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1 INTRODUCTION

OVERVIEW

Glenelg Shire is preparing a Rural Land Use Strategy to identify and address existing and emerging rural land use issues and trends. The Rural Land Use Strategy will consider competing business needs, community aspirations and amenity expectations in order to provide a comprehensive vision for its rural areas in the pursuit of economic, social and cultural wellbeing. The Rural Land Use Strategy will provide a framework for:

- Amending the Municipal Strategic Statement, introducing zoning and ordinance changes and incorporating new local policy into the Glenelg Planning Scheme.
- Undertaking future strategic work to support the land use planning of rural land in Glenelg Shire.
- Supporting the implementation of regional and State Government strategic plans.

The Rural Land Use Strategy will assist Council in both statutory and strategic decision-making and strengthen Council’s ability to vie for future State and Federal funding for major projects and infrastructure, and provide a prospectus to attract private investment to rural areas.

The purpose of this Technical Assessment and Background Report is to document the findings of research and analysis to identify key issues and trends affecting the Shire’s rural areas and provide a body of work that will form the necessary strategic justification for implementation of the Rural Land Use Strategy.

The Technical Assessment Background Reporting project is Stage 2 of a five stage process being undertaken by Glenelg Shire to prepare the Rural Land Use Strategy.

APPROACH

The Technical Assessment and Background Report study was undertaken in two key steps:

- Investigations, analysis and mapping to provide a comprehensive analysis of the current rural land use and development circumstances of the rural areas.
- Targeted consultation with key stakeholders to test and validate the initial findings and mapping and provide opportunities for further understanding of rural issues and opportunities.

These initial steps were completed in June 2015. In 2016, additional research, analysis and groundtruthing was undertaken in response to the recommendations of the planning panel report that considered submissions to Amendment C78 to the Glenelg Planning Scheme, particularly in relation to rezoning of land to Rural Living.

SCOPE

For the purposes of this study rural land includes all private land currently within the Farming Zone and Rural Conservation Zones (Figure 1). In 2016, the Background Report scope was expanded to include an assessment of land recommended for rezoning to Rural Living as part of Amendment C78.

Land use on public, urban and other rural living zoned land is considered where it impacts use and development of land within the scope of this study. Most private rural land in Glenelg is used for primary
production including livestock grazing and forestry. Around 15% of the land area is Crown land held in state or national reserves.

**THIS REPORT**

This Technical Assessment and Background draft report documents findings of the initial desktop review and mapping of the strategic context influencing land use and development of rural land, analysis of rural industries, rural values and land hazards. It will be provided to key stakeholders to test and validate the report findings and expand on issues and opportunities impacting rural industries.

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Figure 1  Scope of the Technical Assessment report (areas shaded grey including public land, townships and rural living areas are outside the scope of this study).
GLENELG SHIRE

Glenelg Shire is located around 3.5 hours from Melbourne in the southwest of Victoria on the Victorian-South Australian border (Figure 2). The Shire covers a large geographical area (around 6,212 square kilometres) with varying rural environments; from inland river systems and lakes, rural plains, forests and bush, to a rural coastline of cliffs, dunes and river estuaries.

Aboriginal occupation of Western Victoria is dated to 20,000 years with people of the Dhauwurd wurrung (Gunditjmara) language group occupying most of the area covered by the Glenelg Shire1. European settlement in the region commenced in the 1830s in Portland and expanded inland, following in the footsteps of the explorer Major Thomas Mitchell2. Whaling, sealing, fishing and pastoral industries were important in the early development of Portland and the Shire.

The Shire economy is now underpinned by manufacturing, agriculture and property services. In terms of output these industries generate, $1.7 billion, $213 million and $160 million respectively3. Manufacturing, agriculture and health care and social assistance are the three top employment sectors3.

In 2013, the population of Glenelg was just under 20,000 and is forecast to remain relatively steady until 2031. The major service centre is Portland (pop. 10,000) and other key towns include Heywood (pop. 1,200), Casterton (pop. 1,300) and Dartmoor (pop. 270)4.

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2 http://www.swvic.org accessed 12.1.2015
3 REMPLAN accessed 12.1.2015

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Figure 2 Regional context map
3 PLANNING POLICY CONTEXT

The key outcome of the preparation of the Rural Land Use Strategy will be updates and amendments to the Glenelg Planning Scheme with respect to rural land use and development. This section of the report provides a summary of the rural planning policy context for Glenelg and a review of its performance in achieving the desired land use and development outcomes.

GLENELG PLANNING SCHEME

The Victoria Planning Schemes comprise two major sections. The State Planning Policy Framework (SPPF) sets out land use and development objectives and strategies that apply to all private land in the State. The Local Planning Policy Framework (LPPF) is specific to each individual municipality. The LPPF must implement State Policy.

STATE PLANNING POLICY FRAMEWORK

There are a number of State planning objectives and policies that apply to rural land. Objectives relevant to this study are summarised here.

Regional settlement networks
Promote the sustainable growth and development of regional Victoria through a network of settlements identified in the Regional Victoria Settlement Framework plan including the regional centre of Portland. Planning must consider the Great South Coast Regional Growth Plan.

Rural productivity
Manage land use change and development in rural areas to promote agriculture and rural production including preventing inappropriately dispersed urban activities in rural areas and limiting new housing development in rural areas.

Coastal settlement
Plan for sustainable coastal development providing clear settlement boundaries around coastal settlements protecting rural landscapes and areas between settlements for non-urban use.

Great South Coast regional growth
Strengthen the region’s economy through increased industry diversification, innovation and development. Build on the network of towns and the roles played by them. Support rural residential development in appropriate locations. Manage and utilise strategic assets and support agricultural productivity. Sustainably manage natural, cultural and environmental assets. Ensure that the land and infrastructure needed to support growth is identified and appropriately planned.

Protection of biodiversity
Assist the protection and conservation of Victoria’s biodiversity, including important habitat for Victoria’s flora and fauna and other strategically valuable biodiversity sites. Use statewide biodiversity information to identify high value biodiversity and consider the impact of land use and development on these values.

Protection of coastal areas
Recognise and enhance the value of the coastal areas to the community and ensure sustainable use of natural coastal resources.

Appropriate development of coastal areas
Ensure development conserves, protects and seeks to enhance coastal biodiversity and ecological values.
Coastal tourism
Encourage suitably located and designed coastal and marine tourism opportunities.

Environmentally sensitive areas
Protect and conserve environmentally sensitive areas.

Landscapes
Protect landscapes and significant open spaces that contribute to character, identity and sustainable environments.

Climate change impacts
Plan for and manage the potential coastal impacts of climate change.

Floodplains
Assist the protection of life, property and community infrastructure from flood hazard, the natural flood carrying capacity of rivers, streams and floodways, the flood storage function of floodplains and waterways and floodplain areas of environmental significance or of importance to river health.

Bushfire
Assist to strengthen community resilience to bushfire.

Erosion and landslip
Protect areas prone to erosion, landslip or other land degradation processes.

Salinity
Minimise the impact of salinity and rising watertables on land uses, buildings and infrastructure in rural and urban areas and areas of environmental significance and reduce salt loads in rivers.

Agriculture
Protect productive farmland, which is of strategic significance in the local or regional context.

Sustainable agricultural land use
Encourage sustainable agricultural land use.

Forestry and timber production
Facilitate the establishment, management and harvesting of plantations, and harvesting of timber from native forests.

Catchment planning and management
Assist the protection and, where possible, restoration of catchments, waterways, water bodies, groundwater, and the marine environment.

Water quality
Protect water quality.

Heritage conservation
Ensure the conservation of places of heritage significance.

Aboriginal cultural heritage
Ensure the protection and conservation of places of Aboriginal cultural heritage significance.

Facilitating tourism
Encourage tourism development to maximise the employment and long-term economic, social and cultural benefits of developing the State as a competitive domestic and international tourist destination.

Ports
Recognise the transport and logistics role of Victoria’s commercial trading ports at Melbourne, Geelong, Hastings and Portland in supporting the State’s economy and to facilitate their ongoing sustainable operation and development.

Provision of renewable energy
Promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met.

LOCAL PLANNING POLICY FRAMEWORK

Key elements of the LPPF relevant to use and development of rural land are summarised here.

VISION

The vision for Glenelg Shire embraces a prosperous community that capitalises on the sustainable development opportunities provided by its natural resource base, its industrial sectors, and its strategic location in south west Victoria, midway between Melbourne and Adelaide. Development of the Shire’s resources will be directed to increasing employment prospects, widening the industrial base, particularly through the processing and value-adding of local product, reversing recent population decline, particularly in rural areas and smaller inland towns and, at the same time, conserving the Shire’s diverse natural environments and habitats.

Planning for development will be based on:

- Supporting economic development based on the Shire’s natural and locational assets.
- Realising the potential of the Shire to support and develop the timber industry for employment and sustainable land management.
- Setting aside land for long term residential, industrial and port-related needs and ensuring that incompatible uses and developments are effectively buffered from each other and that their potential impacts are managed.
- Realising the potential of Portland as a major regional deep water port with associated industries, employment opportunities and value-added processing.
- Focusing urban growth in and around existing townships.
- Protecting and enhancing items, places and areas of natural and cultural heritage.
- Supporting quality tourism development.
- Developing transport links based on the Shire’s air and rail networks and its location on a coastal highway.
- Ensuring sustainable management and protection of the natural resources of soil, water, and coastal areas.
- Protecting and conserving biodiversity in the Shire including provision for habitat areas for native plants and animals.
- Protecting the character and significance of sensitive coastal landscapes, particularly landscapes of state and regional significance where there is a high level of pressure for development.

KEY RURAL LAND USE ISSUES

The LPPF notes the following rural land use and development issues:

- The need to make efficient use of the existing infrastructure including road networks, community services and facilities, recreational facilities, reticulated water and sewerage and major trunk sewers. Continued scattered development particularly around the extended Portland area means higher costs for the whole community. Opportunities must be used to focus development around existing infrastructure.
- The need to ensure improved management of the Shire’s natural resources. This is critical to the economic sustainability of the community. New development in both urban and rural areas must be planned, serviced and managed so that there is no immediate or long term lessening of the environmental qualities of the area.
- The need to ensure improved presentation of the Shire, particularly its heritage assets, its coastal environment and landscape features. These are important for the promotion and marketing of lifestyles for residents and for the growing tourism industry.
- The need to facilitate the managed expansion of the timber industry through additional plantings, local processing and value-adding as the sector of the economy which provides the opportunity to improve the employment base, add value to agricultural holdings and sustainably manage natural resources.
- The need to develop opportunities to utilise productive agricultural land to support innovative industries. Throughout the Shire there are areas of land whose soil characteristics, access to water or particular local
circumstances lend themselves to intensive crop production or horticulture. These opportunities need to be encouraged and facilitated particularly where they may lead to local processing and value-adding, are based on sustainable use of resources and do not result in a lessening of environmental qualities.

- The need to maintain biodiversity in terms of the diversity of habitats and the conservation of flora and fauna.

OBJECTIVES AND STRATEGIES

The Glenelg Planning Scheme outlines the following objectives and strategies relevant to rural land in the Shire.

**Agriculture**

Provide for agricultural uses, which are environmentally and ecologically sustainable through encouraging investment in existing agricultural enterprises and diversification of agricultural enterprises

- Provide a diversity of locational opportunities for agriculture including agroforestry, horticulture and appropriately sited intensive animal husbandry.
- Provide locational opportunities for the establishment of local processing of agricultural products.
- Provide locational opportunities for the establishment and development of wineries.
- Protect areas of high quality agricultural land from non-agricultural uses.

**Forestry and timber production**

Facilitate the establishment, management and harvesting of plantations in an environmentally sustainable manner.

- Promote the expansion of timber production on predominantly cleared land.
- Identify and promote areas for timber production taking into account road infrastructure and development, diversification for agriculture, fire hazard minimisation, landscape protection and environmental matters including protection of water quality and soil suitability.

**Fishing industry**

Facilitate the continued development and expansion of an environmentally and ecologically sustainable fishing industry.

- Provide locational opportunities for the expansion of fishing fleets and the establishment of local processing of fishery products.

**Environment**

Manage the Shire’s resource base in a sustainable way to secure the Shire’s environmental assets.

Protect and enhance the Shire’s natural assets.

Protect groundwater resources water quality and secure a potable water supply.

- Minimise damage to water catchments and watercourses.
- Rectify salinity, soil erosion and vegetation loss through the encouragement of Landcare principles and comprehensive catchment management.
- Identify, retain and promote areas of geological interest as major environmental and tourist assets.
- Introduce environmental provisions for land subject to fire hazard, salinity, soil erosion, landscape protection and flooding.
- Liaise closely with the Glenelg Land Protection and Catchment Board to ensure consistency in decision making over catchment issues - in particular the Glenelg River and its tributaries.

**Conservation of native flora and fauna**

Protect and conserve the Shire’s biodiversity, including native vegetation retention and provision of habitats for native birds and animals.

- Retain the Shire’s Red Gum country as a major environmental and landscape asset.
- Protect significant rural landscapes from inappropriate use and development.

**Protection of coastal areas**

Protect and manage the Shire’s coastline as a significant environmental resource and long term public asset.
Protect the landscape setting and character from inappropriate coastal related development, including the inappropriate removal of vegetation.
- Protect and maintain areas of environmental and landscape significance.
- Prevent inappropriate development in coastal areas that is likely to prejudice the long term environmental values of the coast.
- Emphasise landscaping and good design in the assessment of applications for buildings and works.
- Work with other municipalities to ensure a coordinated approach to planning for coastal area.

Heritage
Protect the cultural and natural environmental features of Portland, the towns and rural areas.
- Conserve and enhance heritage places of natural or cultural significance.

Tourism
Focus tourism on the attributes of the coast, the area’s rural products and the heritage values of all towns especially Portland.
Support the continuing development of a quality tourist and recreation product based on the built heritage assets, natural environment features such as the coast, National Parks, agriculture and food processing.
- Develop a tourist product that links all the towns and hinterland areas. Routes from the Princes Highway need to be developed to attract people to both coastal and rural areas.
- Develop tourist product and facilities at centres such as Nelson and Casterton.
- Realise the Shire’s eco-tourism potential including off shore tourism and the existence of accessible ship wrecks.

Hinterland Strategies
- Promote the rugged coastline and environment as an alternative destination – this theme to be linked with the Great South West Walk.
- Promote the hinterland to assist towns to prosper and enable their economies to diversify.
- Develop the tourist assets of Nelson.
- Promote the natural environment as a key theme for the Shire.
- Increase promotion of the Shire’s wineries and Red Gum country.

LOCAL PLANNING POLICIES
Clause 22.01-4 of the Settlement Local Policy provides for excision of dwellings in the Farming Zone to:
- Ensure that the excision of lots and dwellings is consistent with the purposes of the Farming Zone.
- Limit the subdivision, use or development of land that will be incompatible with the utilisation of the land for sustainable resource use.
- Ensure that dwellings, which are excised or constructed on an excised lot do not prejudice rural production activities.
- Ensure that dwellings, which are excised or constructed on an excised lot are properly sited and designed.

At Clause 22.02, the Environment Local Policy sets out objectives and implementation measures for:
- Coastal Areas (Clause 22.02-4) - applies to land included in the Schedule 1 to the Environmental Significance Overlay. An Implementation Clause outlines specific matters in relation to development in coastal areas. Of particular relevance are:
  - Tourism
    - Tourism in the coastal area including visitor accommodation and other facilities, will be directed to suitable locations based on the objectives, principles and outcomes of this policy.
    - Tourism development will be located where there is environmental capacity and where it does not significantly conflict with the natural and aesthetic qualities of the coastal zone.
  - Recreation
    - Suitable recreation opportunities will be identified through strategic planning and may be provided in appropriate locations where they do not adversely affect sensitive coastal
ecosystems and landforms or in designated areas where such effects can be remedied or mitigated.

- **Bridgewater Bay Coastal Area**
  - Future residential and commercial development shall be planned, designed and sited to ensure that the landscape features and qualities and the natural environmental of the area shall not be lessened. Applications for changes of use and new development will demonstrate how they are compatible with the role of the coast as an environmental, conservation, recreation, open space and tourist natural resource.

- **High Quality Agricultural Land (22.02-5)** - applies to high quality agricultural land within the Rural Conservation Zone to the north and north-west of Portland.
  - Recognise the finite nature of high quality agricultural land.
  - Protect high quality agricultural land because of its productivity and ability to sustain a wide range of agricultural uses.
  - Encourage specialist agriculture on high quality agricultural land.
  - Prevent unsustainable use of high quality agricultural land which results in the loss of the quantity or quality of the soil and limits the realisation of its full productive potential.
  - Prevent the conversion of high quality agricultural land to non-soil based use and development.
  - Promote a range of niche markets to complement the Shire’s diversity of agriculture.

- **Primary Industries (22.03-1)** - applies to new primary industries in the Shire.
  - Ensure that changes to the use of land are not prejudicial to the continued production and operation of the agricultural, horticultural, timber and fishing industries or to the productive capacity of the land.
  - Encourage opportunities for the expansion of agriculture, horticulture and timber production where compatible with adjoining land uses.

- **Tourist Development (22.03-4)**
  - This policy applies throughout the Shire.
  - Attract increased tourist numbers and high quality tourist development that is conducive to the environmental attributes of the areas. Development needs to ensure that current environmental and aesthetic values are enhanced.
  - Prevent unplanned linear development along major highways, roads and the coast.

### ZONES

The Zones that apply to rural land in Glenelg Shire (Figure 3) include:

- **Farming Zone (FZ):** The main zone for agricultural areas aimed at encouraging retention of productive agricultural land and discouraging uses that may have adverse impacts on agriculture. This has been applied to the majority of rural land in Glenelg Shire.

- **Rural Conservation Zone (RCZ):** Aims to protect land with significant environmental, heritage or cultural values. There are three schedules to the RCZ:
  - **RCZ 1:** Promotes conservation of the environment, landscape and vegetation qualities of the area through encouraging sound management practices and land capability principles which recognise the environmental sensitivity and biodiversity of the locality to which the Schedule is applied.
  - **RCZ 2:** Promotes sustainable agricultural and horticultural uses based on the productive capabilities of the soil and to discourage the location of non soil-based activities which would result in the loss or under-use of agricultural land.
  - **RCZ 3:** Applied to a small strip of coastal land to the east of Narrawong that is within the Surry River estuary and floodplain and comprises part of a primary coastal dune system.

Table 1 sets out the minimum lot sizes for each of the rural zones.

| Table 1 Minimum lot schedules for the rural zones |
### Table 1: Zones that apply to rural land

<table>
<thead>
<tr>
<th>Zone</th>
<th>Minimum subdivision area (ha)</th>
<th>Minimum area for which no permit is required to use land for a dwelling (ha)</th>
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<tr>
<td>Farming Zone</td>
<td>40</td>
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<tr>
<td>Rural Conservation Zone (Schedule 1)</td>
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<td>A permit is required for all dwellings</td>
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<td>Rural Conservation Zone (Schedule 2)</td>
<td>2</td>
<td>A permit is required for all dwellings</td>
</tr>
<tr>
<td>Rural Conservation Zone (Schedule 3)</td>
<td>40</td>
<td>A permit is required for all dwellings</td>
</tr>
</tbody>
</table>

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**Legend**

- Farming Zone
- Public Conservation and Resource Zone
- Public Park and Recreation Zone
- Rural Conservation Zone
- Rural Living Zone

Figure 3 Zones that apply to rural land
OVERLAYS

A number of overlays apply to rural areas of the Shire including the Significant Landscape Overlay (Figure 4), Bushfire Management Overlay, Airport Environ Overlay (Figure 5) and Environmental Significance, Flood Overlay and Land Subject to Inundation Overlay (Figure 6).

Environmental Significance Overlay (ESO)

- **ESO 1 – Coastal areas**
  - Ensure the long term protection of coastal and marine ecosystems.
  - Prevent inappropriate development in coastal areas that is likely to prejudice the long term environmental values of the coast.

- **ESO 2 – Wetlands and waterways**
  - Maintain environmental diversity and quality of areas that constitute wetlands, swamp lands, intertidal areas, lagoons and significant waterways.
  - Prevent inappropriate development adjacent to significant wetlands and waterways.
  - Prevent pollution of significant waterways and wetlands and the degradation of habitat areas.

- **ESO 3 – Red-tailed black cockatoo habitat areas**
  - Protect areas of critical breeding habitat of the endangered Red-tailed Black Cockatoo by ensuring the retention of suitable nesting trees within the bird’s known nesting area.

- **ESO 4 – Coastal and wetland areas**
  - Ensure the long term protection of coastal, marine, flood plain and wetland ecosystems.
  - Prevent inappropriate development that is likely to prejudice the long term environmental values of coastal dune and wetland areas.
  - Maintain environmental diversity and quality of areas that constitute wetlands, swamp lands, intertidal areas, lagoons and significant waterways.
  - Prevent pollution of significant waterways and wetlands and the degradation of habitat areas.

Significant Landscape Overlay (SLO)

- **SLO 1 - Glenelg River Estuary and surrounds**
- **SLO 2 - Bridgewater Lakes and surrounds**
- **SLO 3 - Cape Bridgewater and Cape Nelson**

![Figure 4 Overlay that applies to rural land](image-url)
Figure 5 Overlays that apply to rural land
OTHER RELEVANT CLAUSES

A number of clauses at Clause 52 – Particular Provisions provide further guidance on assessment of planning permit applications for rural uses including Wind Energy Facilities, Timber Production on Crown and private land, Cattle feedlots and Broiler farms.

Clause 81.01 – Incorporated Documents includes the Cape Nelson Livestock Assembly Depots (2005) report that sets out the depot operating arrangements.
PLANNING SCHEME PERFORMANCE AND IMPLEMENTATION ISSUES

An assessment of the performance of the current suite of rural planning policy as it applies to rural land was undertaken to identify opportunities for improvement.

DIRECT TRANSLATION OF THE RURAL ZONES

A new suite of rural zones was introduced in 2004 by Ministerial Amendment to the Victoria Planning Provisions and by direct translation to the Glenelg Planning Scheme in 2006. This resulted in application of the Farming Zone to land previously zoned Rural and the Rural Conservation Zone to land previously zoned Environmental Rural. Direct translation means that the new zones were applied without strategic justification or analysis to ensure that the zone objectives and minimum lot size schedules were appropriate to the existing uses, land attributes and promotion of the desired land use outcomes.

For example the Cape Nelson Assembly Depot - holds and prepares livestock prior to live export. The depot is on land zoned Rural Conservation, a use prohibited in the zone. While the business has existing use rights, it must apply for a planning permit to undertake improvements or new developments. In 2004, to address limitations placed on the facility because of the zoning anomaly, an Incorporated Document was included in the Glenelg Planning Scheme, outlining specific controls and conditions on the use and development of the Assembly Depot. The Incorporated Document is still very restrictive and ideally the site should be rezoned to more appropriately reflect the use of the land.

The preparation of the Rural Land Use Strategy provides an opportunity to test and validate the application of the rural zones and review the minimum lot size schedules in accordance with the Rural Zones Practice Note

MINISTERIAL AMENDMENT OF THE FARMING ZONE

In September 2013, Amendment VC103 introduced a number of changes to the Farming Zone in relation to applications for dwellings and subdivision including:

- Deleting the requirement and long standing test to consider ‘whether the dwelling is reasonably required for the agricultural activity conducted on the land.’
- Modifying the purpose of the Farming Zone to reduce the emphasis on dwellings adversely affecting the use of land for agriculture (‘particularly dwellings’ was changed to ‘including dwellings’).
- Adding a purpose to ‘encourage the retention of employment and population to support rural communities.’
- Removing the restriction on further subdivision following the creation of a lot for an existing dwelling.

In deleting the requirement for an applicant to prove ‘whether the dwelling is reasonably required for the agricultural activity conducted on the land’ the key remaining decision guideline regarding the nexus between dwellings and agriculture is ‘the potential for the proposal to lead to a concentration or proliferation of dwellings in the area and the impact of this on the use of the land for agriculture’. There is some concern that in the absence of policy, there will be an increase in dwellings not associated with primary production in important agricultural areas of the Shire.

The Rural Land Use Strategy provides an opportunity to consider additional policy guidance for rural subdivision and dwellings.

LEGACY ISSUES

A significant legacy of past planning practice and decision making is a substantial supply of small lots in the Shire’s rural areas. In addition, some subdivision applications approved between 1998 and 2004 were made without consideration of Aboriginal cultural values or environmental values and hazards, making it difficult for current landowners to develop these properties. Past reviews have noted a number of issues relating to the policy position that currently applies to these legacy lots:

- Landholder expectation that they will be able to construct a dwelling despite the land not being suited to or of sufficient scale to support agriculture.
- Mismatch between the original intent of the subdivision and the current zoning regime.

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• Increased expectation in state and local policy that high quality agricultural land will be protected from fragmentation and that rural residential development will be in proximity to existing settlement, services and infrastructure.

• 14% of lots in the Farming Zone are rated as rural residential property raising landowner expectations of future development potential that is not encouraged by the Planning Scheme and has the potential to introduce land use conflicts.

The locations and implications of small rural lots is discussed in further detail in Section 10.

Another legacy issue relates to subdivision in and around Cape Bridgewater initially zoned Township and subsequently rezoned to a rural zone. The subdivision now appears as an anomaly of small lots with no formal recognition within the Planning Scheme. Further subsequent subdivisions at Panoramic Drive have exacerbated the issue and resulted in further conflict between the current zone and expected form of development.

PLANNING PANEL AND PLANING SCHEME REVIEW REPORTS

A number of recent Planning Panel reports and planning scheme reviews include recommendations for improving Planning Scheme performance. Outstanding items relevant to this study are summarised in Table 2.

Table 2 Recommendations to improve Planning Scheme performance

<table>
<thead>
<tr>
<th>Report</th>
<th>Recommendations</th>
</tr>
</thead>
</table>
| Amendment C73 Panel Report | The LPPF should be re-structured to reflect the format set out in Practice Note: Writing a Municipal Strategic Statement (2010)  
Council agreed to accommodate a DEPI request that future planning scheme amendments make provision for a 25m separation between the existing gas pipeline PL196 and future dwellings in the Rural Living Zone in Portland.  
Supports review of Schedule 2 to the Rural Conservation Zone taking into consideration the issues raised in submissions to the effect that it had become a de facto rural residential zone. |
| New Format Planning Scheme Report | The LPPF should be re-structured to reflect the format set out in Practice Note: Writing a Municipal Strategic Statement (2010)  
Redraft the Environmental Significance Overlay No. 1 – Coastal Areas to meet the requirements of the Schedule for this Overlay as set out in the Ministerial Direction on the Form and Content of Planning Schemes. This should include a Statement of Environmental Significance as well as the environmental objectives to be achieved.  
Demonstrate clearer linkage between the MSS and the application of zones, overlays and schedules with regard to timber production, high quality agricultural land, coastal areas and heritage assets.  
Develop local policies to address vegetation clearance for timber production: Walook Swamp; Fawthroop Lagoon. |
| Glenelg Planning Scheme Review (2014) | Rewrite Clause 21.05 to provide guidance on agriculture and rural land use, forestry and timber production, aquaculture and water quality.  
Rewrite Clause 21.07 to provide guidance in relation to issues such as dwellings in the Farming Zone.  
Clause 35.03 – Rural Living Zone - The Glenelg Strategic Land Use Study (2010) recommends investigating alternative zoning regime for small Farming Zone lots near established settlements (i.e. Rural Living Zone or Rural Activity Zone).  
The Glenelg Sustainable Settlement Strategy (2012) recommends investigating rezoning land at the following locations subject to further assessment:  
• Areas south, north and west of Portland to be rezoned from Schedule 2 to the Rural Conservation Zone and the Farming Zone to the Rural Living Zone. (Partially addressed by Amendment C78)  
• South of Bridgewater Road and west of Madeira–Packet Road and the Henty Hwy, Portland from Schedule 2 to the Rural Conservation Zone and the Farming Zone to the Rural Living Zone. (Partially addressed by Amendment C78)  
• Land east of the Princes Hwy, north of the extension of the Catons Flat Road road reserve and west of Hoggans Road, Heywood from the Farming Zone to the Rural Living Zone.  
• Land south of the Princes Hwy and east of Wanwin Street South, Dartmoor from the Farming Zone to the Rural Living Zone.  
• A number of old small-lot subdivisions bound by the Glenelg River to the west of the Nelson |
Township from the Farming Zone to the Rural Living Zone.
- Land extending from the corner of Orchards Road-Princes Hwy and the corner of McCombes Lane-Princes Highway to the junction of the Princes Hwy and Livingston Road, Narrawong East.
- Land surrounding the Township of Digby from the Farming Zone to the Rural Living Zone:
  - Between the eastern boundary of the Township Zone and Rashleigh Street.
  - Bound by Bowen Street, Rashleigh Street, Goodman Road and Portland-Casterton Road.
  - South of Dartmoor-Hamilton Road and west of Portland-Casterton Road.
  - Between the western boundary of the Township Zone and land east of Mclean Street, south of Crawford Street and north of Dartmoor-Hamilton Road.
- Land to the east and south of the Township of Merino from the Farming Zone to the Rural Living Zone:
  - Bound by the extension of the Back Street road reserve (to the north), the unnamed road reserve descending south of the junction of Burke Street and Harvey Street (to the east), Campbell Street (to the south), Learmonth Street (to the west), and the extension of the Learmonth Street road reserve (to the west).
  - South of Campbell Street and east of Lower Glenorchy Street and Bryce Street.

Clause 35.06 – Schedule 1 to the Rural Conservation Zone - The Glenelg Land Use Study (2010) recommends investigating an alternative zone regime for land zoned Schedule 1 to the Rural Conservation Zone lots (under 2ha). (i.e. Amending the existing schedule or applying a new zone to this land).

Clause 35.06 – Schedule 2 to the Rural Conservation Zone - The Glenelg Land Use Study (2010) recommends investigating an alternative zone regime for land zoned Schedule 2 to the Rural Conservation Zone lots. (i.e. Amending the existing schedule or applying a new zone to this land).

The Glenelg Sustainable Settlement Strategy (2012) recommends investigating rezoning all land in Gorae, Gorae West, Heathmere, Narrawong, Heywood and Cashmore not proposed to be rezoned to the Rural Living Zone from Schedule 2 to the Rural Conservation Zone to the Farming Zone

Clause 35.07 – Farming Zone - The Glenelg Land Use Study (2010) recommends investigating an alternative zone regime for clusters of old small lot subdivisions nearby established settlements (i.e. Amending the existing schedule or applying a new zone to this land)

Clause 42.01 – Schedule 1 to the Environmental Significance Overlay - Recommend that the Schedule be reviewed to ensure consistency in its application and effectiveness.

Clause 42.01 – Schedule 2 to the Environmental Significance Overlay – Schedule 2 has been applied inconsistently (e.g. to areas where there are no waterways or wetland environs). The application of ESO2 should be reviewed to ensure it is consistently applied across the municipality (i.e. identify rivers and wetlands and apply the overlay within 100m of these river banks and wetlands).

Clause 42.01 – Schedule 4 to the Environmental Significance Overlay - Recommend that the Schedule be reviewed to ensure consistency in its application and effectiveness.

Clause 42.01 – Schedule 5 to the Environmental Significance Overlay - Recommend that the Schedule be reviewed to ensure consistency in its application. The overlay does not require a permit for subdivision, which negates the purpose of the overlay, which is to manage potential conflicts between land in the port environs and the port.

Clause 44.06 – Bushfire Management Overlay - Recommend that this schedule to be modified to incorporate bushfire management statements in accordance with the Nelson, Cape Bridgewater and Dartmoor Bushfire Reports, 2013 and Portland West periphery.

In 2015 Glenelg Shire exhibited Amendment C78 that sought to implement elements of the Glenelg Sustainable Settlement Strategy and proposed to:
- Rezone land from Rural Conservation 2 and Farming Zone to Rural Living Zone in Digby, Portland North and West, and Bolwarra North and South.
- Rezone land in public ownership from Rural Conservation 2 to either Public Park and Recreation Zone or Public Conservation and Resource Zone to reflect the ownership and future management of land.
- Rezone land from Rural Conservation 2 to Industrial 2 Zone where it forms part of a lot already in IN2Z in Portland North.
- Amend the schedule to the Rural Living Zone to apply a minimum subdivision area of 2ha within the areas to be rezoned in Portland and Bolwarra and a 1ha minimum subdivision area in Digby.
Amend the schedule to the Rural Living Zone to provide for a 20m building setback on Rural Living Zone Rural Living Zone land adjoining School Road (Portland North) and a 15m building setback on RLZ land in Digby.

In relation to areas proposed for rezoning to RLZ, the Panel recommended that they be removed from the amendment and that Council undertake further investigation prior to considering preparation of a new amendment. Research, analysis and groundtruthing of land proposed for rezoning to Rural Living in Digby, Portland North and West, and Bolwarra North and South is documented in section 11 of this report.

PLANNING PERMIT ANALYSIS

Between July 2007 and March 2015, Council received around 490 planning permit applications for changes to use and development of land within the Farming Zone, Rural Conservation Zone 1 and Rural Conservation Zone 2. Of these, around 239 were either:

- Subsequently withdrawn.
- Amendments to or time extensions to a previous planning permit.
- Developments by public authorities or for extensions to existing dwellings.
- Vegetation clearance.
- Patios or replacement of an existing dwelling.

The remaining 263 planning permit applications are analysed and are summarised in Table 3. The analysis highlights that:

- Most planning permit applications were for new dwellings or subdivision.
- Most planning permits were for land within the Farming Zone and most of these applications were approved.
- Most planning permit applications for land in the Rural Conservation Zone 1 and Rural Conservation Zone 2 were for dwellings and most of these were also approved.
Mapping of approved planning permits for subdivision (Figure 7) and development (Figure 8) shows that most are in close proximity of Heywood, Portland and Cape Bridgewater.

Table 3 Planning Permit application data
## Proposed use or development

<table>
<thead>
<tr>
<th>Zone</th>
<th>Subdivision</th>
<th>Farm shed</th>
<th>Dwelling</th>
<th>Second dwelling</th>
<th>Tourism activity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approved</td>
<td>Refused</td>
<td>Approved</td>
<td>Refused</td>
<td>Approved</td>
<td></td>
</tr>
<tr>
<td>FZ</td>
<td>55</td>
<td>2</td>
<td>40</td>
<td>1</td>
<td>39</td>
<td>169</td>
</tr>
<tr>
<td>RCZ 1</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>RCZ 2</td>
<td>11</td>
<td>1</td>
<td>31</td>
<td>0</td>
<td>39</td>
<td>106</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>68</strong></td>
<td><strong>3</strong></td>
<td><strong>76</strong></td>
<td><strong>1</strong></td>
<td><strong>88</strong></td>
<td><strong>263</strong></td>
</tr>
</tbody>
</table>

---

Figure 7 Approved subdivisions (July 2007 – March 2015)
VICTORIAN CIVIL AND ADMINISTRATIVE TRIBUNAL

A brief review of recent Victorian Civil and Administrative Tribunal (VCAT) relevant to rural land are summarised in Table 4. Most of the cases involve subdivision or dwelling permit applications on land in the RCZ 1 and RCZ 2. These cases serve to highlight the significant legacy of the RCZ 1 (40ha minimum subdivision schedule) and RCZ 2 (2ha minimum subdivision schedule) and the need for a clear policy position.
that responds to site specific circumstances. The development of the Rural Living Strategy and the Rural Land Use Strategy will be important in detailing clear directions and policy for this land.

Table 4 VCAT decisions

<table>
<thead>
<tr>
<th>Year</th>
<th>Zone</th>
<th>Issue</th>
<th>VCAT decision</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>FZ</td>
<td>Council opposed second dwelling on a 45 ha lot in the Farming Zone.</td>
<td>VCAT supported Council decision on the basis of insufficient support for agriculture (Hossack v Glenelg)</td>
<td>Supported Council</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VCAT supported Council decision on the basis of insufficient support for agriculture (Hossack v Glenelg)</td>
<td>Permit not granted</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>RCZ 1</td>
<td>Council supported permit for a dwelling on a 2ha lot in the RCZ1.</td>
<td>VCAT set aside Council decision due to environmental and amenity impacts of proposed development (Strom v Glenelg 2008)</td>
<td>Council decision set aside</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VCAT set aside Council decision due to environmental and amenity impacts of proposed development (Strom v Glenelg 2008)</td>
<td>Permit not granted</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>RCZ 2</td>
<td>Council refused permit for a dwelling and olive farm in the RCZ1.</td>
<td>VCAT supported Council on the basis of amenity and environmental impacts</td>
<td>Supported Council</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VCAT supported Council on the basis of amenity and environmental impacts (Blaszkiewicz v Glenelg)</td>
<td>Permit not granted</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>RCZ 2</td>
<td>Council supported permit for a dwelling – 10 lots in the subdivision, 6 have a dwelling. Objection to the permit based on the development being inconsistent with the RCZ 2 - Gora West. VCAT supported Council given that the immediate vicinity was primarily rural residential. (Antony v Glenelg)</td>
<td>Supported Council</td>
<td>Permit granted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VCAT supported Council given that the immediate vicinity was primarily rural residential. (Antony v Glenelg)</td>
<td>Permit granted</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>RCZ 2</td>
<td>Council refused permit for a 6-lot subdivision. VCAT supported Council position given primarily agricultural status of the land (Burns v Glenelg)</td>
<td>Council decision set aside</td>
<td>Supported Council</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VCAT supported Council position given primarily agricultural status of the land (Burns v Glenelg)</td>
<td>Permit not granted</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>RCZ 2</td>
<td>Council refused permit for a 2-lot subdivision. VCAT set aside Council decision due to land in the immediate vicinity was primarily rural residential (Oliver v Glenelg)</td>
<td>Council decision set aside</td>
<td>Council decision set aside</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VCAT set aside Council decision due to land in the immediate vicinity was primarily rural residential (Oliver v Glenelg)</td>
<td>Permit granted</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td>Clarification on expiry date of a permit for a subdivision and use of land for a dwelling. Council officers recommended permit be granted. Delegated Planning Committee refused permit. (Lacey v Glenelg)</td>
<td>VCAT supported Council decision due to land in the immediate vicinity was primarily rural residential (Oliver v Glenelg)</td>
<td>Legal advice sought and Permit subsequently granted</td>
</tr>
</tbody>
</table>

STRATEGIC IMPLICATIONS

There is strong support in state and local policy:

- To promote primary production, including agriculture and forestry.
- To protect natural and environmental values and minimise risks associated with natural hazards.
- To promote rural industries, including rural-based tourism, in appropriate locations.

The current policy context for Glenelg’s rural areas provides support for economic development based on the Shire’s natural resources and strategic location while ensuring that environmental and amenity values are protected and enhanced. The current objectives and strategies for rural land set out in the Glenelg Planning Scheme are consistent with State Policy.

An audit of the existing rural planning controls found that while Council is faithfully administering the planning scheme, there are opportunities to improve the performance of the Scheme and address legacy issues including:

- Anomalies arising from the direct translation of the rural zones and subdivision of historic townships.
- A substantial supply of small rural lots in the Farming Zone and Rural Conservation Zone.
- The need for additional policy guidance to assess subdivision and dwelling planning permit applications in the Farming Zone and Rural Conservation Zone.
- The need to review minimum lot size schedules in the Farming Zone and Rural Conservation Zone.
- Preparing policy responses to issues and recommendations raised in Planning Panel reports, Planning Scheme reviews and VCAT hearings relevant to rural land.
4 REGIONAL CONTEXT

This section sets the strategic context for Glenelg’s rural land and provides summary of relevant strategies and plans impacting rural land use and development.

OVERVIEW

Glenelg is an important of the Green Triangle Economic Region, which spans the border area between South Australia and Victoria and covers southwest Victoria and the south-east of South Australia. It includes: Warrnambool, Horsham, Mt Gambier, Portland, Hamilton, Naracoorte, Bordertown, Millicent and Penola.

The Green Triangle Region’s economy is broadly based and include the following major sectors: plantation forestry; aluminium; wood processing; tourism; agribusiness: dairy, beef, wine grape production, grain, winemaking; electricity and gas production; fishing and aquaculture; mineral sands; and transport and logistics. The Port of Portland is fundamental to the success of the area and its exports including aluminium, wood products, fertiliser, grain and livestock.

Plantation forestry and forest products is the largest industry sector, contributing 16% of Gross Regional Product (GRP) and 12% of employment, with around 340,000 ha of hardwood and softwood plantations. The region accounts for around 17% of Australia’s plantation forestry and wood processing and 10% of Australia’s wine grape production. Manufacturing is also important in the region, with the Aluminium Smelter and manufacturing facilities for fertilisers (e.g. Incitec Pivot) at Portland; and food processing operations in the Warrnambool area. Mining is expanding with Iluka’s Douglas Mine and Hamilton processing facility and heavy mineral exploration in the Murray Basin8.

Glenelg’s main industries by output and employment include manufacturing, agriculture, forestry and fishing, rental hiring and real estate services, construction and transport, postal and warehousing (Table 5). The Alcoa Aluminium Smelter, Port of Portland and transport and logistics associated with the plantation forestry, and agriculture and important businesses that underpin these sectors.

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Table 5  Glenelg economic output and employment

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Output $M</th>
<th>%</th>
<th>Employment</th>
<th>Jobs%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>$1,468</td>
<td>54%</td>
<td>1,366</td>
<td>18%</td>
</tr>
<tr>
<td>Agriculture, Forestry &amp; Fishing</td>
<td>$188</td>
<td>7%</td>
<td>976</td>
<td>13%</td>
</tr>
<tr>
<td>Rental, Hiring &amp; Real Estate Services</td>
<td>$170</td>
<td>6%</td>
<td>69</td>
<td>1%</td>
</tr>
<tr>
<td>Construction</td>
<td>$145</td>
<td>5%</td>
<td>412</td>
<td>6%</td>
</tr>
<tr>
<td>Transport, Postal &amp; Warehousing</td>
<td>$119</td>
<td>4%</td>
<td>380</td>
<td>5%</td>
</tr>
<tr>
<td>Health Care &amp; Social Assistance</td>
<td>$105</td>
<td>4%</td>
<td>973</td>
<td>13%</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>$77</td>
<td>3%</td>
<td>771</td>
<td>10%</td>
</tr>
<tr>
<td>Public Administration &amp; Safety</td>
<td>$68</td>
<td>3%</td>
<td>376</td>
<td>5%</td>
</tr>
<tr>
<td>Accommodation &amp; Food Services</td>
<td>$67</td>
<td>3%</td>
<td>536</td>
<td>7%</td>
</tr>
<tr>
<td>Financial &amp; Insurance Services</td>
<td>$58</td>
<td>2%</td>
<td>104</td>
<td>1%</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td>$56</td>
<td>2%</td>
<td>541</td>
<td>7%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>$52</td>
<td>2%</td>
<td>164</td>
<td>2%</td>
</tr>
<tr>
<td>Professional, Scientific &amp; Technical Services</td>
<td>$44</td>
<td>2%</td>
<td>179</td>
<td>2%</td>
</tr>
<tr>
<td>Other Services</td>
<td>$30</td>
<td>1%</td>
<td>243</td>
<td>3%</td>
</tr>
<tr>
<td>Electricity, Gas, Water &amp; Waste Services</td>
<td>$27</td>
<td>1%</td>
<td>62</td>
<td>1%</td>
</tr>
<tr>
<td>Administrative &amp; Support Services</td>
<td>$24</td>
<td>1%</td>
<td>129</td>
<td>2%</td>
</tr>
<tr>
<td>Information Media &amp; Telecommunications</td>
<td>$20</td>
<td>1%</td>
<td>41</td>
<td>1%</td>
</tr>
<tr>
<td>Arts &amp; Recreation Services</td>
<td>$17</td>
<td>1%</td>
<td>107</td>
<td>1%</td>
</tr>
<tr>
<td>Mining</td>
<td>$3.55</td>
<td>0%</td>
<td>8</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2,738.81</strong></td>
<td></td>
<td><strong>7,437</strong></td>
<td></td>
</tr>
</tbody>
</table>

REGIONAL STRATEGIC CONTEXT

GREAT SOUTH COAST / SOUTH WEST REGION

Great South Coast Regional Growth Plan

The Great South Coast Regional Growth Plan\(^{10}\) provides the means to implement the strategic land use and infrastructure directions set out in the Great South Coast Regional Strategic Plan. Of particular relevance to the Rural Land Use Strategy are the following land use policies strategies and actions:

- **Rural Land Use:**
  - Apply best practice approaches to rural land use planning such as adapting to changes in climate, avoiding potential conflicts from non-productive uses, matching land use to land capability and sustainably managing environmental assets.
  - Support rural production and associated economic development opportunities including rural industry, rural sales, accommodation and tourism.
  - Support rural land uses that can integrate with and complement adjacent uses or assets while managing potential land use conflicts.
  - Adopt a coordinated approach to rural land use planning to maximise opportunities related to regional scale assets.
  - Provide for planned rural residential development where it supports sustainable communities while avoiding areas of high value, risk or future urban development potential.
  - Support and manage rural land use diversification opportunities including, but limited to, those identified in the Future economic directions map (Figure 9).
  - Consider appropriate lot sizes to support agricultural uses and associated industry.

- **Food and Fibre:**

\(^9\) REMPLAN accessed February 2015
\(^{10}\) Department of Transport, Planning and Local Infrastructure (2014). *Great South Coast Regional Growth Plan*. Victorian State Government, Melbourne.
- Identify strategically important agricultural land that requires planning protection from encroachment from urban expansion, rural residential and other potentially incompatible uses.

- Facilitate the development and integration of new forms of production, processing and research.

- Facilitate changes in agricultural activities over time, encourage diversification and value-adding, and provide appropriately timely infrastructure to realise these opportunities.

### Tourism:
- Pursue key links in the road network as preferred tourist routes to maximise and extend the benefits of tourism throughout the region and minimise potential conflicts with commercial and farm traffic.

- Support tourism development in locations that:
  - Have been identified for sustainable and appropriate development.
  - Have access to settlements, transport infrastructure and other services.
  - Sustainably manage, link and are compatible with nearby environmental and cultural heritage assets and other economic activities, particularly agriculture.
  - Can be managed for risks from natural hazards such as bushfires and flooding.
  - Assist small towns that are facing economic and population challenges.

### Environment and heritage:
- Identify the most appropriate locations for expanding commodities, especially timber production, to minimise impacts on the region’s water supply (surface and groundwater).

- Define strategically important agricultural and primary production land across the region and use land use planning mechanisms to sustainably manage its use for these purposes.

- Use overlays to assist appropriate soil conservation and use.

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**Figure 9 Future economic directions**

Other regional strategies relevant to this study are considered in later sections of this report including:

- Coastal Spaces Landscape Assessment Study 2006
- South West Landscape Assessment Study 2013
- Future Coasts 2012
- 2009 Victorian Bushfires Royal Commission Report and the State Government Response
- Barwon South-West Regional Bushfire Planning Assessments

LOCAL STRATEGIC CONTEXT

Glenelg has prepared a number of strategies and plans relevant to this study. These are summarised here.

Glenelg Shire Council Plan 2013-2017

The Council Plan highlights Council’s role in facilitating economic development to create a climate of investment and employment growth to support population growth. Agriculture and port-related industry are recognised as pillars of the economy and the Council Plan includes strategies to support their ongoing viability and development. Specific strategies of the Council Plan relevant to the Rural Land Use Strategy include:

- Improve the presentation of the Shire to our community and to invite visitors.
- Elevate the history, prominence and cultural significance of the Glenelg Shire.
- Encourage opportunities to develop raw materials into finished products within the Shire.
- Promote the Shire as part of a regional food, fibre and renewable energy hub.
- Build on diversity of the Shire for tourism through nature-based tourism opportunities.
- Work with partners to advocate to protect our farmland and fisheries to sustain food production.
- Promote food production, timber and renewable energy sources.

The Council Plan also includes a Municipal Strategic Framework Plan that sets out the following strategies relevant to the Rural Land Use Strategy:

- Protect large scale rural properties to maximise their capability for agricultural land use as a key economic activity within the region.
- Promote the gas pipeline route and encourage industry to consider utilising the natural gas opportunity within the Shire.
- Protect and sensitively promote the Budj Bim National Heritage Landscape and local Aboriginal culture.
- Recognise Mt Richmond National Park as an important environmental and tourism asset.
- Promote and protect Significant Coastal Landscapes.
- Recognise established wind farms as important renewable energy sources.
- Application of 40ha and 100ha minimum lot size schedules for the Farming Zone.

Glenelg Sustainable Settlement Strategy 2012

The Glenelg Sustainable Settlement Strategy provides strategic directions for each of the Shire’s settlements and sets out a framework for encouraging growth within these settlements. The key recommendations of the Strategy with implications for this project include:

- Investigate rezoning from Rural Conservation Zone 2 to Rural Living Zone land around the north, north-west and south-west of Portland, north of Bolwarra and south-west of Portland.
- Investigate rezoning of Farming Zone land to the Rural Living Zone to the south-west of Portland, south of Dartmoor, east of Narrawong, south of Heywood, south west and east of Digby and east of Merino.
- Investigate appropriateness of rezoning Rural Conservation Zone 2 land to the Farming Zone to reflect current and potential uses within the Portland hinterland (west and north) around Cashmore, Gorae, Heathmere, Bolwarra and Narrawong.
- Retain Rural Conservation Zone 1 to the south and west of Portland, and in the rural locality of Tarragal outside urban area of Cape Bridgewater.

Note that these recommendations are currently being considered as part of Amendment C78 to the Glenelg Planning Scheme.

Glenelg Industrial Land Use Plan, 2007

The Glenelg Industrial Land Use Plan provides key strategic directions for industrial land use and outlines further work to be completed to resolve industrial land use issues within the Shire. The following have been identified as drivers for growth within the rural industry sector and are relevant to this project:
- Encourage the location and expansion of business establishments that are linked by their interdependence as customer and supplier or by their use of common local resources.
- Assessing opportunities and support for new agricultural enterprises and decide what additional support is needed.

The Plan recommends monitoring the performance of the Farming Zone to identify any restrictions on rural industry related to processing of rural or resource production and to apply industrial zones in rural areas if required. The Plan also identifies the Portland-Heywood Corridor (Figure 10) as a potential area for future major resource processing industries. This is currently being investigated as part of the Portland Industrial Land Strategy11.

![Figure 10 Industrial land investigation area between Portland and Heywood.](http://www.glenelg.vic.gov.au/portlandindustry)

**Glenelg Strategic Futures Plan**12

The Glenelg Strategic Futures Plan (GSFP) consolidates findings and recommendations of a number of strategic planning projects undertaken by Glenelg. The Plan highlighted the following as key issues relevant to this project:

- The need for a ‘strategic framework’ within the Planning Scheme to address loss of productive agricultural land to rural residential/living style developments.
- Inappropriate application of a 2ha minimum lot size to Schedule 2 to the Rural Conservation Zone Schedule, thereby creating a de facto rural living zone.
- Increased use of land for timber production versus traditional food and fibre production.

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12 Glenelg Shire (2009) Glenelg Strategic Futures Plan
The capability of rural land within the Shire to cater for a variety of agricultural land uses and its location.

Possible implementation of requirements for whole farm plans to be submitted to Council for consideration.

Utilisation of water supplies for irrigation purposes.

The impact of climate change on the way rural land will be used and developed in the future.

Introduce new local planning policies into the Local Planning Policy Framework which addresses:
- Agricultural production, rural land use, rural subdivision and housing.
- Excisions of dwellings in the Farming Zone.
- Encouraging the preparation of Whole Farm Management Plans.
- Adaptation to Climate Change.
- The appropriateness of the Rural Conservation Zone – Schedule 2 in some areas.

A number of other strategies were reviewed and are discussed in later sections of this report including:
- Glenelg Strategic Land Use Study Volumes 1 & 2
- Glenelg Shire Desktop Cultural Heritage Study 2007

**STRATEGIC IMPLICATIONS**

The current strategic context for Glenelg Shire identifies a number of considerations and directions for the Rural Land Use Strategy including:

- There is strong support in state, regional and local strategies for the protection of rural land for primary production.
- There is strong support at the national, state and regional level to capitalise on the competitive advantages of the region e.g. the Port of Portland, capability to grow food, fibre and timber export opportunities.
- There is an opportunity to better align the Glenelg Planning Scheme with the directions of the Regional Growth Plan.
- Consider climate change implications for natural resources, agriculture, aquaculture and timber production in the Shire.
- Consider the development of designated transport networks to support tourism and the transportation of timber within the Green Triangle region.
- Support emerging and potential tourism opportunities associated with natural features of the Shire and building on existing tourism product.
- Incorporate the recommendations identified in the Glenelg Strategic Futures Plan, Glenelg Industrial Land Use Plan and Glenelg Sustainable Settlement Strategy Future Land Use Strategy.
- Consider strategies identified in the Municipal Strategic Framework Plan, including:
  - Protect large-scale rural properties to maximise their capability for agricultural land use as a key economic activity within the region.
  - Promote the gas pipeline route and encourage industry to consider utilising the natural gas opportunity within the Shire.
  - Protect and sensitively promote the Budj Bim National Heritage Landscape and local Aboriginal culture.
  - Recognise Mt Richmond National Park as an important environmental and tourism asset.
  - Promote and protect Significant Coastal Landscapes.
  - Recognise established wind farms as important renewable energy sources.
  - Application of 100ha minimum lot size for the Farming Zone.
5 AGRICULTURE

This section of the report reviews the strategic context for agriculture and documents research and analysis of Glenelg’s agricultural industries.

STRATEGIC CONTEXT

National Food Plan

The National Food Plan sets out key goals to grow the domestic food industry and increase the value of food exports through trade reform and international market development, investment in research and development, industry infrastructure and the workforce, and adoption of sustainable management practices. The Plan demonstrates a strong commitment to growing the food industry and encouraging investment in primary production and food processing.

Of relevance to the Rural Land Use Strategy is the goal, ‘Improve the demonstration of sustainability and the understanding of our natural resources’, and the pathway action ‘Invest in programs and surveys that support the collection, analysis and distribution of data and information on land use, soil, ground cover, weeds, pest animals, land management practices and the motivations of resource users’.

Growing Food and Fibre

Growing Food and Fibre is a four-year Victorian Government investment program aimed at increasing the productivity and profitability of the State’s key food and fibre sectors. Of particular relevance to this strategy is investment in the dairy industry ($14.3 million), grains industry ($10.6 million) and lamb and beef industry ($8.9 million).

Food to Asia Action Plan

The Food to Asia Action Plan identifies opportunities to increase the competitiveness and profitability of Victoria’s food sector to meet the growing demand in Asia for premium food and fibre products. The Action Plan identifies seven key areas where the Victorian Government will work with industry to maximise the opportunities created by the growing Asian demand including:

- Improved access to Asian markets.
- New markets for premium products.
- The right workforce to supply Asia.
- More efficient movement of products to Asian markets.
- Better targeted R&D, extension and innovation.
- Streamlined regulation and reduced red tape.

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14 Department of Environment and Primary Industry (2013)
Increased capital investment.
The Glenelg Shire is well positioned to capitalise on the growing Asian market due to its strong dairy, meat, grain and timber industries, as well as access to a major port at Portland.

OVERVIEW

In terms of output, agriculture forestry and fisheries is the third largest economic sector in Glenelg and the fourth highest employer. In 2011, gross value of agriculture in Glenelg:

- Totalled around $197 million and was 11% of regional gross value of agriculture and 2% of Victorian gross value (Table 6).
- Meat, milk, and wool were the largest commodities by value (Figure 11).
- Increased by $49 million from 2001 (Figure 12).
- Meat and milk sectors, increased by $33 million and $10 million respectively from 2001 (Figure 13).

Agricultural production in Glenelg is an important contributor to a number of regionally, state and nationally important industries. Regional production of milk and meat comprise a significant proportion of state and national production of these commodities (Table 6). Agriculture in Glenelg contributes to an $8 billion regional food and fibre sector that includes milk and meat processing in Warrnambool.

Glenelg’s strengths and competitive advantage in agriculture is underpinned by a combination of mild climate, relatively high and reliable rainfall, access to secure and high quality water resources and extensive areas of land suited to agricultural production.

The location of major primary production land uses is shown in Figure 15. Broadacre cropping and grazing is undertaken across the Shire. Dairy farms are clustered in the south-east corner of the Shire and around Heywood and Portland. Plantation forestry is located across the Shire apart from the Dundas and Merino tablelands.

![Glenelg commodity gross value as a % of total gross value, 2011](image-url)

16 Warrnambool City Council (201$) Agricultural Competitiveness response to the Issues Paper
17 Australian Bureau of Statistics
Figure 12  Gross value of agriculture\textsuperscript{17}

Table 6  Gross value of Glenelg agriculture as a proportion of regional and Victorian gross value\textsuperscript{17}

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Glenelg gross value as % of regional gross value\textsuperscript{*}</th>
<th>Glenelg gross value as % of Victoria gross value</th>
<th>Regional gross value as % of Victoria gross value</th>
<th>Regional gross value as % of Australian gross value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hay</td>
<td>11</td>
<td>2</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>Horticulture</td>
<td>51</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Meat</td>
<td>15</td>
<td>4</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Wool</td>
<td>13</td>
<td>3</td>
<td>25</td>
<td>6</td>
</tr>
<tr>
<td>Milk</td>
<td>6</td>
<td>2</td>
<td>31</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>2</td>
<td>16</td>
<td>4</td>
</tr>
</tbody>
</table>

* Region includes Corangamite, Glenelg, Moyne, Southern Grampians and Warrnambool local government areas.
A comparison of rural land use between 2001 (Figure 14) and 2011 (Figure 15) indicates that the main change in land use for primary production was a significant expansion in plantation forestry. This does not appear to have come at the expense of agriculture as the value of agricultural production continued to increase during the same period.
Figure 14  Rural land use 2001 \(^{18}\)

Figure 15  Rural land use 2010\textsuperscript{19}

\textsuperscript{19} VLUIS 2010
VALUE OF RURAL LAND

A comparison of median sales prices for rural land in Glenelg and Moyne between 2003 and 2012 indicates that median land sales in both municipalities have increased since 2003 (Table 7).

An analysis of Victorian farmland values noted the following trends:

- Median value of farmland in Glenelg increased by 3.7% from $4,426 to $4,591 between 2013 and 2014 and the median parcel size was 73ha.
- Since 1990 there have been three distinct trends in Victorian farmland values:
  - 1990 – 2000 – stagnant - Average annual growth = 1.8%
  - 2000 - 2008 - rapid growth - Average annual growth = 11.6%
  - 2008 – 2014 – consolidation - Average annual growth = 4.2%
- The median value of Victorian cropping land increased by 6.4% in 2014, following growth of 8% in 2013 and the south west cropping region recorded a gain of 9% in 2014.
- The median value of Victorian dairy farmland decreased by 3.8% in 2014 following a 6.2% increase in 2013 and in the South West dairy farmland value decreased by 3%.
- Victorian mixed farming median land values increased by 8.4% increase in 2013 and the three year rolling average median value in the south west increase was 2.5%.

Land that is valued substantially above its agricultural value has a significant impact on investment in agriculture. For example, around 75% of the farm capital of a beef grazing business is the land value. For a business to grow by investing in profit (as opposed to capital growth) high land values will pose a significant risk as only highly profitable businesses will be able to generate sufficient return on capital to service debt.

Adaptation strategies used by farmers to high address high land prices include intensification of production systems, diversification and land leasing to grow the farm as an alternative to land purchase.

<table>
<thead>
<tr>
<th></th>
<th>2003 $/HA</th>
<th>2008 $/HA</th>
<th>2012 $/HA</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLENELG</td>
<td>2,000 - 42,500</td>
<td>5,000 - 50,000</td>
<td>5,000 – 83,000</td>
</tr>
<tr>
<td>MOYNE</td>
<td>2,000 - 30,500</td>
<td>7,500 - 101,000</td>
<td>7,500 – 319,000</td>
</tr>
</tbody>
</table>

LIVESTOCK

Livestock production for meat and wool is the largest agricultural industry by value of commodity and area of use in Glenelg. Around half the gross value comes from beef cattle with the remaining balance comprised of lamb and wool (Table 8). There are more farms identified as beef farms than sheep farms, but there are also businesses that raise cattle and sheep.

The majority of farms are relatively small in terms of the economic size (Figure 16) and have an area of holding between 100ha and 500ha (Figure 17). There are likely to be other hobby farms not captured in the data as farms with an estimated value of agricultural operations less than $5,000 per annum are not included in the survey. The total number of livestock businesses declined by around 100 or 16% between 2001 and 2011 (Table 9). Most of this decline was associated with businesses with turnover less than $200k gross value and area of holding between 100 and 500 ha. The trend in area of holding indicates that some of this is associated with a shift towards larger farms and farm amalgamation and consolidation.

A livestock assembly depot at Cape Nelson prepares livestock for live export. While the live sheep export trade has decreased, there has been demand for cattle into Asia and the depot is handling around 30,000 cattle per annum including diary heifers for the China market. It is important that this and similar intensive livestock operations are separated from sensitive uses to ensure their ability to operate in the long term but also be able to readily access the Port of Portland which is critical infrastructure for this industry.

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20 Rural Finance and Rural Bank (2014) Victorian Farmland Values
Most processing of livestock is undertaken outside the region. There is large livestock exchange facility located in Hamilton and processing facilities in Warrnambool prepare product for the export and domestic market.

Growth in productivity of Victorian livestock producers has been driven by improved breed genetics, pastures, farming systems and scale economies. The choice between beef and sheep is driven by meat and wool prices, seasonal conditions and consumer demand as well as personal producer choice. Drop in demand and price of wool and increase price paid for lamb has seen a shift from wool sheep to sheep meat production. Grain finishing has become a more common tool for improving feed efficiency and livestock productivity, resulting in an increased number of feedlots in Victoria.

The outlook for meat is strong with healthy export and domestic demand for meat and steady demand for wool.

Table 8  Livestock industry

<table>
<thead>
<tr>
<th>Commodity</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of animals ('000s)</td>
<td>191</td>
<td>195</td>
<td>183</td>
</tr>
<tr>
<td>Gross value ($million)</td>
<td>$50</td>
<td>$59</td>
<td>$66</td>
</tr>
<tr>
<td>Number of farms</td>
<td>697</td>
<td>738</td>
<td>680</td>
</tr>
<tr>
<td>Lamb, mutton, wool</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of animals ('000s)</td>
<td>876</td>
<td>686</td>
<td>573</td>
</tr>
<tr>
<td>Gross value ($million)</td>
<td>$51</td>
<td>$59</td>
<td>$69</td>
</tr>
<tr>
<td>Number of farms</td>
<td>454</td>
<td>436</td>
<td>410</td>
</tr>
</tbody>
</table>

Table 9  Livestock business size

<table>
<thead>
<tr>
<th>Size range</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>% Change 2001 - 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$200k</td>
<td>591</td>
<td>561</td>
<td>502</td>
<td>-18</td>
</tr>
<tr>
<td>$200-$500k</td>
<td>103</td>
<td>120</td>
<td>96</td>
<td>-7</td>
</tr>
<tr>
<td>$500k-$1m</td>
<td>16</td>
<td>28</td>
<td>15</td>
<td>-1</td>
</tr>
<tr>
<td>$1-$2m</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>$2-$3m</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>714</td>
<td>719</td>
<td>616</td>
<td>-16%</td>
</tr>
</tbody>
</table>

Table 10 Livestock farm area

<table>
<thead>
<tr>
<th>Size range</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>% Change 2001 - 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-50 ha</td>
<td>77</td>
<td>96</td>
<td>79</td>
<td>2</td>
</tr>
<tr>
<td>50 -100 ha</td>
<td>113</td>
<td>119</td>
<td>98</td>
<td>-15</td>
</tr>
<tr>
<td>100-500 ha</td>
<td>359</td>
<td>336</td>
<td>312</td>
<td>-47</td>
</tr>
<tr>
<td>500-1,000 ha</td>
<td>109</td>
<td>96</td>
<td>88</td>
<td>-21</td>
</tr>
<tr>
<td>1,000-5,000 ha</td>
<td>53</td>
<td>42</td>
<td>42</td>
<td>-11</td>
</tr>
<tr>
<td>TOTAL</td>
<td>711</td>
<td>719</td>
<td>619</td>
<td>-15%</td>
</tr>
</tbody>
</table>
Figure 16  Livestock business size

Figure 17  Livestock farm area

DAIRY

Dairy is the second largest agricultural industry by value of commodity. While the number of dairy farms has declined since 2001, the number of cows has remained relatively steady and gross value of production increased over the same period (Table 11).

The Glenelg dairy industry is part of the south west dairy region. This region produces 23% of the national milk output and 31% of Victorian milk output. Regionally, the industry employs more than 7,400 people on the farm and in processing. Dairy exports from the region through Melbourne Ports are estimated at 132 tonnes with a
value of around $687m. There are 15 dairy factories in the region including milk processing, dairy product manufacturing and milk collection plants. Most of Glenelg’s milk is processed outside the Shire. Dairy companies manufacturing product in the region include Fonterra, Murray Goulburn and Warrnambool Cheese & Butter factory and National Foods. A number of other dairy companies have suppliers in the region.

In 1989/90 the average herd size in the south west region was 121 cows with a farm area of around 200ha. Between 1989 and 1999, milk production in the south west dairy region doubled from 1 billion to 2 billion litres. Most of this growth can be attributed to an increase in the average area of dairy farms, farm herd size and milk production per cow. Increase in stocking rates was achieved by improved grazing management, more fodder crops (irrigation) and feeding grain. The regional average herd size is now 444 cows and average farm size is 244 hectares.

In Glenelg, most dairy farms are between 100 ha and 500 ha in area with an Estimated Value of Agricultural Operations (EVAO) of between $200k and $500k. The trend towards increasing scale in the dairy sector is evident in the Glenelg dairy industry. Since 2001, the number of small and medium sized dairies has decreased while the number of dairy businesses with an EVAO greater than $2 million has increased (Table 12, Table 13, Figure 18, Figure 19). At the same time, milk production per land area and milk production per farm also increased.

The regional dairy industry’s long-term strategic plan is to increase annual milk production from 2.1 billion litres to 3 billion litres of milk by 2020. To achieve this goal will mean:

- Substantially more cows in the region.
- Fewer, but larger herds.
- Fewer, but larger farms.
- Greatly increased stocking rates, which would need to be achieved through further intensification of feeding methods (grazing management, fodder crops, irrigation, grain).

The outlook for the dairy industry is strong with growing demand for dairy products in Asia.

### Table 11 Glenelg dairy industry

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of animals ('000s)</td>
<td>32</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Gross value ($million)</td>
<td>$32</td>
<td>$36</td>
<td>$41</td>
</tr>
<tr>
<td>Number of farms</td>
<td>115</td>
<td>101</td>
<td>83</td>
</tr>
</tbody>
</table>

### Table 12 Dairy business size

<table>
<thead>
<tr>
<th>Size range</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>% Change 2001 - 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$200k</td>
<td>50</td>
<td>31</td>
<td>14</td>
<td>-72</td>
</tr>
<tr>
<td>$200-$500k</td>
<td>43</td>
<td>42</td>
<td>33</td>
<td>-23</td>
</tr>
<tr>
<td>$500k-$1m</td>
<td>19</td>
<td>14</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>$1-$2m</td>
<td>19</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>$2-$5m</td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>&gt;$5m</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>112</td>
<td>91</td>
<td>77</td>
<td>-31</td>
</tr>
</tbody>
</table>

---

Table 13: Dairy farm area

<table>
<thead>
<tr>
<th>SIZE RANGE</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>% Change 2001 - 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-50 ha</td>
<td>9</td>
<td>8</td>
<td>5</td>
<td>-44</td>
</tr>
<tr>
<td>50-100 ha</td>
<td>16</td>
<td>12</td>
<td>8</td>
<td>-50</td>
</tr>
<tr>
<td>100-500 ha</td>
<td>73</td>
<td>60</td>
<td>53</td>
<td>-27</td>
</tr>
<tr>
<td>500-1,000 ha</td>
<td>13</td>
<td>11</td>
<td>8</td>
<td>-38</td>
</tr>
<tr>
<td>1,000-5,000 ha</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>111</td>
<td>91</td>
<td>77</td>
<td>-30</td>
</tr>
</tbody>
</table>

Figure 18: Dairy business size

Figure 19: Dairy farm area
HORTICULTURE

Horticulture is a small but locally significant industry in Glenelg featuring production of seed and processing potatoes and a leading grower and supplier of bare root roses (Table 14). Apples, strawberries and grapes are also locally important horticultural crops. The industry comprises a small number of growers, and for annual crops such as potatoes, numbers will vary annually depending on seasonal conditions and market prices. Overall, there has been a decrease in the number of horticultural businesses, while the gross value from horticulture has increased, particularly the gross value of seed and processing potatoes and nurseries (Table 15, Table 16 Figure 20, Figure 21). It is understood that land leasing is being used to accommodate growth of horticultural businesses.

Potato growing is focused in the area between Cape Bridgewater and Cashmore. A major nursery business is located at Heathmere between Portland and Heywood.

Table 14 Horticulture industry

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Area of production (ha)</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td></td>
<td>10</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Gross value ($k)</td>
<td>$210</td>
<td>$354</td>
<td>$339</td>
</tr>
<tr>
<td></td>
<td>Number of farms</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Production (T)</td>
<td>226</td>
<td>214</td>
<td>124</td>
</tr>
<tr>
<td>Strawberries</td>
<td></td>
<td>7</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Gross value ($k)</td>
<td>$400</td>
<td>$174</td>
<td>$391</td>
</tr>
<tr>
<td></td>
<td>Number of farms</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Production (T)</td>
<td>67</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>Grapes</td>
<td></td>
<td>160</td>
<td>177</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td>Gross value ($k)</td>
<td>$777K</td>
<td>$476</td>
<td>$432</td>
</tr>
<tr>
<td></td>
<td>Number of farms</td>
<td>11</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Production (T)</td>
<td>3K</td>
<td>6K</td>
<td>5K</td>
</tr>
<tr>
<td>Potatoes</td>
<td>(Fresh, Processing and seed)</td>
<td>113</td>
<td>465</td>
<td>524</td>
</tr>
<tr>
<td></td>
<td>Gross value ($k)</td>
<td>$1M</td>
<td>$6M</td>
<td>$8M</td>
</tr>
<tr>
<td></td>
<td>Number of farms</td>
<td>7</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Production (T)</td>
<td>3,000</td>
<td>14,000</td>
<td>17,000</td>
</tr>
<tr>
<td>Nurseries</td>
<td>Area of production (ha)</td>
<td>25</td>
<td>46</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Gross value ($million)</td>
<td>$2.5</td>
<td>$2.5</td>
<td>$2</td>
</tr>
<tr>
<td></td>
<td>Number of farms</td>
<td>1</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 15 Horticulture business size

<table>
<thead>
<tr>
<th>Size range</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>% Change 2001 - 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$200k</td>
<td>22</td>
<td>13</td>
<td>9</td>
<td>-144</td>
</tr>
<tr>
<td>$200-$500k</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>-67</td>
</tr>
<tr>
<td>$500k-$1m</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>-50</td>
</tr>
<tr>
<td>$1-$2m</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>$2-$5m</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>24</td>
<td>16</td>
<td>-94</td>
</tr>
</tbody>
</table>
### Table 16: Horticulture farm size

<table>
<thead>
<tr>
<th>Size range</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
<th>% Change 2001 - 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-50 ha</td>
<td>15</td>
<td>11</td>
<td>10</td>
<td>-50</td>
</tr>
<tr>
<td>50-100 ha</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>-200</td>
</tr>
<tr>
<td>100-500 ha</td>
<td>12</td>
<td>9</td>
<td>5</td>
<td>-140</td>
</tr>
<tr>
<td>500-1,000 ha</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1,000-5,000 ha</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>31</td>
<td>24</td>
<td>16</td>
<td>-94</td>
</tr>
</tbody>
</table>

**Figure 20: Horticulture business size**

**Figure 21: Horticulture farm size**
HAY

Hay production, which includes pastures, cereals and other crops cut for hay is closely linked to the livestock and dairy sector, providing fodder and grains for improving the quality of feed intake, milk production and livestock condition. The spike in production during the 2006 drought highlights the local importance of the industry as dairy farmers were relying on bought-in feed to maintain milk production (Table 17). Ground survey noted that production of hay and fodder crops is undertaken across the Shire. Groundwater is used for summer production of fodder crops and hay. Development of groundwater irrigation in the Strathdownie district and the South Australian border has seen a range of crops, including fodder crops, produced under centre pivots and lateral move irrigation systems.

<table>
<thead>
<tr>
<th>Table 17 Glenelg hay industry</th>
<th>2001</th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of production (ha)</td>
<td>15,900</td>
<td>20,100</td>
<td>16,700</td>
</tr>
<tr>
<td>Gross value ($million)</td>
<td>$9.8</td>
<td>$17.0</td>
<td>$8.0</td>
</tr>
<tr>
<td>Number of farms</td>
<td>470</td>
<td>566</td>
<td>486</td>
</tr>
</tbody>
</table>

INFRASTRUCTURE

The road network is critical to the agricultural sector and value chain. Most of the commodities produced in Glenelg are processed in adjacent municipalities with products then transported to Melbourne for distribution to domestic and international markets. The local road network is particularly important for the dairy industry that requires dairy milk pick up. Larger dairy herds and milk volumes will see more widespread use of B-doubles that will have implications for the standard and maintenance of the road network through the dairy districts.

A secure reliable power supply is also important for the dairy industry and increasingly this requires conversion from single phase to three phase power supply. Power outages can have significant impacts on intensive industries such as running dairy machinery and refrigeration of milk and temperature control in greenhouses. Access to gas and a secure supply of potable water is also important for some intensive industries such as horticulture and intensive animal husbandry as well as the food processing and manufacturing industry. Telecommunications, particularly access to the internet and mobile phone coverage have become increasingly important for day-to-day farm management.

CLIMATE CHANGE

A review24 of climate change impacts in south west Victoria, provides the following summary of the region’s future climate. Overall, the future climate is expected to be hotter, drier and more variable than it is today. However, in comparison to many other parts of the State, the regional climate is expected to remain moderate. Under the A1FI climate scenario, it is estimated that the region’s:

- Average annual temperature may increase by 0.8°C by 2030 while 2070 may be 2.4°C warmer.
- Winters will probably warm slightly less than the other seasons (0.6°C-0.7°C) as much of the warming is expected to occur in summer.
- Frequency of hot days (>30°C) is expected to increase from 31 to 52 in Glenelg-Hopkins region by 2030 (The State of Victoria 2008a; The State of Victoria 2008b).
- Total average annual rainfall will reduce by around 4% by 2030 under the A1FI scenario, with the largest rainfall reductions occurring in winter and spring. Rainfall patterns will probably become more erratic and unpredictable, with fewer rain-days, more frequent and intense droughts and increased summer rainfall.

To put this into perspective, Warrnambool’s average temperature may resemble present day Horsham by 2070. Annual rainfall may resemble present day Hamilton by 2070, and Hamilton’s temperature will likely be similar to present day Horsham, while annual rainfall may be similar to present day Ararat.

24 Department of Primary Industry (2011) Climate change impacts and adaptation responses for South West Victoria’s primary industries
In terms of land suitability, analysis under a medium term (2050) A1F1 scenario found that there is little or no change in the land suitability for wheat and phalaris in Glenelg (Figure 22, Figure 23).

The impact of climate change on agriculture is expected to be less damaging to South-West Victoria than other parts of the State. Temperatures are expected to remain moderate while rainfall is anticipated to remain adequate in the medium term, particularly in the region’s south. These factors are expected to make the region more attractive to agricultural producers in northern Victoria, who may experience more negative production impacts due to climate change.

ADAPTATION STRATEGIES

As the temperatures and rainfall patterns change, there will be some impacts and opportunities on dairy farms in western Victoria, including:

- Temperatures during the winter months will be warmer and there will be fewer frosts. Pasture growth rates are therefore likely to be higher in winter than they are now.
- Earlier, warmer temperatures will mean that it will be possible to sow summer crops earlier. They will also have slightly earlier maturity and harvest times.
- A longer growing season will allow greater use of drought tolerant perennial pasture species.
- Low rainwater availability will favour short rotation pasture systems.
- Warmer temperatures earlier in the growing season will mean that it will be possible to boost pasture production earlier using nitrogen fertiliser in winter and early spring.

Potential threats associated with changing temperatures and rainfall patterns include:

- Less rainfall and less run-off that will reduce water security for stock as well as for plant and shed cleaning.
- Reduced quality and availability and increased cost of feed grains and fodder.
- Warmer and drier conditions will increase the likelihood of heat stress in cattle.
- Increased temperatures may make C4 pasture species more competitive at the expense of the more nutritious C3 species.

Adaptation strategies include:

- Shifting calving times to make better use of changing pasture growth patterns (spring calving could be earlier and autumn calving may become an option).
- Cutting silage and hay 2-3 weeks earlier to better match the changing pasture growth curve.
- Shifting from perennial pastures to a mix of annual and perennial pastures.
- Increasing the amount of forage cropping during winter.
- Continuing to expand the use of dairy shed effluent and wash down water.
- Improving management of bore water.
- Planning the shape of dams to maximise the capture of run-off.
- Planting trees near dams to reduce evaporation.
- Maintaining or re-establishing shade and shelter belts to protect cattle in extreme temperatures.

Farmers may also need to change their approach to feedbase management to take account of the increased climate variability. For example, those that rely heavily on buying in feed may need to secure supplies 6-24 months in advance. Those that grow their own feed may need to cut more silage and hay to manage the risk of less predictable summers.

Figure 22  Change in land suitability for phalaris

Figure 23  Change in land suitability for wheat
CHALLENGES FOR AGRICULTURE

Key challenges for agriculture relevant to this study include:

- Managing the competing demands of urban growth and agriculture.
- Accessing land valued at its productive value.
- Intensification of agricultural production requiring separation from sensitive uses, reliable supply of power and water.
- Sourcing an appropriately skilled workforce to meet emerging demands.
- Facilitating farm expansion and business growth to maintain competitiveness in global markets set against declining terms of trade.
- Sustainable management of natural resources.
- Adapting to climate change.

OPPORTUNITIES FOR AGRICULTURE

Key opportunities for agriculture in Glenelg include:

- Access to a secure irrigation water supply.
- Soil types capable of producing a variety of commodities.
- Increasing manufacture of agricultural commodities and export via the Port of Portland.
- Long term investment in agriculture based on a moderate change to the future climate.

STRATEGIC IMPLICATIONS

Agriculture plays a significant role in the economy of Glenelg with livestock production and dairy the two most important sectors. Meat and milk production in Glenelg contribute to regional industries of national importance. Products are processed in regionally located facilities. The outlook for these two industries is strong. Trends in agricultural industries that are significant for a review of rural planning policy include:

- Increase in the physical size of farms.
- Increase in business scale and intensification of production systems.
- Flexibility to adapt production systems to changing markets and climate change.

Planning should promote agriculture by clearly identifying locations where agriculture will be the primary land use and other land uses are carefully managed to ensure that land is available for agriculture in the long term. Further fragmentation of land identified for agriculture should be avoided given the trends in farm scale, the importance of separation between agriculture and sensitive uses and to avoid speculative behaviour and land values above its productive value.
6 FORESTRY

This section of the report reviews the strategic context for forestry and documents research and analysis of Glenelg’s forestry industry.

STRATEGIC CONTEXT

Plantations for Australia: the 2020 Vision

In 1997 the Commonwealth and State/Territory Governments launched the strategy document *Plantations for Australia: the 2020 Vision*. This committed Australia to trebling the area of land devoted to plantation timber. The key objective of the strategy was to enhance Australia’s wealth creation and international competitiveness through a sustainable increase in plantation resources.

Consistent with the *Plantations for Australia: the 2020 Vision* strategy document, a large increase in timber plantation activity has occurred over the past 15 years in the Green Triangle Region, making it home to the largest timber plantation area in Australia and constituting more than 17% of the forest plantation sector in Australia.\(^27\)

Australia’s Green Triangle

This report provides an overview of forest sector investment opportunities in the Green Triangle region of Victoria. It identifies the competitive advantages of the region, including the established rail and road network, the Port of Portland, existing power and gas networks and groundwater reserves and investment opportunities such as a kraft pulp mill, a rotary veneer mill, export of pulpwood and board products including MDF and OSB, and the use of biomass for energy production.

Green Triangle Region Freight Action Plan

The Action Plan identifies strategic infrastructure investments needed for the land transport tasks associated with the timber, woodchip, mineral sands, dairy, meat processing and electricity and gas production sectors in the Green Triangle Region. The Plan recognises that the Green Triangle Region has strong growth across these sectors and as such there are forecast increases in freight traffic in the region, particularly forest products to the Port of Portland, and possible Penola, and mineral sands to the Port of Portland.

The Plan confirms that timber, woodchip and mineral sands flows are the largest commodity growth movements that need to be handled in the region over the decade from 2009 – 2019. The Port of Portland is predicted to become the largest blue gum woodchip port in Australia. The Port and its related supply chain infrastructure must be capable of handling up to an additional 3.0 million tonnes of blue gum woodchip per year, compared to 0.5 million tonnes currently. This equates to an extra 75 ships through the Port every year.

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\(^28\) URS (date n/a) Australia’s Green Triangle Report prepared for the Australian Government, State Governments of Victoria and South Australia, the Limestone Coast Regional Development Board and the Glenelg Shire.

Code of Practice for Timber Production 2014\textsuperscript{30}

The code applies to the planning and conducting of all commercial timber harvesting operations on public and private land in Victoria. The code does not apply to domestic firewood collection or production, agroforestry, windbreaks, revegetation for soil or erosion control or other amenity plantings, or to the occasional felling of trees for local uses. Small plantations and woodlots of five hectares or less (total area existing or proposed on contiguous land which is in the same ownership) are also exempt from the code, as are plantings established for non-commercial purposes.

Compliance with the code on private land and leased Crown land is specified in Clause 14.01-3 of the Victoria Planning Provisions (VPP) and all planning schemes. Clause 52.18 specifies the provisions relating to timber production and the code is an incorporated document, which must be considered.

Local government is responsible for ensuring compliance with the planning system. The code must be complied with to the satisfaction of the responsible authority (usually local government), whether or not a permit is required.

INDUSTRY OVERVIEW

Timber production in Glenelg is part of the Green Triangle Region of south-eastern South Australia and Victoria’s south-west. The Green Triangle is home to almost 20\% of the nation’s plantation estate, with almost 35,000 hectares of Pine (\textit{Pinus radiata}) and Blue Gum (\textit{Eucalyptus globulus}) plantations (Figure 24). The industry contributed around $778 million to Gross Regional product and employs, directly and indirectly, around 8,500 people. Just under half the plantation resource is located in Glenelg Shire, with over 125,000 hectares of forest. There are around 150 business providing services to the industry in Glenelg, most of them located in Portland. Large areas of Glenelg Shire are suitable for Blue Gums, especially around Portland and Heywood.

The Green Triangle Region produces around four million tonnes of wood annually which is processed and converted to sawn timber, panel products, laminated veneer lumber, pulp logs, wood chips and garden mulch. The majority of processing is undertaken in South Australia. Some Glenelg residents commute to work following consolidation of the processing sector in Mt Gambier. In Glenelg, hardwood processing facilities are located in Portland and Myamyn. The regional processed output generates approximately 5-6 million tonnes of freight, which is then transported by road across the region for domestic consumption, predominantly in Melbourne and Adelaide. Around 1.2 million tonnes of wood chip are also exported annually to international markets via the Port of Portland\textsuperscript{31}.

The industry has undergone restructure and readjustment with the cessation of the Managed Investment Schemes and subsequent changes to ownership of hardwood plantation. These schemes have left a legacy of small isolated rural lots. It will be important that future forestry development on private land does not add to this.

Plantation softwoods have been well-established in the region since the 1970’s. Since the mid-1990’s, softwood planting rates have been steady, averaging around 6,000 ha per year, made up of both re-establishment on clear felled plantation sites and new plantings. Hardwood plantations underwent rapid expansion through the 1990s and now average around 9,300 ha planted in each year. The hardwood estate is now moving from large scale planting phase to harvesting and site re-establishment or retirement\textsuperscript{32}.

The outlook for Australian softwood and hardwood timber and timber products is good with growing international demand and new market opportunities such as the production of wood pellets for industrial heating. The industry estimates that there is around 100,000 ha of cleared land in the region suitable for hardwood or softwood plantations within economic haulage distances from processors and the Port of Portland.\textsuperscript{32}


\textsuperscript{31} Green Triangle Regional Plantations Committee (2006) Forestry in the Green Triangle Economic+Employment Contributions

\textsuperscript{32} Regional Development Australia (2012) Green Triangle Forestry Industry Prospectus
INFRASTRUCTURE

In addition to transport infrastructure, access to power, including gas and a secure water supply are important for the processing of timber products. The proximity of the plantations to the Port of Portland is a significant competitive advantage for the industry. The Port also has significant handling and storage capacity.

CLIMATE CHANGE

The land suitability for blue gums may increase by approximately 18% by 2050 under the SRES A1FI scenario. In the longer term, warmer temperatures coupled with limited water resources may decrease tree growth rates and increase tree mortality. It is expected that as rainfall declines, so will groundwater levels under plantations and forest trees will access less groundwater. As a result, tree growth rates will probably decline and the impact of plantation forests on groundwater resources will lessen. To address the issues of limited water supplies and warmer temperatures, forest managers may plant more drought tolerant species, plant trees at wider spacings or thin existing stands. Analysis of land suitability under a medium term A1F1 scenario found that the suitability for blue gum production in Glenelg may have low/very low decrease, low/very low increase or remain unchanged (Figure 25).

33 http://www.gtplantations access 21.1.2015
CHALLENGES

Adaptation to climate change.
Small rural lots in isolated locations in the Shire.
Bushfire risk

OPPORTUNITIES

New products and development of the local processing and manufacturing industry.
Further expansion of forestry on private land.

STRATEGIC IMPLICATIONS

Timber production in Glenelg is part of the nationally significant Green Triangle region. There is opportunity for further development of the industry including expansion of the plantation estate and timber processing and manufacturing. Trends, issues and opportunities in forestry that should be considered in a review of planning policy include:

- Promote expansion of plantation forestry in appropriate locations.
- Bushfire risk for settlements in close proximity to plantations.
- Appropriate locations for processing facilities with access to the necessary infrastructure and separation from sensitive uses.

Planning should promote timber production by clearly identifying locations where primary production will be the primary land use. Further fragmentation of land identified for primary production should be avoided given the importance of separation between timber production and sensitive uses and to avoid speculative behaviour and land values above its productive value.
7 ASSESSMENT OF AGRICULTURAL LAND

Section 3 of this report sets out the planning policy context for Glenelg's rural lands and the requirement that the Glenelg Planning Scheme be consistent with State Policy. The State Planning Policy Framework at Clause 14-01 - Protection of agricultural land, sets out the following objectives and strategies:

To protect productive farmland which is of strategic significance in the local or regional context.

- Ensure that the State’s agricultural base is protected from the unplanned loss of productive agricultural land due to permanent changes of land use.
- Consult with the Department of Primary Industries and utilise available information to identify areas of productive agricultural land.
- Take into consideration regional, state and local, issues and characteristics in the assessment of agricultural quality and productivity.
- Permanent removal of productive agricultural land from the State's agricultural base must not be undertaken without consideration of its economic importance for the agricultural production and processing sectors.

This section of the report addresses the policy objective and sets out an approach to identify farmland of strategic significance and the findings of an initial analysis of agricultural land.

OVERVIEW

The state policy objective for protection of agricultural land requires that farmland of strategic significance consider the productive capacity of the land as well as the economic importance of agricultural production and processing sectors. The following diagram set out the approach that will be used to identify Glenelg farmland of strategic significance. An analysis of biophysical attributes of the land will be used to identify productive agricultural land and economic and employment data used to identify industry clusters. Farmland of strategic significance will be identified following stakeholder consultation.

PRODUCTIVE AGRICULTURAL LAND

The approach to identifying productive agricultural land drew on the definition in the Planning Practice Note: Applying the Rural Zones. The Practice Note recommends that Councils seek to protect productive agricultural land for agriculture and prevent unplanned loss due to permanent changes in land use. Productive agricultural is defined in the Practice Note as generally having one or more of the following characteristics:

- Suitable soil type including consideration of soil structure, texture, drainage, topography, fertility.
- Suitable climatic conditions such as rainfall, temperature and evaporation.
- Suitable agricultural infrastructure, in particular irrigation and drainage systems.
- A present pattern of subdivision favourable for sustainable agricultural production.

For this study, an analysis framework (Table 18) was prepared and applied to available spatial data to identify high, medium or low productive agricultural land.

Spatial data included:
- The Glenelg Hopkins Land Resource Assessment\textsuperscript{34} (GHLRA) which provides agricultural capability mapping for wine grapes, dairy, broadacre cropping and blue gum plantations at 1:100,000 scale based on an assessment of climatic (frost days, temperature and growing season rainfall), landscape (slope, rock outcrop) and soil (pH, texture, sodicity, depth, drainage and salinity) factors.
- Lot size mapping.
- Mapping of active groundwater and surface water licences (sourced from Department of Environment and primary Industry).

The spatial analysis identified most of the Shire’s rural land as medium productive agricultural land. Three broad areas of high productive agricultural land were identified within which most land is high or moderate agricultural capability with access to irrigation water and comprise lots greater than 25 ha in size (Figure 26).

Table 18 Productive agricultural land analysis framework

<table>
<thead>
<tr>
<th>Productive agricultural land</th>
<th>Agricultural capability</th>
<th>Lot size (ha)</th>
<th>Irrigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
<td>&gt;25</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>&gt;25</td>
<td>No</td>
</tr>
<tr>
<td>Medium</td>
<td>High</td>
<td>&lt;25</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>&lt;25</td>
<td>No</td>
</tr>
<tr>
<td>Low</td>
<td>Medium</td>
<td>&gt;25</td>
<td>No</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>&gt;25</td>
<td>Yes</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>&lt;25</td>
<td>No</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>&lt;25</td>
<td>Yes</td>
</tr>
</tbody>
</table>

\textsuperscript{34} Baxter and Robinson (2001) A Land Resource Assessment of the Glenelg Hopkins Region
Figure 26 High productive agricultural land (note areas in light grey are out of scope)
INDUSTRY CLUSTERS

Consideration of natural attributes alone does not capture the full range of criteria that gives an area a competitive advantage for agriculture or forestry. Consideration of the economic and social benefits that these industries bring to a region provides for a more balanced comparison with competing uses.

Identification of industry clusters was based on an assessment of:

- Concentrations of enterprises supporting an industry of national or state or regional significance.
- Significant Public and private sector investment in industry.
- Economic scale of primary production and secondary processing, and employment opportunities that these provide.

Areas that ranked highly against these attributes were identified as Industry Clusters.

Concentration of enterprises

National and state significant enterprises, as measured by gross value of agriculture include meat and dairy (Table 6). These are undertaken across the Shire, with dairy focused in the south-eastern corner of the Shire (Figure 27).

Regional production data for the timber industry indicates that it is an industry of state significance. Figure 27 shows the locations of timber production in Glenelg.

Public and private investment in industry

Dairy farms within the region supply processors that are located both within the region (Bulla, Fonterra, Murray Goulburn, and Warrnambool Cheese & Butter) and outside the region (Bega Cheese, Lion and United Dairy Power). Milk supplied to processors located outside the region is often processed within the region by arrangement between processors. The economic contribution of the dairy-processing sector is estimated at $1.13 billion with a substantial volume of product exported23.

The production and processing of milk supports a significant number of small and medium size businesses that providing services to the industry e.g. veterinary services, freight and logistics, electrical and plumbing services. The indirect effect of production and processing on the service sector has been estimated to contribute a further $1.59 billion to the regional economy23.

The regional dairy industry directly employs 5,160 people on farm and a further 2,240 in the processing sector, representing 15% of the regional workforce. The total economic value to the region is estimated at $3.62 billion23.

A livestock assembly depot at Cape Nelson prepares livestock for live export and is currently handling around 30,000 cattle per year. Livestock are exported through the Port of Portland. Processing of livestock occurs mainly outside the Shire outside the region in Warrnambool including the Midfield Group, which employs over 1,200 people across the business and in 2013/14 had an annual turnover of $745 million. Its Warrnambool facilities include an abattoir, boning, rendering, milk processing and processing of co-products such as bone meal and tallow. Midfield also owns and leases 18 rural properties comprising more than 8,000 hectares with a herd of more than 37,000 cattle providing a baseline supply of animals. Midfield currently exports 94% of the meat produced at Warrnambool with most exports taking place through the Port of Melbourne. Product is held in contract cold stores in Laverton. Other meat processing facilities are located in Hamilton, Ararat, Colac, Mortlake, Geelong, Mount Gambier and Melbourne35.

The region is well serviced with major road freight routes connecting with Melbourne and Adelaide. Sealed roads connect all the major regional centres of Warrnambool, Hamilton, Portland, Colac and Geelong. Rail freight infrastructure includes two lines through the region, connecting seven Graincorp on-site grain storage facilities and one off-site storage facility. The deep water port in Portland enables bulk handling of grain, woodchips, timber and related products, livestock and silica sands.

While most processing of local product occurs outside the Shire, there is significant private investment in processing and manufacturing in nearby municipalities and transport infrastructure to support movement of product around the region.

Value of primary production and employment

Ganly, J. (2014) Economic Witness Statement to Amendment C94 and C96 to the Warrnambool Planning Scheme
The dairy and livestock industries are the most significant in terms of the gross value of production and employment in Glenelg and across the South West Region (Table 19).

Areas that are limited in area and have specific land qualities for the production of a crop type that is required to maintain the viability of a processing industry

Locations suited to pasture-based dairy production are limited to those with reliable rainfall or access to secure supply of irrigation water, high agricultural capability land and sufficient scale to underpin investment in food processing. In Victoria, these locations are limited to Gippsland, northern Victoria irrigation areas and south west Victoria including land in Glenelg.

The key factors in land suitability for timber production are rainfall, (generally greater than 650mm for *E. globulus*) soil types, access to ports for export of timber products and sufficient scale to underpin investment in timber processing. In Victoria, these areas are limited to Gippsland and South West Victoria, including land in Glenelg.

Areas that are significant for the continuity of supply of products to domestic and export markets

Milk, meat and timber products produced in the Glenelg and the South West Region supply both domestic and export markets. A secure supply of milk, livestock and timber is critical to maintaining and encouraging investment in the regional processing sector.

Table 19 Gross value of production (GVAP) and employment on farm and in the processing sector in Glenelg and the South West Region.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Glenelg Shire</th>
<th>South West Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$million</td>
<td>Jobs</td>
</tr>
<tr>
<td>Dairy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm</td>
<td>$41</td>
<td>163</td>
</tr>
<tr>
<td>Processing</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Meat/wool/grain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm</td>
<td>$135</td>
<td>642</td>
</tr>
<tr>
<td>Processing</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>Horticulture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm</td>
<td>$11</td>
<td>62</td>
</tr>
<tr>
<td>Processing</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Products and Processing</td>
<td>-</td>
<td>72</td>
</tr>
</tbody>
</table>

* Values for the Green Triangle Region that includes South Australia

Based on this assessment it is concluded that:

- The dairy industry in Glenelg is part of an industry cluster of National and State significance
- The meat and timber industries in Glenelg are industry clusters of State and regional significance.

The areas where these industries are clustered in Glenelg are shown in Figure 27.
Figure 27 Land use and industry clusters
STRATEGIC IMPLICATIONS

Given the importance of agriculture to the local and regional economy, areas of high productive agricultural land and land that supports significant industry clusters should be protected to provide confidence to the industry to invest in the long term.
8 AQUACULTURE

This section of the report reviews the strategic context for aquaculture and documents research and analysis of Glenelg’s aquaculture industry.

STRATEGIC CONTEXT

National Aquaculture Statement

The Statement outlines key policy commitments and actions by Australia, state and Northern Territory governments to support Australian aquaculture including:

“The Australian, state and Northern Territory governments commit to continue working in partnership with the aquaculture industry to provide an effective and efficient regulatory environment that supports the sustainable growth of the industry, encourages investment and innovation, maintains strong environmental performance, protects aquatic animal health and manages biosecurity risks”.

The statement is the first step in fulfilling the Australian Government’s commitment to work with industry to develop a national aquaculture strategy.

Victorian Aquaculture Strategy

The Victorian Aquaculture Strategy (2008) sets a vision “to grow the value of Victorian aquaculture to $60m by 2015 in a sustainable manner”. The strategy outlines the competitive advantages and growth opportunities for the Victorian aquaculture industry. Some of the key industry development opportunities identified include:

- Land-based marine abalone aquaculture.
- Integration of aquaculture into traditional agricultural farming practices.
- The use of Recirculating Aquaculture System (RAS) technology for intensive farming purposes.
- Growing international markets.

The Strategy notes increasing competition to coastal land and river frontages as an important issue for the industry and value adding by providing tourist facilities as an opportunity.

Victorian Climate Change Strategy for Fisheries and Aquaculture Report 2008-2018

The Strategy will guide Victorian Government fisheries climate change research investment and will inform the review and development of fisheries management arrangements, legislation and policy. It will assist fisheries managers, and fishing and aquaculture businesses to plan for and adapt to climatic change.

The Strategy notes “the eastern and south eastern Australian marine waters are considered to be the most vulnerable to the impacts of climate change in Australia. It is expected that this region will experience the..."
greatest changes in temperatures in the Southern Hemisphere this century. Victoria’s marine waters are particularly susceptible to these changes.”

Adaptation strategies for land based aquaculture are yet to be developed so the implications for land use planning are still unclear. However, the need to be located in close proximity to the shoreline has the potential to make land based aquaculture facilities very vulnerable to storm surge and sea-level rise.

Code of Practice

A code of practice for the abalone industry has been prepared that includes biosecurity control measures for land-based abalone aquaculture systems. These systems need access to large quantities of good quality seawater and require substantial coastal infrastructure. There are two types of land-based abalone farms: hatchery-based and growout only. Hatchery-based farms are vertically integrated comprising of hatchery, nursery and growout components. Growout farms on the other hand buy juvenile abalone from hatcheries aiming to growout to market size in 2.5 years Growout systems culture abalone in tanks of various designs and materials and require a regular exchange of seawater.

Standing Operating Procedures for Land-based Abalone Farms that are relevant to a rural land use strategy include:

- Separation and/or physical isolation of areas on farm including individual sheds or groups of sheds should be kept physically separate to prevent the spread of disease.
- Housing different age classes of abalone separately to reduce the potential for disease to spread.
- Careful control of who enters the site and areas that they can access to when on-site to ensure disease exclusions. Where possible, visitors should be assigned to discrete areas within the farm.
- Careful management of effluent settlement ponds and tanks (discharge is under license by the EPA).

Other issues for that may need to considered in identifying appropriate locations for land-based aquaculture include:

- Separation from sensitive land uses (such as residential land uses) and avoid land use conflict.
- Opportunity for on-site disposal of some wastes and waste-water.

Aquaculture and the VPP

Under the VPP “Aquaculture” is defined as “Land used to keep or breed aquatic animals, or cultivate or propagate aquatic Plants” and is incorporated within the broader definition of “Agriculture,” Use of the land for agriculture does therefore not require a planning permit in the Farming Zone or Rural Activity Zone. A planning permit will be required to use land for aquaculture in the Rural Conservation Zone. Planning permits may be required for buildings and works.

The definition of aquaculture does not include the "processing" of product, only the keeping, breeding, cultivation and/or propagation of such. "Processing" is separately defined as "industry" under the VPP and on-site processing of abalone may require additional planning permits.

Issues that may be considered in assessment of a planning permit to use land for aquaculture include: visual impact, noise, odour / air quality, waste disposal, vegetation removal, excavation as well as any issues associated with overlays that may apply to the land.

Industry Overview

The Abalone Fishery is Victoria’s most valuable commercial fishery. Almost all of the catch is exported to international markets, predominately in Asia. Abalone are caught along the majority of the Victorian coastline and the fishery is primarily based on targeting blacklip abalone (Haliotis rubra).

Victorian land based aquaculture farms are located in south west Victoria, in Port Phillip Bay and Western Port Bay. Coastal Seafarms in Allestree, near Portland is a land based abalone production and on-site processing facility. The majority of its stock is frozen and exported as well as some canning for the export market. In 2006, an outbreak of Abalone Virus Ganglioneuritis (AVG) caused the temporary closure of the facility to de-stock and undertake disinfection and decontamination processes prior to re-stocking. The closure and loss of

production resulted in significant economic loss to the industry and has had ongoing ramifications for seafood processing and manufacturing facilities in south west Victoria.

Table 20 Victorian abalone production

<table>
<thead>
<tr>
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<th>2008/09</th>
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<th>2010/11</th>
<th>2011/12</th>
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<tr>
<td></td>
<td>WEIGHT (T)</td>
<td>VALUE* ($million)</td>
<td>WEIGHT (T)</td>
<td>VALUE*</td>
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<tr>
<td>Total production</td>
<td>910</td>
<td>$27</td>
<td>882</td>
<td>$22</td>
</tr>
<tr>
<td>Aquaculture#</td>
<td>209</td>
<td>ND</td>
<td>ND</td>
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</table>

* ESTIMATED FROM PRICES REPORTED BY PROCESSORS
# DOES NOT INCLUDE HATCHERY PRODUCTION
ND- NO DATA OBTAINED OR INNSUFFICIENT DATA TO REPORT BECAUSE THERE ARE LESS THAN 5 LICENSE HOLDERS (POLICY REQUIREMENT TO PROTECT COMMERCIAL CONFIDENTIALITY OF DATA)

CHALLENGES

Land based abalone aquaculture requires coastal locations for supply of seawater. Competition for coastal land and the threat of sea level rise are significant challenges. Biosecurity is also important to ensure disease exclusions.

Obtaining permission to extract and use coastal water.

The attractiveness of the industry has been hit by the loss of a major seafood processing facility in Port Fairy.

OPPORTUNITIES

There is potential for further growth based on high demand in the industry.

There has been some interest in development of eel aquaculture.

STRATEGIC IMPLICATIONS

Abalone aquaculture is a small but economically important industry in Glenelg. Further information is required to understand how planning policy could support industry growth.

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9 VALUES AND HAZARDS

This section of the report summarises the strategic context and findings of an analysis of natural and environmental features and hazards.

LANDSCAPE

STRATEGIC CONTEXT

Coastal Landscape Assessment Study

The Coastal Spaces Landscape Assessment Study\(^\text{41}\) identified and mapped the non-urban coastal landscapes of the Shire and assessed their visual landscape values (Figure 28). A set of best practice policies were recommended to protect and manage visual qualities of the coastal landscape in Victoria, including:

- Retaining the natural and undeveloped character of the coastal strip between settlements by avoiding or carefully siting and designing development.
- Preventing ribbon development along main roads and key touring routes.

The study recommends the inclusion of a Clause 22 Local Policy for the ‘Management of Coastal Landscapes’ and that four packages of Significant Landscape Overlays (SLO) be introduced to the Glenelg Planning Scheme. These packages have been implemented, in part, via Amendment C52 Part 1. Amendment C52 Part 2 was abandoned by Council in 2012 and Part 1 is under ‘active consideration’ by the Minister for Planning.

Part 1 affects the following areas:

- Discovery Bay Coast, Mt Richmond and surrounds.
- Portland West between Cape Nelson and Cape Bridgewater.
- Land at East Street south of Narrawong and east of the Fitzroy River.

The Study also reviewed the effectiveness of the Farming Zone, Rural Conservation Zone and Rural Living Zone in considering landscape values as part of planning permit applications. Key conclusions include:

- Some developments that are exempt from planning approval in the Farming Zone, if poorly designed and sited, can potentially impact on the landscape character and values of particularly significance or sensitive locations. i.e. large timber plantations and large or visually conspicuous buildings sited on ridgelines.
- The Rural Conservation Zone, whilst allowing fewer exempt uses, contains some land uses that are exempt from approval and may result in poorly designed development.
- The Rural Living Zone includes purposes more directly related to the protection of landscape values. However, there is scope for uses and developments, which do not require any planning approval to negatively impact on landscape values.
- The Glenelg Planning Scheme contains limited policies, which identify and outline the existing and/or desired character and appearance of the Shire’s significant landscapes.

Figure 28 Coastal Landscape Assessment Study – Glenelg significant landscapes
South West Landscape Assessment Study

The South West Landscape Assessment leads on from the Coastal Spaces Landscape Assessment Study. Together, these projects provide an assessment of the entire Shire’s landscape character areas. In particular, this project maps the non-urban inland landscapes of the Shire and assessed their visual landscape values (Figure 29). A set of best practice policies were recommended to protect and manage visual qualities identified as having either ‘regional’ or ‘state’ significance.

The project assessed and defined six significant landscape areas within the Shire, including:

- Dergholm State Park (regional).
- The Hummocks, Wando Vale (regional).
- Merino Tablelands (regional).
- Cobbobonee and Lower Glenelg National Parks (regional).
- Harmons Valley Lava Flow, Mount Napier Complex (state).
- Tyrendarra Lava Flow, Mount Eccles (Budj Bim) Complex (state).

Several of these significant landscapes extend beyond the municipal boundary (ie. Harmons Valley, Dergholm, Tyrendarra Lava Flow and Merino Tablelands) or are linked to other landscapes identified in previous landscape assessment studies (e.g. Cobbobonee), for which overlay controls have been recommended (see the Coastal Landscape Assessment Study).

The project also identified:

- The Mickle Lookout, Casterton as a regionally significant viewing location.
- Major tourist routes and viewing corridors within each of the landscape significance areas.

The study recommends that:

- The descriptions of the Shire at Clause 21.02, 21.04 and 21.09 be reviewed to refer to the Shire’s landscape as described in the Study.
- Consideration be given to implementing the findings of the Study through a Local Planning Policy to:
  - Address particular issues in the management and protection of landscapes across the municipality.
  - Provide additional information and decision making guidance about landscape character and significance, if necessary.
- The following Significant Landscape Overlays (SLO) be applied to the following areas of ‘state’ and ‘regional’ landscape significance:
  - Merino Tablelands.
  - The Hummocks.
  - Harmons Valley.
  - Tyrendarra Lava Flows.

STRATEGIC IMPLICATIONS
The Rural Land Use Strategy provides an opportunity to consider and where appropriate incorporate recommendations arising from the South West Landscape Assessment Study and outstanding recommendations of the Coastal Spaces Landscape Assessment Study into the planning scheme.

CULTURAL HERITAGE

STRATEGIC CONTEXT
The *Aboriginal Heritage Act 2006* requires the preparation of a Cultural Heritage Management Plans for high impact activities in an area of cultural heritage sensitivity, as defined by the Aboriginal Heritage Regulations, 2007.

High impact activities are prescribed in the *Aboriginal Heritage Regulations 2007* and include developments with the potential to cause significant changes in land use. An area of cultural heritage sensitivity (other than a registered place or cave) is no longer regarded as sensitive if all of it has been subject to past significant ground disturbance.
Significant ground disturbance is defined as disturbance of the ground or waterway by machinery in the course of grading, excavating, digging, dredging or deep ripping (to a depth of 60cm or more). Ploughing, other than deep ripping, is not considered significant ground disturbance for the purposes of the Regulations.

A desktop review of cultural heritage values in Glenelg found:

- Glenelg has a rich Aboriginal cultural heritage with Lake Condah, Tynrendarra and Budj Bim identified as areas of significance.
- There are currently 1,002 recorded sites of cultural heritage significance in the Shire, however, given that no more than 5% of the Shire has received previous survey coverage, there are potentially 20,000 or more archaeological sites located within the Shire, the vast majority of which have no management plans.
- The Shire also possesses a significant historic cultural heritage associated with early European settlement.
- Currently there are 50 listings for the Register of the National Estate, 146 on the Victorian Heritage Register and Inventory, 144 listed with the National Trust and 155 on the Glenelg Shire Heritage Overlay with most of these located in Portland.

Mapping of cultural heritage has been incorporated in to the Glenelg Planning Scheme.

**STRATEGIC IMPLICATIONS**

Consideration could be given to incorporating relevant cultural heritage information in to the Glenelg Planning Scheme.
BIODIVERSITY

STRATEGIC CONTEXT

Regional Catchment Strategy

The Glenelg Hopkins Regional Catchment Strategy is the primary planning framework for land, water and biodiversity management in the region. Specific actions for local government are set out in subordinate strategies such as native vegetation plans and the regional waterways strategy.

Glenelg Environment Strategy

The Glenelg Environment Strategy establishes a vision and framework for the protection, management and enhancement of Glenelg’s local environment. Of relevance to the Rural Land Use Strategy are the following recommendations:

- Apply the Vegetation Overlay or an Environmental Significance Overlay to mapped environmentally sensitive areas such as wetlands, swamps, rivers, creeks, remnant vegetation and native fauna habitat areas.
- Ensure the impacts of climate change are incorporated into key plans and strategies and into the planning scheme as information becomes available and regularly review the scheme to reflect the most up-to-date climate change information, science, and assessments of vulnerability to provide the framework upon which well-informed decisions can be made.
- Continue to develop programs and strengthen local policies for biodiversity protection as information becomes available.
- Use soil data maps to establish appropriate overlays for use in the development of land use zones; and develop policies to assist land use rezoning.
- Strengthen and apply appropriate overlays to ensure appropriate development and use of land known to have Acid Sulphate Soils.

Glenelg Roadside Vegetation Management Plan

The Roadside Vegetation Management Plan guides Council decision-making in relation to the management of native vegetation on Council managed roadsides across the municipality. Vegetation assessments and mapping of selected roadsides was undertaken in 2014, during which ecological values of nominated roadsides were identified and detailed information on vegetation extent and quality, and fauna habitat was provided to inform future management decisions around vegetation and biodiversity in the Shire. Other than the Bridgewater Lakes Road, most high quality vegetation was on roads adjacent to or that bisected state forests.

Natural Resource Management Planning for Climate Change

An impact and vulnerability assessment was undertaken to identify the likely impact of climate change on a range of natural asset types and values across seven Victorian Catchment Management Authorities, including the Glenelg-Hopkins Catchment Management Authority region. The project provides spatial data to help plan for likely climate change related impacts on these natural assets and land resources.

Strategic actions prepared by the Glenelg-Hopkins Catchment Management Authority that may have implications for planning policy will be considered when they become available.

BIODIVERSITY VALUES

NaturePrint has been developed by DEPI to integrate and analyse the best available statewide information about biodiversity values, threatening processes and ecosystem function at the landscape scale. Figure 31 shows the environmental values on all land in Glenelg and on land the subject of this Technical Assessment report. Dark red areas have a high strategic biodiversity score i.e. high environmental significance compared to light green areas that have a low strategic biodiversity score and therefore low environmental significance. While the mapping does not provide detailed description of the environmental values, it is a valuable tool for

44 Glenelg Hopkins Catchment Management Authority (2013) Regional Catchment Strategy
strategic planning purposes to identify locations where planning policy should be considered to recognise and manage threats posed by land use and development.

The mapping demonstrates that:

- A large proportion of environmental values are located on public land.
- A large proportion of the significant values on private land are associated with the waterways and wetlands.

There are locations where planning policy needs to consider the threats posed by land use and development. Review of relevant environmental plans and strategies that provide descriptions of the environmental values and threats is provided in the following section.

WATERWAYS

The Glenelg Hopkins Waterways Strategy[^48] identifies a number of priority river reaches and estuaries within Glenelg (Figure 32).

The lower section of the Glenelg River (between Dartmoor and the coast at Nelson) is one of 18 heritage river areas in Victoria (Heritage Rivers Act 1992) recognised for its high natural, social and landscape values and is also listed in the Directory of Important Wetlands. The Glenelg Basin contains more than 150 threatened to near-threatened species (including the Glenelg Spiny Cray) and ecological communities and provides habitat for migratory bird species protected under international agreements such as the fairy tern. Major tributaries in the Shire include the Crawford and Stokes Rivers.

The Crawford River (extends east from Dartmoor) is a priority sub-catchment within Glenelg Hopkins region. The river includes a reach with high environmental and social values an ecologically healthy reach with an excellent ISC rating. The area contains a number of threatened fauna species, including Brolga, Brown Quail, River Blackfish and Variegated Pygmy Perch. Highly significant to Indigenous people & has high recreational value.

Stokes River (extends north east of Dartmoor) - contains a high environmental value reach and an ecologically healthy reach and riparian vegetation, with good structural intactness. Significant EVCs include Damp Sands Herb-rich Woodland, Floodplain Riparian Woodland, Riparian Woodland and rare Swamp Scrub. Significant fauna include Red-tailed Black Cockatoo, Glenelg Spiny Freshwater Crayfish, River Blackfish and Variegated Pygmy Perch.

Other priority waterways include:

- **Lower Surry river and estuary:** Both reaches are regionally important fishing destinations. The river has stretches of riparian vegetation in excellent condition. The estuary supports rare and threatened bird species such as the Australasian bittern and Intermediate egret.

- **Darlot Creek and lower Fitzroy river and estuary:** these waterways have very high cultural values and are part of the Budj Bim national Heritage landscape. The waterways support rare and threatened species such as the Australasian bittern, Intermediate egret, Growling grass frog and Glenelg spiny crayfish.

The Glenelg Hopkins Waterways Strategy includes the following recommendations for local government:

- Investigate opportunities to incorporate high value and priority waterways from this strategy in local government planning schemes through the application of Environmental Significance Overlays.

- Ensure planning decisions consider acid sulphate soils.

The Environment Significance Overlay – Schedule 2 has been applied to the high priority and significant river reaches and estuaries in the Glenelg Planning Scheme.

The Environment Significance Overlay – Schedule 1, Coastal Areas could be updated to include consideration of potential coastal acid sulphate soils to ensure that impacts on development and environmental values are avoided.
Figure 32 Priority waterways

WETLANDS
The Shire includes a number of National Important Wetland, listed in the Directory of Important Wetlands (Figure 32)

- **Boiler Swamp Wetland System** – consists of a band of wetlands of high conservation value for its flora and fauna. Frequent by two species listed under JAMBA and CAMBA.

- **Lake Condah** covers 229ha and is a seasonal stream-fed wetland provides rich habitat for a variety of wildlife including short-finned eel, blackfish and many waterbirds. Geomorphological features are of national significance and the area contains Indigenous sites of international significance.

- **Lindsay-Werrikoo Wetlands** covers 406 ha and comprises seven wetlands including Kaladbro, Mill, Church Kerr and several unnamed wetlands. The wetlands consist of a high density mosaic of freshwater meadows, shallow freshwater marshes and deep freshwater marshes mainly on cleared land aligned along a former shoreline. This wetland complex supports important brolga habitat and includes numerous seasonally herbaceous wetlands (a threatened ecological community under the EPBC Act).

- **Long Swamp (Discovery Bay, close to SA border)** are coastal freshwater wetlands separated from the sea by an extensive dunefield noted for its flora and fauna.

- **Mundi-Selkirk Wetlands** - the Mundi-Selkirk wetlands consist of numerous freshwater meadows, shallow freshwater marshes and some deep freshwater marshes on forested and cleared land aligned along a former coastline. This wetland complex supports important brolga habitat and includes numerous seasonally herbaceous wetlands (a threatened ecological community under the EPBC Act). The wetlands cover 2,032 ha and comprise approximately 20 individual wetlands including McCallums swamp, Blackjack swamp, Mill swamp, Cemetery swamp, Grannys swamp, Argyle swamp, Lake Mundi and Mosquito Swamp

- **Bridgewater Lakes (Discovery Bay)** are a freshwater line of lakes in a dune corridor with high social values and are an important refuge for water birds and provides freshwater habitat.
The Glenelg Hopkins Waterways Strategy includes the following recommendations for local government to contribute to improved wetland protection and management:

- Ensure planning decisions consider acid sulphate soils.

The Environmental Significance Overlay 2 seeks to protect important wetlands. However, on review, it has been found that:

- Many wetlands are not covered by the overlay or the overlay boundary does not align accurately with location of the wetland.
- The overlay schedule does not include an adequate description of the environmental values.
- There are no permit exemptions resulting in unnecessary planning permit applications.

![Figure 33 Significant wetlands](http://mapshare2.dse.vic.gov.au) accessed 9.2.2015

**NATIVE VEGETATION**

The Glenelg Hopkins Catchment Management Authority is currently updating its native vegetation strategic plans and mapping. The mapping of environmental values provided by NaturePrint (Figure 31) provides an

indication of where native vegetation of significance might be located and where consideration should be given to recognising these values and managing threats in planning policy. Threats to native vegetation that can be addressed by planning policy include:

- Clearance and fragmentation.
- Land use change.

Ongoing consultation with the Catchment Management Authority will seek to ensure that descriptions of significant native vegetation on private land and planning policy recommendations are considered in the development of the Rural Land Use Strategy.

**STRATEGIC IMPLICATIONS**

Update the Environmental Significance Overlay – Schedule 1 to include consideration of potential acid sulphate soils to ensure the impacts on development and environmental values are avoided.

Update the Environmental Significance Overlay Schedule 2 to ensure alignment between the overlay and mapping of wetlands, include description of the environmental values to be protected and permit exemptions.

Incorporate descriptions and recommendations for native vegetation protection and enhancement when an update Native Vegetation Plan is available.

**NATURAL VALUES**

**GROUNDWATER**

Groundwater is a significant resource in the western region of Victoria supplying around 50 per cent of the total water used by towns, farms and industry\(^\text{50}\) (Figure 34). Low stream flows and generally flat topography mean that the region is not suited to diverting water from rivers and streams. A proclaimed water supply catchment for the Merino bore field was introduced the town water supply from small lot subdivision, development of plantation forestry and herbicide and fertilise use.

Most bores in Glenelg Shire are used for either domestic and stock or food production. However, urban communities, including Portland, and industry are also highly dependent on groundwater for their water supply (Figure 35). There are also a number of groundwater dependent ecosystems such as Long Swamp, Lake Condah and Bridgewater Lakes. Across Glenelg Shire, high quality and high yielding groundwater is available from the upper, middle and lower aquifers providing opportunities for agricultural use across the Shire. Generally, groundwater entitlements exceed water usage indicating that there is potential for further development based on the resource.

Development of groundwater for irrigation is focused in locations where the groundwater is of suitable quality and at a depth that makes groundwater pumping affordable.

\(^{50}\) Department of Sustainability and Environment (2011) Western Region Sustainable Water Strategy
Plantations are a significant land use in the region and have the potential to impact recharge of groundwater aquifers. There is currently no mechanism in Victoria to directly address the water resource impacts from plantation forestry and currently plantation water is not recognised or accounted for under the State’s water entitlement system. However, this is being considered in the current review of the Water Act.

Areas of the State currently being considered for declaration as declared forest plantation areas are located in Glenelg and include:

- Crawford River catchment.
- Stokes River catchment.
- Glenelg Water Supply Protection Area, particularly around Lake Mundi.
CLIMATE
The Glenelg climate varies from a mild, wetter climate in the south and along the coast to a warmer and drier one in the north. Table 21 provides a summary of long term average temperature and rainfall data for Portland and Casterton.

For Portland, the average mean maximum temperature is around 22°C and the mean minimum is 13.6°C compared to Casterton with a mean maximum temperature of 27°C and a mean minimum of 13.4°C. Annual rainfall averages 827mm in Portland and 655mm in Casterton.

Table 21 Climate statistics

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STRATEGIC IMPLICATIONS
Monitor and consider the findings of the Water Act review with regard to declaration of forest plantation areas.

NATURAL HAZARDS
Natural hazards on rural land may have implications for its future use and development. A review of natural hazards found that coastal acid sulphate soils, soil erosion and flooding pose the most significant threats to development of rural land.

COASTAL ACID SULPHATE SOILS
Disturbance of acid sulphate soils can result in degradation of lowland environments, including acidification of agricultural soils, corrosion of concrete and steel infrastructure and degradation of estuarine water quality. Mapping of areas with the potential to have coastal acid sulphate soils has been undertaken to indicate to land managers where caution is needed or where further investigation is required prior to any land disturbance.

State Policy at Clause 13.01-1 Coastal inundation includes a strategy to
Avoid development in identified coastal hazard areas susceptible to inundation (both river and coastal), erosion, landslip/landslide, acid sulfate soils, bushfire and geotechnical risk.

Acid sulphate soils are currently triggered under Clause 56.01-1 Subdivision site and context description for residential subdivision.

For areas outside urban settlements, the Environmental Significance Overlay – Schedule 1, Coastal Areas could be updated to ensure that impacts on development and environmental values from disturbing potential coastal acid sulphate soils are avoided.

EROSION
Areas of rural land susceptible to soil erosion have been assessed and mapped (Figure 36) and includes land associated with the Glenelg River north of Dartmoor and in the north-east part of the Shire associated with

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Dundas and Merino Tablelands. The tablelands is defined by a broad plateau dissected by deep river valleys and it is the topography and extensive clearing of the area that contributes to the erosion risk.

Good land management can largely mitigate against erosion risk. This includes maintaining a healthy and vigorous pasture cover, revegetating high risk areas such as gullies, protecting and enhancing riparian vegetation and excluding stock from waterways. These are management actions outside the scope of the planning system, but could be encouraged through other measures such as Council's environmental plans.

Figure 36 Natural hazards
FLOOD
Flood mapping accessed through the Flood Data Transfer Project (FDTP) shows the extent of flooding in a 100 year Average Recurrence Interval or 1% Annual Exceedance Probability event. Data procured from the FDTP has been partially implemented into the Glenelg Planning Scheme via Environmental Significance Overlay 2 (wetlands and waterways) and through the Rural Floodway Overlay (Casterton). Much of the mapping has not been implemented due to concerns with the accuracy of the data.

In 2014, Amendment C74 introduced revised flood control for Casterton, Narrawong and Portland based on revised flood mapping for these event. Consultation with the GHCMA and the Department of Environment, Land, Water and Planning completed as part of Amendment C74 and the Glenelg Flood Investigations (2007) has revealed a number of other key priority areas for enhanced mapping including:

- Wetland drainage system between Allestree and Narrawong.
- Fitzroy River (Heywood)
- Sanford
- Nelson
- Dartmoor
- Tyrendarra
- Condah
- Central and north west rural areas of Glenelg Shire.

No further revision of planning controls is required at this point in time, however consideration could be given to referencing existing FDTP mapping within the planning scheme until enhanced data is made available.

BUSHFIRE
Victorian Bushfires Royal Commission and State Government Response
Following the 2009 Victorian Bushfires Royal Commission Report and the State Government Response, Amendment VC 83 introduced a suite of bushfire planning provisions into all Victorian Planning Schemes, including:

- The State Planning Policy Framework (SPPF) (clause 13.05 – Bushfire).
- The Local Planning Policy Framework (Municipal Strategic Statement (MSS) and local planning policy where relevant).
- The Bushfire Management Overlay (BMO) (clause 44.06).
- Bushfire protection: planning requirements (clause 52.47).
- Bushfire protection: exemptions (clause 52.48), native vegetation (clauses 52.16 and 52.17) and overlays which seek to manage vegetation.

The Bushfire Management Overlay was introduced into the Glenelg Planning Scheme in 2010.

Barwon South West Regional Bushfire Planning Assessment
Large areas of Glenelg Shire are bushfire prone due to extensive vegetated areas on public and private land. For this Technical Assessment Report and the Rural Land Strategy, the bushfire risk at the interface between rural areas and settlements will be of most significance. The Regional Bushfire Planning Assessment: Barwon South West Region\(^{33}\) identifies areas where land use planning matters intersect with bushfire hazard to influence the level of risk to life and property and provides a basis for further strategic planning. Settlements and locations identified for further consideration in Glenelg Shire are identified in Figure 37 and Figure 38. Findings relevant to each settlement are summarised in the following table. These will be considered as part of the review of directions for rural land around these settlements and localities.

\(^{33}\) Department of Planning and Community Development (2012) Regional Bushfire Planning Assessment: Barwon South West Region
<table>
<thead>
<tr>
<th>LOCATION</th>
<th>IDENTIFIED AREA DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nelson</td>
<td>The settlement of Nelson is made up of small lots with larger lots located at the periphery of the township. Area surrounding Nelson contains vegetation of high and very high conservation significance established bushfire hazard in the northern, central and southern portions of the area.</td>
</tr>
<tr>
<td>Digby</td>
<td>Cluster of small lots, surrounded by an area that is largely undeveloped. Larger undeveloped lots exist around the periphery of Digby.</td>
</tr>
<tr>
<td>Dartmoor</td>
<td>Cluster of small residential lots in the township of Dartmoor in proximity to bushfire hazard area. Dartmoor is surrounded by plantations. North-western, eastern and southern boundaries interface with bushfire hazard. Includes vegetation of high and very high conservation significance in north-south corridor of area.</td>
</tr>
<tr>
<td>Lyons</td>
<td>Cluster of small rural lots near Cobboobonee National Park in bushfire hazard area. Includes vegetation of high and very high conservation significance.</td>
</tr>
<tr>
<td>Merino</td>
<td>Grasslands surrounding Merino are a known bushfire hazard.</td>
</tr>
<tr>
<td>Princes Highway and Orchard Road, near Narrawong</td>
<td>Development pressure is being experienced east of the Narrawong settlement in proximity to a bushfire hazard area.</td>
</tr>
<tr>
<td>Portland north to Heathmere</td>
<td>Clusters of small and medium size lots in or in close proximity to bushfire hazard area between Portland north, Bolwarra to the East and Heathmere to the north. Eastern boundary of Portland north to Heathmere interfaces with bushfire hazard associated with scattered remnant vegetation.</td>
</tr>
<tr>
<td>Cape Bridgewater</td>
<td>Cluster of small lots at Cape Bridgewater in bushfire hazard area. Includes vegetation of high and very high conservation significance.</td>
</tr>
</tbody>
</table>

**Figure 37** Identified bushfire risk areas
Figure 38 Identified bushfire risk areas

SEA LEVEL RISE AND STORM SURGE

The Future Coasts Program has released the Victorian Coastal Inundation Dataset which provides mapping of areas forecast to be impacted by sea level rise and storm surge under four different time scales. The mapping is intended for use at a regional scale for strategic planning and risk management. Areas at risk in Glenelg include:

- Nelson and the mouth of the Glenelg River.
- Lower reaches of the Surry River.
- Lower reaches of the Fitzroy River and Darlot Creek.
- Coastal lakes between Allestree and the Shire’s eastern border.

Council has completed work on mapping sea level rise along the Portland and Narrawong coastline, which supplants some of this work. The study identified locations at risk of coastal erosion and flooding for three timeframes (Figure 39) and sets out a number of planning policy options for the area:

- Planning Response Option A – Do Nothing: consideration will need to be given as to whether the current planning scheme provisions, including a Special Use Zone (Schedule 3) and Development Plan Overlay, are appropriate given the findings of this study.
- Planning Response Option B – Prohibit Further Development - Consideration will need to be given as to whether a control such as the current Special Use Zone 3 should be extended to prohibit further development across those sections of the study area where coastal erosion is predicted.
- Planning Response Option C – Provide for Limited Further Development - Should it be determined that further development is appropriate within all or part of the study area, consideration will need to be given as to the appropriate planning tools to provide for this.
- Planning Response Option D – Facilitate Further Development - Should it be determined that further development will be encouraged within certain sections of the study area, consideration will need to be given as to how this development will be facilitated.

*AECOM (2010) Portland Engineering Study*
The report recommended that the results of the investigation be communicated with all stakeholders including landowners, residents and authorities, to gain their input into the preferred adaptation option. A rigorous risk assessment process could assist in identifying a preferred adaptation option and a detailed investigation into possible planning controls could be implemented to the local planning scheme.

It is beyond the scope of the Rural Land Use Strategy to address these recommendations. It will be important that any policy recommendations made by the Rural Land Use Strategy relevant to the area consider the study findings and the likelihood of changes to the planning policy in the future.

Figure 39 Coastal erosion and flooding areas

**STRATEGIC IMPLICATIONS**

- Incorporate enhanced flood mapping data when it becomes available. Priority areas include:
  - Wetland drainage system between Allestree and Narrawong.
  - Fitzroy River (Heywood)
  - Sanford
  - Nelson
  - Dartmoor
  - Tyrendarra
  - Condah
  - Central and north west rural areas of Glenelg Shire.
- Consider the findings of the Barwon South West Regional Bushfire Planning Assessment when preparing recommendations for planning policy in the Rural Land Use Strategy.
- Consider the findings of the Portland Coastal Engineering Study when preparing policy recommendations for the area between Portland and Narrawong.
STRATEGIC IMPLICATIONS

There is strong support in policy for protection and enhancement of environmental values. This review has identified opportunities to update and improve policy with regard to the following environmental features:

- Consider and where appropriate incorporate recommendations arising from the South West Landscape Assessment Study and the Coastal Spaces Landscape Assessment Study into the planning scheme.
- Incorporating relevant cultural heritage information into the Glenelg Planning Scheme.
- Liaise with the Glenelg-Hopkins Catchment Management Authority to ensure that relevant actions arising from the preparation of recommendations from the Natural Resource Management Planning for Climate Change project and preparation of the Native vegetation Plan are considered in policy.
- For areas outside urban settlements, the Environmental Significance Overlay – Schedule 1, Coastal Areas could be updated to ensure that impacts on development and environmental values from disturbing potential coastal acid sulphate soils are avoided.
- Review and update the Environmental Significance Overlay Schedule 2 for wetlands to correct mapping errors, gaps in its application and onerous planning permit requirements.
- Monitor and consider the findings of the Water Act review with regard to declaration of forest plantation areas.
- Incorporate enhanced flood mapping data when it becomes available. Priority areas include:
  - Wetland drainage system between Allestree and Narrawong.
  - Fitzroy River (Heywood)
  - Sanford
  - Nelson
  - Dartmoor
  - Tyrendarra
  - Condah
  - Central and north west rural areas of Glenelg Shire.
- Consider the findings of the Barwon South West Regional Bushfire Planning Assessment when preparing recommendations for planning policy in the Rural Land Use Strategy.
- Consider the findings of the Portland Coastal Engineering Study when preparing policy recommendations for the area between Portland and Narrawong.
10 RURAL HOUSING AND SETTLEMENTS

This section of the report provides an analysis of rural populations, housing and settlements.

STRATEGIC CONTEXT

The South West Regional Growth Plan and the Glenelg Sustainable Settlement Strategy are the key strategic documents for rural housing and settlement and have been reviewed in previous sections of this report. The Glenelg Strategic Land Use Study55 includes a detailed description and audit of the Shire’s rural land. Issues relevant to rural housing and settlement include:

- Subdivision of land in the Farming Zone
- Excision of dwellings in the Farming Zone
- Legacy of small rural lots in the Farming Zone and Rural Conservation Zone
- Timber plantations increasing bushfire risk around townships
- Development of intensive agricultural and industrial uses close to sensitive uses and rural settlements.

The Study recommended:

- Investigating rezoning small rural lots near settlements
- Investigate the performance of subdivision and excision policies in the Farming Zone and Rural Conservation Zone.
- Identifying areas suitable for intensive agriculture.

OVERVIEW

RURAL POPULATIONS

In 2011, the population of Glenelg Shire was around 20,000 with 30% living in rural areas outside the main towns (Table 22). The population has remained relatively steady since 2006 and this trend is projected to continue to 2031. The age profile is similar to the age profile of regional Victoria. The population is ageing as the percentage of the population less than 50 decreases and over 50 increases. This trend is projected to continue with the number of people older than 70 forecast to nearly double by 2031 (Table 23). Glenelg is ranked in the bottom 20 Victorian municipalities by the SEIFA disadvantage index. The SEIFA Index of Disadvantage measures the relative level of socio-economic disadvantage based income, educational attainment, unemployment and jobs in unskilled occupations. Heywood, Merino and parts of Portland were ranked amongst the most disadvantaged communities in the State56. Development of industries in rural

55 Department of Planning and Community Development (2011) Change and disadvantage in the Barwon South West Region, Victoria

56 Department of Planning and Community Development (2011) Change and disadvantage in the Barwon South West Region, Victoria
locations can be important in addressing rural disadvantage. The Rural Land Use Strategy presents an opportunity to promote rural industries and job creation in the Shire’s rural areas.

Table 22 Glenelg population 2011

<table>
<thead>
<tr>
<th>Location</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland</td>
<td>9,705</td>
</tr>
<tr>
<td>Casterton</td>
<td>1,349</td>
</tr>
<tr>
<td>Heywood</td>
<td>1,245</td>
</tr>
<tr>
<td>Dartmoor</td>
<td>269</td>
</tr>
<tr>
<td>Merino</td>
<td>171</td>
</tr>
<tr>
<td>Rural balance</td>
<td>6,289</td>
</tr>
</tbody>
</table>

Table 23 Current and forecast population structure

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Glenelg Number</th>
<th>Glenelg %</th>
<th>Regional VIC %</th>
<th>Change in population by age group 2006 to 2011 (%)</th>
<th>Forecast change in population by age group 2011 to 2031 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 4</td>
<td>1,068</td>
<td>5.5</td>
<td>6.3</td>
<td>0.0</td>
<td>-4.7</td>
</tr>
<tr>
<td>5 to 11</td>
<td>1,689</td>
<td>8.6</td>
<td>6.8</td>
<td>0.0</td>
<td>-16.3</td>
</tr>
<tr>
<td>12 to 17</td>
<td>1,804</td>
<td>9.2</td>
<td>8.4</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>18 to 24</td>
<td>1,211</td>
<td>6.2</td>
<td>8.1</td>
<td>0.0</td>
<td>-5.8</td>
</tr>
<tr>
<td>25 to 34</td>
<td>1,839</td>
<td>9.4</td>
<td>10.5</td>
<td>0.0</td>
<td>-8.8</td>
</tr>
<tr>
<td>35 to 49</td>
<td>4,087</td>
<td>20.9</td>
<td>19.8</td>
<td>0.0</td>
<td>-7.3</td>
</tr>
<tr>
<td>50 to 59</td>
<td>3,050</td>
<td>15.6</td>
<td>14.0</td>
<td>0.0</td>
<td>5.0</td>
</tr>
<tr>
<td>60 to 69</td>
<td>2,421</td>
<td>12.4</td>
<td>11.9</td>
<td>0.0</td>
<td>24.1</td>
</tr>
<tr>
<td>70 to 84</td>
<td>1,996</td>
<td>10.2</td>
<td>10.0</td>
<td>0.0</td>
<td>7.6</td>
</tr>
<tr>
<td>85 and over</td>
<td>413</td>
<td>2.1</td>
<td>2.3</td>
<td>0.0</td>
<td>5.6</td>
</tr>
<tr>
<td>Total population</td>
<td>19,578</td>
<td>-0.9</td>
<td></td>
<td></td>
<td>2.0</td>
</tr>
</tbody>
</table>

RURAL LOTS AND HOUSING

There is a significant supply of small lots, less than 10 ha, in the Farming Zone and Rural Conservation Zone (Table 24). Some of these lots are clustered around townships (Figure 40) and have been investigated in a demand and supply study of rural residential land as part of the implementation of the Glenelg Sustainable Settlement Study. The investigation areas are indicated by hatching in Figure 41. The study found that there is between 44 and 57 years supply of rural residential land if all Rural Living Zone, Low Density Residential Zone and Rural Conservation Zone Schedule 2 land is considered. The report recommends that development of Rural Conservation Zone Schedule 2 land, outside the investigation areas set out in the Glenelg Sustainable Settlement Strategy, be constrained to allow for concentration of resources into defined rural residential areas.

Small lots in the Farming Zone are found in isolation or small groups. Between 2007 and 2014:

- 84 planning permit applications for subdivisions in the Farming Zone were approved with a net increase of 44 lots, or 6 lots per annum and over the same period.
- 40 lots or 5 lots per annum were constructed in the Rural Conservation Zone Schedule 2.

A study of development activity in the Farming Zone found that there are:

- 1,794 properties in the Farming Zone, of which 1,755 have a dwelling and the remaining 39 are vacant (excludes properties used for timber production).
- Between 2007 and 2014, 19 new dwellings (averaging 3 per annum) were constructed on Farming Zone land primarily in the southern part of the Shire and most of these around Heywood and Portland West.

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60 Spatial Economics (2015) Development activity on Farm Zoned Land - Glenelg
Of the 771 lots in the Rural Conservation Zone Schedule 2, 307 are vacant.
Between 2006 and 2014, 29 new dwellings were constructed in the Rural Conservation Zone Schedule 2. Mapping of dwellings in the Farming Zone (Figure 42) indicates that the density of farm dwellings is highest close to townships and the southern half of the Shire.
A comparison of lot size and property size indicates a strong trend in land ownership in rural areas with most properties comprising multiple lots (Figure 43).
Dwelling development on small rural lots has the potential to:
- Compromise the implementation of the Shire’s settlement strategy, particularly the release and development of Rural Living and Low Density Residential Zoned land.
- Introduce inefficiencies in the delivery of rural infrastructure and services.
- Introduce conflict between agricultural activities and non-farming neighbours.
- Place upward pressure on agricultural land prices.
- Reinforce expectation of future development and subdivision opportunities.

Further fragmentation of rural land should therefore be avoided. Additional policy guidance is required to assist assessment of planning permits for dwellings in the Farming Zone and Rural Conservation Zone.

<table>
<thead>
<tr>
<th>Size range (ha)</th>
<th>0 – 10</th>
<th>10 to 40</th>
<th>40 to 100</th>
<th>&gt;100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>7,673</td>
<td>3,763</td>
<td>2,586</td>
<td>969</td>
</tr>
<tr>
<td>Farming Zone</td>
<td>6,933</td>
<td>3,392</td>
<td>2,436</td>
<td>962</td>
</tr>
<tr>
<td>Rural Conservation Zone 1</td>
<td>209</td>
<td>149</td>
<td>78</td>
<td>4</td>
</tr>
<tr>
<td>Rural Conservation Zone 2</td>
<td>513</td>
<td>222</td>
<td>72</td>
<td>3</td>
</tr>
<tr>
<td>Rural Conservation Zone 2</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* From Glenelg Shire GIS database

STRATEGIC IMPLICATIONS

The Rural Land Use Strategy provides an opportunity to promote rural industries, including intensive agriculture, in appropriate locations to support economic growth and employment.
There is a significant over-supply of small rural lots relative to the current and forecast population of Glenelg. Given the trend for increasing scale of agricultural businesses and the risk of introducing or exacerbating rural land use conflict, further fragmentation of rural land should be avoided. Consideration should be given to additional policy guidance to assist assessment of planning permits for subdivision, including excisions and dwellings in the Farming Zone and Rural Conservation Zone.
Figure 40 Lot size in the Farming Zone and Rural Conservation Zone
Figure 41 Glenelg Sustainable Settlement Strategy Investigation Areas
Figure 42  Dwellings in the Farming Zone.
Figure 43 Property size in the Farming Zone and Rural Conservation Zone.
11 AMENDMENT C78

BACKGROUND

Glenelg Planning Scheme Amendment C78 seeks to implement elements of the Glenelg Sustainable Settlement Strategy, and proposes to:

- Rezone land from Rural Conservation 2 (RCZ2) and Farming Zone (FZ) to Rural Living Zone (RLZ) in order to reflect the existing use of this land located in Digby, Portland North and West, and Bolwarra North and South.
- Rezone land in public ownership from RCZ2 to either Public Park and Recreation Zone (PPRZ) or Public Conservation and Resource Zone (PCRZ) to reflect the ownership and future management of land.
- Rezone land from RCZ2 to Industrial 2 Zone (IN2Z) where it forms part of a lot already in IN2Z in Portland North.
- Amend the schedule to the RLZ to apply a minimum subdivision area of 2ha within the areas to be rezoned in Portland and Bolwarra and a 1ha minimum subdivision area in Digby.
- Amend the schedule to the RLZ to provide for a 20m building setback on RLZ land adjoining School Road (Portland North) and a 15m building setback on RLZ land in Digby.

The Amendment was authorised by the then Department of Planning and Community Development on 27 June 2013 subject to the following conditions:

- The Explanatory Report and accompanying information must address the requirements for 'Documenting a proposal' contained in the Planning Practice Note Rural Residential Development (revised May 2012).
- The Explanatory Report and accompanying information must clearly demonstrate how the amendment addresses the need for buffers between residential and industrial uses and has considered the implication of all proposed rezoning on existing rural land uses.
- That notice of the amendment be given in writing to the public land manager of any affected land and to Native Title Services Victoria.

In response, Council prepared the Glenelg Land Use Study Addendum - Rural Living Areas\(^\text{61}\) that analysed rural living issues throughout the municipality, including the areas affected by Amendment C78. The Amendment was placed on public exhibition in 2013.

Following the exhibition of the Amendment, the then Department of Transport, Planning and Local Infrastructure raised issues with Council about the strategic merits of the proposed application of the RLZ and the need for further analysis of various issues. This resulted in Council reviewing the Glenelg Land Use Study Addendum and releasing a revised version (Version 2) in March 2015. The revised Addendum was informed by an assessment of demand and supply issues in the Rural Residential Land Demand and Supply Assessment\(^\text{62}\).

PANEL REPORT

In relation to areas proposed for rezoning to RLZ, Panel recommended that they be removed from the amendment and that Council undertake further investigation prior to considering preparation of a new amendment. The Panel listed the following investigations:

- A more complete and contemporary assessment of the agricultural productivity of the areas proposed to be rezoned.
- A more thorough analysis of supply and demand issues, based on more realistic development projections and a more appropriate planning horizon.
- Further consideration of the appropriate minimum subdivision area and whether different minima should apply to different areas (including consideration of whether there is scope to apply the LDRZ in some areas).
- Whether additional changes should be made to the Glenelg Planning Scheme to further protect productive agricultural land, particularly remnant areas zoned RCZ2.

\(^\text{61}\) Glenelg Shire (2013) Glenelg Land Use Study Addendum
This section of the report documents the findings of a detailed review of land proposed for rezoning to Rural Living.

**APPROACH**

Planning Practice Note 37: Rural Residential Development\(^{63}\) sets out guidance for planning authorities planning for rural residential development. The Practice Notes requires that Councils:

- Determine how much rural residential development is required to provide appropriate housing diversity and choice to meet housing needs.
- Demonstrate that a rural residential rezoning is part of its strategy to provide appropriate housing for forecast increases in population and changes in household structure and composition.
- Demonstrate that a rural residential rezoning supports and implements the housing needs of the municipality as identified in the MSS including understanding the demographic and housing needs of the area and likely future trends.

These requirements have been addressed by Council in the Glenelg Sustainable Settlement Strategy and Glenelg Land Use Study, 2015 Addendum.

The Practice notes also set out criteria to be considered in identifying locations for rural residential development:

- Rural residential development is not appropriate on land that:
  - Is productive agricultural land
  - Is in a special water supply catchment area
  - Has identified potential to be used for commercial forestry
  - Has identified potential for mineral and stone production
  - Is close to a major industrial facility such as a gas plant or wind energy facility.

- Rural residential development should be located in areas to avoid or minimise any adverse impact on the environment, native vegetation, biodiversity and heritage values.

- Rural residential development must be provided with certain community infrastructure and services normally expected for residential areas

- Rural residential land use and development must be compatible with the existing and likely land uses of the locality.

The purpose of this review is to assess the agricultural potential of the land proposed for rezoning to Rural Living, and the compatibility of rural residential development with the existing and likely land uses of land in the locality.

Information for each area was compiled from detailed mapping and site inspections including:

- Lot size
- Vacant lots, Agricultural quality
- Topography, vegetation cover, environmental values
- Land use
- Community infrastructure
- Adjoining / surrounding land uses

**SUPPLY AND DEMAND**

The Panel recommended that a potential 10 – 15 year supply of vacant zoned land based on a dwelling construction rate of 10 to 12 per annum is reasonable approach to provision of rural residential zoned land in Glenelg. Based on this scenario and a total of 274 vacant rural residential lots (53 LDRZ, 221 RLZ) there is currently between 23 and 27 years supply of rural residential land in the Shire, mostly in Narrawong, Portland and Bolwarra.

\(^{63}\) Department of Environment, Land, Water and Planning (2015) Planning Practice Note 37: Rural Residential Development
The supply and demand analysis does not provide strong support for rezoning of additional land for rural residential development. Additionally, it indicates that Council should take a strong position with regard to dwelling development on small rural lots in the Farming Zone and Rural Conservation Zone 2, if efficient development of the existing supply of land zoned for rural residential development is to be maximised.

**ASSESSMENT FINDINGS**

**BOLWARRA NORTH – INVESTIGATION AREA 1**

The Bolwarra North Investigation Area 1 is located around 10km north of Portland on the Henty Highway towards Heywood. The northern most lots are located along Keillers Road. Five of the six have a dwelling and most of these are relatively recent constructions of high quality residential buildings. Land use appears to be hobby farming or rural residential. Lots along Keiller Road are around 2ha in size.

The remaining lots in this investigation area front the Henty Highway behind a screen of vegetation. Four of the 11 lots are vacant. Dwellings are a mix of older and more recent constructed buildings. Land use between Keillers Road and Rivetts Road is mainly rural residential and hobby farming. South of Rivetts Road the land is being actively farmed with one lot under fodder maize and another developed as a rose nursery. These agricultural uses suggest irrigation development. Lots along the Henty Highway range from 3ha to 20 ha.

Land surrounding the investigation area to the north and east is held in larger, agricultural lots and is being actively farmed. Land on the opposite side of the Henty Highway is zoned Rural Living.

*Figure 44: Bolwarra North Investigation Area 1*
Regional mapping has assessed the agricultural capability of the land as medium. However, closer inspection indicates that the soil is free draining, red loam that together with irrigation development, suggests that the agricultural capability of the lots fronting the Princes Highway is high. The agricultural capability of the lots along Keiller was confirmed as medium. The landscape is gently to steeply undulating with most land cleared of vegetation.

If the investigation areas was developed for rural living, it is considered that the potential for land use conflict:

- Is moderate between the investigation area and adjoining broadacre grazing and cropping. Issues that could introduce conflict include – dust, noise, spray drift from farming operations; domestic pets worrying livestock from rural residential
- Is high between the investigation areas and the rose nursery. Issues that could introduce conflict include – frequency of farm operations associated with an intensive horticultural enterprise such as dust, noise, spray drift from farming operations and truck movements.

BOLWARRA NORTH – INVESTIGATION AREA 2

The Bolwarra North Investigation Area 2 is located around 7 km north of Portland and is wedged between the Henty and Princes Highways. The area is part of the gateway to Portland and its elevated position provides views into Portland and the ocean.

There are 17 lots, 5 of which are vacant and range in size from less than 1 ha up to around 12 ha. Land use is a mix of hobby farming and rural residential. A significant commercial scale rose nursery is located on and adjacent to the northern part of the area. Rural residential properties are clustered at the southern tip of the area.

Apart from some dwellings that have entrances off Nepean Road, access to all lots is directly from either the Princes Highway or Henty Highway.

Regional mapping has assessed the agricultural capability of the land as medium. However, closer inspection indicates that in the northern section of the area, the soil is free draining, red loam that together with irrigation development, suggests that the agricultural capability of these lots fronting is high. The agricultural capability of the land on the southern end of the area was confirmed as medium.

Figure 45: Bolwarra North Investigation Area 2

![Bolwarra North Investigation Area 2](image)
If the investigation areas was developed for rural living, it is considered that the potential for land use conflict:

- Is high between the investigation areas and the rose nursery. Issues that could introduce conflict include – frequency of farm operations associated with an intensive horticultural enterprise such as dust, noise, spray drift from farming operations and truck movements.

BOLWARRA NORTH – INVESTIGATION AREA 3

The Bolwarra North Investigation Area 3 is located around 5km north of Portland between the Henty Highway and the coast. The land is accessed via a service road that runs parallel to the Highway off McLeod St. There are 11 lots in the area, 5 of which are vacant. The area is essentially ‘locked in’ by the ocean, Highway, residential development on the southern boundary and rural living on the northern boundary. Land use is a mix of hobby farming and rural lifestyle. Lot sizes range from under 1ha up to 12ha. A motel and other holiday accommodation is located in the adjoining residential area.

Regional mapping has assessed the agricultural capability of the land as medium and site inspection confirmed this.

If the investigation areas was developed for rural living, it is considered that the potential for land use conflict:

- Is low as the investigation area adjoins existing rural living and residential zoned land.

Figure 46: Investigation areas 3 and 4
BOLWARRA NORTH – INVESTIGATION AREA 4

The northern most border of the Bolwarra North Investigation Area 4 is located around 5km north of Portland. The area extends to the northern boundary of Portland and the railway line to the west. There are around 60 lots in the investigation area and eleven of these are vacant.

Hobby farms and rural residential are clustered along Westlakes Road and Crowes Road. The land between is low lying, undeveloped and currently used for grazing. A strawberry farm / tourism business is located on the Princes Highway in the northern part of the area.

Hobby farming / rural residential housing along Westlakes Road abuts industrial zoned land. Adjacent industrial uses include a truck depot, sawmill (closed) and a chip mill was recently approved for development.

Between Westlakes Road and Darts Road, the investigation area is wedged between the railway line and industrial land, used for heavy industry, and the Henty Highway. There is a large wetland on the southern tip. Land west of the investigation area is actively farmed, mainly grazing and is held in large lots and holdings.

Regional mapping has assessed the agricultural capability of the land as medium and site inspection confirmed this with some of the low lying swampy areas considered to of low agricultural capability.

If the investigation areas was developed for rural living, it is considered that the potential for land use conflict:
- Is high between the investigation area and adjacent industrial zoned. Industrial uses have the potential to generate noise and odour and increase the frequency of truck and other vehicle movement along Westlakes Road.

PORTLAND NORTH – INVESTIGATION AREA 5

Investigation area 5 is located around 5km from the centre of Portland. Land use is a mix of larger grazing properties, hobby farms and rural residential. New rural residential / hobby farm development is occurring along the Boulevard. The eastern boundary of the area along School Road abuts an industrial area. Current industrial uses includes heavy engineering and agricultural chemical services with potential for further industrial development. A primary school is also located on School Road. Land use between the Boulevard and Nelson Road is grazing on larger properties. A large swamp / wetland is located in the south west corner near Nelson Road.

There are around 50 lots in the area and 27 are vacant and lot sizes range from 4 ha up to 19ha.

Regional mapping has assessed the agricultural capability of the land as medium and site inspection confirmed this with some of the low lying swampy areas considered to be low agricultural capability.

If the investigation areas was developed for rural living, it is considered that the potential for land use conflict:
- Is high between the investigation area and adjacent industrial zoned. Industrial uses have the potential to generate noise and odour and increase the frequency of truck and other vehicle movement along School Road.
- Is low to moderate between the investigation area and adjoining broadacre grazing. Issues that could introduce conflict include – dust, noise, spray drift from farming operations; domestic pets worrying livestock from rural residential
PORTLAND NORTH – INVESTIGATION AREA 6

Investigation area 6 is located around 7km from the centre of Portland. Land in in investigation area 6 is used predominantly for grazing on larger properties and hobby farms. Hamer Court off Nelson Road has a number of rural residential / small hobby farm type properties. There is an established timber plantation south of Heath Road.

There are around 65 lots in the area ranging in size range from less than 1ha up to 20ha.

Regional mapping has assessed the agricultural capability of the land as medium and site inspection confirmed this with some of the low lying swampy areas considered to of low agricultural capability.

If the investigation areas was developed for rural living, it is considered that the potential for land use conflict:

- Is low to moderate between the investigation area and adjoining broadacre grazing. Issues that could introduce conflict include – dust, noise, spray drift from farming operations; domestic pets worrying livestock from rural residential
PORTLAND WEST – INVESTIGATION AREA 7

Land in investigation area & is predominantly grazing on small to larger hobby farms, apart from Dalwood Lane and Peddie Avenue that are primarily rural residential and between Keers Road and Lalor Street which is densely settled rural residential. New, high quality houses are being established in these rural residential precincts. Some home industry was also noted.

The area has undulating topography and Wattle Hill Creek runs through the area. There are 80 lots in the area and around 25 are vacant.

The area is adjacent to the Henty Highway (western ring road) and residential and LDRZ on the eastern boundary and land on the western side is used for grazing. The South Coast raceway is located on the southern boundary.

If the investigation areas was developed for rural living, it is considered that the potential for land use conflict:

- Is low to moderate between the investigation area and adjoining broadacre grazing. Issues that could introduce conflict include – dust, noise, spray drift from farming operations; domestic pets worrying livestock from rural residential.
- Is moderate to high between the investigation area and the raceway. Issues that could introduce conflict include noise, litter and traffic associated with events at the raceway. The level of conflict will be influenced by the number and frequency of events.

Logical growth area for Portland given constraints to the north

Holding pattern to enable residential growth / expansion in the long term.
DIGBY

Digby is a small town (population of around 200) located 40 km north of Heywood and 3m south of Casterton on the Portland – Casterton Road. The town has a general store and hotel. The area has undulating topography and the agricultural suitability of the land was mapped as medium. Site inspection found that the agricultural suitability to be medium to low.

There are 81 lots in the investigation area, 12 have a dwelling. Most lots are part of much larger holdings (Figure 49). It is understood that the demand for new dwellings in Digby is low. This along with the substantial supply of lots within the township, does not support rezoning land for Rural Living.

Figure 48: Lot development – Digby.

Figure 49: Land tenure (extract from Council submission to C78 Panel hearing.)
STRATEGIC IMPLICATIONS

The overriding finding of this review is the significant existing supply relative to demand of land zoned for rural living. Panel recommended a 10 to 15 year supply and this review found that there is currently between 23 and 27 years supply. Under these circumstances it will be extremely difficult for Council to justify rezoning any additional land to rural living.

Land candidate for Rural Living in the long term, subject to reduced supply, was based on an assessment of the combination of the following considerations:

- Agricultural suitability
- Compatibility with surrounding land uses
- Proximity to a town and services
- Presence of commercial agriculture

The findings of the assessment is summarised Table 25. Based on this assessment, the candidacy of Investigation Areas 3 and Investigation Areas 7 for re-zoning to Rural Living was found to be moderate and moderate to high respectively. Investigation Area 3 may also have merit for tourism subject to the findings of a tourism strategy.

It is acknowledged that there is land within the other investigation areas used for rural lifestyle and hobby farming. However, it is considered that this alone does not provide sufficient merit for rezoning to Rural Living given the extensive existing supply of land zoned Rural Living.
## Table 25: Assessment of investigation areas

<table>
<thead>
<tr>
<th>Investigation Area</th>
<th>Agricultural suitability</th>
<th>Land use compatibility</th>
<th>Other considerations</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigation Area 1</td>
<td>Medium to high</td>
<td>Moderate to high risk of rural land use conflict</td>
<td>Access / egress from Henty Highway, Distance from Portland, Lack of nearby services, Commercial-scale agriculture uses</td>
<td>Candidacy for Rural Living is low.</td>
</tr>
<tr>
<td>Investigation Area 2</td>
<td>Medium to high</td>
<td>Moderate to high risk of rural land use conflict</td>
<td>Access / egress from Henty Highway, Distance from Portland, Lack of nearby services, Commercial-scale agriculture uses</td>
<td>Candidacy for Rural Living is low.</td>
</tr>
<tr>
<td>Investigation Area 3</td>
<td>Medium</td>
<td>Low risk</td>
<td>Access by a service road, Landlocked between highway and ocean, Adjacent tourism and residential development, Tourism potential</td>
<td>Candidacy for rezoning to Rural Living is moderate. (Note that the site could be suitable for rezoning to Rural Activity Zone subject to findings of a tourism strategy)</td>
</tr>
<tr>
<td>Investigation Area 4</td>
<td>Medium to low</td>
<td>Moderate to high risk of land use conflict</td>
<td>Commercial-scale agriculture uses, Lack of nearby services, Gateway to Portland, Adjacent industrial uses</td>
<td>Candidacy for Rural Living is low. (Avoid further dwelling development along Westlakes Road opposite Industrial Zone)</td>
</tr>
<tr>
<td>Investigation Area 5</td>
<td>Medium to low</td>
<td>Moderate to high risk of rural land use conflict</td>
<td>Commercial-scale agriculture uses, Lack of nearby services, Adjacent industrial uses</td>
<td>Candidacy for Rural Living is low. Avoid further dwelling development along School Road due to proximity to Industrial estate.</td>
</tr>
<tr>
<td>Investigation Area 6</td>
<td>Medium to low</td>
<td>Low risk</td>
<td>Mix of commercial scale farming and larger scale hobby farms, Distance from Portland, Lack of nearby services</td>
<td>Candidacy for Rural Living is low.</td>
</tr>
<tr>
<td>Investigation Area 7</td>
<td>Medium to low</td>
<td>Low risk</td>
<td>Proximity to Portland and areas identified for urban expansion, Proximity to western ring road</td>
<td>Candidacy for Rural Living is moderate to high subject to supply / demand. (Any future rezoning should consider future growth of Portland).</td>
</tr>
<tr>
<td>Digby</td>
<td>Medium to low</td>
<td>Low</td>
<td>Low demand, Large supply of town lots</td>
<td>Candidacy for Rural Living is low.</td>
</tr>
</tbody>
</table>
12 TOURISM

In 2015, Glenelg Shire completed preparation of a Tourism Strategy for the entire municipality\textsuperscript{64}. A detailed analysis of the Glenelg tourism industry, context issues and opportunities and consultation has been documented in a Background Report\textsuperscript{65}. The Report identifies a number of tourism assets (Figure 50) including expansive beaches, scenic and rugged coast, pristine National Parks and a rich indigenous and European heritage. Some of the key nature based tourism assets include:

- Budj Bim Heritage Landscape.
- Cobbobonee National Park and Forest Park.
- Mt Clay State Forest.
- Cape Bridgewater.
- Glenelg River.
- Lower Glenelg National Park.
- Discovery Bay Coastal Park.
- Annya State Forest.
- Crawford River Regional Park.

These destinations provide a range of established nature-based tourism experiences including tours, camping, fishing, and bushwalking. Significant potential exists to capitalise on these existing assets and provide a greater range, and better quality experiences to increase visitor numbers and yield. The key townships servicing visitors include Portland, Heywood, Dartmoor, Nelson, Dutton Way and Cape Bridgewater and Casterton and each has a unique offer and experience. Glenelg’s product strengths include:

- Nature Based Tourism.
- History and Heritage.
- Food and Wine.
- Wildlife.
- Spa and Wellbeing.
- Arts and Culture.
- Indigenous.
- Golf.
- Adventure.
- Festivals and Events.

The Tourism Strategy identifies four destination sub-regions (Figure 51) and includes the following key directions relevant to the preparation of the Rural Land Use Strategy include:

- Undertake a brand refreshment/development and marketing strategy for Great South West Walk

\textsuperscript{64} Urban Enterprise (2015) Glenelg Tourism Strategy
\textsuperscript{65} Urban Enterprise (2015) Glenelg Tourism Strategy Background Report
- Work with established tourism routes including the Great Southern Touring Route and the Melbourne Adelaide Tourism Route.
- Strengthen the appeal of the nature based icons including the National Parks in South West Victoria.
- Undertake a detailed structure plan and urban design framework for Portland CBD and place making initiative for Portland.
- Continue to work with and support the Gunditjmara in assisting with the long term process of establishing the Budj Bim Heritage Precinct.
- Establish a nominated inland tour utilizing sealed backroads that link Glenelg’s villages.
- Investigate and promote nature based tourism opportunities.
- Support fresh and local produce.
- Prepare a seafood gastronomy strategy.
- Promote opportunities associated with the port facilities.

**STRATEGIC IMPLICATIONS**

Tourism is important to the Glenelg economy and there are opportunities to grow the sector building on current product strengths. Preparation of the Rural Land Use Strategy should identify locations where rural based tourism can be encouraged, consistent with the directions of the draft Tourism Strategy.
Figure 51 Glenelg tourism destination sub-regions
13 Wind energy

OVERVIEW

Locations with wind resource suited to power generation are located on the southern foothills of the Dividing Range in Victoria and Victoria southern coast line between Cape Otway and Warrnambool (Figure 52). PacificHydro have established 50 wind turbines in south west Victoria, with an addition 22 under construction and close to commissioning (Figure 53). Most of the heavy manufacturing and services required for commissioning the turbines is undertaken by local businesses, which have been important for the local economy and employment. There are no immediate plans for additional turbines in the Glenelg Shire at this stage. A number of permits have been issued for turbines between Ararat and Portland. The future development of turbines is uncertain given recent consideration of the Government renewable energy targets. Glenelg has a number of advantages that position it for further development of renewable energy:

- The coastal area is suited for the development of renewable energy due to climatic conditions
- Access to the 500kV high-voltage line running from Geelong to Portland to feed into the Victorian electricity grid.
- There is a significant heavy engineering base that can support the energy sector.

Once turbines are commissioned a lease agreement is in placed with the landholder. For farmers, there are few restrictions on land use and most restrictions apply to easements and protection of infrastructure. There is support in policy for the wind energy sector in the South West Regional Growth Plan and at Clause 52-32 of the Planning Scheme, which has clarified issues previously related to issuing of planning permits for wind energy facilities. The guideline for development of wind energy facilities has been updated to include the changes introduced by Amendment VC124 namely the one kilometre turbine to dwelling distance and the transfer of responsibility status to the Minister for Planning. Model planning permit conditions for wind energy facilities have also been developed and are included in the guideline.

STRATEGIC IMPLICATIONS

The wind energy industry in Glenelg has plateaued and further development is unlikely without change to Government renewable energy policy. Clause 52-32 provides clear guidance on decision guidelines for approving planning permits for new wind energy facilities. The MSS however is silent on the wind energy industry.

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Figure 52. Average yearly wind speed\textsuperscript{67}

Figure 53. Wind turbines

\textsuperscript{67} SKM and Department of Primary Industry (2010) Renewable energy potential of Victoria