

# GREATER BENDIGO RURAL AREAS STRATEGY

## BACKGROUND REVIEW + ISSUES AND OPPORTUNITIES PAPER

Prepared by **Hansen Partnership & Ag-Challenge Consulting**  
for **The City Of Greater Bendigo**  
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This report has been prepared by Hansen Partnership with technical inputs from Ag-Challenge Consulting in collaboration with The City of Greater Bendigo.



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# ACKNOWLEDGEMENT OF COUNTRY

We acknowledge the Traditional Owners of the lands of the Dja Dja Wurrung and Taungurung Peoples, and pay our respects to their Elders past, present, and emerging. We recognise their continuing connection to the land, waters, and culture of the Greater Bendigo area.

We honour the legacy of these custodians and express our gratitude in sharing this land today. May our efforts reflect our respect for their ancestors and the generations to come.



# INTRODUCTION

## Overview

The City of Greater Bendigo, with the assistance of Hansen Partnership (Hansen) and Ag-Challenge, will be preparing a Rural Areas Strategy (RAS). The RAS will provide a strategic framework to guide the use and development of rural land within the City of Greater Bendigo over the coming years. The *Background Review + Issues and Opportunities Paper* functions to document background analysis and the identification of key issues and opportunities relevant to Greater Bendigo's rural land.

Rural land in the municipality presents unique and significant challenges and opportunities which require appropriate strategies and management techniques to ensure it's continued productivity, and to ensure it's potential is maintained by enabling Greater Bendigo to make informed decisions around land-use.

The RAS will assist Council in achieving the appropriate balance between the competing demands which impact on rural areas. Recognising and understanding the various pressures affecting rural land is an important first steps in ensuring council can appropriately manage a variety of issues which are explored in more detail through this document. Effective policy can support the long-term sustainability of the municipality's rural areas by delivering clear, appropriate use and development guidance that specifically relates to the local context.

## Purpose

The purpose of this report is to develop a picture of rural land in Greater Bendigo. It seeks to investigate background information relevant to the following topics:

- The use of rural land for traditional and non-traditional agricultural activities.
- Rural lifestyle and tourism opportunities throughout the area.
- Sustainable land management and environmental patterns.

The report is structured around the following key sections:

- Rural Areas Context - identifies the known facts about rural land within the municipality including key agricultural activities and emerging trends to help understand local issues and opportunities.
- Issues & Opportunities - outlines the existing and future influences on rural land in Greater Bendigo and outlines the key issues and opportunities these present.
- Appendices - includes a summary review of relevant background literature and the Greater Bendigo Planning Scheme.

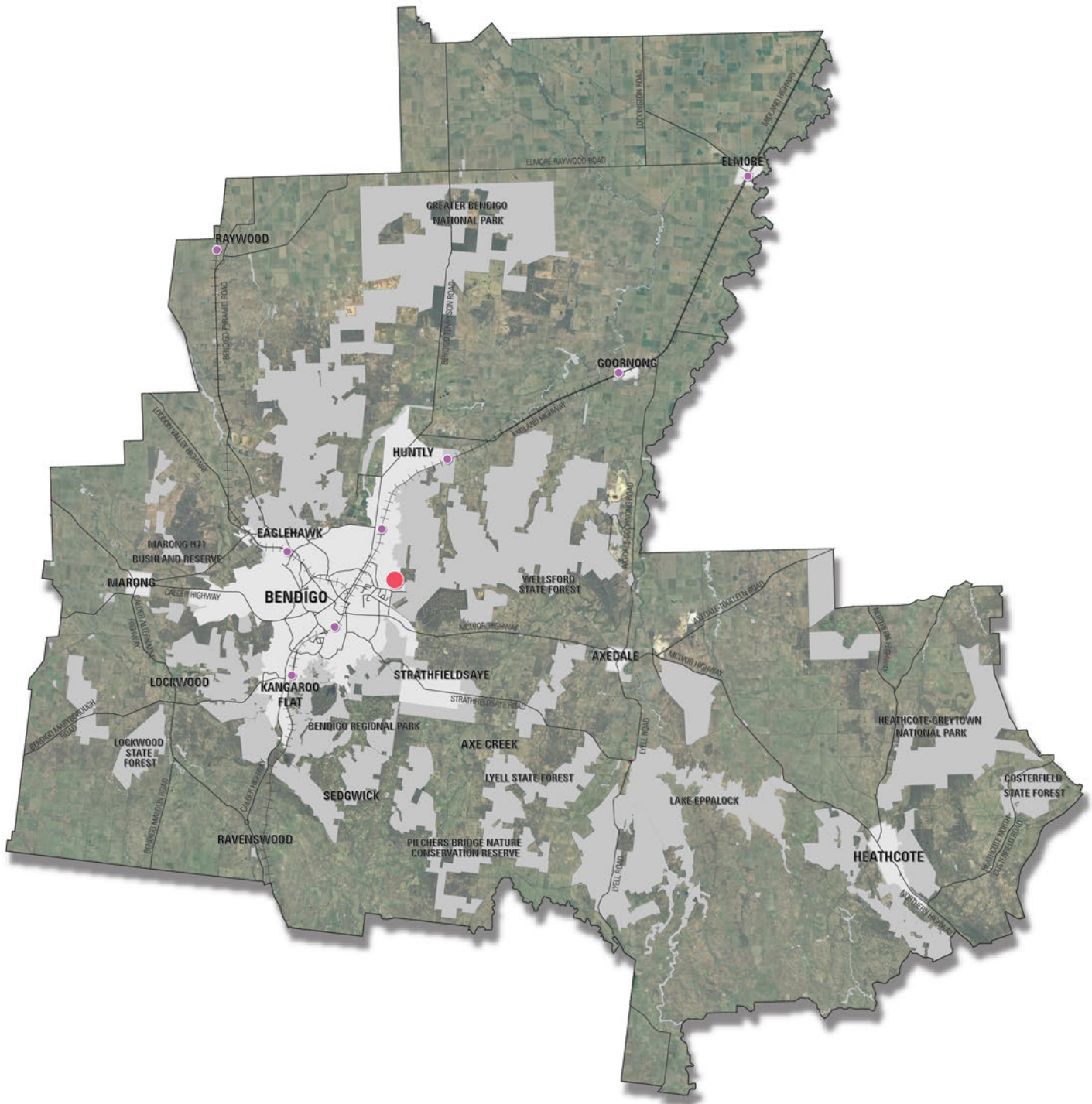
The next stage of the project - the Strategy itself - will identify a future vision for rural land in Greater Bendigo and identify associated changes to how the land should be managed to achieve this

## Study area

The Rural Areas Strategy is broadly focused on land in the rural areas of Greater Bendigo that have not been addressed through other recent strategic planning work.

The study area for this project is depicted in Figure 1 - Study Area. It captures the entire municipality, excluding:

- Land within the current urban growth boundary.
- Land identified for future urban growth within the Managed Growth Strategy.
- Rural towns which have been, or are currently being, considered through separate structure or township plans
- Land within the PCRZ which generally applies to National, Regional and State forests, reserves and parks.



## STUDY AREA

### LEGEND

- |  |   |  |   |
|--|---|--|---|
|  Municipal Boundary |  Urban/ Settlement Area Excluded from Study Area |  Parkland/ Reserve Excluded from Study Area |  Main Road |
|  Rail Network       |  Bendigo Airport                                 |  |   |

Figure 1: Study Area

An aerial photograph of a rural landscape, showing a patchwork of green fields, brownish-tan agricultural land, and clusters of trees. A semi-transparent green rectangular box is positioned in the lower-left quadrant, containing white text. The text is arranged in two lines: the top line reads 'SECTION ONE' in a large, bold, sans-serif font, and the bottom line reads 'RURAL AREAS CONTEXT' in a smaller, bold, sans-serif font. The background image shows a complex network of roads, field boundaries, and some small buildings or structures scattered throughout the landscape. The overall color palette is dominated by earthy greens and browns, with the green overlay providing a contrasting background for the white text.

# SECTION ONE

## RURAL AREAS CONTEXT

## Project Drivers

Greater Bendigo is experiencing significant growth pressures as a regional city, including new residents seeking to live in more rural areas. As a result, a variety of competing challenges impact on Greater Bendigo's rural areas. These challenges include land use conflict, land fragmentation and pressure for inappropriate development.

Greater Bendigo receives frequent applications for permits for dwellings in rural areas. While the Zones applied to land provide high level directions, they also require an understanding of local context in order to support decision making. Currently, there is not a place-based policy framework and clear strategic directions available to inform decision making. It is particularly important to understand where productive or marginal agricultural land is located to properly apply policy.

An absence of clear policy in this area has the potential to increase pressure on existing and future agricultural actively as a result of increased land values as well as potentially exacerbated land use conflicts between farming land and rural residential uses. This potential conflict often occurs at the interfaces of towns, urban areas or where intensive animal industry is proposed. Other pressures on rural land, and in particular its use for farming include unreliable water supplies, climate change, changing farming practices (including trends toward larger landholdings & commercial large-scale farming), diversification, the need for off-farm incomes and succession planning.

A review of the Greater Bendigo Planning Scheme undertaken recently by Council identified and recommended changes to address a number of interrelated rural issues. These include clear policy to discourage the development of farmland where it does not facilitate agriculture. A shortfall of the existing policy appears to be that while discretionary policy exists, decision makers have limited guidance on where productive and marginal agricultural land is located across the municipality.

The existing local policy framework, while seeking to protect productive agricultural land, has limited specific guidance for decision makers on what constitutes appropriate development in the Farming Zone (FZ). For example, it is unclear when it is appropriate to permit a dwelling in the FZ when it is claimed to be required to support agricultural productivity. The lack of detail in existing policy also exacerbates other planning issues which as conflicts which can arise at the interface of Rural Living Zone (RLZ) and FZ areas.

## Rural Land Defined

Rural land, as defined by this review, is land within the study area that is included within one of the rural zones of the Greater Bendigo Planning Scheme. In total there are six rural zones within the Victoria Planning Provisions, however only three are used within the Greater Bendigo Planning Scheme.

These zones are:

- Farming Zone (FZ)
- Rural Conservation Zone (RCZ)
- Rural Living Zone (RLZ)

While the above zones constitute the predominant rural coverage found within Greater Bendigo, it is noted that there are other zones present in rural areas, including:

- Low Density Residential Zone (LDRZ)
- Township Zone (TZ)
- Industrial Zone (IZ)
- Comprehensive Development Zone (CDZ)
- Public Park & Recreation Zone (PPRZ)
- Public Use Zone (PUZ)
- Special Use Zone (SUZ)
- Urban Floodway Zone (UFZ)

These zones are addressed later in this report.

## General Context

### State & Regional Context

Greater Bendigo, located in north-central Victoria, is a significant regional city. As Victoria's third-largest urban centre outside metropolitan Melbourne, Bendigo plays a crucial role as the major service centre for north-central Victoria.

The traditional custodians of the Greater Bendigo region are the Dja Dja Wurrung and Taungurung people, with a history extending over 40,000 years. The discovery of gold in the early 1850s established Bendigo as Australia's second-largest goldfield, significantly influencing the development of Melbourne and leaving a legacy of Victorian-era architecture. This historical period also shaped the cultural profile of the municipality due to the influx of Chinese, Cornish, and German miners.

Strategically positioned with a well-connected network of highways and railways, Greater Bendigo supports essential social and economic links within the region.

It lies within the Murray-Darling Basin and the catchments of the Loddon and Campaspe Rivers, emphasizing its environmental significance.

The municipality boasts extensive natural features, including state, regional, and national parks, and the unique situation of being a regional city surrounded by forest. This setting requires specific management strategies to balance environmental conservation with urban development needs.

Five municipalities adjoin the municipality of Greater Bendigo, namely:

- Campaspe Shire: located to the north and north east.
- Strathbogie Shire: located directly east.
- Mitchell Shire: located to the south east.
- Mount Alexander Shire: located to the south.
- Loddon Shire: located to the west.

Refer to Figure 2.

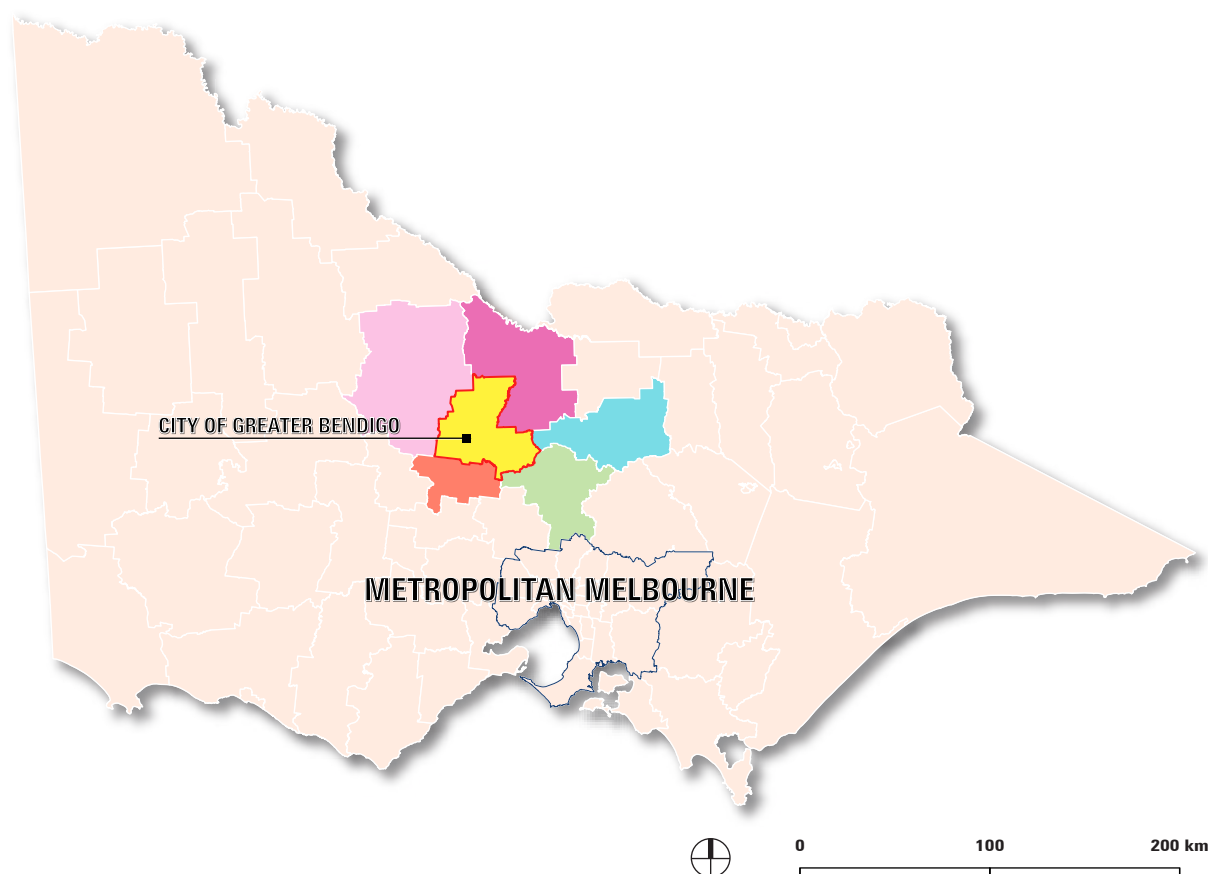


Figure 2: Municipal context

## Municipal Context

Covering 2,999 square kilometres, Greater Bendigo is a fast-growing municipality positioned along the major road and rail transport corridors north of Melbourne. The municipality is located 153 kms north of Melbourne, 117 kms north east of Ballarat, 176 kms north of Geelong and 121 kms south west of Shepparton.

Due to the proximity of Greater Bendigo to Melbourne, and available transport linkages, as well as its own 'regional city' status there is demand for rural living and rural lifestyle type uses within the non-urban parts of the municipality.

Greater Bendigo has a large range of natural features that contribute significantly to the municipality's character and appeal. A substantial proportion of Greater Bendigo comprises of State Forests, State Parks, National Park (25% of all land), and water catchments, while also accommodating areas of rural living throughout.

The population of the municipality is approximately 124,000 (based on 2023 id.Data forecasts). Over 70% of the population lives in urban areas of Bendigo and peri urban surrounds (99,342). The remaining 23% of the municipality's population lives in rural areas which make up 95% of the local government area.

Greater Bendigo is experiencing rapid growth, with its population projected to exceed 150,000 by 2036 and increasing to 200,000 by 2041 (as outlined in the Loddon Mallee South Regional Growth Plan). The housing targets for Victoria released at a state level in June 2024 include 37,500 new homes in Greater Bendigo by 2051. This expansion is contributing to a more culturally, religiously, and ethnically diverse community. While most residents live within the urban area of Bendigo, a significant portion resides in townships and rural areas outside the urban growth boundary, highlighting the municipality's mixed urban-rural character.

Development in the municipality is centred on the regional city of Bendigo, which is surrounded by smaller towns and settlements in rural settings. The area has distinctive rural landscapes which include national parks and mountain ranges, open plains accommodating large grazing and cropping properties, areas of intensive animal industry, viticulture, as well as extensive rural living areas.

The rural areas are bisected by numerous waterways and the Lake Eppalock water catchment exerts a significant influence on development.

The varied and rich topographical features contribute to a range environmental, agricultural, and recreational resources within the municipality, all of which contribute to the opportunities across these rural areas. The Greater Bendigo National Park, the Lockwood, Wellsford, Knowsley, Sedgwick, Lyell, Kimbolton, and Costerfield State Parks provide a wide range of outdoor recreation opportunities such as camping, rock climbing, four-wheel driving, bushwalking, horse riding, fishing and mountain bike riding which are used by both residents and visitors to Greater Bendigo.

## Existing Policies & Strategies

There are a range of strategies, policies, and other documents relevant to rural land within Greater Bendigo. A detailed review of these documents has been undertaken within Appendix 1.

The key strategies, policies and documents include:

- Plan Melbourne 2017-2050
- Victoria's Climate Change Strategy 2021
- Agriculture Victoria Strategy 2020
- Loddon Mallee South Regional Growth Plan 2014
- Dhelkunya Dja Country Plan 2014-2034
- Land Suitability Assessment for the City of Greater Bendigo Region 2023
- A Strategy for Sustainable Rural Living - A Review of Rural Living Development and Planning Response 2000
- UNESCO City of Gastronomy Implementation Framework and Action Plan 2020-2024
- City of Greater Bendigo Biodiversity Strategy and Action Plan 2023-2033
- City of Greater Bendigo Food Systems Strategy 2020-2030
- City of Greater Bendigo Heathcote Township Framework Plan 2019
- City of Greater Bendigo Intensive Animal Industries 2013 City of Greater Bendigo Rural Areas Strategy 2009
- City of Greater Bendigo Rural Communities Strategy 2016
- City of Greater Bendigo Planning Scheme Amendment C170
- City of Greater Bendigo Planning Scheme Review 2019
- Climate Change and Environment Strategy 2021-2026
- Council Plan (Mir wimbul) 2021-2025
- Coliban Water Strategy 2030
- Land Capability Study of the Rural City of Marong 1993
- Land Suitability Assessment for the City of Greater Bendigo region CeRRF Deakin University 2023
- Planning Policy Framework, including relevant State, Regional and Local level policies
- Planning Practice Notes 37 and 42
- Various VCAT case studies

This review has informed the issues and opportunities outlined within this report and has also helped to identify any gaps within current policies which will inform the next stage of the project.

## Summary of Policy Review

### Overarching observations

- State, regional, and local policies emphasise the importance of protecting productive agricultural land to support Victoria's economic base.
- Greater Bendigo has diverse agricultural production, including grazing, cropping, intensive animal industries, viticulture, and niche farming activities.
- Careful management of interface areas between rural and urban land uses is necessary.
- Opportunities for agritourism and other tourism can be explored and supported within the rural areas.
- Rural subdivisions should not jeopardise the use of productive agricultural land.
- Support for the potential diversification of the agricultural industry towards more intensive or value-adding industries is encouraged where appropriate.

### Agricultural Production

- The long-term viability of farming land should be protected.
- High-quality agricultural land needs to be protected from encroachment by urban development and fragmentation.
- The most productive agricultural land in the municipality is in the Campaspe River, Axe Creek, Bendigo Creek, and Bullock Creek areas.
- Intensive animal industries, particularly poultry and pork, are significant contributors to Greater Bendigo's agricultural sector and require protection from encroaching sensitive uses.

### Rural Housing

- Dwellings in rural areas should be limited to protect agricultural land and minimise land use conflicts.
- Dwellings should only be permitted when required to support a genuinely economically viable agricultural use of the land that requires permanent and continuous care, supervision, or security.
- The current lack of policy direction for where productive or potentially productive agricultural land is makes it difficult for Council to make appropriately justified decisions on applications for dwellings on small lots in the FZ.

## Rural Living

- In existing documentation, there appears to be adequate supply of rural living land around the southeast side of Greater Bendigo and near Heathcote, and further rezoning to RLZ is recommended to be avoided.
- Fragmented and unplanned rural living areas in the west are compromising farming activities.

## Biodiversity and Natural Hazards

- Poor pasture management can impact biodiversity values and agricultural productivity due to the lack of topsoil across the region.
- Salinity and water quality management are key to ensuring ongoing agricultural productivity.
- Strategic assessment of bushfire risk and opportunities for mitigating this risk will be integral to the consideration of appropriate development across Greater Bendigo's rural areas..

## Planning Scheme

- The Greater Bendigo Planning Scheme includes policies to manage rural land use, such as avoiding subdivisions that fragment agricultural land, limiting dwellings in rural areas, and protecting intensive animal industries from encroaching sensitive uses.
- Further strategic work is needed to review the application of the Environmental Significance Overlay (ESO).

Refer to Appendix 1 for further information.



## MAJOR TRANSPORT LINKS

### LEGEND

- Municipal Boundary
- Road
- Principle Freight Network
- Rail Network
- O'Keefe Rail Trail - Bendigo to Heathcote
- Bendigo Airport

Figure 3: Major transport links

## Transport and Connectivity

Key transport routes through Greater Bendigo include major highways such as the Calder, Midland, Northern and Wimmera Highways, and rail links that connect the area with Melbourne to the south, and Echuca and Swan Hill to the north. The area also has an airport that offers direct flights between Bendigo and Sydney which significantly enhances the city's connectivity. Refer to Figure 3. The region is serviced by several bus lines that contribute to local connectivity.

With multiple areas being designated as forming part of Victoria's Principle Freight Network, the area is demarcated as being a significant production area. The Northern Highway, which runs through Heathcote is also identified as a planned future section of the Principle Freight Network. Victoria's Principal Freight Network (PFN) is a strategic framework designed to identify and protect key road and rail freight routes and places throughout the state. It includes corridors and locations that are crucial for handling significant quantities of freight due to their national, state, or regional importance. The PFN aims to support high-capacity and efficient freight movement, which is essential for the economic development of the region.

One of the major recreational and tourism features of Greater Bendigo's transport infrastructure is the O'Keefe Rail Trail. This trail is a multi-use path that offers scenic cycling, walking, and horse-riding experiences, connecting Bendigo to Heathcote. Spanning approximately 50 kilometres, this trail serves recreational purposes and attracts a considerable number of tourists looking for outdoor activities in the region.

## Rural Areas population

The total estimated resident population of Greater Bendigo in 2023 was 124,000 according to .id Community demographic analysis for the City of Greater Bendigo (based on 2021 Census data). Greater Bendigo is forecast to increase its population by 20.51% to 2036 to a population of 155,175. This population increase is expected to predominantly occur within the urban areas of Bendigo, however.

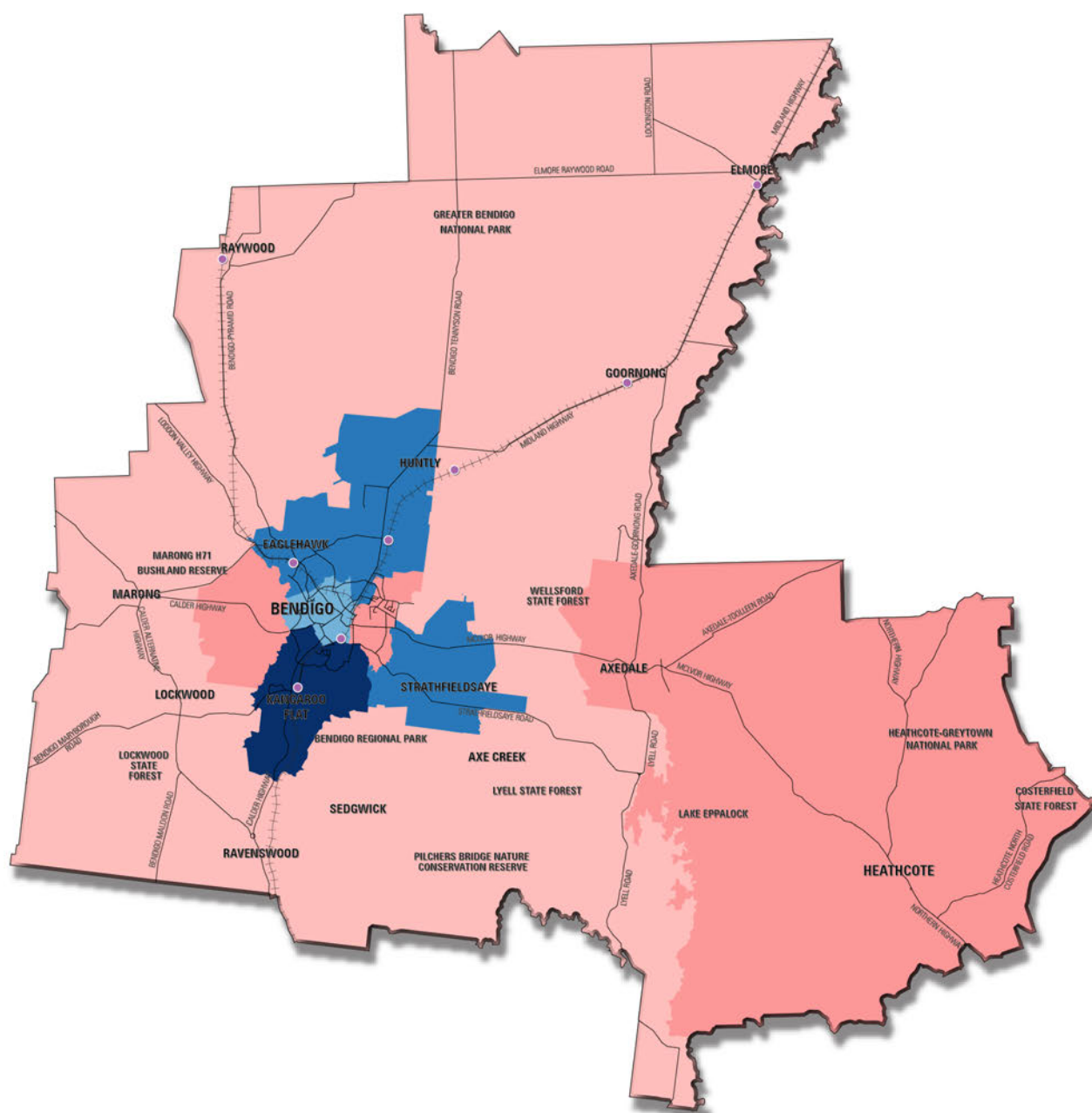
Figure 4 shows more specifically areas of population change between 2016 to 2021. Generally, the rural areas of Greater Bendigo are experiencing a reduction in population while population is increasing in urban Bendigo.

It is important to understand the areas within the municipality that are decreasing in population size versus those areas which are experiencing growth. Figure 4 illustrates the main areas experiencing population growth pressures, including Kangaroo Flat, Strathfieldsaye, and Huntly. There are rural zones within both Huntly and Strathfieldsaye. In the medium term, it is noted that Council is directing growth to Marong, however the short term growth effects may be felt within existing rural areas in the form of additional pressures for rural living type and developments, which is reflective of the issue that rural land is often viewed as being more affordable.

Based on the latest Census data of 2021, 23,181 (18%) people live in rural areas compared to 101,003 (81%) in urban areas or townships.

The Heathcote & District and Rural North areas are forecast to have minimal population change, only increasing by 0.8% and 4% respectively. Conversely, the Rural East area is predicted to increase its population by 9.7% and the Rural West area, including Marong is set to experience substantive growth with a large population increase of 59.4%.

The ongoing policy response and management of rural lifestyle types dwellings, and other dwellings which may be specifically justified on the basis of productive agricultural land-use, would be reflected within rural population statistics over coming decades and census statistical periods.



## POPULATION CHANGE

### LEGEND

□ Municipal Boundary

— Main Road

⋈ Rail Network

### Estimated Residential Population % Change 2016-2021



Figure 4: Population change

## Cultural Heritage

Greater Bendigo is home to considerable cultural heritage assets with Aboriginal peoples represented by the Dja Dja Wurrung Clans Aboriginal Corporation and the Taungurung Land and Waters Council. Both are Registered Aboriginal Parties (RAP).

Figure 5 depicts the RAP areas for Dja Dja Wurrung and Taungurung country. Figure 5 also depicts designated areas of Aboriginal Cultural Heritage Sensitivity.

Areas Aboriginal Cultural Heritage Sensitivity within Greater Bendigo are reasonably extensive and broadly encompasses watercourses and larger areas such as parks and reserves. Aboriginal places and objects, including culturally scarred trees, artefact scatters, earth mounds, and burial places, can be found throughout the municipality, often located near major food sources like rivers and lakes. Aboriginal Victoria works in partnership with landowners, land managers and Aboriginal communities to record, protect and manage these places and objects. Conservation, management and interpretation of these assets are an important part of integrated land use planning.

No specific Aboriginal heritage places are listed within the Planning Scheme Heritage Overlay schedule, rather a confidential list of Victorian Aboriginal Cultural Heritage places and sites is maintained by Aboriginal Victoria. The state-wide 'areas of cultural heritage sensitivity' referred to within the Aboriginal Heritage Regulations has given statutory status to recorded Aboriginal places and surrounding land and land within 200 metres of named waterways.

Like many Victorian municipalities, Greater Bendigo relies on the state level provisions of the Planning Scheme to ensure protection and conservation of places of Aboriginal cultural heritage significance, it does not yet have a dedicated local policy for indigenous cultural heritage.

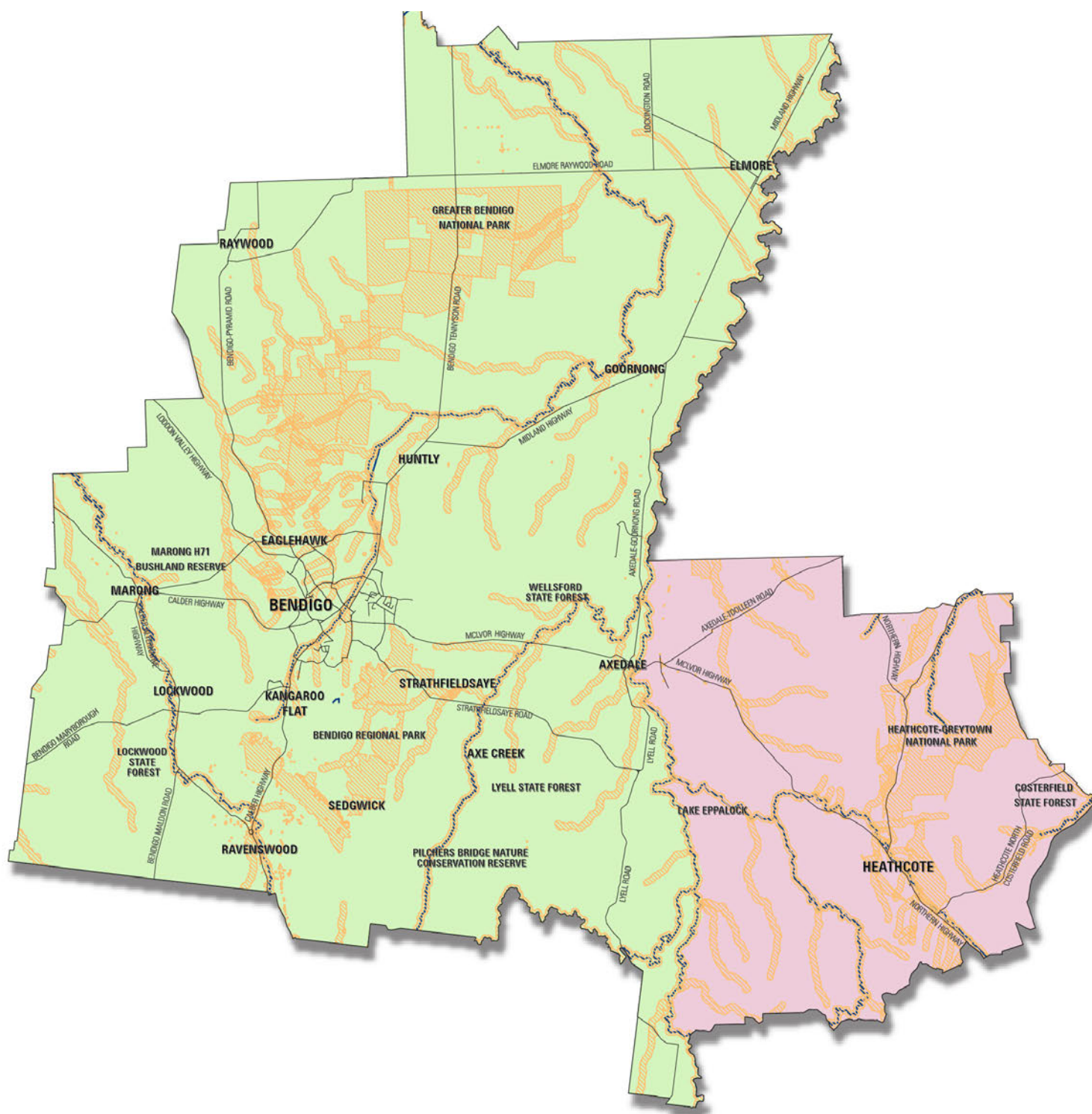
The Dja Dja Wurrung and Taungurung Traditional Owners have lived in this region for tens of thousands of years, and the landscape bears the imprint of their ancestors over countless generations. As the recognised RAPs, they have responsibilities that include the evaluation of Cultural Heritage Management Plans in accordance with the Aboriginal Heritage Act 2006, to ensure the preservation of not just cultural objects, but also the natural landscapes of cultural significance have lived in the area for more than 40,000 years and thus the landscape holds the imprint of thousands of generations.

RAPs constitute the primary source of advice and knowledge on matters relating to Aboriginal places or Aboriginal objects in their region. As nominated by the Aboriginal Heritage Council, the core functions of a RAP includes:

- *Evaluating Cultural Heritage Management Plans.*
- *Assessing Cultural Heritage Permit applications.*
- *Making decisions about Cultural Heritage Agreements.*
- *Providing advice on applications for interim or ongoing Protection Declarations.*
- *Entering into Aboriginal Cultural Heritage Land Management Agreements with public land managers.*
- *Nominating Aboriginal intangible heritage to the Victorian Aboriginal Heritage Register and managing intangible heritage agreements.*

Greater Bendigo works in partnership with the Dja Dja Wurrung and Taungurung Traditional Owners, landowners, and land managers to record, protect and manage these culturally significant places and objects.

The *Dhelkunya Dja Country Plan 2014-2034* outlines the Dja Dja Wurrung people's vision for their traditional lands and their aspirations for the future management of Country. The plan provides important context regarding the Dja Dja Wurrung people's connection to and management of the land. It notes that farming is a major economic activity within the area. However, widespread clearing has led to topsoil erosion and the introduction of non-native plants and species, which are negatively affecting the environment.



## CULTURAL HERITAGE

### LEGEND

- Municipal Boundary
- Main Road
- Areas of Cultural Heritage Sensitivity

### Registered Aboriginal Parties (RAP)

- Dja Dja Wurrung Country
- Taungurung Country

Figure 5: Cultural heritage



## Environmental Context

Although State and National Parks are excluded from the study area, they constitute important ecological and environmental assets. The Conservation Reserves, State Parks and National Parks found within Greater Bendigo include:

- Greater Bendigo National Park
- Wellsford National Park
- Mount Sugarloaf Nature Conservation Reserve
- Bendigo Regional Park
- Shelbourne Nature Conservation Reserve
- Lockwood State Forest
- Sedwick State Forest
- Lyell State Forest
- Pilchers Bridge Nature Conservation Reserve
- Lake Eppalock
- Heathcote-Graytown National Park
- Crosbie Nature Conservation Reserve

These areas are relevant to the Rural Areas Strategy (RAS), as rural land surrounds and accommodates boundary interfaces with these ecological and environmental assets.

### Natural Features & Landscape

Clause 02.01 Context of the Greater Bendigo Planning Scheme makes the following commentary regarding the natural features:

*Greater Bendigo has a large range of natural features that contribute significantly to the municipality's character and appeal, including an extensive network of state, regional and national parks and Big Hill and the Loddon and Campaspe Rivers. Bendigo is in a unique situation of being a regional city surrounded by forest.*

Figure 6 - Topography shows the flat pastoral land in the northern part of the municipality, with undulating hills extending down to the southern boundary, including throughout the Heathcote wine region in the south-east, and Greater Bendigo's highest point at Big Hill, near Ravenswood, in the south-west.

### Bioregions & Biodiversity Value

Greater Bendigo is covered by two bioregions - the Goldfields and Victorian Riverina bioregions, with their extent illustrated on Figure 7. The description of each bioregion is replicated below:

#### Goldfields bioregion

*The Goldfields, located in central Victoria, is dominated by dissected uplands (predominantly a northerly aspect) of Lower Palaeozoic deposits. Metamorphic rocks have formed steeply sloped peaks and ridges. A variety of relatively poor soils are dominant with yellow, grey and brown texture contrast soils (Chromosols and Sodosols) and minor occurrences of friable earths (Dermosols and Ferrosols).*

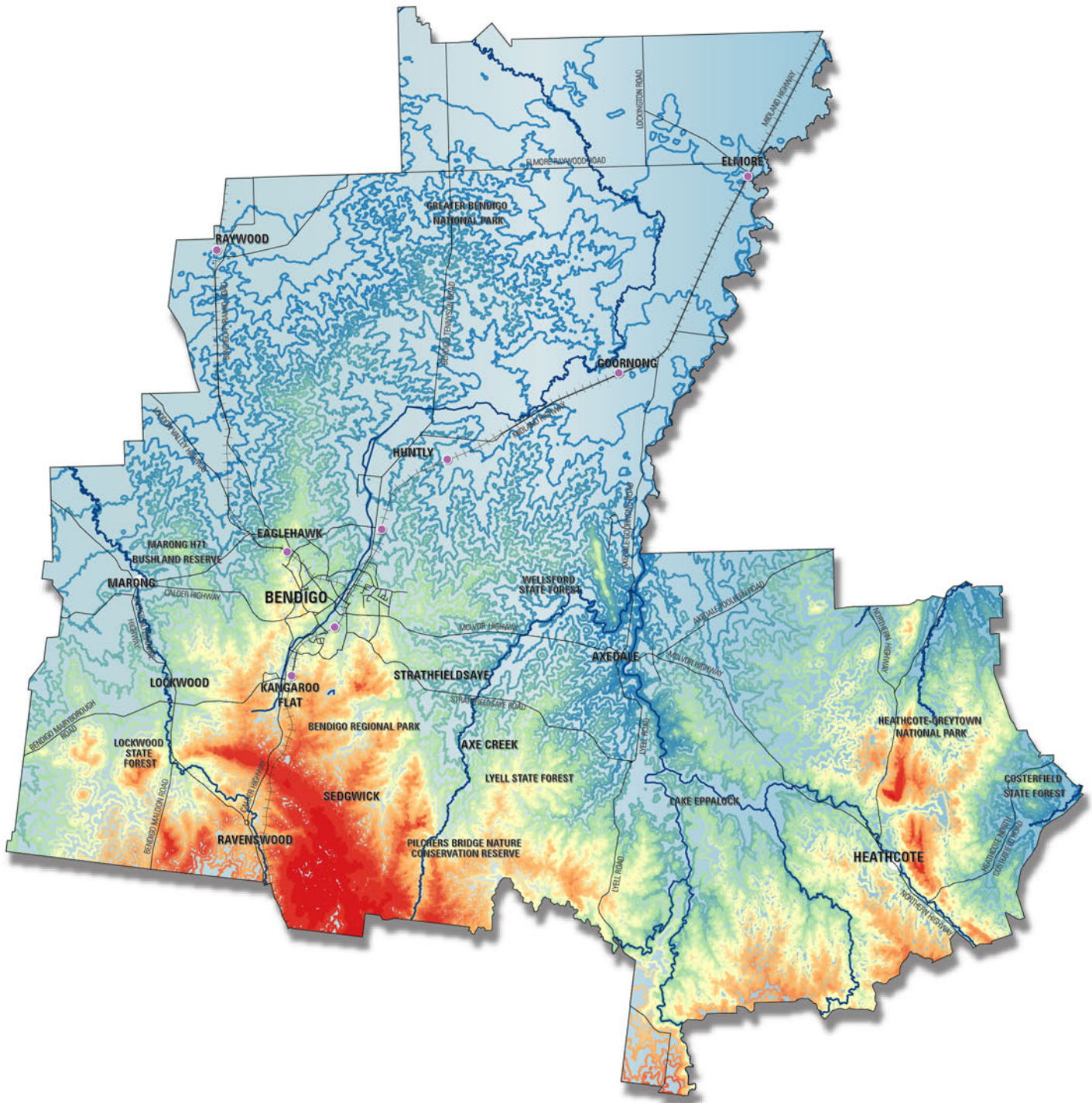
*The climate is temperate with uncertain rainfall varying from 400 to 700 mm per annum, usually higher in winter. Maximum temperatures range from 12 to 32 degrees Celcius, daily minima range from 2 - 15 degrees. Box Ironbark Forest, Heathy Dry Forest and Grassy Dry Forest ecosystems dominate the lower slopes or poorer soils. The granitic and sedimentary (with Tertiary colluvial aprons) terrain is dominated by Grassy Woodlands much of which has been cleared. Occasional low-lying corridors of alluvial valleys between the uplands are dominated by Low Rises Grassy Woodland and Alluvial Terraces Herb-rich Woodland ecosystems.*

*A number of regionally important rivers transect the bioregion, mostly from south to north flowing into the Murray, and include the Wimmera, Avoca, Loddon, Campaspe and Goulburn Rivers. The Hopkins River is an exception, in that it drains south to Bass Strait.*

#### Victorian Riverina bioregion

*Victorian Riverina, located north of the Great Dividing Range in Victoria, is characterised by flat to gently undulating landscape on recent unconsolidated sediments with evidence of former stream channels and wide floodplain areas associated with major river systems and prior streams. Alluvium deposits from the Cainozoic period gave rise to the red brown earths and texture contrast soils (Chromosols and Sodosols) which dominate the Riverine Plain.*

*Annual average rainfall for the region ranges from 360- 672mm per annum. The average annual minimum and maximum temperature range is from 3 to 9 °C and 15 to 21 °C respectively. The vegetation is dominated by Plains Grassy Woodland, Plains Grassland, Pine Box Woodland/Riverina Plains Grassy Woodland Mosaic, Riverine Grassy Woodland/Riverine Sedgy Forest/Wetland Mosaic, Plains Grassy Woodland/Gilgai Plains Woodland/Wetland Mosaic, Grassy Woodland and Wetland Formation ecosystems. The Victorian Riverina bioregion is associated with the eight river basin tributaries of the Murray River draining north, west and south west from the Great Dividing Range of eastern Australia. However some rivers, such as the Avoca, drain internally into a series of terminal lakes and wetlands.*



## TOPOGRAPHY

### LEGEND

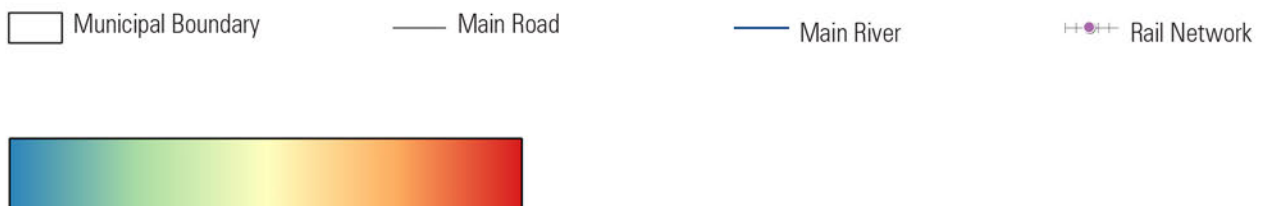


Figure 6: Topography

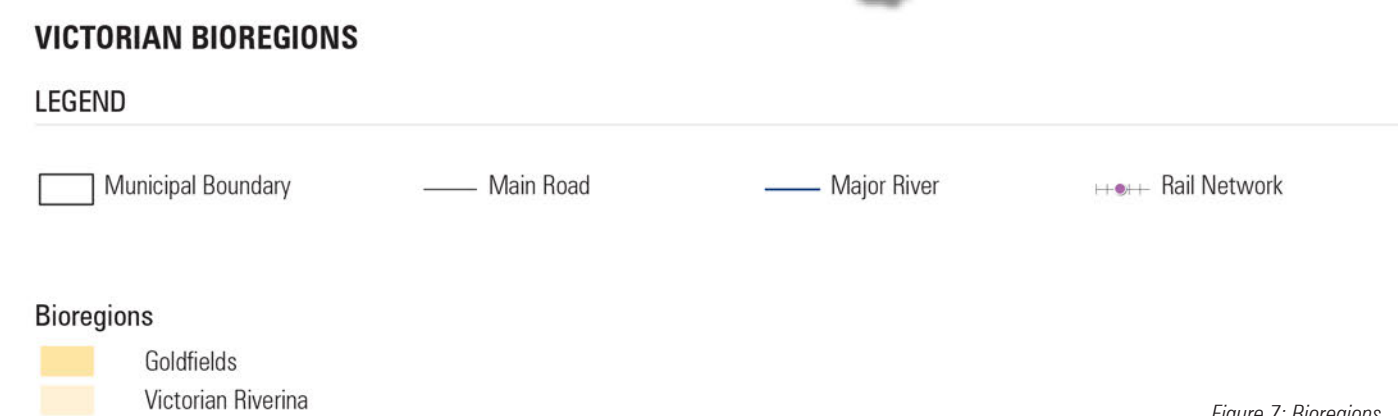


Figure 7: Bioregions

The Strategic Biodiversity Values map at Figure 8 combines information on biodiversity values with vegetation type and condition to show the relative value of landscapes in Greater Bendigo. The higher score and darker colour is allocated where land is densely vegetated with a broad range of flora and fauna species, and the lower score and corresponding lighter colour applies where land is generally cleared. Understanding the relative value of biodiversity can help inform decisions related to:

- native vegetation clearing and offsetting
- prioritising areas for protection
- raising awareness of the biodiversity values across Greater Bendigo.

Areas of with a high strategic biodiversity value are often located within, or adjoining, National Parks, State Forests and reserves.

Existing areas of privately owned rural land which currently accommodate more intact biodiversity value, may make such land potentially unsuitable for agricultural land use, given native vegetation removal may not be supported. This issue will need further investigation through the development of the RAS.

## Waterways

Major waterways within Greater Bendigo are illustrated in Figure 9. Key waterways in the area include the Bendigo Creek, Campaspe River, and their various tributaries. The region is within the Loddon and Campaspe Catchments. Water bodies including Lake Eppalock play a critical role in providing irrigation and water supply to parts of the municipality.

### Management of waterways

Catchment Management Authorities (CMAs) are responsible for the integrated planning and coordination of land, water and biodiversity management in all catchment and land protection regions. They have a key role to undertake flood modelling, advise on flood mitigation, provide support to flood response, and lead flood recovery programs where they have the resources to conduct works.

The North Central, and Goulburn Broken CMAs manage a range of environmental projects focused on delivering large scale natural environment improvements to landscapes throughout the region in partnership with investors, the local community, farmers, business groups, local government, government agencies, educational institutions and indigenous communities across Greater Bendigo. Figure 9 shows the CMA boundaries.

Water supplies across the whole of Greater Bendigo are managed by Coliban Water as the urban water corporation. Non-urban water quality is separately managed by Goulburn Murray Water.

## Special Water Supply Catchment Areas

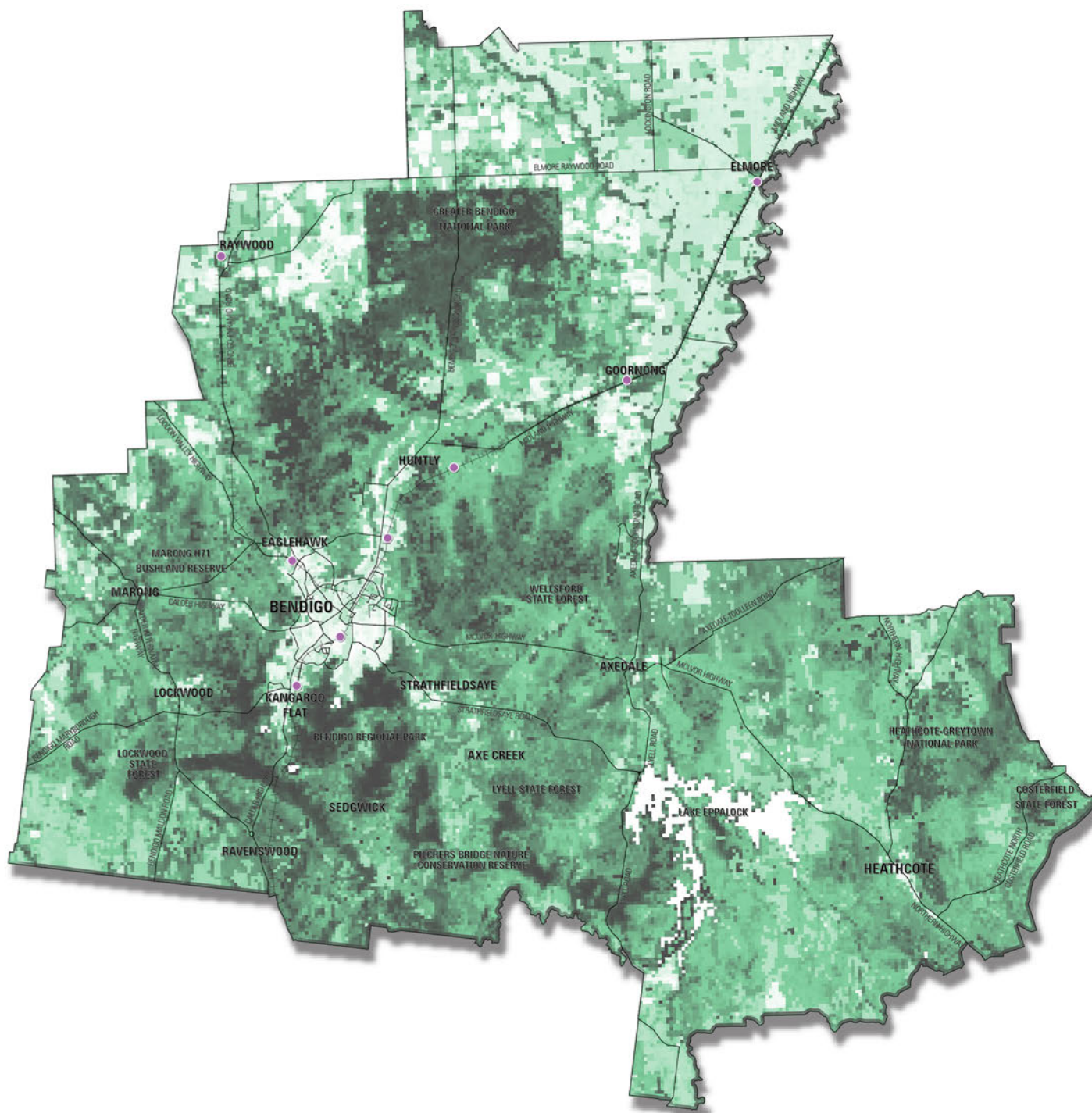
The Water Act is the legal framework for managing Victoria's water resources. Water supply catchments are protected under the *Catchment and Land Protection Act 1994* whilst the protection of surface waters, groundwater and human health are all requirements of the *Environment Protection Act 2017*. Greater Bendigo's Special Water Supply Catchment Area (SWSCA) is located around Lake Eppalock, and a large proportion of the SWSCA has the Environmental Significance Overlay Schedule 3 applied (ESO3). The lake is an important resource for both agriculture and for environmental flows within the Murray Darling Basin.

A guiding principle for the development of land within a SWSCA is to manage the potential cumulative risks of contamination by minimising the number of waste generating uses (such as, but not limited to, dwellings), within open water supply catchments. The State Government guidelines for planning permit applications in special water supply catchment areas stipulate there should not be more than one dwelling per 40 hectares unless a catchment policy has been prepared that provides for a greater density, or a Domestic Wastewater Management Plan (DWMP) has been prepared and a range of other requirements are satisfied.

Greater Bendigo has a DWMP which was prepared in 2014. The key focus of that document is the management of water quality and wastewater discharge to protect the environment from wastewater pollution. The Greater Bendigo DWMP recommends that planning applications should be referred to the relevant water management authority for consideration. It also sets minimum standards for land capability assessment to limit the number of incomplete or inappropriate applications that are made. The need for referrals and land capability assessments have been implemented through requirements embedded in Greater Bendigo's Planning Scheme.

### Special Provision for Farm Dams within Lake Eppalock Catchment

Substantial parts of the Lake Eppalock catchment are zoned for Rural Living with minimum lot sizes ranging from 2 to 8 hectares. Many of these small rural lots are yet to be developed, and there are substantial areas still potentially available to be subdivided. The development of new dwellings often creates an associated demand for new water storage, as the property owners search for a way to secure water for domestic and stock use on the small lot. However, new private water storage also detracts from overall catchment yield for Lake Eppalock. ESO3 noted above covers the majority (but not all) of the catchment within Greater Bendigo, as illustrated on Figure 9. The provisions of ESO3 include a requirement for a permit to construct or enlarge a farm dam.

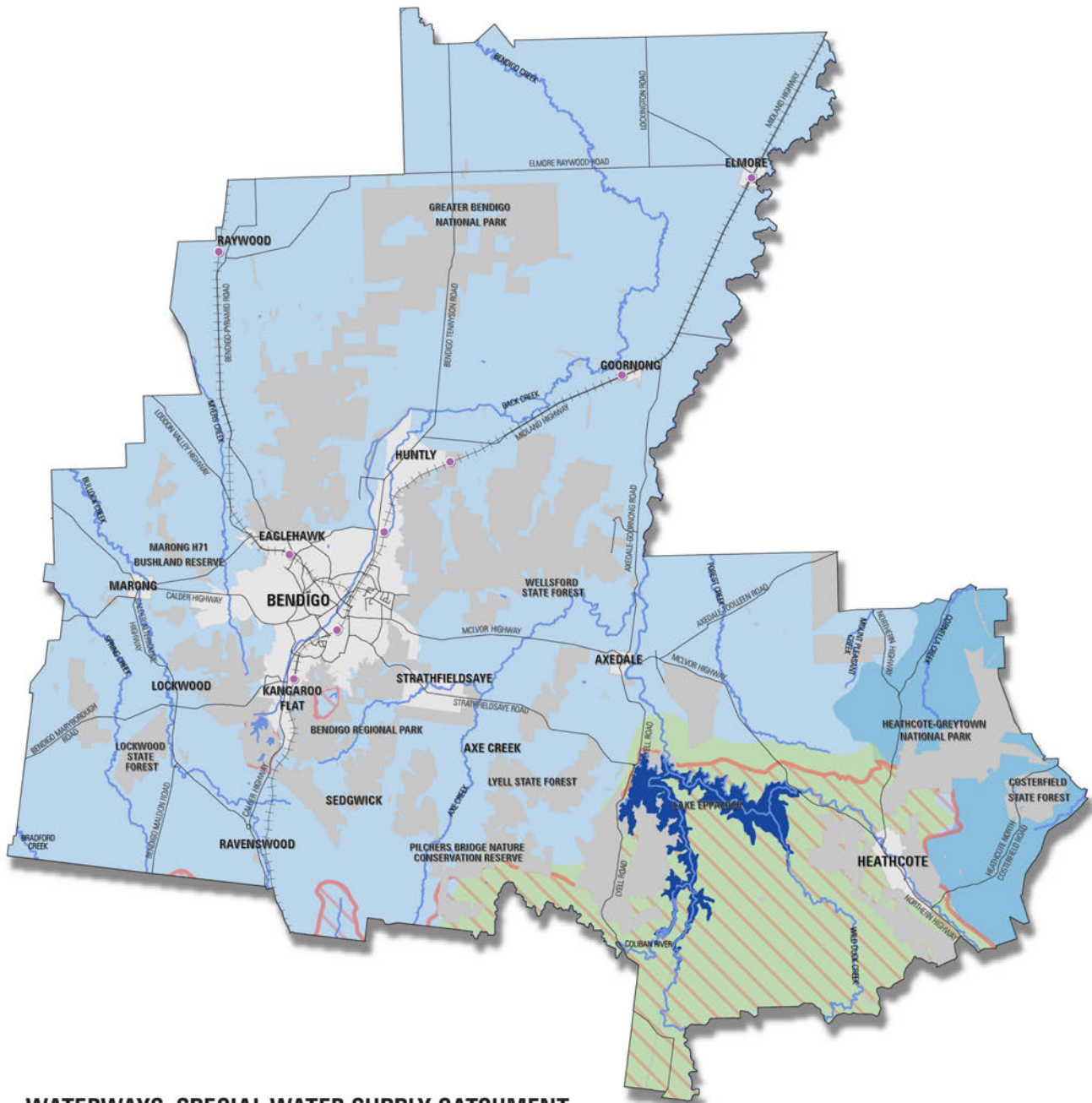


## STRATEGIC BIODIVERSITY VALUES

### LEGEND



Figure 8: Strategic Biodiversity Values



## WATERWAYS, SPECIAL WATER SUPPLY CATCHMENT AREA & CATCHMENT MANAGEMENT AUTHORITIES

### LEGEND

Municipal Boundary	Urban/ Settlement Area Excluded from Study Area	Parkland/ Reserve Excluded from Study Area	Main Road
Rail Network	ES03 Eppalock Declared Water Supply Catchment	Special Water Supply Catchment Area	
<b>Catchment Management Authorities</b>		<b>Waterways</b>	
Goulburn Broken	Lake Eppalock		
North Central	Waterway		

Figure 9: Water



## Agricultural Context

The agriculture sector of Greater Bendigo is a significant employer and is responsible for the direct employment of over 1,800 people. The 2021 ABS Population Census for Greater Bendigo further reports 260 operating farm businesses and 917 people that were directly employed in farming landuse. An additional 902 people are noted to be employed in the Meat and Meat Product Industry (abattoir workers being the dominant group), with 780 were employed in the Poultry Processing sub-class. ([abs.gov.au/statistics/microdata-tablebuilder/tablebuilder](https://abs.gov.au/statistics/microdata-tablebuilder/tablebuilder)).

Indirect employment of the agricultural sector further extends this number into the many thousands, including the servicing of two major abattoirs, livestock exchange, transport companies, and other service providers. This indicates Greater Bendigo benefits from a vibrant and changing agricultural economy.

By virtue of high headcount and associated economic value, the most important livestock commodity within the agriculture sector are sheep and lambs. The total number of sheep and lambs within the Bendigo SA4 area from the 2021 census are 277,000 (Table 4). The Bendigo Livestock Exchange (Bendigo Saleyards) is a major clearing facility for sheep and lamb sales within Victoria and services the Bendigo region as a whole.

Commodity Group	Number
Sheep and lambs	277,000
Chickens	299,000
Pigs	37,000
Beef cattle	6,500
Broad acre crops	45,150
Total livestock income	\$76m
Total cropping income	\$83m
Other farm income	\$17m

Table 1. Major agricultural commodities in the Bendigo SA4 area, extracted from Australian Bureau of Statistics (ABS) data.

The total area of land devoted to agricultural production within Greater Bendigo amounts to 153,000 hectares (ABS 2021 Census data), of which 45,000 ha is cropped. Broadacre crop production is generally concentrated to the northern areas of the municipality where topography is flat or gently sloping. The main agricultural crops are wheat for grain (16,500 ha), barley (11,000 ha), canola (11,500 ha) and oat crops (3,500 ha). Greater Bendigo is also a significant fodder production area, mainly consisting of pasture hay with some stubble production and cereal hay crops. This sector is supported by a number of operating fodder wholesalers, with sales focused on the dairy industry and feedlots further north along the Murray River, as well as the export market.

The farm gate value of broadacre crop production for Greater Bendigo is noted to be \$83m (2021 ABS Census data), which is slightly greater than the farm gate value of livestock production at \$76m. Prices for most grains and fodder are currently at the high end of longer term cycles, with the existing outlook for most of these prices anticipated to remain fairly stable.

Broadacre cropping farms require the ability to operate machinery around the clock, and may generate dust, noise and light pollution. Allowing dwellings and residential uses close to broadacre cropping operations can lead to conflict when expectations of rural amenity are incompatible with normal farm practices.

While the sheep industry is the economically dominant livestock industry in Greater Bendigo, pigs and poultry are also highly important, where these are the industries that have the potential for further growth.

The regional importance of these commodities and the role that they play for Greater Bendigo region, and as part of the total Victorian agricultural economy, is best understood by considering regional production data. The pie charts below show the number of pigs and poultry within some of the major rural regions of Victoria. These charts utilise the ABS Statistical Area 4 (SA4), which is a loose amalgamation of several shires into a number of regions. These statistical divisions have been in use by ABS over an extended period and provide a consistent way of monitoring change and growth. The SA4 statistical division is represented by ten rural regions across Victoria and six metropolitan regions fringing Melbourne. For the Bendigo SA4 region, the boundaries of the statistical division approximately correlate to Loddon Shire, City of Greater Bendigo, Mt Alexander Shire and Macedon Ranges Shire.

## Pig production

Figure 10 illustrates that three regions dominate the pig production sector in Victoria, those being the Shepparton SA4 region, the Wimmera Mallee region (North West SA4), and the Bendigo SA4 region. Collectively these three regions house 77% of the Victoria's pig industry, while the other regions are all comparatively minor players. Within the Bendigo SA4 region, the pig industry is well supported by the processing facility of Rivalea Meats at Huntly. The Bendigo SA4 region can be considered to be a significant centre for pig meat production within Victoria and an area where further growth is likely to occur, given pork consumption within Australia on a per capita basis has shown continued growth for the past decade and is currently around 11kg per capita per annum.

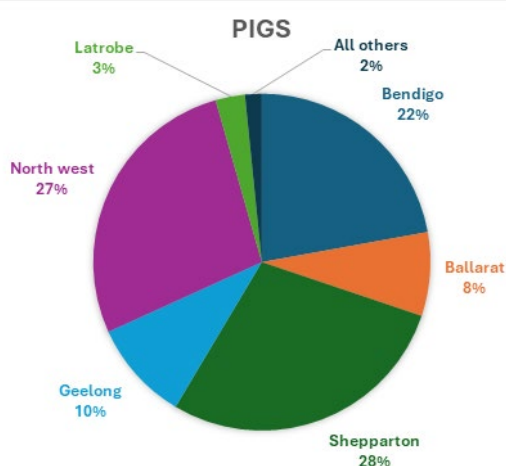


Figure 10: Number of pigs in major production regions of Victoria

## Poultry production

Within Greater Bendigo chickens bred for meat are the dominant commodity with the total number of meat chickens being 298,644, compared with 38,289 chicken bred for laying eggs (Agricultural Commodities, Australia, 2020-21 financial year | Australian Bureau of Statistics (abs.gov.au)).

With regard to production, sheds used for chicken meat production would normally operate four batches of animals per annum, while chickens used for laying eggs would normally operate with just a single batch of animals an annual cycle. With regard to egg production in Greater Bendigo, ABS data reports these against the free range category.

The pie chart in Figure 11 summarises SA4 regional production data from across major production regions within the State and encompasses both broiler and laying bird production systems. Poultry farms, both for eggs and meat production have traditionally been located close to Melbourne and Geelong because of easier access to major areas of consumption. The only region apart from Melbourne and Geelong for significant chicken numbers is the Bendigo SA4 region.

Chicken meat consumption continues a long term upward trends, and is now at around 44kg per capita per annum, making it the most popular meat consumed by Australians. Greater Bendigo producers are well positioned to benefit from this continued upward consumption trend. Hazelden's growing and processing facility for chicken meat is located at Lockwood and is a significant employer for Greater Bendigo, where there are a number of outgrowers in the municipality that are contracted to this facility.

The Bendigo region is also home to a diverse cluster of poultry farms with game birds and nuclear stock production constituting part of the production mix.

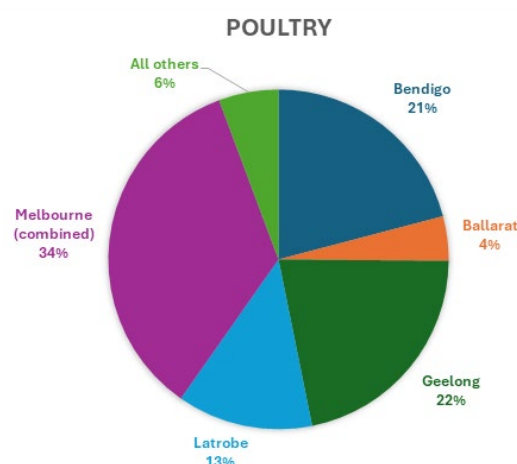


Figure 11: Number of chickens in major production regions of Victoria

## Livestock production

In comparison, the sheep and lamb industry within the Bendigo region just one of many dominant regional producers. This is clearly illustrated in the Figure 12 below, where the Bendigo region is seen to have only 8% of the State flock and is only a minor player in a very large industry. Despite this, at a municipal level livestock is the most important agricultural commodity given its employment and production value.

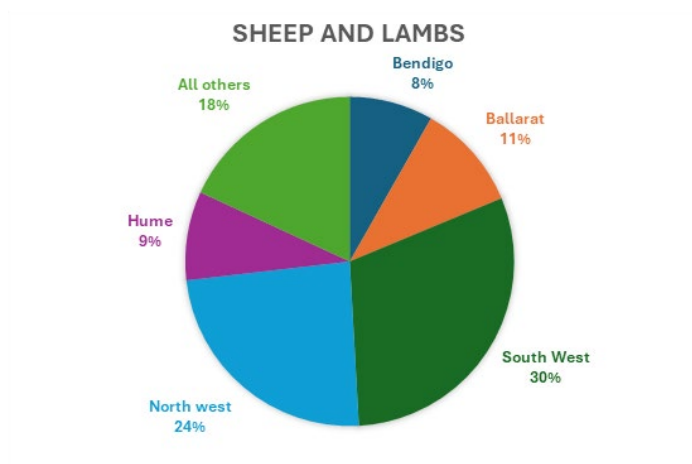


Figure 12: Sheep and lamb numbers in key regions across Victoria



## Economic Trends

The number of agricultural business within Bendigo SA4 region is exhibiting an upward trend (Table 5). ABS Agricultural Census data for the Bendigo SA4 statistical division recorded 598 agricultural business for 2018. With the exception of 2020, the first year of the Covid pandemic, there has been a modest increase each year and the number of agricultural businesses in 2022 was 666, an increase of a little over 11 % over 5 years. At the same time, the number of agricultural businesses at a State level stabilised, recording neither an increase nor decrease beyond normal annual variation.

Year	2018	2019	2020	2021	2022
Bendigo region	598	620	612	636	666
Victoria	39,335	38,900	38,456	38,514	38,917

Table 2. Number of businesses engaged in Agricultures in the Bendigo SA4 area. Source: ABS Agricultural Census

The increases in agricultural businesses in the SA4 region appears to be directly attributable to the poultry industry. Although consecutive annual agricultural census data for bird numbers is not available, the 2011 agricultural census data noted 630,000 birds in the Bendigo SA4 region for that year. While a similar number of 670,000 birds for the Bendigo SA4 region was noted in 2016, there was a substantial increase to 4.05 million birds in 2021. This level of increase indicates major investment in new and expanded operations, and a corresponding increase in rural employment and economic activity coming from the poultry industry. Given this, the poultry industry may be considered to be the stand out sector in agriculture.

Overall employment numbers in agriculture tend to follow the long term state wide trend of a slow decline in the percentage of the workforce engaged in agriculture. The 2011 ABS Census data indicates that 4.3 % of the workforce for the Bendigo SA4 region was employed in agriculture. In 2022 it was just 3.8% of the workforce. At a state level, 2.1% of the workforce is directly employed in agriculture.

## Impacts of Climate Change

Records of past rainfall, temperature, frost incidence and extreme weather events are no longer a reliable indication of future climate, where climate scientists are now relying upon sophisticated computer models to predict future weather.

On statewide basis, Victoria’s average temperature has increased by 1.00C since the Bureau of Meteorology commenced official records in 1910, cool season rainfall has declined since last century, and mean sea level for Melbourne (recorded near Williamstown) has increased by 2 mm per annum since 1966.

The Department of Energy, Environment, and Climate Action (DEECA) has released the Loddon Campaspe Climate Projections as part of the Victorian Climate Projections 2019 VCP 19 Project. The projections follow two plausible scenarios of high emissions or medium emissions through to 2090. The projections show an average temperature increase of a further 1.70C by mid century for medium emissions and out to an additional 2.40C for the high emission scenario. With high emissions rainfall is likely to decline with the biggest decline in spring. Rainfall is also likely to become volatile and variable. With medium emissions the rainfall is likely to show only a slight decline but also become more variable. Extreme temperature events are likely to become more common. Frosts are likely to be fewer, but the risk of frost through the year may become extended.

An assessment of how the agriculture of Greater Bendigo is likely to respond to climate change was undertaken the Deakin University Centre for Regional and Rural Futures (CERRF) (Marais et al, Land Suitability Assessment for the City of Greater Bendigo region, CERFF). This work applied climate change scenarios to five agricultural commodities and their associated production systems. The production systems chosen were phalaris based pasture for grazing, canola cropping, feed wheat cropping, brassica production and wine grape production. Production system models were used to assess how the different climate regimes would impact upon the suitability of these production systems Greater Bendigo.

The analysis indicated that for most of these production systems, there was a minor to moderate decline in the Land Suitability Index as the climate became drier and hotter, although substantial tracts of land with moderate suitability remained for all systems other than wine grapes. The exception was the Phalaris production model where the Land Suitability score increased under future drier and hotter climate regimes. Overall the analysis concluded that the current projections for climate change in Greater Bendigo are likely to have some impact on the future suitability of the rural land for agriculture, but the impact is moderate and could be mitigated through varietal or on-farm management changes.

At a more regional level, the current projections for changes in climate will have the effect of shifting the grain belt (also referred to as the wheat belt) further south. The grain belt in Victoria is a loose term referring to an extensive tract of land stretching from Mildura down to the Grampians in the west, and around to Benalla and Wangaratta on the north side of the Dividing Range. Greater Bendigo is situated on the southern margin of the grain belt, with the land to the south being too wet and not well suited to broadacre farming. The regional impact of climate change will be a narrowing of the grain belt to the north and north west of Greater Bendigo, and this may impact on commodity prices for fodder inputs for intensive animal production systems and fodder exporters. The effects are long term and agricultural industries will likely respond with different cultivars and changes to production systems. Climate change may possibly underpin a new extension of the grain belt into parts of Victoria's western district.

## Industry separation distances

In August, 2024 the EPA published two new guidelines relating to separation distance guideline and landfill buffer guideline. The updated guidelines function to support land use and development decisions that protect human health and amenity from the effects of pollution and waste associated with the operation of industry and landfills; and protect industry and landfills from inappropriate land use and development nearby that may constrain operations.

The guidelines will support planning authorities, responsible authorities, industry, developers, the community and EPA. With the intent for the guidelines to be referenced in the Victoria Planning Provisions. This means planning decision makers will be required to consider the guidelines as relevant.

The guidelines will typically apply if future sensitive use or development (such as houses, schools, childcare centres, medical centres or residential aged care facilities) are proposed on land within a separation distance or landfill buffer. A separation distance is a distance typically between industries and sensitive land uses (houses, childcare centres, schools and hospitals) where there is potential for adverse human health or amenity impacts.

For the RAS the consideration of industry separation distances are relevant to a range of rural industries, including intensive animal production, with the guidelines recommending separation distances ranging from case by case assessment, through to a range extending from 200 metres to 2,000 metres. This will warrant further consideration through the development of the RAS as the strategic guidance for rural land use is developed.

## Niche Production Systems

Niche agricultural production systems occur when one or more producers have a unique comparative advantage that allows them to offer specialty products or very competitively priced produce, or access markets that are unavailable to other producers. The niche production system may be due to special soils that occur locally, or isolation requirements that are not available elsewhere, or production systems that are ideally geographically located.

Some observable niche productions systems and sectors in Great Bendigo include:

- A small area of well drained Ferrosol soils on outcrops of Cambrian volcanics north of Heathcote supports a number of vineyards and specialty wine producers. The soils are very well drained and the climate is suitable for wine grape production. The proximity to Heathcote township which is a destination town for visitors from Melbourne helps to promote this small area for its wine grape production.
- Historically, the forests in the northern parts of Greater Bendigo are a source of oil rich Eucalyptus species which were exploited in 19th and 20th centuries for production of Eucalyptus oil. This oil is still widely used in the pharmaceutical industry, but there are no longer any commercial extraction stills in Greater Bendigo. The high cost of labour in Australia is cited as the main reason for the demise of this industry.
- Chicken farming in Greater Bendigo include specialist production systems such as a breeding centre for the production of nuclear stock. The supporting infrastructure and availability of skilled labour for chicken farms in Greater Bendigo assists niche production systems like these, and reduces some of the risk involved in establishing a bespoke farming system.
- Some of the small rural towns such as Axedale have regular markets that enable specialist producers to specifically target their production for direct sale at these markets. The need to secure reliable water supply for irrigation and the scarcity of high quality soils do however impact upon the potential for this sort of development.

## Animal Production

The 2021 ABS census lists poultry as the most abundant livestock segment within the municipality at a total of 298,644 head. Sheep and Lambs follow closely at 277,009 head.

Grazing and livestock production are practices which are carried out throughout Greater Bendigo and are not concentrated to a particular area. Seasonal lamb sales begin in mid to late Spring and continue through summer and into autumn with the later sales being heavier lambs fattened on fodder crops.

Intensive animal production is also significant, which a concentration of these located east of the City of Bendigo and others dispersed throughout the municipality.

Pigs are also significant at 36,730 head from the 2021 ABS census, and are spread throughout the agricultural districts of Greater Bendigo.

Meat chickens and pig farming, both fully housed or partially housed in free range establishments are important components in the food production systems that feed the growing population of Melbourne.

Typically the land used for intensive livestock production is highly productive and the land area they occupy is very small as a percentage of the total area of agricultural land within a region. However on face value this analysis can be slightly misleading, given the area occupied for production for these industries also relies on large tracts of land that provide isolation and separation distances, both from other producers (i.e. for disease control) and from housing clusters and rural living land uses (i.e. avoiding amenity impacts of unpleasant odours, truck movements and noise).

As an example of a required amenity buffer, the setback distance for broiler farm sheds is 750 metres from the RLZ and 1,000 metres from an urban zone or future urban zone. The required setback distance for broiler sheds from other broiler farms or nearby dwellings are similarly significant distances and are calculated by formulae depending on the size of the broiler farm operation. Details can be found in the Victorian Code for Broiler Farms (2009) with 2018 amendments which is available on the Agriculture Victoria website ([www.agriculture.vic.gov.au/livestock-and-animals](http://www.agriculture.vic.gov.au/livestock-and-animals)).

Land traditionally used for broadacre cropping is often also suitable for shed based agriculture in the form of intensive animal production, such as pigs or poultry. This is due to broadacre land being typically flat, which makes it attractive for development as limited site levelling and presentation is required as part of shed construction. Accordingly, large tracts of broadacre land can provide the right combination of suitably flat or gently sloping land, which is also separated from rural living uses and other producers.

Much of the Agricultural Quality Class 3 land is suitable for these intensive animal production systems and is increasingly being considered to be strategically significant agricultural land because of versatility and adaptability for these high intensity uses. Additionally Greater Bendigo has good quality rural roads which connect with the population centres of Melbourne and many Melbourne based processing facilities and supply chains for intensive animal industries.

Open range systems for pig meat and chicken meat production also require some discussion, as they are part of an underlying trend towards de-intensification of these intensive animal production systems. There are several open range/free range producers of both pig and poultry within Greater Bendigo, noting they require significantly greater land areas for their production systems. The isolation requirement from other similar land uses and from rural living land use are similar to those required for fully housed systems.

With regard to intensive animal industry development in Greater Bendigo, it is driven by a collection of resources and other features that offer a comparative advantage over other areas. In particular Greater Bendigo benefits from:

- Being close to the grain production areas, thus reducing transport costs.
- Potential availability good quality fresh water potentially from either Coliban Water or Goulburn Murray Water.
- Greater Bendigo has a large workforce to draw upon for labour.
- There are large tracts of flat to relatively flat land which reduces construction costs.
- Farm size is often large with no nearby neighbouring dwellings or other sensitive uses which means that the approval process for new developments is less restrictive.
- Availability of an excellent road network connections to Melbourne.
- Availability of local processing facilities.

Collectively these features of Greater Bendigo make this area desirable for both poultry farmers and pig farmers.

More specifically pig and poultry farms do not need high quality land to prosper. They are essentially a non soil based farming activity, although soil quality is a relevant consideration relating to effluent treatment and disposal.

Intensive animal industry development does generate significant quantities of biological waste and this needs to be treated in a way that causes no off-site impacts. Large piggeries require large effluent treatment systems which relies on soils that are capable of being irrigated with treated effluent, meaning good drainage and good soil depth is essential.

Typically poultry farms have a different management technique for dispose of waste, involving using it as fertilizer on surrounding farms, meaning they often rely on having productive farmland nearby that can be integrated with the poultry farm production system. Flat or nearly flat land that has an agricultural quality of Class 3 and a water resource that can be developed for stock water is well suited to both pig and poultry farming.

## Tourism and Agri-tourism

Tourism is a significant economic driver for Greater Bendigo, with the region attracting tourists for its art galleries, gold rush history, and culinary experiences. The broader Goldfields region has seen a year on year growth of 4.8% in its visits from 2019 to 2023 with a yearly spend of \$1.79 billion each year. This yearly spend is growing modestly at a rate of 1.1%, according to Tourism Victoria.

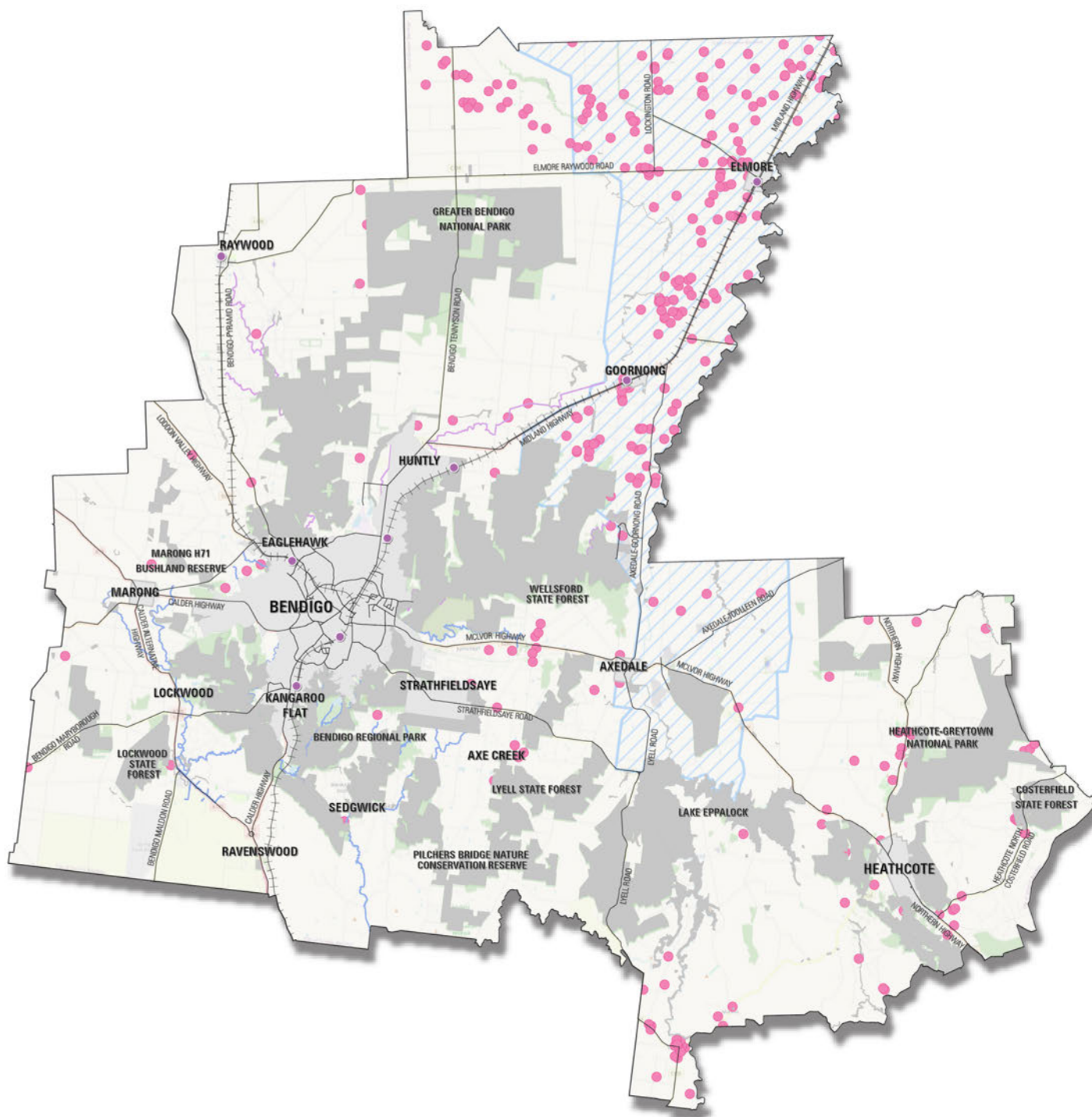
Being designated as a UNESCO City of Gastronomy, Bendigo boasts an array of local produced goods, ranging from fresh fruits and vegetables to artisanal cheeses and wines. The designation allows the City to celebrate and recognise community initiatives such as community gardens, cooking classes, and food festivals and events which contribute to the regions value as a gastronomic hub. This designation has significant implications for Greater Bendigo's ability to support local production in the rural areas of the municipality.

Agri-tourism is an emerging market in Greater Bendigo. This form of tourism allows visitors to engage directly with agricultural environments—such as farms and vineyards—providing educational and recreational opportunities that showcase the region's agricultural heritage and practices.

Some agri-tourism industries in Greater Bendigo include farm stays, winery tours, and culinary events that utilise local produce, linking the enjoyment of the area's natural resources with sustainable tourism practices. The presence of award-winning wine regions like Heathcote within the municipality enhances Bendigo's appeal as a destination for those interested in viticulture and enogastronomy (the art of knowing how to pair wine with food) and provides an opportunity to develop artisanal routes as a further tourism opportunity.

The integration of agri-tourism can help in preserving the rural and agricultural landscape and support the local economy by diversifying income sources for farmers and increasing spend in the local tourism sector. Given that agri-tourism can take many forms, in instances where a planning permit is required for use or development, it is important that such uses are considered on individual merit of site context and surrounds, and which should be well justified against relevant local policy framework.





## IRRIGATION CAPABILITY

### LEGEND

Municipal Boundary	Urban/ Settlement Area Excluded from Study Area	Parkland/ Reserve Excluded from Study Area	Main Road
Rail Network	Groundwater Bores	Lower Campaspe Valley Water Supply Protection Area, Barnadown & Elmore-Rochester Management Zone	Channels Receiving Water via Bendigo Recycled Raw Water
Channels Receiving Raw Water			

Figure 13: irrigation capability

## Water Resources for Agriculture

The water requirements for agriculture vary depending on the type and intensity of activity being undertaken. While broadacre agriculture is not heavily reliant on substantial and secure water resources, water resources are an integral part of intensive agriculture. Broadacre cropping is dependent on rainfall and carryover soil moisture, while the drinking water requirements for grazing livestock can usually be securely supplied through strategically placed small farm dams. Secure supply of good quality water is however required for more intensified agricultural development, whether it be an intensive livestock operation or irrigated crops. The water resources for existing and future agricultural development within Greater Bendigo come from three important sources, being: major storages; groundwater; & private water diversions. Each are addressed in turn below.

### Major Storages

Lake Eppalock was originally constructed in the middle of last century to service the Campaspe Irrigation District. The highly variable flows into Lake Eppalock together with problems of ageing infrastructure came to a head in the first decade of the 21st century. Moves to abandon the Campaspe Irrigation District (mainly centred around Rochester) began with start of the millennial drought and were largely complete by 2009. The pipeline along the Campaspe valley, leaking irrigation channels, and diversion systems were progressively withdrawn from service. The abandonment of the Campaspe Irrigation District meant that former irrigation delivery licences were either purchased through government buyback schemes, transferred to the Murray Goulburn system, or converted to a Take and Use licence from the Campaspe River (where potential access to the river was practical).

As a consequence, the dominant use of the stored volume within Lake Eppalock in 2024 is to support the environmental flows through the Murray Darling basin. Environmental releases are made into the Campaspe River throughout the year. The releases are strategically requested by the North Central Catchment Management Authority on behalf of the Government's Environmental Water Holder. Around 60% of the Lake Eppalock volume is committed to environmental use.

Notwithstanding the above, 21,900 Megalitres of Lake Eppalock water remain available for private irrigation use as Take and Use licences under the management of Goulburn Murray Water. To use the licence, irrigators need direct access to the Campaspe River or to Lake Eppalock. Most of this licensed volume is used in the lower Campaspe valley, north of Greater Bendigo, where privately owned infrastructure is used to transfer the water from the river to the irrigated farm. Water for irrigation is ordered in advance by the irrigator and released into the Campaspe River as an additional

volume above the environmental release. Extraction from the river downstream is overseen by Goulburn Murray Water to ensure that extraction rates do not deplete the environmental flow.

These Take and Use licences could also be potentially deployed from the shores of Lake Eppalock. This would not have been an option for landholders while the Campaspe Irrigation District was operating, as the available irrigation volume was fully committed for delivery to the irrigation district. There has been no substantial adoption of Take and Use licences from the lake margins to date. Potential irrigators would need to have direct lake access and install their own infrastructure. They would also need to purchase one or more of the existing Take and Use licences, although Goulburn Murray Water advise that these licences do become available for sale from time to time. It is likely that this resource will be further developed over time. Some parts of the lake margins possess shallow soils, are too steep, or are covered in remnant vegetation, but there are substantial tracts of Class 3 agricultural land along the south and east sides of Lake Eppalock where irrigated cropping development could occur. The lake margins of Lake Eppalock are all within the Rural Conservation Zone (RCZ) of the Greater Bendigo planning scheme and intensive livestock production is not a permitted use within this zone. Intensive livestock producers could however potentially access this resource downstream from the weir within the Farming Zone (FZ).

Coliban Water also manage water resources for rural use from the Upper Coliban, Malmsbury and Lauriston reservoirs. These storages are predominantly directed to supplying urban customers with potable water, but rural channel systems through Lockwood South and Marong in the west and through Strathfieldsaye and Axedale in the east supply both urban and rural customers. The flow within two further channel systems to the north of Bendigo is supplemented with recycled water. One of these northern channels supplies rural users along a route to Sebastion and Raywood and the other supplies rural users north of Huntly and towards Goornong. The major part of this rural supply (approximately 60%) is directed towards lifestyle properties and is used for house and garden watering, and other non commercial uses such as stock water for recreational animals. The commercial use for agriculture is nonetheless significant and accounts for most of the balance of the supply, with the main users being nurseries and small scale irrigation (45 customers and 7% of supply), intensive animal production (6 customers and 3% of supply), and commercial stock (120 customers and 20% of supply).

## Groundwater from the Lower Campaspe Valley Water Supply Protection Area

The Lower Campaspe Valley Water Supply Protection Area (WSPA) extends from Lake Eppalock in the south to the River Murray in the north. The WSPA applies to groundwater within this area and the conditions regarding groundwater use are governed by a Groundwater Management Plan

The WSPA is separated into four zones, of which the Barnadown Zone lies entirely within Greater Bendigo (Figure 13). A small part of the adjacent Elmore Rochester Zone lies at the northern edge of the municipal boundary around Elmore and to the north of Elmore.

The Barnadown Zone follows the Shepparton Formation geological stratum and is bounded by fault lines along the Campaspe Valley. Groundwater quality is generally reasonable. There are 20 existing groundwater extraction licences with a combined permissible annual volume of 8,300 Megalitres, making this a substantial resource. The total licence volume is capped. A licence can be temporarily or permanently transferred within the Barnadown Zone. However it cannot normally be transferred into or out of the zone. Only in exceptional circumstance could a transfer be approved by Goulburn Murray Water, and these circumstances are outlined in Groundwater Management Plan.

This groundwater resource is used for both agriculture and mining. Goulburn Murray Water advises that groundwater licences within the Barnadown zone are tightly held, although some temporary transfers do take place from year to year. Although there are only a small number of licences, some of the licences are very large and possibly beyond what the aquifer yields. If suitable locations for bores are discovered by investigative drilling it may be possible for a new agricultural development within this zone to purchase and transfer an entitlement from an existing licence holding without detrimentally affecting the licence holder's ability to operate his/her business.

Groundwater from other zones can generally not be traded into the Barnadown zone.

There are other groundwater resources within Greater Bendigo, but the water quality is often poor (around 10,000 uS/cm or higher) and yields are usually quite low.

## Private Water Diversion Schemes

There are a number of private diversion schemes within Greater Bendigo. A cluster of vineyards and other horticultural enterprises can be found along either side of the Northern Highway north of Heathcote. The horticultural development of these farms are supported by registered irrigation storages that are used to store surface runoff waters from winter rainfall. The stored volume

may be supplemented by a licensed groundwater bore, with the water quality in this area being fair quality at around 2,500 uS/cm. The groundwater is often mixed with surface waters within a balancing storage before use for irrigation.

There are other individual private diversion schemes scattered in different parts of the municipality.

Total licence volumes for private diversion schemes are capped. Any new dam, dam extension or dam and bore combination will require the developer to purchase the additional volume from an existing licence holder and satisfy irrigation drainage guidelines which include assessment of an irrigation plan, water quality, drainage and land use. Any new service other than supply from diversion from an existing licensed pipeline will require the transfer of the licence entitlement and approval by Goulburn Murray Water who may require a catchment yield assessment. These restrictions do not apply to a dam, dam extension, or bore that is solely for stock and domestic use.



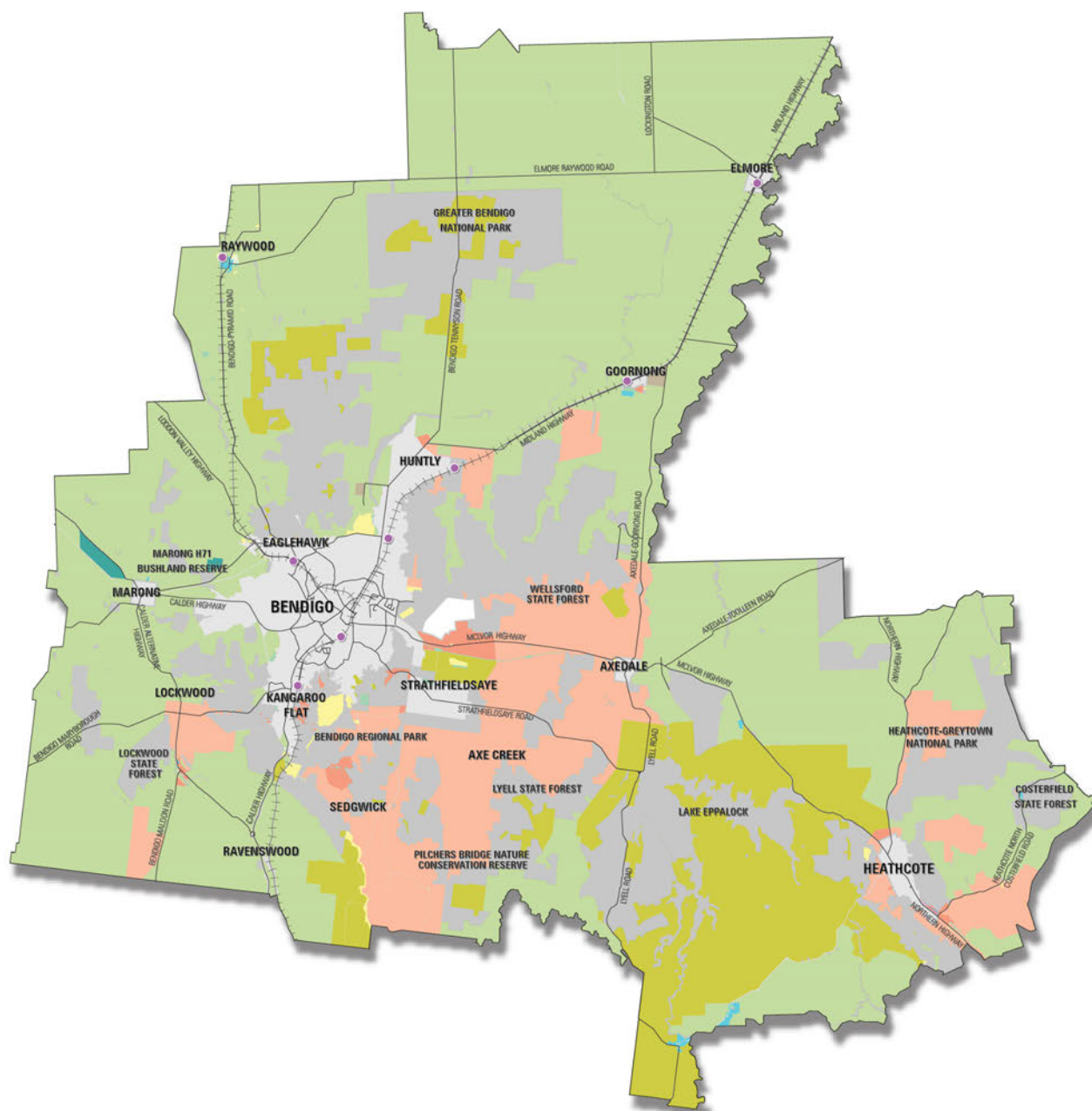
## Land Use & Development Context

### Planning Zones

The following table provides a summary of all relevant zones within the study area, with Figure 14 following showing the distribution of these across the study area.

Zone	Purpose	Schedules and Application
Township Zone (TZ)	<p>To provide for residential development and a range of commercial, industrial and other uses in small towns.</p> <p>To encourage development that respects the neighbourhood character of the area.</p> <p>To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.</p>	<p>Applies to various existing settlement areas throughout Greater Bendigo. It allows for a variety of uses in small township areas such as commercial, educational, religious, community and residential.</p>
Industrial 3 Zone (I3Z)	<p>To provide for industries and associated uses in specific areas where special consideration of the nature and impacts of industrial uses is required or to avoid inter-industry conflict.</p> <p>To provide a buffer between the Industrial 1 Zone or Industrial 2 Zone and local communities, which allows for industries and associated uses compatible with the nearby community.</p> <p>To allow limited retail opportunities including convenience shops, small scale supermarkets and associated shops in appropriate locations.</p> <p>To ensure that uses do not affect the safety and amenity of adjacent, more sensitive land uses.</p>	<p>Applies to land on the outskirts of Goornong and Heathcote.</p>
Rural Living Zone (RLZ)	<p>To allow for residential uses within a rural setting and farming activities not necessarily related to household income.</p>	<p>Applies to various existing settlements throughout Greater Bendigo. The application of the RLZ Schedules appears correlate with the quality of land within each area.</p> <p>Minimum subdivision areas outlined within schedules:</p> <ul style="list-style-type: none"> <li>▪ 8ha - in schedule 1 land.</li> <li>▪ 2ha - in schedule 2 land.</li> <li>▪ 3ha with an average of 4.5ha - in schedule 3 land.</li> <li>▪ 4ha - in schedule 4 land.</li> <li>▪ 20ha - in schedule 5 land.</li> </ul> <p>Minimum area for which no permit is required to use land for a dwelling:</p> <ul style="list-style-type: none"> <li>▪ Aligns with minimum subdivision area. Except schedule 5 which has a minimum of 10ha for a dwelling.</li> </ul>
Rural Conservation Zone (RCZ)	<p>To protect and conserve rural land with significant environmental features or attributes which could be based on historic, archaeological, landscape, ecological, cultural or scientific values.</p>	<p>Applies to targeted areas, predominantly where heavily vegetated and adjoining public land.</p> <p>Minimum subdivision areas outlined within schedules:</p> <ul style="list-style-type: none"> <li>▪ 40ha - in schedule 1 land.</li> <li>▪ 1ha - in schedule 2 land.</li> <li>▪ 2ha - in schedule 3 land.</li> <li>▪ 8ha - in schedule 4 land.</li> </ul> <p>Dwellings are a section 2 use in the RCZ and will always trigger a permit when they are first proposed for land.</p>
Farming Zone (FZ)	<p>To identify and protect productive farming land and to limit uses that would conflict with or limit agricultural activities and expansion.</p>	<p>Applied to the majority of rural land within Greater Bendigo.</p> <p>Minimum subdivision areas outlined within schedules:</p> <ul style="list-style-type: none"> <li>▪ 40ha - in schedule 1 land.</li> <li>▪ 8ha - in schedule 2 land.</li> <li>▪ 64ha - in schedule 3 land.</li> </ul> <p>Minimum area for which no permit is required to use land for a dwelling:</p> <ul style="list-style-type: none"> <li>▪ Aligns with minimum subdivision area.</li> </ul>

Zone	Purpose	Schedules and Application
Public Use Zone (PUZ)	To recognise public land use for public utility and community services and facilities. To provide for associated uses that are consistent with the intent of the public land reservation or purpose.	Schedule 1- Service & Utility applies to a number of selected sites within the rural areas of Greater Bendigo and typically water catchment reservoirs.
Public Conservation and Resource Zone	To protect and conserve the natural environment and natural processes for their historic, scientific, landscape, habitat or cultural values. To provide facilities which assist in public education and interpretation of the natural environment with minimal degradation of the natural environment or natural processes.	Applies broadly to state forests and parkland under public ownership.
Public Park & Recreation Zone (PPRZ)	To recognise areas for public recreation and open space. To protect and conserve areas of significance where appropriate. To provide for commercial uses where appropriate.	Applies to a number of selected parkland reserves located throughout the rural areas of Greater Bendigo.
Special Use Zone (SUZ)	To recognise or provide for the use and development of land for specific purposes as identified in a schedule to this zone.	Numerous schedules to this zone apply throughout Greater Bendigo including the Bendigo Airport, recreational areas and schools.
Comprehensive Development Zone (CDZ)	To provide for a range of uses and the development of land in accordance with a comprehensive development plan incorporated in the Greater Bendigo Planning Scheme.	Schedule 1 Fortuna Comprehensive Development Plan Schedule 2 Great Stupa of Universal Compassion and Atisha Centre Comprehensive Development Plan Schedule 3 Marong Business Park Comprehensive Development Plan  Applies to land West of the Marong settlement area.
Urban Floodway Zone (UFZ)	To identify waterways, major floodpaths, drainage depressions and high hazard areas within urban areas which have the greatest risk and frequency of being affected by flooding. To ensure that any development maintains the free passage and temporary storage of floodwater, minimises flood damage and is compatible with flood hazard, local drainage conditions and the minimisation of soil erosion, sedimentation and silting. To reflect any declarations under Division 4 of Part 10 of the Water Act, 1989. To protect water quality and waterways as natural resources by managing urban stormwater, protecting water supply catchment areas and managing saline discharges to minimise the risks to the environmental quality of water and groundwater.	Applies to a number of selected sites located throughout the rural areas of Greater Bendigo.
Commonwealth Land	Land owned by the commonwealth government and not governed by the planning scheme.	Applies to the Puckapunyal military base.



## ZONES

### LEGEND

Municipal Boundary	Main Road	Rail Network	Public Park & Recreation Zone (PPRZ)	Excluded Urban/Settlement Land
Low Density Residential Zone (LDRZ)	Rural Conservation Zone (RCZ)	Public Use Zone (PUZ)	Special Use Zone (SUZ)	Public Conservation & Resource Zone (PCRZ)
Rural Living Zone (RLZ)	Industrial Zone (INZ)			
Township Zone (TZ)	Commonwealth Land (No Zone)			
Farming Zone (FZ)	Comprehensive Development Zone (CDZ)			

Figure 14: Planning Zones

## Planning Overlays

There are a range of overlays applied to rural land within Greater Bendigo that are mapped on Figure 15. Summary details of the full suite of overlays as illustrated are outlined within Appendix 1.

The Overlays with greater relevance to the Rural Areas Strategy (RAS) and land within the study area are:

- Bushfire Management Overlay (BMO)
- Environmental Significance Overlay (ESO)
- Vegetation Protection Overlay (VPO)
- Erosion Management Overlay (EMO)
- Land Subject to Inundation Overlay (LSIO)
- Restructure Overlay (RO)
- Specific Control Overlay (SCO)
- Heritage Overlay (HO)

The BMO applies in particular areas throughout Greater Bendigo and is particularly focused on heavily vegetated areas, noting that many of these areas are within State and National Parks, which are excluded from the scope of the RAS.

ESO1 applies to targeted areas along waterways where water quality is sought to be protected and areas where significant remnant vegetation is located.

ESO2 applies to targeted areas throughout the municipality where the environment around groundwater recharge must be protected.

ESO3 applies to land within the Lake Eppalock Special Water Supply Catchment Area noting that a planning scheme amendment is required to make minor adjustments to the application area.

ESO5 applies to targeted areas of remnant vegetation throughout Greater Bendigo.

The VPO applies broadly throughout the municipality to areas of significant and roadside vegetation. The overlay also applies to wildlife corridor areas, more specifically to areas surrounding the urban areas of Bendigo.

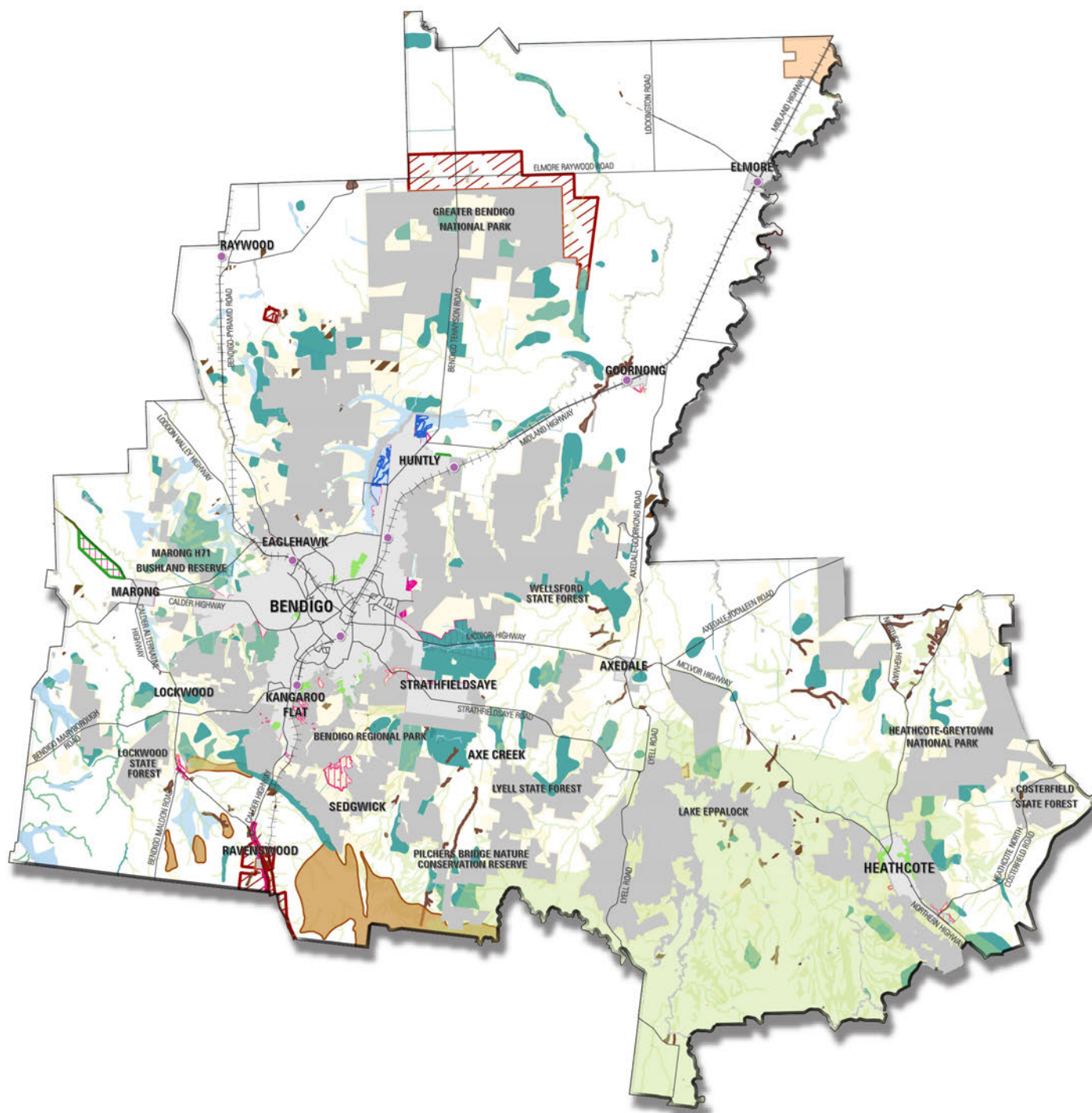
The EMO applies primarily to the southern portion of the municipality, aligning with the SWSCA. This overlay seeks to manage development to avoid environmental impacts.

The LSIO applies to land throughout Greater Bendigo to identify and control development in flood prone locations.

The RO applies to three rural settlements in Greater Bendigo. These include Kamarooka, Ravenswood, and Neilborough. This overlay seeks to identify and realign old subdivisions that are inappropriate from an environmental and amenity perspective.

The SCO applies to the Lakeshore camping and caravan park in Knowsley. This overlay functions to allow use and development of land in accordance with a document which is embedded into planning controls as an Incorporated Document. This is one of the only overlays that can govern land use specifically.

The HO protects locations and buildings of cultural and heritage significance. The overlay applies to isolated locations throughout the rural areas of Greater Bendigo, predominantly to heritage homesteads and similar structures related to farming and agriculture.

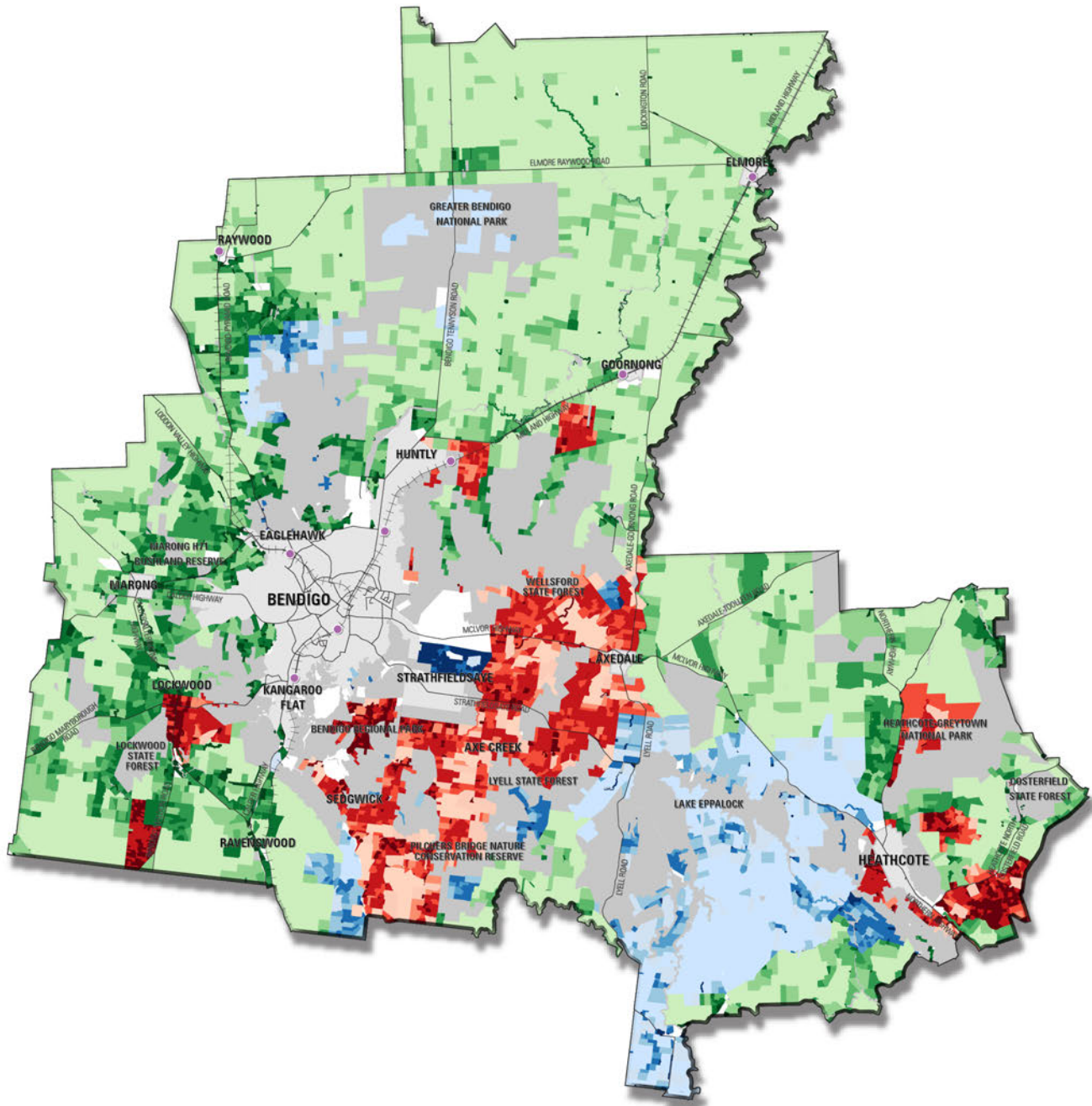


## OVERLAYS

### LEGEND

Municipal Boundary	Urban/ Settlement Area Excluded from Study Area	Parkland/ Reserve Excluded from Study Area	Main Road
Rail Network	Bushfire Management Overlay (BMO)	Land Subject to Inundation Overlay (LSIO)	Heritage Overlay (HO)
Development Contributions Plan Overlay (DCPO)	Environmental Significance Overlay (ESO)	Erosion Management Overlay (EMO)	Design and Development Overlay (DDO)
Specifics Controls Overlay (SCO)	Vegetation Protection Overlay (VPO)	Restrictive Overlay (RO)	Development Plan Overlay (DPO)
Significant Landscape Overlay (SLO)			

Figure 15: Planning Overlays



## RURAL LOT SIZES

### LEGEND

- Municipal Boundary
  Urban/ Settlement Area Excluded from Study Area
  Parkland/ Reserve Excluded from Study Area
  Main Road
 +●+ Rail Network

#### Farming Zone (FZ)

- <4ha
- ≥4ha and <10ha
- ≥10ha and <20ha
- ≥20ha and <40ha
- ≥40ha and <80ha
- ≥80ha

#### Rural Living Zone (RLZ)

- <4ha
- ≥4ha and <10ha
- ≥10ha and <20ha
- ≥20ha and <40ha
- ≥40ha and <80ha
- ≥80ha

#### Rural Conservation Zone (RCZ)

- <4ha
- ≥4ha and <10ha
- ≥10ha and <20ha
- ≥20ha and <40ha
- ≥40ha and <80ha
- ≥80ha

Figure 16: Lot sizes in rural areas

## Rural Lot Sizes

There are approximately 36,716 rural lots within the three rural zones of Greater Bendigo, being the focus of the Rural Areas Strategy (RAS). The breakdown of existing rural allotments by zone and size range is documented within Table 1.

Table 3. Rural Lot Sizes within Study Area

Lot Size	FZ	RCZ	RLZ
<4ha	3,436	2,296	4,836
>4ha to <10ha	4,724	1,468	6,196
>10ha to <20ha	2,820	640	1,728
>20ha to <40ha	1,640	616	492
>40ha to <80ha	1,780	420	328
>80ha	2,400	608	288
<b>Total</b>	<b>16,800</b>	<b>6,048</b>	<b>13,868</b>

An analysis of the current lot size characteristics of rural land within the study area indicates that there is a diverse range of lot sizes. These differing lot sizes are associated with different requirements within planning schemes. For example, lots 4ha and over can accommodate a septic system and lots over 40ha in size do not require a planning permit for a dwelling within the Farming Zone (FZ).

Land within the Rural Conservation Zone (RCZ) and Rural Living Zone (RLZ) are located predominantly in the south-eastern portion of the municipality with a small pocket of RCZ located to the north, as illustrated on Figure 14.

Within the FZ larger lots of above 40ha are generally located at the northern end of the municipality. As illustrated on Figure 16, allotment sizes within the balance of the FZ are mixed, with the greater extent of smaller allotments found towards the western boundary of the municipality.

The spatial distribution of lot sizes throughout Greater Bendigo has some correlation with existing uses and proximity to existing settlements and residential areas. Some areas have been heavily influenced by historic settlement patterns including locations where there have previously been townships that have been gradually abandoned over time, as well as former soldier settlements which were originally created to house veterans after the second world war. In many cases these settlements dispersed across Greater Bendigo's rural areas. Today many of these legacy settlements are located within the FZ, where existing lot sizes and land use technically does not align with the purpose of the zone.

The northern areas of Greater Bendigo generally contain significantly larger land parcels which are used for broadacre cropping where the topography is generally flat. Moving closer to the urban areas of Bendigo, lot sizes become smaller which can be indicative of demand for additional residential and rural lifestyle living opportunities in proximity to major services. This is consistent with the land use pressures that many regional areas experience with the management of land located in close proximity to major settlement areas.

Generally, the RLZ comprises a variety of lot sizes, with larger allotments being located within the Axe Creek Road. It is noted that in these areas, dense native vegetation is highly prevalent, making subdivision of these larger lots difficult.

The RCZ comprises mainly large lots. This is consistent with the purpose of the RCZ and context of its application given much of the land falls within the Special Water Supply Catchment Area above Lake Eppalock. It is likely that in order to manage water quality, these larger lot sizes will need to be retained. The lack of subdivision in this area could be an indicator that existing policy is operating appropriately to manage development.

## Vacant Rural Land

Some rural land across the Greater Bendigo Local Government Area rated as vacant. This designation implies that these parcels theoretically have no improvements, such as sheds, dwellings, or other structures. Despite this, there are very few truly vacant parcels remaining, indicating high levels of development. This analysis differentiates commentary on Farming Zone (FZ), Rural Conservation Zone (RCZ), and Rural Living Zone (RLZ) land, considering their unique challenges and opportunities.

### Farming Zone (FZ)

The scarcity of vacant parcels in the FZ indicates a high degree of agricultural and associated development, some of which is likely residential, which can potentially shift the primary use away from agriculture. It indicates that most of the land throughout the region is being utilised in some form and has capital improvements, or activities occurring on site.

There is, however, a pocket of smaller vacant allotments identified to the north west portion of the municipality which may be subject to development pressure for dwellings on the basis of their lot size and encouraging agricultural productivity on these lots may be important in protecting ongoing productive use of larger surrounding lots.

### Rural Conservation Zone (RCZ)

Areas of RCZ in Greater Bendigo often consist of varied lot sizes, many of which contain dwellings. Larger landholdings within the RCZ could technically be subdivided further, but such actions need careful consideration to maintain the zone's primary environmental and conservation goals.

The limited availability of vacant RCZ land and the constraints on existing parcels underscore the challenges of development in these areas. Many RCZ parcels have dense native vegetation that is protected under various environmental regulations, making it challenging to use these lands for purposes other than conservation. Additionally, the RCZ includes areas with significant watercourses essential for maintaining the region's hydrological balance; these watercourses often require buffer zones and specific management practices to prevent contamination and preserve water quality.

The natural landscapes within the RCZ are often prone to bushfires, posing significant risks to both the environment and any development. Proper bushfire management and mitigation strategies are essential but can also limit the extent and type of development permissible in these areas.

### Rural Living Zone (RLZ)

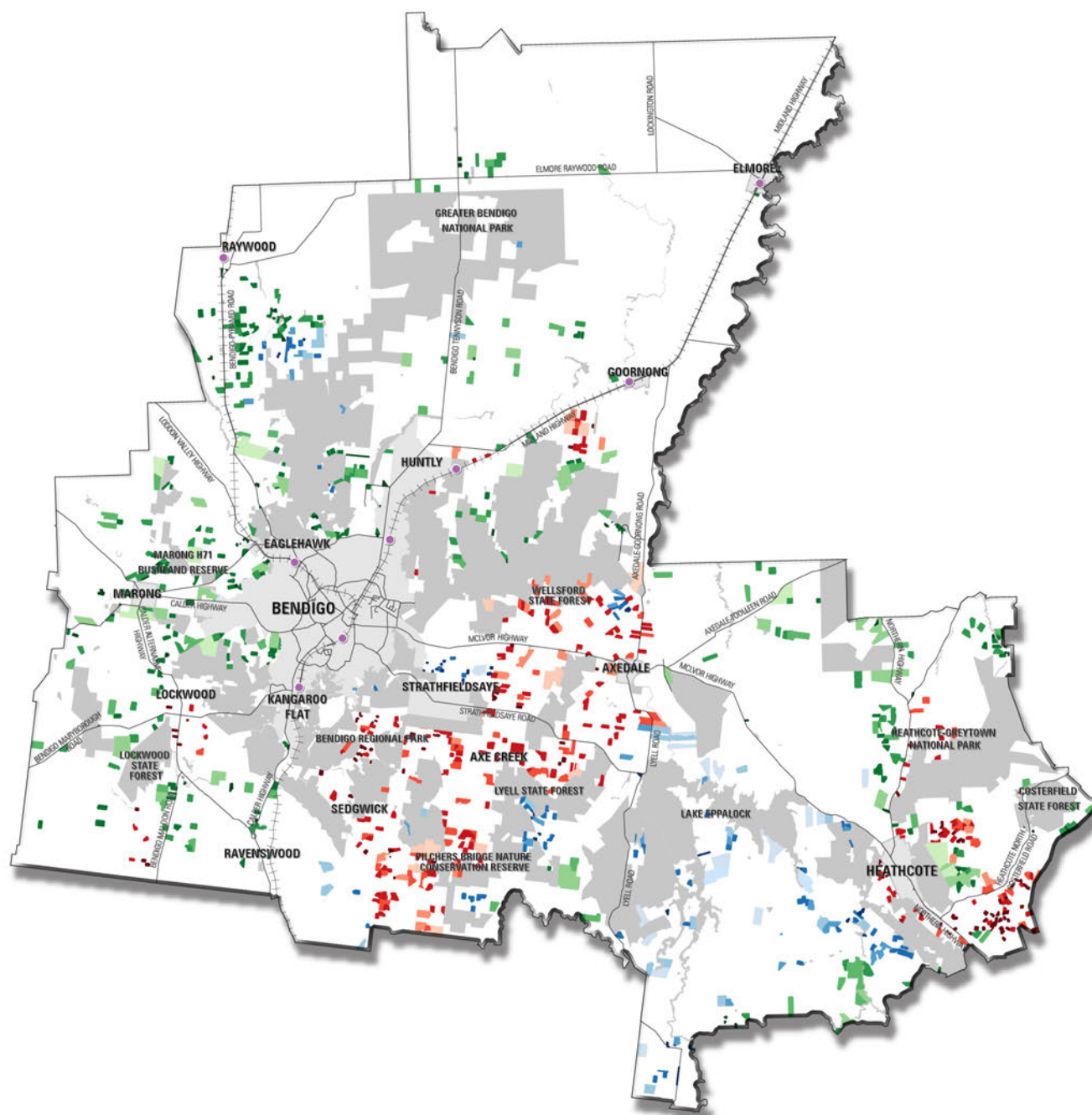
RLZ land in Greater Bendigo includes a range of lot sizes, with many parcels containing existing dwellings. There is a notable pocket of vacant RLZ land within the central valley area, reflecting the constraints posed by native vegetation, topography, and watercourses. These constraints have likely contributed to the lack of improvements in these areas, suggesting the need for a thorough review of the zoning to determine if it remains appropriate.

In Greater Bendigo's previous *Rural Areas Strategy* (2009), an oversupply of RLZ was identified. However, since that time, significant changes have occurred in the region and it is likely that the RLZ land supply has been reduced. Initial analysis suggests that a substantial amount of RLZ stock has been developed and utilised over the years. As a result, the previous data may now be outdated, necessitating a more thorough investigation into the current RLZ land availability.

Various factors, including environmental, regulatory, and infrastructural constraints, are being considered to gain an accurate understanding of the remaining RLZ land. One critical aspect of this review is the municipality's ongoing reassessment of its Bushfire Management Overlay. This update is crucial as it is likely to affect some additional Rural Living areas, imposing additional constraints on these areas, affecting the availability and suitability of this land for future development.

Recognizing the importance of accurate data, the RAS will undertake a comprehensive and detailed analysis of the remaining available RLZ supply. This analysis will consider all current constraints and development patterns to provide a precise and current picture of RLZ land availability. The goal is to ensure that planning decisions are based on the most reliable and up-to-date information, reflecting accurate availability of RLZ land in the municipality. This thorough approach will help guide future planning and development, ensuring sustainable growth and effective land use management.

Moving forward, it is essential to engage with landowners to address these constraints and explore rezoning options where appropriate. This dialogue can be conducted alongside the discussion to address the larger lots that do have existing dwellings on them but are large allotments. Consultation will help ensure that the theoretical land supply more accurately reflects real-world conditions, supporting informed decision-making on future rural living developments.



## VACANT RURAL LOTS

### LEGEND

Municipal Boundary	Urban/ Settlement Area Excluded from Study Area	Parkland/ Reserve Excluded from Study Area	Main Road
Rail Network			
<b>Farming Zone (FZ)</b>	<b>Rural Living Zone (RLZ)</b>	<b>Rural Conservation Zone (RCZ)</b>	
<4ha	<4ha	<4ha	
>=4ha and <10ha	>=4ha and <10ha	>=4ha and <10ha	
>=10ha and <20ha	>=10ha and <20ha	>=10ha and <20ha	
>=20ha and <40ha	>=20ha and <40ha	>=20ha and <40ha	
>=40ha and <80ha	>=40ha and <80ha	>=40ha and <80ha	
>=80ha	>=80ha	>=80ha	

Figure 17: Rural properties rated as 'vacant'

## Rural Subdivisions

A key threat to maintaining sustainable agricultural production is the fragmentation of rural land. Typically agricultural uses such as grazing and cropping activity relies on large tracts of land. Agricultural activity is put at risk when farming land is unnecessarily subdivided for reasons unrelated to agriculture, which both increases the likelihood of land-use conflict, as well as placing a different value on the land unrelated to agriculture.

Rural subdivision can take the form of:

- Traditional subdivision – where one lot is divided into two or more lots.
- Consolidation – where multiple existing lots are brought under the one title.
- Excision – which involves portioning off an existing dwelling on a larger lot into its own individual lot.
- Boundary realignment – which involves altering the boundaries of two or more existing lots.

Under all three rural zones within the study area, a planning permit is required to subdivide land. It is highlighted that a schedule to each of the rural zones has altered the default minimum subdivision size allowable. Each zone outlines a mandatory minimum subdivision size as follows:

- Farming Zone (FZ): 8ha in select areas that are irrigated and provide for viticulture, 64ha in other specified areas but the majority is 40ha minimum (note: default lot size of zone is 40ha).
- Rural Conservation Zone (RCZ): 1 to 8ha in select areas, otherwise 40ha (note: default lot size of zone is 40ha).
- Rural Living Zone (RLZ): 3 to 8ha in select areas, otherwise 20ha (note: default lot size of zone is 2ha).

Specific commentary is warranted in relation to the minimum subdivision sizes nominated for the FZ within Greater Bendigo. Of note, the default minimum subdivision size of the FZ is 40ha. However in Greater Bendigo, the Schedule to the FZ allows targeted areas to subdivide to 8ha while for the remaining areas the minimum subdivision size remains primarily 40ha. Functionally speaking, this increase in minimum subdivision size functions to strongly regulate further potential subdivision and associated potential land fragmentation. The largest land parcels are within the northern parts of Greater Bendigo.

The reasons for subdivision are varied within rural areas but common rationales for subdivision applications often relate to the following considerations:

- When the development value of the land surpasses the productive value of the land, subdivision into smaller lots can be appealing.
- The excision of a house may be undertaken to either on-sell or to construct another dwelling on the larger lot.
- For hardship reasons a property owner may seek to subdivide a larger lot to create a smaller lot which can be sold on for a profit to support a farm through a difficult period.
- Ageing farmers are typically asset rich rather than savings rich so the ability to subdivide a portion of their larger property to onsell to provide for retirement or superannuation funds is appealing.
- Succession related farming where the land is subdivided to allow a family member to farm a newly subdivided allotment.

## Rural Dwellings - Permit Activity

Figure 18 provides a visual representation of the spatial distribution of dwellings and vacant lots within the study area.

From 2014 to 2024, Greater Bendigo approved 2,512 applications for dwellings in rural areas as shown in Table 2.

Table 4. Approved Dwellings By Year

Year	FZ Approvals	RCZ Approvals	RLZ Approvals	Total
2014	120	52	192	364
2015	120	36	140	296
2016	76	32	152	260
2017	120	44	144	308
2018	76	28	112	216
2019	68	16	92	176
2020	64	24	72	160
2021	44	24	144	212
2022	116	16	188	320
2023	56	36	108	200
<b>Total</b>	<b>860</b>	<b>308</b>	<b>1,344</b>	<b>2512</b>

An analysis of planning permit applications for dwellings within the rural areas of Greater Bendigo has been undertaken, with the focus being on the last five years.

The intent of the analysis has been to look for any patterns relating to:

- year of application
- zoning of land
- application determination
- location within Greater Bendigo

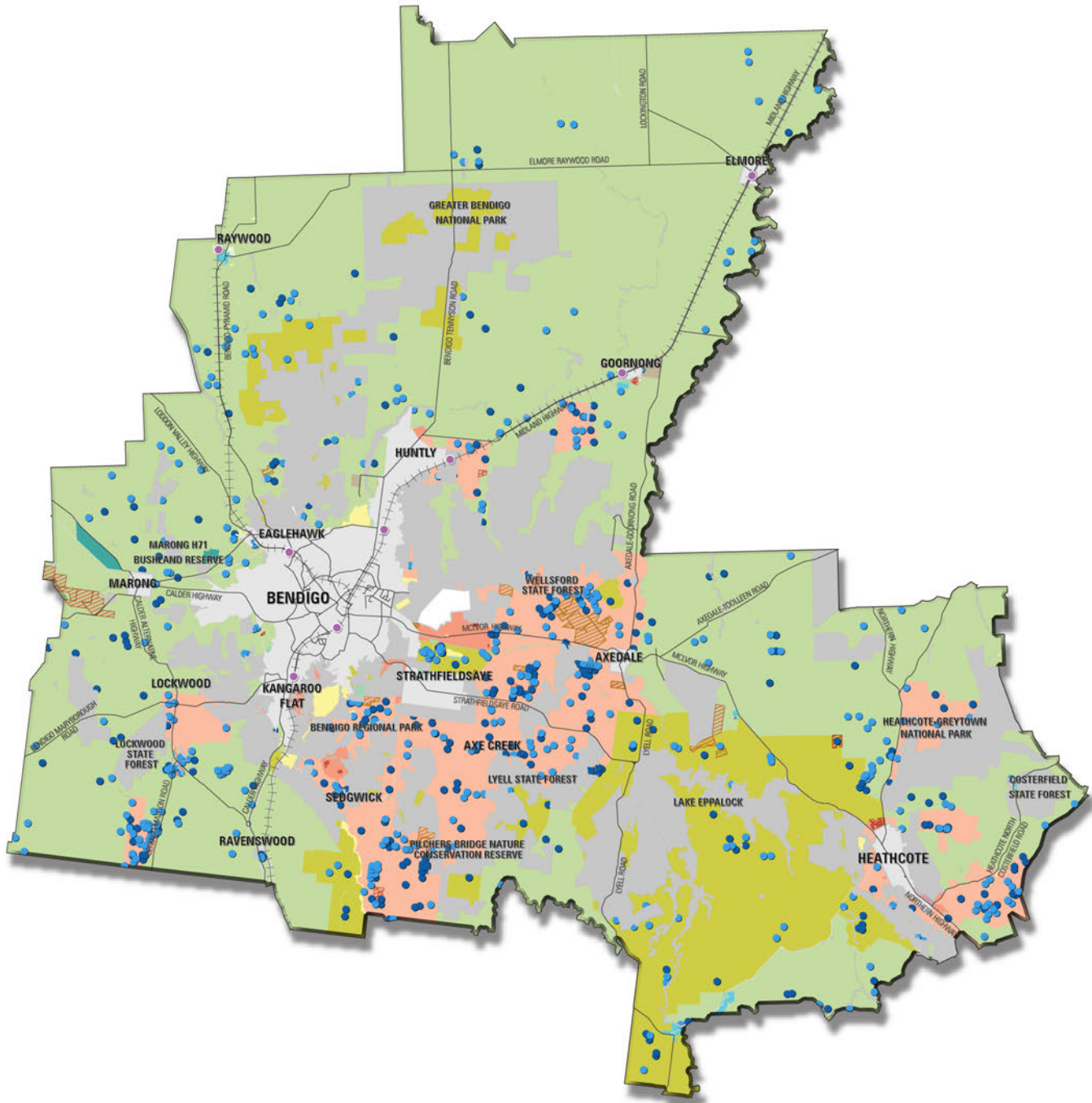
It should be noted that this analysis cannot capture the full scope of all dwellings and land uses occurring within the area. This is because in instances where a planning permit is not required, there is limited data available on what land use is being conducted and whether that occurs. This section therefore provides information on the number of instances where a permit has been required, and pursued by the applicant.

The outputs of this analysis is illustrated within Figure 18.

Based on this analysis, general observations are summarised as follows:

- There is generally a low number of rural dwelling applications received each year by Greater Bendigo, ranging from approximately 90-150 per annum.
- Between the 2014-2024 financial years, Greater Bendigo has received 2,512 rural dwelling planning applications.
- The greater majority of rural dwelling applications are approved and result in the issue of a Planning Permit, with very few applications issued with a notice of refusal.
- Rural dwellings within the Rural Living Zone (RLZ) would typically be expected to be approved, given the noted purpose of the zone to provide for residential use in a rural environment.
- Dwellings within the Rural Conservation Zone (RCZ) would only expect to be approved where they can demonstrate that they can appropriately manage their onsite wastewater. They must also demonstrate that the environmental benefits sought by the zone can be achieved through the planning application for a dwelling.
- Although applications for rural dwellings could be argued as being relatively low per annum for Greater Bendigo, this does not negate the issue of cumulative impacts of rural dwellings over a longer span of time caused by the gradual increase in total number of rural dwellings, which may not be strictly needed relating to the use of land.
- While the details of each approved dwelling application is not known, should this demand and trend continue, it will add approximately 200 dwellings with the Farming Zone (FZ) every 5 years. Such growth in rural dwellings may lead to unintended land use conflict between new dwellings and existing or future agricultural activity, to the potential detriment of the viable use of FZ land.
- Rural dwelling applications display some spatial patterns, the greatest number clustered to the southern half of Greater Bendigo and particularly at the interfaces of existing settlements.

Beyond the above analysis, when Figure 18 is cross compared with Figure 19 Rural Lots with a Dwelling, it illustrates a similar pattern of existing dwellings and dwelling demand. This correlation between applications for additional dwellings and existing dwelling locations starts to paint a picture of select areas of Greater Bendigo being more desirable for 'rural lifestyle' dwellings. If this pattern of rural dwelling approvals continue, it risks such areas evolving into quasi 'rural living' cluster settlements over time, which does not align with the nominated purpose of the FZ.



## PLANNING PERMIT ACTIVITY

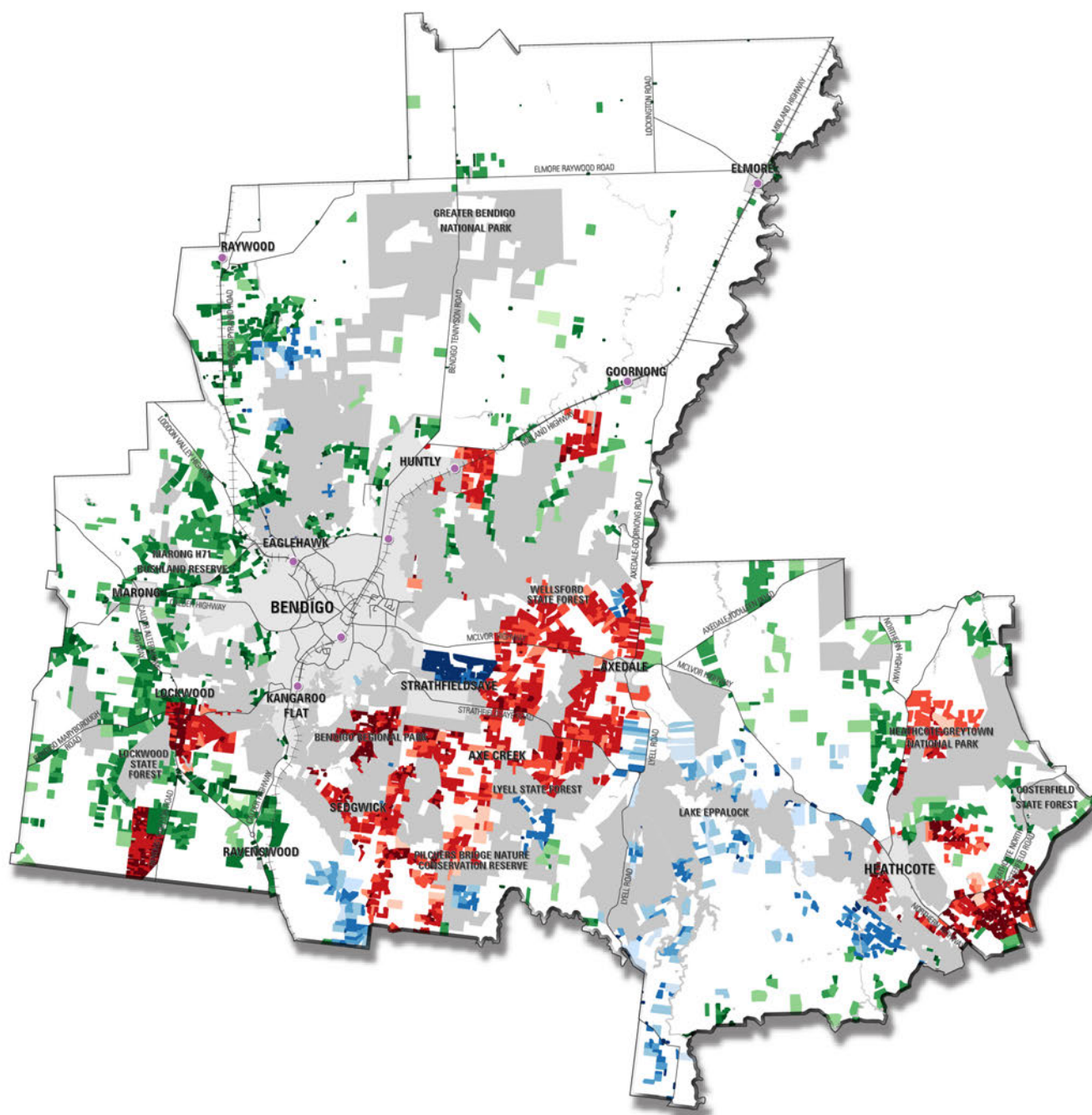
### LEGEND

Municipal Boundary	Main Road	Rail Network	
Low Density Residential Zone (LDRZ)	Rural Conservation Zone (RCZ)	Public Park & Recreation Zone (PPRZ)	Excluded Urban/Settlement Land
Rural Living Zone (RLZ)	Industrial Zone (INZ)	Public Use Zone (PUZ)	Public Conservation & Resource Zone (PCRZ)
Township Zone (TZ)	Commonwealth Land (No Zone)	Special Use Zone (SUZ)	
Farming Zone (FZ)	Comprehensive Development Zone (CDZ)		

### Dwelling Approvals

2014-2019	Approved Subdivision 2014-19
2020-2024	Approved Subdivision 2020-24

Figure 18: Planning permit activity (2014-2024)

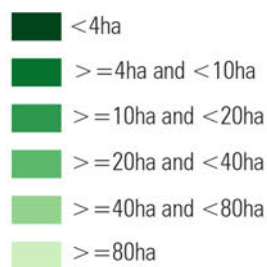


## LOTS WITH A DWELLING

### LEGEND



#### Farming Zone (FZ)



#### Rural Living Zone (RLZ)



#### Rural Conservation Zone (RCZ)

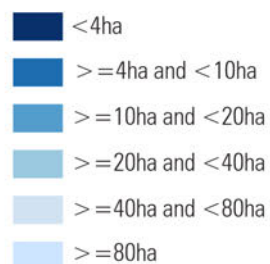


Figure 19: Rural lots with a dwelling

Figure 20, below, shows the general trend in rural dwelling constructions from 2009 to 2023. Analysing the trend lines, there is a similar pattern seen in approvals in the FZ and RLZ whereas the RCZ approvals have remained reasonably steady and unchanged year on year.

Rural dwellings within the FZ have been defined separately as part of this review, in order to differentiate dwellings associated with rural residential development, typically in the RLZ. Rural dwellings located within the FZ are required and/or justified in order to conduct agricultural activities on the site, as the farms are also the place of residence of the farm operator.

Planning can only control the construction of new rural dwellings if a planning permit is triggered. Rural zones contain minimum lot sizes on which dwellings can be constructed without requiring a planning permit. For instance, the FZ, defines a minimum lot size of 40ha unless varied by a local schedule. The zone also limits the number of dwellings that can be constructed on a lot to one.

For many rural properties, farmers often have a number of lots in the one ownership, but where a dwelling is not typically located on each lot. This can result in a large number of vacant lots. Within Greater Bendigo, approximately 61% of all FZ lots do not currently accommodate a dwelling. 24% of these lots are currently over 40ha in size (Table 3). This means there are 829 lots that can accommodate a new dwelling potentially without requiring a planning permit.

This leaves 2,549 'vacant' rural lots in the FZ under 40 hectares in size which could theoretically accommodate a rural dwelling, but would trigger a planning permit application for assessment.

Table 5. Size Distribution of Vacant Lots of Land within the FZ

Lot Size	FZ (no.)	FZ (%)
< 4ha	1,423	42%
> 4ha to < 10ha	258	8%
> 10ha to < 20ha	431	13%
> 20ha to < 40ha	437	13%
> 40ha to < 80ha	349	10%
> 80ha	480	14%
<b>TOTAL</b>	<b>3,378</b>	<b>100%</b>

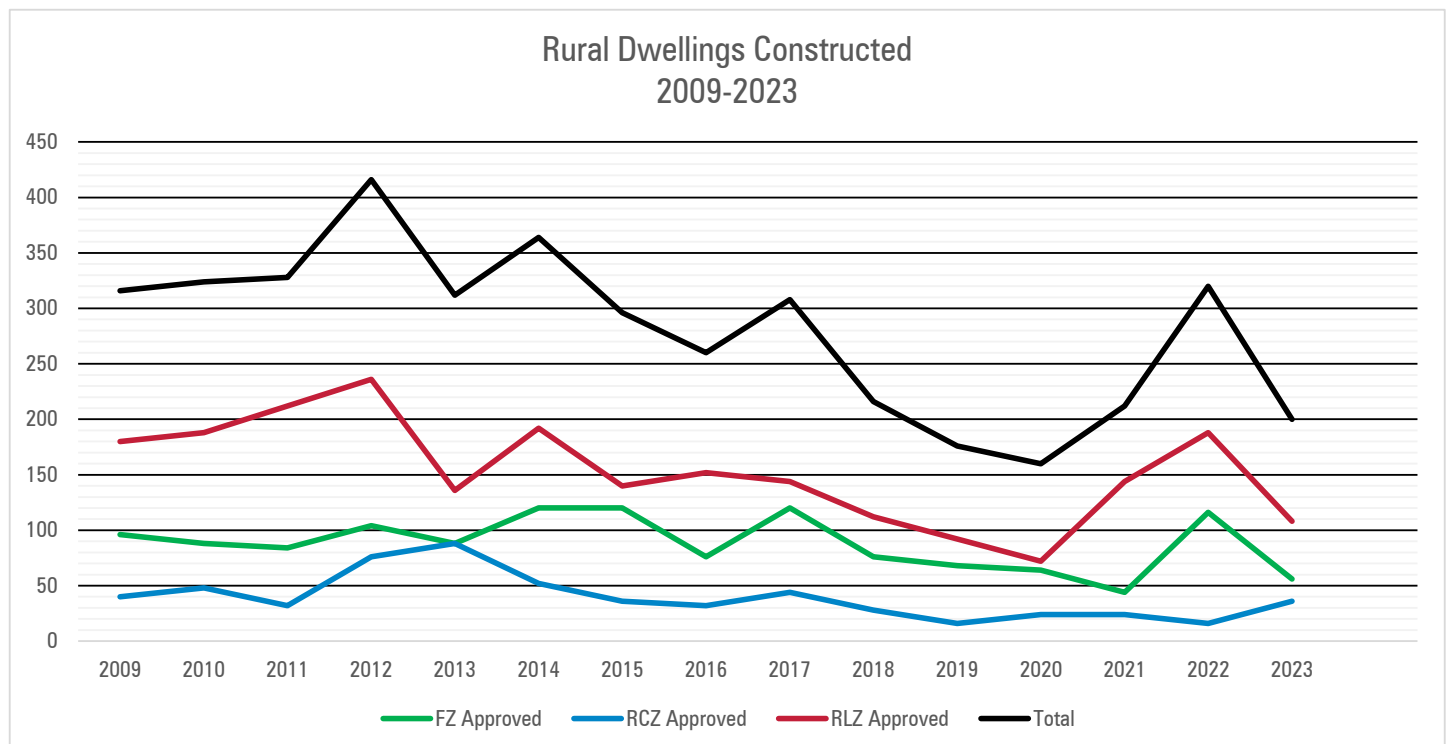


Figure 20: Constructed Rural Dwellings, 2009-2023

## Farming Zone lots of less than 40ha

Another key threat to ongoing productive agricultural use of Greater Bendigo's rural land is the expectation that every lot or parcel of land within the Farming Zone (FZ) can accommodate a dwelling. Planning can temper these expectations through appropriately considered planning policies to help guide decisions on when it is or is not appropriate to approve rural dwellings. While a permit may be granted, there is no automatic right to attain a planning permit for a dwelling on a lot less than 40ha (or otherwise any variation implemented through the zone schedule).

As noted, the analysis of vacant lots within the study area indicates that there are estimated to be 3,378 lots under 40ha within the FZ that would require a planning permit for the construction of a dwelling. If a dwelling were constructed on each of these lots, this would lead to significant impacts on:

- The agricultural productivity of the land and surrounding land.
- The character and landscape of the rural surrounds.
- The sustainable management of the land.
- The ability of Council to service such a dispersed population.
- The price of land.
- Land use conflicts with legitimate agricultural activities.

The planning system needs to be sufficiently flexible to allow for dwellings on smaller lots when it is for legitimate agricultural pursuits.

There are times where it may be appropriate to construct a dwelling on a lot less than 40ha, including:

- When it is associated with a legitimate intensive agricultural use.
- Where a positive environmental outcome will be achieved in areas which are not suitable for productive use.

Without appropriate planning controls and policies in place, these factors are difficult to control, and as a consequence, can result in poor outcomes. Currently there is limited policy direction within the Greater Bendigo Planning Scheme for guiding the development of rural dwellings on FZ land apart from generally discouraging them for rural living purposes and unless associated with a legitimate farming operation. This Strategy will seek to provide clear direction on when and where approval (or not) should be granted for dwellings on smaller lots.

## Rural Dwelling trends and impacts

### Rural Settlement Patterns in Greater Bendigo

Typically, existing dwellings are clustered in pockets across Greater Bendigo as quasi-rural settlement areas. This may be in part due to historic subdivision patterns and soldier settlements as previously discussed. Upon closer examination of dwelling clusters, it becomes evident that higher proportions of lots with dwellings are focused around the Heathcote and Bendigo settlement areas.

### Interpretation of Dwelling Clusters

While the presence of multiple dwellings across the Farming Zone (FZ) presents a theoretical issue, the clustering of these dwellings could be interpreted in several ways. It may suggest that people wanting to develop rural lots for housing are seeking to locate near quasi-settlement areas. Historically, the City of Greater Bendigo as a Council has made sensible decisions by focusing rural lifestyle development on existing rural settlement areas.

### Dwelling Approvals and Pressures in Rural Zones

The majority of dwelling approvals in rural areas have been within the Rural Living Zone (RLZ). However, the second-largest number, at 860 total dwelling approvals, has been in the FZ, indicating that there are pressures within the FZ for residential expansion.

### Year-on-Year Trends in FZ Dwelling Approvals

A detailed analysis of the year-on-year breakdown shows a steady decline in approvals in the FZ from 2017 to 2021, from 120 approvals to 44. However, in 2022, approvals surged to 116, likely influenced by the COVID-19 pandemic, which caused a significant spike in migration to rural areas. Approvals fell to 56 in 2023, aligning more closely with the trends observed previously.

### Housing Demand and Its Impact on Agricultural Land

Beyond the annual fluctuations in FZ dwelling approvals, it is clear that over the last decade, FZ land in Greater Bendigo has experienced pressures from housing demand, particularly in the western and southern areas of the municipality. This demand is likely driven by the region's attractiveness as a place to live, work, and enjoy a rural lifestyle while being relatively close to the urban centre of Bendigo.

### Landscape Transformation and Potential Fragmentation

The continued expansion of housing into existing agricultural areas is gradually transforming the landscape, leading to the potential fragmentation of farms and changes in land use patterns. This trend is most evident around Marong, where smaller allotments, once primarily used for farming, are being proposed for significant residential development.

## Marong Township and Future Development

The township of Marong has been identified for future residential growth, due to its strategic location and access to required infrastructure. The Marong Township Structure Plan has been prepared to address land issues relating to settlement expansion into the FZ by proposing an extensive new residential area, in addition to an activity centre. A Planning Scheme Amendment to implement the Structure Plan has been prepared and is currently being considered by the Minister for Planning.

## Rural Living Zone Constraints and Review

RLZ land in Greater Bendigo includes a broad range of lot sizes, with many areas containing established dwellings, especially in the southeastern portion of the municipality. This region, characterised by its large valley, was historically zoned to allow for a rural lifestyle with spacious lots. However, this zoning has led to a patchwork of land uses, where many allotments, despite being large, are heavily constrained by natural features such as watercourses, dense native vegetation, and significant bushfire risks. These constraints significantly limit the developable area on these properties, making the theoretical land supply appear more substantial than it actually is.

## Need for a Review of Rural Living Precincts

To address these issues as part of the RAS, a review of the Rural Living precincts across Greater Bendigo is essential. This review should aim to identify and understand the unique constraints of each area, enabling a more accurate representation of available land supply. Such an assessment will help in re-evaluating the zoning of certain parcels to better reflect site-specific conditions and to allow the Council to establish a current RLZ land supply that is realistic and achievable.

## Engaging with Landowners and Rezoning Considerations

Engaging with landowners who possess large, constrained rural living parcels will be a critical part of this process. Discussions may involve exploring the possibility of rezoning some areas to address their constraints, potentially adjusting the land's zoning to a more suitable category.

Additionally, if rezonings were to be contemplated, it may be necessary to review and adjust rates currently charged to ensure fairness and alignment with the land's true use and value. Such targeted engagement must be handled with sensitivity and transparency to build consensus and support for any changes proposed.

## The Role of the Rural Conservation Zone

The primary purpose of the RCZ is not agricultural production but rather the preservation of significant landscape areas rich in biodiversity and environmental quality. This zoning aims to maintain and enhance these values, ensuring that the natural and scenic qualities of the area are protected for future generations.

## Characteristics and Challenges of RCZ

The RCZ in the southern portion of Greater Bendigo is characterised by a diverse range of lot sizes and dwelling types. A significant portion of this zone falls within the Special Water Supply Catchment Area, underscoring the importance of managing onsite wastewater systems effectively to protect water quality. This is particularly critical because many properties in the RCZ are less than 40 hectares in size, which is below the minimum threshold set by the Code of Practice for Onsite Wastewater Management. When this dwelling density measure is exceeded, it increases the potential risk for non-compliant wastewater systems, posing risks to the catchment's water quality.

## Consideration of Land for Rezoning to RCZ

In recognition of the purpose of the RCZ, there are instances in Greater Bendigo where land is currently within the FZ but is noted to accommodate significant native vegetation and biodiversity values, potentially making the land unsuitable for agricultural activity. In such instances, the land may be more suitably zoned to the RCZ. This should be investigated and appropriately considered by the RAS.

## Strategic Approach to Balancing Growth and Conservation

Overall, addressing these challenges requires a strategic approach that balances agricultural land use and development needs with environmental conservation, ensuring that Greater Bendigo's rural areas remain vibrant, sustainable and resilient. Through careful planning and community engagement, the municipality can navigate the complexities of growth and conservation, fostering a land use pattern that supports both the economy and the environment.

## The Impact of Population Growth and Urbanisation on Agricultural Land

Land historically designated and used for agricultural production is being impacted by population growth and urbanisation, particularly when agricultural land is viewed as a cheaper option for 'rural lifestyle' based residential land use.

### **Risk of Land Fragmentation**

Higher prices of agricultural land make it difficult for farmers to scale up and expand their operations. Demand for rural lifestyle and land speculation is causing fragmentation and increasing the risk of land use conflict with neighbours.

Land fragmentation and high land values commonly result in speculative behaviour and less investment in infrastructure to develop agricultural enterprises, as farmers anticipate the future conversion of their land away from commercial agriculture. Similarly, higher capitalisation of smaller farms makes them a less attractive purchase for larger-scale farm expansion in line with current farming trends toward increased farm size.

### **Importance of Lot Size Diversity in Supporting Agriculture**

While small lot subdivision can threaten legitimate farming practices, ensuring that subdivision patterns and processes support and encourage changes in agricultural practices is also important. Modern intensive forms of agriculture do not require the same amount of land as traditional forms of agriculture. Therefore, ensuring access to a range of inexpensive lot sizes for all types of farming is essential for supporting these forms of agricultural endeavours.

Diversity in lot sizes helps support a range of agricultural uses, such as grazing, cropping, and intensive agriculture, as well as more small-scale innovative, boutique, or niche operations.

### **Key Considerations for Future Rural Subdivision**

The analysis of lot size characteristics within earlier report sections indicates that there is a diverse range of lot sizes within the municipality, with most of the larger farms within the study area comprising several smaller lots in single ownership. When combined, these lots create a large enough area of land to carry out agricultural operations. The key questions for this planning strategy and planning overall are to determine where, when, and if the further subdivision of rural land is necessary and justified or should even be allowed. It should not be simply assumed that some form of rural subdivision is justifiable. In most instances, the further subdivision of rural land is not required unless it is located within the RLZ and is to be developed for lifestyle rather than purely agricultural reasons.



An aerial photograph of a rural landscape. A winding river flows from the top left towards the bottom right, cutting through a patchwork of agricultural fields. The fields are divided into various sized plots, some appearing as light tan or yellow, others as darker green or brown, suggesting different crops or land uses. The river is dark and meandering. A straight road or path runs diagonally across the middle of the image. The overall tone is earthy and naturalistic.

# SECTION TWO

## EMERGING ISSUES & OPPORTUNITIES

Based on a detailed background analysis of relevant documents, strategies and available data from a variety of sources, in addition to general observations from fieldwork, emerging issues and opportunities have been able to be identified.

Identified issues and opportunities are documented under relevant headings throughout the following report section, with potential strategies in response also being outlined.

The following report section outlines how a range of rural related issues and opportunities that it may be appropriate to address, and which may, in turn inform the Rural Areas Strategy (RAS). The preparation of the RAS will follow community consultation on this report, and will include a review and consideration of all community input received.

## Agricultural Productivity

Agricultural productivity is measured as the ratio of agricultural outputs to inputs and is usually determined by the market value of the final output. Agricultural productivity can be impacted by changes in technique, technology, or the quality or quantity of available inputs, including land quality. Increased productivity can improve profit margins, reduce the amount of land required for production, and improve food security.

A key term within the FZ is 'productive agriculture', which the Planning Scheme defines as: 'any form of primary production of renewable commodities'. This definition functions to introduce a commercial/business/economic focus for agricultural land use, which accordingly sets it apart from 'hobby' or 'subsistence' level farming which typically is for personal consumption only.

Currently there are noted trends towards smaller scale sustainable and regenerative farming practice. Regenerative agriculture can be described as an evolution of conventional agriculture, which seeks to reduce the use of water and other inputs and prevent land degradation and deforestation. The aim is to protect and improve soil health and biodiversity, increase climate resilience and reduce water resources, while making farming more productive and profitable.

In principle, the FZ has no opposition to regenerative agriculture practice, and would support it from a policy position provided its commercial and business viability can be clearly demonstrated through a farm management plan or similar. However, 'hobby' or 'subsistence' level regenerative farming would not align with the policy position of the FZ as it is not commercial in scale.

### Issues

In addition to the above, a number of key issues have been identified, including:

- The primary purpose of the FZ is to facilitate agriculture, it is necessary to consider whether the zone and associated schedules function to facilitate farming and the improvement of agricultural land with less permit requirements.
- Interfaces between residential land and agriculture uses giving rise to potential amenity impacts and potentially hindering productivity.
- Planning applications are considered in isolation and the cumulative impacts of decisions on agricultural production and food security is not well understood.
- There is currently no readily available guidance on what types of agricultural uses are most appropriate for each area, meaning there is a lack of clarity and direction of where certain industries should be located.

- Increased land values make it difficult to earn a primary income from small farms, making smaller lots are less attractive to commercial operators and more attractive for lifestyle and hobby farmers.

### Opportunities

A number of opportunities have been identified, including:

- Demarcate areas of high quality agricultural soil and production quality to be protected more specifically through policy and designate areas where particular agricultural uses are preferred to occur and encourage specific and compatible uses in these locations.
- Vary the requirements in the schedule to the FZ to allow the alteration or extension of a building used for agriculture without a planning permit to support the expansion of existing farming operations
- Provide clearer policy direction for the assessment of residential uses, particularly within high quality agricultural areas.
- Investigate areas where agricultural uses are less viable and rural residential uses may be directed.
- Raise awareness of the need to protect agricultural land through the UNESCO City of Gastronomy designation.

### Potential Strategies

A number of potential strategies have been identified, including:

- Create specific policy guidance for rural dwellings throughout the rural areas of Greater Bendigo by matching agricultural land quality mapping with farming related policy to inform planning permit applicants and decision makers.
- Analyse areas subject to existing development pressure and determine those areas where agricultural use is limited and where further development may be suitably directed to prevent residential sprawl into other prime agricultural areas.
- Provide guidance as to appropriate agricultural land uses in specific areas based on the agricultural land quality/ soil class mapping (currently under preparation).
- Prepare an agricultural land quality map accessible to the broader public to encourage additional agricultural productivity which best aligns with its designated land class.
- Encourage regenerative agricultural practices through the Healthy Landscapes project and case studies of successes in regenerative farming.

## Intensive Agriculture

Intensive agriculture is a form of agricultural production characterised by high-density land use aimed at maximising output, which has the potential to lead to significant off-site impacts (i.e. dust, noise, transport movement etc). This type of agriculture relies heavily on proximity to resources and faces substantial challenges when residential dwellings are located nearby.

A new dedicated policy (Clause 53.AA, Animal Production) is proposed to be added to all Victorian planning schemes under current State led reforms.

### Issues

A number of key issues have been identified, including:

- Intensive agricultural operation are dispersed throughout the municipality and encroachment of conflicting uses can limit the ability of existing enterprises to continue to operate.
- Appropriate locations within Greater Bendigo that are well suited to intensive agriculture are increasingly constrained due to factors such as the special water supply catchment area, topographical issues, lack of irrigated water supply, and increased residential populations in rural areas.
- Biosecurity concerns require some intensive animal production, particularly poultry and pigs, to have substantial separation distance needs between producers.
- Poultry farms have significant risk of transmission and infection of viral diseases between stock and native birds which may need to be considered in relation to proximity of key environmental reserves.

### Opportunities

A number of opportunities have been identified, including:

- Review and update the extent of intensive animal industry cluster areas on the Rural Strategic Framework Plan in Clause 02.04.
- Identify areas where intensive horticulture is viable given ready access to a consistent water supply for irrigation.
- Reinforcing the role of intensive animal industry clusters in local policy further to Clause 14.01-2L-01 to give priority to industry in place of other land uses as local policy.
- Growing markets suggest opportunities to expand pig and poultry farms in appropriate locations.

- Revisit the role of clusters and consider the appropriate separation distance between industries to reduce biosecurity risk but enable the operation of co-located intensive industry.

### Potential Strategies

A number of potential strategies have been identified, including:

- Implement revised intensive animal industry location areas into Clause 02.04 (i.e. Rural Strategic Framework Plan) to better reflect the diverse rural opportunities of Greater Bendigo, ensuring varied and preferred land use outcomes based on land capability.
- Identify and promote land suitable for intensive agriculture to enhance economic development and agricultural productivity in the region and avoid land use conflict.
- Create a publicly available map layer that identifies all intensive industries across Greater Bendigo and specify buffers around them. While there are existing mechanisms to manage buffers, they are not presented visually for future applicants to view.
- Support the implementation of the Buffer Area Overlay (BAO) to manage the interface between intensive agriculture and surrounding uses when justified and proposed as a privately sponsored planning scheme amendment.
- Consider environmental impacts when determining whether new or expanded intensive agricultural production facilities should be supported

## Non-Agricultural Uses

Non-agricultural uses in rural areas can have a legitimate role in rural areas, such as quarries, and agricultural aligned rural focused industries. However the consideration of rural areas in the FZ for rural lifestyle outcomes have the strong potential to undermine the primary role of FZ for agriculture. As such the issues and opportunities surrounding non-agricultural uses in the FZ present complex challenges for land use planning and agricultural sustainability.

Many of the businesses and activities undertaken in the rural areas of Greater Bendigo are unrelated to agriculture, including mining and mineral extraction, energy production, tourism and recreation. In order to minimise land use conflict, it is important to consider the potential off-site impacts or sensitivities of these non-agricultural uses.

### Issues

A number of issues have been identified, including:

- There is little local policy consideration of non-agricultural uses in the planning scheme.
- Lower land prices and larger buffer areas can make rural land attractive to business owners who often purchase land without confirming whether a use can be permitted within the zone - (for example Industry, other than Rural Industry, is prohibited in the RLZ & RCZ and requires a planning permit in the FZ).
- Mineral extraction and mining can have significant off-site amenity impacts on neighbouring properties.
- Often proposals that would remove large areas of land from agricultural use, like mining and solar farms, are decided by the state rather than Council.
- Conflict can occur between oversized or slow vehicles used for agriculture and other traffic.
- A number of mining activities are currently conducted within the FZ, such as the Hanson sand mine and the Fosterville gold mine. Off site impacts from these activities such as dust can have a negative impact on surrounding agricultural land uses (although such impacts are assumed to be addressed through necessary planning permit conditions and required works approvals).

### Opportunities

A number of opportunities have been identified, including:

- Enhance agri-tourism and community services in small settlements to provide support and infrastructure without

compromising agricultural productivity.

- Support Traditional Owner led on Country experiences and cultural education programs.
- Identify and promote water based recreation activities at Lake Eppalock and on the Campaspe River.
- Identify areas appropriate for permitted Accommodation uses, where bushfire risk is low.

### Potential Strategies

A number of potential strategies have been identified, including:

- Provide guidance for non-agricultural uses in local policy.
- Identify areas appropriate for tourism and recreation uses, particularly where land quality indicates that agriculture is less viable.
- Ensure any off-site amenity impacts are considered when new uses are proposed in proximity to existing uses such as mines and quarries.
- Identify areas with good access to power transmission lines and low land quality where solar farms may be appropriate.
- Encourage use and development which will support improved environmental outcomes through land management activities.

## Environment and Landscape Values

Environmental degradation of land and water and loss of native vegetation are common issues in rural landscapes. Natural areas, such as National and State Parks and City managed reserves, support a wealth of biodiversity and ecological processes across Greater Bendigo. However, alongside these rural land also offers many opportunities to improve and connect the natural environment and to enhance the municipality's biodiversity and valued landscapes.

### Issues

A number of opportunities have been identified, including:

- Remnant native vegetation and regrowth of mixed quality hindering agricultural productivity and the ability of the land to be developed from a regulatory perspective.
- Topsoil is lacking across the local government area due to continual planting of shallow rooted plants such as annual grasses, overgrazing, and historical mining activity.
- Large, established native trees exist throughout the local government area and are not currently protected with adequate planning controls or local laws due to a myriad of exemptions that exist under Clause 52.17.
- Industrial agricultural practices are being questioned in terms of their environmental impacts in harming biodiversity and preventing the re-establishment of thriving ecosystems.
- Construction or enlargement of a small dam (under 3 ML) within the Lake Eppalock catchment for farm water supply purposes is subject to the provisions of the Planning Scheme, more specifically to Schedule 3 of Clause 42.01 (Environmental Significance Overlay).
- Heavily vegetated FZ land which is consequently underutilised and it being unclear whether this should remain designated by policy for agricultural land-use, or otherwise potentially be rezoned to a RCZ to better reflect positive environmental and biodiversity outcomes.
- The northern areas of the municipality are predominantly used for broadacre cropping which can be associated with a significant reduction in biodiversity values.

### Opportunities

A number of opportunities have been identified, including:

- Large, significant native trees are located throughout the local government area which could be identified and registered to be protected by existing landowners.

- Information about alternate farming methods including the practice of regenerative agriculture which improves overall cropping yield, soil health, allows for alternative grazing rotations, and reduces cost of production could be actively shared to encourage improves agricultural productivity for farmers and the land quality.
- Traditional Owners managed water sources by protecting wetlands, creeks, and rivers, and created and maintained water channels and soaks, ensuring the availability of water during dry periods. This practice supported both the ecosystem and their agricultural activities, where local networks could collaborate with Traditional Owners to improve their land management practices.
- Areas of high strategic biodiversity exist across Greater Bendigo. These identified areas could be reinforced and maintained through encouraging regenerative agriculture and directing intensive agricultural use and rural development away from these locations.
- Collaborate with Traditional Owners to improve land management practices, particularly regarding soil and water management.

### Potential Strategies

A number of potential strategies have been identified, including:

- Encourage regenerative agricultural practices through the Healthy Landscapes project and case studies of successes in regenerative farming.
- Designate high biodiversity areas, water sensitive areas, ecologically and environmentally sensitive areas, wetlands and floodplains to be protected from intensive agriculture and rural development.
- Share best practice regenerative practices through field days and workshops to ensure farmers have access to high quality information.
- Investigate local laws and additional planning controls to protect significant vegetation throughout Greater Bendigo.

## Climate Change

Climate change is expected to increase the risk from natural hazards such as bushfire, floods, and extreme weather events and must be considered when planning for the future. Adaptive strategies to mitigate the impacts of climate change on rural communities and agriculture will be required.

Agriculture Victoria's Agriculture and Climate Change Statement sets out the following:

*"We are committed to a profitable and productive agriculture sector that takes ambitious action on climate change. We are working together to accelerate climate change solutions, including taking steps to:*

- *Understand and reduce our emissions*
- *Adapt to climate change risks*
- *Capture future opportunities".*

### Issues

A number of issues have been identified, including:

- Greater Bendigo is already experiencing hotter temperatures, experiencing 4.2 days per year above 38 degrees. It is predicted that by 2050 Greater Bendigo can expect 16 days over 38 degrees.
- It is also predicted there will be hotter and longer fire seasons, with the number of high risk fire days increasing by 62%.
- More intense rainfall events are also predicted, but with less rainfall overall and in spring, which is a significant issue particularly for agriculture. The 2009 RAS also stated that the average yearly rainfall in Greater Bendigo is expected to decline.
- With water becoming increasingly scarce, there will be increased pressure and less ability to carry out agricultural operations which require reliable supplies of water.
- Floodplains and flood affected areas are of high risk due to climate risk and changes in rainfall patterns (i.e. heavier downpours, larger events).
- The varying climate increasing risk and uncertainty in the agricultural cropping industry, the primary activity in the northern areas of Greater Bendigo.

### Opportunities

A number of opportunities have been identified, including:

- Create a local planning policy which provides climate change adaptation and mitigation measures.

- Consider the implications of climate change on productive agricultural areas and the importance of spatially identifying and reinforcing their purpose as essential farming areas.
- Identify the range of highest 'at risk' agricultural land use types and their relevant risks such as irrigation for hydroponic farming or intensive horticulture.
- Investigate best practice methods to ensure that agricultural enterprises within Greater Bendigo are climate change resilient.

### Potential Strategies

A number of potential strategies have been identified, including:

- Direct development to locations with low risk of bushfire and other climate-related hazards, adhering to Clause 13.02-1S and Clause 71.02-3.
- Work with landowners to inform them of the evolving climate and manage and mitigate future risks to their agricultural operations.
- Identify areas throughout Greater Bendigo that have reliable access to irrigation.

## Environmental Risks

Environmental risks present significant challenges and opportunities for the City. As the region grapples with evolving weather patterns and the necessity of preserving its natural landscapes, a strategic approach is essential to balance agricultural productivity with environmental conservation.

### Issues

A number of key issues have been identified, including:

- Difficulty in managing and integrating heavily vegetated areas and their interface with traditional grazing agricultural practices.
- Potential conflicts between conservation priorities and agricultural development needs.
- Lack of consideration around biodiversity values throughout Greater Bendigo.
- Spread of disease associated with potential outbreaks associated with intensive animal industries.

### Opportunities

A number of opportunities have been identified, including:

- Utilise naturally vegetated areas as strategic assets for biodiversity conservation and ecological services.
- Implement community education programs regarding what types of vegetation are important for wildlife connectivity and biodiversity.
- Constrained land could be used for designated vegetation offset areas for revegetation, retaining offsets within Greater Bendigo rather than exporting offsets to other areas.
- Enhance the role of vegetated lands in maintaining ecological balance and serving as wildlife corridors.
- Work with landowners, developers and real estate agents to determine and manage the perceived value of heavily vegetated rural land.
- Consult Traditional Owners on local land management practices to improve how agricultural land is managed.
- Review heavily constrained FZ areas and consider whether it is more appropriate to have these areas within the RCZ rather than the FZ.

### Potential Strategies

A number of potential strategies have been identified, including:

- Update planning policy to more specifically promote the conservation of vegetated areas within agricultural landscapes.
- Develop and implement incentive programs for landowners to participate in environmental conservation efforts including localised native vegetation offset areas.
- Encourage nominations of land as conservation offset sites to protect biodiversity within the Greater Bendigo, rather than external locations.

## Bushfire

Bushfire presents a major risk to the Greater Bendigo and the risk of bushfire varies across the study area, determined by the topography of land in relation to the location and type of nearby vegetation. Generally, the greatest bushfire hazard will be from vegetation located to the north and north-west of any given site.

Having experienced significant bushfires in the past, and as required by state planning policy as the entire study area is within the Bushfire Prone Area, the strategy will strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.

### Issues

A number of key issues have been identified, including:

- Some areas of significant bushfire risk are not currently identified within the Bendigo Planning Scheme, meaning rural development can be proposed in areas subject to higher risk than currently documented within the planning system.
- Significant clusters of RLZ Land are located within the BMO and are unlikely to be appropriate for future development, such as land located along Strathfieldsaye Road, within Emu Creek, land around Lockwood, and land north of Mount Camel.
- High risk bushfire areas surround the City of Bendigo which limits its ability to grow outwards. This in turn places pressure on rural areas to provide alternate low risk locations to cater for future growth.
- In locations where there is high tree density, there is generally also higher biodiversity value. It is necessary to manage bushfire level risk without unacceptable biodiversity impacts. However acceptable levels of biodiversity impact are not defined.
- Unmanaged rural properties can increase risk of ember attack across the municipality through the presence of increased fuel loads such as dense grasslands and dead vegetation that is not actively managed.

### Opportunities

A number of key opportunities have been identified, including:

- A contemporary bushfire study is currently underway, where its conclusions and recommendations will need to inform and be embedded in this Rural Areas Strategy (RAS) as the drafting is progressed.
- Consider the expansion or consolidation of small rural townships in relation to their associated bushfire risk.

- Consider the net developable land supply within the RLZ when real world constraints such as bushfire are accounted for.
- There are a number of established rural settlement areas that are at risk of bushfire impact such as Raywood, Lockwood, Axedale and Heathcote. There is an opportunity to consolidate these at risk areas and implement controls to increase their bushfire resilience.
- The scope of the RAS means that most rural areas are being considered in terms of land use, settlement and long term vision. Considering bushfire alongside this work enables a more holistic study of the overall conditions of the area.

### Potential Strategies

A number of potential strategies have been identified, including:

- Consolidate settlement areas where there is significant bushfire risk and discourage further development where risks cannot be appropriately mitigated or managed.
- Investigate the current extent of the application of the RLZ in relation to existing bushfire risks to determine the most appropriate zoning for these locations.
- Review existing agricultural land management practices to determine whether farmland can be better maintained to reduce fire risk.

## Application of Rural Zones

The rural zones currently applied across Greater Bendigo are generally those which have been inherited after Council amalgamations, and after State level changes to zones and have never been subject to a detailed review.

### Issues

A number of key issues have been identified, including:

- The Farming Zone (FZ) has been applied as a default zone across large areas of Greater Bendigo without consideration of the land attributes.
- Inappropriately located Rural Living Zone (RLZ) land can impact on the productive quality of surrounding agricultural land.
- A high theoretical RLZ land supply is noted, however on initial review appears to be constrained, particularly due to vegetation cover and the associated bushfire risk. This makes it difficult to quantify the actual supply of RLZ land, relative to perceptions of an oversupply. This is an issue requiring further investigation and analysis.
- The demand for rural living and/or 'rural lifestyle' dwellings across Greater Bendigo appears to be increasing and is likely to gain pace as the population grows.
- Uptake of RLZ land is varied across several clusters with demand being high in some areas and negligible in others.
- The RCZ on the west side of Lake Eppalock includes substantial areas of farmland that are outside the Lake Eppalock catchment. This RCZ places additional permit requirements on the land and it may be more appropriate as FZ.
- There are large areas of mostly cleared agricultural land which is zoned RCZ without any obvious environmental values to be protected.

### Opportunities

A number of opportunities have been identified, including:

- RLZ development could be consolidated into appropriate settlement clusters in locations identified as being low risk.
- The appropriate location/s of RLZ land based on risk profile could be considered. Areas that are not likely to be developed due to physical constraints or other risks could be reconsidered for a more appropriate zoning.
- The specific demand for various landscapes of RLZ land can be explored further to identify areas which align with market preferences.
- Consider the uses allowed by the RAZ and whether there are areas where it should be applied.
- Strengthen the ability to refuse non-agricultural uses in the FZ by ensuring that all rural land is zoned for its preferred use, and does not have the FZ applied as an automatic default.

### Potential Strategies

A number of potential strategies have been identified, including:

- Consolidate RLZ clusters to protect larger contiguous productive farms and focus service delivery.
- Consider applying the default minimum RLZ lot size of 2 hectares in areas outside of the Lake Eppalock catchment and where agricultural land quality is considered low and land is not otherwise constrained.
- Align the RCZ zoning on the north east side and west side of Lake Eppalock to coincide with catchment area.
- Review existing RCZ minimum lot sizes to ensure they support current environmental conservation goals as opposed to use of the land for a dwelling.
- Review the application of the RCZ to ensure that it applies to areas with environmental values to be protected.
- Update FZ schedules to increase the minimum lot size requirement for requiring a permit to construct a dwelling.
- Consider the introduction of the RAZ, in appropriate locations, to provide for non-agricultural uses and development which are compatible with agriculture and the environmental and landscape characteristics of the area.

## Application of Overlays

Across the Greater Bendigo municipality, there are a number of overlays that control the development allowable under certain conditions, such as areas with environmental value or high bushfire risk. Overlays that apply within the study area are specifically identified and discussed within Appendix 1 of this report. However, the general application of these overlays and their effect are considered below:

### Issues

A number of key issues have been identified, including::

- The BMO currently is applied throughout Greater Bendigo and is particularly focused on bushland, forested and highly vegetated areas (noting that many of these areas are within State and National Parks, which are excluded from the scope of the RAS). However, large areas of rural land in Greater Bendigo are known to be subject to significant bushfire risk which are not currently covered by the BMO.
- Current strategic work is being undertaken assess bushfire risk and to consider low risk areas to enable us to understand where to direct growth
- The application of the SLO within Greater Bendigo appears inconsistent. For example it is applied to the eastern portion of Axedale where views extend out to the Hanson quarry. There are likely other areas within the municipality where it may be appropriate to apply the SLO elsewhere.
- There is a misalignment between the application of the ESO and the declared special water supply catchment area of Lake Eppalock.
- There are instances where up to three ESO schedules apply to the same location within the supply catchment area. It should be considered whether this level of control is necessary in these areas.
- The LSIO appears to be incomplete in the northern region of the municipality along Bendigo Creek. The overlay ends abruptly and further work may need to be undertaken to determine areas beyond this that may be flood prone.

### Opportunities

A number of opportunities have been identified, including:

- Broadly assess the application of the ESO around Lake Eppalock and determine whether it should specifically align with the declared SWSCA.
- Generally review the application of the ESO and specific policy controls, particularly where multiple ESOs are applied to the same land.
- Update ESO1 and consider encouraging the creation of biolinks along waterways and wetlands, to buffer from the effects of agricultural practices. Consider extending ESO1 over all waterways.
- Broadly review the existing ESO1 which applies to significant waterways through Greater Bendigo with a 50 metre buffer. In this context it is noted a permit is already triggered for buildings and works within the FZ where the setback is within 100 metres of a waterway. Accordingly there is an opportunity to align the permit triggers more appropriately between the zone and the overlay to better manage water quality.
- The RO applies to a number of rural localities around Greater Bendigo including Kamarooka, Ravenswood and Neilborough. There is an opportunity to review the effectiveness of these, whether they are still up to date and whether they should be applied to other rural settlements within the municipality.
- It is understood that the bushfire management overlay is currently under review for the area. There is an opportunity to leverage this and consider the management of bushfire in finer detail for rural locations in addition to settlements.

### Potential Strategies

A number of potential strategies have been identified, including:

- Review the extent and application of the ESO.
- Continue to undertake targetted flood studies throughout the municipality to ensure that changing conditions are understood
- Review the application and extent of the RO.
- Apply the BMO to address any recommendations of separate bushfire risk work currently being undertaken.

## Rural Subdivision

Subdivision of rural land can be proposed for many reasons, including consolidation of parcels, realigning boundaries to enable the transfer of a portion of land, excision of a dwelling or the division of a lot into one or more smaller lots. A planning permit is always required for subdivision and decision makers must consider the cumulative effects of allowing potential fragmentation of land.

### Issues

A number of key issues have been identified, including:

- FZ land is already highly fragmented within Greater Bendigo due to old subdivisions, particularly land to the west of the municipality and surrounding townships.
- Fragmentation can lead to the loss of productive agricultural land, increase land prices, and deter investment in agricultural growth.
- Having a minimum lot size of 8 hectares for subdivision in the FZ Schedule 2 threatens the continued operation of agricultural uses as smaller allotments may increase the likelihood of additional small dwellings appearing in the area as the argument could be made that the land size cannot sustain agricultural use in accordance with the decision guidelines in Clause 35.07-6.
- Pressure for the subdivision within the FZ appears to be emerging in higher amenity/attractive landscape areas. This could be an indication RLZ land in high amenity areas is not currently available, leading to pressure on Farming zoned land.

### Opportunities

A number of opportunities have been identified, including:

- Introduce a minimum 100ha subdivision size of the FZ (as a noted increase over the default 40ha minimum), which has been used elsewhere to reduce subdivision potential and demand.
- The existing diverse range of lots sizes throughout the municipality can accommodate differing forms of agriculture negating the need for further subdivision.
- Recent VCAT cases, indicate that Greater Bendigo's Local Planning Policy is functioning well overall to prevent the approvals of subdivisions and dwellings when a case is determined at VCAT. There is an opportunity to further improve this policy with a view to reducing the number of applications which are appealed.
- Provide clear directional policy around existing settlements that are within the FZ and state whether growth is appropriate or not supported.

### Potential Strategies

A number of potential strategies have been identified, including:

- Implement a new/updated Local Planning Policy for rural subdivision to provide guidance and clarity on when rural subdivision is acceptable, and to be underpinned by updated agricultural land class mapping (being prepared as part of the current RAS work).
- Review existing policy within Clause 14.01-1L to strengthen and provide more directive policy for subdivision.
- Review the minimum subdivision sizes across rural zones with due consideration of Planning Practice Note 42: Applying the Rural Zones.
- Update local planning policy to provide specific contextual guidance on appropriate uses and developments in locations such as Sebastian, Neilborough, Ravenswood, Fosterville and Redcastle.
- Update existing zoning in smaller settlement areas to designate areas for further development of agri-tourism uses, where appropriate.
- Provide clear policy direction that past subdivision and development approvals does not provide suitable justification for the approval of future permit applications, which need to be carefully considered against the current RAS and individual merit of site context and surround.

## Rural Dwellings

Like rural subdivision, the potential proliferation of rural dwellings, and particularly across land in the FZ has the ability to significantly undermine the ability to conduct legitimate rural land use and activity. Given this, approvals of rural dwellings need to be carefully considered and managed, with this aspect of policy being fundamental to Rural Areas Strategy (RAS) to provide clear strategic direction.

### Issues

A number of key issues have been identified, including:

- Current local planning policy contains minimal guidance on when and where rural dwellings should or should not be approved on small lots. Existing planning policy provides direction for considering applications for dwellings and residential uses in productive agricultural land without productive agricultural land areas being clearly identified.
- Land is purchased with an assumption that a dwelling will be able to be constructed, particularly on smaller lots or in proximity to other land with dwellings.
- Planning policy is not strong enough to discourage dwellings when they are not specifically demonstrated as required to support existing or proposed agricultural uses.
- The perception that farmland can be developed for residential use inadvertently applies a higher residential land value than farming value which can price farmers out of expanding their agricultural operations. Inappropriately located housing can negatively impact on the activities of legitimate agricultural enterprises.
- Updates to the State Planning Provisions allow the development of a small second dwelling where an existing dwelling exists. This can increase infill development and lead to increased amenity conflict between residential and agricultural uses.
- There are a significant number of small vacant FZ lots that could have owner demand to accommodate a dwelling.
- Some applications for dwellings are justified by permit applicants based on a Farm Management Plan, but with no real intent to conduct the proposed agricultural use.
- The use of a Section 173 agreement to tie operation of the land for farming with an associated use for a dwelling has been disputed at VCAT and it is unclear whether this is a legitimate method of ensuring that agricultural activity continues when there is a change in land ownership. It also places an onus and burden on Council to enforce the requirements of a Section 173 agreement.
- Applications for dwellings in the FZ are at times recommended for refusal by Council officers but this decision is overturned by Councillors.

- Rural dwellings when approved are often coupled with an expectation of residential for urban services, such as bin collection and road maintenance. With a rural rates base often being lower than an urban rates base, this can have a substantial cost imposition on Council's service provisions.

### Opportunities

A number of opportunities have been identified, including:

- Improve the strategic focus on population growth being generally focused and redirected within existing settlements.
- Consider whether it is appropriate to increase the RLZ in areas of low agricultural quality throughout Greater Bendigo.
- Highlight the cumulative negative impact on agriculture from dwellings in the FZ.
- Consider whether it is appropriate to provide delegation to Council Officers to refuse planning permits.
- Investigate further permit conditions that tie use of the land for a dwelling with a legitimate agricultural use that is enforceable.
- Within the FZ, there is a requirement that applications for a dwelling must be accompanied by a written statement explaining how the proposed dwelling responds to the decision guidelines for dwellings. There is an opportunity to set a Council based standard for what this statement must address and request clarity in a more hard-line manner for applications that do not have enough detail.

### Potential Strategies

A number of potential strategies have been identified, including:

- Update local policy guidance on when and where to allow for the construction of a dwelling within the FZ based on certain guiding principles such as, agricultural productivity, proximity to existing settlements, the ability for it to be serviced etc.
- Clause 14.01-1L sets a blanket position that dwellings should be avoided unless they meet the very specific set of criteria. There may be an opportunity for allowing some dwellings through the Restructure Overlay, or similarly on small cluster lots in areas already lost to agriculture.
- Additional policies within Clause 14.01-1L set directions to avoid the construction of dwellings on existing small lots. This policy could be updated.
- Consider varying the minimum boundary setback requirement for buildings requiring a planning permit.

## Small Towns & Settlements

Small towns and historic settlements are home to many of Greater Bendigo's residents. The level of infrastructure and community services available in these areas varies significantly. Some of these communities sit on land within the Township Zone, whilst others have the rural zones applied throughout. There has been limited strategic planning undertaken to consider opportunities for use and development within these areas

### Issues

A number of key issues have been identified, including:

- The proliferation of residential uses in the FZ which encroaches on existing and potential future agricultural operations and negatively impacting on 'the right to farm'.
- Small towns and settlements in Greater Bendigo often lack essential infrastructure and services, including reliable transportation, healthcare facilities, and educational institutions. This limits their ability to support growing populations and attract new residents.
- Some small towns are considered legacy 'soldier' settlements, but as they have declined in population, their role has become unclear in the broader context of Greater Bendigo.
- There can be ongoing land use conflicts between residential development, agricultural activities, and conservation efforts. The pressure for rural residential development leads to the fragmentation of agricultural land and impact environmental values.
- Small towns and settlements are particularly vulnerable to environmental risks such as bushfires, droughts, and floods. These risks are exacerbated by climate change, which increases the frequency and severity of such events.
- Some recommendations from the Rural Areas Strategy 2009 were implemented into the Greater Bendigo Planning Scheme, which address the right to farm and the issue of isolated dwellings in the FZ (i.e. through implemented policies at Clause 02.03-1). However, these policy acknowledgements do not appear to be strong enough to discourage planning permit applications being made which have the potential to create adverse land use impacts which disrupt established agricultural activity.

### Opportunities

A number of opportunities have been identified, including:

- Invest in upgrading infrastructure and services in select small towns with the ability to grow to improve the quality of life for residents and activate the settlement.

- Encourage economic diversification by supporting local businesses, promoting tourism, and fostering new industries such as agri-tourism and eco-tourism.

### Potential Strategies

A number of potential strategies have been identified, including:

- Develop land use plans that integrate residential, agricultural, and conservation priorities for areas around settlements. Ensure that new developments are carefully planned to minimize land use conflicts and protect valued agricultural land.
- Undertake targeted infrastructure improvement programs focused on critical areas such as transportation and local parks. Prioritise projects that have the greatest potential to enhance the liveability of small towns and enable growth.

## Landholder Support and Resources

Greater Bendigo facilitates a variety of programs aimed at supporting landowners in managing and enhancing their properties. This section delves into the key issues, opportunities, and potential strategies related to these programs, providing a holistic overview of the available support.

### Issues

A number of key issues have been identified, including:

- The Rural Regeneration Grants is a relatively new program launched in October 2023 and there may be limited awareness among landholders.
- The requirement for a dollar-for-dollar contribution can be a significant barrier for those with limited financial resources. The diversity of conservation and agricultural needs further complicates the effective allocation of grant funds. Nevertheless, the first financial year delivered 18 different grants to local landholders, and used up the majority of the funds available.
- The Healthy Landscapes Program faces its own challenges, where landholders might lack detailed knowledge necessary to fully benefit from the program. Sustaining the program long-term requires continuous funding and support.
- The Farm Visits program offer personalised advice, but the limited capacity means not all landholders can benefit. Ensuring that the advice given during these visits is implemented effectively can also be a challenge without adequate follow-up support.
- Participation in Other Workshops and Field Days can be hampered by time constraints, travel distances, and a general lack of awareness. Even when landholders do attend, retaining and applying the information can be difficult, affecting long-term outcomes.

### Opportunities

A number of opportunities have been identified, including:

- For Rural Regeneration Grants, increased promotion can raise awareness and participation. The grants themselves can drive environmental conservation efforts and promote regenerative agriculture, creating successful case studies that inspire other landholders.
- There is an opportunity to publish successful projects undertaken through the grant to promote the process and highlight the sort of working being undertaken such as fencing off waterways, weed management and indigenous plantings.
- The Healthy Landscapes Program benefits from using local presenters, which enhances its relevance and impact. This should be encouraged further. Covering comprehensive topics

such as pasture management, livestock health, biodiversity, water management, and soil health provides holistic support. Field days and discussion groups further foster a sense of community and shared learning, leading to ongoing collaboration and support.

- Farm Visits provide tailored, site-specific advice, allowing for immediate implementation of recommended practices. These visits could serve as demonstration sites, showcasing successful regenerative agriculture and biodiversity practices, inspiring others.
- For Other Workshops and Field Days, collaboration with key organisations can enhance quality and reach. Targeting lifestyle owners and tree-changers addresses specific needs such as basic animal husbandry, biosecurity, and whole farm planning, improving climate resilience and long-term sustainability.

### Potential Strategies

A number of potential strategies have been identified, including:

- Maximise the impact of Rural Regeneration Grants by launching awareness campaigns through local media, community meetings, and social media to inform more landholders about the opportunities.
- Facilitation of additional financial assistance or flexible payment options could support those struggling with the co-contribution requirement. Ensuring the grant covers a wide range of projects can address the diverse needs of landholders.
- Expanding the Healthy Landscapes Program's reach through online platforms can help access remote areas, providing flexible learning options. Introductory courses can build foundational knowledge, preparing participants for more advanced topics. Sustainable funding through partnerships with local businesses, government agencies, and non-profits will ensure the program's longevity.
- Increasing the capacity for Farm Visits by training additional staff or volunteers can extend the program's reach. Implementing a follow-up program will provide ongoing support, ensuring effective implementation of recommendations. Documenting and sharing success stories from farm visits can educate and inspire other landholders.
- Improving other Workshops and Field Days, offering events in various locations and at different times can accommodate more participants.
- Providing follow-up materials, online resources, and ongoing support will help participants retain and apply their knowledge. Expanding partnerships with a broader range of organisations will diversify the topics covered and attract a wider audience.



# **APPENDIX ONE**

**Literature and Planning Scheme Review**

## Literature Review

### Rural Areas Strategy 2009

The Rural Areas Strategy is the current rural areas focused Strategy for Greater Bendigo. However it is also recognised and highlighted that the Strategy is now 15 years old, therefore its analysis, findings and recommendations requires a review and update. Given this, the final adopted output of the current RAS project will effectively supersede and replace the 2009 Strategy.

However in order to inform the current Issues & Opportunities Paper, a high level summary of the Rural Areas Strategy 2009 is provided below:

- The 2009 Strategy functions provides a comprehensive framework to guide the future of Greater Bendigo's rural areas, which cover 95% of the municipality and support a diverse agricultural sector and valued natural assets.
- The strategy responded to key challenges including climate change impacts, water scarcity, land use conflicts, and protecting agriculture from residential encroachment.
- For agriculture, the strategy anticipated a shift toward larger dryland cropping and grazing, growth in intensive animal industries and niche production, and a need to protect farmers' 'right to farm'.
- It recommended stronger policy to limit dwellings and subdivision in farming areas, and tailored minimum lot sizes for different agricultural needs.
- Intensive poultry and pig farming was identified as a key economic contributor requiring clearer protection from encroaching sensitive uses.
- At the time of drafting it assessed RLZ land supply as sufficient, with recommendations to limit further rezoning except for minor infill.
- Fragmented and unplanned rural living areas in the west were further noted as compromising farming activity.
- Townships were noted to be supported with rezoning and structure planning to guide growth and associated servicing.
- Protecting Lake Eppalock's water quality and yield was a noted priority, with RCZ and ESOs to be maintained.
- Key recommendations included: stronger policy and zones to protect agriculture; no new rural living areas; township planning; tailored lot sizes in farming areas; buffers for intensive animal industries; and a range of environmental actions around biodiversity, climate change, water and bushfire. An implementation plan allocated reforms to responsible authorities with target timeframes.

The key recommendations from the Strategy Plan and the status of current implementation are summarised in the adjacent tables.

## Summary of Recommendations from Bendigo Rural Areas Strategy 2009

Issue	Policy Direction/Statement	2024 Commentary
<i>Fragmentation of agricultural land</i>	<i>Subdivision minimum should be increased to 100 ha (F1Z), 40 ha (F2Z) and 8 ha (F3Z) to improve the viability of commercial agriculture and maintain farm valuations.</i>	Recommendation was not implemented.
<i>Conflicts between agricultural and residential use</i>	<i>Provide certainty and protect the 'the right to farm' by discouraging new houses in rural areas, unless they support agricultural use of the land. Strengthen the Rural Dwellings Policy (22.02), to discourage new houses in rural areas. Include the "Guidelines for Rural Houses - 2006" as a Reference Document in the planning scheme (21.10).</i>	Guidelines for Rural Houses – 2006 has not been implemented into the Planning Scheme, although relevant policies were strengthened via C256 (planning scheme review part 1) Some recommendations have been included into Clause 14.01-1L of the Greater Bendigo Planning Scheme. The policy directs to 'avoid' dwellings but does not have 'discourage' as the main policy direction. This could be strengthened to more clearly direct decision makers.
<i>Land-use conflicts</i>	<i>Acknowledge 'the right to farm' in the MSS.</i>	Strengthened via C256 (planning scheme review part 1).
<i>Protection of intensive agriculture</i>	<i>Reinforce MSS Clause 21.07-Economic development. Use Figure 6 Proposed Farming Zones as the basis for decisions. Update map in MSS- Intensive Rural Industries to reflect existing and new developments and provide planning/protection boundaries. A study on intensive animal industries within the Rural Living Zone should be undertaken to establish appropriate zoning for the protection of the industry and neighbouring properties.</i>	Policy superseded and Intensive Rural Industries Map implemented in C256. A map of key intensive agriculture industry areas has been included into Clause 02.04 for the Rural Strategic Framework Plan. A study of intensive animal industries was prepared but not adopted by Council. This is in part due to state level changes which achieve the goal set by the intensive animal industries study.
<i>Over-supply of land for rural living</i>	<i>The supply of rural living land far exceeds the minimum threshold of 10 years and does not require further review in the short to medium term.</i>	The theoretical land supply appears to exceed demand. However, there has been a large uptake in development within Rural Living Zoned Areas, particularly in the Rural Living area South of Lockwood. As part of this study, the developable Rural Living Land supply is being reviewed to determine the actual amount of land still available.
<i>West side of the municipality</i>	<i>Retain Farm zoning and actively discourage new houses.</i>	Implemented in C256, however, there is no specific policy direction that states this within the Planning Scheme.
<i>Site specific issues</i>	<i>Provide for a modest in-fill of rural living at Youngs Lane, Heathcote, subject to strategic justification.</i>	This has not been implemented and rezoning has not occurred. It is acknowledged that this land is heavily vegetated and may not be strategically justified for rural living development given bushfire risk being too high.
<i>Zoning around Lake Eppalock</i>	<i>Maintain current zoning of the Lake Eppalock catchment as Rural Conservation with a possible Rural Activity Zone around parts of the Eppalock foreshore.</i>	Recommendation was not implemented.

## Summary of Recommendations from Bendigo Rural Areas Strategy 2009

Issue	Policy Direction/Statement	2024 Commentary
<i>Small dams (3ML and under)</i>	<i>Support the Lake Eppalock Special Area Plan (SAP) and the Draft Sustainable Water Strategy-Northern Region policy documents in addressing small dams within the Lake Eppalock catchment.</i>	Understood work is ongoing.
<i>Rural road network</i>	<i>Implementing the Bendigo Transport Strategy recommendations (B-Double restrictions, impact of roads and access for communities).</i>	In part facilitated through the Bendigo Freight Study. Likewise believe that a new Integrated transport strategy has been prepared which supersedes the old transport strategy (although noted that it does not heavily consider regional road networks).
<i>Water</i>	<i>Work with the North Central Catchment Management Authority and water authorities to identify strategies and implementation plans, such as Coliban Water's Waterplan 2055, Special Area Plan and Northern Water Strategy as a means of securing the region's water future.</i>	Understood work is ongoing. Additional engagement with the Water authority has been undertaken as part of the issues and opportunities paper to identify key irrigation areas including irrigation channels highlighting locations with more ability to be drought tolerant.
<i>Biodiversity</i>	<i>Continue to work with Natural Resource management agencies to identify strategies, plans and policies that will protect and enhance our environmental assets ( eg, National and State parks and reserves).</i>	The importance of biodiversity is discussed within the 2009 study. It appears that work to engage with Natural Resource Management Agencies to protect biodiversity is still ongoing. As part of the new Rural Areas Strategy, biodiversity continues to be considered. It has already been identified as a key consideration around Rural Living Zoned areas and the RCZ.
<i>Climate change</i>	<i>Investigate the future implications of climate change on the rural sector within the municipality.</i>	The impact of climate change on agriculture is a continual issue that is being considered as part of the 2024 strategy. In particular, the need for resilience and water security is critical. The work currently being undertaken by the Deakin PhD student will consider this, and will be of interest for the BAS to be prepared.
<i>Small townships</i>	<i>Rezone parts of Neilborough and Ravenswood to Rural Living to better reflect current land use and development. Prepare restructure overlays for Myers Flat, Lockwood, Redesdale and Mia Mia. Prepare township structure plans for Heathcote, Elmore, Redesdale and Goornong. Structure planning for emerging development areas should integrate suitable buffer areas at the interface between the forests and new neighbourhoods.</i>	There is no spatial map demarcating the locations of the proposed rezoning and the rezoning and overlay implementation has not been pursued. A township structure is being prepared for Goornong. The other areas have not
<i>Wildfire</i>	<i>Support the Royal Commission into the Black Saturday fires and subsequent policy direction of the State Government.</i>	Critical to direct future residential growth away from high risk areas. Current strategic work being undertaken on bushfire risk will be of relevance to the preparation of the BAS.

## Plan Melbourne 2017-2050

The refreshed *Plan Melbourne 2017-2050* outlines the strategic direction for the growth and development of Metropolitan Melbourne out to 2050. It seeks to integrate long-term land use, infrastructure and transport planning, and meet the city's future environmental, population, housing and employment needs.

Responding to Melbourne's significant population growth is highlighted as one of the key challenges facing the city. While a focus is placed on increasing urban consolidation in established suburbs, growth areas are identified as having a significant role to play in how Melbourne's growth will be managed into the future.

The importance of encouraging growth and employment in Regional Victoria is highlighted, with Bendigo identified as regional city that will accommodate potential further growth. The establishment of urban growth boundaries around townships to lessen impact on the character, amenity, and environmental and agricultural assets of these locations is highlighted as an important management tool.

The Plan integrates long-term land use, infrastructure and transport planning, and sets out the strategy for supporting jobs and growth, while building on Melbourne's legacy of distinctiveness, liveability and sustainability. Plan Melbourne also contributes to the overall vision for the state, includes links with regional Victoria.

The Plan contains two key directions and associated policies, outlined below, that are pertinent to the planning for Greater Bendigo's rural land:

### ***Direction 1.4 Support the productive use of land and resources in Melbourne's non-urban areas***

*Policy 1.4.1 Protect agricultural land and support agricultural production*

*Policy 1.4.2 Identify and protect extractive resources (such as stone and sand) important for Melbourne's future needs*

### ***Direction 4.5 Plan for Melbourne's green wedges and peri-urban areas***

*Policy 4.5.2 Protect and enhance valued attributes of distinctive areas and landscapes*

## Agriculture Victoria Strategy 2020

The Agriculture Victoria Strategy 2020 provides strategic direction for the future of Victorian agriculture, focusing on five key themes: recover, grow, modernise, protect, and promote. The strategy identifies Elmore, located in the northeast of Greater Bendigo, as a town with a significant regional agricultural industry, with 15% or more of its workforce employed in agriculture, forestry, and fishing. However, the overall percentage of workers employed in these sectors in Greater Bendigo is low. The strategy does not list Heathcote as a significant agricultural location, although it may still be important for agritourism.

Greater Bendigo has the opportunity to align with the strategy's directions by maintaining its existing agricultural land base, recognizing Elmore as a key agricultural area. The Loddon Mallee region, which includes Greater Bendigo, is set to receive substantial government funding across the five strategic themes, including grants for Food to Market, Small-Scale and Craft, AgriLinks, IoT, On-Farm Energy, and Young Farmer Scholarships.

## Victoria's Climate Change Strategy 2021

Victoria's Climate Change Strategy outlines the state's plan to reduce emissions while supporting jobs, innovation, and cost savings across the economy, including in rural and regional areas. Key points relevant to the rural areas strategy include:

- Supporting agriculture and farming: The strategy prioritizes the agriculture sector's resilience and sustainability. It includes initiatives such as:
  - Investing \$15.3 million for the Victorian Carbon Farming Program to help farmers plant trees for carbon sequestration and agricultural forestry
  - \$20 million to accelerate agriculture sector emissions reduction, including \$10 million for on-farm action plans and grants, and \$3.9 million for research into low-emissions technologies
  - Expanding the Agriculture Energy Investment Plan with an additional \$30 million to support on-farm energy efficiency and renewable energy
- Resilient farms and forests: Protecting natural environments and resources is a focus, with initiatives including:
  - \$120 million to phase out native timber harvesting by 2030, reducing emissions by up to 1.7 million tonnes per year
- Regional opportunities and resilience: The strategy identifies opportunities for regional areas in the transition to net-zero emissions, such as:
  - Renewable energy zones to support renewable energy investment and jobs in regional Victoria
  - Place-based adaptation planning with a focus on vulnerable regional communities
  - Building the climate resilience of regional industries, businesses, and workers
- Ambitious emissions reduction targets: Victoria's overall emissions reduction targets (28-33% by 2025 and 45-50% by 2030 compared to 2005 levels) will drive economy-wide action, including in agriculture and regional areas.

## Agriculture Victoria Strategic Agricultural Land and Development in Victoria, 2020

The report, prepared by PricewaterhouseCoopers (PwC) for Agriculture Victoria, investigates the strategic significance of agricultural land in Victoria and provides a framework to inform future land use planning decisions. It is a broad policy document that considers the role of agriculture and agricultural productivity across the whole state of Victoria.

Key Findings within the report include:

Historical Trends:

- The total agricultural land in Victoria has remained stable over the past decade, with slight increases and regional variations.
- Significant growth in horticultural land and decline in land dedicated to beef production.
- Pronounced losses of agricultural land in peri-urban areas due to urbanization.

Future Projections:

- The aggregate amount of agricultural land will remain constant.
- Peri-urban areas will continue transitioning to residential uses.
- Areas outside peri-urban regions, especially in Northern and Western Victoria, will see consistent increases in agricultural land use.

Drivers of Change:

- Socio-demographic factors: Urbanisation and an aging farming population.
- Climate change: Affecting crop yields and necessitating adaptive measures.
- Water availability: Essential for maintaining and expanding agricultural production.
- Economic and market forces: Influencing land use decisions based on profitability.
- Competing land uses: Urbanisation and alternative land uses exert pressure on agricultural lands.
- Government policy and investment: Shaping land use patterns and resource allocation.

## Policy Recommendations

Prepare a framework for Identifying Strategic Agricultural Land:

- Access to reliable and affordable quality water.
- Lot size and its impact on productivity. Soil quality. Proximity to markets and industry clusters. Consideration of adjacent land uses and substitutability.

Strategic Action Recommendations:

- Establish detailed framework thresholds and decision measures.
- Operationalize the framework with specific governance arrangements.
- Test and iterate the framework to ensure alignment with broader government policies.
- Support local decision-making with state government involvement to maintain consistency.
- Maintain a database of land uses to support future policy development.

## Implications for the Greater Bendigo Rural Areas Strategy

- The report highlights the importance of recognising regional variations in agricultural land use trends, driven by factors such as urbanisation, climate change, and water availability.
- The proposed criteria for identifying strategic agricultural land can guide the development of policies to protect valuable agricultural lands in Greater Bendigo.
- It is necessary to take a holistic approach, integrating economic, social, and environmental considerations into land use planning ensures sustainable development and supports agricultural viability.
- Recommendations from the report can inform local strategies, ensuring they align with state-level objectives and leverage available resources effectively.
- Greater Bendigo, like other peri-urban areas, faces pressure from urban development, necessitating careful planning to balance agricultural and residential land uses.
- Access to reliable and affordable water is crucial for sustaining agricultural productivity in the region.
- Strategies to mitigate the impacts of climate change, such as adopting new technologies and diversifying land use, are essential for long-term agricultural sustainability.
- Implementing the proposed framework at the local level can help identify and protect strategic agricultural lands, ensuring their availability for future generations.

## Bendigo Region Destination Management Plan 2015

The Bendigo Region Destination Management Plan 2015, currently being updated by the Council, demonstrates the importance of agriculture as a tourism link to be protected for the region, despite its limited relevance to the overall strategy. The plan highlights Heathcote as a key location for food and wine tourism and identifies destination development opportunities, such as developing Greater Bendigo's wine region for food and tourism and improving the food and wine offering of the Heathcote region.

According to the plan, visitors are interested in visiting farm gates to purchase produce, with 13% of respondents expressing interest in visiting wineries, breweries, and cideries. Additionally, agricultural landscapes form part of the most popular activities for tourists visiting the region.

## Coliban Water Strategy 2030

The Coliban Water Strategy 2030 primarily focuses on managing water supply to settlement areas and comprises four strategic directions: water security and zero carbon, healthy people and environment, green and active communities, and prosperous communities. The strategy emphasizes the importance of collaborating with communities to use water wisely, developing climate-resilient water supplies, and maintaining infrastructure that can withstand extreme weather events.

Key outcomes include maintaining water quality, incorporating Aboriginal knowledge and cultural needs into service delivery, and protecting and enhancing the natural environment. The strategy also aims to maximize water use by rural customers and promote integrated water management as standard practice. The green and active communities direction relates entirely to residential urban environments.

## Dhelkunya Dja Country Plan 2014-2034

The Dhelkunya Dja Country Plan 2014-2034 outlines the Dja Dja Wurrung people's vision for their traditional lands and their aspirations for the future management of Country. The plan provides important context regarding the Dja Dja Wurrung people's connection to and management of the land. It notes that farming is a major economic activity within the area. However, widespread clearing has led to topsoil erosion and the introduction of non-native plants and species, which are negatively affecting the environment. The plan also states that rivers and lakes are being eroded through poor land management practices, including the use of pesticides in agriculture and inadequate weed management.

While the Dhelkunya Dja Country Plan does not provide specific actions for the rural areas strategy, it underscores the importance of engaging with the Dja Dja Wurrung as First Nations people in the management of rural lands within their Country. Incorporating their traditional knowledge and supporting their aspirations for sustainable land management and economic development should be considered in the development of the strategy.

## Loddon Mallee South Regional Growth Plan 2014

Regional Growth Plans (RGPs) provide broad direction for land use and development across eight regional areas of Victoria. Greater Bendigo is located within the Loddon Mallee Region which incorporates the municipalities of Campaspe, Loddon, Central Goldfields, Mount Alexander, Macedon Ranges and Bendigo.

The Loddon Mallee South Regional Growth Plan 2014 (LMSRGP) identifies opportunities to encourage and accommodate growth and manage change within the region over the next 30 years. The plan provides direction on common issues in rural and urban areas across the Loddon South region but does not replace local planning. The plan highlights the need to protect and enhance state-significant assets relating to extractive resources, forestry, productive agriculture, water catchments, transport, utilities, biodiversity, landscapes, parks and reserves, waterways, heritage and tourism.

The vision for the Loddon Mallee South region towards 2041 and beyond is to be a vibrant, innovative, sustainable and connected set of communities which offer a diversity of lifestyles building on heritage, natural environment and agricultural landscapes. Principles to achieve the vision are:

- Strengthening communities, especially small towns.
- Strengthening and diversifying the economy.
- Improving infrastructure.
- Improving education and training outcomes.
- Protecting and enhancing the natural and built environment.
- Ensuring food, water and energy security.
- Collaborating to achieving overarching regional goals through existing networks.

The LMSRGP provides direction on common issues in rural and urban areas across the Loddon Mallee South region but does not replace local planning. It identifies:

- where future development will be supported and assessed at a regional scale
- environmental (biodiversity, landscapes, parks and reserves, and waterways), economic, community and cultural (heritage and tourism) assets, infrastructure (utilities and transport) and resources (extractive, forestry, productive agricultural, water catchments) of regional significance that should be preserved, maintained or developed
- how the region can respond to opportunities, challenges and long-term drivers of change
- key regional priorities for future infrastructure planning and investment to support growth.

Implementation of the LMSRGP has been occurring in a number of ways such as amendments to Planning Schemes, preparation of infrastructure plans, land supply monitoring and other projects. Specifically relevant to rural land use planning are the LMSRGP

comments on agriculture and rural residential growth.

The LMSRGP recognises that agriculture remains a key economic driver across the region with considerable potential for further investment. It acknowledges that the agricultural output of the region has decreased over time.

The LMSRGP outlines that given changing climatic and economic conditions, there is a need to support ongoing investment in farming by pursuing a flexible approach to rural land use. This will be assisted by providing certainty around the encroachment of incompatible uses and discouraging permanent loss of agricultural land to housing. Key agricultural assets should be developed to encourage economic growth and protect food security.

Key drivers of change include:

- The proximity to Melbourne and strong transport links of the Calder transport corridor, increasing the movement of people and goods and the interrelationship of employment and tourism
- Improved accessibility with connections to the north, east, west and south to support the movement of people and goods
- The relative affordability of housing compared to Melbourne, combined with the regional lifestyle, amenity and culture
- Bendigo, the regional city, providing many higher order services and offering an alternative to Melbourne
- Changes in economic sectors, particularly agriculture and manufacturing, influencing employment and population movement within the region
- Managing growth within a naturally hazardous landscape, particularly when considering flood and bushfire risk
- Federal and state government policy having a significant impact on growth
- Impacts of climatic conditions such as long-term droughts, widespread flood and an increase in the number of days of extreme heat and bushfire danger.

The LMSRGP also emphasises the need to manage, protect and enhance the region's land, soil, water and biodiversity and supports new forms of energy generation where impact upon the amenity of residents, landscapes and environmental assets are minimised.

## Agriculture

The land use policies, strategies and actions for rural land relating to agriculture include:

- Facilitate ongoing agricultural productivity and investment in high value agriculture
- Support ongoing adaptation and flexibility for the agricultural sector
- Facilitate ongoing agricultural productivity and new opportunities that respond to the potential impacts of climate change
- Support the sustainable use of rural land, including the development of regional catchment strategies and other suitable tools
- Encourage and facilitate development in renewable energy, other new energy opportunities and in carbon sequestration activities
- Protect water quality and quantity

## Rural Small Lot Development

The land use policies, strategies and actions for rural residential development are that smaller lot development should be located to:

- Integrate with existing urban areas
- Avoid or complement strategically important, highly productive agricultural land, natural resources, significant natural hazards (especially bushfire), significant landscapes, environmental and cultural heritage assets
- Assist to achieve better land use management outcomes.

Future directions for rural residential development are:

- Support agricultural activity through management of land use conflicts and appropriate land use strategies
- Identify emerging agribusinesses and location clusters including the equine industry, and intensive animal industries such as cattle feed lots, piggeries and poultry farms
- Identify agribusiness and tourism clusters in the region and implement appropriate land use measures to facilitate agricultural tourism activities through the application of the reformed zones
- Develop a regional approach to small lot development using the reformed rural zones implementation
- Develop a consistent regional approach to identify strategically important agricultural land, land use clusters and links to processing, manufacturing and freight opportunities in the region through a combined food, freight and energy strategy for the region
- Support the increased efficiency of irrigated agriculture
- Work cooperatively with catchment management authorities to develop a carbon action plan

## Greater Bendigo Intensive Animal Industries 2013

Although never formally adopted by Greater Bendigo, Intensive animal industries, predominantly poultry and pork, are an important and growing part of Greater Bendigo's agricultural sector. However, as residential development encroaches on farming areas, conflicts are occurring. The Rural Areas Strategy 2009 identified the need for this study to establish appropriate planning mechanisms to manage environmental impacts and competing land uses.

### Industry Context:

- The poultry industry is the largest intensive animal sector in Greater Bendigo, generating over \$300 million and 2,000 jobs. It has evolved from small diverse farms to fewer, larger company-run farms.
- The pork industry is the second largest contributor, also shifting to fewer, larger company-run farms. Greater Bendigo's strategic location is a strength for both industries' growth.
- Consultation with industry representatives highlighted key issues including the importance of proximity to Bendigo for services, biosecurity risks, limitations on expansion due to encroaching sensitive uses, and concerns with current planning policy effectiveness.

### Study Area and Precincts:

- While focusing on Greater Bendigo, the study considered the broader regional context of the industries across neighbouring shires.
- Three strategic precincts were identified for detailed analysis:
  1. Northern Region - flat topography, key poultry and pork operations, increasing rural living leading to conflicts
  2. Western Region - Hazeldene's chicken processing at Lockwood is predominant, less constrained for growth
  3. South Eastern Region - fewest industries but existing farms constrained by significant rural living areas

### Planning Review:

- The current Greater Bendigo Planning Scheme includes some provisions to manage intensive animal industries but gaps exist, especially regarding minimum lot sizes in the FZ that can allow dwellings to bypass consideration of buffers.
- Existing Case Law examples demonstrate the challenges of protecting industrial uses from residential amenity concerns.
- Planning tools available to better manage the issue include strengthened local policy, applying minimum lot sizes via zone schedules to trigger permits within buffers, or using the Environmental Significance Overlay (though less supported by the State government).

### Recommendations and implementation:

- A key recommendation is to pursue a Planning Scheme Amendment to increase minimum lot sizes (to 80ha in FZ and 30ha in RLZ) for subdivision and dwellings within 1000m buffers of strategically important intensive animal industries.
  - This aims to trigger consideration of policy, referral comments, and third-party submissions to better manage potential conflicts, rather than prohibiting development outright.
- Strategic actions include pursuing the amendment, ongoing engagement with industry, monitoring its effectiveness, and a community awareness program to support the changes.

## A Strategy for Sustainable Rural Living 2000 – Western Areas.

The Strategy for Sustainable Rural Living assesses existing rural living development within the Western portion of the Greater Bendigo municipality and recommends appropriate tools to manage land use. The strategy also identifies new locations for additional RLZ land for the Western portion of Greater Bendigo.

The strategy includes a review of the issues, trends in supply and demand and characteristics of rural living land and makes recommendations on future directions based on its analysis. Some recommendations include applying the RLZ to areas with rural characteristics, applying minimum lot sizes to prevent subdivision and creating a planning policy to have a more clear, robust method of managing rural development.

## Council Plan (Mir wimbul) 2021-2025

The Council Plan (Mir wimbul) 2021-2025 provides strategic direction for the growth and development of the municipality, including its rural areas. The plan emphasizes the importance of sustainable population growth, protecting agricultural land, and supporting the agribusiness sector. The plan recommends exploring opportunities for ecotourism and advocate for the recognition, support, and development of the city and region's artisanal agriculture industry, linking them with local and regional tourism promotion and marketing. Key points in the plan are as follows:

- Upgrading the Bendigo Livestock Exchange, which is a significant asset for the rural community and the agribusiness sector.
- Exploring opportunities for ecotourism and advocate for the recognition, support, and development of the city and region's artisanal agriculture industry, linking them with local and regional tourism promotion and marketing.
- Engaging with Traditional Owners, particularly the Dja Dja Wurrung and Taungurung peoples, in the management of public spaces and the incorporation of their knowledge in decision-making processes, which is relevant to rural land management.

- Implementing Greater Bendigo's Food System Strategy and assisting local producers in transitioning to sustainable agriculture practices are key objectives. The plan also mentions conducting a rural and environmental study to protect productive agricultural land as part of the Managed Growth Strategy.
- Improving safe freight networks by implementing priorities from the Integrated Transport and Land Use Strategy and Road Management Plan will support the efficient transportation of agricultural produce.

## Climate Change and Environment Strategy 2021-2026

Greater Bendigo's Climate Change and Environment Strategy 2021-2026 outlines the council's vision and targets for regenerating and protecting the natural environment while improving community health and resilience. The strategy has six key action areas: biodiversity and regeneration, zero carbon, circular economy, sustainable and active transport, sustainable food systems, and water sensitive Bendigo.

The strategy predicts temperatures to increase by 0.8 to 1.7 degrees by the 2030s and notes that there is 27% less rain on average than 1960-1990. It sets key goals, including no net loss of native habitat in the municipality from the 2016 baseline, an increase in the population of indicator species, and an increase in tree cover in Bendigo to 35% from the 2016 baseline (23%) and shrub cover to 10% from the 2016 baseline.

The strategy also outlines sustainable food systems key targets, such as 20% of farms being on the sustainable agriculture rate (60% in 2036) and 20% of primary producers being involved in a Landcare group or similar (60% by 2036). It promotes the system of gastronomy but does not specifically address protecting the agricultural land base in Greater Bendigo.

- The strategy emphasizes the importance of protecting and regenerating biodiversity and landscapes, particularly in the context of the "Upside Down Country" resulting from mining and land clearing. This includes working with Traditional Owners, communities, and partners to restore ecosystems and connect fragmented vegetation.
- The sustainable food systems action area aims to support local primary producers in regenerating land and ecosystems while reducing food waste and improving community health. This includes enabling Traditional Owners to grow and harvest indigenous food and fibre plants.
- Water sensitive Bendigo targets include reducing flood risk, improving waterway health, and promoting collaborative management of water resources with Traditional Owners, agencies, and the community.

## Economic Development Strategy 2020-2030

Greater Bendigo's Economic Development Strategy 2020-2030 notes that developing local solutions to mitigate the impact of climate change on agriculture is a future challenge and opportunity. The strategy emphasizes that ensuring local businesses, including the farming sector, is key to growth and building an ecosystem that embraces innovation and creativity to drive productivity. It also acknowledges that agriculture is part of Greater Bendigo's 'distinct DNA' and was historically fundamental to Bendigo's growth and development. However, the agricultural sector is noted as being of historical significance but not mentioned as a key economic driver for the region.

### Forecast .id data

Greater Bendigo is forecast to increase in population by 20.51% by 2036, with growth separated into distinct areas:

- Marong - Rural West: 59.36% growth, heavily influenced by the adopted Marong Township Structure Plan, which proposes large greenfield development on land listed as having a low to very low agricultural versatility class in the 2009 Rural Activity Strategy.
- Rural East: 9.73% growth, mostly zoned as RLZ, with limited growth accounted for through infill development.
- Heathcote and District: 0.78% growth, with most of the land having moderate or higher agricultural versatility class and some very low versatility class to the east. Established farms in the area likely limit population growth.
- Elmore - Rural North: 3.97% growth, largely FZ land with national park. The northeast portion has high-quality versatility class, while the remainder is low or very low to the Central North and Northwest. In 2009, most of the land had a size between 50-200 hectares.

## Greater Bendigo Biodiversity Strategy and Action Plan 2022-2033

The biodiversity strategy and action plan looks to create a strategic vision and implementation program for biodiversity conservation across the Greater Bendigo. Key considerations within the plan relating directly to agriculture are as follows:

The Greater Bendigo region has a topsoil deficiency which is, compounded by ineffective pasture management such as the exclusive use of shallow-rooted annual grasses, has adversely affected both biodiversity and agricultural productivity.

A significant number of landholders in Greater Bendigo are seeking to enhance their land management practices, as evident in their participation in initiatives like the Healthy Landscapes project 50. This collaborative project involves partners such as the Macedon Ranges Shire Council and others. Additionally, the North Central CMA and Agriculture Victoria offer other agricultural programs across Greater Bendigo, including Regenerative Agriculture and Digging Deeper into Soils.

## Heathcote Township Plan, 2019

The Heathcote Structure Plan sets out the future vision for the township. The plan is currently being implemented into the Greater Bendigo Planning Scheme as amendment C274 gben. The strategy primarily proposes modifications to existing urban zones and adjustments to the application of the neighbourhood character overlay. It also proposes the placement of an environmental audit overlay on certain RLZ land due to potential contamination, as it was formerly a landfill site and is deemed suitable for future industrial use. Appendix 2 briefly discusses Rural Living Land Supply, indicating a high potential yield.

The Plan identifies that there is a large surplus of RLZ land around the township area. A theoretical supply of 353 lots are available in Heathcote and Argyle and it is noted that additional rezonings are unlikely to be supported because the Country Fire Authority have indicated a potential for bushfire risk.

## Marong Township Structure Plan, 2020

The Marong Township Structure Plan proposes a future vision for the growth of the area. The plan sets a long-term vision for Marong to be a satellite township of 8,000 people built around a vibrant community town centre and civic focus with a well serviced railway station and an outstanding public space network.

To achieve its vision, in part, the plan proposes a future expansion area which will allow a potential additional 2,369 dwellings into the future. The plan notes that it seeks to protect farming land through its staged rezoning because it will contain future development in a specified area.

The plan also seeks to manage buffers between residential and farming uses by including perimeter roads to act as buffer areas. It also notes an existing broiler farm within proximity to Marong and seeks to maintain a 1km separation distance from the use.

## Greater Bendigo Food System Strategy 2020-2030

The Greater Bendigo Food System Strategy 2020-2030 recognises the importance of cultivating a strong local food system for the health, economic, and environmental benefits it provides to rural communities. The strategy emphasizes supporting sustainable local food economies that enable the growth, production, and sale of healthy foods locally. This includes strengthening connections between local producers and consumers through more direct linkages. It identifies unprotected agricultural and horticultural land, climate change, and the high cost of irrigation/water as key issues for growing and producing food.

## The Land Suitability Assessment for the City of Greater Bendigo Region 2023

Is an analysis of the agricultural potential of the Greater Bendigo region. Maps on page 27 of this report show that the majority of Greater Bendigo has high versatility for agriculture up to 2050, with some of the southern portion reducing to moderate suitability in the future. The report examines the biophysical environment, deliberately omitting farmer management practices, and concludes that purely from a soil and projected climate data perspective, the Greater Bendigo region is highly suitable for agriculture.

## Community Plans

A number of community plans for the rural settlements of Greater Bendigo have been prepared by the residents who live there in partnership with the municipality. These plans identify numerous issues facing different communities and proposals to ensure a preferred future direction for each area. Some key initiatives common to these areas and relevant to farming and agriculture include:

- Recognition of the role farming played in the founding of their settlements.
- Advocating to maintain the viability of current and future farming activities.
- Managing and encouraging tourism to benefit the local community and economy.
- Ensuring water security for domestic and agricultural use.

## Greater Bendigo Draft Managed Growth Strategy, 2024

Among other things related to residential land supply, change areas and bushfire and environmental risk assessment, considers the value of agricultural land.

The strategy notes that there are several interface issues with existing and future residential development. Some issues include existing native forests and intensive animal industry. To manage this, the strategy suggests implementation of a design and development overlay to create buffers.

The variety of agricultural uses around Greater Bendigo is noted, stating that a nuanced approach to managing agricultural productivity is required because a single solution is not possible in this instance.

The strategy notes that consideration of the existing zoning of smaller lots in rural areas should be considered as part of the Rural Areas Strategy given that these parcels cannot be farmed productively without consolidation.



## VCAT Case Review

Having reviewed the below cases, existing Greater Bendigo policy around agricultural land use appears to be functioning well in comparison to surrounding local government areas. It also appears that historically, VCAT member decisions have swayed in the direction of generally granting permits for dwellings within the FZ. This trend has flipped to regular refusals in contemporary cases. These refusals consider whether there is a strong nexus between the proposed land use and whether it facilitates agricultural production. Regardless of whether the surrounding area has been developed or subdivided any further proposals are considered on their merits rather than a 'planning horse has bolted' approach.

### Azzopardi v Macedon Ranges SC [2020]

- Application for dwelling and outbuilding in FZ and ESO on lot less than 40ha (6.2ha)
- Council recommendation: Refuse, VCAT Decision: Granted
- Reasons
  - Plans reflect the requirements of the North Central Catchment Management Authority for finished floor level.
  - Agricultural land was of low quality
  - Dwelling could be adequately serviced
  - Surrounding existing small lots and dwellings meant this proposal would not lead to a proliferation
  - Proposed farm management plan for 10 cattle was adequate given the site's context.
  - Proposal dwelling had a nexus to agricultural practice, although not mandatory to conducting agricultural activity it facilitated it.

### Estate of JE Walker v Wangaratta RCC [2021] VCAT 1257

- Application for three lot subdivision and creation of an easement. (129ha). Proposed 3 lots of 43.15ha.
- Council recommendation: Refuse, VCAT Decision: Refuse
- Reasons
  - There was an error in the surveyor's assessment as to whether access could be provided to lot one without impinging on existing vegetation.
  - Due to this 'glitch' the VCAT member stated that the application would need to be decided on through establishing whether the proposal had an 'acceptable level of strategic planning support'
  - Having considered the proposal at a strategic level, it was clear that granting a permit would likely result in the loss of productive agricultural land.
  - Considered that the 'minimum 40ha' was a minimum benchmark. Not a rule which stated that anything above this minimum should be allowed.

- Consistent with the outcome of Tandis & Anor v Greater Bendigo CC (2011) VCAT 2357.
- "In my view, the fact that the FZ allows lots of at least 40 hectares in size must be read in the context that the policy framework places a strong emphasis on protecting productive agricultural land and preventing subdivision which will lead to a concentration of lots not consistent with zoning purposes or which are likely to change the general use and character of the rural area."

### Griffiths v Mitchell SC [2023] VCAT 811

- Application for staged multi lot subdivision of 7 lots into 15 lots and Removal of Native Vegetation.
- Council recommendation: Refuse, VCAT Decision: Refuse
- Reasons
  - Proposal is simply refused because it is not consistent with the purposes of the FZ.
  - Proposal represents a subdivision typical of an estate, rather than productive agricultural land.

### Niven v Greater Bendigo CC [2023] VCAT 1133

- Subdivision of a 177.75 hectare Crown Allotment into two lots comprising of one lot of 173 hectares (Lot 1) and a lot of 4.775 hectares (Lot 2). Lot 2 would contain two dwellings and various outbuildings, (shedding), yards, shearing shed and silos. Lot 1 is open farming land used for grazing and cropping.
- Council recommendation: Refuse, VCAT Decision: Refuse
- Reasons
  - State planning policy in the purpose of the FZ to ensure that non-agricultural uses, including dwellings "do not adversely affect the use of the land for agriculture"
  - Council's submissions referred to material that demonstrates that the subject land is of high capability and is best suited to broad acre cropping and grazing.
  - There was no clear demonstration that the excision of the dwelling would not negatively impact agricultural productivity.
  - The member notes that using a 173 agreement should not be appropriate because it indicates that alignment with the Planning Scheme is questionable in this instance if additional measures are required to manage future development supplementary to the Planning Scheme.
  - The subdivision proposed to retain much of the agricultural infrastructure in the smaller lot – e.g., silos, machinery shed, yards, workers cottage etc.

**Walton v Greater Bendigo CC [2023] VCAT 698**

- Application for 2 lot dwelling excision in the RCZ with the dwelling in lot 1 (16.3ha) and lot 2 vacant (11.29ha). Proposes removal of native vegetation for defendable space on a proposed dwelling site on lot 2. Proposed a carriageway easement across part of lot 1 to allow access to lot 2.
- Council recommendation: Refuse, VCAT Decision: Refuse
- Reasons
  - The bushfire management overlay applies to the land. Although there were no objections from the CFA, bushfire policy was heavily considered by the VCAT member.
  - RCZ is not a residential zone and proposed activities within it should 'enhance natural features' not only protect them.
  - Minimum subdivision size carried little weight in light of all other policy considerations.
  - As a note the member states that there appears to be no shortage of rural living land in Greater Bendigo, so there does not appear to be a significant unsatisfied demand for larger non-urban lot living.

**Moore v Greater Bendigo CC [2023] VCAT 418**

- Application for use and development of FZ land for a dwelling, outbuildings and pet therapy centre. ESO1 and BM also apply to the land.
- Council recommendation: Refuse, VCAT Decision: Refuse
- Reasons
  - Although other dwellings had been approved in surrounding small lots, this did not justify the granting of a permit for another.
  - There were concerns from the member that there was no true guarantee that the agricultural activity would continue to be conducted following the construction of the proposed dwelling.
  - Applicant said that the business would be expanded into the future in parallel with their existing employment offsite. The member did not have issue with agricultural activity being supplemented with other income but did have concerns regarding the longevity of the operation.
  - Proposes that the same use could be and may be more appropriate in the RLZ.

**Parry v Greater Bendigo SC [2014] VCAT 635**

- Application for use and development of the land for a dwelling and outbuilding (shed) in association with the use of the land for agriculture (8.65ha FZ lot).
- Council recommendation: Notice of Decision, VCAT Decision: Granted
- Reasons
  - Proposal was for production of potatoes, cereal and prime lambs.
  - VCAT member's decision relied principally on the following:
    - The proposed dwelling is directly related to and assists a bona fide agricultural use with the real and genuine potential for enhanced production and, beyond that, possible further diversification. The outcome is consistent with the policies in Clause 22.03. I am placing weight on Mr Frawley's evidence and his commitment to the ongoing agricultural use in reaching this conclusion.
    - The physical characteristics of this area, including the existing pattern of building siting, with which the proposal is not at odds.

**Wiseman v Greater Bendigo SC [2008] VCAT 737**

- Application for use and development of a dwelling in the FZ (28.53ha).
- Council recommendation: Notice of Refusal, VCAT Decision: Granted
- Reasons
  - Council issued an NOD because of Central Highland Water being a determining Authority and refusing the application.
  - CHW stated the proposed development would result in unacceptable risk to water quality. Dwelling is not required for the proposed agricultural use either.
  - There have not been cases which examine the extent of whether a dwelling is "Reasonably required for the operation of the agricultural activity".
  - VCAT member found that a dwelling must contribute to achieving the purposes of the FZ and applicable policies and does not need to be found essential to the proposed farming activity.
  - There was no catchment management plan for the area. The included Land Capability Assessment determined that the site was capable in catering for the proposed dwelling.
  - Appears that the ESO was not strong enough to maintain the position of CHW.

## Planning Policy Review

### Planning Practice Note 37 - Rural Residential Development

Planning Practice Note 37 provides guidance for managing rural residential development, defined as “land in a rural setting, used and developed for dwellings that are not primarily associated with agriculture.” The note directs rural residential development to be located near existing settlements and specifies that the LDRZ and RLZ are appropriate for this type of development.

Existing policy in the Greater Bendigo Planning Scheme (Clause 02.03-6 Housing) advises against further RLZ rezonings due to adequate supply. This practice note will need to be revisited if changes to rural residential development policy are proposed.

### Planning Practice Note 42 - Applying The Rural Zones

Planning Practice Note 42 guides authorities on the strategic work required to apply the FZ, RAZ, RCZ, and GWZ. Greater Bendigo currently has no GWZ or RAZ. The existing FZ Schedule 2 has an 8ha minimum subdivision and Section 1 dwelling size.

The purpose of FZ Schedule 2 (should be questioned. If the aim is to promote agritourism, the RAZ may be more appropriate, as it could still promote the desired outcomes but in a more suitable zone. The practice note also outlines the strategic work needed to justify changes to rural zones and clearly sets out the purpose, preferred uses, and overall objectives of each rural zone.

### Planning Practice Note 92 - Managing Buffers for Land Use Compatibility

Planning Practice Note 92 states that Clause 13.07-1S Land Use Compatibility is the primary objective for managing land use compatibility. The Greater Bendigo Planning Scheme includes Clause 13.07-1L Licensed premises – Greater Bendigo as a local policy to manage use compatibility. This local area could be expanded to manage land use compatibility based on further strategic work if other planning tools are insufficient.

Although there is no specific direction in the policy to manage buffers between residential and agricultural uses, it directs authorities to manage conflict in greenfield areas through land use transition and buffer area overlays.

### Planning Policy Framework

The following clauses of the Planning Policy Framework are considered relevant.

#### Clause 11: Settlement

Clause 11 seeks to ensure the sustainable development of Victoria through appropriately planned settlements and the provision of a sufficient supply of land for use and development purposes. At a regional level, growth and development is to be supported in existing urban settlements to foster sustainable rural communities.

Key observations include:

- *Clause 11.01-1S Settlement* requires the Loddon Mallee South Regional Growth Plan (2014) to be considered as relevant.
- *Clause 11.01-1R Settlement - Loddon Mallee South* sets a policy direction to maintain non-urban breaks between settlements.
- *Clause 11.01-1L-01 Settlement - Greater Bendigo* includes a number of relevant strategies, including:
  - *Avoid rezoning land for residential use outside the Bendigo Urban Growth Boundary unless it abuts the urban growth boundary and all of the following can be met:*
  - *It meets a shortfall in the supply of residential development.*
  - *The land is identified on the Urban strategic framework plan in Clause 02.04 as a future urban investigation area.*
  - *The development of the land will support the 10 minute neighbourhood principles in Clause 02.03-1.*
- *Clause 11.02-2L - Structure Planning* sets a policy direction to protect and strengthen biodiversity assets.
- *Clause 11.03-5S Distinctive areas and landscapes* seeks to recognise the importance of distinctive areas and landscapes to the people of Victoria and protect and enhance the valued attributes of identified or declared distinctive areas and landscapes.

### Clause 12 Environmental and Landscape Values

Clause 12 seeks to ensure planning protects and enhances ecological systems, biodiversity, and areas of environmental and landscape value through the implementation of ecologically sustainable development. The quality of native vegetation and waterbodies, in particular, is to be maintained. Significant landscapes that contribute to character, identity, and sustainable environments are to be protected and enhanced.

### Clause 13: Environmental Risks and Amenity

Clause 13 seeks to ensure that planning identifies and manages environmental risks and seeks to avoid and minimise their impact on the economic, social and environmental wellbeing of society. Climate change impacts and natural hazards associated with flooding and bushfire are to be minimised and adapted to through risk-based planning.

### Clause 14: Natural Resource Management

Clause 14 is implemented into the Planning Scheme at both a state and a local level. It seeks to ensure planning recognises the conservation and wise use of natural resources including agricultural land. Productive agricultural land is to be preserved and protected for its economic benefits by amongst other things identifying areas for significant primary production, avoiding fragmentation and the encroachment of residential development, and discouraging the siting of incompatible uses within proximity of agricultural activities.

The policy aims to protect and sustain Victoria's agricultural land base by ensuring productive farmland remains available for agricultural use. The strategies include:

- Identifying and safeguarding areas of productive agricultural land.
- Considering state, regional, and local factors in assessing agricultural quality and productivity.
- Avoiding permanent removal of productive land without evaluating its economic importance.
- Protecting farmland of strategic significance and preventing unplanned loss due to land use changes.
- Discouraging dispersed urban activities in rural areas and limiting new housing developments.
- Consulting with relevant departments and using available data to identify productive land.
- Evaluating the impact of proposals on agricultural productivity, surrounding land, and pest spread.
- Avoiding subdivision that diminishes long-term productivity and prioritizing the restructuring of inappropriate subdivisions.
- Balancing off-site effects of proposals against their benefits.

Specific policies within Clause 14 are as follows:

- *Clause 14.01-1S Protection of agricultural land* seeks: to protect the state's agricultural base by preserving productive farmland, including a range of strategies including:
  - *Identify areas of productive agricultural land, including land for primary production and intensive agriculture.*
  - *Consider state, regional and local, issues and characteristics when assessing agricultural quality and productivity.*
  - *Avoid permanent removal of productive agricultural land from the state's agricultural base without consideration of the economic importance of the land for the agricultural production and processing sectors.*
  - *Protect productive farmland that is of strategic significance in the local or regional context.*
  - *Protect productive agricultural land from unplanned loss due to permanent changes in land use.*
  - *Prevent inappropriately dispersed urban activities in rural areas.*
  - *Protect strategically important agricultural and primary production land from incompatible uses.*
  - *Limit new housing development in rural areas by:*
    - *Directing housing growth into existing settlements.*
    - *Discouraging development of isolated small lots in the rural zones from use for dwellings or other incompatible uses.*
    - *Encouraging consolidation of existing isolated small lots in rural zones.*
  - *Identify areas of productive agricultural land by consulting with the Department of Energy, Environment and Climate Action and using available information.*
  - *In considering a proposal to use, subdivide or develop agricultural land, consider the:*
    - *Desirability and impacts of removing the land from primary production, given its agricultural productivity.*
    - *Impacts on the continuation of primary production on adjacent land, with particular regard to land values and the viability of infrastructure for such production.*
    - *Compatibility between the proposed or likely development and the existing use of the surrounding land.*
    - *The potential impacts of land use and development on the spread of plant and animal pests from areas of known infestation into agricultural areas.*
    - *Land capability.*

- *Avoid the subdivision of productive agricultural land from diminishing the long-term productive capacity of the land.*
- *Give priority to the re-structure of inappropriate subdivisions where they exist on productive agricultural land.*
- *Balance the potential off-site effects of a use or development proposal (such as degradation of soil or water quality and land salinisation) against the benefits of the proposal.*
  - *Clause 14.01-1L Agriculture, rural dwellings and subdivision, includes a range of strategies including:*
    - *Do not support the agricultural use of land in the Farming Zone.*
    - *Result in the fragmentation of agricultural land in the Farming Zone and Rural Conservation Zone.*
    - *Support subdivisions that facilitate productive and efficient agricultural outcomes, particularly farm consolidation.*
    - *Avoid subdivisions in the Farming Zone that create additional dwelling entitlements that are not required for the agricultural use of the land.*
    - *Avoid the excision of existing dwellings unless the excision will:*
      - *Facilitate productive and efficient agricultural outcomes, particularly farm consolidation.*
      - *Minimise the loss of productive agricultural land.*
      - *Support the viability of agricultural land for agricultural purposes.*
      - *Provide for an excised dwelling that will not impact adjoining agricultural activities.*
    - *Discourage serial excisions and further subdivision after reconfiguration of existing titles.*
    - *Avoid dwelling excisions on parcels greater than two hectares to minimise the impacts of fragmentation unless required because of natural or public infrastructure constraints or it supports efficient agricultural practices.*
    - *Avoid boundary realignments except if they are minor adjustments to take account of physical, man-made or topographical features on the site, or to allow a change of ownership between existing landowners.*
    - *Avoid subdivisions that may create rural living enclaves remote from urban infrastructure.*
    - *Support subdivisions that consolidate old and inappropriate lots.*
- *Avoid subdivision that is likely to lead to such a concentration of lots as to change the general use and character of the rural area.*
- *Design subdivisions to reflect the general use and character of the rural area by limiting density to reflect the area.*
- *Minimise the area taken up by residential use and development by clustering restructured lots.*
- *Design restructured subdivisions to maximise the productive use and development of rural land.*
- *Plan subdivisions to protect water quantity and quality and significant native vegetation.*
- *Avoid the construction of a dwelling unless required to support a genuinely economically viable agricultural use of the land that requires permanent and continuous care, supervision or security.*
- *Ensure that where a dwelling is deemed necessary to support an agricultural use, that the use is viable based on the level of investment required and the estimated return as shown in an integrated land management plan.*
- *Ensure that where a dwelling has been deemed necessary to support an agricultural use, that the agricultural use has been established on the land prior to the construction of a dwelling.*
- *Avoid the construction of a dwelling proximate to locations for intensive animal production, pig farm or poultry farms unless associated with the use.*
- *Avoid the construction of a dwelling on existing small lots (lots smaller than the zone schedule minimum) in the Farming Zone, except if allowed under a Restructure Overlay.*
- *Policy guidelines*
- *Consider as relevant:*
  - *Whether the subdivision creates an additional lot where a dwelling can be constructed without a permit.*
  - *Whether the subdivision or excision supports productive and efficient agricultural outcomes.*
  - *Whether an agreement under Section 173 of the Planning and Environment Act 1987 should be utilised at the time of subdivision to prevent the fragmentation of agricultural land as a result of:*
    - *Further subdivision.*
    - *Construction of a dwelling.*

- *Whether there will be an impact on the viability of adjoining agricultural land uses.*
- *Whether there is a demonstrated need to reside on the site to support the agricultural land use.*
- *Where a dwelling is deemed necessary to support an agricultural use, whether that use is viable based on the level of investment required and the estimated return as shown in an integrated land management plan.*
- *Whether the subdivision will change the character of the area.*
- *Whether there is a need to allow an excision of greater than 2 hectares in area to take account of natural or public infrastructure or to provide a farm boundary configuration that supports efficient agricultural practices.*
- *Whether the excised dwelling is in a habitable condition.*
- *Support agricultural investment through the protection and enhancement of appropriate infrastructure.*
- *Facilitate ongoing productivity and investment in high value agriculture.*
- *Facilitate the establishment and expansion of cattle feedlots, pig farms, poultry farms and other intensive animal industries in a manner consistent with orderly and proper planning and protection of the environment.*
- *Ensure that the use and development of land for animal keeping or training is appropriately located and does not detrimentally impact the environment, the operation of surrounding land uses and the amenity of the surrounding area.*
- *Clause 14.02 Water* contains a range of policies relevant to the context of Greater Bendigo, including:
- *Clause 14.02-1S Catchment planning and management* including the protection and restoration of catchments, waterways, water bodies and groundwater.

#### Clause 14.01-1L Agriculture, Rural Dwellings, and Subdivision:

This policy is set at a local level specific to Greater Bendigo and provides guidelines for managing agricultural land use and subdivision in FZ and RCZ. The key strategies include:

- Supporting subdivisions that enhance agricultural efficiency, such as farm consolidation.
- Discouraging subdivisions that create unnecessary dwelling entitlements or fragment agricultural land.
- Avoiding excision of dwellings unless it promotes agricultural outcomes and minimizes productive land loss.
- Preventing boundary realignments unless they address physical or ownership changes.
- Designing subdivisions to maintain rural character, minimize residential land use, and protect water and vegetation.
- Ensuring that dwellings are constructed only when necessary for viable agricultural use and after agricultural operations are established.

#### Clause 15: Built Environment and Heritage

Clause 15 seeks amongst other things to ensure areas of aboriginal cultural heritage are protected and conserved.

#### Clause 16: Housing

Clause 16 seeks to ensure that a range of housing types with good access to jobs and services in established areas is provided for. Clause 16.01-5S specifically focuses on rural residential development where it is noted that suitable land in appropriately serviced locations should be identified for this type of development to ensure that agriculture is not impacted on, high quality productive land avoided, and landscape and environmental values protected.

#### Clause 17: Economic Development

Clause 17 encourages the provision of a strong and innovative economy by providing land for industry, facilitating decisions, and resolving land use conflicts. Within the Hume region, new and developing forms of industry, agriculture, tourism and alternative energy production is encouraged.

#### Clause 18: Transport

Clause 18 seeks to ensure planning can facilitate efficient transport networks for the reliable movement of people and goods, for overall economic prosperity.

## Municipal planning strategy

The following clauses of the Local Planning Policy Framework are considered relevant.

### Clause 02.01: Context

This Clause sets the scene for the context of Greater Bendigo as follows:

*The City of Greater Bendigo is located in north central Victoria, 150 kilometres north west of Melbourne, and covers an area of approximately 2995 square kilometres. Greater Bendigo adjoins the municipalities of Campaspe, Strathbogie, Mitchell, Mount Alexander, and Loddon.*

*Bendigo is Victoria's third largest urban centre outside metropolitan Melbourne and is the major centre for north central Victoria.*

*Greater Bendigo is growing rapidly with a projected population of over 150,000 people by 2036 (Victoria in Future, 2019) and a population target of 200,000 by 2041 (Loddon Mallee South Regional Growth Plan, 2014).*

*This growth is creating an increasingly culturally, religiously and ethnically diverse community. Most people live within the urban area of Bendigo. About one in seven people live in townships and rural areas outside the Bendigo Urban Growth Boundary.*

*The Dja Dja Wurrung and Taungurung people are the traditional inhabitants of the Greater Bendigo region and were present for at least 30,000 years prior to the arrival of European settlers.*

*Gold was discovered in the early 1850s and Bendigo became the second biggest goldfield in Australia and contributed significantly to the development of Melbourne. The gold rush left a legacy of fine Victorian buildings, and Bendigo has one of the highest concentrations of properties registered on the Victorian Heritage Register in the State.*

*The gold rush brought a diversity of traditions and cultural practice including large numbers of Chinese, Cornish, and German miners.*

*Greater Bendigo is strategically positioned with a well-connected network of highways and railways that provide important social and economic links. It is located within the Murray-Darling Basin, the North Central Catchment region and the catchments of the Loddon and Campaspe Rivers.*

*Greater Bendigo has a large range of natural features that contribute significantly to the municipality's character and appeal, including an extensive network of state, regional and national parks and Big Hill and the Loddon and Campaspe Rivers. Bendigo is in a unique situation of being a regional city surrounded by forest. This requires particular management along the interface to protect environmental values and provide a safe place to live and work.*

*Greater Bendigo performs a regional service role with construction, manufacturing, health care, education and financial services being the major contributors to economic output, along with mining, retail and tourism.*

### Clause 02.03: Strategic directions

This Clause outlines a wide range of strategic directions, with elements of various sub-clauses relevant to the current project including:

- Strategic directions for settlement are:
  - Protect agricultural land and high value environmental areas from development.
  - Protect forest values by providing a buffer between urban development and the public and private forests.
  - Discourage rezoning proposals of land for urban purposes outside the urban growth boundary unless in an area marked future urban investigation area on the Urban strategic framework plan in Clause 02.04.
  - Support rehabilitation of former mining land for development, including residential development.
- Clause 02.03-2 Environmental and landscape values includes the following statements about key environment and landscape features:
  - The Loddon and Campaspe River catchments that are part of the Murray-Darling basin catchment, Australia's largest and most productive agricultural area. This area is increasingly subject to a range of environmental pressures that impact on social and economic activities.
  - The many streams and watercourses across the municipality that maintain clean water, soil stability, and habitat flora and fauna, and that feed Greater Bendigo's water supply sources.
  - Lake Eppalock is a vital environmental resource and also provides an increasing proportion of Bendigo's domestic water supply.
  - Groundwater recharge areas across the municipality, which are an important source of water that requires careful management.

- *Clause 02.03-3 Environmental Risks and Amenity* includes the following strategic directions:
  - Manage the interface between urban development and incompatible uses including waste management facilities, gold mines and other uses with off-site amenity impacts to support land use compatibility.
  - Minimise land use compatibility issues through separating waste management facilities, gold mines, and other uses with off-site amenity impacts.
  - Protect critical infrastructure from incompatible adjoining uses.
  - Direct licensed venues and gaming facilities to locations that minimise their impact on the amenity of surrounding areas and the well-being of community members affected by problem drinking and gambling.
- *Clause 02.03-4 Natural resource management* includes the following relevant statements:
  - *Agriculture is the major land use in the Shire and a - The key natural resource management issues for Greater Bendigo are:*
    - *The protection of agricultural land and sustainable agricultural land use.*
    - *Protection of water assets.*
    - *Resource exploration and extraction.*
  - *Greater Bendigo's rural areas support a diverse agricultural base, which has traditionally been based on grazing in the southern areas of the municipality and mixed grazing and cropping in the northern half. The most productive agricultural land in the municipality is in the Campaspe River, Axe Creek, Bendigo Creek, and Bullock Creek areas. Rural Bendigo generates nearly \$200 million of agricultural product each year.*
  - *Investment in grape production over the last three decades, particularly in the Heathcote region, has consolidated Greater Bendigo as a major wine region. Many other niche farming activities, especially associated with paddock to plate enterprise, have developed in recent years and are supported as a growth area.*
  - *There is continued growth in more intensive animal production such as poultry and pigs. Growth is also occurring in agricultural businesses that rely on irrigation and animal keeping and animal training facilities (including stables).*
  - *Major agricultural processing plants to the west of urban Bendigo and in Castlemaine (in the neighbouring Mount Alexander Shire) form a cluster of intensive rural industry and associated manufacturing.*
- *There are areas where agricultural activities are potentially compromised by a fragmented subdivision pattern and isolated dwellings in rural areas have the potential to disrupt agricultural activities. Ongoing agricultural production depends, in part, upon maintaining a mass of productive land, which excludes concentrations of residential type uses that have the potential to restrict normal agricultural practices.*
- *There are significant groundwater assets across the municipality. Both surface and groundwater require protection from high nutrient loads and from the impacts of dry land salinity and erosion.*
- *Securing long term water supplies for the towns is key for future growth and development.*
- *Mining is still a major industry for Greater Bendigo, with the current expansion of goldmines at Fosterville and Costerfield, and for this to be ongoing, these resources need to be protected from incompatible land uses. It is also critical that these industries are developed in an environmentally and socially responsible way.*
- *The protection of future extractive resources, particularly potential clay and stone resources is significant to local industry. Potential sites need to be managed to protect their use, and to prevent pressures from other land uses, including residential development.*
- *The strategic directions for natural resource management are:*
  - *Protect agricultural land as a valuable and finite resource from fragmentation and encroachment by competing uses.*
  - *Support the sustainable growth of agriculture by:*
    - *Assisting the sector to adapt to the impacts of climate change.*
    - *Continuing to invest in infrastructure, processing and value adding businesses.*
    - *Protecting from incompatible uses.*
    - *Broadening the range of agricultural businesses.*
  - *Avoid subdivision of agricultural land to maintain it as a food and fibre resource to meet population growth demand.*
  - *Manage competing land uses in order to facilitate the growth of agricultural uses while maintaining the amenity of more sensitive uses, particularly in the areas of a concentration of intensive animal industries as shown in the Rural strategic framework plan in Clause 02.04.*
- *Protect and restore the Lake Eppalock Special Water Supply Catchment, as shown in the Rural strategic framework plan in Clause 02.04, from urban encroachment and support innovation to ensure long term water supplies are secure.*

- *Protect existing and potential sites to enable resource exploration and extraction.*
- *Clause 02.03-6 Housing*
- *The key housing issues for Greater Bendigo are:*
- *The management of rural residential development.*
- *Greater Bendigo offers a wide range of housing options with its compact urban centre, well established suburbs, greenfield development areas, large and small rural townships, rural living in the township hinterlands, and more remote dwellings that support agricultural use on Farming Zone land.*
- *Rural residential development requires careful management in Greater Bendigo in order to avoid the loss of agricultural land, adverse impacts on the biodiversity values, isolation of people from services and costs and poor standards of infrastructure such as roads and drainage. There is a large supply of land zoned Rural Living Zone in the Strathfieldsaye and Heathcote areas which provides opportunities for rural residential development for many years.*
- *The strategic directions for housing are:*
- *Avoid rezoning of additional land to Rural Living Zone while there is an adequate supply of rural living land around the south east side of Bendigo and near Heathcote.*
- *Clause 02.03-7 Economic Development includes the following relevant statements:*
  - *Traditionally industry in Greater Bendigo has been located within the Bendigo urban area and focussed on manufacturing and engineering. These sectors remain important to the economy. New industries such as food manufacturing and information technologies have recently experienced growth. The Bendigo Livestock Exchange plays an important role in supporting the agricultural sector regionally. At present there is inadequate industrial land to meet the expected long term demand.*

#### **Clause 02.04: Strategic Framework Plan**

This Clause includes a rural strategic framework plan to be read in conjunction with the strategic directions contained in Clause 02.03. The strategic framework plan contained in Clause 02.04 is reproduced on the following page.

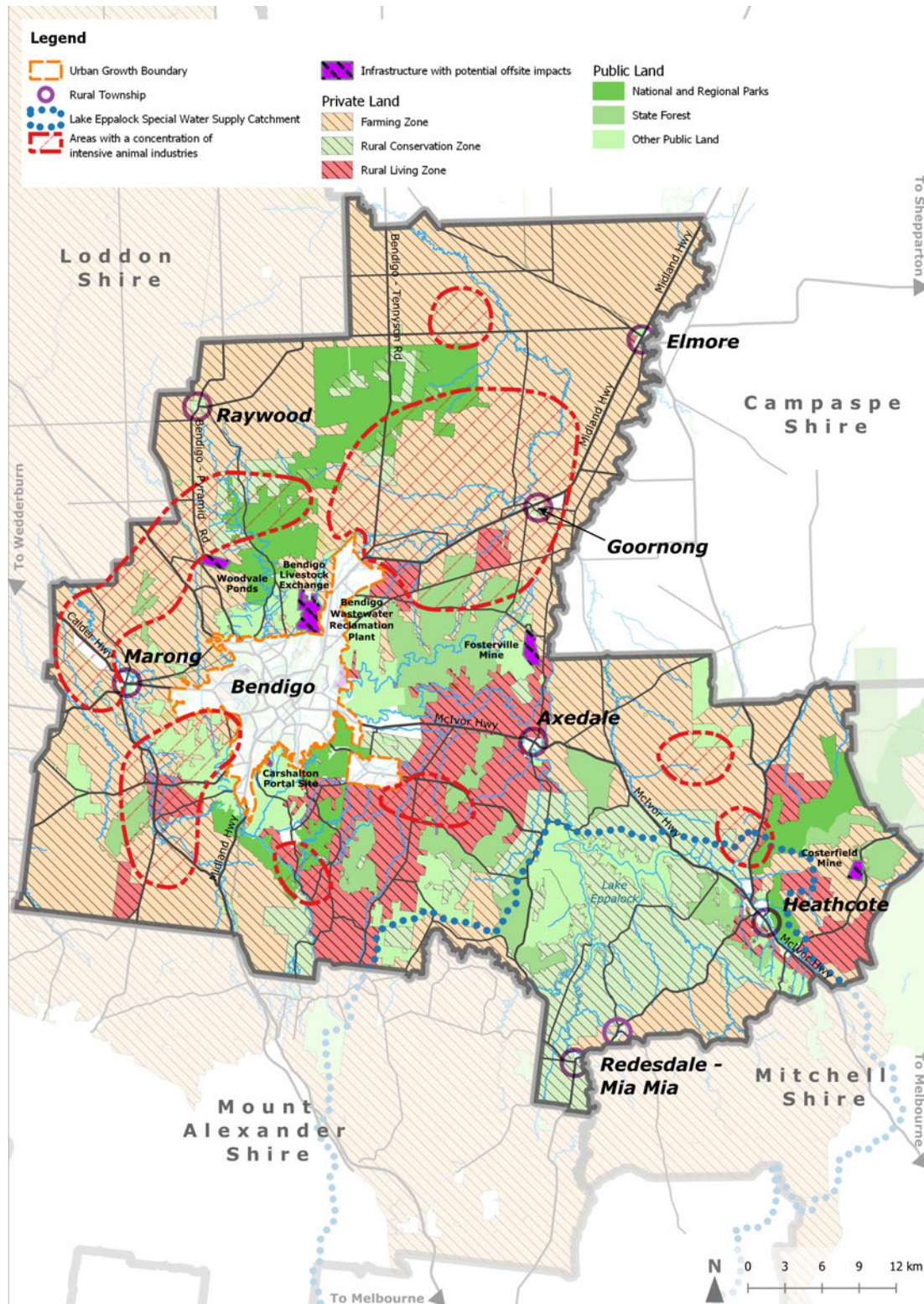


Figure 21: Strategic Framework Plan, Greater Bendigo Planning Scheme

## Zones

The following table provides a summary of all relevant zones within the study area.

Zone	Purpose	Schedules and Application
Farming Zone (FZ)	To identify and protect productive farming land and to limit uses that would conflict with or limit agricultural activities and expansion.	<p>Applied to the majority of rural land within Greater Bendigo. Minimum subdivision areas outlined within schedules:</p> <ul style="list-style-type: none"> <li>▪ 40ha - in schedule 1 land.</li> <li>▪ 8ha - in schedule 2 land.</li> <li>▪ 64ha - in schedule 3 land.</li> </ul> <p>Minimum area for which no permit is required to use land for a dwelling:</p> <ul style="list-style-type: none"> <li>▪ Aligns with minimum subdivision area.</li> </ul>
Rural Conservation Zone (RCZ)	To protect and conserve rural land with significant environmental features or attributes which could be based on historic, archaeological, landscape, ecological, cultural or scientific values.	<p>Applies to a number of targeted areas, with some listed in RCZ schedules as follows:</p> <p>Minimum subdivision areas outlined within schedules:</p> <ul style="list-style-type: none"> <li>▪ None specified - in schedule 1 land.</li> <li>▪ 1ha - in schedule 2 land.</li> <li>▪ 2ha - in schedule 3 land.</li> <li>▪ 8ha - in schedule 4 land.</li> </ul> <p>Dwellings are a section 2 use in the RCZ and will always trigger a permit when they are first proposed for land.</p>
Rural Living Zone (RLZ)	To allow for residential uses within a rural setting and farming activities not necessarily related to household income.	<p>Applies to various existing settlements throughout Greater Bendigo. The application of the RLZ Schedules appears correlate with the quality of land within each area.</p> <p>Minimum subdivision areas outlined within schedules:</p> <ul style="list-style-type: none"> <li>▪ 8ha - in schedule 1 land.</li> <li>▪ None Specified - in schedule 2 land.</li> <li>▪ 3ha with an average of 4.5ha - in schedule 3 land.</li> <li>▪ 4ha - in schedule 4 land.</li> </ul> <p>Minimum area for which no permit is required to use land for a dwelling:</p> <ul style="list-style-type: none"> <li>▪ Aligns with minimum subdivision area.</li> </ul>
Public Park & Recreation Zone (PPRZ)	<p>To recognise areas for public recreation and open space.</p> <p>To protect and conserve areas of significance where appropriate.</p> <p>To provide for commercial uses where appropriate.</p>	Applies to a number of selected parkland reserves located throughout the rural areas of Greater Bendigo.
Public Use Zone (PUZ)	<p>To recognise public land use for public utility and community services and facilities.</p> <p>To provide for associated uses that are consistent with the intent of the public land reservation or purpose.</p>	Schedule 1- Service & Utility applies to a number of selected sites within the rural areas of Greater Bendigo and typically water catchment reservoirs.

## Overlays

The following table provides a summary of all relevant overlays within the study area.

Overlay	Purpose	Schedules and Application
Environmental Significance Overlay (ESO)	To identify land where development may be affected by environmental constraints or may be incompatible with identified environmental values.	<p>ESOs apply in targeted areas across Greater Bendigo, as denoted by a number of specific overlay schedules, including:</p> <ul style="list-style-type: none"> <li>ESO Schedule 1 Water Protection (ES01) applies to waterways throughout Greater Bendigo to maintain clear water, soil stability and habitat for flora and fauna.</li> <li>ESO Schedule 2 Groundwater Recharge Protection Area (ES02), applies to areas throughout the municipality where the environment around groundwater recharge must be protected.</li> <li>ESO Schedule 3 Eppalock Declared Water Supply Catchment (ES03) applies to the declared water supply catchment area around Lake Eppalock.</li> <li>ESO Schedule 4 (ES04) (note: not listed within the Greater Bendigo Planning Scheme).</li> <li>ESO Schedule 5 Protection of Remnant Vegetation (ES05) applies to areas of remnant vegetation.</li> </ul>
Vegetation Protection Overlay (VPO)	To maintain and enhance habitat and habitat corridors for indigenous fauna. Encourage the regeneration of native vegetation.	<p>VPOs apply in targeted areas across Greater Bendigo, as denoted by a number of specific overlay schedules, including:</p> <ul style="list-style-type: none"> <li>VPO Schedule 1 Wildlife Corridor Protection (VPO1) applies to wildlife corridors throughout Greater Bendigo to retain native vegetation and habitats.</li> <li>VPO Schedule 2 Significant Vegetation (VPO2) applies to areas throughout the municipality where significant vegetation must be protected.</li> <li>VPO Schedule 3 Roadside Remnant Vegetation (VPO3) applies to areas of roadside vegetation throughout the municipality which include vulnerable and significant flora species.</li> </ul>
Significant Landscape Overlay (SLO)	To identify conserve and enhance significant landscapes.	<p>SLOs apply in targeted areas across Greater Bendigo, as denoted by a number of specific overlay schedules, including:</p> <ul style="list-style-type: none"> <li>SLO Schedule 1 Bush Garden and Semi-Bush Residential Areas (SLO1) applies to bush garden and semi bush residential areas to retain the bushland setting around Greater Bendigo.</li> <li>SLO Schedule 2 Campaspe River Valley Environs (SLO2) applies to land around the Campaspe river and its environs to conserve the environmental and landscape values of the area.</li> </ul>
Heritage Overlay (HO)	To conserve and enhance places of natural or cultural significance.	Applies to a range of specific sites and precincts.
Design & Development Overlay (DDO)	To identify areas which are affected by specific requirements relating to the design and built form of new development.	Applies to targeted precincts and/or land parcels throughout Greater Bendigo and outlines site specific design and built form outcomes which are sought to be facilitated.