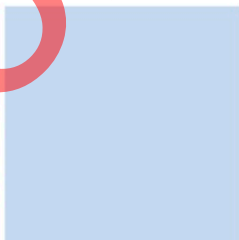
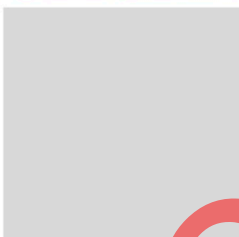
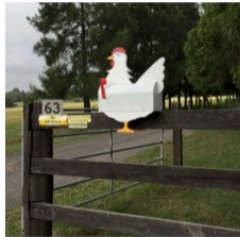
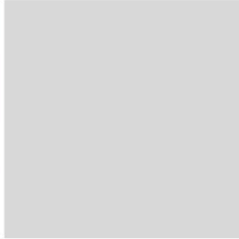


RURAL LANDS STUDY

FINAL

CESSNOCK CITY COUNCIL

MARCH 2017





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22-S-07

VERSION	STATUS		AUTHOR	REVIEW	QA	APPROVED	DISTRIBUTION
1.0	DRAFT	17.6.2016	S MCGUINNESS	S MCGUINNESS		S MCGUINNESS	SGS ECONOMIC AND PLANNING
2.0	FINAL	15.8.2016	S MCGUINNESS	S MCGUINNESS		S MCGUINNESS	SGS ECONOMICS AND PLANNING
3.0	FINAL	19.01.2017	S MCGUINNESS	S MCGUINNESS	H BUCK	S MCGUINNESS	SGS ECONOMICS AND PLANNING CESSNOCK CITY
4.0	FINAL	28.02.2017	S MCGUINNESS	S MCGUINNESS	H BUCK	S MCGUINNESS	SGS ECONOMICS AND PLANNING CESSNOCK CITY

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EXECUTIVE SUMMARY

INTRODUCTION

The Cessnock City Planning Strategy Project aims to:

provide a solid foundation of evidence to inform the future sustainable strategic land use development of the Cessnock Local Government Area (LGA) and to develop a comprehensive set of strategic recommendations based on that evidence which will guide the preparation of future major amendment(s) of Cessnock Local Environmental Plan (LEP) 2011 and Cessnock Development Control Plan (DCP) 2010.

The project is a whole-of-LGA study and will be informed by the preparation of four background studies: Urban housing, Employment lands, Rural lands and rural living and Viticulture district.

This report documents the findings of the rural lands study and includes analysis of land within the current Rural and Environmental zones in CLEP 2011. The findings of this work will be integrated with the other elements of the study and eventually inform the development of the Cessnock City Planning Strategy.

The issues explored in this study include:

- The local agricultural economy, agricultural land uses, issues and opportunities
- Property sizes and dwelling entitlements, subdivision and non-agricultural uses of rural land
- Agricultural land capability and suitability
- Rural land use compatibility and conflict issues
- Review of the policy context and applicability of current zones

The study was undertaken in 5 steps:

- Step 1: Desktop review and gap analysis of available strategies and data
- Step 2: Desktop analysis and research
- Step 3: Consultation and ground survey
- Step 4: Draft Report
- Step 5: Final Report

STRATEGIC AND POLICY CONTEXT

There is strong state, regional and local support to grow the agriculture sector, protect important agricultural land and retain and enhance the rural character and amenity of the LGA. However, achieving this goal in Cessnock City is challenged by competing demands for rural land. Regional growth strategies have signalled significant population growth and development to cater for growth within the LGA. The underlying subdivision pattern, large numbers of rural properties and landholder expectation of a dwelling on a rural property poses a significant threat to the continuation of commercial agriculture and protection of the rural landscape.

AGRICULTURE

Viticulture and associated wine tourism is a significant component of the Cessnock City economy. Other agriculture, including broilers, cropping, livestock and eggs, is a relatively small component of the local economy. The intensive animal sectors (broilers and eggs) has shown some modest growth with potential for further future growth.

The agricultural value chain is also modest and includes a number of regionally important processors servicing the wider region. Most rural land has moderate to low land capability. Land with access to irrigation water that could support production of high value commodities is also very limited. These factors, along with high land values, encroachment by urban and rural residential development are significant impediments to new investment in agriculture.

Forecast changes to climate will challenge existing agriculture including viticulture and beef cattle production. Some opportunity exists for commercial scale intensive agriculture such as protected cropping or intensive poultry. Intensive animal husbandry will be limited to southern parts of the LGA where buffers and setbacks from sensitive uses can be achieved.

Opportunities for industry growth are primarily associated with protected cropping and agri-tourism that builds on existing strengths in wine tourism.

LAND USE CONFLICT AND RISK ASSESSMENT

There is a high probability that continuation or growth of the current mix of commercial agricultural industries in Cessnock will be challenged as land use conflict increases due to expansion or growth in non-agricultural activities on rural land. These risks are greatest between intensive animal husbandry and

non-agricultural uses and in northern parts of the municipality where the density of development is highest.

RURAL LIVING - CANDIDATE AREAS

Candidate areas for provision of rural living were identified at Branxton/Greta, Weston/Sawyers Gully and Mulbring, subject to the findings of the Housing Study and further detailed site analysis. Maximizing efficient use of infrastructure and minimising economic, environmental and social costs are important principles in providing rural living. Land that met the following criteria was considered a candidate for rural living:

- Proximate to urban centres
- Proximate to major transport routes
- Fragmented with clusters of small properties
- Low risk from natural hazards such as flooding and bushfire
- Not used for commercial agriculture or with potential for commercial horticulture.

FUTURE LAND USE OUTCOMES

The review of rural land found that a differentiated policy position would be a useful approach for developing future land use outcomes in recognition of the variation in strategic settings, agricultural opportunities, rural industry opportunities including tourism and extractive industries and aspiration to reside in rural areas that apply across the LGA.

Five rural precincts have been identified:

Rural precinct 1: North of the HEX

Rural precinct 2: Sawyers Gully to Kurri Kurri

Rural precinct 3: Buchanan to Millfield

Rural precinct 4: Wollombi Valley

Rural precinct 5: Vineyards District

The land use outcomes for each precinct are briefly summarised:

Precinct 1: North of the HEX

The economic and land use analysis indicates that in the long term, investment in commercial agriculture will continue to decline as residential, hobby farming and rural living become the dominant land use.

Sub-commercial agriculture such as hobby farming can play an important role in reinforcing town boundaries, protecting the rural-farmed landscape and maintaining green breaks between townships. In identified locations such as around Branxton, maintaining the current property configuration and settlement patterns will facilitate efficient future urban development as well as maintain separation between sensitive uses and broiler and egg producers.

Acknowledgement that rural lifestyle and sub-commercial agriculture are likely to become the dominant land use in the precinct should not be interpreted as justification for further unfettered subdivision or dwelling development. Future development in the precinct will require careful consideration to ensure that:

- Environmental and landscape values are protected
- Development and uptake of zoned rural living and residential estates is maximized.

Precinct 2: Sawyers Gully to Kurri Kurri

Hobby farming and rural residential will continue to be the dominant land use in Precinct 2. Soil based commercial agricultural opportunities are limited due to prevailing non-agricultural land use and agricultural capability.

Acknowledgement that rural lifestyle and sub-commercial agriculture are likely to become the dominant land use in the precinct should not be interpreted as justification for further unfettered subdivision or dwelling development. Future development in the precinct will require careful consideration to ensure that:

- Environmental and landscape values are protected
- Encroachment does not constrain operation of rural industries such as quarries
- Development and uptake of zoned rural living and residential estates is maximized.

There is some potential for low-key agri-based or nature based tourism to capitalise on the natural values and close proximity and access to the Vineyards District. Rural activities suited to the precinct include:

- Protected cropping due to proximity to gas and potable water supply
- Agri – tourism
- Hobby farming.

Precinct 3: Buchanan to Millfield

Commercial scale and large scale sub-commercial agriculture will be the primary use of rural land in the future. There is opportunity for further intensive

animal husbandry in the precinct based on its proximity to the processor in Beresfield. The undulating topography and sparse settlement pattern would enable further intensive animal sheds to be tucked into the landscape and set back from sensitive uses to minimise risk of offsite amenity impacts. Elsewhere there is opportunity for extensive agriculture including livestock grazing and perennial horticulture on better soils. Agricultural activities suited to the area include:

- Livestock grazing
- Intensive animal husbandry
- Perennial horticulture in some locations with suitable soil types, micro climate and drainage.

The intrinsic heritage and amenity values of Millfield, Paxton and Ellalong along with their proximity to the Mount View wine subregion and the environmental values of Ellalong Lagoon and associated network of creeks and wetlands provides opportunity for low key agri-based or nature based tourism development. The clear separation of the three townships should be maintained and ribbon development along Sandy Creek Road avoided.

Precinct 4: Wollombi Valley

Forestry, commercial livestock grazing and perennial horticulture will be the primary use of rural land in the Precinct. The intrinsic heritage and amenity values of Wollombi and the valley provide opportunity for low key agri-based or nature based tourism development. Development should be focused on existing settlements and ribbon development along the narrow river valleys should be avoided.

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1 INTRODUCTION

BACKGROUND

The Cessnock City Planning Strategy Project aims to:

provide a solid foundation of evidence to inform the future sustainable strategic land use development of the Cessnock Local Government Area (LGA) and to develop a comprehensive set of strategic recommendations based on that evidence which will guide the preparation of future major amendment(s) of Cessnock Local Environmental Plan (LEP) 2011 and Cessnock Development Control Plan (DCP) 2010.

The project is a whole-of-LGA study and will be informed by the preparation of four background studies:

- Urban housing
- Employment lands
- Rural lands and rural living
- Viticulture district.

PURPOSE

The issues to be explored in this study are summarised as follows:

1. Analysis of the local agricultural economy and its regional context, including production of commodities, employment and economic output
2. Identification of current agricultural land uses and industries, lot sizes and dwelling entitlements
3. Analysis of previous subdivision and conversion of agricultural land
4. Agricultural land capability and suitability
5. Quantity and quality of land available for types of rural industries
6. Analysis of non-agricultural uses in agricultural zones
7. Demand for and potential use of community title
8. Rural land use compatibility and conflict issues
9. Future local agricultural viability and opportunities
10. Opportunities to influence the local agricultural economy through planning

11. Analysis of the purpose of environmental and rural zones in the LGA, the relationship between them and the applicability of both zones and permissible land uses across the LGA, noting that the 'parallel strategy' Environmental Zones Review will be undertaken by Council during this time.
12. Resolution of the dwelling entitlements issue including mapping.

This report specifically addresses issues 1 through 6 and 8 through 11. This study will provide input to issues 7 and 12 that will be addressed specifically in the Rural Living Study and Housing studies.

SCOPE

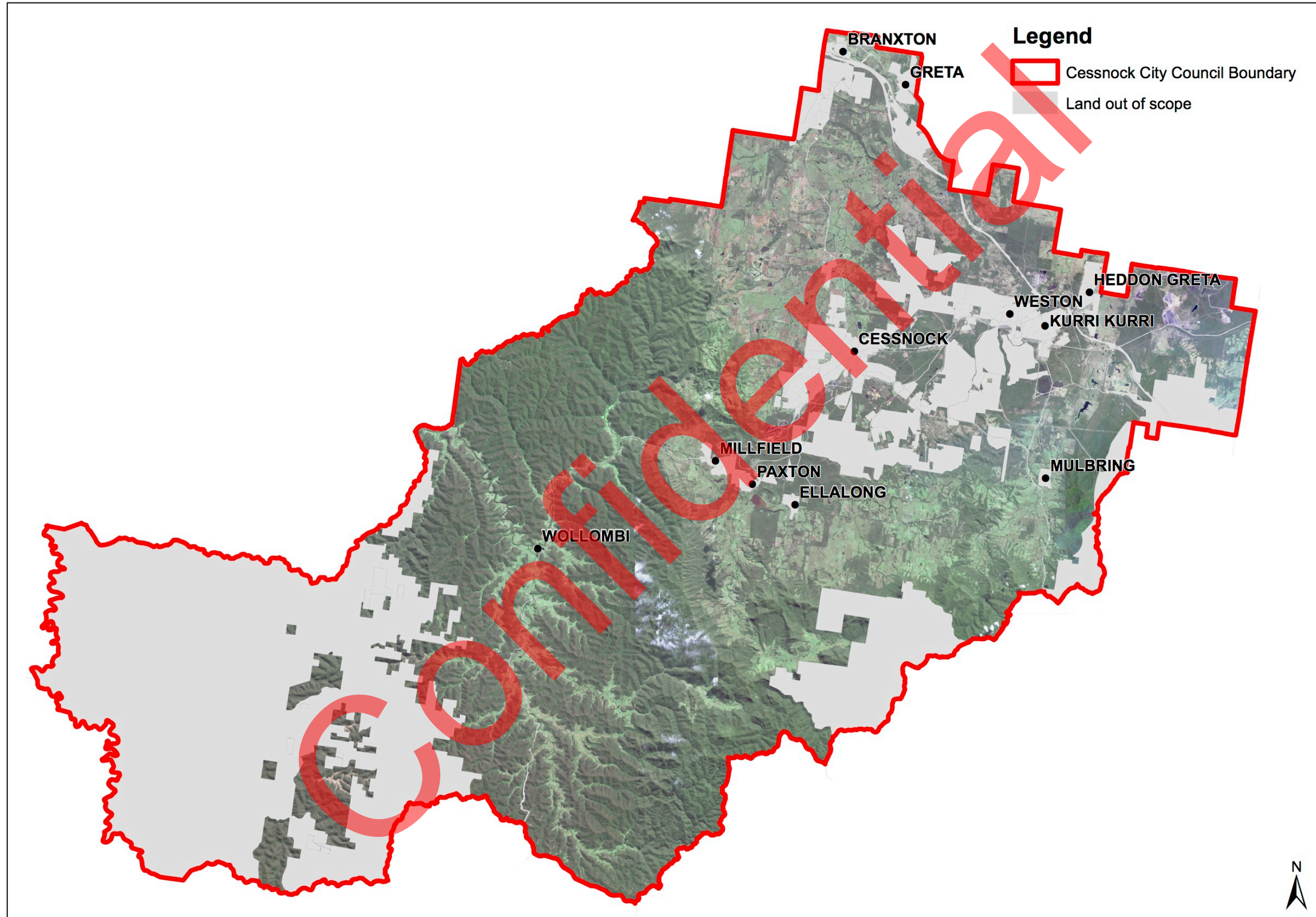
The focus of this report is the rural lands study and generally restricted to the current Rural and Environmental zones in CLEP 2011, excluding the RU5 Village zone (included in the Urban Housing Study) and the RU4 zone (being the Vineyards District) (Figure 1). The findings of this work will be integrated with the other elements of the study and eventually inform the development of the Cessnock City Planning Strategy.

APPROACH

The study was undertaken in 5 steps:

- Step 1: Desktop review and gap analysis of available strategies and data
- Step 2: Desktop analysis and research
- Step 3: Consultation and ground survey
- Step 4: Draft Report
- Step 5: Final Report

FIGURE 1: STUDY SCOPE



2 STRATEGIC AND POLICY CONTEXT

OVERVIEW

Cessnock City is located in the Hunter region of New South Wales. The LGA covers an area of around 2,000km², of which around 40% is public land held in national or state reserves; 50% is rural land and the balance industrial, commercial or residential land. The main service centres are Cessnock and Kurri Kurri.

In 2011 the City had estimated resident population of 55,862¹ with most residing in the corridor between Heddon Greta and Cessnock. Around 16% of the population reside in the rural areas.

STRATEGIC CONTEXT

This section of the report summarises the strategic context that applies to rural land in Cessnock City.

STATE STRATEGIES

NSW 2021: A plan to make NSW number one²

NSW 2021 sets the NSW Government's agenda for change in NSW and recognises the importance of agriculture in improving the economic development of NSW and growing regional economies. NSW 2021 includes targets to improve agricultural productivity through: sustainable land management; water and vegetation management; promoting the co-existence of resource-based industries through the identification of strategic agricultural lands; and ensuring that the development efforts of industry and government are effective and well coordinated. NSW 2021 notes the role investment in key infrastructure plays in increasing industry productivity and competitiveness.

Agriculture Industry Action Plan³

The Agriculture Industry Action Plan has been developed by industry and the NSW Government to drive continued growth of the primary industries sector and to support growth of jobs in rural and regional areas. The action plan sets

out actions across six main themes: Build the appropriate frameworks to maintain the profitability, productivity and innovation that will underpin competitiveness of the agriculture sector in the face of declining terms of trade; Maximise the efficient use of human capital through a focus on workforce and skills; Review the business and regulatory operating environment in NSW to ensure the focus is on business development in the sector; Investigate new models for investment and ownership within the industry to facilitate the capital investment required to underpin growth; Develop the partnerships, supply chains and operating environment to capitalise on market and export opportunities; and Improve long-term market development by effectively connecting with communities to build the social licence for production systems and products.

REGIONAL STRATEGIES

Hunter Regional Plan 2036⁴

The Plan sets out the NSW Government's vision for the region:

The leading regional economy in Australia with a vibrant new metropolitan city at its heart.

Goals and actions relevant to the rural lands of Cessnock include:

- Goal 1 – The leading regional economy in Australia
 - Grow Greater Newcastle as Australia's next metropolitan City;
 - Grow tourism in the region
 - Protect and enhance agricultural productivity
 - Manage the ongoing use of natural resources
 - Plan for greater land use compatibility
- Goal 2 – A biodiversity-rich natural environment\
 - Protect and connect natural areas
 -

The Plan also notes a number of actions to be addressed through rural land use planning:

- Protect the availability and quality of resources to sustain agricultural industries in the region.
- Improve land use certainty and enable innovation by reviewing and amending planning frameworks.
- Enable economic diversity and new

¹ <http://profile.id.com.au/cessnock> accessed 15.8.2016

² <https://www.nsw.gov.au> accessed 15.8.2016

³ Department of Primary Industry (2014) Agriculture Industry Action Plan

⁴ NSW Government (2016) Hunter Regional Plan 2036

- tourism opportunities that focus on reducing the impacts of the seasonal nature of tourism and its effect on local economies.
- Enable investment in infrastructure to expand the tourism industry, including connections to tourism gateways and attractions.
- Encourage tourism development in natural areas that support conservation outcomes.
- Undertake a land use assessment across the Viticulture Critical Industry Cluster to balance scenic amenity and ongoing growth in tourism.
- Develop capacity for growth in food- based tourism.
- Protect locations that can accommodate agricultural enterprises from incompatible development, and facilitate the supply chain, including infrastructure, distribution areas, processing facilities and research and development in local plans.
- Address sector-specific considerations for agricultural industries through local plans.
- Protect the region's wellbeing and prosperity through increased biosecurity measures.
- Encourage niche commercial, tourist and recreation activities that complement and promote a stronger agricultural sector, and build the sector's capacity to adapt to changing circumstances.
- Develop an agribusiness industry strategy in areas experiencing high population growth to retain jobs and agribusiness growth for the Hunter.
- Manage Biophysical Strategic Agricultural Land and other important agricultural land as locations for agricultural activities and complementary uses.
- Implement the cumulative impact assessment methodology when planning for important agricultural land and water resources.
- Identify and protect important agricultural land, including intensive agricultural clusters, in local plans to avoid land use conflicts, particularly associated with residential expansion.
- Limit urban and rural housing encroachment into identified agricultural and extractive resource areas, industrial areas and transport infrastructure when preparing local strategies.
- Amend planning controls to deliver greater certainty of land use.
- Provide non-statutory guidance on the types of land uses that would be considered most appropriate, suitable or sympathetic to existing land uses in the Upper Hunter and other areas where land use conflicts occur.
- Protect biodiversity by maintaining and, where possible, enhancing the existing protection of high environmental value areas; implementing appropriate measures to conserve validated high environmental value

areas; developing local strategies to avoid and minimise the impacts of development on areas of high environmental value and biodiversity corridors; and identifying offsets or other mitigation measures for unavoidable impacts.

- Secure the long term protection of regionally significant biodiversity corridors.
- Protect water catchments to sustain high quality and dependable water supplies across the region.
- Effectively manage surface and groundwater use in agricultural areas to support ecosystem function and food production, and to cater for the increasing demand of urban communities and industry.
- Focus development to create compact settlements in locations with established services and infrastructure
- Include guidance in local land use strategies for expanding rural villages and rural-residential development so that such developments will:
 - Not impact on strategic or important agricultural land, energy, mineral or extractive resource viability or biodiversity values;
 - Not impact on drinking water catchments;
 - Not result in greater natural hazard risk;
 - Occur on land that is unlikely to be needed for urban development;
 - Contribute to the conservation of important biodiversity values or the establishment of important corridor linkages; and
 - Facilitate expansion of existing and new tourism development activities in agricultural or resource lands and related industries across the region.

Lower Hunter Regional Strategy 2006 – 2031⁵

The *Lower Hunter Regional Strategy* while superseded by the Hunter Regional Plan, includes information pertinent to Cessnock. The lower Hunter has been identified as a significant growth area within NSW, with the area growing both in its own right and as an 'overflow' area for Sydney with potential to accommodate over 160,000 new people in the next 25 years. An additional 66,000 new jobs and 115,000 new dwellings are required to cater for this growth.

The Strategy identifies Cessnock as a regional centre and Pokolbin as a specialist centre for tourism and the wine industry. The target set for Cessnock LGA is 21,700 new dwellings with 19,700 provided by new land releases and 2,000 from infill development within existing urban areas. This equates to an

⁵ Department of Planning (2006) Lower Hunter Regional Strategy 2006 - 2031

estimated 45,700 additional people living in Cessnock LGA, with the target population for the LGA being 96,410 people by 2031.

The significant growth anticipated in the region will increasingly challenge the viability of commercial agricultural business in Cessnock due to increasing land values, urban encroachment and land use conflict.

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LOCAL STRATEGIES

Cessnock 2023 Community Strategic Plan⁶

The community plan sets out the following desired outcome for the LGA:

Cessnock will be a cohesive and welcoming community living in an attractive and sustainable rural environment with a diversity of business and employment opportunities supported by accessible infrastructure and services which effectively meet community need.

Objectives relevant to this study include:

- Increasing tourism opportunities and visitation in the area
- Protecting and enhancing the natural environment and the rural character of the area.

Cessnock Economic Development Strategy⁷

The strategy sets out objectives and directions in line with the Cessnock Community Plan 2023. The strategy notes the following challenges and key assets relevant to this study:

- Protecting the key assets of the LGA – rural environments, vineyard areas, significant views
- Rapid urbanisation that could result in loss of the rural character and amenity
- Extensive rural areas, bushland areas, the Hunter Valley Wine Country, and surrounding rugged Sugarloaf, Watagan and Broken Back Ranges are highly valued by residents and visitors, provide a strong point of difference to the highly urbanised areas of the Lower Hunter and Central Coast regions and underpin the tourism, wine and agricultural sectors
- Ideally located in relation to the main population centres of NSW, with good road and rail connections as well as access to the Port of Newcastle and Newcastle airport
- The Hunter Valley Wine Country is a high profile, nationally recognised wine district and tourist destination. The quality development that has occurred in the HVWC area should set the tone and benchmark for future development in Cessnock.

Strategies and actions relevant to this study are summarised here:

- Strategy 5: Ensure that Cessnock LGA is an attractive place to live, work and invest
 - Continue to ensure that planning controls and policies at local, regional and State level, protect rural and bushland areas, the vineyards and significant view-sheds within the LGA from urban encroachment, inappropriate development and visual, dust and other forms of pollution from coal mining and extractive industries.
- Strategy 12: Work with industry sectors to address issues and capitalise on opportunities.

Agriculture

- Through local and regional planning controls, protect rural lands and agricultural activities in the LGA from encroachment by urban, industrial and extractive activities and inappropriate development
- Prepare an Agricultural Industry Strategy to address opportunities and issues within the sector. In particular the Strategy needs to explore emerging opportunities
- Advocate for the retention of key infrastructure needed to support the agricultural sector, e.g. Kurri Meatworks, Baiada Chicken Processing Plant
- Encourage the development of infrastructure to support emerging sectors, e.g. processing of ‘high end’ poultry and game birds
- Ensure that planning controls for rural land have the flexibility to accommodate new activities and innovative business models that may include horizontal or vertical integration.

Wine industry

- Through local and regional planning controls, continue to protect the vineyard areas from urban encroachment and inappropriate development
- Endeavour to have the Wollombi Valley excluded from the CSG Exploration Leases, and to have all exclusion areas in the LGA protected through planning controls and regulatory legislation
- Recognise the significance of the relationship between the wine and tourism sectors
- Encourage the diversification into activities that complement both the wine and tourism sectors.

⁶ Cessnock City Council (2013) Cessnock 2023 Community Strategic Plan

⁷ Cessnock City Council (2014) Cessnock Economic Development Strategy

Forestry industry

- Endeavour to retain the forestry industry within Cessnock LGA.

Cessnock City Wide Settlement Strategy 2010

The City Wide Settlement Strategy identified a number of opportunities and issues for agriculture:

- Land suited to agriculture in the LGA is limited with around 0.1% of the land area Class 2 land and 16.5% of the land area Class 3 with the remainder with Class 4 or Class 5
- Significant areas of the LGA are classified as vulnerable land due to steep topography and potential for erosion if cleared of vegetation
- A range of geographical and landscape characteristics that contribute to the diverse range of rural pursuits
- Dispersed settlement, fragmentation of rural lands and rural land use conflict are the major activities affecting the continuance of agricultural activities
- Prepare an Agricultural Lands Study to determine the base requirements for sustainable agriculture
- Recognise the varying characteristics of the rural areas through the land use zoning structure
- In the interim, retain the existing 40ha development standard for subdivision and dwelling entitlements as it relates to existing rural lands and the viticultural district.

The Strategy also notes development of niche and boutique agricultural enterprises offering good potential for integration with tourism.

Hunter Valley Visitor Economy Destination Management Plan⁸

The Hunter Valley Destination Management Plan is a framework for tourism investment shared by Cessnock and Singleton LGAs. Strategies relevant to this study include:

- Expand and enrich the wine and food product offering to increase the quality of the experience and customer satisfaction
- Improve and increase the range and quality of Hunter Valley attractions, facilities, services and experiences to increase visitor demand. Priority development focus should be in the following experience themes:
 - Culture and the Arts
 - Heritage

⁸ Draft Hunter Valley Visitor Economy Destination Management Plan 2014.

- Rural/Agri tours/accommodation
- Nature (soft adventure) / Indigenous
- Golf and other sports.

POLICY CONTEXT

This section of the report summarises the policy context that applies to rural land in Cessnock City.

STATE POLICY

STATE ENVIRONMENTAL PLANNING POLICY (RURAL LANDS) 2008

The aim of the SEPP (Rural Lands) is to:

- Facilitate the orderly and economic use and development of rural lands for rural and related purposes
- Identify the Rural Planning Principles and the Rural Subdivision Principles so as to assist in the proper management, development and protection of rural lands for the purpose of promoting the social, economic and environmental welfare of the State
 - Implement measures designed to reduce land use conflicts
 - Identify State significant agricultural land for the purpose of ensuring the ongoing viability of agriculture on that land, having regard to social, economic and environmental considerations
 - Amend provisions of other environmental planning instruments relating to concessional lots in rural subdivisions.

The Rural Planning Principles are as follows:

- Promotion and protection of opportunities for current and potential productive and sustainable economic activities in rural areas
- Recognition of the importance of rural lands and agriculture and the changing nature of agriculture and of trends, demands and issues in agriculture in the area, region or State
- Recognition of the significance of rural land uses to the State and rural communities, including the social and economic benefits of rural land use and development
- In planning for rural lands, to balance the social, economic and environmental interests of the community
- The identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land

- The provision of opportunities for rural lifestyle, settlement and housing that contribute to the social and economic welfare of rural communities
- The consideration of impacts on services and infrastructure and appropriate location when providing for rural housing
- Ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General.

The Rural Subdivision Principles are as follows:

- The minimisation of rural land fragmentation
- The minimisation of rural land use conflicts, particularly between residential land uses and other rural land uses
- The consideration of the nature of existing agricultural holdings and the existing and planned future supply of rural residential land when considering lot sizes for rural lands
- The consideration of the natural and physical constraints and opportunities of land
- Ensuring that planning for dwelling opportunities takes account of those constraints.

Section 117 Directions

Section 117(2) of the *Environmental Planning and Assessment Act 1979* provides further guidance to Councils on the preparation of LEPs on a range of specific issues.

Section 117 Direction 1.2 - Rural Zones seeks to protect the agricultural production value of rural land. The Direction requires that rural land only be rezoned for urban purposes where it has been strategically justified by a Council strategy approved by the Director-General, or a Regional Strategy prepared by the Department of Planning and Environment.

Section 117 Direction 1.2- Rural Lands Section seeks to protect the agricultural production value of rural land and facilitate the orderly and economic development of rural lands for rural and related purposes. The Direction applies when a planning authority prepares a planning proposal that will affect land or that changes the existing minimum lot size on land within a rural or environment protection zone. The Direction requires that a planning proposal must be consistent with the Rural Planning Principles and Rural Subdivision Principles listed in *State Environmental Planning Policy (Rural Lands) 2008*.

Policy for Sustainable Agriculture⁹

The purpose of this Policy is to facilitate a coordinated approach to achieving an ecologically and economically sustainable agricultural sector and sets out the following strategies to address threats at the rural-urban interface and prevent loss of prime agricultural land⁹:

- Ensure the equitable and efficient allocation of land and other natural resources between agriculture and other sectors of the community
- Ensure land use planning is undertaken, where appropriate, in association with agriculture to avoid conflict that may jeopardise agriculture's sustainability
- Develop and adopt agricultural activities and planning strategies that minimise impacts on community amenity from noise, dust and odour
- Identify lands and farming methods best suited to specific agricultural industries and retain production options for those lands in the future
- Property management planning integrates the production, environmental and personal goals of farmers with the physical attributes of the property
- Develop and adopt appropriate planning mechanisms to avoid future conflict over land use (e.g. competing demands for land for agricultural, residential and recreational uses)
- Ensure efficient allocation and use of resources provided by the Commonwealth and State governments for agricultural resource management and improvement.

LOCAL POLICY

CESSNOCK LOCAL ENVIRONMENTAL PLAN (LEP) 2011

The Cessnock Local Environmental Plan (LEP) 2011 aims to make local environmental planning provisions for land in Cessnock in accordance with the relevant standard environmental planning instrument and in particular aims to:

- Strengthen and protect a high quality, sustainable lifestyle for Cessnock's residents and visitors
- Conserve and enhance, for current and future generations, the ecological integrity, environmental heritage and environmental significance of Cessnock
- Encourage development for employment purposes in appropriate locations having regard to proximity to appropriate infrastructure, to ensure the efficient use of land and services, to provide walkable urban environments and to reduce dependency on the use of private vehicles

⁹ NSW Agriculture (1998) Policy for Sustainable Agriculture in New South Wales

- Provide opportunities for a range of new housing and housing choice in locations that have good access to public transport, community facilities and services, retail and commercial services and employment opportunities, including opportunities for the provision of adaptable and affordable housing
- Recognise and protect the historical, cultural and economic values of the vineyards district in relation to agricultural production and associated flow on effects, including tourism.

The rural and environmental zones applied to rural land relevant to this study are summarised in Table 1 and shown in Figure 2.

The Land Use Matrix (Appendix 1) lists the uses that are either permitted with development consent from Council, without consent of Council, or prohibited some of which are mandated under the Standard Instrument or SEPP.

Notable differences in the permitted, permitted with consent and prohibited uses between the zones) *apart from mandated uses*, include:

- Rural zones
 - All agricultural uses are permitted with consent in RU2 and prohibited in RU4
 - Dual occupancy is permitted with consent in the RU2 and prohibited in RU4
 - Rural workers accommodation and secondary dwellings are permitted with consent in RU4 and prohibited in RU2
 - All tourist and visitor accommodation are permitted with consent in RU2
 - Tourist accommodation is permitted with consent in RU4 apart from hotel or motel, camping grounds and caravan parks which are prohibited
 - Commercial premises permitted with consent in RU2 include cellar door, pubs, restaurants and cafes, roadside stalls, rural supplies and neighbourhood shops. The same uses are permitted with consent in RU4 apart from pubs, which are prohibited
 - Uses permitted with consent in RU3 are limited to extensive agriculture, horticulture, saw mill or log processing, environmental facilities, recreation areas, environmental protection works and extractive industries.
- Environmental Zones
 - Uses permitted with consent in E2 include extensive agriculture, home based child care, secondary dwellings, tourism accommodation, are prohibited in E3

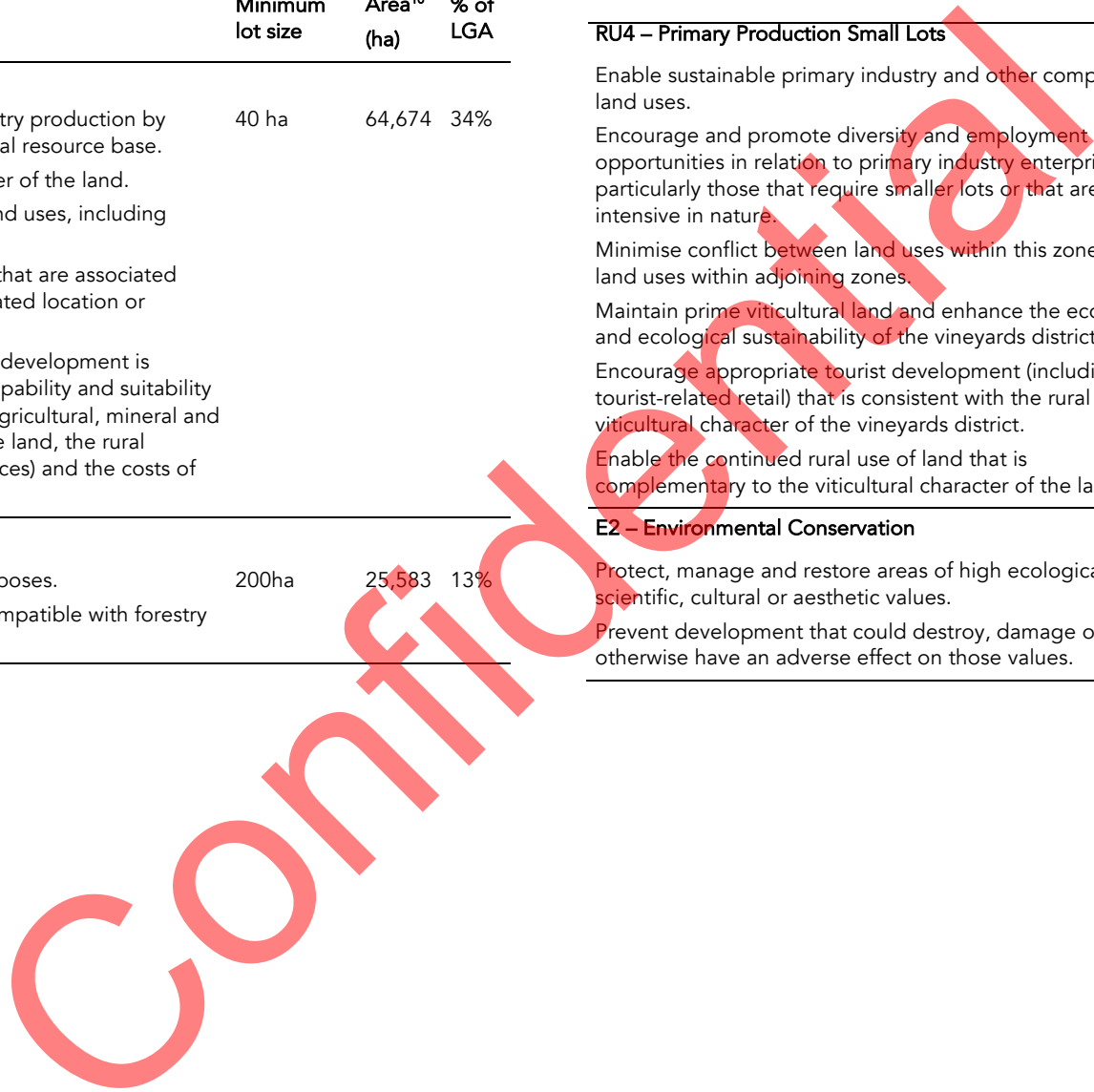
- Environmental facilities, recreation areas, dwelling houses are permitted with consent in both E2 and E3.

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TABLE 1: RURAL AND ENVIRONMENTAL ZONES

Zone	Objectives	Minimum lot size	Area ¹⁰ (ha)	% of LGA
RU2 Rural Landscape				
	Encourage sustainable primary industry production by maintaining and enhancing the natural resource base. Maintain the rural landscape character of the land. Provide for a range of compatible land uses, including extensive agriculture. Enable other forms of development that are associated with rural activity and require an isolated location or support tourism and recreation. Ensure that the type and intensity of development is appropriate in relation to the rural capability and suitability of the land, the preservation of the agricultural, mineral and extractive production potential of the land, the rural environment (including scenic resources) and the costs of providing services and amenities.	40 ha	64,674	34%
RU3 Forestry				
	Enable development for forestry purposes. Enable other development that is compatible with forestry land uses.	200ha	25,583	13%

Zone	Objectives	Minimum lot size	Area ¹⁰ (ha)	% of LGA
RU4 – Primary Production Small Lots				
	Enable sustainable primary industry and other compatible land uses. Encourage and promote diversity and employment opportunities in relation to primary industry enterprises, particularly those that require smaller lots or that are more intensive in nature. Minimise conflict between land uses within this zone and land uses within adjoining zones. Maintain prime viticultural land and enhance the economic and ecological sustainability of the vineyards district. Encourage appropriate tourist development (including tourist-related retail) that is consistent with the rural and viticultural character of the vineyards district. Enable the continued rural use of land that is complementary to the viticultural character of the land.	40ha	13,523	7%
E2 – Environmental Conservation				
	Protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values. Prevent development that could destroy, damage or otherwise have an adverse effect on those values.	80ha	2,433	1.3%



¹⁰ Cessnock City (2014) Economic Development Strategy Vol 2

Clause 4.1 Minimum subdivision size

The objectives of this clause are to ensure minimum lot sizes are appropriate for the zones to which they apply and for the land uses permitted in those zones and that minimum lot sizes reflect the outcomes of any adopted settlement strategy for Cessnock.

The minimum lot sizes for subdivision for each of the rural and environmental zones are listed in Table 1.

Clause 4.2 Rural subdivision

The objective of this clause is to provide flexibility in the application of standards for subdivision in rural zones to allow land owners a greater chance to achieve the objectives for development in the relevant zone and applies to Zone RU2 Rural Landscape and Zone RU4 Primary Production Small Lots.

With development consent, a lot may be subdivided for the purpose of primary production to create a lot of a size that is less than the minimum size shown if, as a result of the subdivision, an existing dwelling is not situated on the lot or a new dwelling cannot be erected on such a lot.

Clause 4.2A Erection of dwelling houses on land in certain residential, rural and environmental protection zones

The objectives of this clause are to minimise unplanned rural residential development and enable the replacement of lawfully erected dwelling houses in certain residential, rural and environmental protection zones and applies to Zone RU2 Rural Landscape, RU4 Primary Production Small Lots, E2 Environmental Conservation and Zone E3 Environmental Management.

Development consent must not be granted unless the land is:

- A lot that is at least the minimum lot size, or
- A lot created before this Plan commenced and on which the erection of a dwelling house was permissible immediately before that commencement, or
- A lot resulting from a subdivision for which development consent (or equivalent) was granted before this Plan commenced and on which the erection of a dwelling house would have been permissible if the plan of subdivision had been registered before that commencement, or
- An existing holding, or
- Identified as having a dwelling entitlement on the Dwelling Entitlement Map, or
- A lot created under clause 4.1.

Clause 4.2B Minimum subdivision lot size for strata plan schemes in certain rural or environmental protection zones

The objective of this clause is to ensure that land to which this clause applies is not fragmented by subdivisions that would create additional dwelling entitlements and applies to that is used, or proposed to be used, for residential accommodation or tourist and visitor accommodation in the Zone RU2 Rural Landscape, Zone RU4 Primary Production Small Lots and Zone E2 Environmental Conservation.

The size of any lot resulting from a subdivision of land to which clause applies for a strata plan scheme is not to be less than the minimum size.

Clause 4.2C Boundary adjustments in certain rural and environment protection zones

The objective of this clause is to facilitate boundary adjustments between lots where one or more resultant lots do not meet the minimum lot size but the objectives of the relevant zone can be achieved and applies to Zone RU2 Rural Landscape, Zone RU4 Primary Production Small Lots, Zone E2 Environmental Conservation and Zone E3 Environmental Management.

Development consent may be granted to subdivide land by way of a boundary adjustment between adjoining lots where one or more of the lots created do not meet the minimum lot size if:

- The subdivision will not create additional lots or the opportunity for additional dwellings, and
- The number of lots with an area that is less than the minimum size after the subdivision will remain the same as or will be fewer than immediately before the subdivision, and
- The number of dwellings or opportunities for dwellings on each lot after the subdivision will remain the same as before the subdivision, and
- The potential for land use conflict will not be increased as a result of the subdivision, and
- If the land is in Zone RU2 Rural Landscape or Zone RU4 Primary Production Small Lots—the agricultural viability of the land will not be adversely affected as a result of the subdivision, and
- If the land is in Zone E2 Environmental Conservation or Zone E3 Environmental Management—the subdivision will result in the continued protection and long-term maintenance of the land, and
- The boundary adjustment is consistent with the objectives of the relevant zone.

In determining whether to grant development consent for the subdivision of land under this clause, the consent authority must consider the following:

- The existing uses and approved uses of other land in the vicinity of the subdivision
- Whether or not the subdivision is likely to have a significant impact on land uses that are likely to be preferred and the predominant land uses in the vicinity of the development
- Whether or not the subdivision is likely to be incompatible with a land use on any adjoining land
- Whether or not the subdivision is appropriate having regard to the natural and physical constraints affecting the land
- Whether or not the subdivision is likely to have a significant adverse impact on the environmental values of the land.

Clause 7.6 Tourist and visitor accommodation in certain rural and environmental zones

This clause applies to land in Zone RU2 Rural Landscape, Zone RU4 Primary Production Small Lots, Zone E2 Environmental Conservation, but only if the land is also identified as "Bow Wow Creek Gorge Catchment and Habitat Corridor" on the Habitat Corridors Map.

Development consent must not be granted for development on land to which this clause applies for the purposes of tourist and visitor accommodation unless the lot on which the development is to be carried out has an area of at least 10 hectares.

Development consent must not be granted for development on land in RU2 or E2 unless a dwelling house is permitted to be erected on the land under clause 4.2A.

Clause 7.13 Dual occupancies on land in Zone RU2

The objective of this clause is to preserve the rural character of the area.

Development consent must not be granted to development for the purpose of dual occupancies unless:

- The dwellings are designed and sited to give the appearance of being a single development, and
- The dwellings will use shared facilities such as a common driveway, fire breaks and essential services, and
- Any ancillary buildings and structures will be situated within close proximity to the dwellings, and

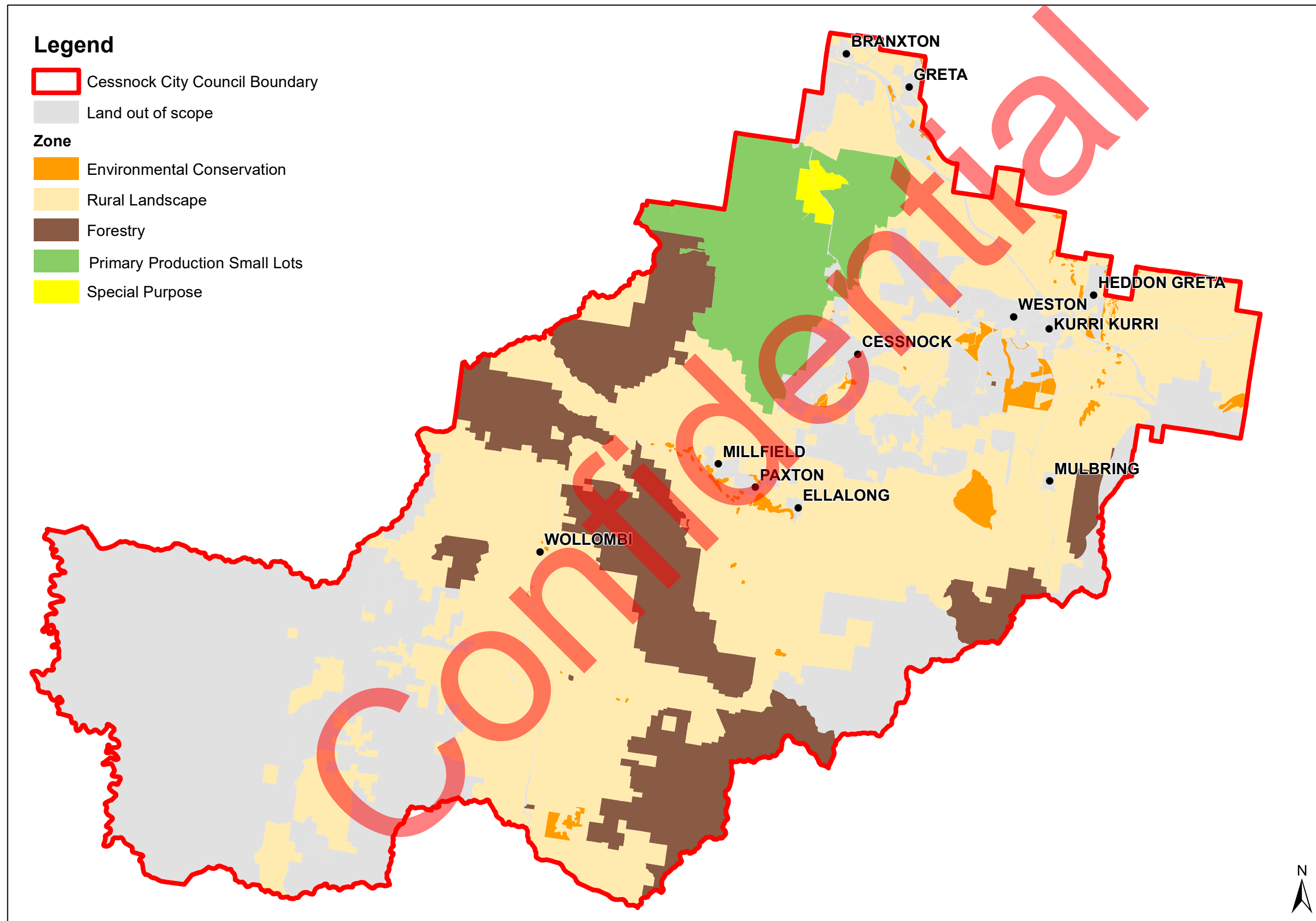
- The dwellings are designed and sited to avoid significant adverse environmental impacts, and
- The dwellings are designed and sited to avoid significant adverse impacts on the agricultural potential and capability of the land.

CESSNOCK DEVELOPMENT CONTROL PLAN, 2010

A development control plan provides detailed planning and design guidelines to support the planning controls in the LEP. Elements of the DCP relevant to rural land are listed here.

- PART D – SPECIFIC DEVELOPMENT:
 - D1 – Subdivision guidelines
 - D4 - Purpose built rural tourist accommodation
 - D5 – Outdoor signage
 - D6 - Poultry farms
 - D8 – Temporary events
- PART E: SPECIFIC AREAS
 - E3: Vineyards District

FIGURE 2: PLANNING ZONES



PLANNING HISTORY / LEP PERFORMANCE

In 1981 Northumberland Local Environmental Plan No. 1 was gazetted and applied to all land in the City of Greater Cessnock, City of Newcastle and Municipality of Lake Macquarie. Under this early LEP, subdivision of land zoned Rural 'A' (known then as Non-Urban 'A') required that the minimum area of lots created by subdivision to be 40 ha and the minimum area of any lot on which a dwelling could be erected be 40 ha.

LEP also provided for a dwelling entitlement on the 'whole of an existing holding' which essentially meant that if an owner's holding as at 21 August 1981 was less than 40 ha (and on which no dwelling was already erected) then whether it was comprised of one lot or more than one adjoining or adjacent lots, then only one dwelling could be erected on the aggregation of the area of those lots. Prior to 1981, subdivision into 10 ha lots was permitted, upon each of which a dwelling could be erected. As each lot complied with the definition of a 'whole of an existing holding' dwellings could be erected on each lot.

Previously application to Council could be made to erect a dwelling on any existing lot, portion or parcel, regardless of area. Owners whose property was comprised of a number of small lots (generally portions in Crown subdivisions carried out in the 1800's) felt that their land had been devalued as a consequence.

A Rural Areas Environmental Study in 1987 resulted in Council making a number of amendments via the Cessnock LEP 1989. The amendment included rezoning of land to facilitate the subdivision of land into rural small holdings and introduction of a concessional lot provision. The purpose of this was to compensate landholders with subdivision expectations arising from the previous lot size requirements and introduction of the more restrictive 40 ha development standard.

The provision allowed Council to consent to the creation of an allotment of not more than 2 ha in area intended to be used primarily for the purpose of a dwelling house if the allotment is to be excised from an existing holding, which is, and has remained, in the same ownership as it was prior to 31 December 1984. An owner was entitled to excise one such allotment from an existing holding of not less than 10 ha or two such allotments if the lot was at least 80 ha. The entitlement to concessional allotments was repealed from Cessnock LEP 1989 in 2007. In the CWSS 2003, it was emphasised that:

The provision was intended as an interim measure while the transition process was set in place. The provision was not based on sound planning principles, and was not to be interpreted as a continuing right for particular landowners. The interim measure has remained in place in the LGA since 1984, some 17 years since its inception.

Between 1988 and 2001, 356 concessional lots were approved and between 1990 and 1995, approvals of concessional lots outstripped approvals for all other types of subdivision in the zone. The CWSS 2003 found that the concessional lots provision has undermined the intention of the 40 ha standard.

An analysis of subdivision approvals¹ from 1988 – 2001 indicate that 575 additional lots were created in the 1(a) Rural 'A' zone, compared to 704 additional lots in the 2(a) Residential 'A' zone. Of these 575 lots, 168 were additional 40 hectare lots and 356 additional lots approved were 'concessional' lots. The 2003 City Wide Settlement Strategy strongly recommended the removal of the concessional lot provision due to the impacts on agriculture, cost of service provision and the efficient take up of land zoned for rural residential and residential purposes. The SEPP (Rural Lands) 2008 removed the concessional lot provision from all LEPs.

Past planning policies and settlement schemes such as soldier settlement (repatriation scheme whereby returned World War 1 soldiers were offered blocks of land, often Crown land, to be developed for farming or forestry) has left a significant legacy of small properties with dwelling entitlements across the LGA. Based on current Council data (Table 2), there are over 11,000 properties in the rural areas of the LGA and 36% are under 2ha and 53% are between 2 and 40ha.

Further analysis of dwelling entitlements and property vacancies is required to determine the potential for new dwellings in the rural areas. This will be important given the expectation of a dwelling on concessional lots and lots which are undersized through excision of agricultural land and the retention of 'existing holding' status and 'right' to erect a dwelling house on lots created for a purpose of a dwelling under previous instruments.

¹ Cessnock City Wide Settlement Strategy 2010

TABLE 2:PROPERTY SIZE

Property size	RU2	RU3	RU4	E2
<2ha	2,509	6	1,267	219
2-40ha	4,504	114	935	318
>40ha	997	72	88	120
Total	7,990	192	2,290	657

STRATEGIC IMPLICATIONS

There is strong state, regional and local support to grow the agriculture sector, protect important agricultural land and retain and enhance the rural character and amenity of the LGA. However, achieving this goal in Cessnock City is challenged by competing demands for rural land. Regional growth strategies have signalled significant population growth and development to cater for growth within the LGA. The underlying subdivision pattern, large numbers of properties and expectation of a dwelling on a rural property poses a significant threat to the continuation of commercial agriculture and protection of the rural landscape.

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3 AGRICULTURE

OVERVIEW

Agriculture in Cessnock is a relatively small component of the local economy and the regional and state agricultural industry. In 2015, agriculture was the 14th largest sector of the local economy measured by output (Figure 3) and 13th highest employer (Figure 4). In 2011, Cessnock contributed 7% of regional gross value of agricultural production (Figure 5) (GVAP) and 0.2% of NSW GVAP.

The scale of the agricultural industry in Cessnock is reducing with the gross value falling between 2001 and 2011. There was a small increase in gross value of agriculture between 2011 and 2015 (Figure 6) which is attributed to an increase in the agricultural census statistical reporting area (see text box) and strong prices for beef cattle.

In 2010-11, the total GVAP was \$24 million with poultry, crops, wine grapes, cattle and eggs the top five commodities (Figure 7). While not strictly an agricultural industry, the equine industry (leisure horses) was valued at \$2.9 million in 2011, which would make it third largest industry by gross value.

POULTRY MEAT

The Agricultural Census data reports a substantial increase in poultry meat value in the Cessnock LGA between 2006 and 2011, from \$2.3M up to \$16M. A proportion of this increase is again likely to be due to the change in statistical area boundary. A breakdown of the distribution of poultry meat value by subregion within the revised 2011 statistical area is shown in Table 3. Almost 80% of broiler production is located in the Branxton-Greta-Pokolbin region, which crosses into the adjacent Singleton LGA (refer to the map in Figure 10). There is known to be several broiler sheds in this northwestern part of this statistical sub region.

AGRICULTURAL LAND USE

Grazing is the most widespread agricultural land use. Viticulture is concentrated on the volcanic soils to the north of Cessnock, with a small cluster of vineyards in the Wollombi Valley (Figure 9).

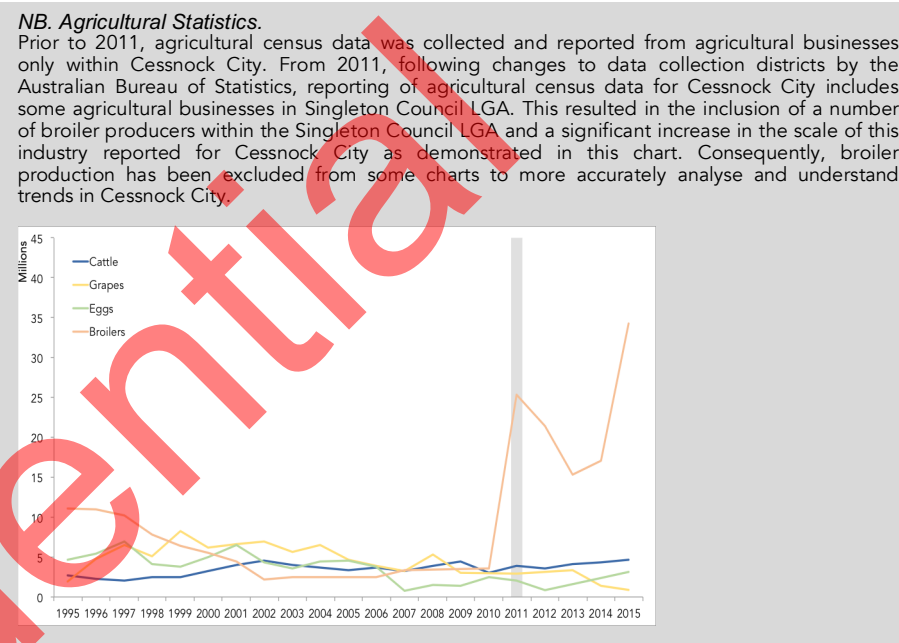


TABLE 3: POULTRY MEAT GROSS VALUE 2006 AND 2011

ABS Statistical area	2006	2011	% by region
Cessnock LGA	\$2,353,831	\$16,189,055	
Revised SA2 region			
Branxton-Greta-Pokolbin		\$19,556,494	77%
Cessnock		\$665,143	3%
Cessnock region		\$1,476,946	6%
Kurri Kurri-Abermain		\$3,658,363	14%
Total		\$25,356,946	100%

FIGURE 3: ECONOMIC OUTPUT BY INDUSTRY, CESSNOCK CITY 2015¹²

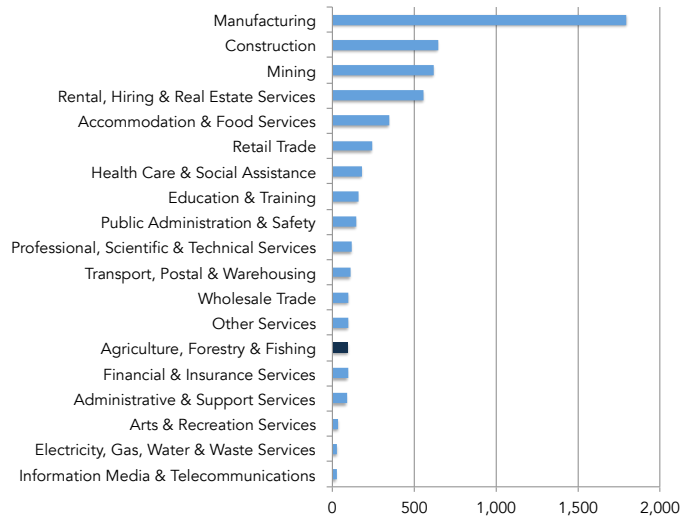


FIGURE 5: CESSNOCK GVAP AS A PROPORTION OF HUNTER REGION GVAP, 2010-11¹³

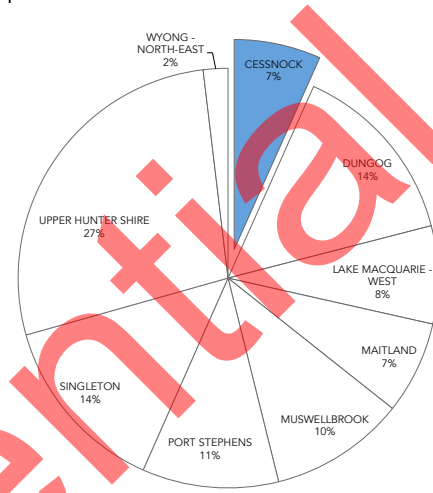


FIGURE 4: EMPLOYMENT BY INDUSTRY SECTOR, CESSNOCK CITY 2015¹²

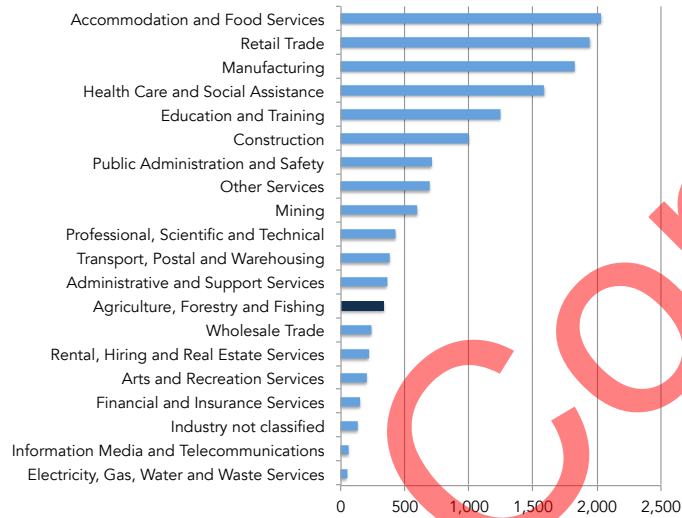
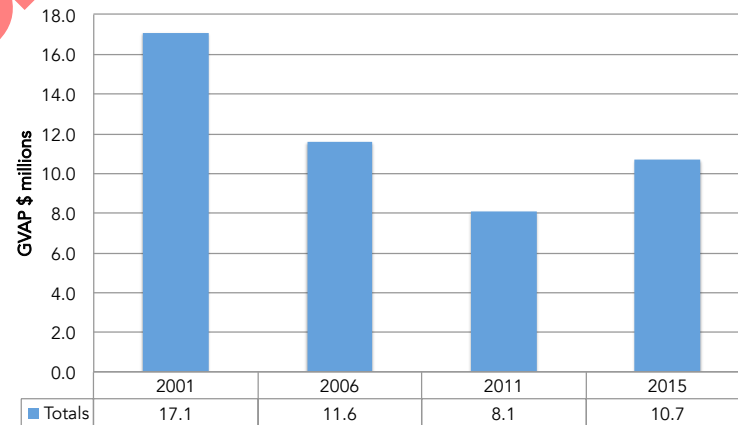


FIGURE 6: TREND IN GROSS VALUE OF AGRICULTURE (EXCLUDING BROILERS) CESSNOCK CITY¹³



¹² <http://economy.id.com.au/cessnock> accessed 2.06.016

¹³ Australian Bureau of Statistics Data supplied by Neil Clarke and Associates

FIGURE 7: GROSS VALUE MAIN COMMODITIES, CESSNOCK CITY 2010-11¹³

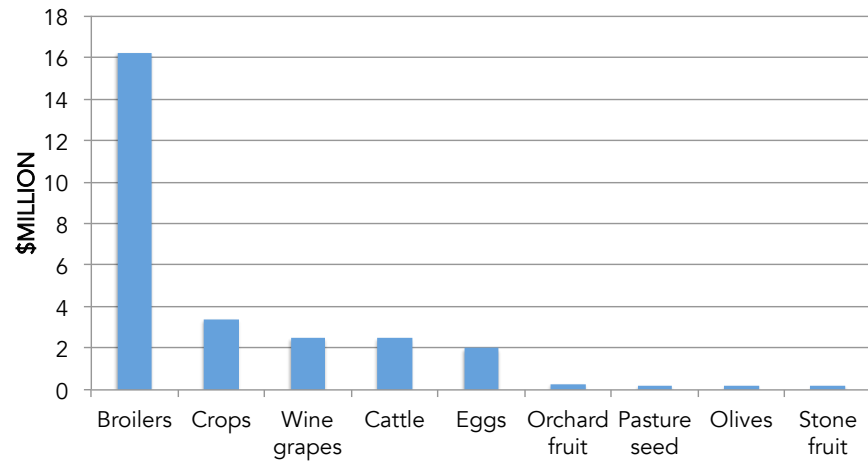


FIGURE 8: TRENDS IN GROSS VALUE BY INDUSTRY, CESSNOCK CITY¹³

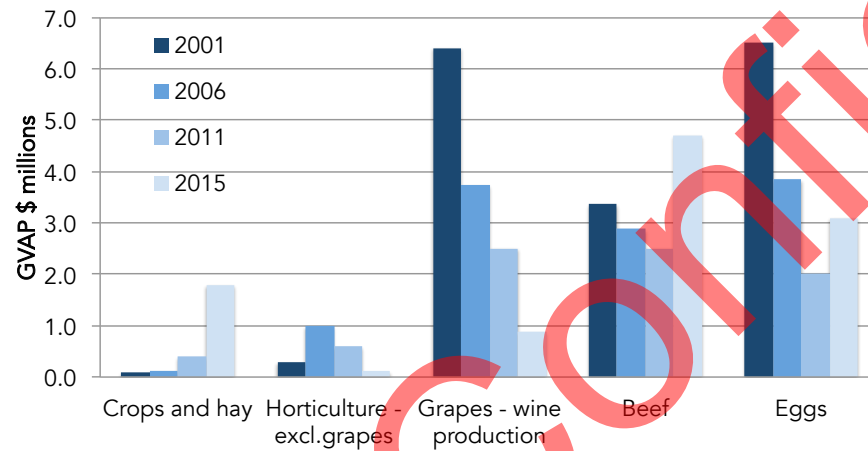
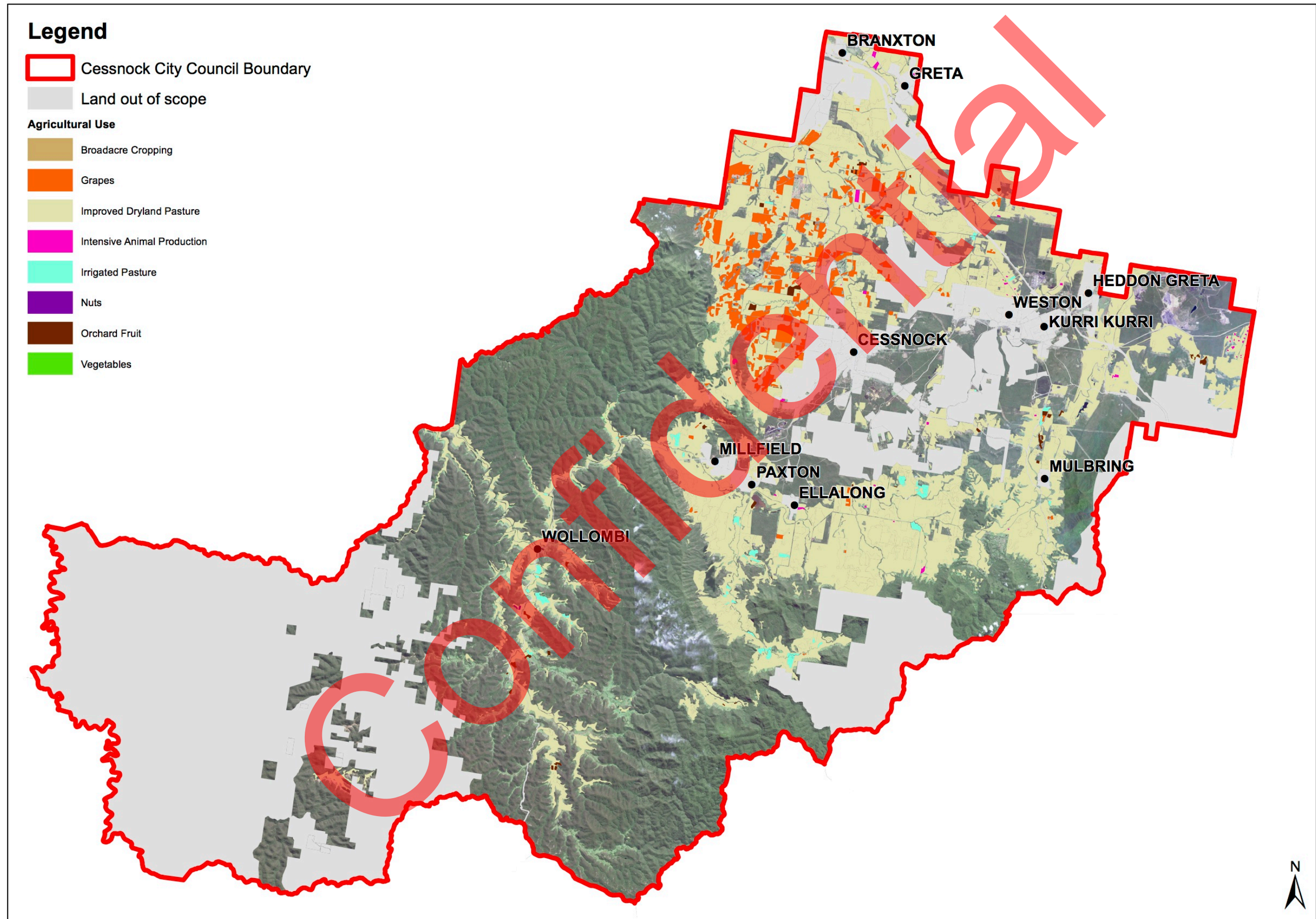


FIGURE 9: AGRICULTURAL LAND USE



AGRICULTURAL VALUE CHAIN

The agriculture value chain in Cessnock includes a few manufacturers and processors such as Kurri Meatworks, Tuffrock, producing animal health products and Nulkaba Hatchery producing broiler, layer, duck and quail stock and a number of wineries. Otherwise the value chain mainly comprises retail providers such as produce stores, machinery sales and repairs, services such as fencing and transport and logistics. The Baiada Chicken Processing Plant is located outside the LGA nearby in Beresfield.

AGRICULTURAL INDUSTRIES

The main agricultural industries, apart from viticulture are poultry and beef.

BROILERS AND EGGS

Chicken meat and egg production is generally undertaken by growers contracted to a meat processor or egg integrator that provide the chickens, feed and veterinary support. Baiada, one of the main producers of chicken meat in NSW has a processing plant located just outside Cessnock at Beresfield. Baiada is typical of most chicken meat and egg producers in that they are highly vertically integrated incorporating breeding, hatcheries, feed supply, chicken meat or egg farming, processing, value adding, and export. Pace farms has a large egg laying facility near Buchanan.

Farms that grow out broiler chicks generally need to be located within 2 to 2.5 hours of the processing facilities to minimise stress on the birds. Processing facilities are generally located near to urban centres to minimise transport costs, maximize access to infrastructure and labour, and be near their customer bases. Cessnock City is therefore ideally located for broiler farms.

Poultry and egg production was concentrated in the northern areas of the City around Greta, Loxford-Sawyers Gully and Quorrobolong Valley. Consultation confirmed the data trends that broiler and egg production in the LGA has decreased with the closure of farms.

An inspection in May 2016 found that many of the poultry sheds in proximity of urban areas around Sawyers Gully and Weston have been decommissioned. Encroachment of residential and rural lifestyle was the main reason for the closure of these sheds. Active poultry enterprises were located east of the Hunter Expressway, near Buchanan and in more isolated locations in the south

east corner of the City where there are fewer neighbours and buffers and separation distances from sensitive uses can be accommodated.

The outlook for chicken meat and egg production is very strong with increasing national and international demand. Cessnock's proximity to a major chicken meat processor, markets and ports makes it ideal for grow out facilities. Suitable sites within the LGA where buffers and separation distances required by codes of practice can be accommodated are most likely to be found in the southern parts of the City between Mulbring, Quorrobolong and Millfield.

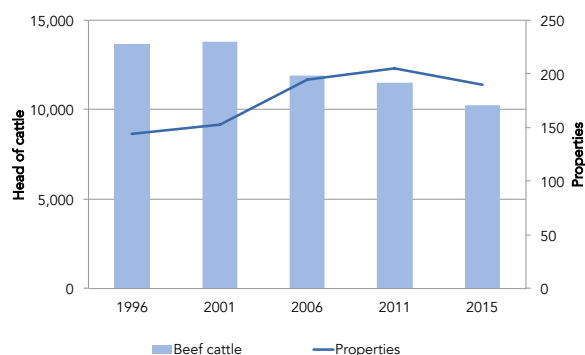
BEEF

The Cessnock City beef industry is comprised mainly of sub-commercial or hobby farms and very few commercial producers. The average head of cattle per property reduced from 100 to around 50 over the past 20 years due to a reduction in cattle numbers and an increase in the number of beef properties (Figure 10). The trend towards sub-commercial agriculture is typical of LGAs in the coastal and rural hinterland of capital and major regional cities with increasing demand for rural lifestyle driving up land values above productive value.

High land values will be a major impediment to growth of commercial beef businesses. A scan of recent rural property sales¹⁴ found that values ranged from around \$2,000/ha up to \$150,000/ha with the average around \$40,000/ha. It is expected that the industry therefore will continue to be dominated by sub-commercial scale enterprises.

¹⁴ <http://globe.six.nsw.gov.au> accessed 2.06.2016

FIGURE 10: BEEF INDUSTRY TRENDS CESSNOCK CITY



EQUINE

The equine sector includes core activities such as horse breeding, equine education, horse training/equestrian coaching, private leisure horses, equestrian clubs and associations as well as ancillary services such as equine health, husbandry services, fodder and other suppliers¹⁵. It is difficult to quantify the scale of the industry and its economic impact as no comprehensive information is available on the combined economic value of all equine facilities horse breeds and events.

The 2011 ABS data estimates that there are around 4,800 leisure horses and 1,100 stud horses in the LGA and horse farming (agistment, breeding and stud farm operation) at around \$2.9 million. There were around 50 equine industry businesses in the LGA in 2013 including: horse/carriage riding and tuition (11), horse studs (5), general horse training (7), thoroughbred training (12), transport (1), agistment (7), equestrian/racing services (5) and farriers (3).

Cessnock borders the Upper Hunter, an internationally acclaimed and mature horse breeding region and is one of three international centres of thoroughbred breeding excellence¹⁶. The Hunter Thoroughbred Breeders Association¹⁶ identify the Hunter Valley as the largest domestic producer of thoroughbred breeds, producing around half of all thoroughbred horses born in Australia and the largest source of thoroughbred exports. Sixty seven

¹⁵ Urban Enterprise (2011) Equine sector economic impact analysis

¹⁶ Department of Primary Industry (2013) Upper Hunter Region Equine Profile

percent of all Australian thoroughbred horse exports in 2008-09 and 80% to 90% of the total value of all Australian thoroughbred exports were sired or bred in the region.

The total estimated value of exported Hunter sired or bred yearling foals was estimated at over \$100million in 2011. The industry is a significant contributor to the regional economy with 85 per cent of all operating expenses spent within the Hunter Valley region, and over \$2.4 billion contributed to the NSW economy and \$5 billion to the national economy, as well as providing significant employment¹⁷.

The region is internationally recognised for producing international Group 1 winners – the equine equivalent to Olympic Gold medal winners and in 2011 produced 63 per cent of the world's top Australian racehorses (as ranked by the federation) and 33 Hunter Valley bred horse made world rankings

Cessnock is well positioned to take advantage of its strategic location and access to significant regional industry services including:

- A specialist equine hospital at Scone (largest in the southern hemisphere)
- The Hunter Valley Equine Research Centre at Scone providing education, training and racing facilities with specialist equine disease research
- Experienced veterinarians, equine dentists, international breeders, managers and support staff attracted by the regions reputation
- Specialist equine education and training facilities at Scone TAFE and Tocal Agricultural College
- A network of specialist horse transport and feed companies, specialist breeding, rearing, training, spelling and competition facilities and events.

Growth of the production sectors of the industry will be limited however due to lack of land in the LGA that meets specific industry requirements particularly¹⁶:

- More than 900mm rainfall or within 2km of a regulated river system for a reliable water source to meet equine needs and irrigation
- Well-drained alluvial soils and highly productive pastures for lactating mares and their foals (Class 1 to 3 Land and soil capability and moderate to high soil fertility).

The DPI study also notes that *industry economies of scale and critical mass is also necessary to justify the level of investment in facilities and provide a range of bloodlines and equine environments. Whilst equine properties can vary*

¹⁷ DPI (2013) Upper Hunter Region Equine Profile

greatly in size, most of the successful internationally recognised studs in the region are between 1,000 and 3,000 ha in size. Manage land use around equine studs is important to minimise land use conflict risks such as noise or vehicle movements that can spook highly strung horses. The numerous stud properties in the region are a long term land use that can take many decades to establish and involve high levels of capital investment in fixed facilities with a long lifespan of more than 25 years. Investment surety and compatible development of surrounding lands are consequently critical.

This suggests that the main opportunities for Cessnock are to build on regional strengths in the tourism and service elements of the industry.

VITICULTURE

Viticulture and associated wine production and wine tourism are a significant component of the Cessnock City economy. Cessnock vineyards are part of the wider Hunter Valley wine region from which the economic contribution of viticulture and wine production includes:

- Annual wine production of 25 million litres (2010 vintage, representing approximately a 40,000 tonne crush, noting that a substantial proportion of fruit crushed in the Hunter is sourced from outside the region)¹⁸
- Annual wine produced is valued at \$210 million (assuming a wholesale value of \$8 per litre)¹⁸
- Annual investment expenditure in grape growing and wine making of \$450 million¹⁸
- Average monthly cellar door sales of \$89,000 per outlet or \$128 million annually¹⁹
- Direct employment of over 7,000 people and an additional 10,000 indirect jobs (for example in service industries and via multiplier effects, excluding wine tourism)¹⁸

A more detailed analysis of viticulture and wine production is provided in the companion Vineyards District Study.

LAND CAPABILITY AND SUITABILITY

A number of regional studies of the capability and suitability of agricultural land have been undertaken including:

- Agricultural lands mapping of the Hunter, Central and Lower North Coast Region²⁰ (2015)
- Mapping important agricultural lands in the Lower Hunter Region²¹ (2013)
- Upper Hunter Strategic Land Use Plan (2012).

These studies used similar methodologies including consultation to generate maps of land capability and agricultural suitability of around 1:100,000 scale to be used for regional strategic planning.

The 2013 and 2015 studies both used the NSW Land and Soil Capability (2012) which provides a broad-scale, regional view as to the dominant capability class based on an assessment of eight key soil and landscape limitations: water erosion, wind erosion, salinity, topsoil acidification, shallow soils/rockiness, soil structure decline, waterlogging and mass movement. The mapping is based on a class system with values ranging between 1 and 8, which represent a decreasing capability of the land to sustain a variety of land use. The land and soil capability data was combined with spatial data for annual rainfall, inherent fertility of soils and modelled to prepare maps showing:

- Highly capable, intensive agricultural land
- Prime pasture and cropping land
- Good pasture and horticultural land on moderate slopes
- Good pasture land.

The 2015 agricultural lands map for Cessnock is shown in Figure 12. Most land is classed as good pasture and horticultural lands on moderate slope, which has moderate to high limitations for high-impact land uses. Cropping, high-intensity grazing and horticultural enterprises require sound management practices to avoid land degradation and achieve productive potential. Elsewhere the land is classed as good pasture land. The mapping shows that there is no highly capable, intensive agricultural class land in Cessnock City that would support soil based intensive horticulture such as vegetables, turf, cut flowers or nurseries.

Agriculture in the north eastern parts of the LGA is constrained by existing settlement patterns with the towns of Abermain, Weston and Kurri Kurri in close proximity and the surrounding rural areas fragmented and densely settled. Pressure for growth in this area will continue with the proximity to the Hunter Expressway. East of Kurri Kurri the land is classed as prime pasture and

¹⁸ Hunter Valley Wine Industry Association 2010 cited in Department of Primary Industry (2013) Upper Hunter Region Viticulture Profile. Fact Sheet No. 5

¹⁹ Hunter Valley Wine Country Tourism Monitor December 2014

²⁰ Hunter & Central Coast Regional Environmental Management Strategy Team (2015) Agricultural lands mapping of the Hunter, Central and Lower North Coast Region

²¹ Hunter Council's (2013) Mapping important agricultural lands in the Lower Hunter Region

cropping land, however most of this land is part of the Bloomfield mine operation.

The other key element in agricultural suitability is climate and irrigation supply. The climate in Cessnock is sub-tropical to temperate characterised by hot, humid summers and mild dry winters (Figure 11). There is limited opportunity for irrigation by direct diversion from the Hunter River and Wollombi Brook. Generally, agricultural production will rely on seasonal rainfall and in limited cases, access to the potable water supply.

Agricultural commodities suited to the combination of agricultural capability and climate in Cessnock includes:

- Pasture production for livestock grazing including beef and dairy
- Summer forage crops
- Viticulture
- Some limited potential for fruit and nuts such as pecans, olives however, the area is too far south for many of the sub-tropical / tropical fruits and lacks suitable soils and irrigation supply for low chill stone fruit).

Mapping of land suitability for various agricultural industries from the Mapping important agricultural lands in the Lower Hunter Region are shown in Figure 13, to

Figure 16.

Further refinement of the agricultural capability mapping was undertaken by considering property size, fragmentation and conversion to non-agricultural uses through additional mapping analysis and ground survey.

Suitable locations for intensive agriculture is not driven by soil types but specific requirements such as:

- Access to three phase power, gas (particularly for protected cropping), secure water supply
- Good road infrastructure and access to major transport routes
- Separation from residential neighbours and sensitives uses

- For broilers, grow out farms need to be between 2 and 2,5 hours of the processor

FIGURE 11: CESSNOCK (NUKALBA) TEMPERATURE AND RAINFALL²²



²² Bureau of Meteorology (http://www.bom.gov.au/climate/averages/tables/cw_061242.shtml) accessed 7.6.2016

FIGURE 12: BIOPHYSICAL POTENTIAL OF LAND AND ITS SUITABILITY FOR DIFFERENT AGRICULTURE USES

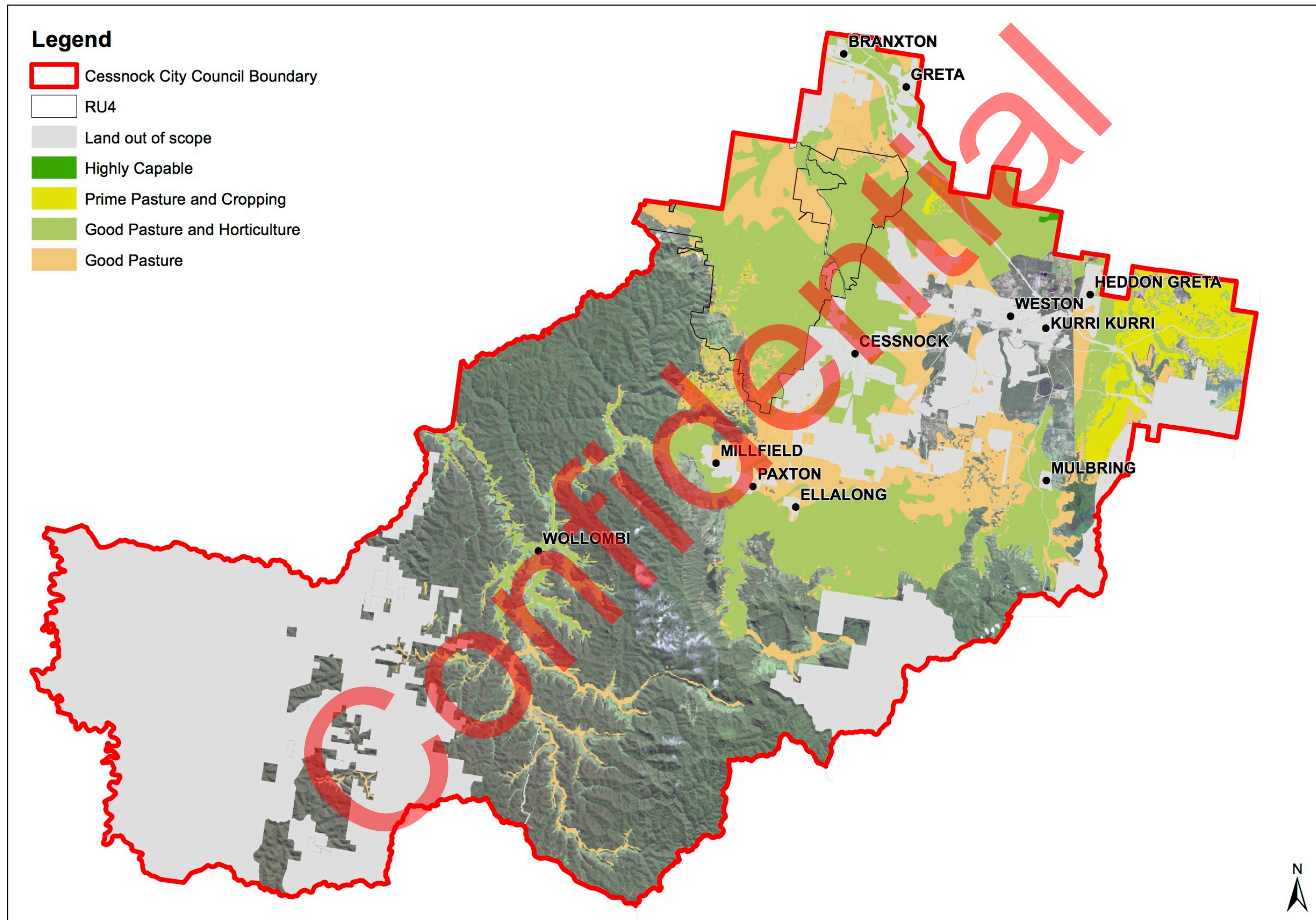


Figure 13: land suitable for viticulture fruit and nuts²¹

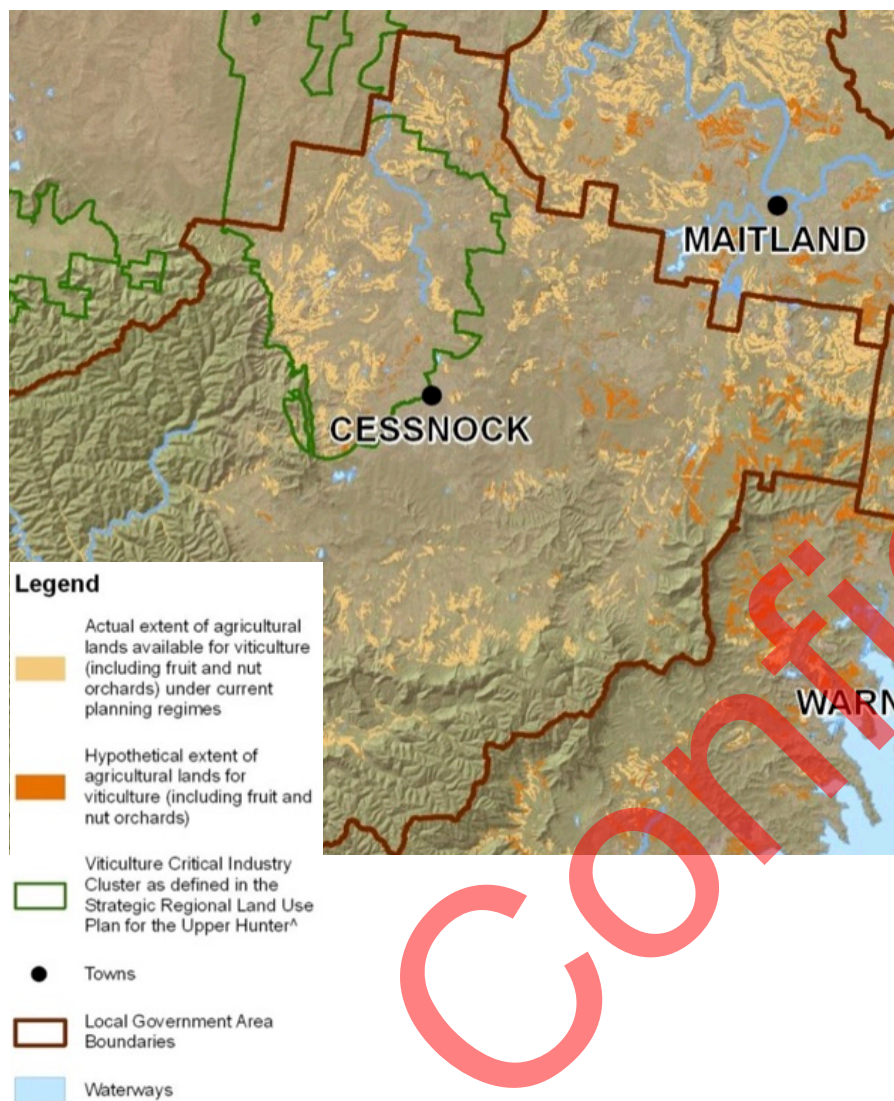


Figure 14: land suitable for broadacre agriculture²¹

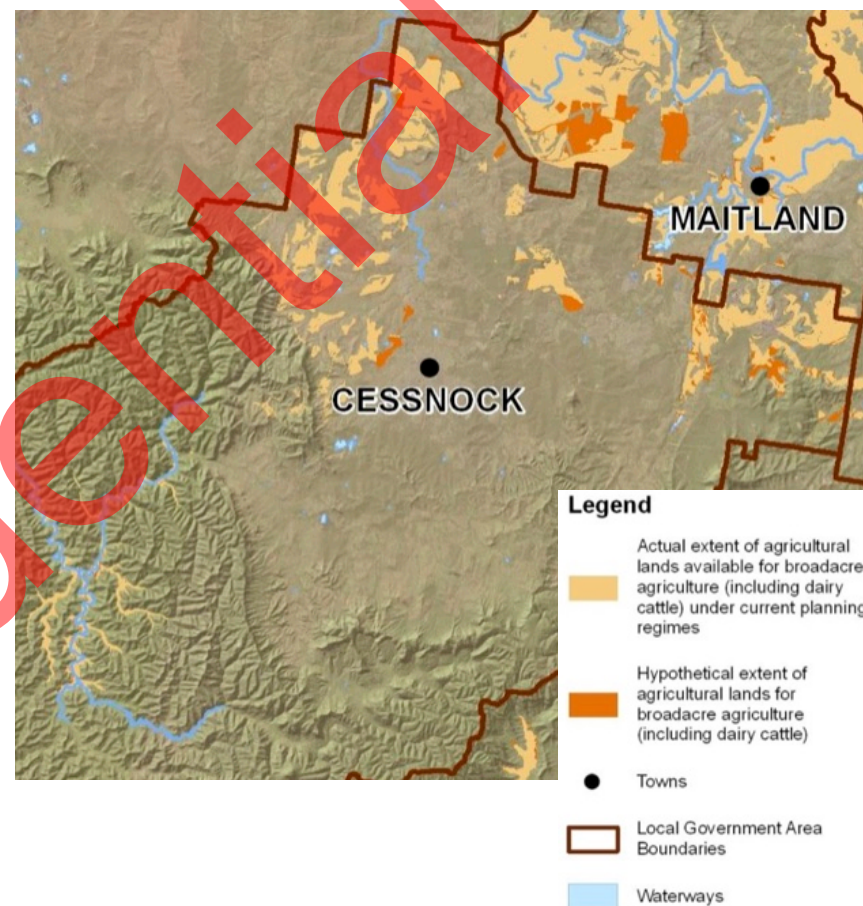


Figure 15: land suitable for annual horticulture and turf²¹

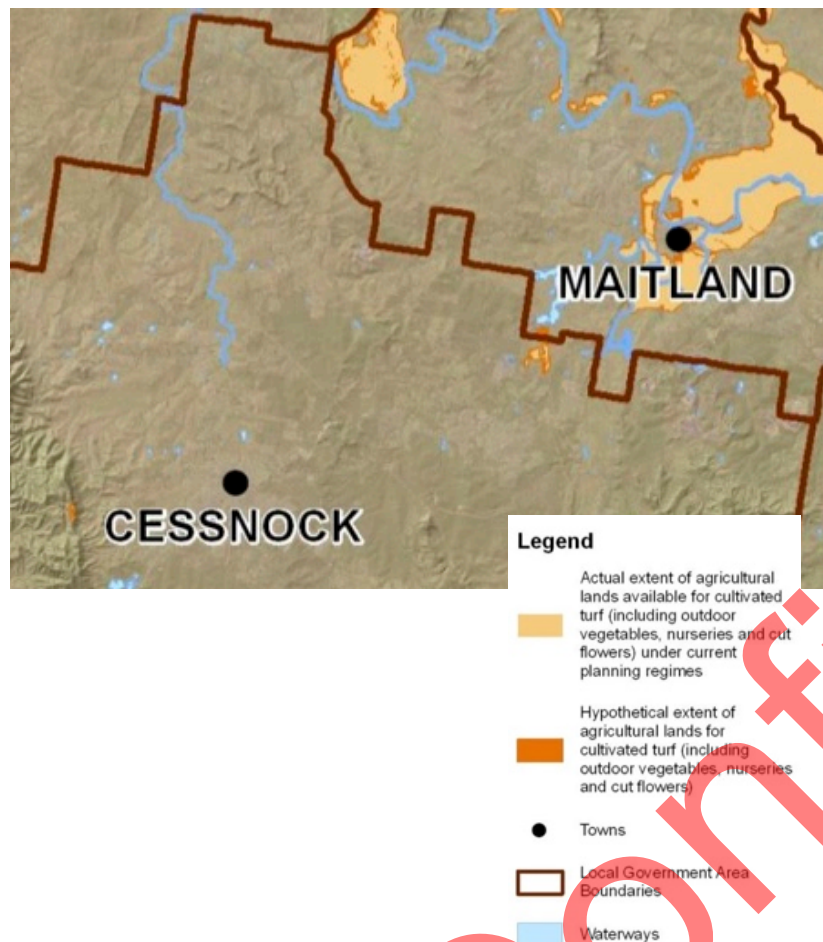
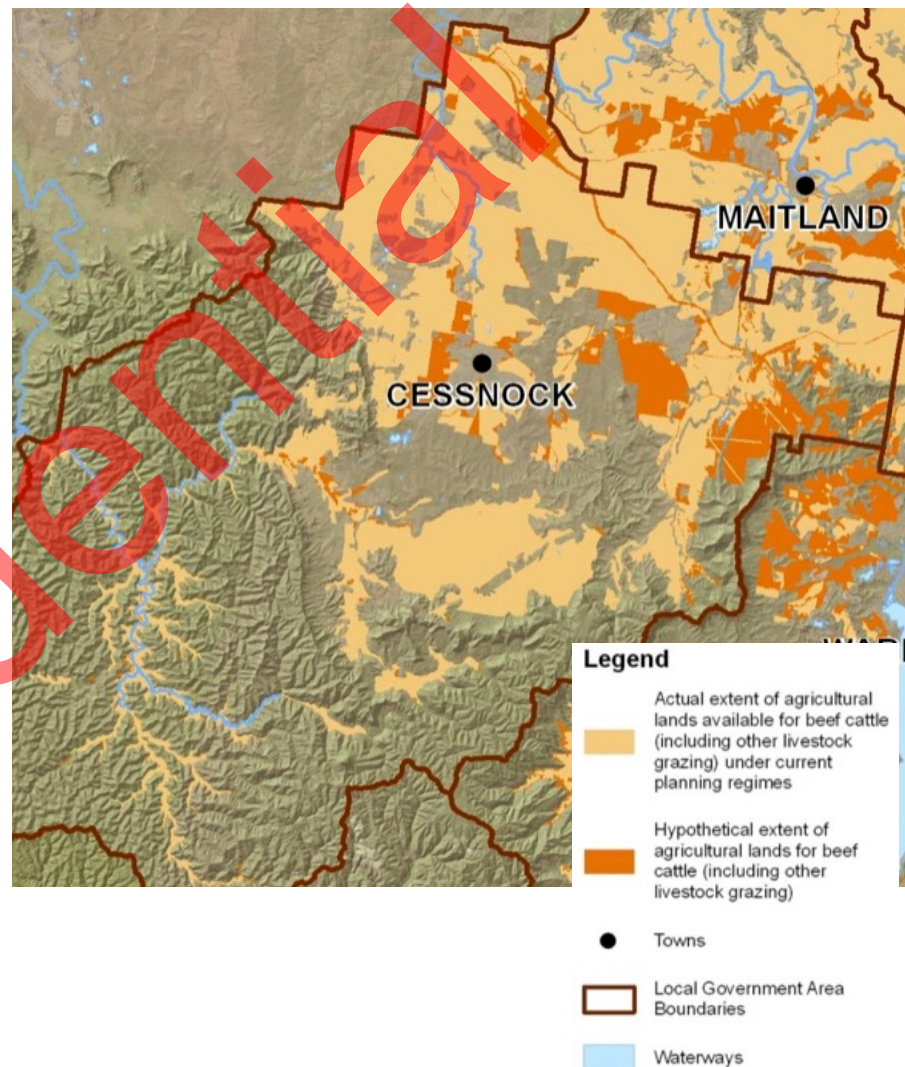


Figure 16: Land suitable for livestock grazing²¹



OPPORTUNITIES AND CHALLENGES

Cessnock City's agricultural competitive advantages and challenges are summarised in Table 4.

TABLE 4: COMPETITIVE ADVANTAGES AND CHALLENGES

Competitive advantages	Challenges
<ul style="list-style-type: none"> ▪ Cessnock LGA is the south-eastern gateway to the Hunter Valley ▪ Proximity to major markets – one of the closest rural areas to Sydney ▪ Cessnock airport and proximity to the Port of Newcastle and Newcastle Airport ▪ Good access to road networks including the M1 freeway, Hunter Expressway, New England Highway and other arterial roads ▪ Rail connections to the Port of Newcastle and Sydney ▪ Access to employment services ▪ Specialist training facilities / Centres for Excellence in the areas of viticulture, wine-making and horticulture ▪ High value environmental assets that underpin the wine and agricultural sectors, as well as tourism and amenity values ▪ High profile of Hunter Valley Wine 	<ul style="list-style-type: none"> ▪ Competition for land for residential, rural residential and commercial development ▪ Protecting agricultural land from encroachment ▪ High land values relative to the lands productive potential ▪ Rural land use conflict constraining agricultural practices ▪ Competition with the coal mines for workers ▪ Predominantly moderate capability soils ▪ Protecting the key assets of the LGA – rural environments, vineyard areas, significant views and landscapes ▪ Poor mobile / broadband coverage in rural areas, particularly the Wollombi Valley ▪ Reducing agricultural diversity

LOCATION AND SERVICES

Cessnock City is ideally located and has excellent accessibility to national and international markets for agricultural products, services and employment. However, its proximity and accessibility to Newcastle and anticipated population growth will challenge commercial agriculture as the demand for residential and rural residential development increases. In this environment, local farmers are frequently deterred from investing in their operation as they anticipate the conversion of their land out of commercial agriculture or it promotes speculative behaviour based on a perception of development rights or opportunities.

URBAN ENCROACHMENT

Urban encroachment and rural lifestyle development in agricultural areas has a number of impacts on industry certainty. It can result in agricultural enterprises becoming isolated amongst residences leading to land use conflict and loss of critical mass of commercial farms and farmers to sustain an agricultural industry and value chain. Land values tend to increase and once they exceed the productive value, act as an inducement to sell or for commercial agriculture to be substituted for sub-commercial agricultural activities.

Higher capitalisation of smaller farms makes them less attractive purchases for farm expansion resulting in fewer opportunities for commercial farmers to expand or grow their business and a reduced ability to sustain a standard of living or provide for retirement. This tends to encourage farmers to speculate in their land rather than farming it.

Commercial agricultural enterprises located in a high land value market will need to produce a high return, premium product or value-add, such as processing or tourism to generate sufficient returns.

INTENSIVE AGRICULTURE

Cessnock City has an intensive agricultural industry, broiler and eggs, and there has been some growth in the industry over the last 10 years. The proximity to the Baiada Beresfield processing facility is an opportunity for expansion of the broiler industry. Urban encroachment and rural residential development in the northern parts of the LGA will limit this type of industry to southern parts of the LGA such as between Mulbring and Millfield.

Protected cropping (glasshouse horticulture) does not have the same amenity impacts as intensive animal husbandry and would be suited to flat land that has access to gas and potable water. A large scale glasshouse facility (16 ha) is currently under construction at Fullerton Cove near Newcastle.

LAND SUITABILITY

Land suitability in Cessnock City is mostly Class 3 (moderate capability) and Class 4 (moderate to low capability) and access to irrigation water is available land on the Hunter River and Wollombi Brook. Agricultural production is therefore limited to livestock grazing and to perennial horticulture in some locations with the right mix of microclimate, soil type and drainage.

CLIMATE CHANGE

An analysis of the impacts of climate change on the Hunter Valley²³ and a subsequent review of the climate projections²⁴ found:

Although no regional increase in precipitation is projected for the period from 2020-2080 the precipitation patterns are projected to be more variable than in the past. Some seasonal shifts in precipitation are also projected, with decreases of approximately 12.5% for the Cessnock. An increase in the frequency of occurrence of high rainfall events in summer and autumn is likely and a decrease in frequency during winter and increases during spring, indicating a corresponding shift to occur in high rainfall events.

Minimum temperatures in the wine region are projected to be warmer in autumn and winter with a slight decrease in minimum temperature in summer and spring. There is no projected change to maximum temperatures in summer, however, a significant increase in maximum temperatures is projected for autumn, winter and spring. An increase in the number of extreme heat days (>35°C) and decrease in the number of frost days are also projected.

The changes to the climate are projected to have significant impacts on the agricultural industry, particularly wine grape production, with impacts such as leaf burn, condensed growing season and ripening period, shifts in growing season will increase the risk of frost impact on grapes and increase the pest and disease risk as well as increased management requirements and resource inputs to maintain production levels. Beef cattle production will be impacted by an increase in heat stress and changes in pasture yield and quality.

STRATEGIC IMPLICATIONS

Viticulture and associated wine tourism is a significant component of the Cessnock City economy. Other agriculture, including broilers, cropping, livestock and eggs, is a relatively small component of the local economy. The intensive animal sectors (broilers and eggs) has shown some modest growth with potential for further future growth.

The agricultural value chain is also modest and includes a number of regionally important processors servicing the wider region. Most rural land has moderate to low land capability. Land with access to irrigation water that could support

production of high value commodities is also very limited. These factors, along with high land values, encroachment by urban and rural residential development are significant impediments to new investment in agriculture.

Forecast changes to climate will challenge existing agriculture including viticulture and beef cattle production. Some opportunity exists for commercial scale intensive agriculture such as protected cropping or intensive poultry. Intensive animal husbandry will be limited to southern parts of the LGA where buffers and setbacks from sensitive uses can be achieved.

Opportunities for industry growth are primarily associated with protected cropping and agri-tourism that builds on existing strengths in wine tourism.

²³ Blackmore, K.L. and Goodwin, I.D. (2009) Climatic change impacts for the Hunter, Lower North Coast and Central Coast Region of NSW

²⁴ Hunter and Central Coast Regional Environmental Strategy (2015) Regional Climate Projections: Hunter, Central and Lower North Coast Region of New South Wales

4 LAND USE CONFLICT RISK ASSESSMENT

APPROACH

The land use conflict risk assessment follows the approach detailed in the Land Use Conflict Risk Assessment Guide²⁵ prepared by the Department of Primary Industry. Land Use Conflict Risk Assessment (LUCRA) is a system to identify and assess the potential for land use conflict to occur between neighbouring land uses. The LUCRA aims to:

- Accurately identify and address potential land use conflict issues and risk of occurrence before a new land use proceeds or a dispute arises
- Objectively assess the effect of a proposed land use on neighbouring land uses
- Increase the understanding of potential land use conflict to inform and complement development control and buffer requirements
- Highlight or recommend strategies to help minimise the potential for land use conflicts to occur and contribute to the negotiation, proposal, implementation and evaluation of separation strategies.

There are four key steps in a LUCRA:

1. Gather information about proposed land use change and associated activities
2. Evaluate the risk level of each activity
3. Identify risk reduction management strategies
4. Record LUCRA results.

The risk is given a ranking between 1 (low risk) and 24 (very high risk) (Table 5) by estimating the probability of a risk occurring and the consequence of the risk occurring (See Appendix 2 for probability and consequence definitions). A risk ranking greater than 10 is regarded as high.

TABLE 5: RISK RANKING MATRIX

	Probability					
		A	B	C	D	E
Consequence	1	24	24	22	19	15
	2	23	21	18	14	10
	3	20	17	13	9	6
	4	16	12	8	5	3
	5	11	7	4	2	1

This section of the report assesses the *potential* for land use conflict risk between current agricultural activities and other land uses in the rural areas. The risk assessment was undertaken on a Precinct basis to account for the variation in land use and density of development across the municipality (see Section 6 for a map of the rural precincts).

Table 6 sets out the results of the risk ranking. The locations and activities that have highest risk of land use conflict are:

- Precinct 2 is mostly like to experience rural land use conflict due to the level of rural residential within the precinct and residential development adjacent to the precinct
- Intensive animal husbandry and perennial horticulture are most likely to conflict with surrounding non-agricultural uses due to the consequences (e.g. odour, noise, spray drift) of the enterprises on neighbouring uses.

STRATEGIC IMPLICATIONS

There is a high probability that continuation or growth of the current mix of commercial agricultural industries in Cessnock will be challenged as land use conflict increases from expansion or growth in non-agricultural activities on rural land. These risks are greatest between intensive animal husbandry and non-agricultural uses and in northern parts of the municipality where the density of development is highest.

²⁵ Department of Primary Industry (2011) Land Use Conflict Risk Assessment Guide

TABLE 6: LAND USE RISK CONFLICT

AGRICULTURAL USE	ACTIVITY	POTENTIAL CONFLICT	PRECINCT 1			PRECINCT 2			PRECINCT 3			PRECINCT 4			PRECINCT 5		
			C	P	R	C	P	R	C	P	R	C	P	R	C	P	R
Intensive animal husbandry	Rural living	Intensive agricultural impacts - odour, noise, heavy traffic, night time activities, lighting	1	B	24	1	A	24	1	C	22	1	E	15	N/A	N/A	N/A
	Residential	Residential and tourism impacts – encroachment of buffers, increased biosecurity risk, Increase in the number of residents with expectations that don’t match existing residents	1	B	24	1	A	24	1	C	22	1	E	15	N/A	N/A	N/A
	Tourism – development		1	E	15	1	D	19	1	E	15	1	E	15	N/A	N/A	N/A
Livestock grazing	Rural living	Livestock grazing impacts - Noise, stock movement, odour, heavy traffic	4	B	16	4	B	16	4	D	5	4	E	3	4	B	12
	Residential	Residential and tourism impacts – domestic pets worrying livestock, Increase in the number of residents with expectations that don’t match existing residents	4	B	12	4	A	20	4	D	5	4	E	3	4	B	12
	Tourism development		4	E	3	4	D	5	4	E	3	4	E	3	4	B	12
Perennial horticulture	Rural living	Perennial horticulture impacts - Noise, spray drift, heavy traffic	2	B	21	1	B	24	3	E	6	4	E	3	2	B	21
	Residential	Residential and tourism Increase in the number of residents with expectations that don’t match existing residents	2	B	21	1	B	24	3	E	6	4	E	3	2	B	21
	Tourism development		2	E	10	1	B	24	3	E	6	4	E	3	2	D	14



5 RURAL LIVING

As part of the Housing Study, a demand and supply assessment of rural housing and rural living is being undertaken. This section of the Rural Lands Study provides an analysis of the rural areas to identify land that may be a candidate for rural living subject to a demonstrated lack of supply and more detailed assessment.

When identifying areas for rural living, Council needs to carefully consider the upfront and ongoing costs associated with providing this type of housing. Upfront costs may include provision of new roads, roundabouts, pathways, drainage infrastructure, street lighting, street furniture and signage. Ongoing costs include rubbish collection, street cleaning and weeding/mowing of council-owned open space, drainage and recreation reserves. Development that occurs at a significant distance from existing settlements can lead to greater costs for councils. For example, dispersed, isolated development will attract higher costs due to the distance that needs to be covered for those services to be provided. Infill development is less costly than dispersed settlement when close to existing infrastructure and services with sufficient capacity²⁶.

Rural living may also have wider social and environmental costs such as increased risk of social exclusion and fragmentation, costs of living, damage to the environment, loss of biodiversity, reduced water quality and agricultural land use for urban purposes²⁶.

The Cessnock City Wide Settlement Strategy¹ sets out the following settlement planning principles, to integrate the key elements of Ecologically Sustainable Development:

- Maximise redevelopment and infill opportunities for medium and high density housing within walking distances of centres
- Maximise redevelopment and infill opportunities for medium and high density housing within walking distances of centres
- Ensure that planning and design of new release areas is based on the Neighbourhood Planning Principles
- Plan for a range of housing types of appropriate densities, location and suitability that are capable of adapting and responding to the ageing of the population

- Concentrate employment and residential development in proximity to public transport to maximise transport access
- The scale of new development within and adjacent to existing villages and rural towns must respect and preserve their character, scale, cultural heritage and social values
- Maintain rural zoning for regionally significant agricultural lands including the vineyard district (existing 1(v) zone) in new local environmental plans
- Provide a consistent approach to the zoning system in rural lands through the Standard Instrument and ensure that access to resource lands (including mineral resources) are maintained and protected from incompatible and inappropriate uses
- Recognise that mining is a transitional land use and that former mining land offers opportunities for both conservation and development outcomes when activities are completed
- Any future rezoning proposal for rural-residential development, beyond areas already available or identified, should be: consistent with the Sustainability Criteria set out in the Lower Hunter Regional Strategy (see text box); consistent with an endorsed local council strategy; and maintain the character and role of the existing village centre.

- 1. Infrastructure Provision:** Mechanisms in place to ensure utilities, transport, open space and communication are provided in a timely and efficient way
- 2. Access:** Accessible transport options for efficient and sustainable travel between homes, jobs, services and recreation to be existing or provided
- 3. Housing Diversity:** Provide a range of housing choices to ensure a broad population can be housed
- 4. Employment Lands:** Provide regional/local employment opportunities to support the Lower Hunter's expanding role in the wider regional and NSW economies
- 5. Avoidance of Risk:** Land use conflicts, and risk to human health and life, avoided
- 6. Natural Resources:** Natural resource limits not exceeded/environmental footprint minimised
- 7. Environmental Protection:** Protect and enhance biodiversity, air quality, heritage and waterway health
- 8. Quality and Equity in Services:** Quality health, education, legal, recreational, cultural and community development and other Government services are accessible⁵

²⁶ SGS Economic and Planning (2012) Where and how should we grow?

Drawing on these principles, criteria for identifying candidate locations for rural living investigation were prepared to maximize efficient use of infrastructure and minimise economic, environmental and social costs and included:

- Proximity to urban centres
- Proximity to major transport routes
- Fragmented rural land with clusters of small properties (<10ha)
- Consideration of natural hazards such as flooding and bushfire
- Avoiding land being used for commercial agriculture or with potential for commercial horticulture.

Detailed assessment of proposal for rural living development should be made against a comprehensive set of guidelines. Key questions that will need to be taken into account when considering rezoning land for rural living include:

Does rural living development align with the overall strategic planning of the municipality?

A proposal for rural residential development must be considered against the state, regional and local strategic planning policies and objectives for the area. The findings of the Housing Study will be an important consideration.

How much rural living is required to provide appropriate housing diversity and choice to meet housing needs?

The demand and supply analysis as part of the Housing Study will provide an assessment of whether there is sufficient supply based on current and forecast demand.

Where should new rural living development take place?

This rural study has considered a limited range of criteria for identifying candidate rural living areas. Strategically, locations for rural living development should relate to and be supported by existing urban development, not impede the proper long-term growth of an urban area, be provided with appropriate community infrastructure and services and be compatible with the existing and likely future land uses in a locality. Rural living development should not adversely impact natural resources such as productive agricultural land, water supply catchments and mineral resources, environmental, landscape and heritage values

Assessment of specific sites should take into consideration:

- Topography of the land (including ridgelines, landscape, geography, slope gradients and erosion areas)
- Road access
- Fire hazard
- Land liable to inundation by floodwaters
- Drainage lines and dams
- Any significant environmental features including habitat corridors, threatened species, wetlands and watercourses
- Vegetation cover
- Waterway values
- Land hazards (for example, salinity), land stability (land slip) or other erosion related hazards
- Soil capability (e.g. for domestic wastewater disposal, road construction)
- Soil contamination with regard to past uses of the land
- Views
- Available infrastructure including power, water and telecommunications
- Existing buildings and works
- Adjoining land uses and neighbouring buildings and works
- Agricultural productive potential

Does the subdivision and design provide an attractive setting offering high amenity and efficient infrastructure?

Subdivision layouts should respond to the physical features of the land and the environmental, landscape, infrastructure and servicing features and constraints of the land. In designing subdivisions, consideration should include:

- Protecting and enhancing environmental features
- Locating buildings off ridgelines to protect landscapes and views
- Landscaping to protect and restore natural landscape
- Specifications for building materials that do not visually impact the landscape

STRATEGIC IMPLICATIONS

Investigation areas have been identified for provision of rural living, subject to the findings of the Housing Study and further detailed site analysis. Considerations for assessment of rural living development proposals are provided for inclusion into a detailed set of assessment guidelines.

6 FUTURE LAND USE OUTCOMES

VISION

The Cessnock Community Strategic Plan⁶ sets out the following vision for the LGA:

Cessnock will be a cohesive and welcoming community living in an attractive and sustainable rural environment with a diversity of business and employment opportunities supported by accessible infrastructure and services which effectively meet community need.

Strategies relevant to this study include:

- Identify and increase the diversity of the tourism experience and market existing historical, cultural, natural and indigenous heritage
- Ensure the LEP and other planning protocols protect rural areas and reflect the community's values on "rural character" and the heritage feel of the area.

RURAL PRECINCTS

Precincts enable planning policy to be tailored to reflect local areas and drivers of land use change; provide protection of existing assets and qualities; recognise the future potential of an area; and communities of common interest. Detailed review of each precinct has determined the future land use and development outcomes, objectives and strategies and provides the basis for recommending appropriate planning controls.

This review of rural land found that a differentiated policy position would be a useful approach for developing future land use outcomes in recognition of the variation in strategic settings, agricultural opportunities, rural industry opportunities including tourism and extractive industries and aspiration to reside in rural areas that apply across the LGA.

Five rural precincts have been identified (Figure 17):

Rural precinct 1: North of the HEX

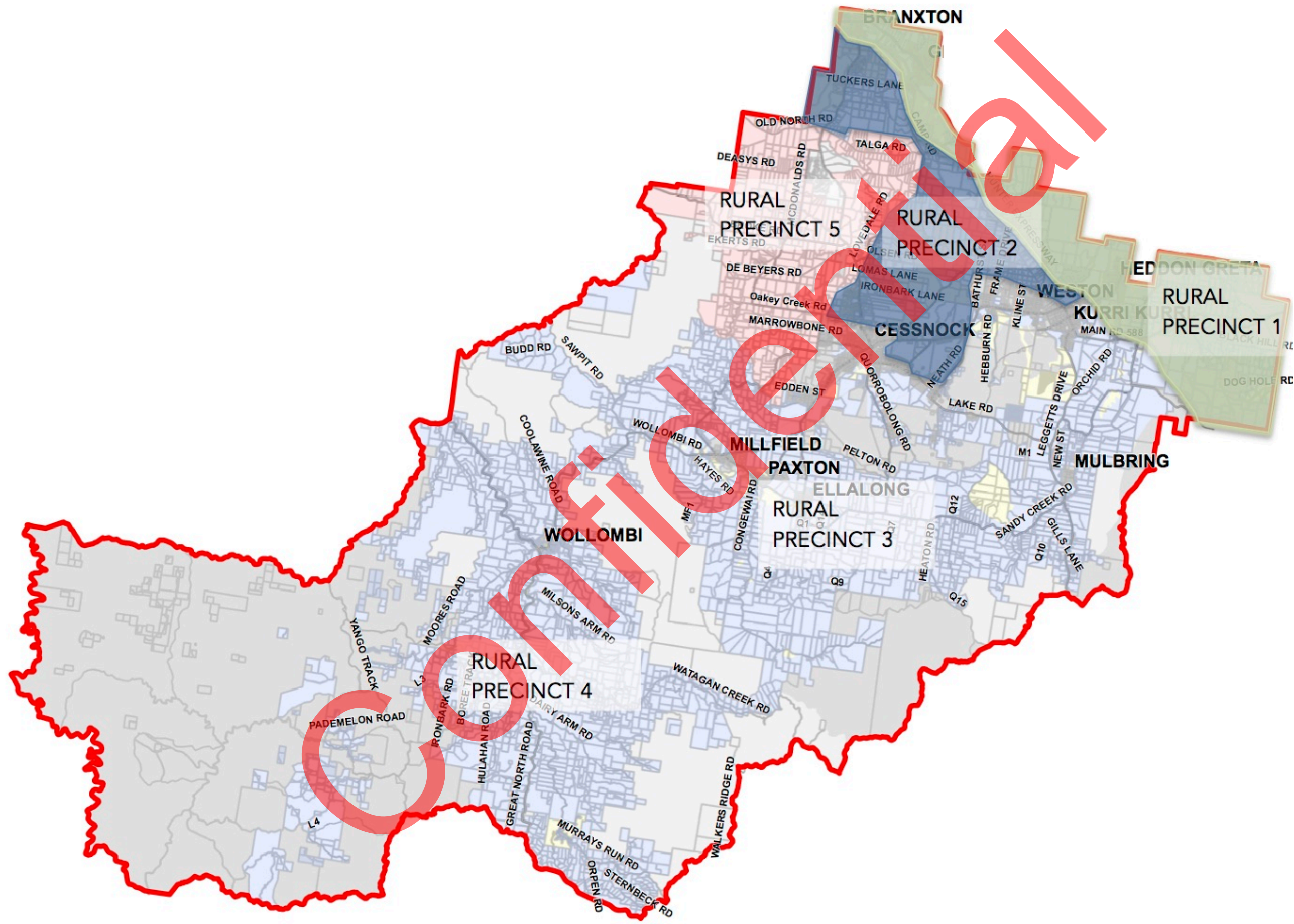
Rural precinct 2: Sawyers Gully to Kurri Kurri

Rural precinct 3: Buchanan to Millfield

Rural precinct 4: Wollombi Valley

Rural precinct 5: Viticulture district

FIGURE 17 CESSNOCK CITY RURAL PRECINCTS



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RURAL PRECINCT 1: NORTH OF THE HEX

The predominant rural land use north of the Hunter Expressway (HEX) is livestock grazing and some intensive poultry production between Branxton and Greta. There are a number of larger grazing properties near Bishop's Bridge. The Norsk Hydro Aluminium Smelter and the Four Mile Creek coal mine lease area dominates land use north of the HEX and John Renshaw Drive in the eastern end of the precinct. South of John Renshaw Drive around Black Hill Road, the area is used mainly for livestock grazing.

The Norsk Hydro Aluminium Centre was closed in 2014. The area used for the smelter comprised a relatively small proportion of the total site. Land surrounding the aluminium smelter was used for livestock grazing and intensive poultry production. The site has extensive areas of remnant native vegetation. The land is currently zoned RU2 – rural landscape and E2 – environmental conservation. A proposal is currently being progressed that seeks to introduce a mix of zones to provide for industrial, commercial, residential and environmental conservation outcomes.

Land suitability was mapped as Class 4 – good pasture and horticulture (Land has moderate to high limitations for high-impact land uses that will restrict land management options for regular high-impact land uses such as cropping, high-intensity grazing and horticulture. These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology). Inspection of the area confirmed this assessment.

The rural land is relatively unfragmented and the open farmed landscape provides green breaks between Branxton and Greta and a traditional 'rural' aspect. There are substantial areas of vegetated land in the precinct. Vegetated land that forms part of the Norsk Hydro site has been recommended for rezoning from RU2 Rural Landscape to E2 Environmental Conservation. Land around the Four Mile Creek mine is also heavily vegetated and provides an important screen to the mine.

The location on the HEX and the accessibility this provides makes the Precinct very attractive for commuters and Branxton is identified as an area for further urban development in the Draft Hunter Regional Plan⁴. Further residential development is proposed as part of the rezoning. Urban encroachment and increasing rural lifestyle has the potential to increase land use conflict with existing intensive animal husbandry enterprises. High land values and land

speculation is likely to result in rural land increasingly used for sub-commercial agricultural purposes such as livestock grazing. Urban encroachment, rural lifestyle and high land values will be a significant disincentive for continued or new investment in commercial agriculture.

The land use conflict risk assessment found that intensive agricultural businesses are most likely to be experiencing or have potential to experience conflict from rural living and residential development. Further residential development flagged for the precinct will place increasing pressure on existing intensive agricultural businesses and be a significant disincentive for new investment in the industry.

Commercial agricultural opportunities in Rural Precinct 1 are limited due to:

- Land use change away from commercial agriculture to rural lifestyle and increased residential development in local towns, resulting in high land values
- Increased risk of land use conflict, particularly for intensive animal husbandry due to fragmentation and relatively dense settlement pattern
- High cost of assembling sufficient parcels of land for a commercial scale broadacre grazing enterprise
- Proximity to urban centres and new subdivision is potentially fuelling speculative behaviour
- Land suitability mapping and ground truthing found that the land, without supplementary irrigation is suitable mainly for broadacre grazing.

Rural activities suited to the precinct include:

- Protected cropping due to proximity to gas and potable water supply
- High value, boutique agricultural activities such as speciality livestock
- Agri – based and nature-based tourism
- Hobby farming.

A rural living investigation area was identified around Branxton / Greta.

LAND USE OUTCOMES

The economic and land use analysis indicates that in the long term, investment in commercial agriculture will continue to decline as residential, hobby farming and rural living become the dominant land use.

Sub-commercial agriculture such as hobby farming can play an important role in reinforcing town boundaries, protecting the rural-farmed landscape and maintaining green breaks between townships. In identified locations such as

around Branxton, maintaining the current property configuration and settlement patterns will facilitate efficient future urban development as well as maintain separation between sensitive uses and broiler and egg producers.

Acknowledgement that rural lifestyle and sub-commercial agriculture are likely to become the dominant land use in the precinct should not be interpreted as justification for further unfettered subdivision or dwelling development.

Future development in the precinct will require careful consideration to ensure that environmental and landscape values are protected.

RECOMMENDATIONS

CURRENT PLANNING POLICY

Land within Precinct 1 is currently zoned:

- RU2 Rural Landscape
- E2 Environmental Conservation.

OBJECTIVES

The objectives for Precinct 1 include:

- To protect existing commercial agricultural enterprises and rural industry
- To protect and maintain the open rural landscape including vistas from roads
- To provide for a range of agricultural activities including hobby farming
- To provide for rural tourism development
- To reinforce settlement boundaries and maintain green breaks between Branxton and Greta
- To maintain land in property configurations to protect commercial agriculture and facilitate future residential or rural residential development in specified locations
- To protect extractive industries and intensive animal husbandry from encroachment by sensitive uses
- To protect and enhance environmental values.

STRATEGIES

- Discourage further subdivision of rural land
- Development consent for new dwellings should not be granted unless the land is a lot that is at least the minimum lot size or is identified as having a dwelling entitlement

- Provide for low-key, rural based tourism in locations in close proximity of existing towns and tourism nodes
- Ensure tourism facilities are limited in their intensity and scale to avoid adverse visual impact on the natural environmental and rural landscape in line with low-key eco-based or agri-based tourism
- Ensure that separation is maintained between sensitive development, including new dwellings and tourism, and extractive industries or intensive animal husbandry
- Ensure buildings are sited and designed to protect the rural farmed landscape.

RURAL PRECINCT 2: SAWYERS GULLY AND KURRI KURRI

The main land use in the Sawyers Gully – Kurri Kurri precinct is rural residential and hobby farming including recreational horse stables, livestock grazing and some small scale agricultural activities such as greenhouse vegetables. The area once supported a number of intensive poultry enterprises however, most enterprises have closed. Between Sawyers Gully and Weston most properties have some native vegetation providing a bushland feel and enclosed landscape. A large quarry is located on Lovedale Road, west of Sawyers Gully. The land is relatively fragmented with mainly small properties under 40ha and is relatively densely settled.

Land capability was mapped as Class 4 – good pasture and horticulture (Land has moderate to high limitations for high-impact land uses. Will restrict land management options for regular high-impact land uses such as cropping, high-intensity grazing and horticulture. These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology). Inspection of the area confirmed this assessment. Commercial agricultural enterprises suited to this combination of land capability, settlement pattern and small property sizes are very limited.

The location on the HEX and proximity to Cessnock and Kurri Kurri makes the Precinct very attractive for commuters and residents employed locally seeking a rural lifestyle. Urban encroachment and increasing rural lifestyle has the potential to increase land use conflict with remaining commercial agricultural enterprises. High land values and land speculation is likely to result in rural land increasingly used for sub-commercial agricultural purposes such as livestock grazing or for purely rural residential purposes. Urban encroachment, rural lifestyle and high land values will be a significant disincentive for continued or new investment in commercial agriculture.

The land use conflict risk assessment found that existing intensive agricultural businesses, commercial livestock grazing and perennial horticulture are most likely to be experiencing or have potential to experience conflict from rural living and residential development due to the level of fragmentation in the precinct.

A rural living investigation area was identified around Weston / Sawyers Gully.

LAND USE OUTCOMES

Hobby farming and rural residential will continue to be the dominant land use in Precinct 2. Soil based commercial agricultural opportunities are limited due

to prevailing non-agricultural land use and agricultural capability. Forestry will be increasingly difficult as potential for land use conflict increases.

Acknowledgement that rural lifestyle and sub-commercial agriculture are likely to become the dominant land use in the precinct should not be interpreted as justification for further unfettered subdivision or dwelling development. Future development in the precinct will require careful consideration to ensure that:

- Environmental and landscape values are protected
- Encroachment does not constrain operation of rural industries such as quarries
- Development and uptake of zoned rural living and residential estates is maximized.

There is some potential for low-key agri-based or nature based tourism to capitalise on the natural values and close proximity and access to the Vineyards District.

RECOMMENDATIONS

CURRENT PLANNING POLICY

Land within the Precinct 2 is currently zoned:

- RU2 Rural Landscape
- RU3 Forestry
- E2 Environmental Conservation.

OBJECTIVES

The objectives for Precinct 2 include:

- To protect and maintain the rural landscape including extensive areas of native vegetation
- To provide for a range of rural activities including sub-commercial agriculture, rural tourism and rural industry
- To maintain land in property configurations to facilitate future residential and rural residential development in specified locations
- To protect extractive industries from encroachment by sensitive uses.

STRATEGIES

- Ensure subdivision of rural land will promote protection of landscape and environmental values and maintain land in property configurations for efficient future development

- Ensure buildings are sited and designed to protect the landscape and native vegetation
- Provide for low-key, rural based tourism in locations in close proximity of existing towns and tourism nodes
- Ensure tourism facilities are limited in their intensity and scale to avoid adverse impact on the natural environmental and rural landscape in line with low-key eco-based or agri-based tourism
- Ensure buildings are setback from extractive industries.

Confidential

RURAL PRECINCT 3: BUCHANAN – MILLFIELD

Agricultural land use in the Buchanan – Millfield precinct is predominantly livestock grazing with some intensive poultry enterprises between Buchanan and Mulbring and around Quorrobolong. Property sizes are mainly larger properties (over 40ha) with a cluster of smaller properties around Mulbring. The historic townships of Millfield, Paxton and Ellalong are set within an attractive open rural farmed landscape.

Land capability was mapped as:

- Class 4 – good pasture and horticulture (Moderate capability land: Land has moderate to high limitations for high-impact land uses. Will restrict land management options for regular high-impact land uses such as cropping, high-intensity grazing and perennial horticulture such as grapes or orchard fruit and nuts. These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology).
- Class 5 – good pasture (Moderate–low capability land: Land has high limitations for high-impact land uses. Will largely restrict land use to grazing, some perennial horticulture such as grapes or orchard fruit and nuts, forestry and nature conservation. The limitations need to be carefully managed to prevent long-term degradation).

Inspection of the area confirmed this assessment. Depending on the micro-climate and crop, some horticultural enterprises may require supplementary irrigation. Inspection of the area found that there is some conversion to rural lifestyle / sub-commercial agriculture, including large scale properties, indicated by the high quality homes and landscaping as well as smaller rural lifestyle properties closer to the townships.

A timber mill, based in Millfield, processes timber products harvested from regional forests.

The rural land is relatively unfragmented. The landscape has an open farmed traditional 'rural' aspect. There are long views from Maitland and Sandy Creek Road providing an attractive touring route between Mulbring and historic villages of Ellalong, Paxton and Millfield. A number of rural-based accommodation facilities e.g. farm stay, bed and breakfast, are located within the Precinct.

Commercial agricultural opportunities in Rural Precinct 3 are less constrained than Rural Precincts 1 and 2 as there has been less fragmentation and rural

lifestyle development. The land suitability mapping and ground truthing found that the land, without supplementary irrigation is suitable mainly for broadacre grazing.

Rural activities suited to the area include:

- Livestock grazing
- Intensive animal husbandry
- Perennial horticulture
- Agri-tourism.

LAND USE OUTCOMES

Commercial scale and large scale sub-commercial agriculture will be the primary use of rural land in the future. There is opportunity for further intensive animal husbandry in the precinct based on its proximity to the processor in Beresfield. The undulating topography and sparse settlement pattern would enable further intensive animal sheds to be tucked into the landscape and set back from sensitive uses to minimise risk of offsite amenity impacts. Elsewhere there is opportunity for extensive agriculture including livestock grazing and perennial horticulture on better soils.

Agricultural activities suited to the area include:

- Livestock grazing
- Intensive animal husbandry
- Perennial horticulture in some locations with suitable soil types, micro climate and drainage.

The intrinsic heritage and amenity values of Mulbring, Millfield, Paxton and Ellalong along with their proximity to the Mount View wine subregion and the environmental values of Ellalong Lagoon and associated network of creeks and wetlands provides opportunity for low key agri-based or nature based tourism development. The clear separation of the three townships should be maintained and ribbon development along Sandy Creek Road avoided.

RECOMMENDATIONS

CURRENT PLANNING POLICY

Land within the Precinct 3 is currently zoned RU2 Rural Landscape.

OBJECTIVES

The objectives for Precinct 3 include:

- To foster and encourage commercial agricultural activities and maintain options for intensive animal husbandry
- To support rural industries such as forestry, compatible with agriculture
- To reinforce settlement boundaries and maintain green breaks between settlements
- To protect and maintain the open rural landscape including vistas from roads
- To provide for rural tourism development compatible with the landscape characteristics, environmental values, land use and settlements patterns.

STRATEGIES

- Discourage further subdivision of rural land
- Increase the minimum lot size of land zoned RU2 within the precinct to protect current and future agricultural opportunities
- Ensure subdivision of rural land will promote protection of the rural farmed landscape and maintain land in property configurations for commercial agriculture
- Prevent proliferation of dwellings on small lots and housing unrelated to agriculture
- Ensure buildings are sited in the landscape and designed to protect the rural farmed landscape
- Provide for rural based tourism in locations in close proximity of existing towns and tourism nodes that are sympathetic to the settlement pattern and uses of the area
- Ensure tourism facilities are limited in their intensity and scale to avoid adverse visual impact on the natural environmental and rural landscape in line with low-key eco-based or agri-based tourism
- Ensure that separation is maintained between sensitive development, including new dwellings and intensive animal husbandry.

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RURAL PRECINCT 4: WOLLOMBI VALLEY

The Wollombi Valley is relatively remote, sparsely settled area with agriculture focused on the valley floor and surrounded by heavily vegetated, steep mountains and hills. The historic village of Wollombi provides some retail services and is the focus for a number of tourism enterprises.

Agricultural land use in the Wollombi Valley is primarily livestock grazing. There is some surface water diversion from Wollombi Brook to irrigate pastures. The land capability of the lower valley floor is Class 4 – good pasture and horticulture (Moderate capability land: Land has moderate to high limitations for high-impact land uses. Will restrict land management options for regular high-impact land uses such as cropping, high-intensity grazing and perennial horticulture such as grapes or orchard fruit and nuts. These limitations can only be managed by specialised management practices with a high level of knowledge, expertise, inputs, investment and technology).

In the upper valley, the land capability is Class 5 – good pasture (Moderate–low capability land: Land has high limitations for high-impact land uses. Will largely restrict land use to grazing, some perennial horticulture such as grapes or orchard fruit and nuts, forestry and nature conservation. The limitations need to be carefully managed to prevent long-term degradation).

Inspection of the area confirmed this assessment. Depending on the micro-climate and crop, some horticultural enterprises may require supplementary irrigation. The rural land is relatively unfragmented. The valley floor has open farmed traditional ‘rural’ aspect with the surrounding heavily vegetated mountains enclosing the agricultural land. There are long views down the valley.

LAND USE OUTCOMES

Forestry, commercial livestock grazing and perennial horticulture will be the primary use of rural land in the Precinct. The intrinsic heritage and amenity values of Wollombi and the valley provide opportunity for low key agri-based or nature based tourism development. Development should be focused on existing settlements and ribbon development along the narrow river valleys should be avoided.

RECOMMENDATIONS

CURRENT PLANNING POLICY

Land within Precinct 4 is currently is zoned:

- RU2 Rural Landscape
- RU3 Forestry.

OBJECTIVES

The objectives for Precinct 4 include:

- To foster and encourage forestry and commercial agricultural activities
- To support rural industries such as forestry, compatible with agriculture
- To protect and maintain the open rural landscape including vistas from roads
- To provide for rural tourism development compatible with the landscape characteristics, environmental values, land use and settlements patterns.

STRATEGIES

- Discourage further subdivision of rural land
- Increase the minimum lot size of land zoned RU2 within the precinct to protect current and future agricultural opportunities
- Ensure subdivision of rural land will promote protection of the rural farmed landscape and maintain land in property configurations for commercial agriculture
- Prevent proliferation of dwellings on small lots and housing unrelated to agriculture
- Ensure buildings are sited in the landscape and designed to protect the rural farmed landscape
- Provide for rural based tourism in locations in close proximity of existing towns and tourism nodes that are sympathetic to the settlement pattern and uses of the area
- Ensure tourism facilities are limited in their intensity and scale to avoid adverse visual impact on the natural environmental and rural landscape in line with low-key eco-based or agri-based tourism.

APPENDIX 1: LAND USE MATRIX

Legend o permitted without consent [mandated under the SI] o permitted without consent c permitted with consent [mandated under the SI] c permitted with consent x prohibited [mandated under the SI] x prohibited A permitted under SEPP (Affordable Rental Housing) 2009 I permitted under SEPP (Infrastructure) 2007 fill colours in green or red mandated under the SI fill colour in purple public infrastructure permitted under a SEPP	RURAL			ENVIRONMENT	
	RU2 Rural Landscape	RU3 Forestry	RU4 Primary Production Small Lots	E2 Environmental conservation	E3 Environmental Management
IS THIS ZONE USED? [Y/N]	Y	Y	Y	Y	Y
Land use terms within AGRICULTURE group term					
Agriculture	c	x	x	x	x
Aquaculture	c	x	x	x	x
Extensive agriculture	o	c	o	c	x
Bee keeping	o	c	o	c	x
Dairy (pasture based)	o	c	o	c	x
Intensive livestock agriculture	c	x	x	x	x
Feedlots	c	x	x	x	x
Dairies (restricted)	c	x	x	x	x
Intensive plant agriculture	c	x	x	x	x
Horticulture	c	c	c	x	x
Turf farming	c	x	c	x	x
Viticulture	c	x	c	x	x
Land use terms outside AGRICULTURE group term					
Animal boarding or training establishments	c	x	c	x	x
Farm buildings	c	x	c	x	x
Forestry	c	o	x	x	x
Land use terms within RESIDENTIAL ACCOMMODATION group term					
Residential accommodation	x	x	x	x	x
Attached dwelling	x	x	x	x	x
Boarding houses	x	x	x	x	x
Dual occupancies	c	x	x	x	x
Dual occupancies (attached)	c	x	x	x	x
Dual occupancies (detached)	c	x	x	x	x
Dwelling houses	c	x	c	c	c
Group homes	x	x	x	x	x
Group homes (permanent)	x	x	x	x	x
Group homes (transitional)	x	x	x	x	x
Hostels	x	x	x	x	x
Multi dwelling housing	x	x	x	x	x
Residential flat buildings	x	x	x	x	x
Rural workers' dwelling	x	x	c	x	x
Secondary dwellings	x	x	c	c	x
Semi detached dwellings	x	x	x	x	x
Seniors housing	x	x	x	x	x
Residential care facilities	x	x	x	x	x
Shop top housing	x	x	x	x	x
Land use terms outside RESIDENTIAL ACCOMMODATION group term					
Home based child care	c	x	x	c	x
Home business	c	x	c	x	x
Home occupations	o	x	o	o	o
Home occupation (sex services)	x	x	x	x	x
Land use terms within TOURIST AND VISITOR ACCOMMODATION group term					
Tourist and visitor accommodation	c	x	c	c	x
Backpackers	c	x	c	c	x
Bed and breakfast	c	x	c	c	x
Farm stay	c	x	c	c	x
Hotel or motel	c	x	x	x	x
Serviced apartments	c	x	c	c	x
Land use terms outside TOURIST AND VISITOR ACCOMMODATION group term					
Camping grounds	c	x	x	x	x
Caravan parks	c	x	x	x	x
Eco tourist facilities	c	x	x	x	x
Land use terms within COMMERCIAL PREMISES group term					
Commercial	x	x	x	x	x
Business	x	x	x	x	x
Funeral homes	x	x	x	x	x
Office	x	x	x	x	x
Retail	x	x	x	x	x
Bulky goods	x	x	x	x	x
Cellar door	c	x	c	x	x

Legend	RURAL			ENVIRONMENT	
	RU2 Rural Landscape	RU3 Forestry	RU4 Primary Production Small Lots	E2 Environmental conservation	E3 Environmental Management
o permitted without consent [mandated under the SI]					
o permitted without consent					
c permitted with consent [mandated under the SI]					
c permitted with consent					
x prohibited [mandated under the SI]					
x prohibited					
A permitted under SEPP (Affordable Rental Housing) 2009					
I permitted under SEPP (Infrastructure) 2007					
fill colours in green or red mandated under the SI					
fill colour in purple public infrastructure permitted under a SEPP					
Food and drink	x	x	x	x	x
Pubs	c	x	x	x	x
Restaurant or cafe	c	x	c	x	x
Take away food and drink	x	x	x	x	x
Small bar	x	x	x	x	x
Garden centres	x	x	x	x	x
Hardware and building supplies	x	x	x	x	x
Kiosks	x	x	x	x	c
Landscape material	x	x	x	x	x
Markets	x	x	x	x	x
Plant nurseries	x	x	c	x	x
Roadside stalls	c	x	c	x	x
Rural supplies	c	x	c	x	x
Shops	x	x	x	x	x
Neighbourhood shops	c	x	c	x	x
Timber yards	x	x	x	x	x
Vehicle sales or hire	x	x	x	x	x
Land use terms outside COMMERCIAL group term					
Amusement centres	c	x	x	x	x
Entertainment facilities	x	x	x	x	x
Function centres	c	x	c	x	x
Highway service centre	x	x	x	x	x
Industrial retail outlets	x	x	x	x	x
Registered clubs	c	x	x	x	x
Restricted premises	x	x	x	x	x
Service stations	c	x	x	x	x
Sex service premises	x	x	x	x	x
Veterinary hospitals	c	x	x	x	x
Wholesale supplies	x	x	x	x	x
Land use terms within RURAL INDUSTRY group term					
Rural industries	c	x	x	x	x
Agricultural produce	c	x	c	x	x
Livestock processing	c	x	x	x	x
Sawmill or log processing	c	c	x	x	x
Stock & sale yards	c	x	x	x	x
Land use terms within INDUSTRY group term					
Industries	x	x	x	x	x
Heavy industries	x	x	x	x	x
Hazardous industry	x	x	x	x	x
Offensive industry	x	x	x	x	x
Light industries	x	x	x	x	x
High technology industries	x	x	x	x	x
Home industry	c	x	c	x	c
General industries	x	x	x	x	x
Land use term outside RURAL INDUSTRY group terms					
Boat building and repair facilities	x	x	x	x	x
Vehicle body repair workshops	x	x	x	x	x
Vehicle repair stations	x	x	x	x	x
Land use terms within HEAVY INDUSTRIAL storage establishment group term					
Heavy industrial storage	x	x	x	x	x
Hazardous storage	x	x	x	x	x
Liquid fuel depots	x	x	x	x	x
Offensive storage	x	x	x	x	x
Land use terms within STORAGE PREMISES group term					
Storage premises	x	x	x	x	x
Self storage units	c	x	x	x	x
Land use terms outside STORAGE PREMISES group term					
Depots	x	x	x	x	x
Warehouse or distribution centres	x	x	x	x	x
Land use terms within SEWERAGE SYSTEM group term					
Sewerage systems	c	x	x	x	x
Biosolids treatment facilities	I	x	I	x	x
Sewage reticulation systems	I	I	I	I	I
Sewage treatment plants	I	x	I	x	x

Legend	RURAL			ENVIRONMENT	
	RU2 Rural Landscape	RU3 Forestry	RU4 Primary Production Small Lots	E2 Environmental conservation	E3 Environmental Management
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c permitted with consent [mandated under the SI]					
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x prohibited [mandated under the SI]					
x prohibited					
A permitted under SEPP (Affordable Rental Housing) 2009					
I permitted under SEPP (Infrastructure) 2007					
fill colours in green or red mandated under the SI					
fill colour in purple public infrastructure permitted under a SEPP					
Water recycling facilities	I	X	I	X	X
Land use terms within WASTE OR RESOURCE MANAGEMENT FACILITY group term					
Waste or resource management facilities	I	X	C	X	X
Resource recovery facilities	I	X	C	X	X
Waste disposal facilities	I	X	C	X	X
Waste or resource transfer stations	I	X	C	X	X
Land use terms within WATER SUPPLY SYSTEM group term					
Water supply systems	C	X	X	X	X
Water reticulation systems	C	X	X	X	X
Water storage facilities	C	X	X	X	X
Water treatment facilities	C	X	X	X	X
Land use terms within AIR TRANSPORT FACILITY group term					
Air transport facilities	C	X	X	X	X
Airport	C	X	X	X	X
Helipad	X	X	X	X	X
Land use terms outside AIR TRANSPORT FACILITY group term					
Airstrip	C	X	X	X	X
Helipad	C	X	X	X	X
Other land use terms relating to INFRASTRUCTURE					
Car parks	X	X	X	X	X
Electricity generating works	I	I	I	X	X
Freight transport facilities	X	X	X	X	X
Passenger transport facilities	X	X	X	X	X
Port facilities	C	X	X	X	X
Roads	C	C	C	C	C
Transport depots	X	X	X	X	X
Truck depots	X	X	X	X	X
Wharf or boating facilities	X	X	X	X	X
Land use terms within EDUCATIONAL ESTABLISHMENT group term					
Educational establishments	I	X	I	X	X
Schools	I	X	I	X	X
Land use terms within HEALTH SERVICES FACILITY group term					
Health services facilities	X	X	I	X	X
Hospitals	C	X	I	X	X
Medical centres	X	X	I	X	X
Health consulting rooms	C	X	I	X	X
Child care centres	C	X	C	X	X
Community facilities	C	X	C	X	X
Correctional centres	C	X	X	X	X
Emergency services facilities	I	I	I	X	X
Industrial training facilities	X	X	X	X	X
Information and education facilities	C	X	C	X	C
Places of public worship	C	X	X	X	X
Public administration building	C	X	X	X	X
Research stations	C	X	X	X	X
Respite day care centres	C	X	C	X	X
Land use terms within SIGNAGE group term					
Signage	C	X	C	X	X
Advertising structure	C	X	C	X	X
Building identification sign	C	X	C	X	X
Business identification sign	C	X	C	X	X
Land use terms relating to RECREATION					
Boat launching ramps	C	X	X	X	X
Boat sheds	C	X	X	X	X
Charter & tourism boating facilities	X	X	X	X	X
Environmental facilities	C	C	C	C	C
Jetties	C	X	X	X	X
Marinas	X	X	X	X	X
Mooring	X	X	X	X	X
Mooring pens	X	X	X	X	X
Recreation areas	C	C	X	C	C
Recreation facilities (indoor)	X	X	X	X	X
Recreation facilities (major)	C	X	X	X	X
Recreation facilities (outdoor)	C	X	X	X	X

Legend	RURAL			ENVIRONMENT	
	RU2 Rural Landscape	RU3 Forestry	RU4 Primary Production Small Lots	E2 Environmental conservation	E3 Environmental Management
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c permitted with consent					
x prohibited [mandated under the SI]					
x prohibited					
A permitted under SEPP (Affordable Rental Housing) 2009					
I permitted under SEPP (Infrastructure) 2007					
fill colour in green or red mandated under the SI					
fill colour in purple public infrastructure permitted under a SEPP					
Water recreation structures	c	x	x	x	x
Other miscellaneous land use terms					
Cemetery	c	x	x	x	x
Crematorium	c	x	x	x	x
Environmental protection works	c	c	c	c	c
Exhibition homes	x	x	x	x	x
Exhibition villages	x	x	x	x	x
Extractive industries	c	c	x	x	x
Flood mitigation works	c	x	x	x	c
Mortuaries	x	x	x	x	x
Open cut mining	c	c	x	x	x
Other land uses					
Development which cannot be characterised into any land uses defined in the SI	c	x	x	x	x

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APPENDIX 2: LAND USE CONFLICT

PROBABILITY DEFINITIONS

Level	Descriptor	Description
A	Almost certain	Common or repeating occurrence
B	Likely	Known to occur or 'it has happened'
C	Possible	Could occur or 'I've heard of it happening'
D	Unlikely	Could occur in some circumstances, but not likely to occur
E	Rare	Practically impossible

CONSEQUENCE DEFINITIONS

Level	Descriptor
1	Severe
	Severe and/or permanent damage to the environment
	Irreversible
2	Sever impact on the community
	Neighbours are in prolonged dispute and legal action involved
	Major
	Serous and/or long term impact to the environment
3	Long terms management implications
	Serious impact on the community
	Neighbours are in serious dispute
	Moderate
4	Moderate and/or medium-term impact to the environment and community
	Some ongoing management implications
	Neighbour disputes occur
5	Minor
	Minor and/or short term impact to the environment and community\
	Can be effectively managed as a part of normal operations
5	Negligible
	Very minor impact to the environment and community
	Can be effectively managed as part of normal operations
	Neighbour disputes unlikely

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