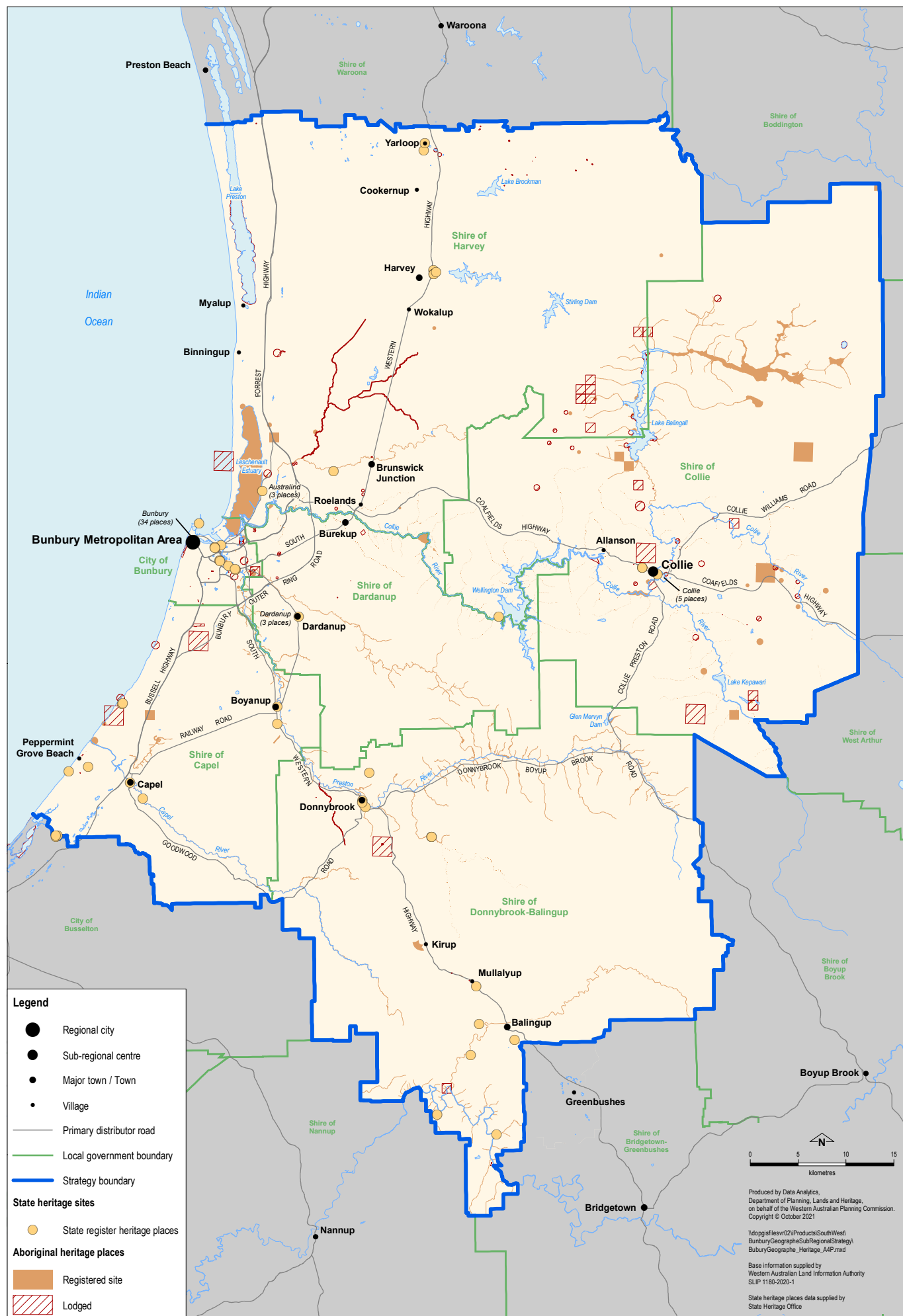
Image courtesy City of Bunbury



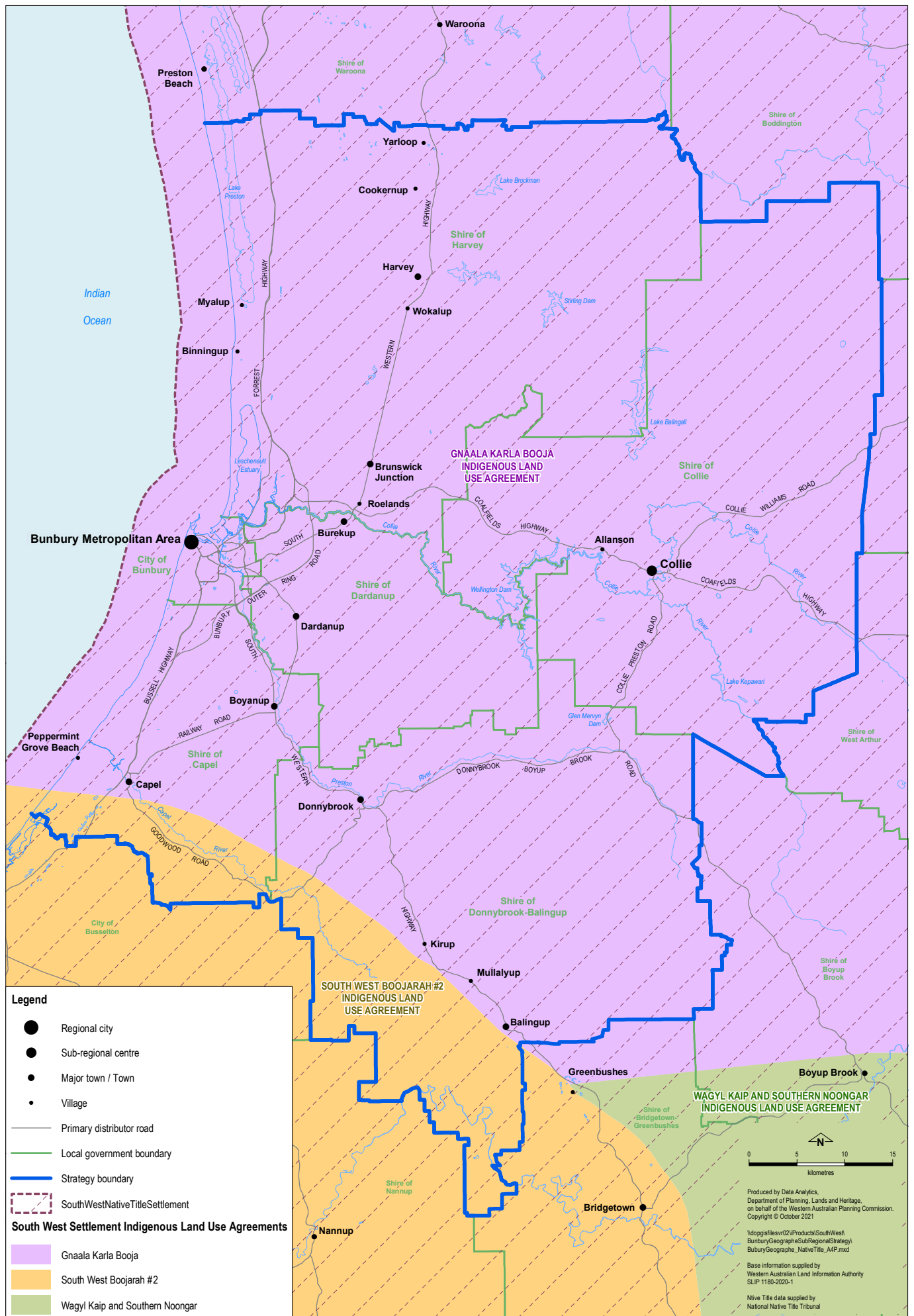


# PROFILE MAPS



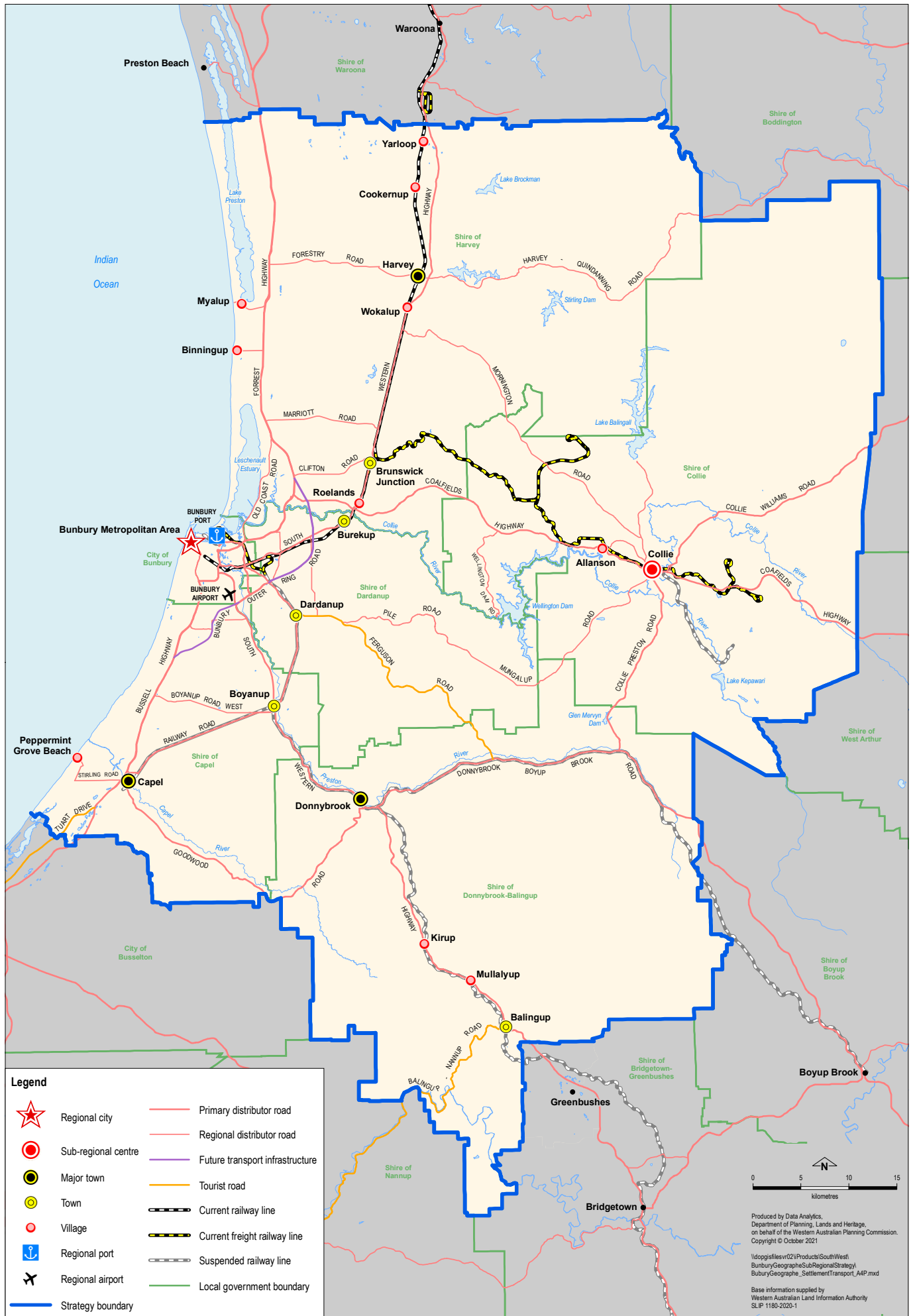


Map 1: Historic and Aboriginal Heritage

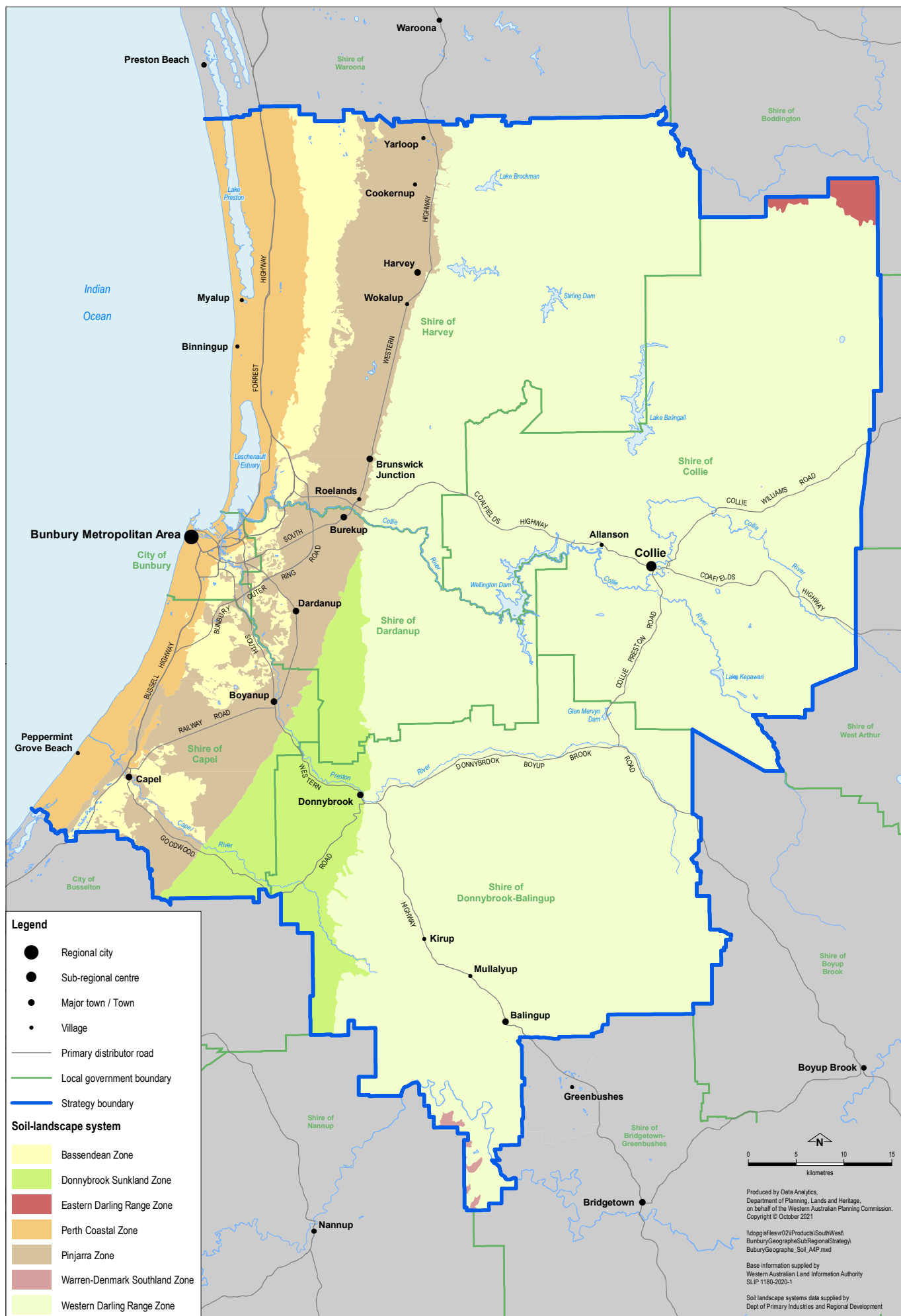


Map 2: Native Title Settlement Proposals



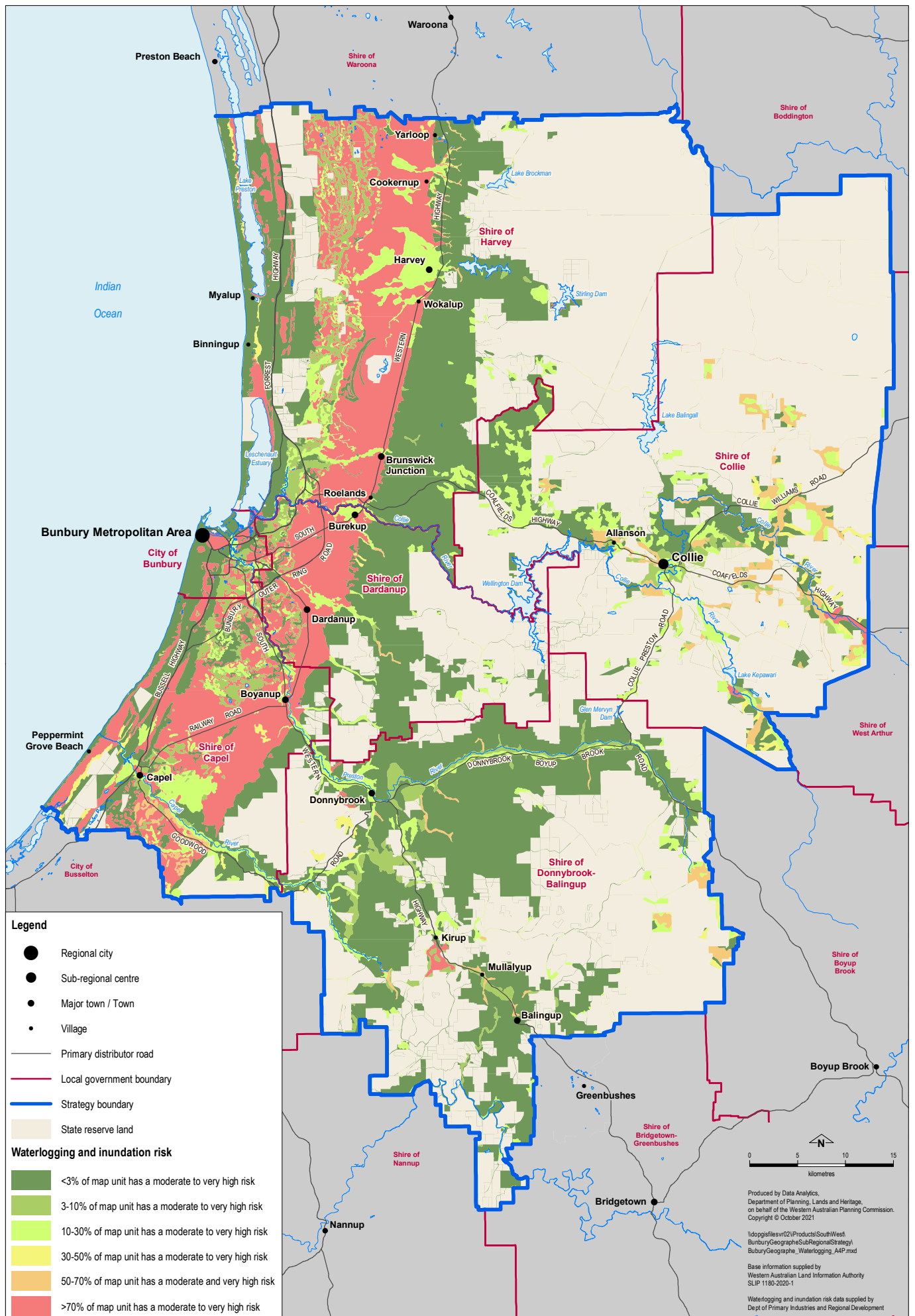


Map 3: Settlement and Transport

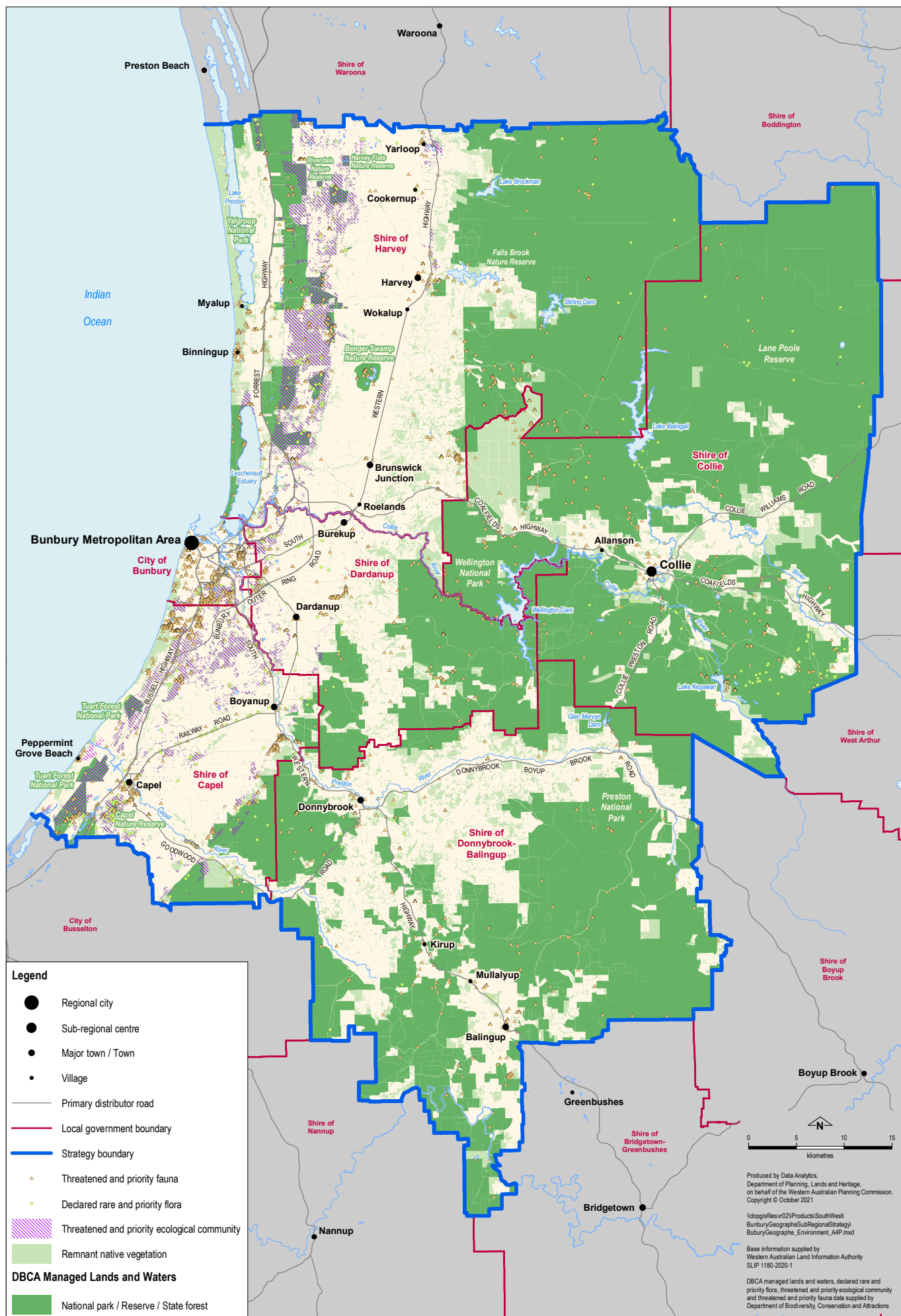


Map 4: Soil Landscape Systems



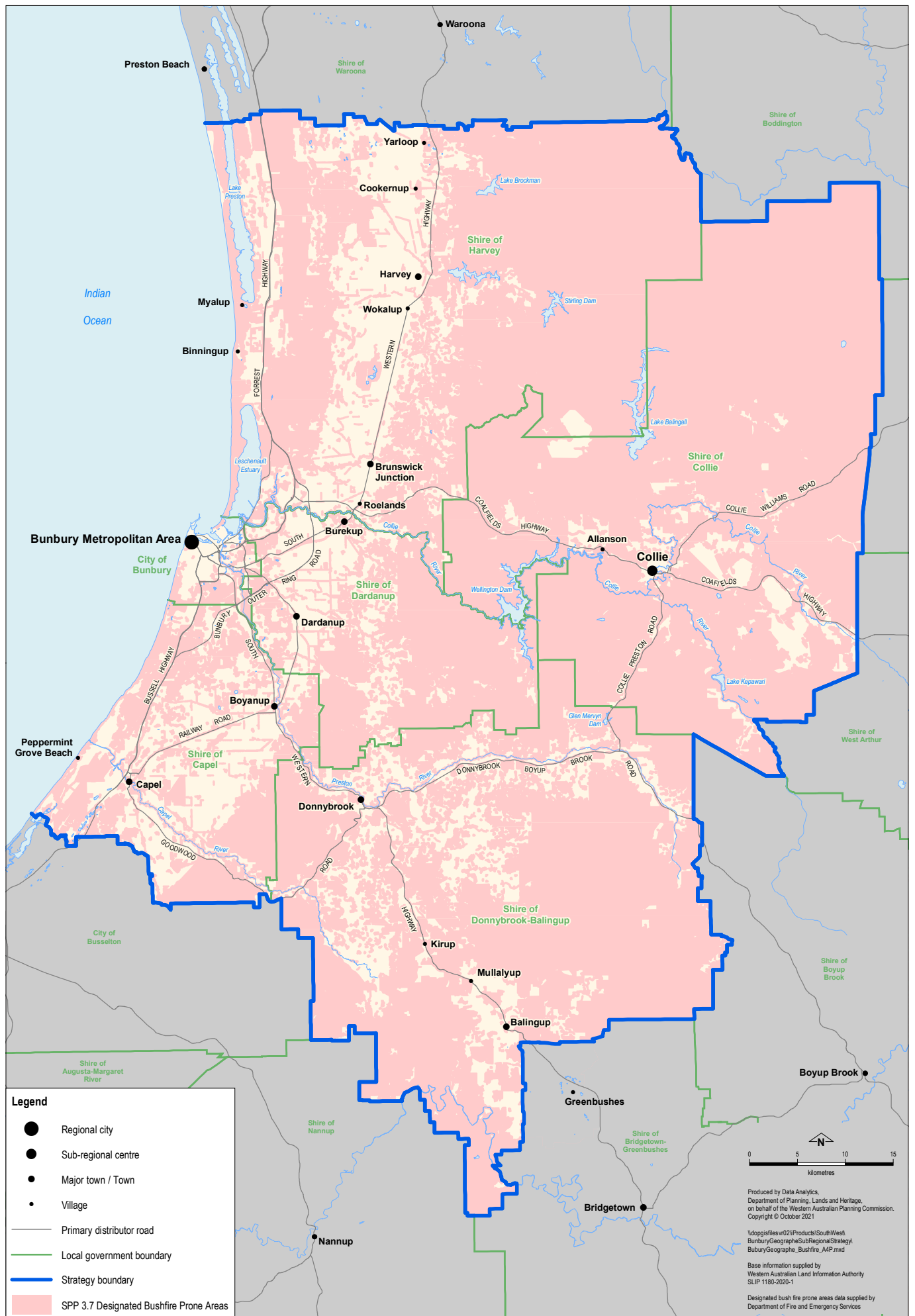


Map 5: Waterlogging and Inundation Risk

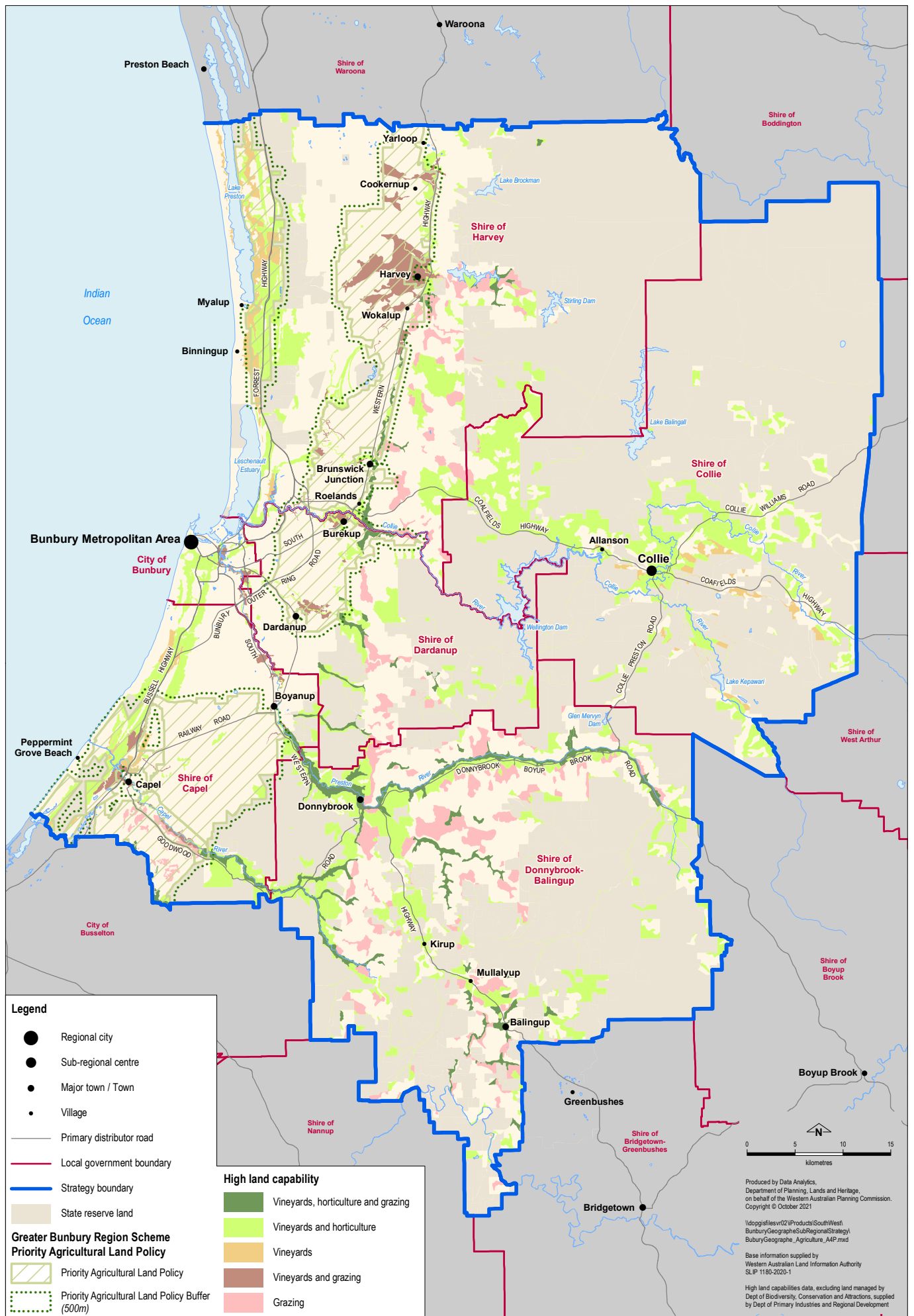


Map 6: Natural Environment



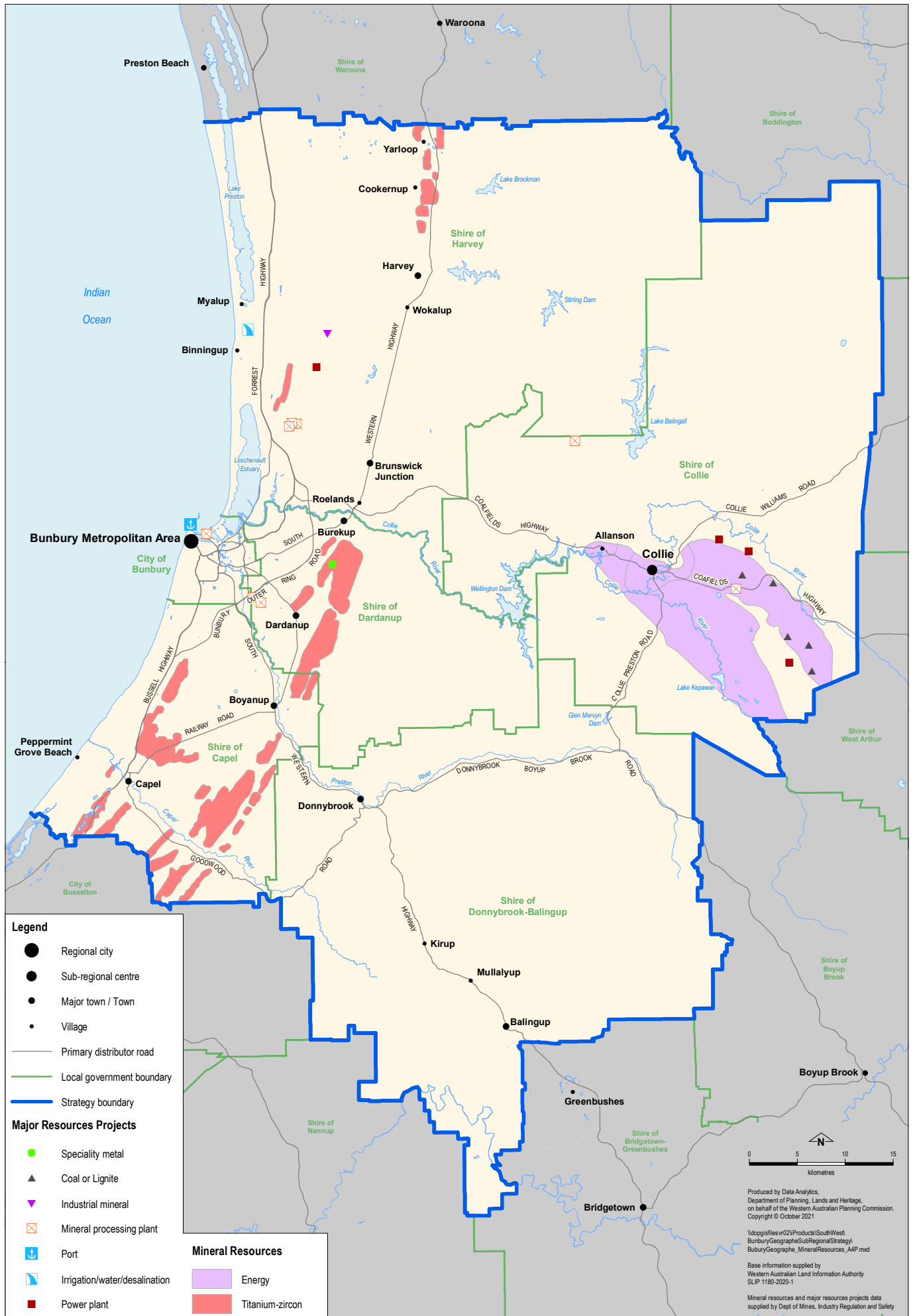


Map 7: Bushfire Prone Areas

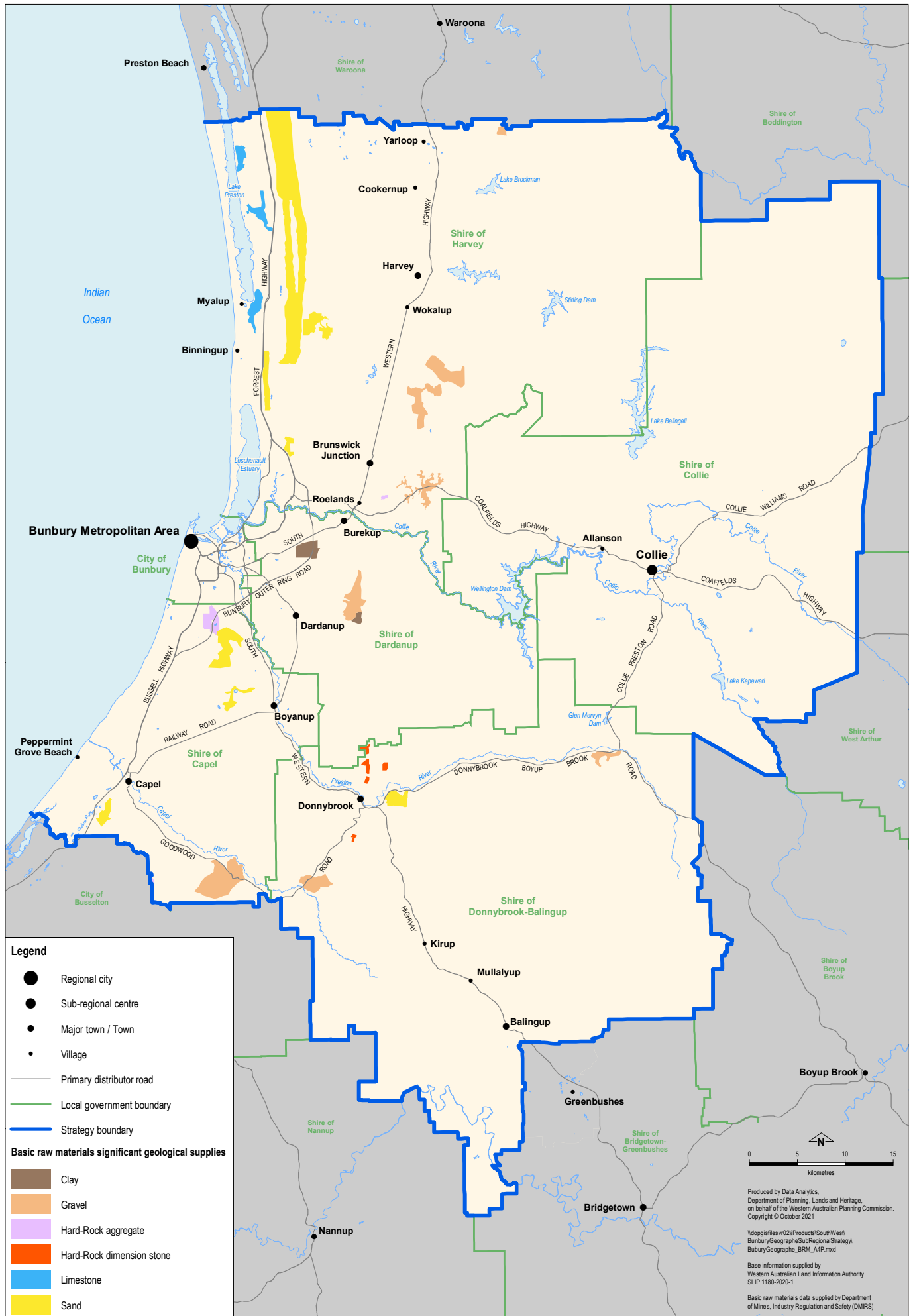


Map 8: Agriculture



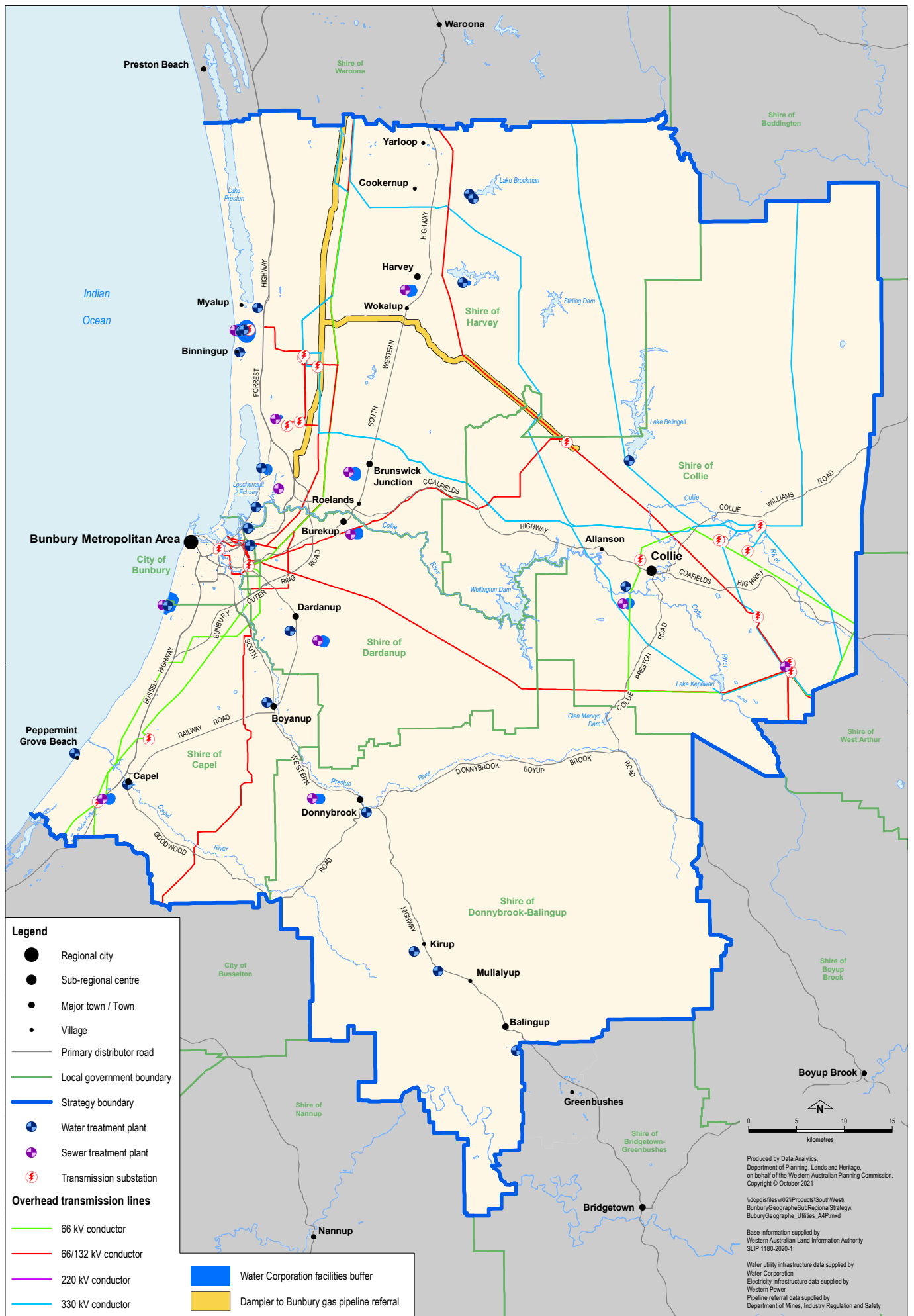


Map 9: Mineral Resources and Activity

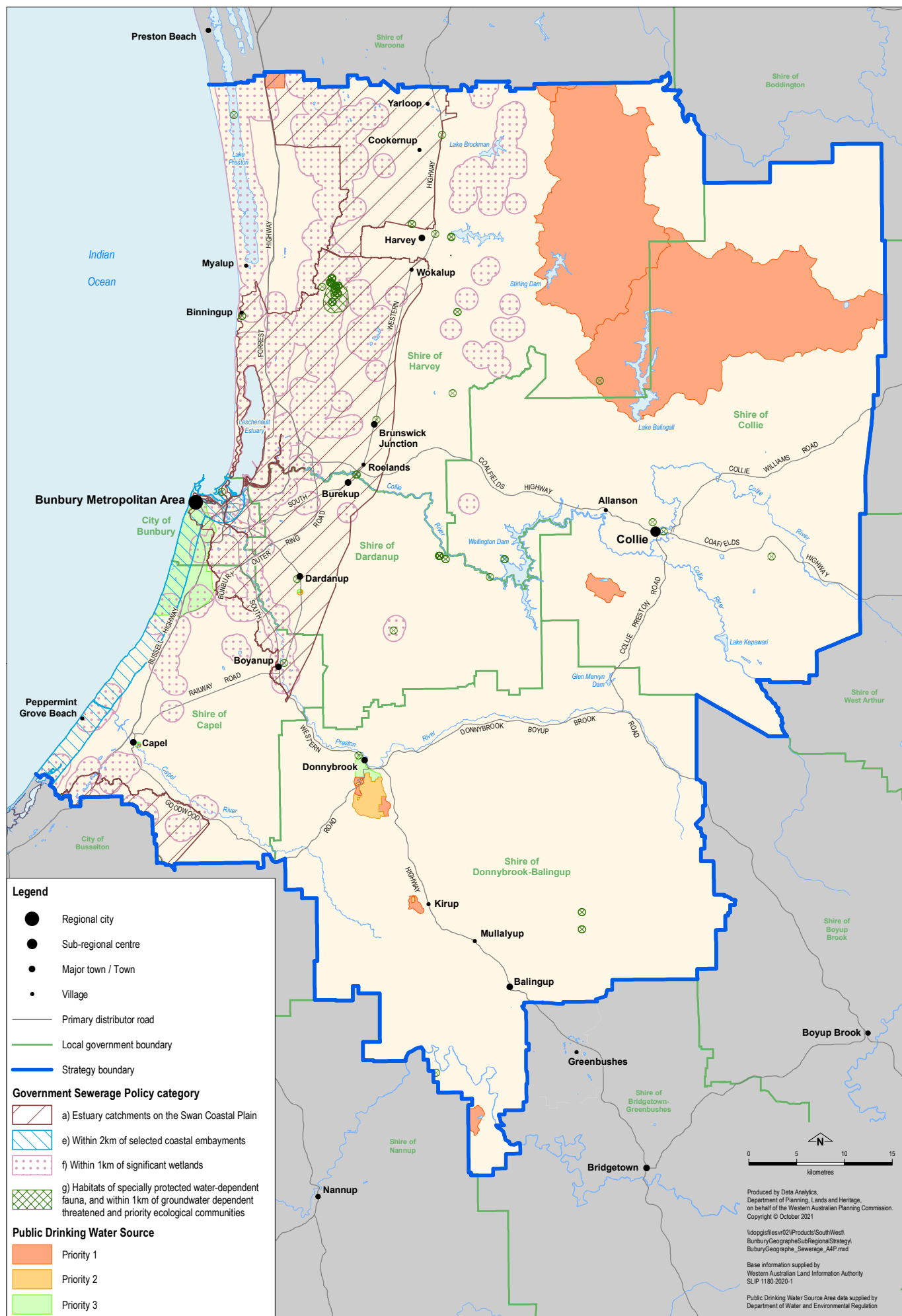


Map 10: Basic Raw Materials





Map 11: Utility Infrastructure



Map 12: Sewerage and Public Drinking Water Sensitive Areas



# Appendix 1 – Governance Structure

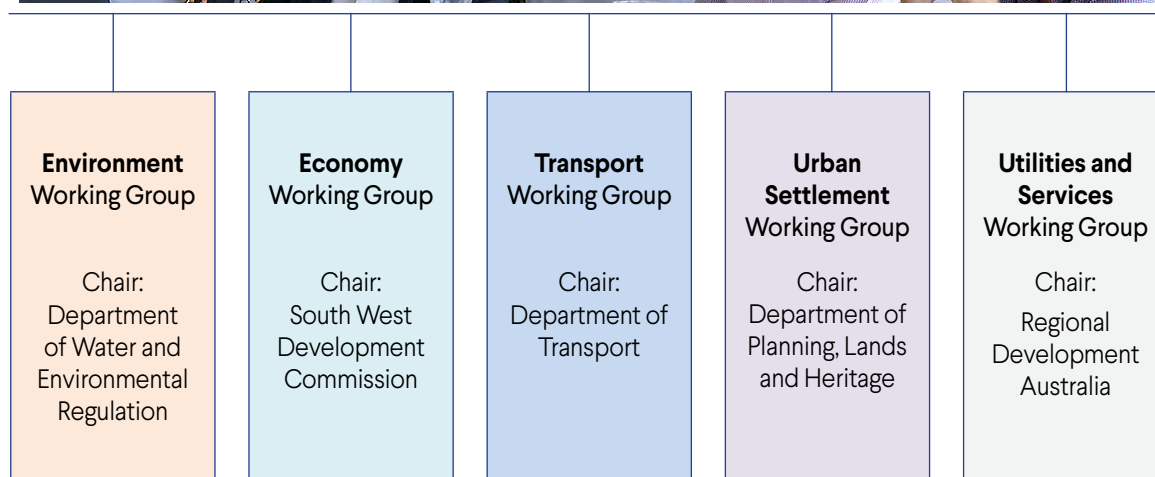


<b>Chair:</b>	Western Australian Planning Commission (Chair of)		
<b>Members:</b>	Bunbury Development Committee (Chair of)	Shire of Harvey	
	Bunbury Development Committee (professional planner)	Shire of Donnybrook-Balingup	
	City of Bunbury	South West Development Commission	
	Shire of Capel	Department of Water and Environmental Regulation	
	Shire of Collie	Department of Jobs, Tourism, Science and Innovation	
	Shire of Dardanup	Department of Transport	
	Shire of Harvey	Department of Planning, Lands and Heritage	
<b>Meetings:</b>	20 May 2019	Bunbury	(City of Bunbury)
	15 August 2019	Collie	(Shire of Collie)
	26 September 2019	Australind	(Shire of Harvey)
	21 November 2019	Bunbury	(Dolphin Discovery Centre)
	22 April 2021	Eaton	(Shire of Dardanup)
<b>Workshop:</b>	3 February 2020	Strategic workshop Bunbury (Dolphin Discovery Centre)	

Steering Group  
– provides advice to the WAPC



Working Groups –  
technical advice to  
Steering Group



## Appendix 2 – Implementation Actions

No.	Strategic Direction	Implementation actions	By whom
1	Promote the Bunbury Metropolitan Area as Western Australia's second city, offering a range of employment and services as a genuine urban alternative to metropolitan Perth.	Ongoing advocacy	WAPC, local government
2	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.	Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC Local government
3	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.	Ongoing monitoring and review Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC WAPC Local government
4	Adopt the settlement hierarchy for the Bunbury-Geographe sub-region in Section 5.	Nil	
5	Promote the growth of the Bunbury Metropolitan Area as a Regional City and the focus of major population and employment growth in the sub-region.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
6	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.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
7	Support the growth of Major Towns and Towns to reinforce their ongoing roles in the settlement network.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
8	Foster sustainable change in Villages to support resilient communities.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
9	Support proposals in Yarloop that assist in the redevelopment of the settlement following the 2016 Waroona-Yarloop Bushfire.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
10	Promote a consolidated urban form for the Bunbury Metropolitan Area through urban infill and increased residential densities around activity centres and other areas identified in a local planning strategy, while respecting heritage values and the distinctive character of each locality.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
11	Support greenfield development in locations that have already been zoned or committed for residential purposes, and that are contiguous to existing urban areas with ready access to existing infrastructure and services.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
12	Designate the East Treendale Urban Expansion Area. The extent of the East Treendale Urban Expansion Area is shown in Figure 7.	Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required Planning decision-making	WAPC Local government WAPC, local government



No.	Strategic Direction	Implementation actions	By whom
13	Designate the Clifton Road Rural Living Precinct. The extent of the Clifton Road Rural Living Precinct is shown in Figure 7.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
14	Designate the Treendale Road Rural Living Precinct. The extent of the Treendale Road Rural Living Precinct is shown in Figure 7.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
15	Provide for the designation of new rural living areas in locations contiguous with the following settlements: Collie, Donnybrook, Harvey, Balingup, Brunswick Junction, Dardanup, Allanson, Burekup, Cookernup, Kirup, Mullalyup, Roelands, Wokalup, Yarloop. Proposals for new rural living areas are to address the planning requirements for rural living precincts contained in State Planning Policy 2.5: Rural Planning. New rural living areas are to be designated in a local planning strategy and/or a local planning scheme.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
16	Require local governments to use local planning strategies to review stocks of residential and employment land to identify and respond to opportunities and constraints.	Update local planning frameworks as required	Local government
17	Support and encourage fit for purpose technology to deliver innovative waste management solutions which support the objectives and targets of the Waste Authority's Waste Avoidance and Resource Recovery Strategy 2030.	Ongoing advocacy Update local planning frameworks as required	WAPC, local government Local government
18	Support 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.	Planning decision-making	WAPC, local government
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.	Planning decision-making	WAPC, local government
20	Adopt the activity centre hierarchy for the Greater Bunbury Region Scheme area in Section 6.	Nil	
21	Require local governments to undertake activity centre planning in accordance with <i>State Planning Policy 4.2: Activity Centres</i> .	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
22	Ensure an adequate supply of industrial and commercial land across the sub-region to facilitate local employment.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
23	Protect strategic basic raw materials in the sub-region from the encroachment of incompatible land uses that would restrict future extraction.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
24	Undertake a study of the supply and demand of basic raw materials within the sub-region and the opportunities for alternative building construction techniques to reduce demand from the building and construction industries.	Undertake study	WAPC
25	Facilitate the expansion and diversification of the tourism industry, and promote the flexibility of rural zones to accommodate rural-based tourism uses.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
26	Support initiatives and investment in Kemerton Strategic Industrial Area and Shotts Strategic Industrial Area to make land project ready, and facilitate proposals in accordance with relevant planning instruments.	Coordinate with infrastructure and service providers Planning decision-making	WAPC, other State agencies WAPC, local government

No.	Strategic Direction	Implementation actions	By whom
27	Retain identified light and general industrial areas for industrial use and protect from the encroachment of sensitive land uses.	Planning decision-making	WAPC, local government
28	Protect priority agricultural land from incompatible land uses.	Planning decision-making	WAPC, local government
29	Support expansion of the Bunbury Port and the establishment of an intermodal freight hub facility in the Waterloo industrial area, or another suitable location that has direct access to inter-regional road and rail infrastructure.	Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required Planning decision-making	WAPC Local government WAPC, local government
30	Recognise potential impacts and opportunities arising from climate change and initiatives to reduce greenhouse gas emissions in planning instruments.	Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC Local government
31	Require planning instruments to identify and protect, manage and enhance environmental assets such as forests, rivers, estuaries, coastlines and areas of remnant vegetation.	Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required Planning decision-making	WAPC Local government WAPC, local government
32	Focus the growth of settlements in locations where impacts on natural resources and the environment are minimised.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
33	Preserve and enhance ecological linkages, including a presumption against further fragmentation of these linkages, in planning instruments.	Ongoing advocacy Update local planning frameworks as required	WAPC, local government Local government
34	Require local governments to use local planning strategies to identify and protect significant visual landscapes.	Update local planning frameworks as required	Local government
35	Adopt a presumption against planning proposals within areas identified to be affected by coastal hazards and flooding.	Planning decision-making	WAPC, local government
36	Support intensification of land use only where bushfire risk can be understood to be low and/or capable of being appropriately mitigated without adversely impacting biodiversity conservation.	Planning decision-making	WAPC, local government
37	Support initiatives to connect and link the Bunbury Metropolitan Area to the hinterland settlements to create an integrated network, including public transport and regional bike network connection.	Ongoing advocacy Update local planning frameworks as required	WAPC, local government Local government
38	Retain the Australind railway reserve and collaborate with State Government agencies on the potential relocation of the terminus to central Bunbury.	Coordinate with infrastructure and service providers	WAPC, other State agencies
39	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 appropriate planning instruments.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
40	Support increasing the capacity of the existing freight rail network and future strategic freight rail alignments.	Coordinate with infrastructure and service providers	WAPC, other State agencies
41	Promote the sub-region's tourist routes in planning instruments.	Update local planning frameworks as required	Local government
42	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.	Coordinate with infrastructure and service providers	WAPC, other State agencies



No.	Strategic Direction	Implementation actions	By whom
43	Direct future urban growth to locations that are well serviced by existing infrastructure networks.	Coordinate with infrastructure and service providers Amend Greater Bunbury Region Scheme as required Update local planning frameworks as required	WAPC, other State agencies WAPC Local government
44	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.	Coordinate with infrastructure and service providers	WAPC, other State agencies
45	Support the delivery of infrastructure projects and regulatory process improvements identified by the Industrial Lands Authority and Infrastructure WA.	Coordinate with infrastructure and service providers	WAPC, other State agencies
46	Support measures to improve water efficiency and re-use of grey water where appropriate.	Ongoing advocacy Planning decision-making	WAPC, local government WAPC, local government
47	Collaborate with infrastructure providers to audit current capacity of electricity, water and wastewater infrastructure to help quantify existing growth capacity and thresholds for upgrades, and to develop servicing strategies to meet long-term potable and non-potable water demands.	Coordinate with infrastructure and service providers	WAPC, other State agencies
48	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.	Update local planning frameworks as required Planning decision-making	Local government WAPC, local government
49	Collaborate with local governments to undertake/ review local heritage surveys, and designate heritage lists and/or areas.	Update local planning frameworks as required	WAPC, local government
50	Engage with Gnaarla Karla Boodja Regional Corporation (proposed), South West Boorah Regional Corporation (proposed) and Aboriginal heritage knowledge holders as stakeholders in the land use planning process.	Ongoing engagement	WAPC, local government

# Appendix 3 – Schedule of Amendments

Amendment No.	Details	WAPC authorisation date