



Wollondilly Shire Council

Wollondilly Rural Lands Strategy Findings Report

December 2020



Acknowledgment of Country

Locale Consulting acknowledges the traditional custodians of the land over which this document was prepared, the Tharawal People, and we pay our respect to all Aboriginal people of this land and to Elders past, present and future.

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Executive Summary

This Findings Report is the first step in the development of the Rural Lands Strategy for the Wollondilly local government area. It provides a snapshot of what Wollondilly looks like today, the type and location of uses on rural lands, as well as the drivers, issues, opportunities and options for the future.

The Rural Lands Strategy will provide the framework for managing growth, change and development for rural land in Wollondilly to the year 2040. The study area associated with the Findings Report and Strategy encompasses Wollondilly's "rural land", meaning all land that is currently zoned as follows, under the Wollondilly Local Environmental Plan 2011:

- RU1 Primary Production
- RU2 Rural Landscape
- RU4 Primary Production Small Lots
- E4 Environmental Living
- R5 Large Lot Residential

Existing Situation

Rural lands are an integral part of Wollondilly in that they support some of Sydney's most productive agricultural land - all within 100 kilometres of Sydney's CBD. Proximity to Sydney, the rapid pace of growth and change, and the range of other land uses competing for space all make Wollondilly's rural land some of the most contested in the State.

The recently prepared *Wollondilly Local Strategic Planning Statement*, combined with the State Government's *Western City District Plan*,

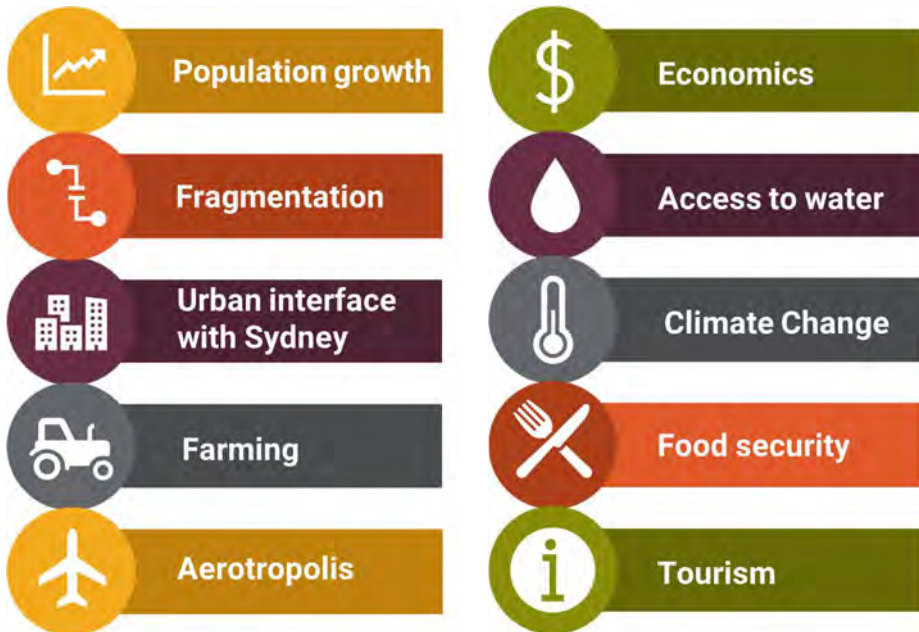
provides a strong basis for the Rural Lands Strategy. These strategic documents highlight the high value of the land to the Wollondilly community, as well recognising the strategic importance of agricultural production to Sydney more broadly.

However, and as eluded to above, there is significant pressure and change occurring throughout the Wollondilly area. From Growth Areas in the east, the second Sydney Airport (one of Australia's most significant infrastructure projects) to the north, and the ongoing balance between rural and urban lifestyles in the other towns and villages, there are many competing interests. This has created an even greater onus on effective planning for rural lands and forms the backbone of the current Rural Lands Strategy process - an outline of which is provided below.



Key project drivers and forward planning principles

Initial consultation processes, combined with research and analysis, have identified a number of key drivers for change that are associated with the current situation in the Wollondilly area. The 10 key project drivers identified are:



From these project drivers, a series of 10 principles have also been developed to guide the preparation of the Findings Report, as well as feeding into the ongoing development of the Rural Lands Strategy. These forward planning principles are:

PRINCIPLE	A	Safeguard agricultural resources and the rural economy	
PRINCIPLE	B	Reducing land use conflicts	
PRINCIPLE	C	Managing pressure for rural living opportunities	
PRINCIPLE	D	Conserving places with special landscape, rural and scenic value	
PRINCIPLE	E	Promoting economic diversification including emerging opportunities	
PRINCIPLE	F	Embracing the opportunities of the Western Sydney Aerotropolis	
PRINCIPLE	G	Ensuring the efficient provision of infrastructure	
PRINCIPLE	H	Balancing environmental, economic and social outcomes	
PRINCIPLE	I	Taking a future-focused, long-term approach	
PRINCIPLE	J	Maintaining consistency with State planning policies	

Moving into the Strategy drafting phase of the project, the recommendations of this Findings Report will be further examined and reviewed with a view to the creation of a Strategy that is well informed and practical for implementation over the longer-term. Key recommendations for consideration in the **Rural Lands Strategy** include the following, noting that all recommendations are summarised in Section 15:

Framework for managing rural zones

Recommendation 1

- Review the primary use of the RU1 Primary Production or RU2 Rural Landscape zone and amend each zone with the following objectives.
 - RU1 Primary Production zone having a primary agricultural purpose. The objectives and uses will need to better support and protect agricultural use of this land and include all types of agricultural activity
 - RU2 Rural Landscape zone having a landscape and scenic value with more large lot lifestyle value. Remove intensive agricultural uses permissible from this zone and revise as part of any future scenic and landscapes study
 - If necessary, adjust zone boundaries for minor changes to better reflect existing land use.

Recommendation 2

- Investigate rezoning of areas of RU4 Primary Production Small Lot zone to better reflect existing land use. Possible zones include the E4 Environmental Living zone, RU1 Primary

Production or RU2 Rural Landscape zone or a new zone the RU6 Transition zone with a minimum lot size that reflects the average lot size (or minimum lot size) in each cluster. Retain the zone where viable commercial agricultural activities exist or where rural sectors present emerging opportunities and ensure minimum lot sizes and other local planning policy support these uses

Recommendation 4

- Review the objectives and land uses within the E4 Environmental Living Zone (this may include a place-based approach), to ensure any potential conflicts with existing agricultural uses can be appropriately managed. Investigate a wider suite of permissible land uses, including tourism uses, and develop a local provision to ensure any future use is compatible with agriculture, environmental and landscape characteristics of the areas.

Recommendation 6

- Investigate the use of a local provision to limit the size of truck and transport fleet operations in the RU1 Primary Production or RU2 Rural Landscape zones.

Safeguarding agricultural resources and the rural economy

Peri-urban agriculture

Recommendation 9

- Develop a peri-urban rural lands management plan that aims to enhance agricultural uses. Consider the need for a local provision and mapping overlay that safeguards existing agricultural land and minimises ad-hoc urban subdivision. This

will include a policy that subdivision for urban purposes cannot occur unless it is prescribed in a council endorsed Strategy.

Recommendation 7

- Develop a guideline on when and where rural subdivision is acceptable for both agricultural pursuits (under Clause 4.2 Wollondilly LEP 2011) or for rural dwelling purposes (does not include for rural residential purposes).

Rural Land Conflicts

Recommendation 13

- Develop a set of land suitability criteria prior to the approval of a non-farming activity such as rural lifestyle dwelling or subdivision. For example, Council could only agree to accept planning proposals/development applications for sites adjoining or within 500 metres of a sensitive agriculture use if it is clearly justified in relation to the criteria.

Recommendation 14

- Prepare a 'sensitive agricultural land use' map which identifies areas of potential land use conflict that may trigger the use of the 'land suitability criteria'

Recommendation 16

- Continue use of Clause 7.6 of the Wollondilly LEP 2011, Odour Buffer Area, to provide ongoing protection of sensitive uses in the vicinity of odorous activities

Recommendation 17

- Use the *Buffer Zones to Reduce Land Use Conflict with Agriculture, Department of Primary Industries (2018)* guide as an interim measure when assessing applications and planning proposal for sensitive uses.

Manage the rural community, economy and services

Mineral resources

Recommendation 23

- Where necessary, consider an increase to the minimum lot size of areas affected by long wall subsidence to reduce the number of rural dwellings that may be exposed to structural issues until such time the mining activity is complete.

Managing pressure for rural living opportunities

Rural Residential land

Recommendation 38

- Protect rural land for primary production activities and scenic landscapes by:
 - not zoning any further land in Wollondilly for rural residential purposes
 - locating further residential development within town/ villages or Growth Areas.

In doing so, significant impacts to primary production and to the environmental or cultural values of a rural area will be avoided.

Rural dwellings

Recommendation 40

- Investigate amending Wollondilly LEP 2011 to include all known dwelling entitlements to be registered on a Dwelling Opportunity Map.

Recommendation 41

- Dwelling entitlement investigations are to conclude once a sunset period of a specified number of years has passed (normally 2 or 3) for registration of known dwelling entitlements on the Dwelling Opportunity Map.

Recommendation 42

- Investigate the inclusion of clause 4.2A in the LEP to contain a specific definition of an existing holding from the date of the previous LEP or IDO.

Recommendation 42

- Investigate amending Wollondilly LEP 2011 to include a Temporary Workers Dwellings clause to increase accommodation options for seasonal farm workers.

Conserving places with special landscape, rural and scenic value

Recommendation 44

- Develop landscape, rural and scenic values management objectives that consider the compatibility and impact of new development to the scale, character and visual quality of the existing rural fabric. The objectives could form part of a local provision for scenic amenity in the Wollondilly LEP 2011 or part of DCP amendment for scenic values.

1. Introduction

1.1 The need for a Rural Lands Strategy

The Wollondilly Rural Lands Strategy (**the Strategy**) will investigate the long-term strategic direction for rural areas in Wollondilly. The Strategy will be used by Wollondilly Shire Council to help inform future planning decisions and local planning policy for rural lands.

Some of Sydney's most productive agricultural land is within 100 kilometres of Sydney's CBD. Rural areas also support Sydney through biodiversity, recreation, rural housing, tourism, open space, natural resources, heritage and landscape conservation and infrastructure provision. Protecting the significant features and assets found in these areas is important for ongoing environmental, social, economic, cultural and wellbeing outcomes. Rural areas, and surrounds, have a diverse range of values that need to be considered in a planning context. More specifically, parts of Wollondilly are known as the 'birthplace of Australian Agriculture', form part of Sydney's drinking water catchment, make up a substantial portion of the Greater Blue Mountains World Heritage Area and are now on the 'doorstep' of the Western Sydney Aerotropolis.

Proximity to Sydney, the rapid pace of growth and change, and the range of other land uses competing for space make Wollondilly's rural land some of the most contested in the State. Beautiful and scenic rural landscapes near Sydney are an attractive location for urban development and rural residential living. These uses compete with agriculture, resulting in the permanent loss of agricultural land and

associated rural businesses. Developing rural lands for urban purposes also results in the loss of 'scenic and rural breaks' which provide Wollondilly with, and support, its highly valued natural landscapes.

The Strategy will provide a detailed assessment of rural lands, its opportunities, issues and future use. It will provide a framework for the development and conservation of Wollondilly's rural lands.

1.2 What is the purpose of this Findings Report?

This Findings Report is the first step in the development of the Strategy. It provides a snapshot of what Wollondilly looks like today, the type and location of uses in rural lands as well as drivers, challenges, opportunities and constraints. These all inform and lead to the key planning principles that will underpin the Strategy.

The proximity of Wollondilly to Sydney, the Western Sydney Airport and the Aerotropolis is changing expectations about the way people live, work and enjoy rural areas. The agricultural economy is also changing and evolving. This Findings Report will assist in the process of delivering a comprehensive Strategy as it documents emerging opportunities in this peri-urban environment for the next 20 years.

1.3 What land does the Strategy consider?

The Findings Report and Strategy's study area encompasses Wollondilly's rural land.

The term "rural land" for the purposes of the Strategy means all land that is currently zoned as follows, under the Wollondilly Local Environmental Plan 2011:

- RU1 Primary Production
- RU2 Rural Landscape
- RU4 Primary Production Small Lots
- E4 Environmental Living
- R5 Large Lot Residential

The Findings Report and Strategy also consider other land within the Wollondilly local government area (LGA) for the purposes of the determining desired future values of rural landscapes and well as the village of Yerranderie. Rural land does not include urban land, land within the Growth Centres or Crown land (National Parks, State Forests or Reserved Land). Figure 1 indicates land to which the Findings Report and Strategy applies.

1.4 Project Background

In March 2018, the State Government released the *Greater Sydney Region Plan – A Metropolis of Three Cities*, and the *Western City District Plan*, which includes the Wollondilly LGA. Much of the land in Wollondilly – other than growth areas and protected natural areas – is identified as Metropolitan Rural Area for its agricultural, environmental and scenic values in the *Western City District Plan* (these

documents and other relevant state and local planning policy is discussed further in Section 1).

In accordance with the *Western City District Plan*, and changes to the *Environmental Planning and Assessment Act 1979* (the Act), all councils are required to review and update their Local Environmental Plans (LEPs) by March 2021.

On 4 March 2018, the Federal and NSW Governments, together with the eight local governments of Western Sydney (including Wollondilly) also signed the Western Sydney City Deal ('City Deal'). The City Deal is a 20-year agreement between the three levels of government to transform Sydney's outer west to create the 'Western Parkland City'.

From a policy context, the City Deal seeks to deliver State and Federal plans for managing growth and delivering infrastructure in Australia's cities, specifically through the Federal government's Smart Cities Plan and the State Government's Western City District Plan. Under the City Deal, funding was also made available to six high growth areas to assist those councils with their strategic planning review (again including Wollondilly). This funding made available through the "Accelerated LEP Review Program Funding Agreement", has enabled Wollondilly Shire Council to undertake a comprehensive review of their LEP including the development of a Rural Lands Strategy.

The first step in the review process was the preparation of the *Wollondilly Local Strategic Planning Statement, Wollondilly 2040* (LSPS). The Greater Sydney Commission assured the LSPS on 23 March, 2020, which indicates the LSPS is consistent with the *Greater Sydney Region Plan* and *Western City District Plan* under Section 3.9(3A) of the *Environmental Planning and Assessment Act 1979*. The protection of the

rural landscape and character, a quality lifestyle in a rural setting and the value the agricultural capability of the area are strong themes throughout the LSPS.

In particular, the LSPS *Planning Priority 16 – Enhancing and Protecting the Diverse Values of the Metropolitan Rural Area*, provides Council's direction regarding the importance of rural lands in Wollondilly for its agricultural, environmental and scenic values. Through Action 16.3, the LSPS establishes the need to “*complete a Rural Lands Strategy to identify and protect land for intensive agriculture*”. This is a key direction for the development of the Strategy.

1.5 Planning period

The Findings Report and Strategy provides the framework for managing growth, change and development for rural land in Wollondilly to the year 2040. While this is a 20-year plan, the Strategy also considers Wollondilly's potential growth beyond 2040 and in particular, the need to ensure planning decisions made today do not compromise options to meet longer term needs.

1.6 Our approach

The Findings Report and the Strategy tie together previous local and State studies and strategies concerning rural areas of Wollondilly and the Greater Sydney Region. This includes information obtained through recent analysis of agricultural capability in the Greater Sydney Region, including work undertaken for the Aerotropolis. The Strategy also addresses the State planning framework including the *Western Sydney*

District Plan, the review of the Right to Farm policy (discussed further in Section 2.1) and other policies to consider strategic issues.

Developing the Findings Report involved preliminary engagement with the various stakeholders including: State agencies, landowners, primary producers, the Rural Lands Strategy Reference Group, along with independent institutes and independent statutory corporations. The purpose of engagement at this early stage is to gather ideas, feedback and concerns in relation to issues, constraints and opportunities affecting both the present and future of rural land. The process also involved a targeted landowner/ primary producer survey which collected information regarding land holdings and the future of farming in Wollondilly. This is discussed in more detail in Section 5 .

The following flow chart provides a graphical understanding of the process for developing the Strategy. Further stakeholder engagement that will occur at Stage 4, will assist Council to identify any further concerns or challenges for rural lands. Once Council has revised any submissions from the community following exhibition, the finalised Strategy will identify preferred amendments to the LEP and other local planning policy.



KEY PROJECT DRIVERS

The purpose of the Findings Report and Strategy is to inform a land use framework to guide development and support rural opportunities, based on strong planning principles.

Planning for growth in Sydney's peri-urban area, including Wollondilly, requires an understanding of the social, environmental, cultural and economic issues facing the rural areas.

It also means understanding the factors which shape the characteristics, attitudes and values of the Wollondilly community, and the systems which drive land use development and agricultural production

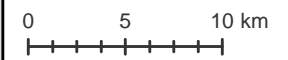
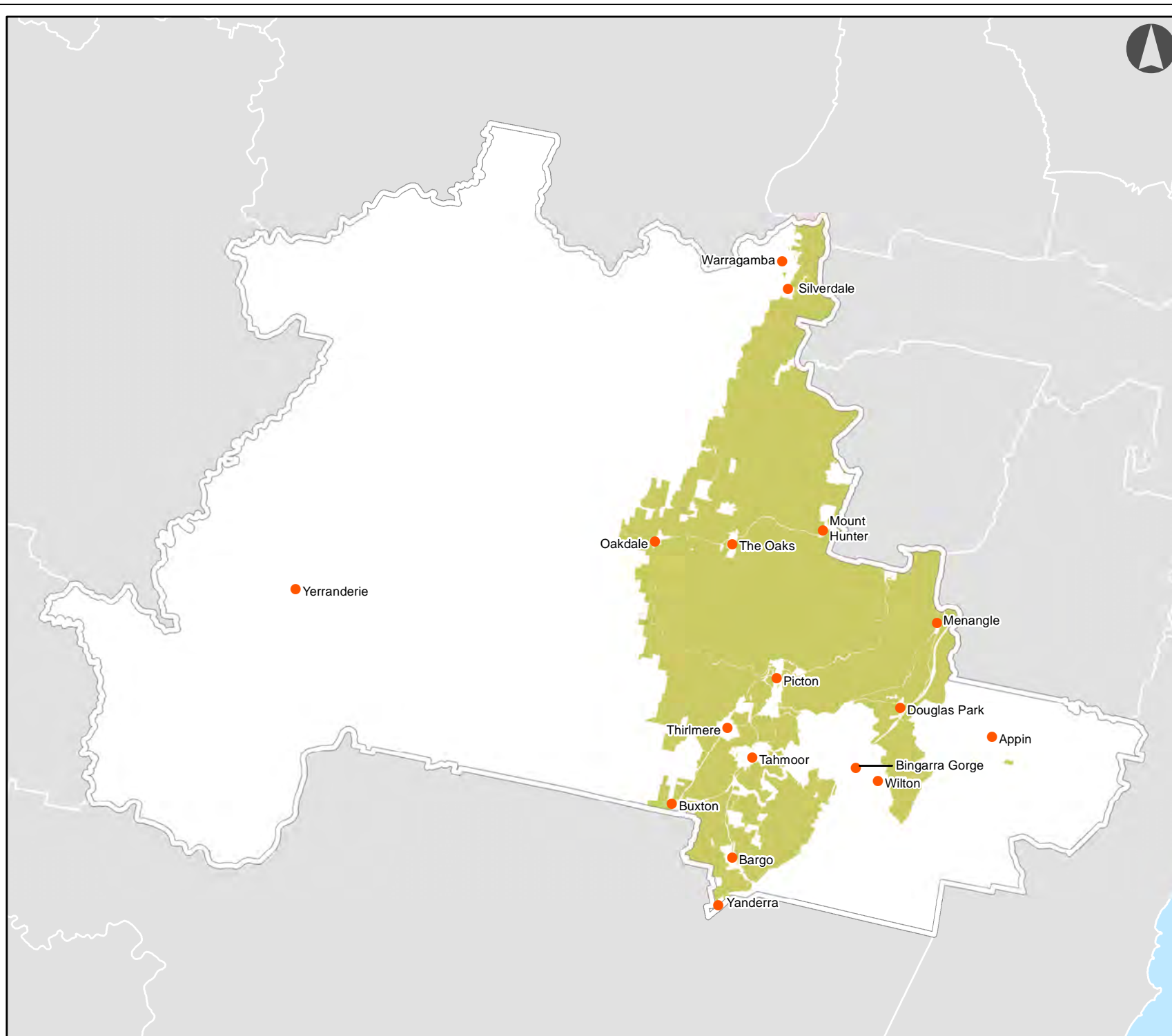




FIGURE 1
Rural Land in Wollondilly

Legend

- Towns/ Villages
- Rural Land
- Wollondilly Local Government Area
- Local Government Areas



Map produced by EMAP Consulting
Date: 7/05/2020
Coordinate System: GDA 2020 MGA Zone 56
Wollondilly Rural Lands Strategy
Preliminary Findings Report
Wollondilly Shire Council v[4]

An aerial photograph of a rural landscape. A river flows through the center-right of the image, bordered by dense green trees. To the left of the river are large, flat agricultural fields in various shades of green and brown. The background shows rolling hills and more trees under a clear sky.

PART 1 – CONTEXT

2. Strategic and Legislative Context

State and Local Government play a significant role in facilitating and controlling land for rural uses as they can build on existing strengths of an area through planning policy. This can provide opportunities for appropriate growth and development, ensure primary production (and other associated rural use) is sustainable and recognise the need for infrastructure and local employment. In turn, this can support the wellbeing of rural communities.

This section details State and local strategies, plans, policies and other legislation that apply in Wollondilly, that are relevant to rural land.

2.1 State Planning Policy

Greater Sydney Region Plan - A Metropolis of Three Cities

Greater Sydney Region Plan - A Metropolis of Three Cities was prepared in 2018 by the Greater Sydney Commission (GSC). It is a 20-year plan to manage growth and change and is built on a 40-year vision where the people of Greater Sydney live within 30 minutes of their jobs, education and health facilities, services and great places.

Within the *Greater Sydney Region Plan* these directions are presented via the three cities concept, with the cities being the Western Parkland City, Central River City and Eastern Harbour City. Wollondilly is located within the Western Parkland City.

Greater Sydney's three cities reach across five districts and Wollondilly is located in the Western City District. The Plan recognises the value of

the of the Metropolitan Rural Area (MRA) as one of Greater Sydney's four major landscape types. The MRA has been identified as having important rural values and includes a strategy to protect and enhance these (29.1). The Greater Sydney Regional Plan seeks to provide certainty about the limits of future urban sprawl:

"Urban development is not consistent with the values of the Metropolitan Rural Area. This Plan identifies that Greater Sydney has sufficient land to deliver its housing needs within the current boundary of the Urban Area, including existing Growth Areas and urban investigation areas associated with the development of the Western Sydney Airport. This eliminates the need for the Urban Area to expand into the Metropolitan Rural Area. From time to time, there may be a need for additional land for urban development to accommodate Greater Sydney's growth, but not at this stage. Future region plans will identify if additional areas of land in the Metropolitan Rural Area are required for urban development.

Restricting urban development in the Metropolitan Rural Area will help manage its environmental, social and economic values, help to reduce land speculation, and increase biodiversity from offsets in Growth Areas and existing urban areas."

The *Greater Sydney Region Plan* also recognises the need to retain the MRA to increase opportunities for agricultural and horticultural uses to keep fresh foods available locally. The importance of poultry, eggs, vegetables including mushrooms, nurseries, cultivated turf and cut flowers is recognised. Strategy 24.3 provides a direction to *'protect and support agricultural production and mineral resources (in particular*

construction materials) by preventing inappropriately dispersed urban activities in rural areas.'

Notably, the plan has flagged the need for peri-urban farmers to move to higher value production systems stating, *"A significant proportion of the Metropolitan Rural Area is under-utilised and has the potential to be used for more productive rural uses. Farming in the Metropolitan Rural Area has been integral to the supply of Greater Sydney's fresh food for over two centuries. Agricultural production bolsters Greater Sydney's resilience, and agriculture is supported by a growing interest in local food production."*

In addressing peri-urban agriculture, the plan recognises the need for certainty for existing peri-urban farm industries and reducing land use conflict, *"The proximity of rural-residential development to agricultural, mining and extractive industries that generate odour, noise and other pollutants can be a source of conflict. There is a need to provide important rural industries with certainty so their operations can continue without encroachment from incompatible land uses."*

This strategy does not support any further rural residential development in the MRA and states, *'Rural-residential development is not an economic value of the Metropolitan Rural Area and further rural-residential development in the Metropolitan Rural Area is generally not supported'*.

The plan has identified some areas proximate to the new Western Sydney airport for investigation as future urban areas. These include locations around Orchard Hills, Luddenham, Horsley Park and Mount

Vernon. A potential growth area around Penrith and Eastern Creek has also been proposed.

Western Sydney District Plan

The *Western Sydney District Plan* is a 20-year plan that is a guide for implementing the Greater Sydney Region Plan. The *Western Sydney District Plan* contains a range of planning priorities and actions, which are to be implemented by Council through the development of its local strategic planning statement, updates to the LEP and DCP, and the assessment of planning proposals.

Planning Priority W5 discuss Wollondilly's housing supply and aims for the majority of new housing growth to be *'focused within or immediately adjacent to existing settlements, rather than spreading it through rural areas.'*

Planning Priority W8 includes strategies and actions for the Western Sydney Airport. The importance of the airport is discussed in detail including the importance of leveraging industry opportunities surrounding the airport. The Plan states the proposed agribusiness precinct in the Aerotropolis will benefit surrounding primary producers and agricultural industries in the District with connections to new international markets. In particular the Plan recognises some of Wollondilly's greatest assets including, *'Sydney University at Cobbitty also provides courses in agriculture and veterinary science, and the Elizabeth Macarthur Agriculture Institute provides world-leading research that is improving Australia's agricultural competitiveness.'* The tourism industry and mineral resources are also seen as important assets in the district

for growth and connections to the new airport. Planning Priority W8 contains the following actions of relevance to the Strategy.

- 35. Protect and support agricultural production and mineral resources (in particular, construction materials) by preventing inappropriately dispersed urban activities in rural areas
- 38. Create capacity for tourist accommodation in appropriate locations through local environmental plans
- 41. Consider opportunities to enhance the tourist and visitor economy in the District, including a coordinated approach to tourism activities, events and accommodation

Planning Priority W17 provides direction to better manage rural areas. It recognises the extensive rural areas include agriculture and mineral resources that supply the region with fresh local produce. It reiterates the *Greater Sydney Region Plan* through the protection of the MRA. The planning priority states '*Urban development in the Metropolitan Rural Area will only be considered in the urban investigation areas identified in A Metropolis of Three Cities*'. In terms of residential development in the MRA that plan states '*Rural-residential development is not an economic value of the District's rural areas and further rural-residential development is generally not supported*'.

Future Transport

Future Transport 2056 is an overarching strategy, supported by a suite of plans to achieve a 40-year vision for our transport system. Future Transport 2056 outlines six state-wide outcomes to guide investment, policy and reform and service provision in a period of immense

growth, change and disruption. The key elements in *Future Transport 2056* related to the Rural Lands Strategy are:

- Potential for the provision of additional dwellings within 30 minutes of significant employment planning and investment around the new Western Sydney Airport and Badgerys Creek Aerotropolis
- Protection of corridors to support future road and rail connections
- Protection of freight transport corridors

Western Sydney Aerotropolis Land Use and Infrastructure Implementation Plan

The future Western Sydney Airport will be located south of Elizabeth Drive in Badgerys Creek. It will be the focal point of the planned Western Sydney Aerotropolis. Together, these initiatives will result in significant population growth and create 200,000 new jobs in the Western Parkland City.

The *Western Sydney Aerotropolis Land Use and Infrastructure Implementation Plan* (Implementation Plan) identifies that the aerotropolis consists of nine precincts. The Implementation Plan prioritises the planning and development of three initial precincts including the Aerotropolis Core, South Creek and the Northern Gateway. It is envisaged that these precincts will include education, defence/ aerospace, high technology, logistics, health services and research and development associated with food production and processing.

Changes already underway include the Sydney Science Park within the Western Sydney Employment Area in the centre of the Precinct, which transforms the existing rural character to technology-based industries. This is expected to catalyse further strategic development in the locality.

The Implementation Plan identifies an agribusiness precinct in the south western part of Luddenham and the western edge of the Airport. The intent for this precinct is to build on existing agricultural strengths currently undertaken in the locality and take advantage of proximity to the airport.

Right to Farm Act, 2019

The *Right to Farm Act* was introduced in August 2019 and provides for matters relating to farm trespass and the right of commercial enterprises. The Act allows farmers to carry out their lawful business activities, shielding them from nuisance complaints, claims and legal action from their neighbours and other third parties.

State Environmental Planning Policy

Several State Environmental Planning Policies (SEPPs) control the management of rural land. These SEPPs deal with matters of state or regional significance, which generally prevail over local considerations or controls. SEPPs such as the *SEPP Housing for Seniors or People with a Disability*, and *SEPP Educational Establishments and Child Care Facilities* may enable significant change to a rural and environmental zoned area, particularly in close proximity to existing urban areas. Such development requires careful consideration of the impacts on the

existing character and use of the land when determining developments enabled by these SEPPs.

SEPP Primary Production and Rural Development (2019)

This SEPP was introduced in 2019 as part of a group of reforms to further support sustainable agriculture, aquaculture, and rural development. The SEPP aims to support investment in sustainable agricultural development, reduce land use conflict, facilitate an adaptive approach to new and emerging agricultural practices, technology and industries, and protect environmental values.

SEPP Mining, Petroleum Production and Extractive Industries SEPP

Mining, Petroleum Production and Extractive Industries SEPP allows for mining and mineral resource extraction on land where agriculture may be carried out. However, it does not apply to biophysical strategic land, which is further discussed in this report in Section 9 .

SEPP Sydney Drinking Water Catchment (2011)

This SEPP aims to provide for healthy water catchments that will deliver high quality water for Sydney. It permits development that is compatible with that aim, though development consent can't be granted unless the proposed development will have a neutral or beneficial effect on water quality. This generally requires the concurrence of the Regulatory Authority (in this case, Water NSW).

SEPP Koala Habitat Protection (2019)

This SEPP aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a

permanent free-living population over their present range and reverse the current trend of koala population decline. It includes development controls for proposed development and requirements for Koala Plans of Management.

SEPP Exempt & Complying Development Codes (2008)

This SEPP provides exempt and complying development codes that generally have State-wide application. It identifies types of exempt development that are of minimal environmental impact that may be carried out without the need for development consent. It also identifies (in complying development codes), types of complying development that may be carried out in accordance with a complying development certificate. This SEPP includes a Rural Housing Code that includes requirements for the construction of single and two storey dwellings and ancillary development in rural zones

SEPP Hazardous & Offensive Development (No.33)

This SEPP applies to any proposals which fall under the policy's definition of 'potentially hazardous industry' or 'potentially offensive industry'. Certain activities may involve handling, storing or processing a range of substances which in the absence of locational, technical or operational controls may create an off-site risk or offence to people, property or the environment.

The SEPP aims to control these developments to ensure appropriate safety features are installed at a facility to ensure the risks to surrounding land uses are minimised. The policy includes a guideline that assists government and industry alike in determining whether SEPP 33 applies to a specific development

Ministerial Directions (issued under Section 9.1 of the Environmental Planning and Assessment Act 1979)

Ministerial Directions (Directions) must be considered in the assessment of rezoning proposals. Strong justification is required for any planning proposal that fails to meet the objectives of the Directions. Importantly, the Directions contain specific aims and principles to ensure compact development and efficient use of existing infrastructure and services, as well as minimising the impact of residential development on environmental and resource lands.

- Direction 1.2 - Rural Zones seeks to protect the agricultural production value of rural land. It outlines that planning proposals must not rezone land from a rural zone to a residential, business, industrial, village or tourist zone or include provisions to increase the permissible density within a rural zone. Rezoning of this type of land may only occur where it is of minor significance or is justified by a supporting study or strategy.
- Direction 1.3 - Mining, Petroleum Production and Extractive Industries aims to ensure that the future extraction of State or regionally significant reserves of coal, other minerals, petroleum and extractive materials are not compromised by inappropriate development. The Direction applies when a planning proposal would have the effect of
 - prohibiting the mining of coal or other minerals, production of petroleum, or
 - winning or obtaining of extractive materials, or

- restricting the potential of development resources of coal, other mineral, petroleum or extractive materials

which are of State or regional significance by permitting a land use that is likely to be incompatible with such development.

- o Direction 1.5 – Rural Lands seeks to:
 - protect the agricultural production value of rural land,
 - facilitate the orderly and economic use and development of rural lands for rural and related purposes, and
 - minimise the potential for land fragmentation and land use conflict in rural areas.

A planning proposal including changes to the minimum lot size must consider

- the significance of agriculture and primary production to the State and rural communities support farmers in exercising their right to farm and
- prioritise efforts and consider measures to minimise the fragmentation of rural land and reduce the risk of land use conflict amongst other considerations.
- o Direction 2.1 – Environmental Protection Zones seeks to protect and conserve environmentally sensitive areas and outlines that Council must not reduce the environmental protection standards for land within an environmental protection zone. In addition, a number of other Ministerial

directions need to be considered for rezoning proposals which seek to ensure rezoning proposals are consistent with State strategic plans and adequately consider and address planning issues.

- o Direction 4.2 - Mine Subsidence and Unstable Land seeks to prevent damage to life, property and the environment on land identified as unstable or potentially subject to mine subsidence. This Direction applies to land that is in a Mine Subsidence District.
- o Direction 5.2 – Sydney Drinking Water Catchments seeks to protect water quality in the Sydney drinking water catchment. It sets principles to adhere to when planning proposals are prepared. These include new development must have a neutral or beneficial effect on water quality, matching land use and water capability and recognition of the ecological values of land within a Special Area. The Direction also requires that planning proposals are consistent with *SEPP Sydney Drinking Water Catchment (2011)*.
- o Direction 7.1 Implementation of A Plan for Growing Sydney seeks to give legal effect to the planning principles directions and priorities for subregions, strategic centres and transport gateways contained in A Plan for Growing Sydney.
- o Direction 7.8 Implementation of Western Sydney Aerotropolis Interim Land Use and Infrastructure Implementation Plan - seeks to ensure development within the Western Sydney Aerotropolis is consistent with the Stage 1 Western Sydney

Aerotropolis Land Use and Infrastructure Implementation Plan. This Direction applies when a relevant planning authority prepares a planning proposal for land within the Western Sydney Aerotropolis and land affected by the obstacle limitation surface and ANEF contours for Western Sydney Airport.

Other Ministerial Directions of general relevance to rural lands and development in Wollondilly include 2.3 Heritage Conservation, 4.1 Acid Sulphate Soils, 4.3 Flood Prone Land and 4.4 Planning for Bushfire Protection.

Right to Farm Policy, NSW Department of Primary Industry

The NSW Government has developed a comprehensive, state-wide approach to deal with the issue of 'right to farm'. This generally relates to a desire by farmers to undertake lawful agricultural practices without conflict or interference arising from complaints from neighbours and other land users. The Right to Farm Policy brings together a collection of actions including:

- reinforcing rights and responsibilities
- establishing a baseline and ongoing monitoring and evaluation of land use conflicts
- strengthening land use planning
- ensuring ongoing reviews of relevant environmental planning instruments include consideration of options to ensure best land use outcomes and to minimise conflicts
- improving education and awareness on management of land use conflicts

- considering potential future legislative options, should additional Government intervention be required

Important Agricultural Land Mapping in NSW

The NSW Department of Primary Industries is undertaking a mapping program across NSW to assist state and local government, along with other organisations and industries, to recognise and value important agricultural land. The program supports the NSW Department of Planning, Industry and Environment's regional planning targets that include actions to map important agricultural lands in NSW. At the time of developing this report, the Department of Primary Industries stated the mapping for Wollondilly LGA had not been finalised.

Other legislation

The *Environmental Planning and Assessment Act 1979* (the Act) and associated *Environmental Planning and Assessment Act 2000* (Regulation) provide the overarching legislation for land use planning in NSW. Other legislation that generally applies to rural lands include the *Rural Fires Act 1997*, *Biodiversity Conservation Act 2016*, *Sydney Water Act 1994*, *Coal Mine Subsidence Compensation Act 2017*, the *Environment Protection and Biodiversity Conservation Act (Cth) 1999*, *Heritage Act 1977*, *Water Management Act 2000*, *National Parks and Wildlife Act 1974* (which relates to Aboriginal heritage), *Aboriginal Land Rights Act 1983* and *Native Title Act (Cth) 1993* and the

2.2 Local Planning Policy

The Wollondilly Local Strategic Planning Statement, Wollondilly 2040

The protection of the rural landscape and character, a quality lifestyle in a rural setting and the value the agricultural capability of the area are strong themes throughout the recently adopted LSPS.

In particular, the LSPS *Planning Priority 16 – Enhancing and Protecting the Diverse Values of the Metropolitan Rural Area*, provides Council's direction regarding the importance of rural lands in Wollondilly for their agricultural, environmental and scenic values. Through Action 16.3, the LSPS establishes the need to complete a Rural Lands Strategy to identify and protect land for intensive agriculture. This is a key direction for the development of the Strategy.

Protection of valuable agricultural land resource is specifically addressed in *Planning Priority 16 – Enhancing and Protecting the Diverse Values of the Metropolitan Rural Area* as follows:

- The rural lands use strategy will investigate opportunities to reduce rural land use conflict and Council will protect rural uses by applying a consistent buffer from urban uses to avoid land use conflicts.
- Poultry farms and poultry processing plants face pressure as Wollondilly grows. Existing facilities in Pheasants Nest, Silverdale, Wilton, Cawdor and Tahmoor must be protected from residential development.
- Protecting existing agriculture and industries will provide certainty of future operations without encroachment from

incompatible and conflicting land uses. Seeking to retain, increase and protect rural lands to support the success of these industries will be a key planning principle.

Other Planning Priorities in the LSPS of relevance to the Rural Lands Strategy includes the following:

- *Planning Priority 3 - Establishing a Framework for Sustainable Managed Growth*, commits to undertaking long-term planning studies to influence sustainable outcomes as part of Wollondilly's contribution to Greater Sydney's housing supply. Planning Priority 3 states that Council will undertake a proactive role in influencing sustainable outcomes so 'Wollondilly's bush, rural lands, and local towns and villages are well valued and must be protected in the context of unprecedented growth'.
- *Planning Priority 9 - Developing the Visitor Experience and Economy by increasing access to Natural Areas and Rural Landscapes*, maintains that Wollondilly's natural and rural land can assist to underpin the visitor experience and the local economy. Quality agriculture and horticulture provide opportunities for agritourism, expanded farm-based tourism and generating additional income streams.
- *Planning Priority 10 - Attracting Investment and Growing Local Jobs* also confirms the importance of rural lands to the local economy with agriculture, rural tourism and agribusiness identified as Wollondilly's top industries.
- *Planning Priority 11 – Leveraging Greater Investment and Business Opportunities from The Western Sydney International (Nancy-Bird*

Walton) Airport, provides direction regarding Western Sydney Aerotropolis. The Planning Priority states:

- 'Wollondilly's natural areas and rural business activities, including land in the Metropolitan Rural Area, will help to support, promote and grow agribusiness and agritourism as an economic base, especially in the Shire's north at Warragamba, Silverdale, Wallacia and Werombi'
- 'land must be preserved and protected to support ecotourism, agritourism, agricultural and agribusiness opportunities and investment'

Wollondilly Local Environmental Plan 2011

The *Wollondilly Local Environmental Plan 2011* (LEP) provides the statutory framework for planning decisions for Wollondilly LGA and includes a land use table that lists the objectives of each zone type and permitted land use. The zones that are relevant to this Findings Report and Strategy include:

- o RU1 Primary Production
- o RU2 Rural Landscape
- o RU4 Primary Production Small Lots
- o E4 Environmental Living
- o R5 Large Lot Residential

Wollondilly LEP also includes a number of additional clauses that relate to minimum lot sizes for subdivision. Further discussion around the objectives and permitted uses for each relevant zone, and discussion of relevant LEP clauses, is provided discussed in Section 8

Wollondilly Development Control Plan 2016

The *Wollondilly Development Control Plan 2016* (DCP) complements the Wollondilly LEP by providing more detailed development controls for rural zones that address such matters as the protection of amenity, privacy and scenic values, flooding and tidal inundation, flora and fauna, development design along with operational requirements.

Wollondilly Development Contributions Plan 2011

Section 7.11 and Section 7.12 of the *Environmental Planning and Assessment Act 1979* allows Wollondilly Shire Council to levy contributions towards the cost of providing local infrastructure. The *Wollondilly Development Contributions Plan 2011* (Contributions Plan) sets out the local infrastructure required to meet the demand from new development. The Contributions Plan imposes the following.

- o Section 7.11 contributions applies to residential development including Housing for Older People or People with a Disability
- o Section 7.12 contributions applies to non-residential development

Other Local Policies

Other applicable local policies and strategies that provide planning guidance for the rural lands in Wollondilly include *Create Wollondilly Community Strategic Plan 2033*, *Wollondilly Destination Master Plan 2018*, *Sydney Peri- Urban Network of Council's Action Plan 2015*, *Wollondilly Development Contributions Plan 2011* along with the *Integrated Water Management Strategy* (which is being prepared at the time of writing this report).

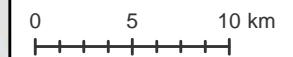
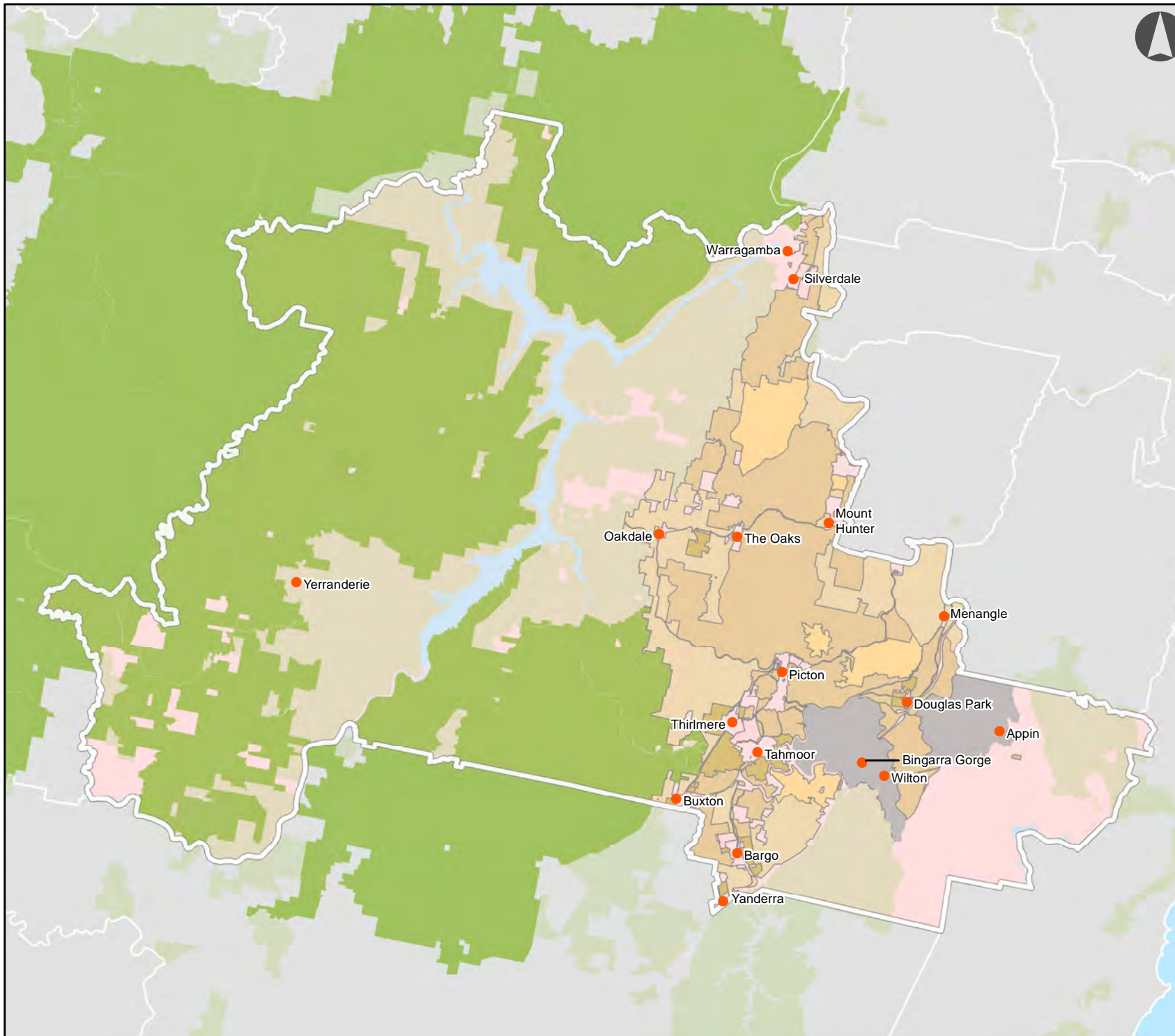


FIGURE 2

Wollondilly LEP Zones that apply to this Strategy

Legend

- Towns and Villages
- Wollondilly Local Government Area
- Growth Areas
- Wollondilly LEP 2012**
- E4 Environmental Living
- R5 Large Lot Residential
- RU1 Primary Production
- RU2 Rural Landscape
- RU4 Primary Production Small Lots
- National Parks and Protected Areas
- World Heritage Area
- Urban and Environmental Areas
- Waterways



Map produced by EMAP Consulting
 Date: 7/05/2020
 Coordinate System: GDA 2020 MGA Zone 56
 Wollondilly Rural Lands Strategy
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 Wollondilly Shire Council v[4]

3. Setting the Scene – The Wollondilly Shire

Wollondilly Shire is located on the western boundary of the Greater Sydney region, about 75 kilometres from the Sydney CBD. It encompasses an approximate total area of 2,560 square kilometres. A significant portion of Wollondilly (90%) consists of bushland, national park, water catchment or rural land, in contrast to some more urban neighbours and making it a popular visitor location.

Bounded by Blue Mountains and Penrith in the north, Liverpool, Camden and Campbelltown in the east, Wollondilly is part of the high-growth Western Sydney region. Wollondilly's population is forecast to grow to 99,600 by 2041 from 53,848, in 2020. A major part of that population growth will be in the Growth Areas of Wilton and Greater MacArthur. On its own, the Wilton Growth Area is expected to add approximately 15,000 new homes over the next 30 years.

While Picton is the commercial hub for Wollondilly, the other towns and villages in the Shire are also a focal point for people who live in their surrounds. Residents are actively involved in community life, local businesses, events or local community associations.

Remote communities such as Yerranderie provide a gateway to the mountainous natural areas. Named after the Wollondilly River, the Shire's landscapes feed down from the mountains and gorges of the Great Dividing Range along with the Nepean River to the agriculturally rich flood plains and valleys below. The area is also the catchment for Lake Burragorang and Warragamba Dam, providing over 95% of Sydney's potable water supply.

While Wollondilly has significant industries such as mining, over 65% of the population travel outside the LGA for work, with 25% of that to Camden and Campbelltown LGAs alone. These relationships are set to increase through the development of Western Sydney Airport and Aerotropolis on the northern doorstep of the Wollondilly LGA.

Wollondilly is the traditional lands of the Tharawal people. Intimate knowledge of the land and environment has allowed Tharawal people to manage and utilise the resources and food available within their land for many millennia. This included agricultural practices such as fishing on the Nepean River. The Tharawal Local Aboriginal Land Council encompasses much of south-western Sydney and is located in Wollondilly. There are many areas of aboriginal cultural heritage significance within the LGA.

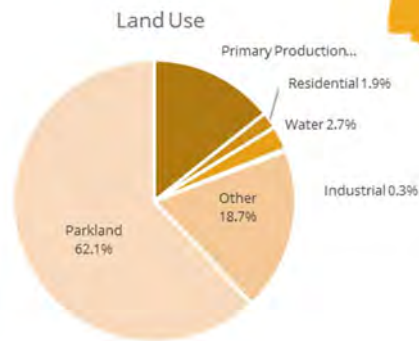
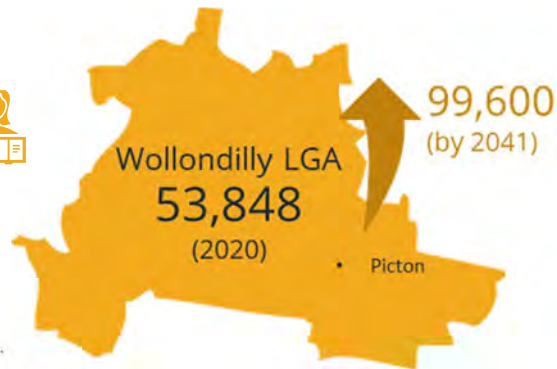
A third of the Wollondilly population live in rural areas, and historically the start of agricultural land use in the LGA dates back to 1795. The rural land is now used for a variety of agricultural purposes including research stations associated with the University of Sydney and Elizabeth Macarthur Agricultural Institute.

House prices reflect Wollondilly's location on the fringe of Sydney. Demand from Sydney for more affordable housing and lifestyle choices has been a driver for change. Median house prices are \$237,000 lower than Greater Sydney, although still having increased 36% over a 4-year period to more than \$816,000 in 2018.

POPULATION



1/3 live in rural areas



302 properties rated as farmland (2015/16)

MEDIAN HOUSE PRICES



\$816,030 in 2018 - \$237,913 lower than for Greater Sydney

36% ↑ (2014 to 2018)

ECONOMY

Gross Value of Agriculture

\$97.3 MILLION



Gross Regional Product at **\$2.14 billion** in Wollondilly in 2019

Value Added (2018/19)



Agriculture **\$77.5m**



Mining **\$485m**

Most productive industry (for the last 20 years)

EMPLOYMENT

5.2% of people are employed in Agriculture (2018/19)

Sydney (0.4%) and NSW (2.1%)

↑25%



25% increase in people employed in agriculture from 2010/11 to 2018/19



15% of local employment is from Mining

TOURISM



Domestic tourism (2014/15 to 2018/19)

2,389,479 Day trips

512,034 Overnight visits

44.3% **Visiting friends or family**

37.2% **Holiday**



FIGURE 3
Wollondilly- Regional Context

Legend

- Towns/ Villages
- Western Sydney Aerotropolis
- Motorway
- Train
- Western Sydney District
- Wollondilly Local Government Area
- Local Government Areas



0 10 20 km

Map produced by EMAP Consulting
Date: 7/05/2020
Coordinate System: GDA 2020 MGA Zone 56
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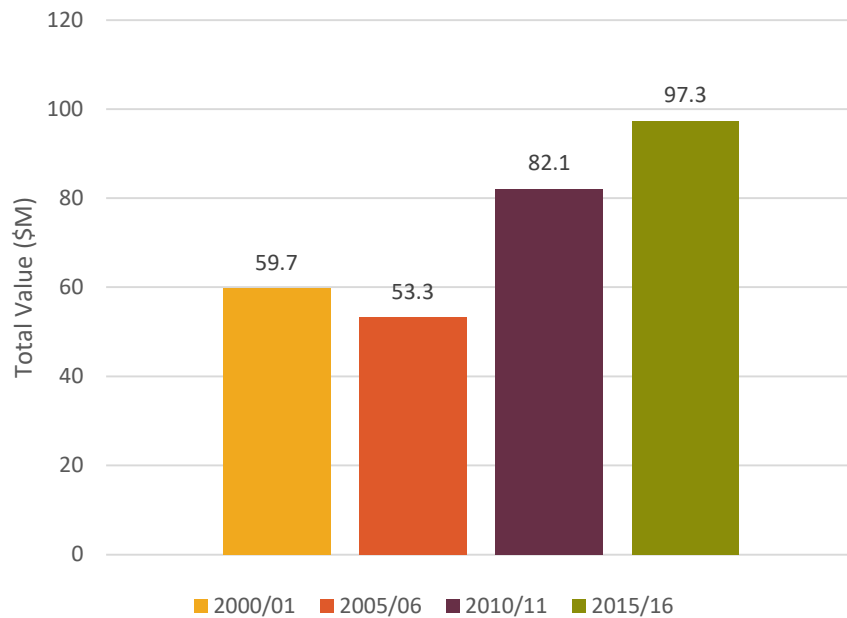


4. Existing Agricultural Activity

4.1 Agricultural commodities

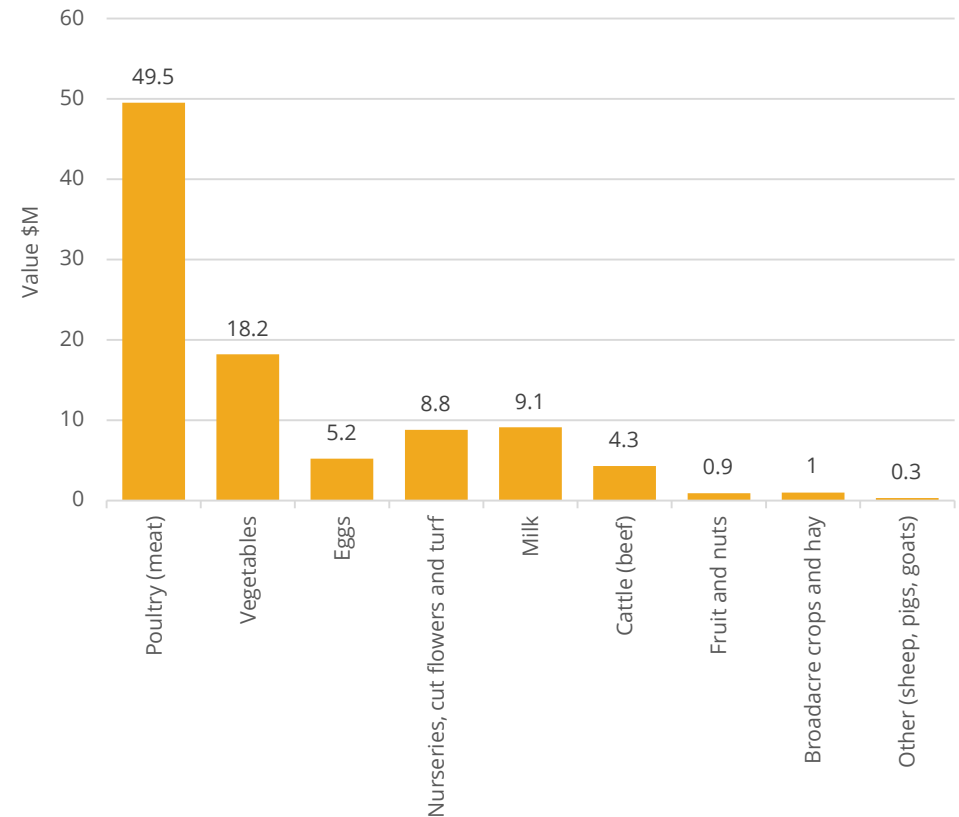
According to the *Australian Bureau of Statistics (ABS) (2017)* the farm gate value of agricultural commodities produced in Wollondilly in 2015/16 was \$97.3 million. This value has increased by \$37.6 million, or by more than 50%, since 2000 and almost doubled since 2010/11, as shown in Figure 4.

Figure 4 Total value of agricultural commodities produced in Wollondilly from 2000 to 2016



Key commodity groups, by value, are dominated by poultry (meat) as shown in Figure 5. The value of Wollondilly's agricultural production in the Greater Sydney Region and NSW in 2015/16 is also provided in Table 1

Figure 5 Value of agricultural commodities produced in Wollondilly 2015/16



The information presented in Figure 5 and Table 1 indicates:

- **51%** of the value of **agricultural production** in Wollondilly comes from **poultry meat**. Wollondilly contributes 19% of the value of poultry meat produced in the Greater Sydney Region and 6% of NSW. Poultry meat includes chickens, ducks and turkeys
- **Vegetable production** contributes **19%** of the total value of production in Wollondilly which is 11% of the total for the Greater Sydney Region
- **Nurseries, cut flowers and turf** contribute **9%** of the total value of agricultural production in Wollondilly but the Shire's contribution to the Greater Sydney Region for these commodity groups is only 4%
- The value of **fruit and nuts** produced is **relatively low** in both Wollondilly and the Greater Sydney Region compared to NSW
- Milk accounted for 9% of the total value of agricultural production in Wollondilly. **59%** of the value of **milk** produced in the Greater Sydney Region arises from Wollondilly
- **Eggs** contribute **5%** of the total value of agricultural production in Wollondilly, and the LGA contributes 9% of the value of eggs produced in the Greater Sydney Region
- **52%** of the value of **beef** produced in the Greater Sydney Region comes from Wollondilly even though beef represents only 4% of the total value of agricultural commodities produced in the LGA.

Given the above value of production for each type of commodity the diversity in agricultural enterprises in Wollondilly is considerable.

Table 1 Value of agricultural commodities produced 2015/16 in Wollondilly

Commodity Group	Wollondilly		Contribution to the Greater Sydney Region		Contribution to NSW production	
	Value \$M	% of Total	Value \$M	% of Total	Value \$M	% of Total
Vegetables	18.2	18.7%	167.5	11%	424.8	4%
Poultry (meat)	49.5	50.9%	262.5	19%	769.9	6%
Eggs	5.2	5.3%	60.1	9%	225.3	2%
Nurseries, cut flowers and turf	8.8	9.0%	211.2	4%	437.1	2%
Cattle (beef)	4.3	4.4%	8.3	52%	2,213.9	0%
Milk	9.1	9.3%	15.4	59%	566.2	2%
Fruit and nuts	0.9	1.0%	15	6%	901.6	0%
Broadacre crops and hay	1.0	1.0%	0.7	146%	4,535.3	0%
Other (sheep, pigs, goats)	0.3	0.3%	1.5	21%	2,363.5	0%
Total	97.3		742	13%	12,437	0.8%

Source: ABS Value of Agricultural Commodities Produced, Australia-2015-16

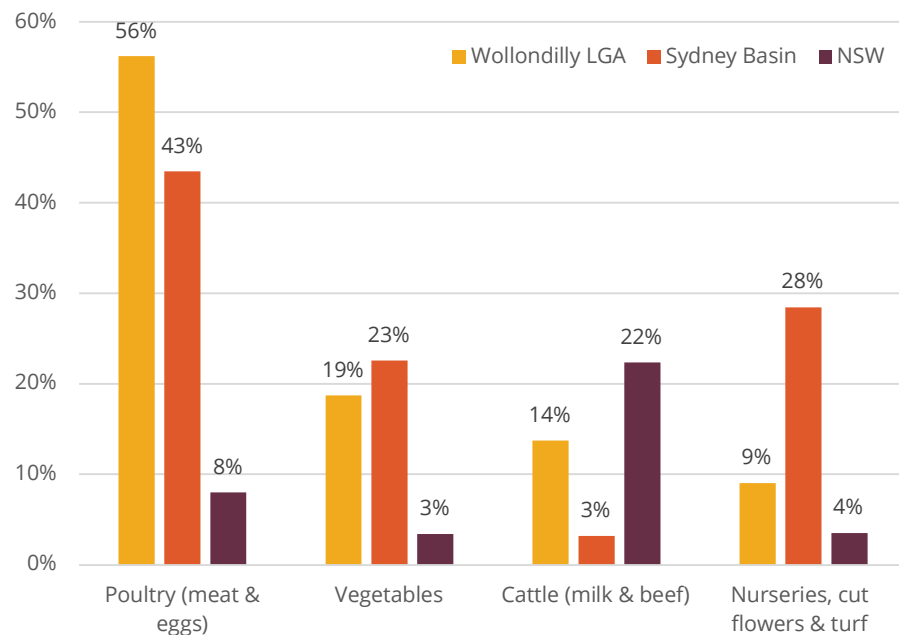
There is an anomaly with the broadacre crops and hay data between Wollondilly and the Greater Sydney Region. Notwithstanding this, broadacre crops and hay provide only a small contribution to the overall value of agricultural production both in Wollondilly and the Greater Sydney Region when compared to NSW.

Wollondilly's agricultural contribution to Greater Sydney Region and NSW

Figure 6 presents the key agricultural industries from Figure 5 as a percent value of production for Wollondilly to Greater Sydney Region and NSW (based on the data provided in Table 1).

Wollondilly contribution to the overall value of milk and beef in the Greater Sydney Region indicates a significant portion of all grazing land in the Greater Sydney Region is located in Wollondilly.

Figure 6 Key agricultural industries in Wollondilly, Greater Sydney Region and NSW (2015/16)



The key commodity groups in Figure 6 contribute 98% of the total value of agricultural commodities produced in Wollondilly. Similarly, they also contribute the same amount, 98% to the Greater Sydney Region commodities produced in 2015/16. This shows how similar agricultural production in Wollondilly is when compared to the Greater Sydney Region.

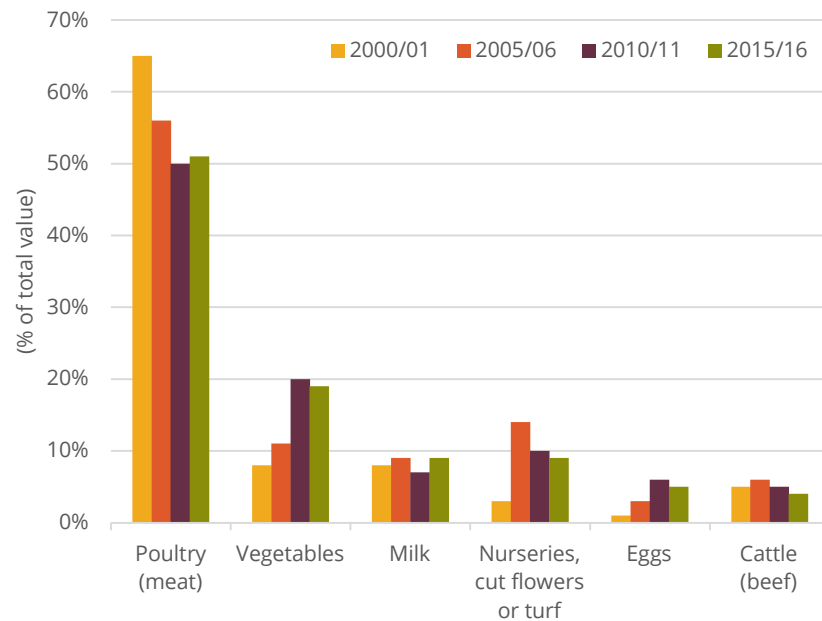
The total value of production for the whole state of NSW for broadacre crops and hay was 36% while the production of sheep (including wool) contributed 17% in 2015/16. The production of these type of agricultural products are not prevalent in Wollondilly. This is due to the following combined factors:

- there is a limited scale of arable land (land capable of being ploughed and used to grow crops) in Wollondilly
- Wollondilly's climate is unsuitable for sheep and annual broadacre crop production

Wollondilly's agricultural production since 2000

The value of agricultural commodities produced in Wollondilly over time has also been examined. Figure 7 illustrates the key agricultural commodities in Wollondilly from 2000 to 2016 as a percent of the total value of all commodities produced. The figure provides data from the last four ABS agricultural censuses.

Figure 7 Wollondilly value of key agricultural commodities produced over time from 2000 to 2016



The data in Table 2 indicates the value of agricultural commodities produced in Wollondilly has increased from \$60 million to \$97 million from 2000/01 to 2015/16. This increase, however, does not take into account inflation which is the change (reduction) in the purchasing power of the dollar over this period. For this reason, all other figures presented in Table 2 are a percentage of the total value.

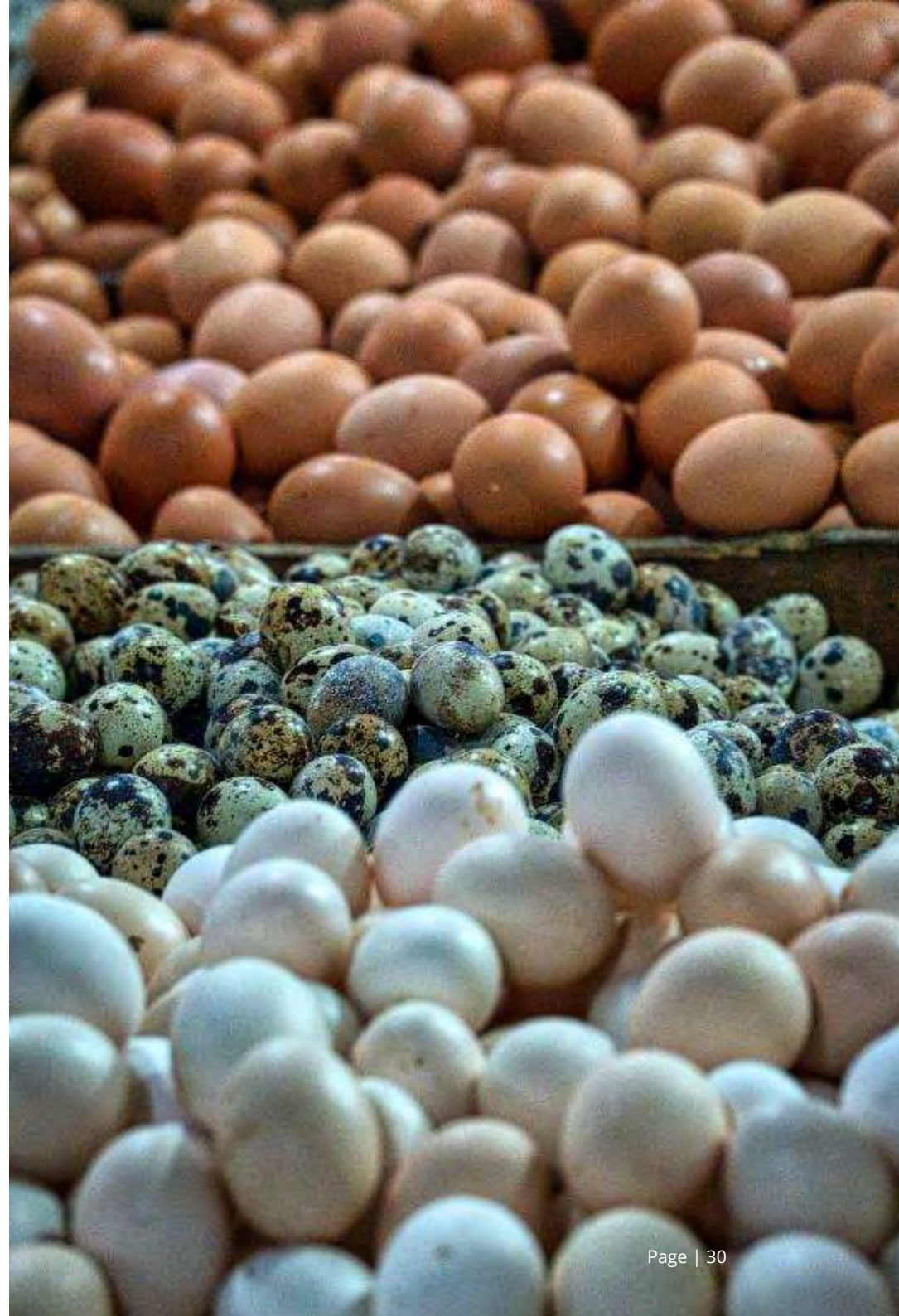
Table 2 Wollondilly Value of Agricultural Commodities Produced (% of total value)

Commodity Group	2000/01	2005/06	2010/11	2015/16
Poultry (meat)	65%	56%	50%	51%
Vegetables	8%	11%	20%	19%
Milk	8%	9%	7%	9%
Nurseries, cut flowers or turf	3%	14%	10%	9%
Eggs	1%	3%	6%	5%
Cattle (beef)	5%	6%	5%	4%
Fruit and nuts	2%	1%	1%	1%
Broadacre crops and hay	0%	0%	1%	1%
Other (sheep, pigs, goats)	8%	0%	0%	0%
Total Value (\$M)	59.7	53.3	82.1	97.3

Analysis of Wollondilly's agricultural production since 2000 (refer to Figure 7 and Table 2 above) indicate the following:

- The value of **vegetables** produced as a percentage of the overall figure has more than **doubled**
- The value of **nurseries, cut flowers and turf** as a percentage of the total has **tripled**
- The value of **poultry meat** as a percentage of the total has **decreased**
- The value of **milk and beef** as a percentage of the total has been **relatively stable**
- The value of **eggs** as a percentage of the total has **increased significantly**
- The last time the pig industry made a significant contribution was in 2000/01
- In 2000/01 the value of all crop commodities produced contributed 13% of the overall value of agricultural commodities produced (the balance being livestock) and in 2015/16 the value of all crop commodities produced was 31% of the overall value

The ABS statistics do not include details of horse enterprises. There are a significant number of horses in Wollondilly for leisure, racing and other commercial purposes. The horse industry generates significant economic activity in the Shire which is not able to be quantified.



4.2 Landholdings in the rural area

A landholding analysis was undertaken for the rural land in Wollondilly. The landholdings maps were created by consolidating all land owned by each individual landowner. A landholdings map and detailed analysis for each of the following four zones: RU1 Primary Production, RU2 Rural Landscape, RU4 Primary Production Small Lots and E4 Environmental Living (excludes R5 Rural Residential zone), is included in Appendix C. The lot size ranges in these maps are based on the minimum lot sizes in each zone. Key observations regarding the land holdings in Wollondilly include:

- Mapping of land by ownership indicates that most lots are not part of a larger holding. This is unusual for rural areas. Most rural areas in NSW tend to have more large land holdings, than in Wollondilly. As demonstrated in Table 3, when combined, these lots create relatively small areas of holdings to carry out agricultural operations.
- The RU1 Primary Production zone includes the largest landholdings west of Menangle. However, this notably includes the Elizabeth Macarthur Agricultural Institute.
- The smallest holdings in Wollondilly are located in the E4 Environmental Living Zone and RU4 Primary Production Small Lots zone.
- In the RU2 Rural Landscape zone, 83% of landholders have holdings less than 16 hectares. However, there are over 50 holdings over 100 hectares in this zone.
- Similar to the RU2 Rural Landscape zone, the RU1 Primary Production zone has 85% of landholders that have holdings

less than 16 hectares. There are only a small number of large holdings in this zone, with only 15 holdings over 100 hectares.

What is a rural landholding?

The size of a farm (or rural landholding) is not necessarily tied to each individual lot size. A rural landholding usually corresponds to an individual farm business and can consist of a number of individual lots of land within the same LGA. Most of the larger rural landholdings are comprised of a number of lots in a single ownership.

Table 3 Summary of land holding analysis

Zone	Number of land holdings	Average Size of Land holdings (ha)	Median Size of Land holding (ha)
RU1 Primary Production zone	1,776	10	4
RU2 Rural Landscape zone	2,107	13.4	2.3
RU4 Primary Production Small Lots	1,112	1.9	1.7
E4 Environmental Living zone	989	5.5	3.5

4.3 Current land use on Wollondilly rural lands

Australian Bureau of Agricultural and Resource Economics and Sciences 2016 (ABARES 2016) has classified land use in Australia using the Australian Land Use and Management Classification System. The 2011 land use dataset is the most recent complete dataset for rural lands that is available. According to this dataset the ten largest land uses for rural lands, are set out in Figure 8. The ten largest land uses on Wollondilly's rural land account for 96% of all land use in rural land. Of the rural land uses in Wollondilly, the following are present:

- Native and exotic pastures - 48%
- Native vegetation - 40%
- Rural dwellings with agriculture - 3%
- Irrigated pastures - 2%
- Intensive animal production (poultry), farm dams, turf production and roadways - approximately 1% each

Figure 8 shows a relatively even distribution of native vegetation and pastures throughout rural lands in Wollondilly. Irrigated pastures tend to be located along the eastern boundary of the LGA near the Nepean River and the Picton Wastewater Treatment Plant.

The location of horticultural enterprises and farm dams is also depicted in Appendix D, Figure 35. Similar to intensive animal enterprises they are also distributed throughout the rural lands. The largest land use in the Wollondilly is pastures which are grazed by dairy and beef cattle. The location of intensive animal enterprises is depicted in Appendix D, Figure 36. This figure includes poultry, dairy, pig and horse enterprises which are distributed throughout the rural lands.

The location of poultry farms in the Wollondilly LGA is shown in Figure 9. This figure indicates there are 62 parcels of land in the Wollondilly with poultry sheds and are spread throughout the LGA, The total area of land depicted in Figure 9 in which poultry sheds are located, is 1,018 hectares, which form 1.9% of the rural land area. This figure is the total size of the land parcels upon which each poultry farm is located. The total footprint of each poultry facility is much smaller.

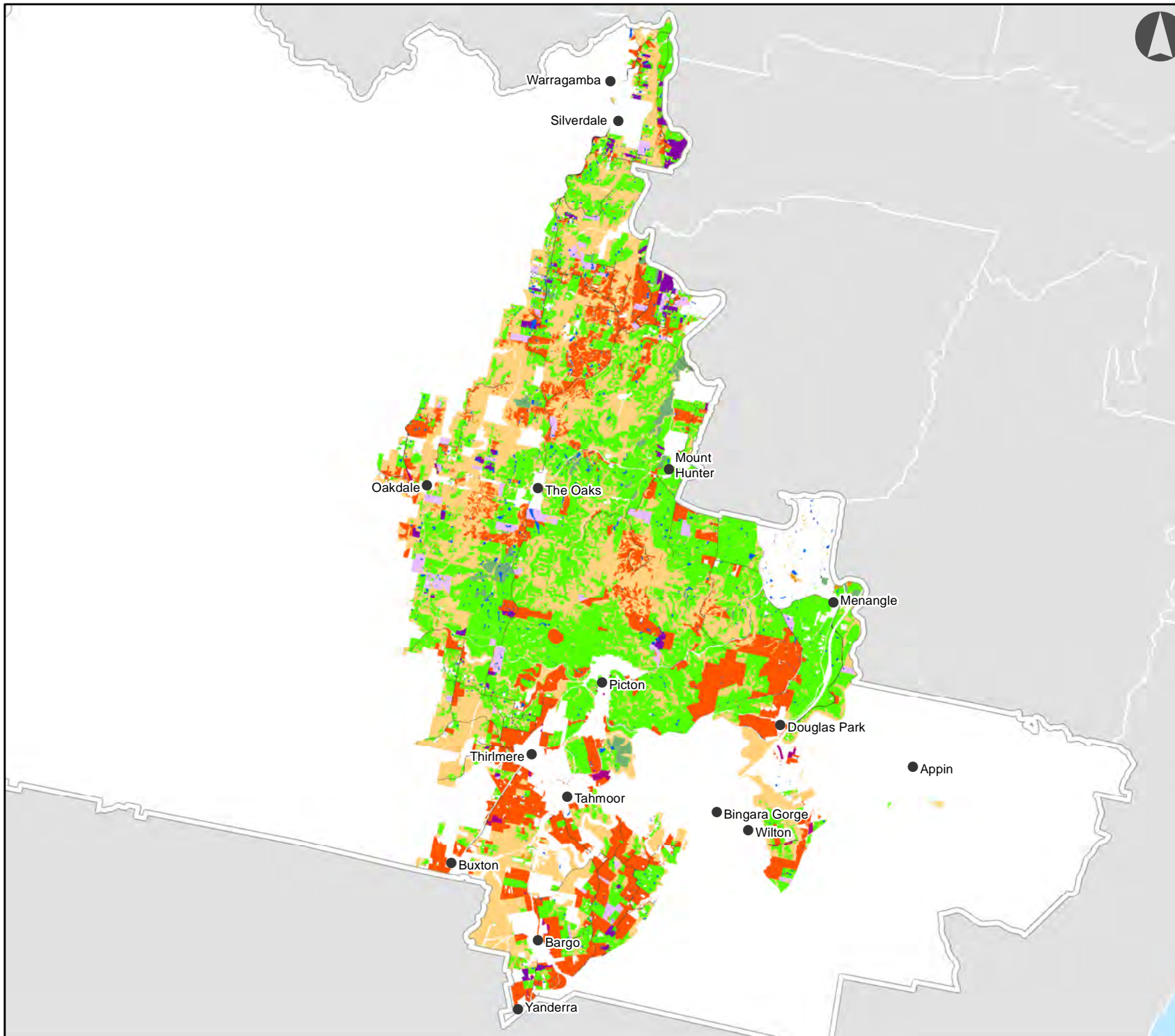
To look at changes in land use over time the most recent land use data for 2017 was accessed from Office of Environmental and Heritage and was only used to compare previous and current data sets (noting that only the western side of the rural areas in Wollondilly (about 40% of the total rural area) were available for this comparison and as shown in Appendix D, Figure 34). A comparison of this figure from 2017 and the land use data from 2011 (for the same area) provided an indication of the changes in land uses in rural areas in Wollondilly. The largest land use in the Wollondilly LGA is pastures (with or without native vegetation) which are mostly grazed by dairy and beef cattle. Comparison of this data indicates the following:

- pastures and native vegetation were 89.6% of the land use in 2011 and to 89.4% of the land use in 2017
- intensive animal production was 2.5% of the land use in 2011 which declined to 1.3% of the land use in 2017

It can be concluded from the land use mapping that no particular agricultural land use is located in one area but are dispersed throughout Wollondilly's rural lands.

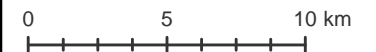


FIGURE 8
Land use in rural lands in Wollondilly (2011)



Legend

- Towns/ Villages
- Native Vegetation
- Native and Exotic Pastures
- Irrigated Pastures
- Turf
- Horticulture
- Intensive Animal Production
- Urban Residential
- Rural Dwellings with Agriculture
- Roads
- Dams
- Wollondilly Local Government Area
- Local Government Areas



Map produced by Riverina Agriconsultants and EMAP Consulting
Date: 7/05/2020
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Wollondilly Shire Council v[2]



4.4 Agricultural capability

The productive quality of agricultural land to carry out sustainable agricultural production is typically determined based on the physical characteristics of the land and locational attributes.

Productive agricultural land will typically have:

- a suitable soil type and topography to carry out the intended agricultural activity
- a subdivision pattern suited to sustainably carrying out the agricultural activity
- climatic conditions and water access favourable to agricultural production
- suitable infrastructure such as irrigation systems

The land capability in Wollondilly has been mapped utilising various methods since the 1980's. Maps of the various methods can be found in Appendix E.

Soils

Soils on rural land have been mapped utilising both the Digital Atlas of Australian Soils (CSIRO) and Australian Soil Classification Office of Environment and Heritage (2017) to understand soil types in Wollondilly (refer to Appendix E). The key soil types on the Wollondilly rural lands are:

- Kurosols (covering 52%) are loamy soils with an acid clay subsoil and tend to occur on the more elevated parts of the LGA

- Dermosols (covering 24%) are usually acidic deep well-structured soils
- Rudosols and Tenosols (covering 14%) are shallow soils
- Sodosols (covering 5%) are loamy soils with a clay sodic subsoil, located mostly in the centre of the rural lands

Each of the soils in the rural lands have inherent constraints and capabilities that influence suitability for a range of agricultural enterprises. However, modern farming practices and amelioration techniques provide soil constraint management options which allow a broad range of agricultural enterprises to be practiced on most of the key soil types in Wollondilly.

Biophysical Strategic Agricultural Land

In 2014 NSW Department of Primary Industries mapped high-quality agricultural land as Biophysical Strategic Agricultural Land (BSAL) (refer to Appendix E). In Wollondilly, BSAL comprises 1,478ha (3% of the rural lands), 80% of which is mapped within the 1 in 100-year flood level on the floodplains of the Nepean River.

Biophysical land capability

Agricultural land capability was assessed in the 1980s (by the former NSW Agriculture) using a multiple biophysical criterion which resulted in the Agricultural Land Classification system. This includes a class system of 1 to 5, where the lower the class the better the land's agricultural capability is considered to be.

The Soil Conservation Service of NSW (1988) also mapped Rural Land Capability. This mapping had an eight-class system. Similarly, the lower the class the better the land's agricultural capability is considered to be (refer to Appendix E).

In 2012, the NSW Office of Environment & Heritage, prepared a Land and Soil Capability assessment of NSW. Again, this had an eight-class system. Similarly, the lower the class the better the land's soil and agricultural capability is considered to be (refer to Appendix E).

A comparison of the three land classification systems indicates parts of rural lands in Wollondilly have comparable classifications.

- Agricultural Land Classification system - classes 1, 2 and 3 make up 30,530 hectares or 57% of rural lands. The majority of the rural land was classified as Class 3 (51%)
- Rural Land Capability system - classes 2, 3, 4 and 4c make up 32,938 hectares or 62% of rural lands. The majority of the rural land was classified as Classes 3 and 4 (52%)
- Land and Soil Capability system - classes 3 and 4 make up 28,110 hectares or 53% of rural lands. The majority of the rural land was being Class 4 (48%)

Agricultural land quality mapping

For the purposes of this Finding Report and Strategy, agricultural land quality mapping has been undertaken. The following criteria was used to develop agricultural land quality in Wollondilly:

- **High** - land classified as Class 3 under the NSW Office of Environment & Heritage Land and Soil Capability assessment (2012)
- **Medium** - land classified as Classes 4 and 5 under the NSW Office of Environment & Heritage Land and Soil Capability assessment (2012)
- **Low** - land classified as Classes 6, 7 and 8 under the NSW Office of Environment & Heritage Land and Soil Capability assessment (2012)

Other criteria that was considered in developing the agricultural land quality maps includes:

- climate, which is relatively uniform throughout Wollondilly
- topography, elevation and slope (as shown in Appendix E)
- existing vegetation as outlined in Section 4.5
- flood prone land
- location of existing intensive land uses as shown in Appendix D)

A map of Agricultural Land Quality is provided as Figure 10. Key observations of Agricultural Land Quality mapping include:

- in the rural lands, 80% of low-quality land (21,194 hectares) is constrained by steep slopes
- poultry, dairy, pig and horse enterprises are distributed throughout the rural lands. (refer to Figure 9). This is a function of site constraints and proximity to processors rather than access to quality land. For biosecurity reasons poultry farms cannot be located any closer than 1 km from other farms.
- Horticultural enterprises also have a widespread distribution. Horticulture and other small-scale operations can utilise a range of soil types, water sources and topography within Wollondilly so are not confined to the most capable or higher quality agricultural land.
- Consultation with relevant stakeholders also confirmed that the minimal irrigation water entitlements are confined to the Nepean River floodplain only, and this is a significant constraint to the location of many farming businesses. Initial consultation outcomes are discussed further in Section 5.



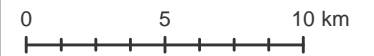
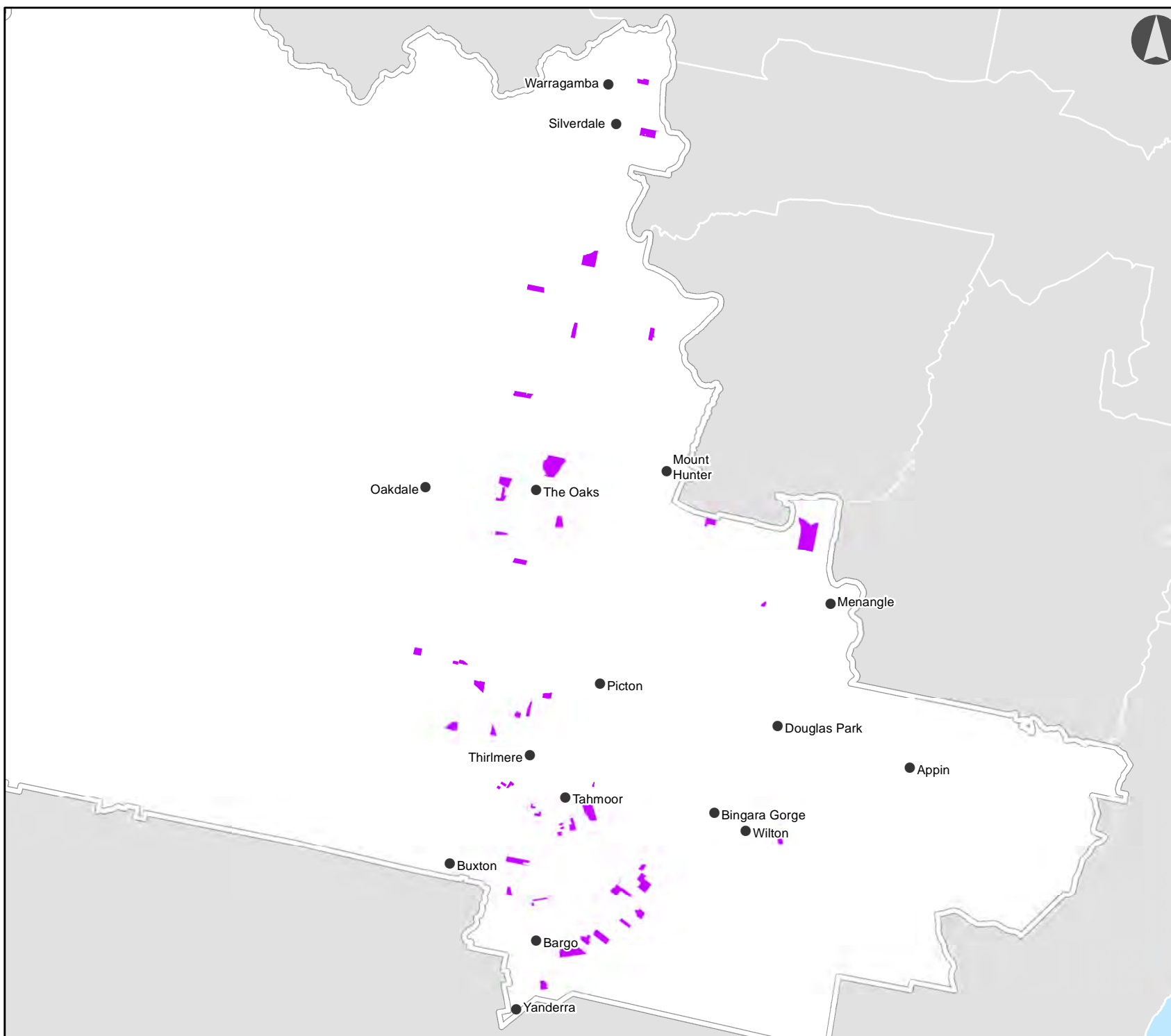


FIGURE 9

Locations of poultry farms in Wollondilly

Legend

- Towns/ Villages
- Poultry Farms
- Wollondilly Local Government Area
- Local Government Areas



Map produced by Riverina Agriconsultants and EMAP Consulting
Date: 7/05/2020
Coordinate System: GDA 2020 MGA Zone 56
Wollondilly Rural Lands Strategy
Preliminary Findings Report
Wollondilly Shire Council v[2]



4.5 Remnant Vegetation in Wollondilly

The remnant vegetation examined in Wollondilly has been sourced from the Western Cumberland Sub-Region Map (NSW Office of Environment & Heritage, 2020). This map covers about 80% of the rural lands as it excludes a proportion of the western side of Wollondilly (shown in Appendix D, Figure 33). An analysis of this mapping indicates remnant vegetation covers about 38% of the rural lands in this area.

A summary of the key vegetation types is provided in Table 4. A significant proportion of the remaining Cumberland Plain Woodland is located in Wollondilly. The Cumberland Plain Woodland comprises two forms, shale hills and shale plains woodlands.

The Cumberland Plain Woodland is listed as an critically endangered ecological community under the both state legislation, *Biodiversity Conservation Act 2016* and commonwealth legislation *Environment Protection and Biodiversity Conservation Act 1999*

Cumberland Plain Woodland have been identified — shale hills woodland and shale plains woodland. Shale hills woodland occurs mainly on the elevated and sloping southern half of the Cumberland Plain. Shale plains woodland is the most widely distributed form of Cumberland Plain Woodland.

Table 4 Vegetation areas in rural zones under the Wollondilly LEP 2011 (as a percent of the total area for that zone)

Vegetation Type	E4 Env'tal Living Zone	RU1 Primary Production	RU2 Rural Landscape	RU4 Primary Production Small Lots	Total Rural Lands
Shale Hills Woodland	19%	16%	32%	1%	26%
Shale Sandstone Transition Forest (High Sandstone Influence)	17%	21%	16%	22%	17%
Unclassified Vegetation	29%	19%	17%	48%	20%
Alluvial Woodland	2%	13%	6%	0%	7%
Moist Shale Woodland	9%	2%	8%	0%	6%
Shale Sandstone Transition Forest (Low Sandstone Influence)	10%	4%	6%	2%	6%
Upper Georges River Sandstone Woodland	3%	10%	3%	20%	5%
Western Sandstone Gully Forest	5%	3%	4%	5%	4%
Shale Plains Woodland	3%	6%	3%	1%	3%
Western Sydney Dry Rainforest	3%	0%	4%	0%	3%
Riparian Forest	0%	5%	1%	0%	1%

5. Initial Consultation

Developing the Findings Report and the Strategy involved preliminary engagement with various stakeholders including State agencies, landowners, primary producers, the Rural Lands Strategy Reference Group, along with independent institutes and independent statutory corporations. This process was undertaken during April 2020.

The Findings Report and the Strategy has also been informed by the consultation during the development of the Wollondilly LSPS. The extensive engagement and research conducted to inform the Wollondilly LSPS including development of Place Scores. This type of engagement tool enabled community member to '*identify what is important, how a place is performing and what the focus of change should be*'. This engagement process highlighted the strong value of scenic rural land areas providing a green break on the edge of Sydney. The value of the rural area for the Wollondilly community is highly important.

Forming and working with a Project Reference Group comprised of community and local business representatives was also a key part of the process. Consultation was adapted to comply with progressive COVID-19 public health orders and social distancing measures. In order to capture the variety of stakeholder interests and ideas, a number of consultation activities were undertaken including the following:

- o desk top review of background documents, particularly previous engagement regarding rural lands and documents

provided by stakeholders during the initial consultation period.

- o videoconference and teleconference meetings with internal Council staff, State agencies, landowners, primary producers, the Rural Lands Strategy Reference Group, along with independent institutes and independent statutory corporations.
- o Email / phone consultation and online survey targeted at rural landholders (via letterbox drops) and also promoted on Council's social media pages and website to rural residents, businesses, landowners and community groups.

Stakeholder meetings were undertaken between 1 – 26 April 2020 and the online survey was open from 16 – 28 April 2020.



5.1 Key insights from initial consultation

A generally consistent message across all consultation was a strong collective appreciation and desire to **enhance the LGA's agricultural values** and to **celebrate its natural environment and scenic value**.

This sense of community value of the rural landscape and its associated uses included a desire to improve the viability of agricultural enterprises, but not to see the area overdeveloped or to lose its connection to its history and the environment more broadly.

Similarly, while some farms are highly utilised and valued for their agricultural potential, others are perceived to be **constrained** through proximity to residential and urban development, small size, natural resource suitability, access to infrastructure, environmental values, higher value for other purposes or barriers to development.

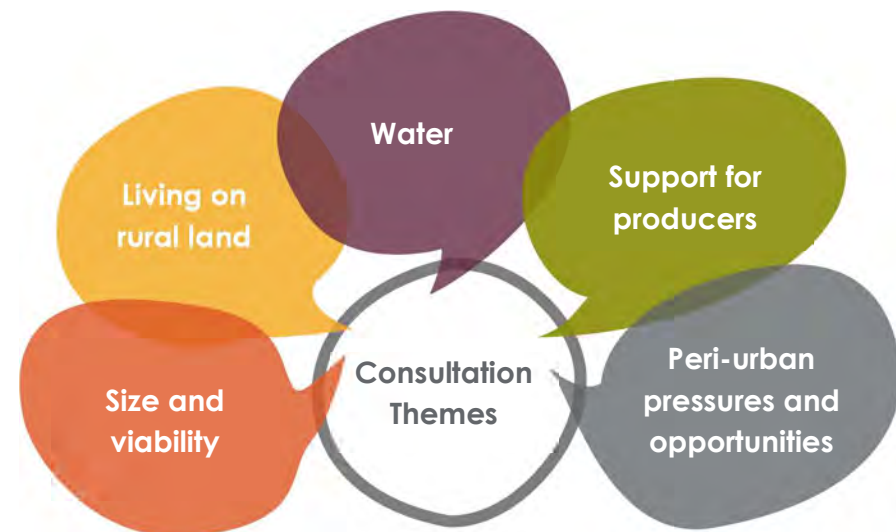
Overall, it was clear from initial consultation that rural land and the **farming and rural nature of the LGA is highly valued**. However, it was recognised there are challenges and pressures on the best way to **safeguard the agricultural productivity and other rural virtues** of the land.

There was recognition of the need for the land to **continue to meet the needs of its current agricultural users**, whilst also **adapting to more diverse uses** and functionality into the future to be viable. This direction took a variety of forms, from addressing changing planning controls through to value adding initiatives such as the potential for tourism and small footprint, high value production.

Many felt that **urban encroachment** was an inevitable part of the **peri-urban nature of the LGA**. However, the benefits of Wollondilly's location and resources was notable, including future links to the agribusiness hub and international market **connections provided by the Aerotropolis**.

There was a strong desire to **encourage alternate models of production and business**. This would enable the use of rural lands in the context of constraints such as size, access to water and scenic values. **Cost of land for agricultural purposes and small lot sizes** was the leading issue for many however the engagement process revealed valued adding opportunities including cooperatives or niche intensive production moving away from broad acre production.

Emerging consultation themes are explored further in following section.



5.2 Consultation themes

Living on rural land

While the majority of landholders surveyed had lived on a rural holding for a long time (sometimes multiple generations), a third were unsure or did not think they or their families would be living on the property in 5 years. These sentiments highlight some of the potential uncertainty in the community around economic viability of rural lands in Wollondilly.

While 54% of respondents lived on the rural property for farming, over 4% stated to live on a large property next to Sydney or next to economic opportunities. Conversely, the value of the rural lifestyle was established when a high number of respondents to the survey stated they live on rural land due to 'a rural lifestyle' and 'to raise my family'.

Size and viability of farms

The issue of small property sizes being economically unviable for agricultural use was consistently raised. Use of agricultural clusters was a potential tool identified to support agricultural use of land, buffer against urban creep and enable targeted support for producers in their right to farm. Many economic development barriers for ancillary or intensive agricultural opportunities were also linked to property sizes, permissibility of activities and conflicting uses.



On average survey respondents who carry out agricultural pursuits on their land, used 76% of their property for agriculture. A significant proportion of respondents have off farm income and over high proportion (65%) lived on the property for over 20 years.

The main barriers to agriculture value adding was identified as planning policy and approvals processes, such as

limitations of the cellar door definition in the LEP and restrictions on rural weddings and conferencing. Other factors identified as affecting agricultural viability included:

- high price of land making it difficult or prohibitive to expand
- small size of properties and increasing costs of production
- increasing land use conflicts in areas adjacent to non-agricultural uses
- zoning permissions and development approval costs and processes for intensive models of production e.g. glasshouses for vegetables and integrated fish farms.



Peri-urban pressures and opportunities

The consultation identified part of the ability and desire to protect rural land in Wollondilly is linked to its peri-urban location. The desired protection of the rural lands (that was also evident in the LSPS) is not just to act as ‘wallpaper’ for residential development but also protection for rural producers.

SURVEY Q14: TOP 3 ISSUES FACING THE FUTURE OF RURAL LAND IN WOLLONDILLY

- 1 Protection of farming land
- 2 Land use conflicts
- 3 Inability to subdivide

The appeal of rural living has some well documented issues associated with the encroachment of urban development on rural economic activity. Stakeholders raised the need to address buffers in a way that doesn't disadvantage primary producers e.g. with urban developers planning for buffers to reduce long term conflicts.

Conversely, peri-urban opportunities identified included the following:

- access to large city markets that value low food miles including the “paddock to plate” ethos

- shorter supply chains
- agri-tourism opportunities
- education on agriculture to reduce land use conflicts
- value add activities and links to the Western Sydney Aerotropolis
- day trip and weekend opportunities for nature-based activities, destination weddings, conferences and other events
- research, teaching, and quarantine services
- access to labour
- storage and transport opportunities

SURVEY Q15: TOP 5 TYPES OF RECREATION AND TOURISM OPPORTUNITIES APPROPRIATE IN THE RURAL AREAS

- 1 Farm cafes / shops
- 2 B&Bs, Farm stays and cottages
- 3 Markets
- 4 Walking trails
- 5 Wedding venues

Support for producers

Consultation showed coordination, advocacy, education and removal of planning barriers would assist producers and landholders in adapting or improving use of their rural holdings. These actions were also identified to support and maintain the scenic and agricultural values of Wollondilly by improving relationships with non-agricultural sectors.

Suggested initiatives included:

- intensive high value agriculture and boutique products e.g. floral additives
- small footprint production e.g. hydroponics, glasshouses, vertical farming
- food waste and waste management
- cooperatives and share farming to combat supply chain, marketing and scalability of production
- need to keep land use planning controls open to allow piggeries and abattoirs to stay viable
- address planning barriers to integrated business opportunities such as on farm tourism
- connecting with the agribusiness precinct of Western Sydney Aerotropolis to value add and connect with wider markets
- education and communication to address land use conflict issues where agriculture and urban populations are increasingly forced together
- support producers right to farm

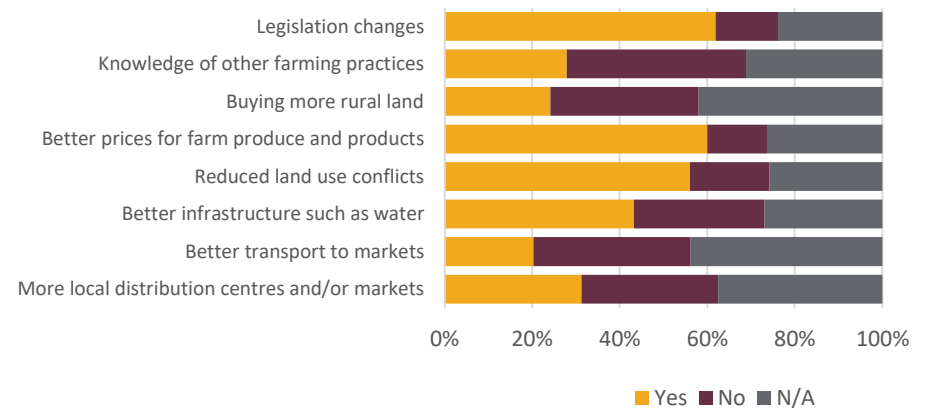
- awareness of high land values and link to rates impacting on viability of some smallholders to operate

It was repeatedly raised that these opportunities need support for uptake, longevity and impact. Support for these arrangements would help enable smaller operators to be viable and increase resilience through diversity of activity.



Figure 11 Word cloud responses to Q12- What are the key issues facing the future of your rural property?

Q13: Would the following help you make your farm/property more productive?



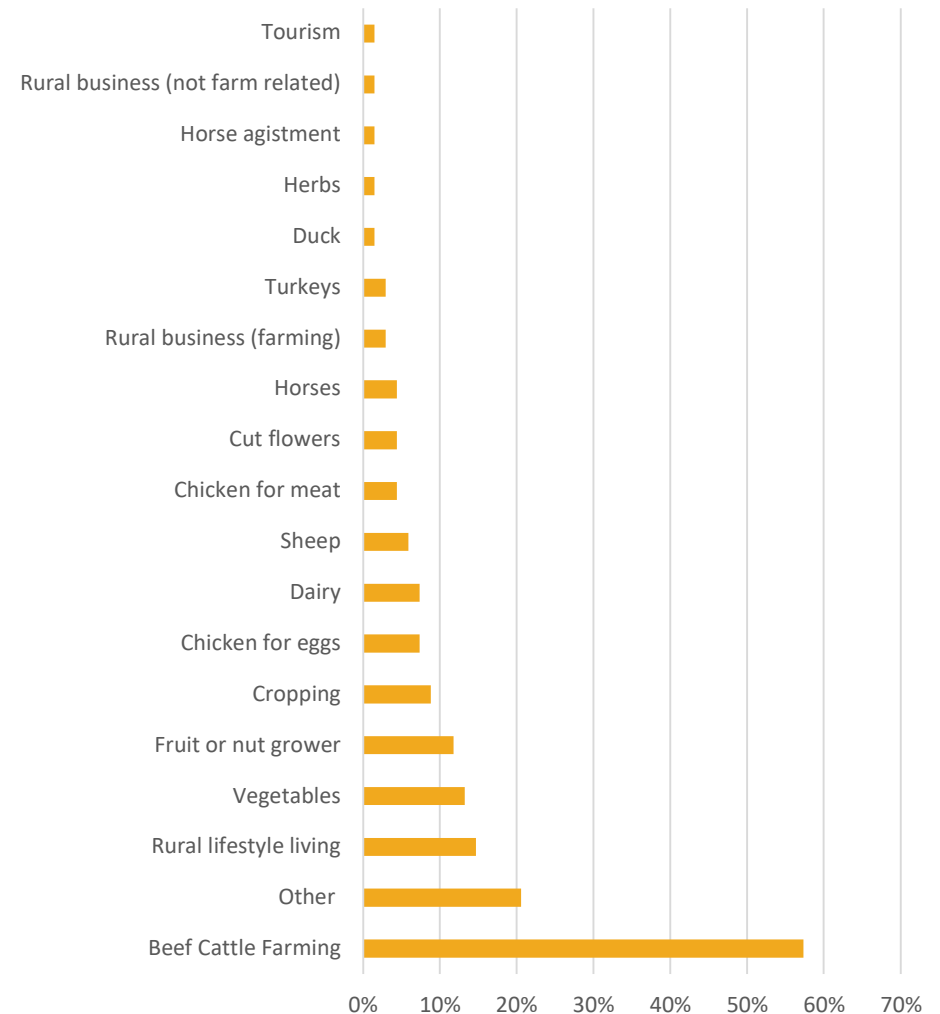
Infrastructure

Along with land, infrastructure provision and in particular water and transport were clearly identified as a limiting factor for use of rural lands in Wollondilly. The location of the Nepean River and Warragamba Dam catchment are unique and complicated features in the landscape which impact on rural land use in various ways. Infrastructure availability and security issues raised during consultation included:

- Existing water supply and treatment infrastructure needs protecting and future proofing
- Reuse and capture and reuse of urban runoff provides a largely untapped opportunity in water supply
- Transport infrastructure in particular access of heavy vehicles for produce transportation was a limiting factor to expansion
- Rural areas and businesses are well positioned to reduce reliance on town water through a place-based approach
- Price of land is also push for Sydney Water to look at different options to work with private landholders to expand use of recycled water beyond their own properties
- New sources of water outside the Nepean River are needed to be sustainable and limit impacts.



Q10: What are the main uses on your property?



KEY CONTEXTUAL OUTCOMES

Part 1 of this Findings Report has highlighted the need to delicately balance the importance of a viable agricultural and mining sector in the context of the Greater Sydney Region. It highlights that rural land in this peri-urban location is valued not just for its productivity but also for its environmental and lifestyle attributes.

Wollondilly's agricultural pursuits are highly diverse and are located all throughout the rural land on highly productive agricultural land, along with undulating arable and grazing land transitioning to steep slopes. This stark contrast of landforms, associated land uses and location on Sydney's 'doorstep' has made the Wollondilly a highly attractive area to live and work, or just visit.

The challenge is to facilitate a productive and economically sustainable long-term future for rural lands, whilst balancing the promotion of economic growth and diversity within the agricultural sector, where infrastructure provision remains a key focus. That balance needs to be underpinned by planning principles that can support and enable policy that drives the protection of rural land for emerging agricultural and other compatible uses.

Part 2 will provide a holistic framework for planning and management of rural land, addressing these dilemmas, by providing a balanced more flexible approach, but also certainty about future development of rural land, that is consistent with the vision established for rural Wollondilly.

PART 2 – FINDINGS AND DIRECTIONS



6. Drivers for change

Based on a detailed background analysis of relevant documents (including strategies, plans, policies and other legislation), observations and data analysis, along with stakeholder consultation, the following drivers for change have been identified to help frame the key issues and opportunities associated with rural land in Wollondilly. Each of the drivers has provided context and is a focus of discussion throughout Part 2 of this report.



Wollondilly is experiencing and planning for

exceptional levels of population growth (with a forecast increase of approximately 30,000 people between 2016 – 2041). The high population growth within the LGA is a dominating presence that will place significant strain on the rural land (including land use conflicts and infrastructure provision) as well as presenting substantial market opportunities.



There is a trend across Wollondilly towards

increased rural land fragmentation and increased dwelling approvals within the rural lands. Wollondilly rural land already contains a large number of small farming lots and has been subject to 'urban-rural land use zone creep'. This can pose a significant threat to the productive

use of agricultural land, good management practices and impact the ability of rural lands to continue to support the social fabric of the LGA.



Wollondilly's location (about 75 kilometres from the

Sydney CBD) is at the urban-rural interface and this is commonly known as a peri-urban area. Such areas can be considered as transition zones where urban and rural uses mix and are often incompatible. Specifically, in Wollondilly this creates land competition pressures when urban development speculation encroaches into productive agricultural land. The peri-urban location of Wollondilly, close to both the services of Sydney and attractive landscapes, also makes it a desirable location for rural lifestyle living, which is often a source of conflict with agricultural activities.



Agricultural practices in Wollondilly differ to other

regions. The current number and size of rural holdings show many are diversifying into more intensive or niche activities that do not take up a large area of land (comparative to more extensive agricultural uses around the State). There is evidence that production of vegetables, cut flowers and turf are increasing, along with the range of crop types each farm produces. There remain some extensive agricultural uses, but these have generally existed on the same site for many years.



Aerotropolis

The Western Sydney Airport and the

Aerotropolis will be located on the northern boundary of Wollondilly. This will provide significant opportunities for primary production in close proximity to international markets and improved logistics.



Economics

Many economic variables influence the type and form

of agriculture that can take place including commodity prices. In Wollondilly the increasing cost of rural land, in this peri-urban location so close to Sydney, has placed significant strains on agricultural expansion. This has led to the value or cost of land starting to outstrip the productive value of the land for agricultural use or production.



Access to water

Wollondilly 's primary producers suffer from

limited access to water. This will become more pronounced into the future and will continue to have implications for the productive use of agricultural land including in the context of water required for urban expansion and the location in Sydney's drinking water catchment. Access to water can greatly improve yields regardless of land capability class.



Climate Change

Climate change (and associated policy changes at

all levels of government) will continue to have a significant impact on the rural areas of the LGA. A drier and hotter climate that will increase the frequency and severity of extreme weather events and environmental hazards will have significant impacts on agricultural activities and the use and development of rural land, for certain purposes.



Food security

An increasing local and global population, coupled

with increasing urban expansion, raises concerns for the ability to maintain food security into the future especially fresh produce to Sydney's urban areas. Ensuring an adequate supply of productive agricultural land is paramount for underwriting food security, especially if Sydney is to maintain a 'food bowl'



Tourism

The demand for rural tourism and agritourism

experiences within the Wollondilly, and surrounds, is growing. This can support a diversified economy and provide secondary income for farming families.

7. Planning principles for rural land

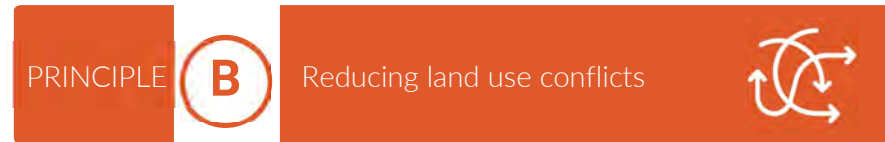
The following planning principles have been established to guide the preparation of the Findings Report and Strategy. These are largely based on the LSPS and related policy documents and will be refined as the project progresses.



Agriculture is a key contributor to the Wollondilly economy. It provides essential food and fibre products, employment and value-adding opportunities. Careful planning is required to maintain these benefits to local and regional economies, to encourage ongoing investment in agriculture and to protect the supporting resource base. Rural land fragmentation for residential or industrial purposes can threaten the viability of agricultural and rural industries by increasing land values and reducing incentives to buy and sell land as a means of improving agricultural productivity.

The Strategy will aim to protect agricultural land resources wherever possible by:

- discouraging rural lifestyle development from locating on or near the best agricultural land
- minimising the fragmentation of rural land
- supporting diversification of agriculture on rural land
- providing opportunities for emerging rural industries




When residential or industrial development is dispersed throughout rural land, it can create conflict with agricultural uses (including complaints about smell, noise, dust, airborne chemical sprays and loss of amenity). The Strategy will minimise the potential for land use conflict by:

- favouring locations that are least likely to generate land use conflicts
- providing adequate separation distance between potential conflicting land uses



Providing direction on the preferred form and location of long-term residential growth in rural lands is important for efficient infrastructure planning and to guide the rezoning and subdivision approval process. The Strategy will provide Wollondilly Shire Council with a clear position to withstand pressure for this type of development and the ongoing protection of rural land values.

PRINCIPLE **D** Conserving places with special landscape, rural and scenic value 

Wollondilly's rural landscape dates back to the early European settlers who followed the first fleet's famous straying cattle to the "Cowpastures". This gives the Shire special heritage character that needs to be recognised and valued.


Given the change that occurs when rural activities are lost, particular consideration will need to be given to the capability for rural land to accommodate rural residential or industrial development. Where appropriate, such development will need to be carefully balanced with surrounding uses and cultural values. Ultimately, there should be no adverse effect on key natural resource values, including areas of biodiversity significance and other areas that have special landscape, rural and scenic value.

PRINCIPLE **E** Promoting economic diversification including emerging opportunities 

Diversifying the rural economy can provide opportunities to respond to changing agricultural practices and the context of Wollondilly across Greater Sydney. Real opportunities exist for ongoing use, growth and

diversification of its rural land. Emerging sectors such as tourism or agribusiness will also promote local job opportunities.

The Strategy will build on existing strengths by promoting rural industries whilst facilitating the development of new value-adding processes, investigate emerging opportunities and encouraging diversification into "niche" markets.


PRINCIPLE **F** Embracing the opportunities of the Western Sydney Aerotropolis 

The Western Sydney Aerotropolis will boost several local industries, including agritourism and agribusiness. Wollondilly is part of the Western Parkland City with the new airport and aerotropolis geographically located to the north east. The associated agribusiness precinct is located directly adjacent to Wollondilly's boundary. The Aerotropolis presents opportunities to broaden the economic catchment and to capture new agricultural opportunities.

The Strategy will support existing agriculture in the area and promote and grow new agribusiness and agritourism as an ongoing economic base, leveraging the opportunities presented by the Western Sydney Aerotropolis. These opportunities will need to consider the prevention of sensitive land uses that may be affected by aircraft noise and other airspace protection measures.


PRINCIPLE **G** Ensuring the efficient provision of infrastructure 

Future development should strengthen the efficient use of infrastructure, services and transport networks whilst avoiding overburdening those that already exist. Rural businesses and residents require access to road networks to connect with places of employment, shopping and support services.


PRINCIPLE **H** Balancing environmental, economic and social outcomes 

The LSPS demonstrates that the Wollondilly community already embraces sustainable practices that complement the locational advantages of its agricultural and rural industries.

The Strategy will incorporate the goal of sustainability to direct positive changes in the environmental, economic and social development of rural land. For instance, there is a need to balance all three of these components in planning for and managing rural residential lands in a sustainable manner so that primary production, the natural environment and land as a place to live can co-exist throughout the rural landscape.

PRINCIPLE **I** Taking a future-focused, long-term approach 

The Strategy is a long-term plan that considers rural lands over the next 20 years. Rural Land in Wollondilly has changed dramatically during the past 20 years, with pressure continuing to be exerted to change land uses and develop rural land that will continue for the foreseeable future. The Strategy will consider long-term planning for rural lands, emerging agricultural and rural uses/ practices and establish a contemporary policy to meet challenges for securing a prosperous future.

PRINCIPLE **J** Maintaining consistency with State planning policies 

There is a range of processes that influence the consideration of activities occurring on rural land in Wollondilly. In preparing the Strategy, consideration of statutory and strategic planning tools of the State Government will be required. For example, directions will need to consider and be consistent with State policies such the *Western City District Plan* and the *Western Sydney City Deal*.

8. Framework for managing rural zones

Wollondilly LEP 2011 provides the statutory framework for planning decisions for the LGA and includes a land use table that lists the objectives of each zone type, permitted land uses (with and without consent), and prohibited land uses. The rural zones discussed in this section include the following.

- RU1 Primary Production
- RU2 Rural Landscape
- RU4 Primary Production Small Lots
- E4 Environmental Living

The intent of these zones within the context of the NSW planning system is highlighted overleaf. It is also noted that this Findings Report discusses the R5 Large Lot Residential zone separately in Section 11.1. As shown in Table 5 the largest rural zone in Wollondilly is the RU2 Rural Landscape zone at 57% of the rural land area.

Table 5 Rural zone by area (excludes R5 zone)

Zone	Hectares	% of total area
RU1 Primary Production	17,692	30%
RU2 Rural Landscape	33,168	57%
RU4 Primary Production Small Lots	2,358	4%
E4 Environmental Living	5,440	9%
Total	58,658	100%



Intent of rural zones under the Wollondilly LEP 2011

As sourced from LEP Practice Note PN 11-00 2 and PN 09-002, Department of Planning, Industry and Environment

RU1 Primary Production

This zone covers land used for most kinds of commercial primary industry production, including extensive agriculture, intensive livestock and intensive plant agriculture, aquaculture, forestry, mining and extractive industries. The zone is aimed at utilising the natural resource base in a sustainable manner. The zone is not a default zone for non urban land. The zone is allocated to land where the principal function is primary production.

RU2 Rural Landscape

This zone is for rural land used for commercial primary production that is compatible with ecological or scenic landscape qualities that have been conserved (often due to topography). It may apply to land that is suitable for grazing and other forms of extensive agriculture, or intensive plant agriculture (such as 'viticulture'), but where the permitted uses are usually more limited and differ from RU1 land due to landscape constraints. This zone is not to be used where the main purpose of the zone is to protect significant environmental attributes or to provide for rural residential accommodation.

RU4 Primary Production Small Lots

This zone (previously named Rural Small Holdings) is for land which is to be used for commercial primary industry production, including emerging primary industries and agricultural uses that operate on smaller rural holdings. In 2011, the name of the zone was changed to clarify that it is a rural zone for agricultural uses, not a pseudo-residential zone. The objectives of the zone are to encourage employment opportunities in relation to primary production on small lots and to minimise fragmentation and alienation of resource lands important for food security. The intent of the zone is an agricultural industry/food production focus and not a rural residential lifestyle zone.

E4 Environmental Living

This zone is generally intended for land with special environmental or scenic values and accommodates low impact residential development. This zone may be applicable to areas with existing residential development in a rural setting, which still has some special conservation values. Any development is to be well located and designed so that it does not have an adverse effect on the environmental qualities of the land. Where lands have higher conservation values, with more restrictive land use permissibility, an E2 or E3 zone may be more suitable than E4 zone.

History of the rural zone application

In 1993, Council developed the Wollondilly Shire Agricultural Lands Study (the Study). This study examined the agricultural uses in the LGA including the potential for rural residential land uses.

The Study found that agriculture was an important use within Wollondilly as well as the Sydney region as a whole. The Wollondilly Agricultural Lands Study recommended that Council undertake a review of its rural land with the view to protecting agricultural land as well as providing for rural living opportunities.

In 1996, the Wollondilly Review of Rural Lands Report, reviewed the 1993 study with a view to protecting productive agricultural land by providing for a balance between agriculture and the desire for rural living opportunities, as well as reducing land use conflict.

Wollondilly Review of Rural Lands Report resulted in Council making a number of amendments to the Wollondilly LEP 1991. This included introducing three new zones as follows:

- 1(a) Agriculture
- 1(b) Agricultural Landscape
- 7(c) Environmental Protection - Rural Living

The extent and location of the 1(a) Agriculture zone was based on the Agricultural Land Suitability Mapping prepared by the former NSW Agriculture, as outlined in Section 4.4 of this Findings Report. This mapping classified the land into five classes, with classes 1 to 3 being land that is suitable for soil-based agriculture and at the time made up 54% of land within these classes. Classes 4 and 5 made up 46% of the

land and was not considered suitable for soil-based agriculture. The 1(a) Agriculture zone was applied to land in Classes 1 to 3 (with some minor areas classed 4 and 5) and at the time no minimum lot size was included in this zone. In 1998 the Wollondilly LEP 1991 was amended to introduce a minimum lot size of 20 hectares in the 1(a) Agriculture zone.

The 1(b) Agricultural Landscape zone was applied to land that was predominantly Class 4 (with some minor Class 3 and 5) and was considered '*relatively hilly and would not be suitable for major Agricultural production enterprises of an intensive nature*'. This zone had a minimum lot size of 40 hectares.

The 7(c) Environmental Protection - Rural Living zone was a rural residential zone. The areas were chosen because of '*their highly fragmented nature and non-degraded areas as well as lack of any significant agricultural enterprise*'. These areas included Werombi-Theresa Park-Orangeville, Brownlow Hill, Menangle, Razorback and Pheasants Nest. Minimum lot size and density standards to achieve rural living opportunities in the 7(c) Environmental Protection - Rural Living zone were then determined as follows: "*The 2ha subdivision minimum lot size and 4ha density was arrived at after an assessment of the existing lot size range, landscape as well as topographical considerations. It was considered that by providing a density of 4ha, the integrity of the landscape would be preserved and that land degradation would not occur. The 2ha minimum was introduced to allow for a range of lot sizes to be created so that they conform to the landscape and land forms of the area and to provide for a variety in the lots created. It should be pointed out that the primary objective of the zone is to encourage the*

preservation of the landscape character by ensuring that development does not detract from that character. It is considered that any lesser density would not achieve that objective."

In 2006 the NSW Department of Planning, Industry and Environment introduced the *Standard Instrument (Local Environmental Plan) Order 2006*. This order was the State Government's "standard template" approach to the creation of LEPs. This "template" restricts the number of rural zones. The gazettal of the Wollondilly LEP 2011 on 23 February 2011, simply converted the existing zones to the closest equivalent zone in the 'template' as follows:

- 1(a) Agriculture zone was converted to the RU1 Primary Production
- 1(b) Agricultural Landscape to the RU2 Rural Landscape zone
- 7(c) (Environmental Protection (Rural Living) Zone to the E4 Environmental Living

The origins of the RU4 Primary Production Small Lots are unclear, other than in a zone description stated this zone is *"used around villages to create a buffer and edge for the urban area."*

Current objectives and permissible land uses

The *Standard Instrument (Local Environmental Plan) Order 2006* has standard objectives for each zone. The RU1 Primary Production zone in the Wollondilly LEP 2011 includes additional objectives as follows:

- *"To provide for a range of land uses (including tourism-related uses) that support the agriculture industry.*

- *To provide areas within which the density of development is limited in order to maintain a separation between urban areas."*

The RU2 Rural Landscape and RU4 Primary Production Small Lots zones also includes the same additional objective as the RU1 Primary Production zone being:

- *"To provide areas within which the density of development is limited in order to maintain a separation between urban areas".*

The E4 Environmental Living zone includes the following additional objective:

- *"To provide for a limited range of rural land uses that do not have an adverse effect on surrounding land uses."*

Table 6 provides a summarised comparison of the permitted land uses within the rural zones in Wollondilly LEP 2011. The table does not include all land uses that may be permitted with consent in this zone. However, it does provide a comprehensive comparison of the key rural land uses within each zone or land uses that are likely to occur within these zones, such as agricultural uses. It is noted some of the land uses are mandated under the *Standard Instrument (Local Environmental Plan) Order 2006* or SEPPs.

The majority of the rural lands in Wollondilly are zoned RU2 Rural Landscape, being 53%, while 33% is zoned RU1 Primary Production. Table 6 demonstrates that only a small number of land uses in these two zones, differ in permissibility under Wollondilly LEP 2011 including turf farming, stock and sale yards, boat building and repair facilities, boat sheds and freight transport facilities.

Table 6 Current land uses in rural zones in the Wollondilly LEP 2011

○ = Mandated permitted without consent ✓ = Mandated permitted with consent ✔ Permitted with Consent ✗ prohibited

Note: not all defined land uses are shown in the following table. The table demonstrates the land uses that may differ or are common land uses likely to occur in these zones.

* Provides the land uses that differ in permissibility between RU1 Primary Production zone and RU2 Rural Landscape

Land Use	RU1 Primary Production	RU2 Rural Landscape	RU4 Primary Production Small Lots	E4 Environmental Living
Extensive agriculture	○	○	○	○
Intensive livestock agriculture	✓	✔	✗	✗
Intensive plant agriculture*	✓	✔ (turf farming is prohibited)	✔	✗ (viticulture is permitted with consent)
Animal boarding or training establishments	✔	✔	✗	✗
Farm buildings	✓	✓	✓	✔
Forestry	✔	✔	✗	✗
Dwellings	✓	✓	✓	✓
Dual occupancies (attached)	✔	✔	✔	✔
Rural worker's dwellings	✔	✔	✗	✔
Secondary dwellings	✔	✔	✔	✔

Land Use	RU1 Primary Production	RU2 Rural Landscape	RU4 Primary Production Small Lots	E4 Environmental Living
Backpackers' accommodation	X	X	X	✓
Bed & breakfast accommodation	✓	✓	✓	✓
Farm stay accommodation	✓	✓	✓	✓
Veterinary hospitals	✓	✓	✓	X
Funeral homes	✓	✓	X	X
Rural industries	✓	✓	X	X
Stock and sale yards*	✓	X	X	X
Boat building and repair facilities*	X	✓	X	X
Depots	✓	✓	X	X
Freight transport facilities*	X	✓	X	X
Transport depots	✓	✓	X	X
Truck depots	✓	X	X	X
Boat sheds*	X	✓	X	X
Recreation facilities (indoor)	X	✓	X	X
Recreation facilities (outdoor)	X	✓	X	✓

Minimum lot size in the rural zones

Table 7 provides the minimum lot size analysis to appreciate the number of lots that are currently under the minimum lot size as prescribed by Wollondilly LEP 2011. The analysis did not include some lots as they have more than one minimum lot size, or more than one rural zoning associated with the lot.

The table demonstrates that a total of 4,941 lots are currently under the minimum lot size across all the rural zones. In some circumstances 100% of the lots are under the minimum lot size. It is noted that these lot sizes may have been prescribed to avoid any further fragmentation and a further increase in rural dwellings.

In addition, the table demonstrates the number of various prescribed minimum lot sizes especially in the RU1 Primary Production or RU2 Rural Landscape zones. The RU1 Primary Production zone has eight different minimum lot sizes, while the RU2 Rural Landscape zone has 13 different minimum lot sizes, prescribed under Wollondilly LEP 2011.

This analysis demonstrates the significant fragmentation of rural lands in Wollondilly in particular within the RU1 Primary Production (which is traditionally a zone with the largest rural lots) or RU2 Rural Landscape zones. The fragmentation of rural land is a key threat to maintaining sustainable agricultural production. Traditional agriculture generally relies on large swathes of land to carry out agricultural activities such as grazing. This is put at risk when farming land is subdivided for reasons unrelated to agriculture. There is a need to ensure the right balance is achieved between agricultural production and other development, such as rural-residential use.



Table 7 Minimum Lot Size Analysis - lots under the prescribed minimum lot size

Zone	Minimum Lot Size (Wollondilly LEP 2011)	Number of lots under the prescribed minimum lot size	Total Number of lots counted	Percent of lots under the prescribed minimum lot size	
E4 Environmental Living Zone	4 ha	582	1,014	57%	
RU4 Primary Production Small Lots	4,500 sqm	0	1	0%	
	1ha	16	18	89%	
	1.5ha	0	3	0%	
	2ha	609	1,046	58%	
	16ha	76	76	100%	
	40ha	14	14	100%	
RU1 Primary Production	5,000sqm	0	1	0%	
	2ha	3	3	100%	
	4ha	1	1	100%	
	5ha	0	1	0%	
	16ha	282	341	83%	
	20ha	1,255	1,326	95%	
	40ha	53	54	98%	
	100ha	45	53	85%	
RU2 Rural Landscape	1ha	0	1	0%	
	2ha	0	2	0%	
	3ha	0	2	0%	
	4ha	2	3	67%	
	4.5ha	0	1	0%	
	7ha	0	1	0%	
	16ha	593	668	89%	
	20ha	36	40	90%	
	30ha	1	4	25%	
	35ha	0	2	0%	
	40ha	1,272	1,406	90%	
	60ha	2	2	100%	
	100ha	99	101	98%	
	Total		4,941	6,185	

RU4 Primary Production Small Lots

The LEP practice note (PN 11-002) states in regard to the RU4 Primary Production Small Lots zone that:

'This zone is generally intended for land which is to be used for small scale rural and primary industry production. Land within this zone might also provide for emerging primary industries and agricultural uses. It is not intended that this zone be used for land that is primarily residential in function—the R5 Large Lot Residential zone should be used for that purpose.'

The *Standard Instrument (Local Environmental Plan) Order 2006* states the RU4 Primary Production Small Lots zone is intended to be an agricultural area that provides for specific commercial agricultural activities that may be viable on smaller lot sizes than traditional extensive grazing or cropping activities. It is not intended to be a form of rural residential development, or rural lifestyle development or hobby farm. However, this zone has been utilised around villages such as Bargo, Buxton, Tahmoor, Thirlmere, Douglas Park and Belimbla Park to create a buffer and edge for the urban areas.

A minimum lot size analysis shows that the majority of lots within this zone are 2 hectares or less with an average lot size of 1.6 ha and a significant proportion of lots under the prescribed minimum lot size (refer to Table 7). The *Living and Working in Rural Areas: A handbook for managing land use conflict issues on the NSW North Coast* (DPI, 2007) states that the area required to sustain an agricultural enterprise will depend on the type of enterprise. For instance, some vegetables can be sustainable on 4 - 10 ha while you need in the order of 40 to 80 ha

for a dairy farm. However, a general rule is anything under 2 hectares cannot sustain economically viable agriculture.

Further site analysis of this zone demonstrates the majority of the lots have a dwelling and are not related to farming operations in many areas. The distribution of smaller lots in this zone is generally concentrated around existing villages and main roads.

It can therefore be acknowledged that the RU4 Primary Production Small Lots zone is not being used as a primary production zone but instead has been applied in different ways. For instance, some areas zoned RU4 Primary Production Small Lots are subject to environmental and scenic qualities and may be more suited to the E4 Environmental Living zone. Others present as a broadscale farm with large poultry sheds and may be more suitable to the RU1 Primary Production or RU2 Rural Landscape zone.

It is however noted that there are other areas that do provide a buffer between rural and urban uses. It is for this reason that a new zone should be considered for the Wollondilly LEP 2011, being the RU6 Transition zone. This zone provides objectives suitable for a buffer area and may be applied only to those areas where a transition buffer between rural and urban uses is evident. In addition, permissible land uses in this zone are relatively open in the standard instrument and therefore could be amended to suit Wollondilly LGA.

LEP practice note (PN 11-002) identifies that the transition zone is to be used in special circumstances in order to provide a transition between rural land uses (including intensive agriculture, landfills, mining and extractive industries) and other areas supporting more intensive

settlement or environmental sensitivities. The practice note is clear in that this **zone is not to be used to identify future urban land.**

E4 Environmental Living Zone

Similar to the RU4 Primary Production Small Lots zone, application of the E4 Environmental Living zone was generally a 'best-fit' from the 7(c) (Environmental Protection (Rural Living) Zone, when the *Standard Instrument (Local Environmental Plan) Order 2006* was introduced. These areas were chosen because of *'their highly fragmented nature and non-degraded areas as well as lack of any significant agricultural enterprise'*.

The total area of this zone is 5,274 ha and is located in Razorback, Menangle, Theresa Park, Werombi, Oakdale, Picton and Pheasants Nest, along with the largest area (2,600 ha) at Orangeville. Of these areas two recent rezoning of land to the E4 Environmental Living zone in Picton and Oakdale are not subject to clause 4.1B (Subdivision of certain land in Zone E4 Environmental Living) in the Wollondilly LEP 2011. Therefore, they are not subject to the density controls prescribed by this clause.

The practice notes (PN 11-002) for this zone state it may be applicable to areas with existing residential development in a rural setting and it can accommodate low impact residential development.

Many Councils utilise this zone as a type of rural residential area where there is native vegetation, scenic or biodiversity value and where the emphasis is on low density living in natural surroundings rather than hobby farming. While there is evidence of agricultural uses within these areas, they are smaller scale and appear to be medium sized

hobby farms or 'lifestyle rural holdings'. In addition, uses permitted with consent suggest a more 'lifestyle orientated' intent, with uses such as backpackers' accommodation, while intensive agricultural uses are not permitted (except for viticulture).

Truck and Transport Depots in the RU1 Primary Production or RU2 Rural Landscape

Wollondilly LEP 2011 details the permissible uses in all rural zones. While most properties in rural areas are used for agricultural purposes and associated dwelling house, there are a range of other uses permitted with and without consent. As demonstrated in Table 6, transport depots are permissible with consent in both the RU1 Primary Production and RU2 Rural Landscape zones. Truck depots are also permissible in the RU1 Primary Production zone.

It is understood that the parking of heavy vehicles on rural properties has been raising community concerns in relation to the appropriateness of these forms of land uses in rural areas. The concerns include impacts on amenity, character of the locality, road infrastructure and road safety.

Many rural activities involve heavy vehicles, including trucks for the transfer of stock and produce or other heavy equipment for property maintenance. The parking of trucks, earthmoving equipment or other heavy vehicles for use primarily on the rural property on which they are located is considered to be ancillary to the rural use of the land. In these circumstances' approval is not required. Similarly land uses involving trucks, heavy vehicles, machinery or the like and operating as

'home business' or 'home occupation' are permitted without planning approval under Wollondilly LEP 2011.

However, development approval is needed for truck depots and transport depots in certain rural zones when they are not associated with the agricultural uses of the land. In these instances, there are no limitations on the size of truck depots or transport depots that are permitted with consent.

In some circumstances, depots can be large scale fleet operations and the type of vehicles may vary from rigid trucks, prime movers and trailers, agricultural or earthmoving equipment and even a fleet of light vehicles. For large scale fleet operations (particularly those involving heavy vehicles) it is preferred they are located in industrial areas with good sealed road access to the state road network. However, when large fleet operations are developed in the rural zones it can reduce the amount of productive agricultural land available, reduce scenic amenity and cause land use conflicts such as noise and dust.

Definition of transport and truck depot in the Wollondilly LEP 2011

Transport depot: means a building or place used for the parking or servicing of motor powered or motor drawn vehicles used in connection with a business, industry, shop or passenger or freight transport undertaking.

Truck depot: means a building or place used for the servicing and parking of trucks, earthmoving machinery and the like.

8.1.1 Strategy options for rural zones

RU1 Primary Production or RU2 Rural Landscape

The majority of the rural land in Wollondilly is zoned RU1 Primary Production or RU2 Rural Landscape. The **application of these zones reflects the intention to see agricultural land retained for productive agricultural activities which is reflected in its objectives and permissible land uses.**

The key difference in these zones was the historical application of the classes included in the *Agricultural Land Suitability Mapping* prepared by the former NSW Agriculture. Section 9 examines the importance of all the rural lands in Wollondilly as part of peri-urban Sydney - it is a valuable resource for several reasons. The protection of both the RU1 Primary Production and RU2 Rural Landscape zone for agricultural purposes is aimed at encouraging retention of productive agricultural land and discouraging uses that may have adverse impacts on agriculture.

As previously demonstrated, the Wollondilly LEP 2011 zone objective and land use table only provide minor differences in the two zones. In some locations in Wollondilly both zones are located in 'patches' with similar or the same land uses. In some areas the same lots have been zoned both RU1 Primary Production and RU2 Rural Landscape. Analysis of the two zones demonstrated only minor differences in the application of the zones.

Given the above framework there are two options available to Council to manage RU1 Primary Production or RU2 Rural Landscape these options are presented below.

Option 1 - Consolidate into one zone

Providing a consistent and consolidated approach to the zoning system in rural lands through one zone may provide improved outcomes for these areas. Any zone transition or merger of these zones would need to consider the important landscape attributes that form part of the objectives of the RU2 Rural Landscape. Having two separate zones for a very similar purpose serves no discernible advantage to Council in managing these areas.

The inconsistent approach in the rural lands is also reflected in the variety in minimum lot sizes throughout Wollondilly. Any changes to the allocated zones must be justified on a holistic analysis of land capacity and relevant environmental studies, not on individual land uses.

Preferred Option 2 – Review the primary use of each zone

It is widely acknowledged that parts of Wollondilly are valued for its landscape values rather than agricultural use. It is for this reason that the preferred option is that both zones are reviewed with the RU1 Primary Production zone having a primary agricultural purpose and the objectives and uses will need to reflect this. As previously explained given that most agricultural uses can be located not just on the best soils, this review would need to consider all types of primary production uses. This may include considering plant agriculture as permitted without consent within this zone to allow flexibility for primary producers within this zone.

One of the most frequent comments from stakeholders was the value of Wollondilly's landscape and scenic outlook (refer to Section 12). As

part of any review of scenic landscapes, Council could investigate these areas for the RU2 Rural Landscape zone. This investigation should consider the important landscape attributes that form part of the objectives of the RU2 zone and change the land use table and zone objectives to reflect its intended use. This may also reduce land use conflicts if more intensive agricultural uses were prohibited in this zone.

The investigation may also need to review the zone boundaries for some areas according to their existing land use for instance where a locality has extensive agriculture but is zoned RU2 Rural Landscape, this may be more suitable for RU1 Primary Production purposes.

RU4 Primary Production Small Lots

The distribution of smaller lots is generally concentrated around existing villages. Anecdotal evidence shows a majority of the lots within this zone have a dwelling which is not related to farming operations. With comparatively smaller lot sizes and a location adjacent to urban services, and little agricultural activity, it is questionable whether this zone is the most appropriate zone for some of these areas.

It is evident in Wollondilly there is market demand for rural living areas by 'lifestylers'. Not acknowledging and responding to this market can result in ad hoc rural living development outcomes on primarily agricultural land in areas where soils and biophysical conditions suit agricultural practices. In turn, this can result in or accelerate land use conflict. In addition, there are several areas zoned RU4 Primary Production Small Lots that have obvious scenic qualities or are being

used for intensive farming enterprises which will not suit this zone due to land use conflicts.

A review of the RU4 Primary Production Small Lots zone should therefore be considered as part of the LEP review. This may include investigating converting some areas according to their existing land use to other zone - e.g. E4 Environmental Living zone, RU1 Primary Production, RU2 Rural Landscape zone or the new RU6 Transition zone. The RU6 Transition zone will provide a new option for those areas that do provide a buffer between urban and rural uses. The RU6 Transition zone could supply land for 'lifestylers' that would like dwelling on large lots, whilst being clearly communicated that this zone does not imply that the land is identified for future urban use

E4 Environmental Living Zone

The E4 Environmental Living Zone has extensive native vegetation, scenic values and related environmental values. Investigations into the historical application of this zone showed that while there was recognised fragmentation, these areas were separated from the other zones as they were identified as having historic, archaeological, landscape, ecological, cultural or scientific values.

Rural landscapes are an important element of Wollondilly's identity, social fabric and tourism offer. Consultation for the Wollondilly LSPS conferred the rural scenic values are one of the most important aspects to living in the LGA. Given the landscape values it may be worth investigating this zone for a wider suite of permissible land uses,

including tourism uses, compatible with agriculture, environmental and landscape characteristics of the areas with this zone. This would be subject to appropriate policy safeguards for environmental and amenity considerations.

Truck and Transport Depots in the RU1 Primary Production or RU2 Rural Landscape

Large fleet operations for trucks and other transport are typically developed in industrial zones. As the price for land in Wollondilly increases the demand for large areas for depots in rural localities has also increased. The safeguarding of productive agricultural land is a significant planning principle of this Findings Report and the Rural Lands Strategy. Development of large depots in the rural zones can reduce the amount of productive agricultural land, reduce scenic amenity and cause land use conflicts such as noise and dust. It is therefore recommended that a local provision be developed which considers the appropriate attributes for this type of use in rural locations. This would include proximity with respect to main road access, limits the size of depots on rural lands and which considers possible land use conflicts. In addition, Council will need to ensure there is sufficient industrial zoned areas for large transport and truck depots through any future employment lands review.

Recommendations

1. Review the primary use of the RU1 Primary Production or RU2 Rural Landscape zone and amend each zone with the following objectives.
 - RU1 Primary Production zone having a primary agricultural purpose. The objectives and uses will need to better support and protect agricultural use of this land and include all types of agricultural activity
 - RU2 Rural Landscape zone having a landscape and scenic value with more large lot lifestyle value. Remove intensive agricultural uses permissible from this zone and revise as part of any future scenic and landscapes study
 - If necessary, adjust zone boundaries for minor changes to better reflect existing land use.
2. Investigate rezoning of areas of RU4 Primary Production Small Lot zone to better reflect existing land use. Possible zones include the E4 Environmental Living zone, RU1 Primary Production or RU2 Rural Landscape zone or a new zone the RU6 Transition zone with a minimum lot size that reflects the average lot size (or minimum lot size) in each cluster. Retain the zone where viable commercial agricultural activities exist or where rural sectors present emerging opportunities and ensure minimum lot sizes and other local planning policy support these uses.
3. Discourage dwellings/subdivision in locations in all rural zones that will limit the operation of surrounding commercial agriculture enterprises – including buffers required.
4. Review the objectives and land uses within the E4 Environmental Living Zone (this may include a place-based approach), to ensure any potential conflicts with existing agricultural uses can be appropriately managed. Investigate a wider suite of permissible land uses, including tourism uses, and develop a local provision to ensure any future use is compatible with agriculture, environmental and landscape characteristics of the areas.
5. Consider the archaeological, landscape, ecological, cultural or scientific values through a local provision overlay in the E4 Environmental Living Zone to ensure any sensitive areas are protected and celebrated.
6. Investigate the use of a local provision to limit the size of truck and transport fleet operations in the RU1 Primary Production or RU2 Rural Landscape zones.

9. Building a strong diverse rural economy

9.1 Peri-urban agriculture

How important is peri-urban agriculture for the Greater Sydney Region?

Agricultural businesses on the peri-urban fringe of cities typically occupy some of Australia's most fertile and productive land. Australia's major cities were originally settled where they were because of the food producing capacity of their area's fertile land and access to water resources.

According to a study from UTS' Institute for Sustainable Futures in 2011 the Greater Sydney Region produced half a million tonnes of food – enough food to feed 26% of its population. This includes 40% of its demand for eggs, 10% of vegetables, 38% dairy, 55% meat and 2% of fruit. This is somewhat lower than Melbourne, which currently feeds 40% of its population with local fresh produce (*UTS Institute for Sustainable Futures, 2020*). Figure 12 depicts the food production areas in the Greater Sydney Region.

UTS Institute for Sustainable Futures (2020) modelled future food producing capacity in a scenario where existing production in the Greater Sydney Region is protected and it could continue to produce around half a million tonnes of food a year. However, as Sydney grows so will its food demands. The study surmised that even with the protection of agricultural land, agricultural productivity on rural lands will need to increase. Without these protections, Sydney's growth is predicted to have a significant negative impact on the production of vegetables, eggs, meat and dairy.

What is peri – urban land?

Peri-urban land (for the purposes of this Findings Report) refers to land at the edge of larger cities and metropolitan areas, that is:

- subject to pressures for change
- made up of a wide range of land uses
- fast growing due to proximity to urban activities
- in transition
- often vulnerable to bushfire and loss of biodiversity
- increasing demand for social services and infrastructure

Sydney's boundary of urban areas provided in the *Greater Sydney Region Plan - A Metropolis of Three Cities* and the MRA provides a clear boundary between urban land and non-urban land. As with most peri-urban lands, Wollondilly's rural lands are subject to development and environmental pressures associated with urban growth.

Figure 12 Food producing areas in the Greater Sydney Region



Source: UTS Institute for Sustainable Futures, 2020

Similarly, Sydney Food Futures (2020) research found, *'Sydney stands to lose 60% of fresh food produced in the Basin. The proportion of the city's food supplied from within the Basin could drop from 20% of total food demand down to a mere 6%. Vegetables, meat and eggs will be hardest hit: 92% of Sydney's current fresh vegetable production could be lost, 91% of meat and 89% of eggs.'*

Food security

The Prime Minister's Scientific, Engineering and Innovation Council has identified urban encroachment on Australia's peri urban agricultural

lands as one of the top seven emerging and existing food security challenges facing Australia (PMSEIC, 2010). Ensuring an adequate supply of productive agricultural land for Sydney's food security will only continue as our climate continues to change. Meanwhile, high food producing areas such as Murray Darling and Murrumbidgee regions will continue to have significant water availability issues, further exacerbating the issue. Sydney has more reliable rainfall than inland areas and its good quality agricultural land will remain a valuable resource into the future.

Value of peri-urban food production in Wollondilly

As demonstrated in Section 4.1, a significant portion of all grazing land in the Greater Sydney Region is located in Wollondilly. Wollondilly contributes 59% of the value of milk produced in the Greater Sydney Region, 52% of its beef and 19% its poultry meat. It is evident Wollondilly's rural lands is essential for local food production for the Greater Sydney Region. In addition, with the opportunities associated with the Western Sydney Airport (refer to Section 9.2), this could be further reinforced as an exporter of primary produce, generating new local employment.

The *Western Sydney District Plan's* Urban Area boundaries provide a clear boundary between urban land to the east and non-urban land in the MRA. While still subject to peri-urban pressures, Wollondilly's rural lands have retained a stronger rural heritage character, and the towns and villages retain a more country town feel and identity. This creates different planning issues and opportunities between Wollondilly and other peri-urban areas in Sydney.

Agriculture also plays an important role in protecting the open spaces which exist between settlements. Agricultural landscapes help to define the character and liveability of rural towns with residents in peri-urban towns benefitting from the rural amenity.

Local and fresh

Producers on Sydney's urban fringe have the opportunity to exploit both their proximity to a large consumer market, and the preference of many middle and high-income Sydney consumers for locally produced food.

This preference may relate to the real or perceived 'freshness' or 'organic' nature of the product attributable to the short time between picking/processing and sale to the consumer. Both taste and health considerations are important factors driving this consumer preference.

Other consumers may place value on the reduced transportation requirements of locally produced food, as a proxy for reducing emissions. Although 'food miles' is not an accurate way of assessing overall emissions intensity of food, it nonetheless presents a good marketing opportunity for local Wollondilly farmers and rural land holders.

The development of controlled production systems (e.g. glass houses) to produce high output and high value fruits and vegetables would fit well with an increasing consumer preference for local and fresh food. Such development would leverage the benefits of Wollondilly's proximity to the urban population and, being a controlled environment facility, they could be located on land not best suited for tree/vegetable cropping or pasture production.

Diversity and high value production

The high economic value of rural land in Wollondilly, due in part to its proximity to Sydney, places significant pressure on agricultural enterprises to generate sound returns. The need to mitigate climate change impacts and respond to land use conflicts may place further pressure on agricultural enterprises. Responses to these pressures include increasing scale and/or intensity of operations, value adding and diversification. Diversification includes non-agricultural enterprises which are compatible and ancillary, such as agritourism (this is discussed further in Section 10.4). Access to enabling infrastructure, including water, road networks, electricity and telecommunications, is a significant constraint to agricultural business growth and diversification in Wollondilly.

As described in Section 4, the largest agricultural industries in Wollondilly are poultry (meat and eggs), horticulture based on value of commodities produced, and cattle (dairy and beef) based on land use. Collectively these industries contribute 98% of the value of agricultural commodities produced in the Wollondilly (refer to Table 2). Intensive land uses such as poultry and horticulture tend to occupy only small areas of land. Some areas in Wollondilly are not suited to intensive land uses due to a range of constraints including proximity to urban development, Sydney drinking water catchment restrictions, access to secure water supply, remnant vegetation and biophysical constraints. Hence, the grazing of cattle is expected to remain the dominant agricultural land use (based on land area) for Wollondilly into the future.

9.1.1 Strategy options for peri-urban agriculture

Agricultural production in Wollondilly is vital to Sydney's long-term food security due to its proximity to markets, access to infrastructure and labour, and quality soils. Protection of this productive, or potentially productive, agricultural land from excessive subdivision and land use conflict, generally by pressure from speculation or rural 'lifestylers', is therefore important not only for Wollondilly but for the Greater Sydney Region.

The historical derivation of the RU1 Primary Production and RU2 Rural Landscape zones in the Wollondilly LEP 2011 is based on Agricultural Land Classification as discussed in Section 8. RU1 Primary Production is land that would have previously been described as 'Prime Agricultural Land' and RU2 being those areas of lesser productive land.

Significant areas of the Wollondilly are constrained by slope as shown by the map in Appendix E. Such land is well suited to grazing, but also a range of horticultural pursuits (e.g. on the NSW North Coast horticulture including bananas and blueberries are grown on moderate to steep slopes across large areas). Hydroponics, soil amelioration and other techniques allow horticulture to be conducted on soils of varying quality, rather than being confined to high quality soils only.

In addition, the poultry industry does not require soil types of any specific nature therefore all soil types in the rural area are potentially capable of supporting poultry businesses. As the key agricultural industries in Wollondilly are not reliant on high quality agricultural land, it is not practical to focus the protection of agricultural land to specific land classes.

Minimum lot size is a primary agricultural land protection mechanism for Councils. There are a large number of minimum lot sizes in the rural zones as also examined in Section 8. Whilst small lot subdivision can be a threat to legitimate farming practices, ensuring that subdivision patterns and subdivision processes are conducive to supporting and encouraging changes in agricultural practices is also important. For instance, more intensive forms of agriculture do not require the same amount of land as traditional forms of agriculture so ensuring that there is access to a range of lot sizes for all types of farming is essential for supporting agricultural endeavours on Sydney's fringe. Diversity in lot sizes helps support a range of agricultural uses such as grazing, cropping, and intensive agriculture as well as more small scale innovative, boutique or niche operations – whether these are value adds or separate businesses. Wollondilly's diverse number of lots size help support this model of agricultural practices.

However, over the last decade as the Greater Sydney Region expanded so did the pressure to subdivide. There is a high level of existing fragmentation and only a small number of landholdings larger than 16ha in the RU1 Primary Production and RU2 Rural Landscape zones in Wollondilly, and many of these have rural dwellings. This high level of fragmentation may be an ongoing constraint to agriculture by limiting farm business operators' capacity to consolidate land to increase scale and by the increased likelihood of land use conflict with non-agricultural uses. Allotment and property amalgamation could be facilitated and encouraged through incentive mechanisms to reduce fragmentation.

Strategies to reduce subdivision and rural dwellings in the rural lands is the first step to safeguarding the rural lands for agricultural productions. These strategies are discussed in detail in Section 11. The key opportunity for Wollondilly to safeguard lands for agricultural purposes is to determine where, when, and if the further subdivision of rural land is necessary or should even be allowed. In most instances, the further subdivision of rural land is not required unless it is to be developed for agricultural pursuits rather than lifestyle reasons.

Improve planning decision-making to support sustainable agriculture in Wollondilly's RU1 Primary Production and RU2 Rural Landscape zones is the next step to providing food security in Sydney's 'food bowl'. This will need to consider, access to water, other infrastructure provision, integration with industry, effective ways to management land use conflict, climate change policy, legislative constraints and significant government investment in agricultural infrastructure. It will also protect the right to farm in key locations within the rural lands of Wollondilly.

Therefore, it is recommended to develop a peri-urban rural lands management plan that aims to enhance agricultural uses. This may include a local provision and possible overlay in Wollondilly LEP 2011, including reference to diversity and value adding opportunities that can be supported on smaller rural land holdings. This will need to be developed with the assistance of the Department of Planning, Industry and Environment to integrate into existing clauses. This would aim at reducing or eliminating adhoc residential development on rural lands. The amendment is to also include preparation of local provisions for its

application, including minimising the potential for land use conflict and loss of agricultural land.

High value production / fresh and fast

Voracious demand for urban development and the price of residential land in the Greater Sydney Region provide strong financial incentives for farmers to rezone their land for urban development purposes. The market-driven approach to planning processes may be tempered by strategic planning policy that emphasise the importance of agricultural land uses in the MRA, with growth centred only within the Growth Boundary Area.

If the value of peri-urban agricultural production is to be factored into planning determinations, remaining producers will need to be undertaking high value agricultural enterprises on their land, rather than relying wholly on development opportunities. There is an opportunity to move agricultural production in the MRA to higher value uses. Several factors will enable peri-urban landholders in Wollondilly to maximise the per hectare profitability of their enterprises. These include:

- shifting consumer preferences in favour of locally produced high quality, fresh food
- increasing interest in agri-tourism and other value adds, from both domestic and overseas tourists
- increasing access to export markets for fresh fruit and vegetables via the Western Sydney Airport

There has been a broad range of shifting consumer motivations affecting food purchasing decisions that could provide opportunities

for peri-urban agriculture on Sydney's edges. These include demand for perceived high quality, boutique food sold at premium prices (including organic produce), demand for fresh fruits and vegetables to improve personal health, animal welfare implications and increasing adoption of vegetarian diets and other environmental and sustainability concerns. These more recent consumer trends do provide new market opportunities for agricultural producers, and an opportunity to leverage existing advantages from peri-urban production.

Horticulture

As set out in Section 4, the contribution of horticulture to the value of agricultural production in Wollondilly is increasing over time. Horticulture's contribution to the value of agricultural production in the Greater Sydney Region has grown from 28% in 2000/01 to 51% in 2015/16. Given the significant area of high-quality land in Wollondilly, access to water (in part via farm dams) and proximity to labour and markets (including development of the Western Sydney Airport) continued growth of the horticultural industry in Wollondilly is expected.

The Australian Food and Grocery Council has stated that *"intensive agriculture such as feedlots and horticulture operations are often located close to population centres due to access to labour, energy (electricity, gas), water and transport links. Food processing facilities are often located close to population centres for the same reasons"* (Productivity Commission Report, 2016). Horticulture is a growing industry in Wollondilly, and it does not necessarily require:

- specific (high quality) soils as production can occur in glasshouses, protected structures and/or pots, and many soil constraints can be ameliorated
- access to regulated and/or licenced surface or groundwater sources as the region has a relatively high rainfall and deficiencies can be augmented by surface runoff captured in farm dams
- large scale rural holdings
- flat topography - whilst horticulture is not generally suited to steep land, many types of horticulture can be practiced on sloping land

Hence the opportunities for horticulture are not confined to any specific location in the rural areas in Wollondilly. However, secure access to water will be a key driver of growth in horticultural production in the Wollondilly. The volume of water that can be extracted for productive use from the Nepean River is fixed as set out in the *Water Sharing Plan for the Greater Metropolitan Region Unregulated Water Source, 2011*. There is scope for increased access to secure water supplies arising from the growth of the metropolitan area through the productive reuse of recycled wastewater and capture of urban runoff. Productive reuse of recycled wastewater is well established in the Wollondilly (at Picton) and there is significant scope to expand productive recycled wastewater reuse (refer to Section 10.3 for further discussion regarding water).

Surface runoff capture in NSW is limited to a basic landholder right of 10% of surface runoff for dams built after 1998. Urban development increases runoff by a factor of two or more and the incremental

increase in runoff resulting from new urban development could be captured for productive reuse. Both these water supply options would provide expanding and secure water sources to support horticultural development in Wollondilly. Land in and around urban areas zoned RU1 Primary Production and RU2 Rural Landscape that is either currently being irrigated and/or used for horticulture could be investigated to safeguard the land for productive agricultural use.

By way of example, there is currently a significant irrigated agriculture development proposed using Melbourne wastewater from the Werribee and Black Rock wastewater treatment plants near Geelong. The proposal recommends establishing water demand (backed by high value export market opportunities and a water rights system) as a precursor to financing pipeline construction and delivery systems. Vegetable production is identified as clearly economically viable to provide a return to developers and irrigators (Deakin University, 2017). The Werribee proposal is of large scale: covering 20,000ha and with the capacity to use 56,000 megalitres of water. Economies of scale and various topographical and engineering issues will need to be considered to determine whether a smaller scale approach in the Wollondilly LGA would be feasible.

Poultry

According to the *Western Sydney Aerotropolis Agribusiness Precinct, Feasibility Study, Department of Primary Industries (DPI), 2018*, there are 92 poultry meat farms and 30 licenced egg producers in the Greater Sydney Region of which 43% are in or next to Growth Centres or the Outer Orbital Road. These poultry facilities (following stakeholder

consultation) located in or next to Growth Centres or the Outer Sydney Orbital will have to relocate in the next five to 10 years. Wollondilly is well placed to capture a significant proportion of this poultry industry relocation out of the Growth Centres. Some key issues and opportunities in the poultry industry include the following:

- the need for increasing scale of production to maintain viability
- reduction in bird density to align with community concerns over animal welfare
- trend towards cage free egg production
- a minimum 500 metre and preferably 1,000m buffer for new developments to nearby dwellings to reduce land use conflict issues, and 1,000m buffer (or more) between poultry facilities for biosecurity
- community objections to new and/or expanding poultry facilities in the more closely settled areas, in relation to issues such as vehicle movement, hours of operation, noise and odour

Hence while there is an opportunity to capture some of the industries that need to relocate, the potential for greenfield (new) poultry development in the Wollondilly is uncertain especially with the cost of land in Wollondilly. As such, significant poultry development may require significant support from Council and State Government agencies. Existing poultry meat farms could convert to egg production which may reduce land conflict issues as egg farms typically have significantly less noise issues and lower bird density.

The Agricultural Land Quality map (refer to Figure 10) does not prescribe areas or precincts suited to specific agricultural land uses in the rural lands, as the agricultural land use is wide spread, diverse and constrained in part due to fragmentation. Given the changes happening in the Greater Sydney Region, including the growth of horticulture, relocation of the poultry industry out of the Growth Centres and development of the Western Sydney Airport, creating precincts for particular land uses is likely to constrain economic development opportunities, unless these are emerging rural sectors.

Safeguarding the agricultural productivity should also mean assisting to build stronger farms supported by the surrounding communities and authorities. Facilitating more agricultural productivity within the existing rural lands may include the following:

- assisting land users to access development capital, including the development of an LGA-wide investment prospectus indicating spatial land use options, logistics, renewable energy access, and market opportunities
- support best practice agricultural developments through guidelines for development controls in the rural zones
- facilitate business relocation into the rural zones of the Wollondilly LGA particularly from the poultry, horticulture and horse industries
- facilitate opportunities for the productive reuse of recycled wastewater and urban run-off

There are a number of possible recommendations available that could potentially be considered as part of the Strategy as shown in the recommendations below.



Recommendations

7. Investigate the development of an Agricultural Study that analysis the mechanisms needed for the future viability of primary production investigation of new enterprises in Wollondilly providing greater resilience for the agricultural industry against market fluctuations. The study should focus on the sustainable management of primary production through sustainable production intensification, diversification of functions, and improvement of the living conditions of small farmers.
8. Develop a guideline on when and where rural subdivision is acceptable for both agricultural pursuits (under Clause 4.2 Wollondilly LEP 2011) or for rural dwelling purposes (does not include for rural residential purposes).
9. The guidelines (recommendation 8) can be supported by amendments to the development control plans to update the section on rural land which provides guidelines, controls, objectives and principles for effective and appropriate planning, development and management of rural land and supports best practice agricultural developments.
10. Develop a peri-urban rural lands management plan that aims to enhance agricultural uses. Consider the need for a local provision and mapping overlay that safeguards existing agricultural land and minimises ad-hoc urban subdivision. This will include a policy that subdivision for urban purposes cannot occur unless it is prescribed in a council endorsed Strategy.
11. Amalgamation of lots on productive and potentially productive agricultural land is supported. This may include investigating areas by increasing or maintaining the minimum lot size in RU1 Primary Production and RU2 Rural Landscape zone land and at the same time ensure that no dwelling entitlements are lost.
12. Collaborate with adjoining Councils to consider opportunities to support the growth of the agribusiness sector including facilitating business relocation into the rural zones of the Wollondilly LGA particularly from the poultry, horticulture and horse industries
13. Facilitate opportunities for the productive reuse of recycled wastewater and urban run-off.

9.2 Rural Land Use Conflicts

Land use conflict in peri-urban settings stems from perceived or real incompatibility between agricultural practices and neighbouring land uses. The potential for conflict is exacerbated where pre-existing notions of pristine rural residency are met with the reality of living in close proximity to normal agricultural practices.

Typical farming practices can result in land use conflict including noise, odour, dust, smoke, chemical drift, water quality issues, vehicle movements, hours of operation and poor visual amenity. Small landholdings are prevalent in the peri-urban fringe and farming there is often intensive, which can amplify sources of conflict.

Complainants will often seek remedies that restrict farm activities so as to minimise disturbance to nearby residents. Examples include limitations on the hours in which machinery may be used the type of fertiliser that may be applied and creation of on-site/on-farm 'buffers' or areas that can't be used for a productive agricultural purpose. This can threaten the viability of a farming business in that location (Royal Institution of Chartered Surveyors, 2016). The *NSW Government's Right to Farm Policy* (2015) stresses the importance of shared obligation, from farmers, developers, residents, local and state government, industry and real estate agents.

The most common production model for the poultry meat industry is for processors to supply birds and feed to producers who contract feed in their facilities. When ready for slaughter the birds are transported live from the farm to the abattoir. The transport process can cause the birds stress so the distance to the poultry abattoir needs

to be short, hence poultry farms tend to be located close to processing facilities. One of two main turkey processing plants in NSW is located at Tahmoor in the Wollondilly. This facility is owned by Ingham's who employ more than 300 people in the region across their breeding, growing and processing facilities. A major refit of Ingham's processing facility is planned for 2021 indicating the companies long term commitment to this site and the LGA. Besides the Ingham's processing plant there are several other duck and chicken processing plants near Wollondilly. These plants provide poultry producers in the Wollondilly with valuable supply chain connections.

Close proximity of residential or rural-residential neighbours can also hinder agricultural productivity. Potential sources of problems from non-farming neighbours can include unchecked weed emergence, biosecurity risks, and pest animals (including domestic cats and dogs). In the report *Right to Farm-Agricultural Land Use Survey: Final Report* (Goodall, A, 2018), a survey was undertaken with local government officers (including Wollondilly Shire Council) across three time periods and the following outcomes emerged from the survey:

- complaints are more likely to occur across summer months
- most complaints are about legally compliant activity
- intensive agriculture such as broadacre cropping, poultry, fruit/nut growers, cattle grazing, piggeries, and vineyards attract the most complaints
- most complaints are about a single farm, though they are more dispersed on the urban fringe

- Wollondilly Shire Council's complaints include a high number regarding odour, noise and night-time transportation on poultry farms

This survey also identified the drivers of land use conflict are:

- lack of understanding of new residents about agricultural operations
- lack of communication between farmers, community members and neighbours
- non-agricultural uses encroaching into agricultural land
- proximity of non-compatible agricultural uses

It is evident from various studies and stakeholder engagement that there is a need for all agricultural industries in conjunction with all levels of government to quantify what constitutes normal, acceptable and reasonable farm practices. This information then needs to be communicated to all levels of government and the peri-urban community to manage expectations and improve the broader understanding of agriculture, and acceptance of genuine and compliant agricultural practices on rural lands.

Right to Farm

'Right to farm' is commonly interpreted to be the ability for farmers to undertake lawful agricultural practices without conflict or interference from neighbours and other land users complaining about these activities.

Section 4 of the recently enacted *Right to Farm Act 2019 (NSW)* includes provisions to protect commercial activities from 'nuisance' complaints.

Significant expansions or variations in practice are not protected under the Right to Farm legislation, as this would unfairly infringe on the rights of neighbouring residents. However, the *Right to Farm Act* stipulates that the agricultural land use must have been active for at least one year, preventing existing agricultural operations from being disturbed by unreasonable complaints from residents.

The Right to Farm Policy (2015) is the Department of Primary Industries' response to land use conflict on rural lands. It details the importance of planning policy such as permissible uses that are compatible with agricultural activities in rural zones. It states planning tools to ameliorate land use conflict and protect agricultural production could include the following:

- identifying areas to be protected and encouraging residential development at less agriculturally productive locations
- property rights protections such as right-to-farm laws to prevent nuisance complaints about compliant farming activity
- incentive schemes to enable farmers to maintain production while being compensated for the opportunity cost of not developing their land, particularly in areas of strategic agricultural value

Land use conflict and poor planning outcomes for peri-urban farmers can be exacerbated where fragmented individual planning decisions have an unintended cumulative effect, such as increases in rural lifestyle dwellings in agricultural land. Effective policy settings need to focus on the prevention of future land use conflicts, and where possible avoid the requirement to resolve future conflicts via

regulation or mediation processes. Where proactive planning measures are not in place, significant and reactionary resources are required to deal with issue that inevitably arise.

Risk assessment process

NSW DPI's Land Use Conflict Risk Assessment Guide provides guidance on how potential future conflict can be avoided. The risk assessment includes gathering information about proposed land use changes, evaluating risk of conflict from relevant activities and identifying risk reduction management strategies.

Buffers

Department of Primary Industries guidelines

Department of Primary Industries developed an interim guideline around buffer zones, *Buffer Zones to Reduce Land Use Conflict with Agriculture* (DPI, 2018) that provides advice to agricultural industries, development proponents and consent authorities so as to reduce land use conflict between agriculture and other land uses. It suggests buffer zones of up to 1km between incompatible land uses, for example between piggeries and residential developments. The onus is on the developer to use their own land as a buffer zone to mitigate land use conflict, whether this be a residential development encroaching on an existing agricultural activity, or the development of new, more intensive agricultural facilities near existing residences.

The guidelines state it is important that buffer zones built into the design of developments do not rely on any adjacent rural landholding for their development's buffer zones. This is particularly relevant for

non-agricultural developments such as new residential developments which have in the past, often relied on adjoining rural zoned land to form part of the development's buffer zone, thus reducing the value of that land to the agricultural pursuit or potential agricultural expansion on to the land.

The Department of Primary Industries *Living and Working in Rural Areas: A handbook for managing land use conflict on the NSW North Coast NSW*, also recommends buffer distances between various types of agricultural activities and residential development. For example, 1km for piggeries, poultry facilities and feedlots, 500m for dairies and other intensive livestock operations, 200m for greenhouses and 50m for grazing stock.

The Primary Production and Rural Development SEPP, 2019

This SEPP sets out the matters that must be considered by the consent authority when rural land is subdivided for residential development, with the objective of minimising potential land use conflict. Buffer zones are not specified as a recommended measure to 'avoid or minimise any incompatibility'. Buffer zones are however explicitly provided for in the SEPP provisions pertaining to new intensive animal agriculture developments. In particular, the consent authority must be satisfied that the development will not be within 500 metres of a dwelling not associated with the development, or a zoned residential area.

Wollondilly Local Environmental Plan 2011 – Odour Buffer

Clause 7.6 of the *Wollondilly Local Environmental Plan 2011* relates to development within a designated Odour Buffer Area. The buffer area

is identified on a map. The clause seeks to protect existing land uses where odour emissions may occur from the potential land use conflict with new development, particularly where the land uses could be incompatible. Currently only two areas in Wollondilly apply to the Odour Buffer, being at East Tahmoor and Silverdale. These areas are potentially affected by odour from the poultry operations on adjoining land.

Incentive arrangements

In addition to planning and regulatory approaches, state and local governments may consider introducing incentive arrangements to either:

- reduce the imperative for landholders to rezone strategic agricultural land to residential development; or
- encourage incompatible industries to shift to alternative locations.

Reducing the imperative to rezone strategic agricultural land

The per hectare price of land on the peri-urban fringe will be higher when zoned for residential development than when the land is used to support existing agricultural production systems. Land speculation is therefore causing fragmentation and discouraging investment in agriculture.

In the United States 'transferable development rights' schemes provide a means for farmers to receive income from their land, which is attached to a decision to forgo development opportunity. Often, this will be to direct development into alternative locations in accordance

with strategic planning objectives, such as protecting agricultural land or creating green belts for biodiversity conservation. The mechanism used could be to provide permits to farmers located within nominated key agricultural areas to retain the land for agricultural use.

While these arrangements provide a useful theoretical framework for protecting agricultural land on Sydney's urban fringe, their practical implementation would be a complex task, especially as it would now be 'retro-fitted' over the existing planning direction for growth areas. Such a scheme would require:

- wide consultation between developers, farmers and various levels of government
- a consistent framework for implementation set at state government level and replicated across multiple local government areas
- potential new regulatory and administrative arrangements and review processes

Given the scale and complexity of this task, this would be beyond the scope of Wollondilly LGA alone.

Encouraging incompatible industries to shift to alternative locations or production systems

Planning the transition of incompatible farming activities to agreed alternative locations would help reduce land use conflict. Many poultry and pig producers on the peri-urban fringe are likely to want to remain on their farm and continue using production systems to which they are accustomed, so incentives would be needed to encourage some

farmers to move or adopt a new production system. These incentives could take the form of:

- direct payment to acquire a suitable alternative operation, provided either by government or residential developers
- legal and logistics assistance to move operations
- providing expertise to identify and change to more compatible or profitable production systems, and subsidise capital upgrades
- creating consolidated areas where problematic industries are located, with requisite buffers and other mitigation processes in place

Facilitating changed land use and associated production activities via government intervention would need to be carefully managed. However, using evidence-based policy that captures market trends and sets planning parameters to encourage shifts to high value and compatible peri-urban production systems would be beneficial. At face value, consolidating incompatible industries in strategic locations away from residential homes seems a sensible approach. However, if implemented it would need to consider management of biosecurity risks from consolidating intensive animal production systems and the most appropriate implementation method at a planning level in Wollondilly.

Education and awareness

The Future of Agriculture and Food Production in Sydney (Sydney Agriculture Strategic Approaches Working Group, 2017) noted that providing guidance on effective communication between neighbours is

critical, based on regular information and consultation. For example, forewarning neighbours when irregular farming activities are about to occur or establishing time-of-day preferences for activities that cause noise or odour. In this scenario, proactive farmers will help to mitigate effects and neighbours may be more willing to accept them.

Wollondilly has been on the forefront of many of these types of activity such as developing the Good Neighbour Charter and fact sheets such as *"How to be a good neighbour?"*, *"Welcome to Rural Wollondilly – What to Expect"* and *"Agricultural Industries & their Impacts"*.

Council has made available useful fact sheets providing tips to new rural residents and existing farmers on how to avoid land use conflict, focusing on cooperation and communication between adjacent landholders to manage conflicting interests without the need for third party intervention.

Strong industry codes of practice at a local level will help to promote industry self-regulation and would potentially be effective for reducing some levels of land use conflict. Some early approaches available include:

- the development of easy to apply best management practice guidelines for peri-urban farmers to help limit community concerns about nuisance or pollution. Council with the assistance of Local Land Services could help key stakeholders develop best management practice guidelines and generating adoption at the local level
- an explicit requirement for sales of land or established homes within a certain distance of agricultural industries to come with specific information about the potential effects of

neighbouring land uses on residential amenity. This could be part of an agreement with local real estate agents or part of the zoning certificate process.

9.2.1 Strategy options for rural land conflicts

As stated, the most significant source of conflict is more often the introduction of new non-farming residents into rural areas. This can sometimes result in conflict between the new residents and adjoining farmers. Subdivision of rural zoned land should be restricted where potential for conflict with existing or potentially productive agricultural land could occur, or where the use of the land for agricultural purposes would be reduced (subdivision of rural land is discussed further in Section 8).

This is where the concept of defining and protecting the rural amenity (including agricultural lands) is an option for Wollondilly. That is, protecting existing agricultural land use from planning decisions which allow encroachment of sensitive uses (such as residential or other urban development). A solution could be to develop a set of land suitability criteria, to be a statutory consideration prior to the 'approval' of a non-farming activity such as rural lifestyle dwelling or subdivision. Council could only agree to accept planning proposals/development applications for sites located substantially adjacent to a sensitive agriculture use if it is clearly justified in relation to the criteria.

This should also entail the preparation of a 'sensitive agricultural land use' map which identifies areas of potential land use conflict that may trigger the use of the criteria. The map should include intensive

livestock agriculture plant and intensive plant agriculture as well as any other known sensitive land uses.

Buffers

Agricultural land uses in particular intensive agricultural use have the potential to generate land use conflict when they occur in proximity to residential uses that are not associated with farming. Buffers are therefore commonly considered as a means of avoiding future conflict and protecting agricultural land uses.

The continued use of the Clause 7.6 of Wollondilly LEP 2011 would provide an Odour Buffer Area near sensitive uses.

The use of *Buffer Zones to Reduce Land Use Conflict with Agriculture*, Department of Primary Industries (2018) as an interim measure when assessing applications and planning proposals for sensitive uses will also be helpful. As shown on Figure 13, poultry farms located throughout Wollondilly. Poultry farms also need a 1,000m buffer distance from other poultry farms for biosecurity reasons. Mapping these uses in a comprehensive manner as suggested above could assist planners when making decisions about development in the rural lands.

Land management for buffers

Whilst buffers can be very effective, the practical application of these measures can be difficult. A requirement for new land uses encroaching on existing agricultural use to include a buffer zone within their development is reasonable but may present practical difficulties to land developers. For instance, a residential developer's business

model typically entails subdividing and selling off all residential blocks, rather than retaining ownership of a designated buffer zone that cannot easily be used for a commercial purpose. Options may include:

- developers leasing or selling the buffer zone for compatible agricultural activity such as livestock grazing. For a lease to be feasible, there would need to be livestock grazing enterprises already present in the area, and both parties being willing to enter into such an agreement. A livestock grazer would need to be interested in utilising a small-scale buffer zone, and accept land title or other legal agreement with constrained use of that buffer zone
- Developers retaining ownership of buffer zones and ensuring the land is maintained in perpetuity, which would represent a continuing liability. This seems unlikely given developer business models, and could present a bushfire, pest, weed and biosecurity risk for neighbouring farmers and residential landowners
- Local government or other land management agencies taking ownership and responsibility for peri-urban buffer zones after residential developments have been sold. This approach would require a comprehensive strategy for public management of buffer zones, developer funding mechanisms and a well-developed planning framework to include these arrangements in rezoning decisions
- The developer purchases the buffer from the adjoining farmer, but it remains under the farmer's management control and use. This would compensate farmers for losing the development potential of that buffer zone. Land use activity

would be restricted to low nuisance activities and may be implemented via an easement arrangement. Management options for the land may include roads or vegetation buffers, though various fire, biosecurity, and other risks would need to be considered

Right to farm

The importance of the right to farm approach, encompasses more than just rules and regulations, it's also about the product (food and fibre) and the security of that product to the Greater Sydney Region.

The *Right to Farm Act, 2019* and the *Right to Farm Policy (2015)* reinforces rights and responsibilities of rural landowners, and the ability of existing legal agricultural activities to operate without being pressured to change or move as a result of conflict with owners of adjoining land.

Right to farm policy can also be established through a local policy framework or guidelines on how to mediate complaints or a complaint register to effectively manage activities. However, effective policy settings should focus on the prevention of future land use conflicts by reducing non farming practices near farming practices. This is specifically important in the MRA that has been identified at the State level as supporting productive agriculture, providing mineral and energy resources, sustaining local rural towns and villages and incorporating integral biodiversity. This will assist in avoiding the requirement to resolve future conflicts via regulation or mediation processes.

It is important to balance the expectations of residents living on rural land in Wollondilly with the need to maintain a viable agricultural

sector. The landowner survey highlighted the importance of ensuring that rural residents understand and respect the right of a farmer to farm. Conversely, the good neighbour philosophy works both ways and where agricultural practices that may cause conflict, such as noise or vehicle movements, can be undertaken at a time of day so as to reduce those impacts, this should also be done wherever practical.

Development of a set land suitability criteria for non-rural development near agricultural uses, as well as a 'sensitive agricultural land use' map may be a proactive way to address land use conflicts, especially where the state and regional strategy documents support the retention of productive agricultural land uses in the MRA. Balancing this with the use of guidelines such as *Buffer Zones to Reduce Land Use Conflict with Agriculture, Department of Primary Industries (2018)* and *Right to Farm Policy 2015* may assist Council in the future to enable orderly and sustainable land use and development, minimises conflicts between land uses, and protect existing and potential future agricultural land uses.

Education and awareness

As Council is aware, it is integral to educate a changing community about the right to farm policy and the rights of other land owners including what is to be expected when living in a rural area. Having a realistic understanding of the potential inconvenience associated with living next to or near rural properties and the nature of routine farming operations would assist many people considering purchasing property to better understand what typical rural land use activities are, and how

adjoining land and land owners might be impacted, helping to reduce the potential for conflict.

Wollondilly with the assistance of the Rural Industry Advisory Committee will develop a comprehensive set of engagement material regarding rural lands in Wollondilly.

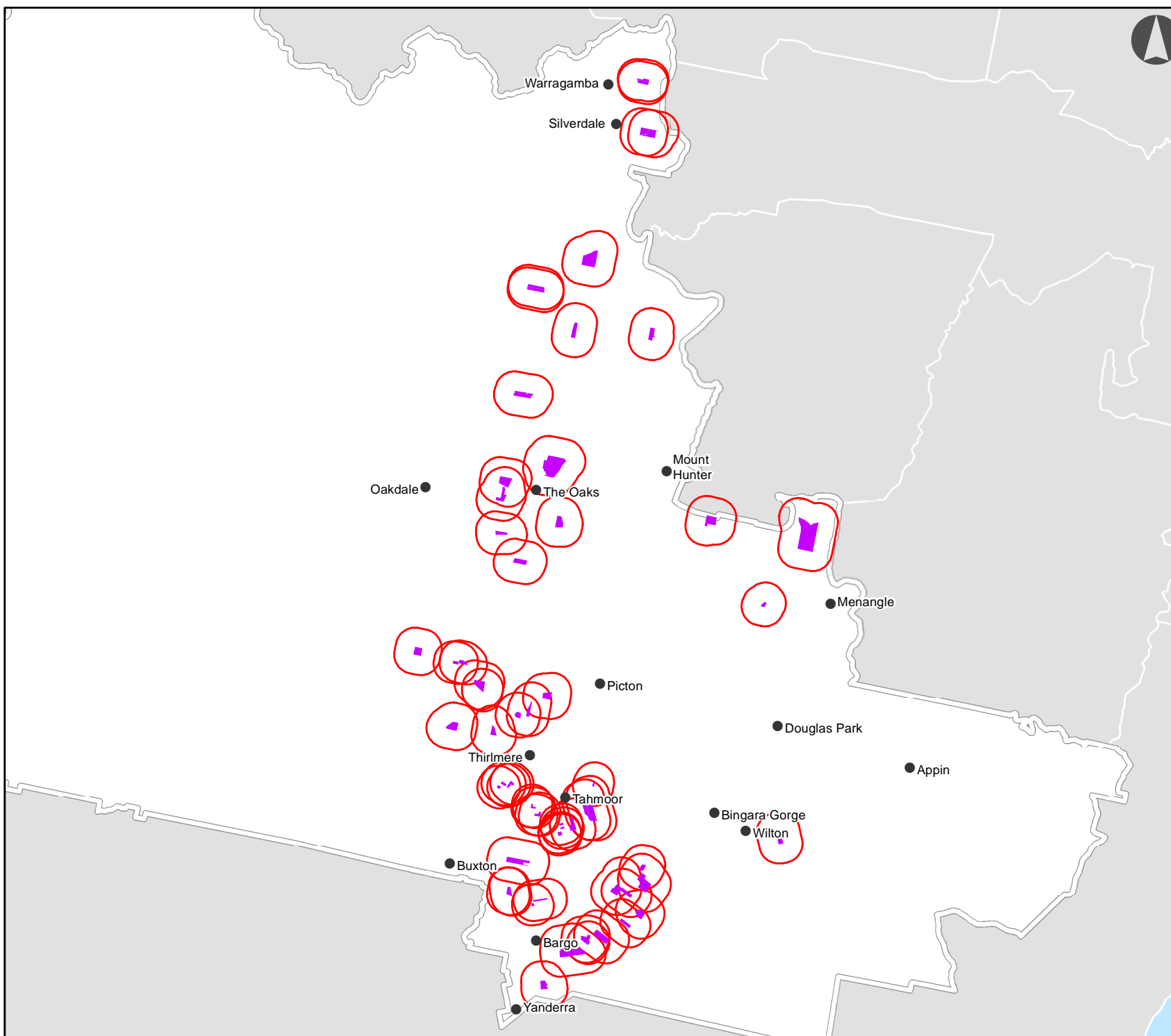
A key direction includes continued improvement to communication channels to assist the community to be informed and considerate of neighbours utilising the fact sheet already developed to 'rural lifestyle' moving to the rural areas.

Recommendations

14. Develop a set of land suitability criteria prior to the approval of a non-farming activity such as rural lifestyle dwelling or subdivision. For example, Council could only agree to accept planning proposals/development applications for sites adjoining or within 500 metres of a sensitive agriculture use if it is clearly justified in relation to the criteria.
15. Prepare a 'sensitive agricultural land use' map which identifies areas of potential land use conflict that may trigger the use of the 'land suitability criteria'
16. Implementation of the Right to Farm Act 2019 and Right to Farm Policy 2015 and any implications are considered and responded to accordingly.
17. Continue use of Clause 7.6 of the Wollondilly LEP 2011, Odour Buffer Area, to provide ongoing protection of sensitive uses in the vicinity of odorous activities
18. Use the *Buffer Zones to Reduce Land Use Conflict with Agriculture, Department of Primary Industries (2018)* guide as an interim measure when assessing applications and planning proposal for sensitive uses.
19. Develop a media strategy for the regular distribution of Council and community information to all residents regarding rural issues and education.

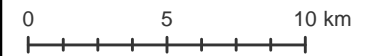


FIGURE 13
Poultry Uses and a 1000m buffer



Legend

- Towns/ Villages
- Poultry Farms
- 1km Buffer
- Wollondilly Local Government Area
- Local Government Areas



Map produced by Riverina Agriconsultants and EMAP Consulting
Date: 7/05/2020
Coordinate System: GDA 2020 MGA Zone 56
Wollondilly Rural Lands Strategy
Preliminary Findings Report
Wollondilly Shire Council v[2]



9.3 Embracing the opportunities of the Western Sydney Aerotropolis

The Western Sydney Airport and Aerotropolis is less than 5 kilometres from Wollondilly's north eastern border.

The Aerotropolis will cover 11,200 hectares and its economy, land uses and infrastructure will be centred around the Western Sydney International (Nancy-Bird Walton) Airport. The Western Sydney Airport and Aerotropolis including the location of the Aerotropolis in relation to Wollondilly, is shown in Figure 14.

The *Western Sydney Aerotropolis, Agribusiness Precinct (2019)* report states that the curfew-free airport will be operated 24/7, the Aerotropolis will be a domestic and international hub that includes jobs in defence and aerospace, advanced manufacturing, technology, agribusiness, health, education, research and tourism.

The *Western Sydney Aerotropolis Plan, Draft – for public comment report* establishes ten Aerotropolis precincts, with initial planning to focus on six of these ten precincts. A 1,572 hectares Agribusiness Precinct is one of the initial six precincts. The Agribusiness Precinct is estimated to provide 8000 to 10,000 jobs. The precincts are planned to be developed before the airport is scheduled to begin operation in 2026.

A report on the agribusiness precinct, *World class intensive integrated production hub in the Western Sydney Aerotropolis, A pre-feasibility study for the NSW Department of Industry (2019)*, visualises the precinct as 'being an integrated 24x7 intensive production and logistics ecosystem that will deliver multimodal supply chain solutions for agricultural

products to the Sydney region, NSW and Australia and will accommodate agricultural value-added industries and freight logistics facilities'.

Wollondilly is strategically located nearby and will be connected to the Aerotropolis via major transport routes. Upgrades to pre-existing transport corridors are planned, with the airport's development also identifying land corridors and seeking to preserve them to secure the future delivery of key transport infrastructure (such as the Outer Orbital Road) to connect wider centres to the Aerotropolis. Geographic challenges, like Australian supply chains that involve more than 1,000km travel, mean transport costs are currently up to 40% of the market price. A single point of transit and fewer touch points in the supply chain would be beneficial for domestic logistics in the context of agriculture, especially fresh produce.

However, as discussed in Section 10.2 direct connections to the northern section of Wollondilly to Silverdale need to be upgraded to relieve additional traffic pressures of the Aerotropolis. Requirements to upgrade these connections have not been recognised in the planning for the Aerotropolis.

The *Land Use and Infrastructure Implementation Plan (2018)* states one of the most attractive propositions for the Agribusiness Precinct is controlled glasshouse vegetables. They also list five main industries to engage with including poultry (meat and egg producers), vegetables, nursery cut flower, turf, and dairy. In particular the poultry sector is identified as a key priority due to its size and integrated businesses

models. The Plan analysed four key industry sectors as having the most potential in the precinct including the following.

- **Livestock production** – mostly in the form of poultry meat which will be vertically integrated. This means one company owns and controls multiple stages of production like the breeder flocks, hatchery, grow-out flocks, processing plant, feed mill, transportation and marketing.
- **Intensive horticulture vegetables** – includes greenhouse vegetables within protected cropping and controlled environments. The proposal is for four main vegetable species: including tomatoes, cucumbers, capsicum and leafy greens.
- **Intensive horticulture** – includes berry production, in particular blueberries. This includes 20 hectares and up to 40-50 hectares of either poly-tunnel production or retractable roof production.
- **Recirculating aquaculture production (fin fish)** – includes controlled environment land-based to recirculating aquaculture systems.

Section 4 affirms the poultry and horticulture industries comprise 85% of the total value of agricultural commodities produced in the Wollondilly. Hence there is strong alignment between the existing agricultural industries in the LGA and the vision for the Agribusiness Precinct.

According to *Land Use and Infrastructure Implementation Plan* (2018), growing food demand domestically and internationally underpins the

development of an Intensive Integrated Production Hub (IIPH) of 250 hectares to 500 hectares within the Agribusiness Precinct. The IIPH will facilitate 24-hour, 7 days a week export of food adjacent to Wollondilly's agricultural producers. IIPH is linked directly to an adjacent freight and logistics hub within the Aerotropolis.

The IIPH will need to leverage existing domestic intensive and indoor farming capabilities such as in Wollondilly LGA, and couple this with insights from global competitors, to encourage commercialisation of a large scale, holistic production, processing and food manufacture hub.

The Agribusiness Precinct could deliver huge increases in domestic production for Wollondilly. The development of major controlled production facilities (fruit and vegetable production in glasshouses) in the new airport precinct will provide significant opportunities for peri-urban farmers to leverage the logistics and market opportunities from this major capital investment. While the pre-feasibility studies modelled 250ha or 500ha controlled production systems within the precinct, new or existing fresh food producers in the Wollondilly LGA would be accommodated with capacity for processing, handling, transportation and market reach.

The Northern Precinct in the Aerotropolis includes the development of research facilities with links to food production and processing. Located within Wollondilly are two of the largest agricultural research facilities in NSW, including the University of Sydney Institute of Agriculture and Elizabeth Macarthur Agricultural Institute (EMAI).

The EMAI is the NSW Department of Primary Industries (DPI) Centre of Excellence for Plant and Animal Health. It is NSW's premier quarantine

and biosecurity facility with critical infrastructure and world recognised research scientists. While the University of Sydney Institute of Agriculture is one of Australia's leading universities for food and fibre production, processing, distribution and consumption research. These research facilities can leverage their accessibility to the Northern Precinct research facilities and accessibility to the Airport, with links to food research and development.

Apart from a connection to the broader Aerotropolis, there are a range of other considerations that are relevant to the presence of the airport and subsequent planning activities. For example, an airport's operational airspace is the volume of airspace above a set of imaginary surfaces. These surfaces are established with the aim of protecting aircraft from obstacles or activities that could be a threat to safety. An Obstacle Limitation Surface (OLS) is one of the surfaces contained within operational airspace. Tall structures or other obstructions have the potential to create air safety hazards and/or limit the ability of aircraft to arrive and depart, and this is relevant to future development for the agriculture sector in the context of not just height of buildings but also material colour, reflectivity etc.

9.3.1 Strategy options for the Western Sydney Aerotropolis

Once the Western Sydney Airport and Aerotropolis are developed, these will be an important gateway for business, tourism but also in particular high-value airfreight.

There is enormous potential to leverage the development of the Agribusiness precinct as well as the warehousing and logistics and research facilities in the Northern Precinct, to further support the

agricultural sector in Wollondilly. The northern areas of Wollondilly, particularly around Silverdale, could be explored to leverage the benefits of its proximity to the airport.

This in turn will increase confidence in the agriculture sector with direct access to international markets. Facilitating economic activity around the airport, by considering new infrastructure needs and introducing planning controls that encourage clusters of related activity, will assist in the sector's prosperity. The strength of the existing productivity that Wollondilly already has can then be further harnessed to accelerate growth in food-based exports.

Connectivity to the Western Sydney Airport and Aerotropolis will be important especially for transportation of produce to the airport. As discussed in Section 10.2, direct connections from the northern section of Wollondilly to Silverdale need to be upgraded.

Research and development will generate further agriculture and agribusiness success in Wollondilly. The University of Sydney Institute of Agriculture and EMAI is already leading in this area. Coupling the capability of food research laboratories, with the ability to upscale and export products will drive best practice and support the growth of the industry. Wollondilly has an opportunity to leverage the development of the Western Sydney Airport and Aerotropolis in agricultural research.

The implications of the OLS for the airport have been mapped, as shown in Figure 14. At the time of developing this report, Council had submitted a planning proposal to include new local provision, "Western
















Sydney Airport airspace protection'. The proposed map and local provision will amend the Wollondilly LEP 2011 to ensure effective and ongoing operation of airspace operations around the airport.

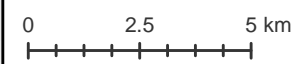
There are significant opportunities for Wollondilly's agricultural industry to grow with development of the Western Sydney Airport and Aerotropolis. Establishing a clear role and branding for Wollondilly that links to the economic returns of the Agribusiness Precinct will be important. This will promote the economic potential and development opportunity of the significant transport gateway for agricultural produce out of the LGA. In the meantime, opportunities for improving transportation connections and efficiencies should be fully investigated to enable this potential to be harnessed.

Recommendations

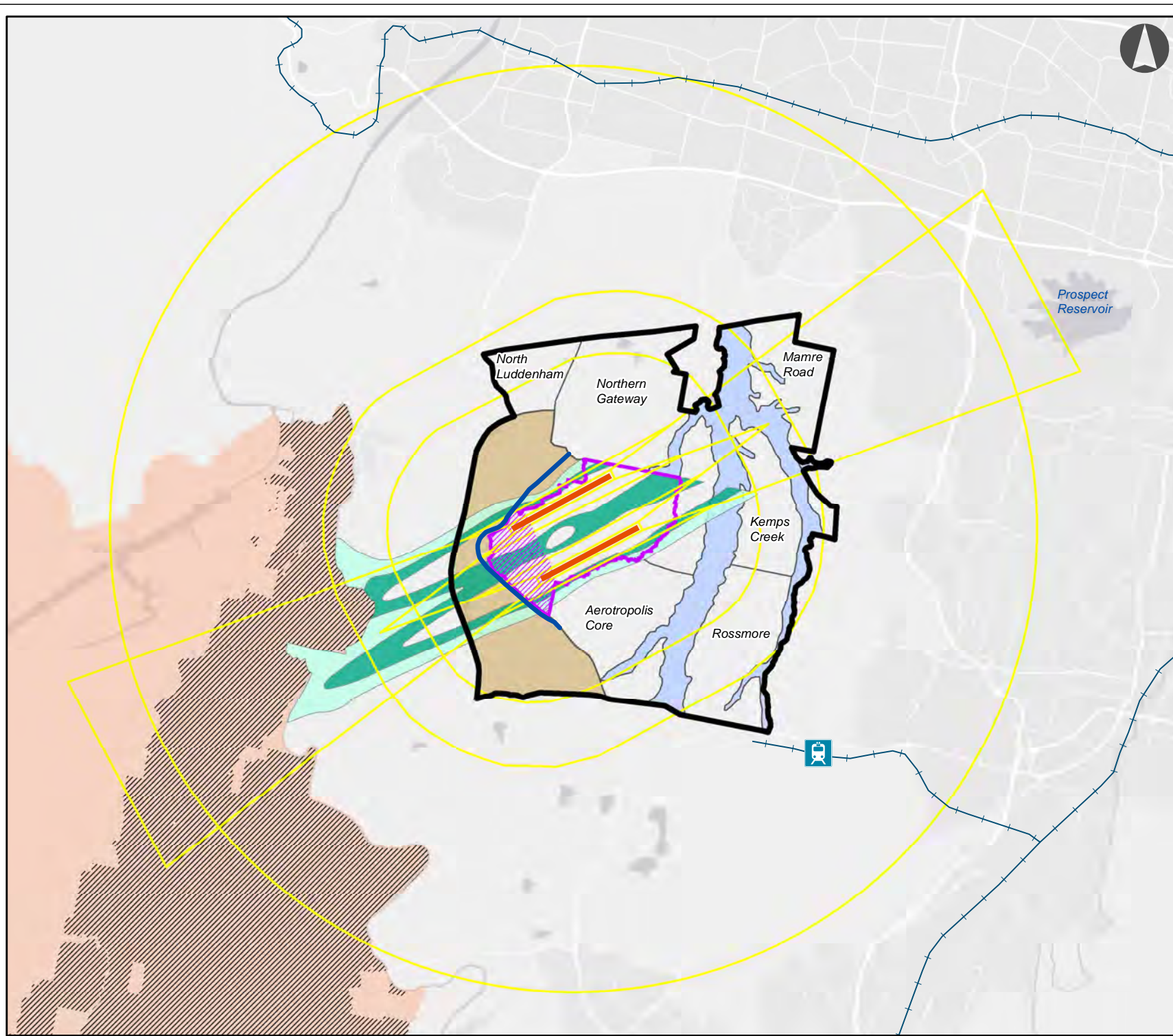
20. Continue to progress the amendment to include a local provision in the Wollondilly LEP 2011 to protect airport safety, in consultation with Western Sydney Airport and the Department of Planning, Infrastructure and Environment.
21. Promote research and development opportunities scheduled for the Aerotropolis with the University of Sydney Institute of Agriculture and EMAI
22. Coordinate with Transport NSW and Western Sydney Airport to ensure improved links for freight and logistics to Silverdale and surrounds.

FIGURE 14
Western Sydney Airport and Aerotropolis

- Legend**
-  Leppington Station
 -  Northern Road Realignment (indicative)
 -  Rail
 -  Airport Runways
 -  Obstacle Height Limits
- Air Noise Exposure Forecast***
-  ANEF between 20 and 25
 -  ANEF between 25 and 30
- Western Sydney Aerotropolis**
-  Western Sydney Aerotropolis
 -  Western Sydney Airport
 -  Freight and Logistics
 -  Aerotropolis Precincts
 -  Agriculture and Agribusiness
 -  South Creek
 -  Rural Land
 -  Wollondilly Local Government Area
- * Data only available within Liverpool LGA*



Map produced by EMAP Consulting
 Date: 7/05/2020
 Coordinate System: GDA 2020 MGA Zone 56
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Forestry

Private Native Forestry (PNF) is the management of native vegetation on private property for sustainable logging and timber production.

Harvesting timber for the purposes of PNF requires approval through a private native forestry plan (PNF Plan) which is administered by Local Land Services. These Plans aim to put in place measures to mitigate impacts on plants, animals, soil and water, and maintain ecologically, sustainable forest management practices.

Local Land Services assume responsibility for approvals and extension services for PNF. The Environment Protection Authority maintains responsibility for compliance and enforcement.

Wollondilly Shire Council does not have a direct role in this process. While Australian Bureau of Agricultural and Resource Economics (ABARE) figures showed there was 1.7 ha of forestry in 2017 it is not clear if this plantation still exists. Forestry is not considered to be a significant land use opportunity due to the extent of remnant vegetation (and associated bushfire risk), the large amount of sloping land and the lack of available broadacre holdings.



10. Manage the rural community, economy and services

10.1 Mineral resources

Unlike many other industries, mining can occur only in specific locations, i.e. where mineral deposits are located. As new exploration techniques are developed and geological knowledge improves, there is also the potential for discovery of new deposits. Mineral resources close to urban areas are susceptible to encroachment from other land uses, and in Wollondilly subsidence issues also exist in some locations. This can affect the viability of existing or potential mining operations.

The mineral resources in Wollondilly are closely associated with the geological regions. Wollondilly is located on the Southern Coalfield. This region has premium quality hard coking coals which are mined by underground mining methods at depths in excess of 400 m¹. Southern coalfield's hard coking coal is used in blast furnaces for steel and cement production and it is for this reason it is a state significant resource.

Wollondilly currently has three operating coal mines (refer to Table 8) as well as several gravel and sand quarries (refer to Figure 15). Mining is one of Wollondilly's largest industries. In 2018- 2019 mining represented 30% of value-add activity and is one of the highest

employers in the area, rising by 19.5% or 350 people over the last decade to 2018-2019. The significance of mineral resources to the Wollondilly economy is recognised in the Western City District Plan and the Wollondilly LSPS.

It should be noted while there are petroleum licences in Wollondilly (refer to Figure 15 – data from February 2016), AGL announced that it will progressively decommission wells and rehabilitate sites at the Camden Gas Project prior to ceasing production in 2023. This decommissioning is part of the NSW Government implementing a buyback of petroleum licenses as part of its NSW Gas Plan. This has resulted in a significant number of petroleum exploration licenses in the Sydney's peri-urban area being bought back and extinguished.

All mining, petroleum production and extractive industries are subject to *SEPP (Mining, Petroleum Production and Extractive Industries) 2007*. This SEPP applies to all the State of NSW. It identifies a range of works that are permissible and it stipulates that mining, petroleum production and extractive industries can be undertaken with Council consent on any land where agriculture or industry are permitted. The SEPP will over-ride any Strategy or LEP that Council's may prepare.

¹ Values of the Metropolitan Rural Area of the Greater Sydney Region, 2017 (AgEcon Plus Consulting)

Table 8 Current Mines in Wollondilly

Mine	Status	Production	License and Approvals
Tahmoor Mine	Operating	Current mining lease produces up to 3 million tonnes per annum	Currently has an application submitted to the Department of Planning, Industry and Environment for the Tahmoor South Project. The application is for the extension of underground coal mining at the Tahmoor Mine.
Appin and Appin West Colliery (formerly Tower Colliery)	Operating	The Appin Area 9 Project, that become operational in 2016, will effectively replace the West Cliff coal mine. The Appin Area 9 Project will increase the production to nine million tonnes annually. This mine is at a depth of 550 metres.	Received approval in 2011 to continue with its existing underground mining operations up 31 December 2041.
Russell Vale Colliery	All mining ceased in early September 2015 with the lapse of its mining approvals. The mine is currently on care and maintenance.	N/A	A revised modification to the UEP (Underground Expansion Project) has been submitted to the Department of Planning, Industry and Environment. The majority of the mine is outside the Wollondilly LGA.
West Cliff Colliery	Operating	Current mining lease produces of up to 10.5 million tonnes per annum	Received approval in 2011 and 2012 to continue with its existing underground mining operations up to 2031.

Please Note: The Dendrobium Colliery is located on the boundary of Wollondilly. While the extent of the mine is not located in the Shire it has been shown on Figure 15 due to its close proximity.

Mining can be an important complementary industry to agriculture and provide diversity to rural economies that can assist in times of poor agricultural commodity prices. Locating and securing mining operations of all types is essential in strategic planning. The Section 9.1 Ministerial Directions (Direction 1.3 Mining, Petroleum Production and Extractive Industries), aims to ensure future extractive industries are not compromised by inappropriate development. Consideration therefore needs to be given to potential development in close proximity to proposed mine sites.

Coal resources in Wollondilly are extracted using the technique of longwall mining. This is a method of underground coal mining whereby blocks of coal, known as 'panels', are extracted from a coal seam by a shearer moving along the face of the panel. As mining progresses along the length of the panel, the overlying strata collapses behind the advancing longwall face. Subsidence, or the lowering of the land surface is an unavoidable consequence on mining of in this area due to this technique.

The actual behaviour of subsidence movements does however vary from site-to-site depending on local geology and mine layouts. These surface movements can cause structures to be damaged especially buildings with large footprints. The extent of mine subsidence damage can vary depending on the location of a building in proximity to the mine workings. Subsidence occurs a short time after longwall mining has taken place and, in most cases, the ground completely settles within three years of mining meaning there is minimal risk of further subsidence after this time. If the long wall is inactive subsidence can occur for up to 6 months after activity has ceased.

In NSW, mine subsidence is regulated under the *Environmental Planning and Assessment Act 1979* and *Coal Mine Subsidence Compensation Act 2017*. A significant portion of Wollondilly is within a Mine Subsidence District. Development may be at risk of damage due to subsidence and as such are assessed by Subsidence Advisory NSW.

As mining of hard coking coal continues, a certain level of subsidence impact must be accepted as a necessary outcome of mining in Wollondilly until all the resource has been extracted or mining ends.

10.1.1 Strategy options for Mineral Resources

The extraction of mineral resources has occurred in Wollondilly since the 1960 - 70's and this has since formed an important component of the regional economy. Given the existing approvals and licences this will also continue over the next 20 years.

One of the biggest threats to the future availability of mineral resource extraction is the proliferation of scattered rural housing and potential land use conflict between these two land uses. This is particularly important given the subsidence issues within Wollondilly and the extent of rural housing throughout the LGA. While approvals, licencing, regulation and enforcement of most extractive industries lies with the State Government, Council can play a role in ensuring that subsidence issues are minimised by reducing development of rural housing and the like above known longwall areas where subsidence issues are of the highest risk. A balanced approach is required for the protection and maintenance of the mineral resources in future planning policies, as these resources form an important component of the local and regional economy.

Buffers around extractive industries has been the traditional approach to protecting mining operations, albeit buffers are generally only used for above ground mines where odour, noise and dust conflicts can occur. Given the underground nature of mining licenses in Wollondilly, this is not an option.

With known subsidence over and around longwalls in the area, an option could be to reduce the number of structures in the rural area until such time the mining activity is complete. This will assist in protecting structures and dwellings from any potential subsidence issues. While it is understood engineering solutions for structures can be developed to reduced subsidence affects in structures this can come at a significant cost.

An option would be to examine the minimum lot size in areas that are significantly affected by subsidence to ensure further rural dwelling development is reduced until such time the longwall operation cease and protect a longstanding industry that provides local jobs.

Recommendations

23. Consider the development of maps for high-risk areas with potential subsidence issues and develop policies to minimise the number of structures on a site-by-site basis until such time as the mining activity is complete, in partnership with the Subsidence Advisory NSW.
24. Identify the typical haulage routes for extractive resources and ensure that these are considered in planning controls and planning decisions, including contributions and infrastructure plans, for relevant development in the locality.



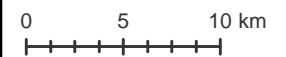
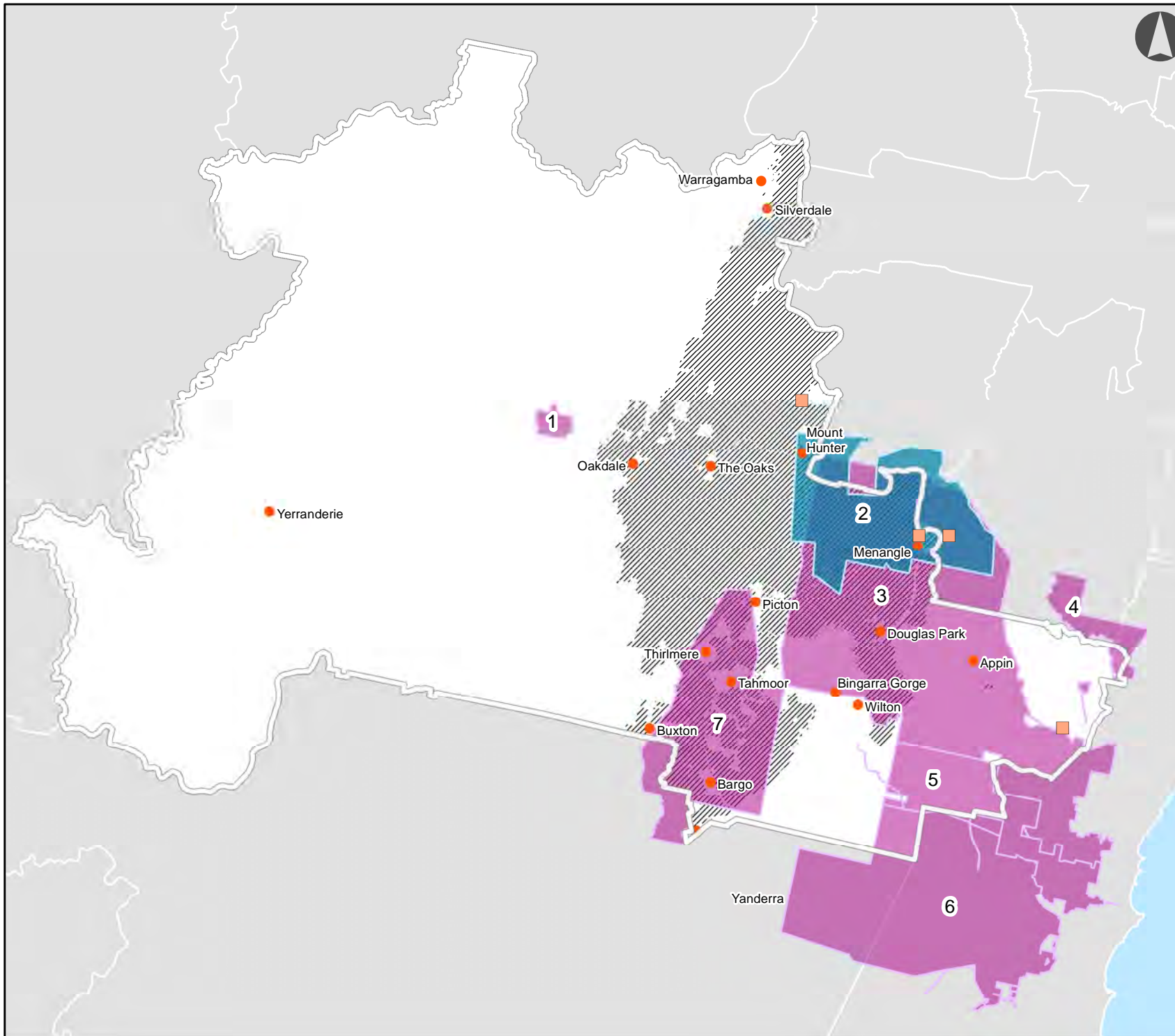
FIGURE 15
Mineral Resources

Legend

- Towns/ Villages
- Local Gravel and Sand Quarries
- Existing Petroleum Lease
- Existing Coal Lease
- Rural Land
- Wollondilly Local Government Area

Operating Mines:

1	Burrarorang Valley Coal Mine
2	AGL Petroleum Mine
3	Appin and Appin West Colliery
4	West Cliff Colliery
5	Russell Vale Colliery*
6	Dendrobium Colliery
7	Tahmoor Coal Mine
* <i>Currently under care and maintenance</i>	



Map produced by EMAP Consulting
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10.2 Transport Infrastructure

Create Wollondilly Community Strategic Plan 2033 focuses on five themes, the second of which is centred around the management and provision of infrastructure including roads. Better road infrastructure to rural communities and villages was also a common direction throughout the Wollondilly LSPS.

Rural businesses and residents require access to road networks to connect with places of employment, shopping and support services. These roads, including bridges, need continual upgrading and maintenance due to ever increasing traffic using the road network. Wollondilly Shire Council currently manages over 830km of roads and 106 bridges.

Bridges form a major part of the road network. Some of the older bridges, mainly of timber construction, were not designed to cater for high volumes, heavy trucks and vehicle speeds of today. There are many examples of these old bridges on rural roads throughout Wollondilly.

Parts of the existing road infrastructure are old and have reached their useable lifespan in some locations in particular causeways. The full replacement cost of an causeways or worn out section of rural road cannot be levied on new development. Council cannot collect for maintenance of roads even if the approval of additional dwellings or commercial space leads to an increase in maintenance requirements. Maintenance funds come from general rate revenue.

The upgrade of transport infrastructure is a major cost burden for Council. Council's *Transport Asset Management Plan* estimated the approximate current replacement cost of its roads at approximately \$300,000,000. From a day to day management perspective, with recent approval of a special rate variation, Council has been able to undertake significant works to its roads. The Picton Town Centre Masterplan was recently developed to improve the safety of Argyle Street Picton as well as an extensive capital works program for rural roads in Wollondilly.

Agricultural producers and extractive industries need to transport agricultural produce utilising heavy vehicles. Heavy vehicles utilise Wollondilly's local roads to connect to major corridors such as the Hume Highway. Heavy vehicles require certain class roads and some roads in Wollondilly cannot yet support these requirements. Some local roads are failing under the pressure of freight movements or limit the ability to move freight due to their condition or alignment.

Southern Highlands Railway is also very important for the movement of agricultural produce and minerals from the LGA to export locations including to the new Western Sydney Airport. The railway is also an important passenger transport service linking Wollondilly to the Greater Sydney Region and the Southern highlands.

10.2.1 Strategy options for transport infrastructure

The overall viability of agricultural land in Wollondilly will be strongly underpinned by the transport links that can be created to a well-established agricultural supply chain within and outside the LGA. To

achieve its full potential, Wollondilly must overcome transport infrastructure constraints.

Regional exporters require effective road, rail and air infrastructure if they are to link into the emerging global distribution systems. Rail and road infrastructure are important to attract rural industries and both Council and the State Government must ensure these linkages are established, built and maintained.

Create Wollondilly - Resourcing Strategy, Asset Management Strategy 2017/18 - 2026/27 identifies three key transport projects that have been identified to assist rural landowners. It needs to be recognised these projects are significant and beyond Council's ability to pursue under ordinary budget processes and as such will need to include a range of funding sources such as development contributions and grants. The projects also reinforce Wollondilly's unique position in moving from being a rural council to part of the Greater Sydney region. The three key projects are:

- *Silverdale Road* – options include duplication of Silverdale Road between Warragamba/Silverdale and Wallacia and/or a new link road between Silverdale to adjoining LGAs to the east (Penrith or Liverpool). This project would address significantly increasing population in the area, as well as the necessary links to the Western Sydney Airport and Aerotropolis.
- *Picton Bypass* - the bypass would effectively relieve Picton town centre congestion and provide a more direct route for heavy vehicles to access the State road network

- *Broughton Pass* - to improve road linkage between Wilton and Appin. Currently this is served by Wilton Road including a bridge crossing of the Cataract River, known as Broughton Pass. The bridge, although in good condition, is an aging structure and narrow by current standards. With significant development around Wilton and Appin expected in the medium to long term this existing transport linkage will no longer be acceptable and a high level, restriction free linkages will be required.

Create Wollondilly - Resourcing Strategy, Asset Management Strategy 2017/18 - 2026/27, Wollondilly LSPS and Future Transport (Transport NSW) have all identified other opportunities that are important to the Greater Sydney Region and the local economy. This includes (but is not limited to) the following forecast opportunities within the greater transport network:

- Maldon to Dumbarton Railway upgrade - Sydney Orbital and Maldon-Dombarton rail line will create strong freight links between the Illawarra, Sydney, Canberra, Melbourne and the airport
- Outer orbital corridor – a motorway and freight rail line that will provide for a major transport link between the North West and South West Growth Areas, connecting with the planned Western Sydney Airport and future employment lands.

It is important to recognise the important role that transportation links and associated access to markets creates for employment-generating rural industries on rural lands. These industries need serviceable

access to transport corridors to move their product in efficient and effective ways. Subject to their meeting appropriate amenity and environmental standards, the location of such rural uses is not considered to pose a significant planning concern, however Council will need to ensure contributions and infrastructure plans are updated and each future proposal does not impact on the performance of the rural road network. Further, funds will need to be allocated by State and Federal Government and Council will need to continue to lobby for their share of such funds.

With the current transport pressures in Wollondilly as part of the Greater Sydney Region, continued growth in the LGA and its proximity to the Western Sydney Airport and Aerotropolis, pressures on the transport system will only increase in coming years.

All levels of government will need to work together to improve transport networks. Local pinch points limit connections with the State and national road network and reduce productivity. Advocating to the State and Federal Government for financial support to develop a prioritised rolling program of works to upgrade and improve local roads will be needed to ensure safe and efficient transport system in Wollondilly.

Recommendations

25. Continue to work collaboratively with the State and Federal Government to identify, coordinate, prioritise and fund local road projects that help support the regional transport network and the function of rural industries
26. Ensure that Wollondilly's Section 7.11 contributions for roads remains current and consideration be given to increases in the expected traffic generated from rural development (such as rural housing, mining and farm based businesses) as part of a future review of the Local Infrastructure Contributions Plan'.
27. Consider undertaking a rural road and bridge assessment when deemed necessary for major rural development so that Council is not required to bring forward major replacement of infrastructure that it has not budgeted for

10.3 Water and other infrastructure

Wollondilly is part of the expansive Hawkesbury-Nepean catchment, which is one of the largest coastal basins in NSW also within the LGA is one its major dams, Warragamba Dam.

The Nepean River and its waterways are significant to the Greater Sydney Region as it provides nearly all Greater Sydney's drinking water supply. The water catchment in Wollondilly contains mapped Protected and Special Areas around Warragamba Dam which function as important buffers to protect the integrity of potable water supplies.

The *Western City District Plan* recognised the importance of protecting and managing the waterways in the district. Planning Priority W12 aims to protect the waterways in the LGA. Waterways throughout Wollondilly can provide a range of ecosystem, water supply, recreation and tourism values.

Water NSW manages the catchment in Wollondilly while Sydney Water supply the water through a licencing system. The issues of water quality and quantity are critical determinants of land use planning. Farming, coal mining, power generation and settlement all draw significantly on the water resources from the Nepean River.

Environmental flows are essential to maintain the ecological values of natural waterways. Over extraction for whatever purpose has the ability to reduce water quality, increase salinity, cause algal blooms, destroy native fish stocks and alter the biodiversity of the catchment. Areas that rely on surface water need to ensure that the quantity of water extracted is sustainable and that future development does not compromise water quality or quantity.

From a land use perspective, the riparian zones for all of the perennial waterways in Wollondilly need to be protected from inappropriate clearing and development. This is currently done through several planning mechanisms, including at a local level by the Wollondilly LEP 2011, that protects riparian corridors through a local provision.

Initial consultation with agricultural producers revealed that water availability was one of the main barriers to expanding production. There is a prevailing perception in some parts of the rural community that competition exists between urban and rural water users in regard to water use and management. The agricultural capability of land adjoining the Nepean River increases with the potential for surface water diversion and crop irrigation. The availability of irrigation water opens up a wider range of agricultural types including higher value horticultural commodities such as turf and fruit on better soils. Without irrigation, horticultural crops will be limited to low water using crops such as grapes or olives.

Given the reliance in Wollondilly's rural areas for water, over extraction is one of the biggest water related problems. Water NSW emphasises the importance of water sharing plans. Water sharing plans are designed to establish rules for sharing water between environmental needs of the river or groundwater system and a range of extractive uses such as villages, domestic, stock watering and irrigation needs. The Plans that apply to Wollondilly include the following.

- Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011
- Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011

While some improvements to water efficiency have been made in recent years, water supply and its disposal has remained unchanged for several decades. However, Wollondilly is currently on the forefront for innovative and suitable water reuse. Sydney Water has a Water Recycling Plant located at Picton that treats wastewater that has been used in about 3,800 homes and businesses in Picton, Tahmoor, Thirlmere, Bargo and Buxton. Recycled water produced at the plant is stored in dams and used to irrigate for fodder production on Sydney Water's 119-hectare farm.

Due to growth and increasing inflows since the transfer of Bargo and Buxton to Picton Water Recycling Plant in 2015, effluent management capacity has been exceeded. Sydney Water is currently looking to expand their effluent irrigation into more areas in Wollondilly. This would improve effluent management capacity and allow servicing of new development as well as reducing the need for discharge.

Generally speaking, people who live in rural areas do not have the same access to infrastructure and services as people in urban centres. This is true for most the rural areas in Wollondilly. However, many rural areas do have direct access to reticulated water and sewerage services. The majority of these areas are located directly around the villages. Rural locations such as Razorback and Orangeville do not have direct access to these services. Most properties in the rural zones of Wollondilly have a reliable high rainfall (relative to other rural parts of the State) so potable water can be achieved with water tanks for storage and appropriate filtration.

In many rural areas in Wollondilly sewerage treatment is generally supplied by landowners at their own expense. On-site wastewater disposal is usually achievable as long as there is sufficient land to

dispose of the amount produced. If Council pursues significant further rural development, it needs to ensure that any land identified is capable of wastewater disposal on site at the likely density.

Developing further reticulated water and sewerage connections (provided by Sydney Water) may not be cost effective or constrained for other reasons in some areas. However, given the importance of the rural areas to food security for the Greater Sydney region, connecting more areas may be feasible over the next 20 years.

It is standard for most properties to have access to an electricity connection, however mobile telephone, internet and other telecommunication coverage varies.

10.3.1 Strategy options for water and other infrastructure

As demand for natural resources increases, pressure on our diminishing reserves will also continue to increase – and most importantly water. Long-term planning for Wollondilly can ensure finite resources are managed sustainably for future generations.

Whilst Council has no formal role in the allocation of water for irrigation or farm storage, Council's planning controls can influence the ability of the LGA to productively utilise its water resources.

The protection of water quality and quantity is one of the highest priorities for Wollondilly and attention must be given to the cumulative impact of land uses on this resource. As supported by other sections in this report, and in the context of rural lands, revised planning approaches to the amount and location of rural subdivision and rural housing would assist in addressing the cumulative use of water resources and other infrastructure.

The volume of stormwater runoff in Wollondilly is also significant. This volume of water can provide both an alternative supply for non-drinking purposes and a healthy flow to the waterways. Capturing this water will assist to minimise water price, assist farms to access water and improve the health of waterways.

Sustainable development relies on a balanced interdependency between quality of life, healthy ecosystems and economic growth. The supply and quality of water strongly influences that interdependency and is one of the most significant limiting factors to achieving sustainable long-term outcomes for productive rural lands. Therefore, advocating for a reliable supply of water for agricultural uses, including the potential to use recycled water and wastewater, can provide irrigators with a sustainable source to allow for future expansion. This will also reduce pressure on the Nepean River and the sensitive Sydney Water Drinking Catchment.

Sydney Water's water recycling plant and proposed extension provides a significant opportunity in Wollondilly. However, the increasing cost of land due to speculation has prevented Sydney Water purchasing more land to expand the current Picton Scheme. This poses a significant barrier to sustainable water reuse in the LGA. However, the reuse of water could be considered in major developments and options need to consider all innovative reuse potential.

At a more local level, revised planning approaches to the amount and location of rural subdivision and rural housing would assist in addressing the cumulative use of the water resource, and other infrastructure.

Recommendations

28. Promote the efficient use and re-use of water in agricultural and other rural land uses
29. Partner with the Sydney Water and the private sector to provide a secure, sustainable and long-term water supply solutions
30. Continue developing the Integrated Water Management Strategy and Policy for Wollondilly to protect water quality and supply
31. Continue to protect riparian areas for all of the perennial waterways from inappropriate clearing and development. This will assist in maintaining biodiversity and water quality whilst limiting the pressure on waterways
32. Work with the Sydney Water to deal with water management sustainably to support food production for Sydney.

10.4 Rural tourism

Wollondilly's rural tourism offerings are underpinned by the LGA's popular natural assets such as the variety of National Parks and waterbodies including:

- Blue Mountains National Park and World Heritage Area
- Thirlmere Lakes National Park
- Dharawal National Park
- Nattai National Park
- Kanangra-Boyd National Park
- Warragamba Dam
- Lake Burragorang

Further, its rich agricultural history and its rural town and villages are also popular, especially with day visitors from the Greater Sydney region, the Illawarra and Southern Highlands. There are also a range of tourism related markets, festivals and events such as Thirlmere Festival of Steam that attract visitors and offer opportunities to rural localities.

Wollondilly Council has also proposed a new 'Great Burragorang Valley Walk' a 316km walk through the spectacular bushland on reality. It will highlight iconic areas of unique natural beauty including the Burragorang Valley, Greater Blue Mountains World Heritage Area, National Parks and conservation areas.

Wollondilly Destination Management Plan (2018) reported visitation to the Wollondilly has been growing, with a large proportion of the visitor market (83%) being domestic day trippers. The proximity to Sydney

does provide significant value to the visitor economy however it also presents challenges, with overnight visitors only representing 17% of total visitation to Wollondilly in 2017. The Wollondilly Destination Management Plan provides various strategies to capture a greater slice of the tourism market, including rural product offerings such as food tourism and rural function centres.

Wollondilly has several established tourism markets, particularly amongst self-drive, rural experiences, grey nomad and business travellers, with emerging opportunities to broaden the tourism market in event tourism, trial bike, hikers, backpackers, and the broader international market. The competitive nature of the tourism industry and the growing global expectations of the visitor experience mean that Wollondilly must have a quality tourism product to attract and retain visitors.

Traditional Custodians in Wollondilly have a variety of land holdings. There may be an opportunity to see how these landholdings can best be planned, managed and developed for the benefit of the local Aboriginal community. This may also assist in the development of Aboriginal tourism opportunities.

The food culture in Wollondilly is relatively undeveloped aside from some small nodes. There is a need to significantly improve the food offering through the development of local produce supply chains, including promotion of the Wollondilly Harvest food trail, development of farmers markets and other local service providers. As suggested in the Destination Management Plan, further investigation into paddock to plate strategies is required. The 'paddock to plate' story, builds

social connection between producers and urban consumers, and helps consumers who want to feel positive about their food choices to do so. Peri-urban farmers located close to a large consumer base such as Greater Sydney Region have more practical opportunities to build these connections than those located in inland NSW. While not all farmers will have the inclination or aptitude to build closer relationships with consumers, there is an excellent opportunity to extract premium product prices for those who do.

There is opportunity to build on the Wollondilly's strengths and the growing interest in rural tourism. In particular, with attractive rural areas and small towns there are opportunities to explore:

- increasing the number and scale of nature-based experiences/attractions
- agri-tourism such as farm stays, farm gate sales emphasising local produce and boutique enterprises
- rural accommodation including bed and breakfasts and glamping to cater for broader tourism need.

Supporting and encouraging investment in these activities adds value to farming activities in providing 'off farm' income for farming families, diversifying the tourism offering of the LGA, and increasing the returns to the land. It is important however that the competing demands of tourism development and ensuring the productivity of agricultural land are balanced appropriately through the planning scheme.

10.4.1 Yerranderie

Surrounded by National Parks and Yerranderie State Conservation Area, this state heritage area is a remote historical silver mining village. There is a total of 78 properties in private ownership, 1 allotment in Council ownership with the remainder of lots owned by NSW National Parks and Wildlife Service.

The village is currently zoned E3 Environmental Conservation with some lots zoned E1 National Parks and Nature Reserves under the Wollondilly LEP 2011. The Wollondilly LSPS describes Yerranderie as a cultural destination stating, *"Yerranderie holds a unique connection with its semi-permanent residents, many who have familial links with the area. Yerranderie's isolated location separated from Greater Sydney by drinking water catchment both contributes to the village's character and presents challenges to sustaining the area for future generations."*

The village is not accessible through the Wollondilly LGA but through the neighbouring Oberon LGA via the 4WD Oberon Colong historic stock route. However, it's this isolated location that gives Yerranderie its charm. As described in the Wollondilly DCP, heritage buildings in the village include the historic post office, tailor shop, general store, bank and residential cottages, which have been restored to their original condition, and include displays from the miners over the decades. Located nearby the main buildings are the silver mine including Silver Peak Mine, Colon Peak Mine, Wonga Mine and Wollondilly Mine.

This area with its remote location and historic features holds unique tourism potential. However, the only existing tourist accommodation is a campground and cottages managed by NSW National Parks and

Wildlife Service. The Wollondilly Destination Management Plan says that Yerranderie *'offers valuable heritage attractions such as silver mining relics, a 'forgotten ghost town'.*

Council has been advocating to provide access to Yerranderie via the western side of the LGA. However, access is needed through National Parks and the Warragamba Dam Water Catchment and environmental concerns have hindered progress. Yerranderie does contain an airstrip which could provide the alternative access via a private plane or helicopter.

One such opportunity may be in the growing trend for wellness tourism that demands destinations that deliver physical, emotional, spiritual and environmental health. These offerings are in locations away from the reminders of a city lifestyle.

10.4.2 Strategy options for rural tourism

A well-designed tourism development which respects the natural features of the setting and locality whether predominantly agriculture or environmental can provide opportunities for innovation and diversification.

However, the planning system can present barriers to encouraging tourism facilities in rural areas. For example, while land uses such as farm stays and bed and breakfast accommodation are permissible with consent in rural areas, uses such as rural function centres are not defined. As a result, the growing destination wedding and business conferencing market is unable to meet demand in the Wollondilly area. This situation requires the development of a suitable planning pathway to enable Council to adequately respond to these opportunities.

As such, Council is currently in the process of amending the Wollondilly LEP 2011 which includes the following:

- Amend the land use table to permit 'Rural Function Centres' as a proposed new definition with consent in rural and some environmental protection zones (E3 and E4). If the Department of Planning, Industry and Environment does not support this option, permitting the broader "Function centres" definition in rural and some environmental protection zones may provide an alternative, albeit potentially more difficult to manage.
- Permit 'Tourist Park' (proposed new definition) with consent in recreation and rural zones or if the Department of Planning, Industry and Environment does not support this option, to permit 'Caravan park' with consent in recreation and rural zones.

There is recognised potential for incompatibility between existing or proposed tourism uses and surrounding agricultural land. Many councils have developed a local provision with associated development controls that consider a set of objectives and principles to locate tourism uses in rural areas. These typically seek to minimise impacts, ensure appropriate management and provide separation from areas of primary production through measures that deal with traffic, access, noise and other amenity issues.

Council can also act as a facilitator to connect farmers to sources of business advice, funding and events for tourism purposes. Development of a local business newsletter would allow Council to send out information about grant opportunities, workshops and

networking events. This can be done using a mailing list and the business email lists used by Council's economic development officers.

The *Wollondilly Destination Management Plan* highlights the opportunity to better showcase and develop Wollondilly food and produce. There may be opportunities to assist local producers to exploit value add opportunities by better connecting consumers with food producers. This may include:

- o updating the *Wollondilly Economic Development Strategy* (2015) to better reflect the economic opportunities of tourism
- o assisting interested producers to invest in capital upgrades to brand and package farm produce as high value boutique products
- o helping businesses understand how to deliver meaningful tourism experiences, and tap into related demand, from the domestic and international tourist markets

Initiatives like the Wollondilly Harvest Experience, which aims to support the development of sustainable local food tourism, should be assisted to the extent that participants are supported by compatible land use planning controls. This may include expanding definitions to include agri-food and agri-tourism enterprises in rural zones, as well as utilising existing definitions such as roadside stalls. There could also be opportunities for the Aboriginal culture to be promoted as a tourist activity or destination which would need to be identified and investigated alongside the Aboriginal community and organisations such as the Local Aboriginal Land Council.

Protecting the existing character of rural areas will be important for future tourism development. Identifying its values and fostering these to guide development to create unique rural destinations and experiences will help in assessment and development processes (this is discussed further in Section 12).

Yerranderie

The remote, privately held land at Yerranderie is currently zoned E3 Environmental Conservation under Wollondilly LEP 2011. This village previously zoned 5 (c1) Special Uses (Water Catchment) in the Wollondilly LEP 1991 and the E3 Environmental Conservation zone was the best fit for transitioning to those that were available under the standard instrument. However, there is a need to provide precinct specific planning controls for this unique location to encourage and support uses such as tourism. With the area surrounded by land zoned as E1 National Parks & Nature Reserves, this area is not considered to be suitable for intensive agricultural uses. The existing agricultural uses currently occurring in this village have existing rights to continue operating.

Partnering with NSW National Parks and Wildlife and developing village specific controls for Yerranderie is recommended. A review of planning controls may include specific controls under *Schedule 1 Additional Permitted Uses* or a specific local provision for the village similar to *Blue Mountains LEP 2015 Part 7 additional local clauses – development in villages*. An additional local provision will ensure any potential development will be sympathetic to Yerranderie's historical silver mining connections and unique environment.

Recommendations

33. Investigate developing a rural tourism strategy/ policy that provide a strategic framework within which investigate opportunities for tourism in rural areas to help primary producers diversify uses and ensure tourism, agriculture the environment can all mutually coexist.
34. Facilitate farming connections through the development of local business newsletter that would allow Council to send out information about grant opportunities, workshops and networking events
35. Partnering with NSW National Parks and Wildlife, investigate a village specific LEP local provision for Yerranderie, sympathetic to its historical connections and unique environment.



11. Managing pressure for rural living opportunities

A key issue for the Rural Lands Strategy is the development or proliferation of dwellings within the rural areas. This is both an area where there is considerable pressure for development but also where the impact of such development can have the greatest repercussions.

As a result, rural dwellings and rural residential development has become one of the most contentious areas of planning policy. This is particularly the case in Sydney's peri-urban areas where the pressures for development of this nature can be very strong and can substantially and permanently alter the character of the rural localities.

Where a disconnect exists between strong policy and decisions, there is potential for residential development in rural areas to have significant cumulative impacts on the environment and in terms of lost agricultural productivity. As such, it is important that policy in this area matches the strategic aims of both the State Government and Wollondilly Shire Council to ensure that this consistent application of policy is achievable.

11.1 Managing rural residential growth

What is rural residential development?

Rural residential areas are zoned R5 Large Lot Residential under Wollondilly LEP 2011 and in Wollondilly are unique from other types of residential and rural living environments as they are residential development in a rural setting.

These areas in Wollondilly commonly have larger sized properties in contrast to other residential development and are generally not associated with agriculture. Rural residential development within proximity to schools, healthcare, employment and shops in Sydney provide households with a rural lifestyle including increased space and privacy and residents can build large homes, extensive gardens and outbuildings and house domestic animals. Rural residential dwellings are often large in Wollondilly, up to 1,000 to 2,000 square metres.

Rural residential areas are essentially the use of rural land for residential housing as opposed to rural housing where agriculture is the primary land use and the dwelling is 'ancillary'. While there are some lots in Wollondilly where some agriculture may take place on the land, it is likely to be carried out for 'lifestyle' reasons and is unlikely to provide a significant source of household income.

Rural residential development usually does not have Council services - such as water, sewage or stormwater infrastructure. However, due to its primarily residential function, rural residential development still requires reasonable access to most of the normal services and infrastructure provided in urban settlements such as schools, healthcare, employment and shops.

How is rural residential development currently managed?

The allocation of land for the purpose of rural residential development is managed firstly through the implementation of the R5 Large Lot Residential zone under Wollondilly LEP 2011. This zone is applied to distinguish between land which will be used primarily for dwellings on rural lots (rural residential land) and land whose primary purpose is for agriculture or environmental protection (RU1 Primary Production, RU2 Rural Landscape, RU4 Primary Production Small Lots and E4 Environmental Living zone).

The R5 Large Lot Residential zone contains a range of objectives and permissible uses which need to underpin decision making about planning proposals and development applications in that zone. The minimum lot size for R5 Large Lot Residential zone is 4000m² in the Wollondilly LEP 2011. It is the role of the LEP and Wollondilly DCP 2016 to provide contextual guidance that reflect the local context and directions for appropriate development or use within the zones.

A lot size analysis for the large lot residential zone (as shown in Table 9) demonstrates that there are 332 lots (23% of the total) currently under the minimum lot size for this zone. These lots may have been approved through previous policies or plans. However, given the number of lots less than 4,000 square metres it is unlikely many of these lots have any agricultural pursuits attached to the land and are essentially a residential use.

Table 9 R5 Large Lot residential zone - lot size analysis

Lot Size Category (Sqm)	Number of Lots (no.)
Less than 1000	78
1001-2000	16
2001- 3000	66
3001- 3500	59
3501-4000	113
4001-4500	815
>4500	307
Total	1,454

Understanding the existing situation

Understanding the existing situation involves assessment of rural residential land throughout Wollondilly. A number of steps were followed to ensure a thorough understanding of the existing zoned rural residential land. The following summarises the process undertaken to understand the existing supply and demand of rural residential land.

- *Identification of rural residential areas:* this includes where rural residential development has already occurred in Wollondilly as well as looking at the where the existing development has occurred against current zoning plans and

aerial photographs. This process identified a number of locations where zoned land was still available for rural residential development.

- *Identification of Wollondilly's need for rural residential land* – this is termed a supply and demand analysis. This includes investigating how much rural residential land is required in Wollondilly.

Existing Rural Residential Supply

To determine the current rural residential land supply, the first step is to assess the level of undeveloped land within existing zoned areas. This has been completed through reviewing aerial photographs and is therefore cursory in nature and may be subject to some error. The aerial photographs utilised to determine the vacant lots was dated at 4th April 2020 (Nearmap). This process identified a number of locations where dwellings were not present in R5 Large Lot Residential zone and where the lot size indicated the potential for further subdivision. These localities are described in detail in Appendix A.

As shown in Table 10 there are nine localities zoned R5 Large Lot Residential under Wollondilly LEP 2011 covering a total of 824.6 hectares. Of this land the currently undeveloped supply is 112 hectares. This undeveloped land has the theoretical potential for up to 280 lots with an average lot size of 4,000 m² (i.e. at the minimum lot size).

It should be noted there are several sites that are currently being assessed for rezoning to the R5 Rural Residential zone. For example, if approved, the proposal at Cross Street, Tahmoor will provide 260

dwellings (a total lot size of 167 hectares). The proposal at Cross Street, Tahmoor is currently used for duck farming operations. Whilst a smaller proposal at Silverdale Road, The Oaks will provide approximately 12 dwellings (a total lot size of 1.9 hectares). These rezoning proposals, if approved, will add to the existing supply of rural residential land.

While it is recognised that there may be many factors that impact or constrain the supply of land, Table 10 gives an indication of the existing supply of land for the purposes of this report. The factors that may impact or constrain the delivery of rural residential land in Wollondilly include environmental constraints, landowners not pursuing development due to economic decisions, development costs due to topography, poor access or site limitations such as providing major utilities or an unsuitable location for residential development. In addition, some areas such as Buxton do not have a dwelling entitlement due to historical reasons or are subject to a minimum lot size requirement for reticulated water supply to obtain a dwelling.

Table 10 Current Rural Residential Land Supply

No	Name	Total Area (ha)	Total Lots (No.)	Vacant lots (No.)	Vacant area (ha)
1.	Bargo	123.9	289	9	5.3
2.	Buxton	24.4	104	49	3.6
3.	Camden Park	13.3	23	0	0
4.	Douglas Park	16.1	39	2	0.4
5.	Picton- Mowbray Park -Maldon	95.6	211	10	9.7
6.	Tahmoor	126.5	97	56	72.2
7.	The Oaks- Belimba Park	15.2	38	0	0
8.	Thirlmere-	187.2	133	4	4.2
9	Silverdale	222.6	520	30	16.8
Total Wollondilly		824.6	1454	160	112.2
<i>Potential supply (within current proposals)</i>		168.9	N/A	N/A	168.9
<i>Total potential supply</i>		993.5	N/A	N/A	281.1

Rural Residential Demand

Projecting demand for rural residential land can be sourced from several methods. One approach is to assess the past approved rural residential dwellings, or lots created over a period of five years and project this demand forward over a given time frame to give an estimate of future demand.

Table 11 Subdivision and Dwelling approvals for R5 Large Lot Residential from 2015 to 2019

Year	Subdivision		Dwelling
	Approved (no. of lots)	Certificates (no.)	Approvals (no.)
2015	2	54	15
2016	28	0	32
2017	25	16	30
2018	16	32	34
2019	15	0	35
Average over five years	17.2	20.4	29.2

Dwelling approvals method

From this assessment it is known that the average number of rural residential dwellings approved by Council over the last 5 years (2015 to 2019) is 29.2 dwelling houses per year. Projecting this as constant demand until the year 2040 (20 years) then Wollondilly will need to give approval to 584 rural residential dwellings. No allowance has been made for rural dual occupancy.

Wollondilly LEP 2011 prescribes a minimum lot size for rural residential development of 2,000, 4,000 or 5,000m². While the minimum lot size does vary depending on the area, the majority of rural residential land has a minimum lot size of 4,000m². This provides a guide to the likely density of rural residential dwellings in the future. Based on these densities (at 4,000m²) the area of land required would be in the vicinity of 233 hectares. Allowing a further 20% for other requirements, such as dedication of public land and allowance for land that is not suitable for development, this figure expands to around 280 hectares. As stated, two rezoning proposals (at Cross Street, Tahmoor and Silverdale Road, The Oaks), if approved, will add to the existing supply of rural residential land.

Lot approvals method

Another approach to defining the demand for rural residential land (and therefore rural residential dwellings) is to assess the past demand for rural residential land over a period of 5 years and project this demand forward over a given time frame to give an estimate of future demand.

Through previous development applications (from 2015 to 2019) it is known that the production of rural residential land (number of additional lots approved in the R5 Large Lot Residential) (refer to Table 11) is 17 lots per year. Projecting this as a constant demand until the year 2040 (20 years) then Council will need to release 344 rural residential lots in order to satisfy the current level of demand from the market. Based on the 4,000m² minimum lot size, the area of land required would be a minimum of 137 hectares, or 164 hectares including a 20% allowance.

These options indicate that Wollondilly will need between 137 hectares and 280 hectares of rural residential land to satisfy the potential demand for rural residential development between now and 2040. This equates to between 6.8 ha and 14 ha per year.

11.1.1 Balancing supply and demand

A prudent and balanced approach is required for managing rural residential land use. It is also important to recognise that there are direct consequences of actively providing for full demand between 137 ha and 280 hectares of rural residential land.

The existing supply of vacant land that can be subdivided with additional dwelling equates to 112 ha of land. If we add the potential rezoning's currently being considered this will be total 281.1 hectares of rural residential land supply. It is acknowledged that some of this land would be subject to constraints. However, for the purposes of this report this equates to an immediate supply of between 8 to 16 years and a potential supply (if the current rezoning applications are approved) of between 20 to 41 years of rural residential dwellings.

The motivations for rural residential development are generally for the lifestyle benefits of rural areas such as the amenity, tranquillity and landscape. Given the size of the lots (refer to Table 9 for the lot size analysis) in Wollondilly it has little to do with earning a living from agricultural production.

Consequently, rural residential development has major implications for the productivity of rural lands. Within Wollondilly these areas have been developed between the villages and agricultural land. This slow encroachment has led to the direct loss and fragmentation of productive agricultural land. Further rezoning of rural residential land in Wollondilly even after the 10-year supply will come at a cost to rural productivity. Some further costs of rural residential development include:

- Reverse sensitivity or increased land use conflicts - reverse sensitivity arises where a new incompatible activity (e.g. residential dwelling) is introduced into an environment which has the potential to limit operation of existing activities (e.g. normal farm operations).
- loss of rural amenity (open rural outlook), potential effects on landscape character and the social fabric of a once rural area.
- inflated land values in rural areas relating to speculative purchasing
- servicing of rural residential development
- increases in environmental degradation due to residential development such as waste disposal and weed invasion
- increased need for emergency management to these areas such as bushfire management

In addition, apportioning housing demand to particular zones in the above way is problematic. The above analysis relies on static forecasts of variables - in this case subdivision and dwelling approvals. These are not sophisticated estimates; nor do they factor in the impact of current or future planning policy.

The introduction of new goals and strategies could significantly challenge the historic patterns. The development within the Growth Areas such as Wilton will divert demand away from rural residential to serviced residential areas and the forecasts outlined above may therefore overestimate the amount of land that will be required.

11.1.2 Options analysis – A more sustainable approach?

This Findings Report and the Rural Lands Strategy aims to consider the community needs and balance these interests against broader policy and regulatory considerations and underpinned by the principle of “Protecting agricultural resources and the rural economy” (Principle A). As Section 9 explains, agricultural land along Sydney’s urban fringe is increasingly valuable as an agricultural production asset as it has the potential to provide Sydney with a significant amount of its fresh produce. Any consideration of further rural residential development will need to avoid negative impacts on rural productivity, and as a flow-on, the rural economy must be prioritised.

Given the costs of rural residential development and to lessen the potential longer-term consequences of increasing rural residential development, including the fragmentation of rural land, land use conflicts and ‘domestication’ of rural landscapes, any future option needs to consider the following framework:

- protect the rural land bank, to better recognise and provide for the farmer
- continue to direct growth to identified residential growth areas such as Wilton or the villages to support the investment made in these locations and/or to existing urban areas (i.e. to promote intensification and redevelopment, or residential infill development)
- limit the financial impact of rural-residential development on Council infrastructure demands and other Council resources.

- limit the impact of rural residential development on environmental qualities including biodiversity and water quality values, rural amenity/character, landscapes and natural features and open views.

Given the above framework there are alternative options available to Council to manage demand and supply for rural residential living, especially in view of the costs, these options are presented below.

Option A – 80% of demand

- Supply land area of only 80% of rural residential demand projections. Allied to this is the option of staging the allocation of this rural residential development over a specified planning period e.g. sequencing land provision over the next 10 or 20 years. However, even at 80% this will come at a cost to the primary production sector.

Option B – Protecting rural lands

- This option is to protect the rural land for primary production activities and scenic landscapes. There will be no further rural residential land rezoned and any further residential land will be developed within town/ villages or Growth Areas. Significant impacts to primary production or to the environmental or cultural values of a rural area will be avoided.

Option C – Reducing the minimum lot size

- Reducing the minimum lot size for existing zoned rural residential areas has the potential of supplying additional

dwellings to these areas. However, given many of these areas usually do not have Council services, Council should only contemplate this option if there is spare network capacity and at the cost of the developer.

11.1.3 Strategy options for Rural Residential land

Rural residential development is desired by people who wish to live in a rural environment. Such development can have the potential to degrade the very features that these people have come to the rural environment for, such as privacy, open 'natural' surroundings and quiet. Rural residential development also comes at a cost such as major implications for the productivity of rural lands, land use conflicts with primary production and costs to servicing the land.

With land values providing financial incentives for landowners to subdivide and sell their land, important environmental land and rural land could be lost and fragmented to support further growth in the housing market. The large lot sizes are a relatively inefficient use of land to accommodate residential development compared to more intensive land use zones such as R2 Low Density Residential or RU5 Village. This is a significant opportunity to focus housing choice to the attraction of new residents within the Growth Areas and villages rather than expanding into sensitive lands. Council receives rezoning requests for rural to rural residential land frequently. While there is legislative framework to assess these proposals a clear and transparent policy direction is needed.

Drawing on regional planning documents such as the *Western City District Plan*, Council's LSPS and Community Strategy Plan and others,

current housing policy has been to create compact urban settlements, minimising impacts on the environment and protecting rural values. Compact settlements can reduce car dependency, make efficient use of existing physical and social infrastructure and support more sustainable residential development. In addition, the *Western City District Plan* prefers no further rural residential land would be supported by the State Government.

Option A presented above will continue to cause the loss of rural production of land directly but also jeopardise the productivity of the surrounding agricultural land (through land use conflicts). Rural residential development can have environmental, social and economic costs that are significantly higher than those of standard residential development. It is for this reason Option A is not considered consistent with State and local planning policy. Given these findings, there is also limited justification for future intensification of rural residential areas.

Option B is consistent with the planning principles within this report. In addition, retaining the longer-term options for use of rural land is consistent with current State and local policy relating to lands used for agriculture. If option C is considered, a principle-based assessment will need to be developed to ensure it supports balanced and sustainable growth in Wollondilly. These principles should include:

- infrastructure safeguarding – further subdivision of existing rural residential areas occurs only where only where it will support the efficient and effective use of existing

infrastructure, or new supporting infrastructure at the cost of the developer

- subdivision of existing rural residential areas should only occur in proximity to existing and established appropriate road infrastructure
- development should not compromise the ecological function of mature vegetated areas and waterways, or cultural heritage assets.

Recommendation

36. Protect rural land for primary production activities and scenic landscapes by:

- not zoning any further land in Wollondilly for rural residential purposes
- locating further residential development within town/ villages or Growth Areas.

In doing so, significant impacts to primary production and to the environmental or cultural values of a rural area will be avoided.



11.2 Rural Dwellings

Rural dwellings are dwellings predominantly located within rural lands that are generally required in order to conduct agricultural activities on the land. In most instances, rural dwellings are essential on-farm properties that are the place of residence of the farmer and/or family members. For the purposes of this Findings Report and the Rural Lands Strategy, rural dwellings, as opposed to dwellings associated with urban development, are defined separately.

Rural dwellings that are not related to agricultural activities are generally a less sustainable form of development. These often-isolated dwellings lead to car-dependency, generates more travel than urban settlements, and can lead to the clearing of vegetation and poor environmental outcomes. It is also evident that as rural housing grows, so does the expectation that Council provides an urban standard of services – sealed roads, water supplies, garbage collection and other social services. The dispersed nature of rural settlements makes it uneconomical to provide these services.

There are many rural dwellings in Wollondilly that are not associated with agriculture. It should be acknowledged rural land close to employment areas in Sydney are going to attract ‘rural lifestylers’. When rural lifestyle lots are dispersed throughout the rural area, they can create conflicts with agricultural uses (including complaints about smell, noise, dust and loss of amenity). Development of dwellings on smaller rural lots generally alienates the land from commercial production. They can even threaten the viability of primary production by increasing land values and reducing incentives to buy and sell land

as a means of improving agricultural productivity. This can cause significant issues for primary producers (land use conflicts are discussed further in Section 9.2).

The minimum lot size, amongst other planning considerations such as flooding, is the main determination as to whether a lot is entitled to the development of a dwelling in rural zones. There is no guarantee that any development application will lead to an automatic approval to build; assessment of the application would consider the site-specific aspects of the proposal and the merits of constructing the dwelling as proposed.

It should be noted that a rural dwelling can be approved without Council’s planning consent under provisions of the State Government’s SEPP (Exempt and Complying). Approvals for housing under this SEPP do not consider land use conflict issues, which may exacerbate rural land use conflict issues.

The lot analysis undertaken as shown, Appendix B except for RU4 Primary Production Small Lots, that there are a variety of lot sizes for each zone. For instance, RU1 Primary Production has a 16 ha, 20 ha, 40 ha and 100 ha minimum lot size depending on the location. Similarly, E4 Environmental Living zone has a 4,000m², 4ha, 30 ha and 60 ha minimum lot size. While this study does not examine the minimum lot size provision in rural land, it is important to acknowledge the retention of the existing minimum lot sizes to prevent further subdivision of rural land.

Wollondilly LEP 2011 includes a provision for certain land mapped under the Original Holding Map in the Zone E4 Environmental Living

zone (Clause 4.1B). The objective of this provision is to ensure that land is not subdivided and fragmented beyond the density that was originally envisaged for that land.

11.2.1 Existing holdings/dwelling entitlement

Existing holdings have usually been described as a lot or portion of land that was held either in isolation or in conjunction with other adjoining lots or portions as at a specified date. In the past, many Councils have used the concept to permit a dwelling in a rural zone on a lot or parcel of land that otherwise would have been too small to satisfy the minimum lot size for Council to permit a dwelling. So, typically it was linked to the concept of a dwelling entitlement.

On land which is at or greater than the minimum lot size for that zone, the ability to lodge a development application for construction of a dwelling is automatically assumed. However, Wollondilly has a significant number of rural zoned allotments which are less than the minimum lot size and uncertainty surrounds whether these allotments have a dwelling entitlement.

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 Wollondilly.

Dwelling entitlement applies to the RU1 Primary Production, RU2 Rural Landscape, RU4 Primary Production Small Lots, E4 Environmental Living and R5 Large Lot Residential zones under Wollondilly LEP 2011,

Clause 4.2A. In order to establish if it has a dwelling entitlement it must meet the requirements under Clause 4.2A (3). Although this provides for flexibility in assessing applications it also will put Council under pressure to permit dwellings on land that may not be suitable for that purpose due to its characteristics or location or lack of infrastructure and services. This clause is complex and often relies on historical information and local knowledge of the area. This clause considers previous planning instruments that may or may not have provided some lots with an ability to apply for a dwelling.

In addition, it is often difficult to be sure what lots were in one holding at a past date, although searches can be undertaken with the State Government in most cases. These can be time-consuming and expensive and historically many councils made some mistakes in assessing whether a lot or parcel was an existing holding.

Subdivision, particularly subdivision for the purpose of a dwelling, can have a significant impact on the existing and future land use and viability of rural land. Given this, there are two options Council could consider ensuring a clear and transparent process for rural lands.

Option A – Continue with historical searches

One option is to continue with the concept of an existing holding presumably on the basis that Council records are accurate enough to determine the lot holding patterns at the appointed day. A possibility with this option could include removing Clause 4.2B (3) (c & d) which would mean any applications for dwelling entitlement would be assessed under Clause 4.6 with the concurrence of the State

Government and under a merit assessment. There however, could be inherit transparency issues with utilising clause 4.6.

Option B – Amend Wollondilly LEP 2011, Clause 4.2A

Another option is linking all known dwelling entitlements to be registered on a ‘Dwelling Opportunity Map’. Many councils have successfully developed a ‘Dwelling Opportunity Map’ including Ballina and Port Macquarie-Hastings. This clause can be drafted into the Clause 4.2A of the LEP and can contain a specific definition of an existing holding from the date of the previous LEP or the Wollondilly IDO (6 August, 1971). This option would also mean removing the Clause 4.2A(3)(c) and (d), which refers to existing holdings.

Owners of lots where Council has provided confirmation of having a dwelling entitlement subject to consent (this will usually be in the form of a letter response to a dwelling entitlement check, confirming that the subject land is an existing holding) would be added to the LEP “Dwelling Opportunity Map”. The amendment could also include preparation of local provisions for its application, including minimising the potential for land use conflict and loss of agricultural land.

This could be phased in over a period of one to three years in the form of a “sunset” provision. The “sunset” provision allows landowners extra time to consider their position of taking up any dwelling entitlements that are based on existing holdings before they expire. Once the time has lapsed this subclause would need to be removed from the LEP. Therefore, the onus will be on landowners to confirm they have a dwelling entitlement before the period ceases.

Streamlining procedures for the determination of dwelling entitlements is seen as a contribution to better planning process and practice. From an administrative position it is easier to understand and advise landholders on their dwelling entitlements if they are not linked to the concept of existing holding. Option B will assist in the achievement of a logical pattern of development on rural lands, while having regard for economic and ecological considerations.

Concessional Lots

Concessional lots were originally introduced to provide small lots, below the standard minimum lot size, for farm workers and to encourage intergenerational farming by allowing the erection of dwellings on separate lots whilst minimising the fragmentation of the larger holding.

The provision has resulted in the unplanned creation of rural residential lots occupied by rural ‘lifestylers’ located next to large commercial farms. As such, concessional lots resulted in a range of unintended impacts e.g. fragmentation of rural land, land use conflicts and increased demand for infrastructure and services in remote areas. They are the legacy of a past planning policy that no longer applies in NSW with the introduction of the *SEPP Primary Production and Rural Development 2019*, that removed provisions that permitted subdivision for concessional lots.

11.2.2 Detached dual occupancy and secondary dwellings

Dual occupancy development is defined in the Wollondilly LEP 2011 as “two dwellings (whether attached or not) on one lot of land but does not include a secondary dwelling”. Secondary dwelling is really a form of dual occupancy dwelling but has been separately defined in Wollondilly LEP 2011 to only allow it to be a smaller size than the principal dwelling on the property, that is no more than 60m² or 25% of the total floor area of the principal dwelling.

Wollondilly LEP 2011 permits dual occupancy (attached) and secondary dwellings in the RU1 Primary Production, RU2 Rural Landscape, RU4 Primary Production Small Lots and E4 Environmental Living. Detached dual occupancy are prohibited in the rural areas. Dual occupancies and secondary dwellings can provide rental income for a farm and can be used to house family members (such as retired farmers seeking to remain on the family land). Secondary dwellings are a way of providing for limited dual occupancy development without encouraging over capitalisation of rural land. It can also assist in providing low cost housing in rural areas. The potential for pressure for subdivision can be reduced if the dwellings are accessed from the same driveway and are held on the same lot.

On the basis that Wollondilly already permits dual occupancy (attached) and secondary dwellings, and that demand is likely to be low, then it should be considered as a continued option for providing affordable or alternative housing in a rural location. The need for workers accommodation in excess of dual occupancy or secondary dwellings could be dealt with in the form of rural workers dwellings.

However, dual occupancy (attached) and secondary dwellings have been perceived as a precursor to pressure for subdivision, over capitalisation of farmland and the urbanisation of rural land. This land is not serviced and does not have urban infrastructure and should be used for farming or other rural pursuits. There are circumstances where detached dual occupancy and secondary dwellings may work well, such as farm succession, where a retiring farmer or couple wants to remain on the family farm and participate where they can. The more intensive work is undertaken by the new occupant often a family member.

The size and nature of a dual occupancy (attached) and secondary dwellings can be assessed further utilising a principle development standard (Part 4 in the Wollondilly LEP 2011) or as a local provision (Part 7 in the Wollondilly LEP 2011). The Wollondilly DCP 2016 contains Council’s development standards for dual occupancy (attached) and secondary dwellings in rural zones. Providing standards in the Wollondilly LEP 2011 may also reduce the perception that the permissibility of the use (through the land use table) means that that approval is assumed, rather than a merit assessment that may find the land to be inherently unsuitable.

11.2.3 Rural workers dwellings

A rural workers dwelling is a “building or place that is additional to a dwelling house on the same lot and that is used predominantly as a place of residence by persons employed, whether on a long-term or short-term basis, for the purpose of agriculture or a rural industry on that land.”

The large distances between towns and villages and some parts of the rural areas in Wollondilly are a legitimate basis for rural workers dwellings. The farming that occurs in the rural areas and the need for workers to be available for long hours during certain seasons is another reason to support this development type.

However, Council may want to define certain areas or typical land uses where rural workers dwellings are permitted to avoid them becoming defacto rural residential development areas. Any application would still need to show that the agricultural production of the property required additional accommodation that could not be met by dwellings already on site or the nearest towns and villages.

Many councils utilise a principle development standard (Part 4 in the Wollondilly LEP 2011) or as a local provision (Part 7 in the Wollondilly LEP 2011) for rural workers' dwellings in rural zones. This clause requires a proponent to demonstrate that the existing use of agriculture on the land is sufficient to justify the use of a rural workers dwelling and it needs to occur on the same lot as an existing lawfully erected dwelling house. This clause can also allow Council to restrict the number of rural worker dwellings on each lot.

Temporary Workers

A farm may require some additional labour on a periodic or seasonal basis (say planting or harvesting) but not enough to meet the rural workers dwelling requirements of Wollondilly LEP 2011 and associated policy. Consultation indicated that competition with the coal mines for affordable rental dwellings is high and competes with agricultural worker needs.

There are significant large-scale horticultural enterprises that have been successfully established on land in Wollondilly. These enterprises require a substantial number of seasonal workers and during the most recent picking season a shortage of available and appropriate accommodation options for workers meant that many workers camped illegally (creating potential issues for Council and the community). The lack of appropriate accommodation and the ability to develop temporary workers' accommodation is also an issue for future enterprises may need to house substantial numbers of workers on a seasonal or temporary basis.

An option may include amending Wollondilly LEP 2011 to facilitate an additional form of temporary accommodation, primarily for itinerant farm workers. The farming that occurs in Wollondilly and the need for workers to be available for long hours during certain seasons is essential to the viability of some agricultural pursuits, and another reason to support this development type.

11.2.4 Strategy options for rural dwellings

The State Government's policy on the protection of rural land states that conversion of such land should only take place where fully justified in an appropriate planning context, including an assessment of alternative sites. The pressures for living in rural lands are evident in Wollondilly as a peri-urban area of Sydney. There is an understandable driver from the point of view of landowners and developers to add value to rural land by increasing rural dwelling opportunities.

Council's role is to balance this desire against long term community objectives. Too much land allocated for rural dwellings on too many lots means:

- fragmented land development with high costs for infrastructure
- increased opportunity for land use conflict at the rural/rural residential interface
- clustering of dwellings which can reduce rural landscape character where the dwellings are not ancillary to a farming use.

The State Government supports the retention of agricultural land through the *SEPP Primary Production and Rural Development* and the *Western City District Plan*, particularly important agricultural land for commercial food and fibre production. It is recognised, however, that some alienation of this land is inevitable as a consequence of population growth and economic development. There are still opportunities in rural areas for additional dwellings including those lots above the minimum lot size, dual occupancies, secondary dwellings and rural workers dwellings.

As discussed, existing holdings can threaten agricultural production as other sectors of the population begin moving to rural areas in Wollondilly for hobby farming or 'lifestyle' reasons. The location of houses and other development can cause conflicts amongst other issues. Option A provides the continuation of historical searches which may lead to issues when determining the lot holding patterns at the appointed day. Option B provides an alternative that has been

successful within many other councils in NSW. So, unless there are compelling reasons to the contrary it is recommended that the Wollondilly LEP 2011 register all known dwelling entitlements on a Dwelling Opportunity Map with the inclusion of a sunset clause. This will provide Council with clear direction, transparency and certainty for existing and potential residents in Wollondilly.

Dual occupancy (attached), secondary dwellings and rural workers dwellings will continue to provide feasible dwelling options for some rural properties. It is important that the development of additional dwellings does not detract from scenic amenity and does not place unrealistic additional demands for infrastructure upon Council. It is also imperative that dual occupancy, secondary dwellings and rural workers dwelling are developed in such a way that the design is rural in style, materials and fabric. All buildings on a rural property should be compatible and complementary. The siting and size of these buildings must also take into account environmental constraints, including biodiversity, bushfire hazard and the ability to safely dispose of effluent.

Additional labour on a periodic basis for planting or harvesting during peak periods is a required need for primary production to be successful. An amendment to the Wollondilly LEP 2011 to assess the use of temporary workers dwellings that is associated with a genuine approved rural use is recommended.

Recommendation

37. Ensure that rural dwellings are developed only where water quality, scenic rural landscapes, agricultural activities and the natural environment are not adversely affected.
38. Investigate amending Wollondilly LEP 2011 to include all known dwelling entitlements to be registered on a Dwelling Opportunity Map.
39. Dwelling entitlement investigations are to conclude once a sunset period of a specified number of years has passed (normally 2 or 3) for registration of known dwelling entitlements on the Dwelling Opportunity Map.
40. Investigate the inclusion of clause 4.2A in the LEP to contain a specific definition of an existing holding from the date of the previous LEP or IDO.
41. Investigate amending Wollondilly LEP 2011 to include a Temporary Workers Dwellings clause to increase accommodation options for seasonal farm workers.



12. Conserving places with special landscape, rural and scenic value

One of the key themes identified during the initial consultation and in the Wollondilly LSPS was the desire to retain the area's rural identity and avoid becoming an outer-Sydney urbanised environment. The potential threat of urbanisation is becoming more apparent as new Growth Areas in the LGA are identified and pressure for urban growth in Greater Sydney Region continues.

Rural character is made up of a number of components which contribute to the sense of openness and natural beauty experienced in Sydney peri-urban areas, as well as introduced features such as farms and associated buildings. The variety of rural land use activities and various landscapes influenced by geographic features, physical remnant vegetation, history and other environmental features contributes to a diverse rural character.

The visual landscape provides a backdrop for the enjoyment of recreation and tourism participants, contributing to these experiences. Rural land in Wollondilly provides a sensory 'relief' from urban areas of the Greater Sydney Region. With pressures from residential development and encroachment of urbanisation at the rural interface, it is important to address visual landscape at the strategic level, in combination with assessing specific development proposals at a particular site which may encroach on landscape values. Much of the Wollondilly rural land is made up of rural landscapes comprising of hilly, vegetated and undulating terrain. A significant proportion of this land supports primary production activities which also contribute to its values, not just for tourism and recreation experiences but for the community and the local economy.

Landscapes in the rural areas which are worthy of retention include natural features such as hilly terrain, heritage farm buildings, ridgelines, valleys and areas of significant remnant native vegetation. Cultural features such as the linear grid patterns of fruit trees or other horticulture throughout Wollondilly are considered to have significant value.

Agriculture also plays an important role in protecting the open spaces which exist between settlements. Agricultural landscapes help to define the character and liveability of rural towns with residents in peri-urban towns benefitting from the rural amenity.

For tourism developments in valued rural areas, the principle issue is achieving a balance between providing accessibility and other facilities whilst maintaining the visual landscape characteristics which attract tourism and recreation activity to the area. There are increasing pressures for change in the landscapes, particularly at the rural/urban fringe, where there is a decline in horticultural uses in anticipation of future or planned urbanisation.

Wollondilly is the traditional lands of the Tharawal people. The Tharawal people's long history of settlement has naturally resulted in both tangible and intangible Aboriginal cultural heritage within the landscape. The Tharawal traditional owners have a sense of place and a belonging to the land. This cultural landscape understanding, and the wishes of the Aboriginal community, provide a further rationale for the important values of this landscape.

12.1.1 Strategy Options for conserving places with special landscape, rural and scenic value

Wollondilly's scenic and natural beauty, its culture, its rural communities, rich heritage and history inspire to plan for a sustainable future that builds on and enhances these special values. Identifying special, landscape, rural and scenic values will assist landowners to plan for a sustainable future that builds on and enhances these assets. It is also important that these values are recognised in the planning system, including in the strategic planning and development assessment process.

Establishing initiatives consistent with the rural character of the location will also assist in a positive and pro-active approach to awareness of business opportunities and encouragement of appropriate economic development associated with rural land.

The development of landscape, rural and scenic values management objectives for important localities in Wollondilly's rural lands will assist in assessing large development which may impact these values. The protection and maintenance, and the restoration and the enhancement of degraded landscape, rural and scenic values should be considered as part of the objectives. The objectives also need to consider the cumulative impact of development on the natural landscape, ensuring the scale and appearance of development considers the rural visual environment over time.

Development of '*Rural Locality Values Character Statements*' will also determine the unique value of natural, man-made and cultural

features which contribute to a sense of place and the local identity of rural localities. These statements will be the first step to protecting and enhancing the rural landscape recognising prevailing native vegetation, agricultural uses and topography as important landscape features.

Recommendations

42. Develop landscape, rural and scenic values management objectives that consider the compatibility and impact of new development to the scale, character and visual quality of the existing rural fabric. The objectives could form part of a local provision for scenic amenity in the Wollondilly LEP 2011 or part of DCP amendment for scenic values.
43. Develop 'Rural Locality Values Character Statements' to specifically address the unique value of natural, man-made and cultural features which contribute to a sense of place and the local identity of rural localities (possibly as a community led planning project).

13. Balancing environmental outcomes on rural lands

13.1 Climate change

Climate change and limited access to reliable water supplies has the potential to limit some agricultural development in Wollondilly. The Wollondilly LSPS (planning Priority 18) recognises the impact that the LGA can have to reinforcing broader resilience of Greater Sydney. Key objectives include:

- preparing for climate change through adaptation and mitigation strategies and to recognise and accommodate natural processes
- developing a greater understanding of known acute shocks
- designing and building new communities to be more resilient to impacts

Climate change impacts including increased risk of summer storms, higher average temperatures and reduced growing season rainfall. These are expected to occur alongside increased competition for water from the Greater Sydney Region (as described in Section 10.3).

Irrigation provides a buffer against unseasonal conditions, albeit the area with irrigation development potential is limited. Increased frequency and severity of droughts will be a challenge for dryland livestock and cropping enterprises. Vegetable and fruit producers may need to consider changing varieties and greater use of crop protection measures such as netting, to adjust to changing climate conditions. A lack of water access is already a significant issue for the majority of the

Wollondilly area, with this expected to become even more of an issue into the near future (discussed in greater detail in Section 10.2).

The rise in extreme climatic events, and the high probability of continued escalation in the number of such events, needs to be factored into the provision and management of public infrastructure and how all residents live and work including in rural areas.

13.1.1 Strategy options for climate change

The impacts of climate change are already been recognised and responded to appropriately by all members of the community in Wollondilly, especially since the 2019/2020 bushfires season. A number of key issues have been identified in relation to climate change, including the following:

- an increasingly hotter and drier climate will mean less access to water than what currently exists
- threats to traditional agricultural practices and the ability to sustain certain enterprises
- certain forms of agriculture may become available and more suited to the changing climate of the LGA

Over the next 20 years, raising awareness and building a strong knowledge base about individual, community and local government roles in addressing climate change will be important in assisting communities develop resilience to these impacts.

Rural land use, infrastructure plans and related decisions will also need to reduce greenhouse gas emissions and take account of up-to-date modelling about changing climate conditions.

There are a number of possible actions available that could potentially be looked into as part of developing the Rural Lands Strategy. These include:

- Embed climate change thinking into local policy and decision making about farming activities across Wollondilly
- Ensure future use and development applies the precautionary principle to avoid bushfire and flooding risks.
- Support the adaptation of agricultural practices to the impacts of climate change through appropriate local policy that supports such things as crop protection measures and subdivision sizes suited to future agricultural practices.

Recommendations

44. Work with the community to ensure resilience to extreme climatic events and increase awareness of climate change on land use
45. Support primary producers in association with Local Land Services an advocacy role in reducing greenhouse gas emissions and absorbing carbon dioxide

13.2 Hazards

Wollondilly's rural lands are vulnerable to both flooding and bushfires. These hazards are already identified in the Wollondilly LEP 2011 as well as the Wollondilly DCP 2016.

There are two known flood plains in Wollondilly that have been identified including Stonequarry Creek (Picton) and the Wallacia floodplain. Flooding in Picton can occur as a result of flow breaking out of the main channel of Stonequarry Creek and inundating the surrounding floodplain. In larger events, water that overtops the banks of Stonequarry Creek can also inundate parts of the Town Centre and surrounding urban areas.

The *Hawkesbury-Nepean Valley Regional Flood Study (2019)*, identified the Wallacia floodplain as a relatively small catchment but has the potential for the deepest flooding in Hawkesbury-Nepean Valley. While climatic conditions are forecast to be hotter and drier into the future, rainfall intensity and extreme weather events are also expected to increase, creating a greater risk of flooding in the area. A flood study has not been undertaken for the whole LGA. Understanding where flooding occurs in the LGA is the first step to managing the risk. The development of an LGA wide study was recognised as an action in the Wollondilly LSPS (Action 18.4).

Along with drier and hotter conditions comes longer lasting extreme fire weather. Bushfires are an inherent part of the environment within Wollondilly. This was recently demonstrated in the 2019/2020 bushfires that impacted many rural areas in Wollondilly especially

areas such as Bargo. Significant portions of the rural areas in Wollondilly are mapped as bushfire prone land.

Bushfires are a natural process in many Australian ecosystems, but periodically extreme events such as the recent bushfires in 2019/2020 cause significant losses to stock, property and human life. Strategic planning that considers the level of hazard in relation to proposed land use changes allows for an evaluation of the risk at the outset.

Planning for Bush Fire Protection 2019, developed by the NSW Rural Fire Service, provides development standards for designing and building on bush fire prone land in NSW. The guidelines now include procedure for strategic planning in bushfire prone lands, as well as for development assessment. The guidelines suggest that for some specific locations that have significant fire history and are recognised as known fire paths, detailed analysis or plans should '*provide for the exclusion of inappropriate development in bush fire prone areas*'. The guidelines propose that any proposal in bushfire prone areas need to undertake a Strategic Bush Fire Study. The development of the studies will give the opportunity to assess whether new development is appropriate in the bush fire hazard context at an early stage.

It is particularly important that bushfire hazard be considered in relation to any proposed rural dwellings or large rural businesses. These need to ensure that the proposed development is either not within a hazard area, or if it is, then the hazard can be managed responsibly and without loss of ecologically significant vegetation.

13.2.1 Strategy options for hazards

A number of key issues have been identified in relation to hazards including the following:

- The risks of flooding and bushfire are important considerations when identifying potential areas for intensive agriculture, such as poultry farms, and value-adding infrastructure and facilities, such as on-farm processing
- While not all flood areas have been modelled in the LGA, development in flood affected areas needs to be subject to appropriate floor levels or other mitigation measures to minimise flood impacts on property
- Bushfire hazard should be considered in relation to any proposed rural develop to ensure that the proposed development is not within a high hazard area. If it is within a high hazard area, then the hazard needs to be managed responsibly and without loss of ecologically significant vegetation.

There are a number of possible strategies available that could potentially be looked into as part of the Rural Lands Strategy, including:

- Ensure future use and development applies the precautionary principle to avoid bushfire and flooding risks
- Support the developments of a LGA wide flood study
- Support *Planning for Bush Fire Protection 2019* and require any proposal in bushfire prone areas need to undertake a Strategic Bush Fire Study.

Recommendations

46. Develop a comprehensive LGA wide flood study
47. Require all Planning Proposals in bushfire prone land, especially in areas that have a significant fire history and are recognised as known fire paths, to develop a Strategic Bush Fire Study.



13.3 Biodiversity

Biodiversity is a highly valued asset of Wollondilly and land use policy needs to be responsive. The land use planning framework currently has various environmental policy at a local, regional and State level. In addition to the application of environmental protection zones, the Wollondilly LEP 2011 includes environmental constraints mapping and local provisions addressing terrestrial biodiversity and riparian corridors. The Wollondilly LSPS (Planning Priority 13) also recognises the importance protecting the LGA's unique landscapes and biodiversity as it provides habitat for a range of animals.

In addition to the range of National and State parks, private rural land provides an important environmental role in supporting ecological processes and biodiversity. The poor use, development and management of rural land can exacerbate issues of environmental degradation causing impacts on the loss of native vegetation and reduced land and water quality.

Excessive grazing, uncontrolled land clearing, invasive weeds and inappropriate subdivisions and development, are highlighted within Wollondilly LSPS. A large portion of remnant native vegetation is also located on private farming land (refer to Appendix E – Remnant Vegetation Map) and excessive clearing on private land is a key issue requiring attention as it can fragment habitats and degrade corridors within the landscape.

Clearing of native vegetation on rural land is legislated by the *Local Land Services Act 2013* and the *Biodiversity Conservation Act 2016*. Local

Land Services assess and approve the clearing of native vegetation which depends on the purpose, nature, location and extent of the clearing.

13.3.1 Strategy options for biodiversity

A number of key issues have been identified in relation to biodiversity in the Wollondilly area including the following:

- Loss of native vegetation and habitat as a result of excessive clearing
- Promote the sustainable land management and conservation of rural lands

Given Local Land Services manage native vegetation on rural lands Councils options are limited. However, as Wollondilly grows and the pressure for development in rural lands continues it will be important to protect the biodiversity values in Wollondilly. To assist in overarching management, the biodiversity values of Wollondilly should be identified with consistent mapping and protected, if not already through updating the *Biodiversity Strategy*. This would include the connection of habitat areas and the protection of riparian areas and endangered ecological communities (EEC's).

Recommendations

48. Update the *Biodiversity Strategy* to provide an overall framework for the protection and management of biodiversity (LSPS Action 13.1)

A close-up photograph of vibrant green leaves, likely from a plant like basil, with several water droplets resting on their surfaces. The leaves are densely packed and fill the entire frame. A semi-transparent dark green horizontal band is overlaid across the top third of the image, containing the section header text.

PART 3 – WHERE TO FROM HERE?

14. The Process Forward

This Findings Report and the Rural Land Use Strategy is a framework to achieve good planning, management and development of Wollondilly

This Findings Report has sought to bring together a large volume of background investigation and document a range of key issues and opportunities relevant to the Rural Lands Strategy. The issues and opportunities, strategy options and recommendations will form the basis for the Rural Lands Strategy.

By endorsing the Findings Report and the Rural Land Use Strategy, Council make a commitment to balancing of the environment, social and economic considerations in rural lands. Effective implementation requires cooperation by community stakeholders and coordination of State and local government activities and plans. Implementing the land use strategy involves coordinating and reviewing a range of plans, infrastructure and services.

Some strategic recommendation specified in this Findings Report will guide the development of the Rural Lands Strategy.



15. Recommendation Summary

This section provides a complete list of all recommendations made throughout this Findings Report.

Rural Zones

1. Review the primary use of the RU1 Primary Production or RU2 Rural Landscape zone and amend each zone with the following objectives.
 - RU1 Primary Production zone having a primary agricultural purpose. The objectives and uses will need to better support and protect agricultural use of this land and include all types of agricultural activity
 - RU2 Rural Landscape zone having a landscape and scenic value with more large lot lifestyle value. Remove intensive agricultural uses permissible from this zone and revise as part of any future scenic and landscapes study
 - If necessary, adjust zone boundaries for minor changes to better reflect existing land use.
2. Investigate rezoning of areas of RU4 Primary Production Small Lot zone to better reflect existing land use. Possible zones include the E4 Environmental Living zone, RU1 Primary Production or RU2 Rural Landscape zone or a new zone the RU6 Transition zone with a minimum lot size that reflects the average lot size (or minimum lot size) in each area. Retain the zone where viable commercial agricultural activities exist or where rural sectors present emerging opportunities and ensure minimum lot sizes and other local planning policy support these uses.
3. Discourage dwellings/subdivision in locations in all rural zones that will limit the operation of surrounding commercial agriculture enterprises – including buffers required.
4. Review the objectives and land uses within the E4 Environmental Living Zone (this may include a place-based approach), to ensure any potential conflicts with existing agricultural uses can be appropriately managed. Investigate a wider suite of permissible land uses, including tourism uses, and develop a local provision to ensure any future use is compatible with agriculture, environmental and landscape characteristics of the areas.
5. Consider the archaeological, landscape, ecological, cultural or scientific values through a local provision overlay in the E4 Environmental Living Zone to ensure any sensitive areas are protected and celebrated.
6. Investigate the use of a local provision to limit the size of truck and transport fleet operations in the RU1 Primary Production or RU2 Rural Landscape zones.

Building a strong diverse rural economy

7. Investigate the development of an Agricultural Study that analyses the mechanisms needed for the future viability of primary production investigation of new enterprises in Wollondilly providing greater resilience for the agricultural industry against market fluctuations. The study should focus on the sustainable management of primary production through sustainable production intensification, diversification of functions, and improvement of the living conditions of small farmers.
8. Develop a guideline on when and where rural subdivision is acceptable for both agricultural pursuits (under Clause 4.2 Wollondilly LEP 2011) or for rural dwelling purposes (does not include for rural residential purposes).
9. The guidelines (recommendation 8) can be supported by amendments to the development control plans to update the section on rural land which provides guidelines, controls, objectives and principles for effective and appropriate planning, development and management of rural land and supports best practice agricultural developments.
10. Develop a peri-urban rural lands management plan that aims to enhance agricultural uses. Consider the need for a local provision and mapping overlay that safeguards existing agricultural land and minimises ad-hoc urban subdivision. This will include a policy that subdivision for urban purposes cannot occur unless it is prescribed in a council endorsed Strategy.
11. Amalgamation of lots on productive and potentially productive agricultural land is supported. This may include investigating areas by increasing or maintaining the minimum lot size in RU1 Primary

Production and RU2 Rural Landscape zone land and at the same time ensure that no dwelling entitlements are lost.

12. Collaborate with adjoining Councils to consider opportunities to support the growth of the agribusiness sector including facilitating business relocation into the rural zones of the Wollondilly LGA particularly from the poultry, horticulture and horse industries
13. Facilitate opportunities for the productive reuse of recycled wastewater and urban run-off.

Rural Land Conflicts

14. Develop a set of land suitability criteria prior to the approval of a non-farming activity such as rural lifestyle dwelling or subdivision. For example, Council could only agree to accept planning proposals/development applications for sites adjoining or within 500 metres of a sensitive agriculture use if it is clearly justified in relation to the criteria.
15. Prepare a 'sensitive agricultural land use' map which identifies areas of potential land use conflict that may trigger the use of the 'land suitability criteria'
16. Implementation of the Right to Farm Act 2019 and Right to Farm Policy 2015 and any implications are considered and responded to accordingly.
17. Continue use of Clause 7.6 of the Wollondilly LEP 2011, Odour Buffer Area, to provide ongoing protection of sensitive uses in the vicinity of odorous activities
18. Use the *Buffer Zones to Reduce Land Use Conflict with Agriculture, Department of Primary Industries (2018)* guide as an interim measure

when assessing applications and planning proposal for sensitive uses.

19. Develop a media strategy for the regular distribution of Council and community information to all residents regarding rural issues and education.

Western Sydney Aerotropolis

20. Continue to progress the amendment to include a local provision in the Wollondilly LEP 2011 to protect airport safety, in consultation with Western Sydney Airport and the Department of Planning, Infrastructure and Environment.
21. Promote research and development opportunities scheduled for the Aerotropolis with the University of Sydney Institute of Agriculture and EMAI
22. Coordinate with Transport NSW and Western Sydney Airport to ensure improved links for freight and logistics to Silverdale and surrounds.

Mineral Resources

23. Consider the development of maps for high-risk areas with potential subsidence issues and develop policies to minimise the number of structures on a site-by-site basis until such time as the mining activity is complete, in partnership with the Subsidence Advisory NSW.
24. Identify the typical haulage routes for extractive resources and ensure that these are considered in planning controls and planning decisions, including contributions and infrastructure plans, for relevant development in the locality.

Transport infrastructure

25. Continue to work collaboratively with the State and Federal Government to identify, coordinate, prioritise and fund local road projects that help support the regional transport network and the function of rural industries
26. Ensure that Wollondilly's Section 7.11 contributions for roads remains current and consideration be given to increases in the expected traffic generated from rural development (such as rural housing, mining and farm based businesses) as part of a future review of the Local Infrastructure Contributions Plan'.
27. Consider undertaking a rural road and bridge assessment when deemed necessary for major rural development so that Council is not required to bring forward major replacement of infrastructure that it has not budgeted for

Water and other infrastructure

28. Promote the efficient use and re-use of water in agricultural and other rural land uses
29. Partner with the Sydney Water and the private sector to provide a secure, sustainable and long-term water supply solutions
30. Continue developing the Integrated Water Management Strategy and Policy for Wollondilly to protect water quality and supply
31. Continue to protect riparian areas for all of the perennial waterways from inappropriate clearing and development. This will assist in maintaining biodiversity and water quality whilst limiting the pressure on waterways
32. Work with the Sydney Water to deal with water management sustainably to support food production for Sydney.

Rural tourism

33. Investigate developing a rural tourism strategy/ policy that provide a strategic framework within which investigate opportunities for tourism in rural areas to help primary producers diversify uses and ensure tourism, agriculture the environment can all mutually coexist.
34. Facilitate farming connections through the development of local business newsletter that would allow Council to send out information about grant opportunities, workshops and networking events
35. Partnering with NSW National Parks and Wildlife, investigate a village specific LEP local provision for Yerranderie, sympathetic to its historical connections and unique environment.

Managing rural residential growth

36. Protect rural land for primary production activities and scenic landscapes by:
 - not zoning any further land in Wollondilly for rural residential purposes
 - locating further residential development within town/ villages or Growth Areas.

In doing so, significant impacts to primary production and to the environmental or cultural values of a rural area will be avoided.

Rural dwellings

37. Ensure that rural dwellings are developed only where water quality, scenic rural landscapes, agricultural activities and the natural environment are not adversely affected.

38. Investigate amending Wollondilly LEP 2011 to include all known dwelling entitlements to be registered on a Dwelling Opportunity Map.
39. Dwelling entitlement investigations are to conclude once a sunset period of a specified number of years has passed (normally 2 or 3) for registration of known dwelling entitlements on the Dwelling Opportunity Map.
40. Investigate the inclusion of clause 4.2A in the LEP to contain a specific definition of an existing holding from the date of the previous LEP or IDO.
41. Investigate amending Wollondilly LEP 2011 to include a Temporary Workers Dwellings clause to increase accommodation options for seasonal farm workers.

Conserving places with special landscape, rural and scenic value

42. Develop landscape, rural and scenic values management objectives that consider the compatibility and impact of new development to the scale, character and visual quality of the existing rural fabric. The objectives could form part of a local provision for scenic amenity in the Wollondilly LEP 2011 or part of DCP amendment for scenic values.
43. Develop 'Rural Locality Values Character Statements' to specifically address the unique value of natural, man-made and cultural features which contribute to a sense of place and the local identity of rural localities (possibly as a community led planning project).

Climate change

44. Work with the community to ensure resilience to extreme climatic events and increase awareness of climate change on land use

45. Support primary producers in association with Local Land Services an advocacy role in reducing greenhouse gas emissions and absorbing carbon dioxide

Hazards

46. Develop a comprehensive LGA wide flood study
47. Require all Planning Proposals in bushfire prone land, especially in areas that have a significant fire history and are recognised as known fire paths, to develop a Strategic Bush Fire Study.

Biodiversity

48. Update the *Biodiversity Strategy* to provide an overall framework for the protection and management of biodiversity (LSPS Action 13.1)

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Appendix A – RURAL RESIDENTIAL LAND

Area 1 - Bargo

Area 1 is located on the outside edge of the village of Bargo in five separate sections and covers an area of approximately 123.9ha (refer to Figure 16). The zoned land to the north of Bargo is the largest section, most established and is surrounded to the west and north by dense bushland. The remaining sections are located on the southern or eastern boundaries of the village and are generally surrounded by agricultural uses.

Area 1 has 9 lots at a total of 5.3 ha is vacant.

Figure 16 - Area 1: R5 Large Lot Residential zoned land



Area 2 - Buxton

Within the locality of Buxton the R5 Large Lot Residential zoned land is located on the eastern side of rail track and E Parade and cover 34.4 ha (refer to Figure 17). To the east of the rural residential areas is dense bushland.

Area 2 has 49 lots at a total of 3.6 ha that is vacant. However, many of these lots are less than 1000 ha in size and are likely to be historic concessional lots (or paper lots).

Figure 17 - Area 2: R5 Large Lot Residential zoned land



Area 3 - Camden Park

The rural area zoned R5 Large Lot Residential land is located on the southern boundary of Camden Park at a total of 13.2 ha (refer to Figure 18). The area contains 22 lots and to the south and east of the area 3 is cleared rural land and to the west of the area is the Hume Highway. The dwellings within area 3 have large floor areas and there are no lots vacant within area 3.

Figure 18 – Area 3: R5 Large Lot Residential zoned land



Area 4 – Douglas Park

Area 4 has four separate sections on the outskirts of the village, Douglas Park (refer to Figure 19). The total area zoned for rural residential is 16.1 hectares. The section located to the north is adjacent to the Douglas Park Public School while the section located on the western boundary of Douglas Park is on the railway line, the southern and eastern sections are bounded by vegetation.

Area 4 has 39 lots zoned rural residential with 2 lots vacant at total of 0.42 ha.

Figure 19 – Area 4: R5 Large Lot Residential zoned land



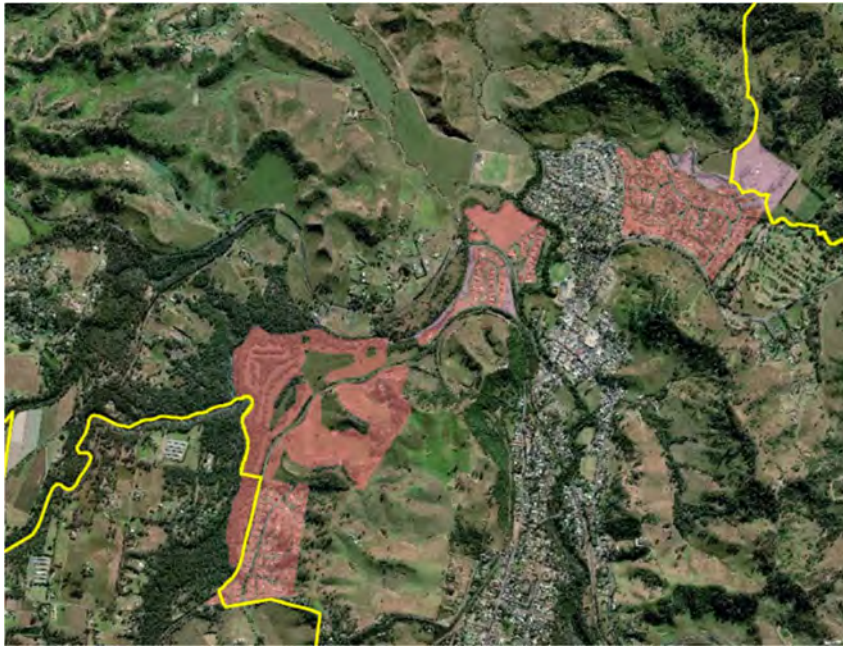
Area 5 Razorback

Area 5 -Picton

Area 5 is located to the north of Picton town centre and is a large rural residential area at a total of 204 hectares (refer to Figure 20). The majority of the southern section surrounds the railway line with the northern area is adjacent to the Old Hume Highway and a golf course.

Area 5 has 209 lots zoned rural residential with a total of 102 hectares is vacant.

Figure 20 - Area 5: R5 Large Lot Residential zoned land



Area 6 - Tahmoor

Area 6 is located in the locality of Tahmoor at a total of 126.4 hectares (refer to Figure 21). The area located on the north western boundary of this locality and connects to another rural residential area in Thirmere. The lots in this section are large with the majority over 1 hectare in size. The south eastern section is a new estate called 'The Acres' with lots varying sizes ranging from 4000m² - 12000m²

Area 6 has 97 lots zoned rural residential with a total of 72 hectares is vacant.

Figure 21 - Area 6: R5 Large Lot Residential zoned land



Area 7 – The Oaks- Belimba Park

Area 7 is located approximately 2 km west of The Oaks and on the northern border of the village, Belimba Park at a total of 22.7 hectares (refer to Figure 22). This ribbon development is located along Burragarong Road and the average lot size is approximately 4000m². There are 38 lots zoned rural residential in this locality with no vacant lots.

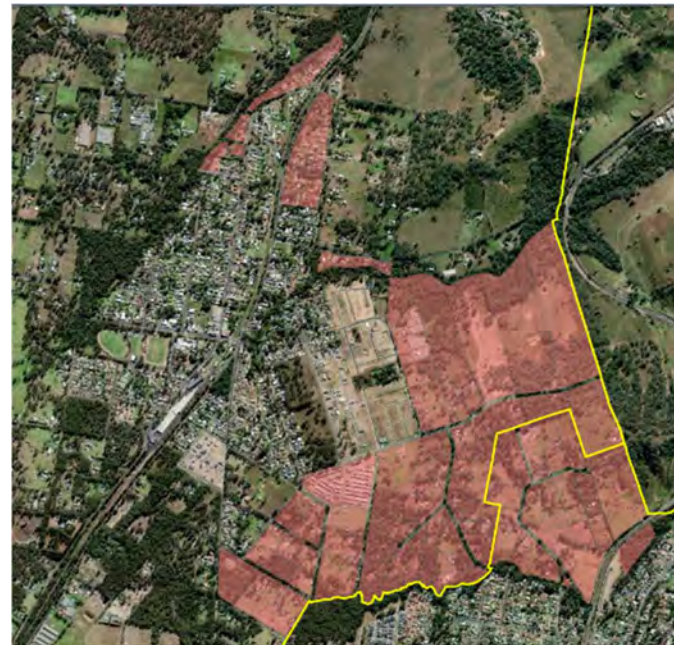
Figure 22 – Area 7: R5 Large Lot Residential zoned land



Area 8 – Thirlmere

Area 8 is located on the southern and northern boundary of Thirlmere at a total of 187.2 hectares (refer to Figure 23). Within this area is a over 55-year-old independent living estate as well as some intensive plant agriculture uses. Lot sizes vary within this area and it contains 133 lots zoned rural residential with a total of 4 hectares is vacant.

Figure 23 – Area 8: R5 Large Lot Residential zoned land



Area 9 –Silverdale

Area 9 is the largest rural residential area in Wollondilly with 517 lots (refer to Figure 24). This area forms a significant part of the village of Silverdale with the majority of the lots around 4000 m² to 4500 m². Only 26 lots within this are vacant at a total of 16 hectares)

Figure 24 – Area 9: R5 Large Lot Residential zoned land



Appendix B – Minimum Lot Size Maps

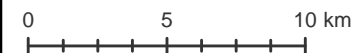
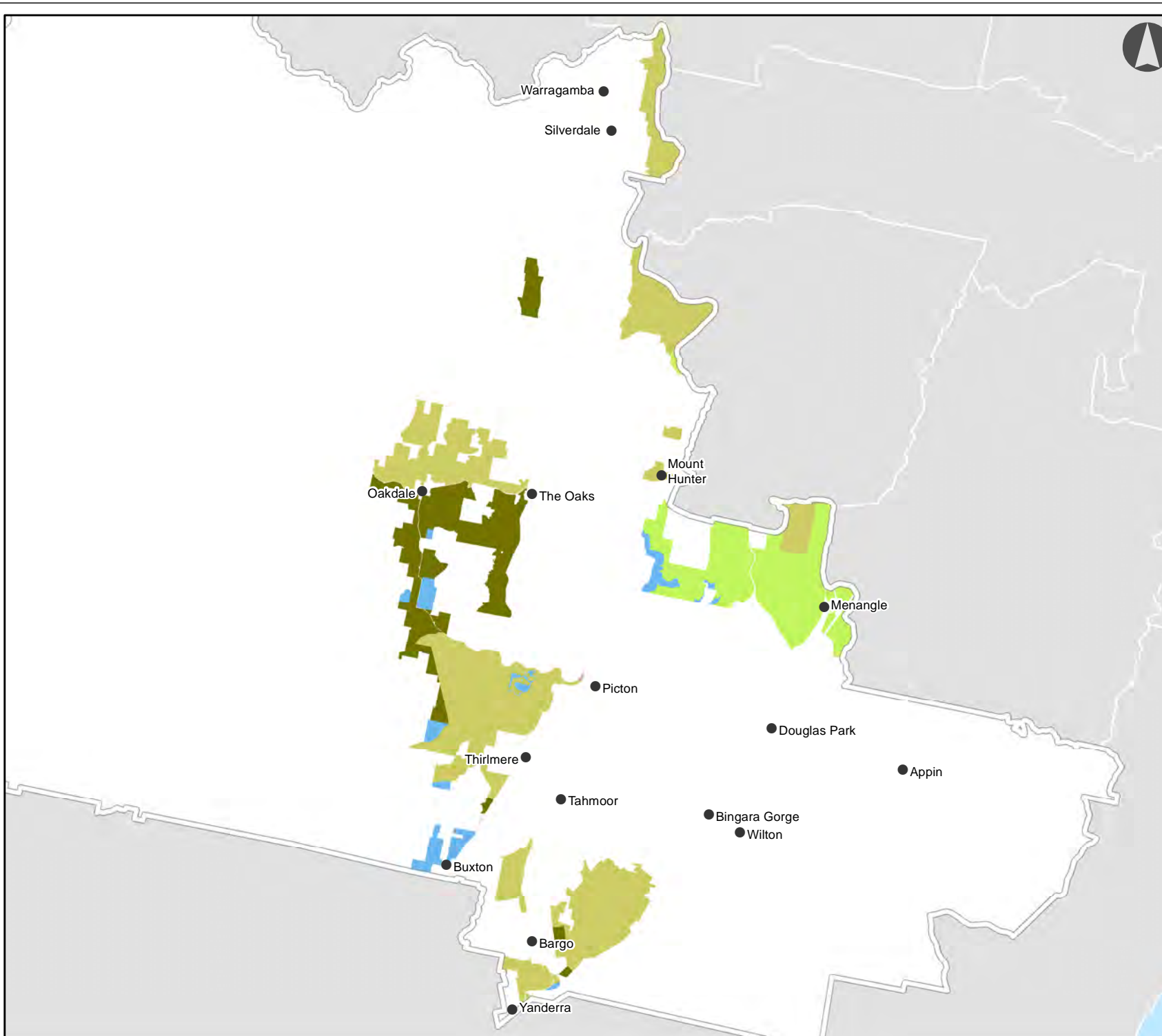


FIGURE 25

**Minimum Lot Size in the
RU1 Primary Production Zone**

Legend

- Towns/ Villages
- 5000 sqm
- 2 ha
- 4 ha
- 5 ha
- 16 ha
- 20 ha
- 40 ha
- 100 ha
- Wollondilly Local Government Area
- Local Government Areas



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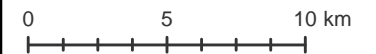


FIGURE 26

**Minimum Lot Size in the
RU2 Primary Landscape Zone**

Legend

- Towns/ Villages
- 1 ha
- 2 ha
- 3 ha
- 4 ha
- 4.5 ha
- 7 ha
- 16 ha
- 20 ha
- 30 ha
- 40 ha
- 60 ha
- 100 ha
- Wollondilly Local Government Area
- Local Government Areas



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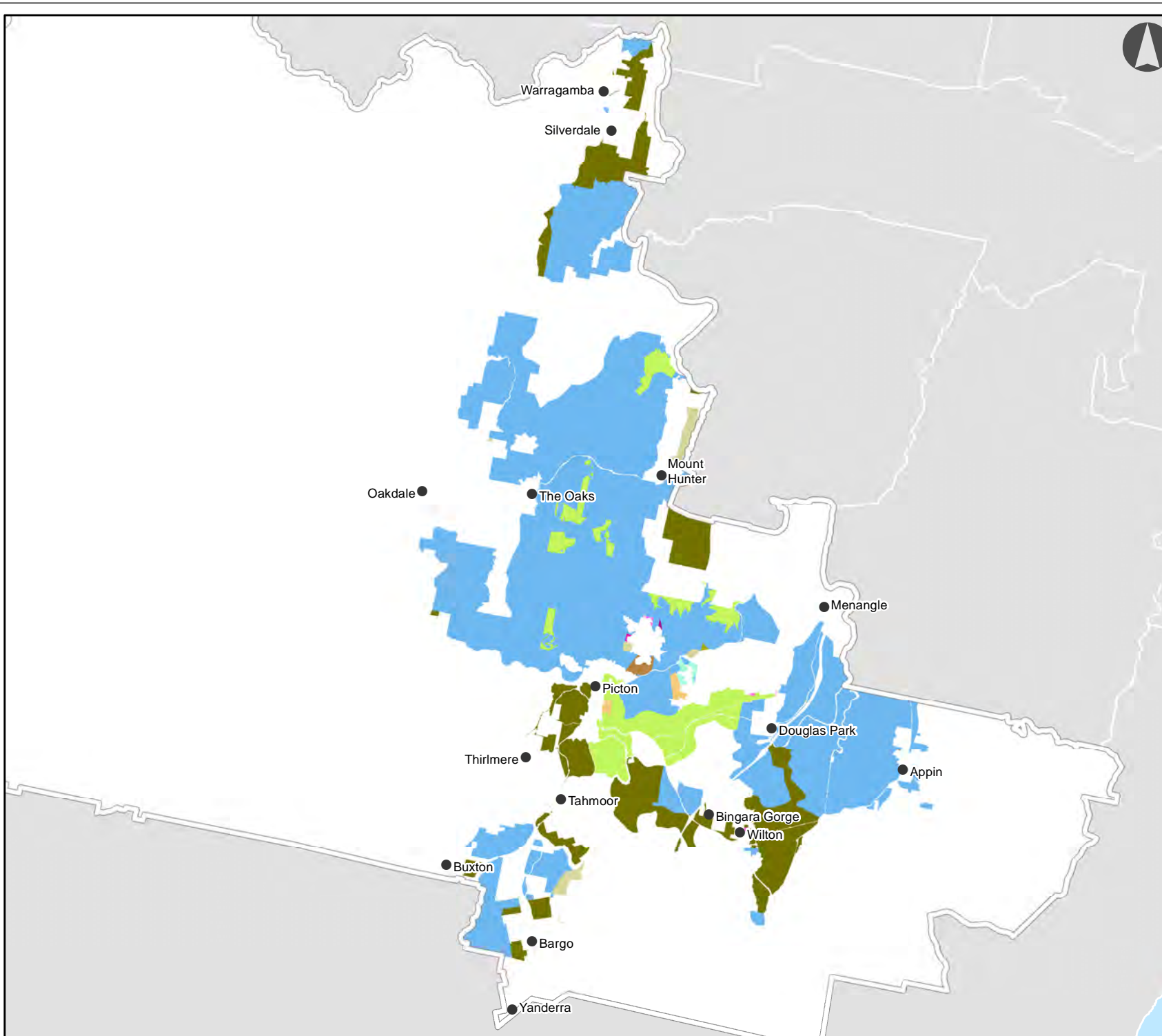


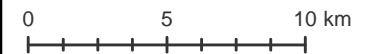
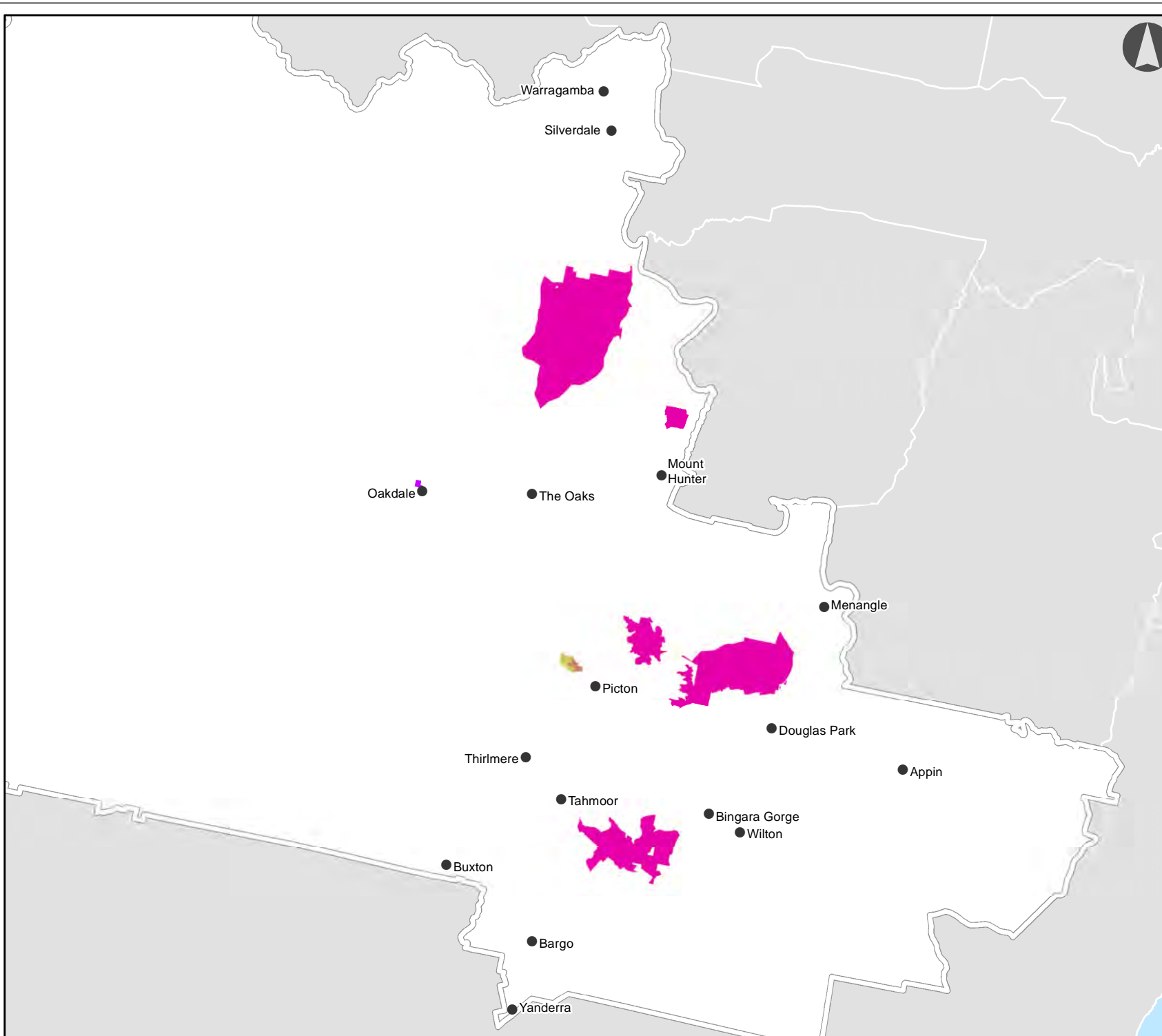


FIGURE 27

Minimum Lot Size in the E4 Environmental Living Zone

Legend

- Towns/ Villages
- 4000 sqm
- 1 ha
- 4 ha
- 20 ha
- Wollondilly Local Government Area
- Local Government Areas



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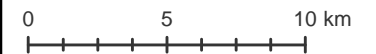
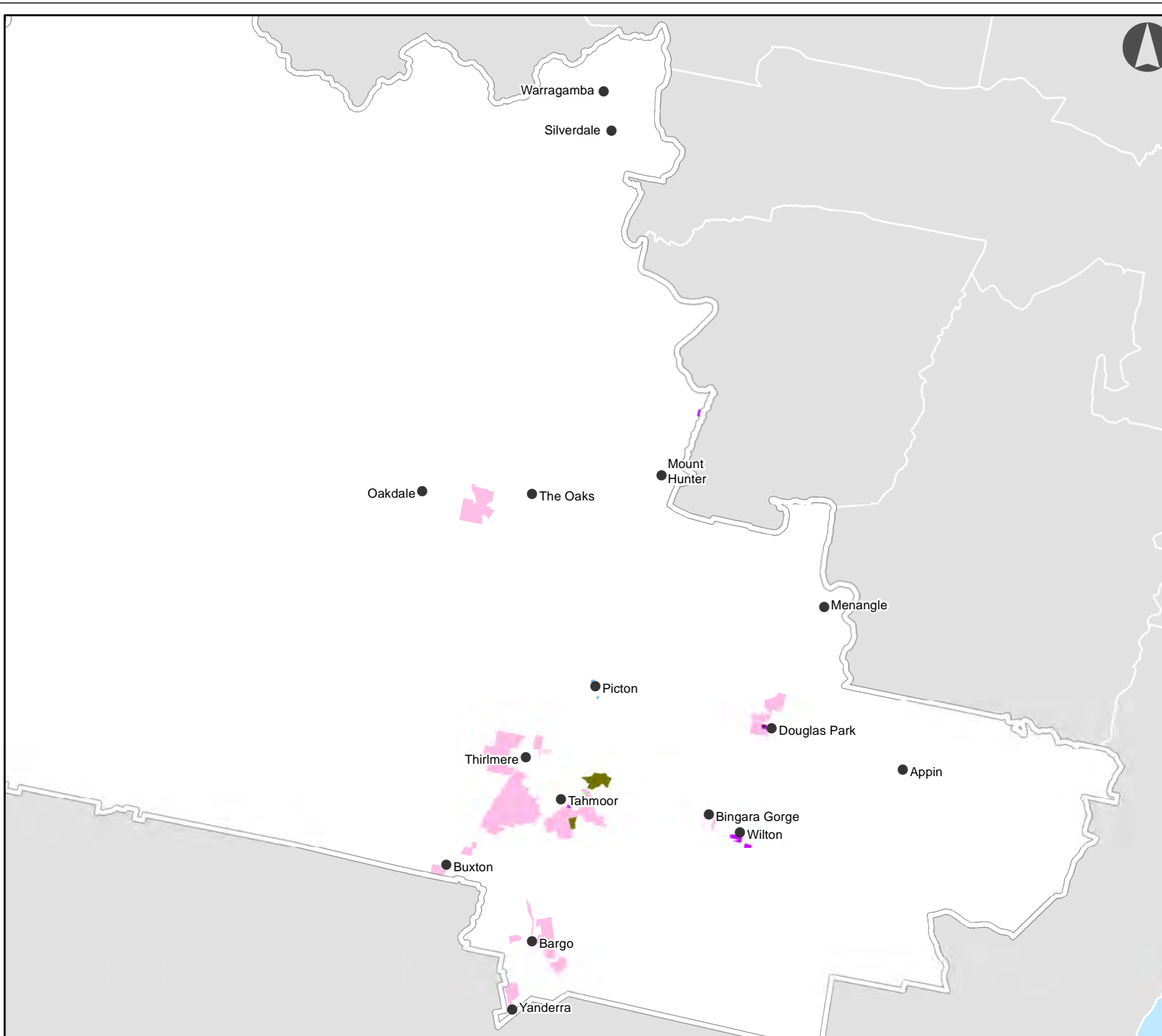


FIGURE 28

**Minimum Lot Size in the
RU4 Rural Small Holding Zone**

Legend

- Towns/ Villages
- 450 sqm
- 1 ha
- 1.5 ha
- 2 ha
- 16 ha
- 40 ha
- Wollondilly Local Government Area
- Local Government Areas



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Appendix C – RURAL LAND HOLDINGS

Land holdings analysis

To examine the patterns of land holdings, data was analysed by zone and is set out in the following tables and maps.

Table 12 E4 Environmental Living Zone Land holdings analysis

Land holding Size (ha)	Area of E4 Environmental Living Zone (ha)	Number of land holdings	Average Size of Land holdings (ha)	Median Size of Land holding (ha)
<4	1,244	550	2.3	2.1
4 – 8	1,318	249	5.3	5.0
8 – 12	1,184	124	9.5	9.8
>12	1,693	66	25.3	18.8
Total average	5,440	989	5.5	3.5

The data in Table 12 indicates the following.

- There are 989 landholders with a weighted average landholding of 5.5 hectares and a median landholding of 3.5 hectares
- 53% of the area in the E4 Environmental Living zone is held by 19% of the landholders with landholding sizes of 8ha or larger
- 56% of all landholders have landholdings smaller than the minimum lot size of 4 hectares.

Table 13 RU1 Primary Production Zone land holdings analysis

Land holding Size (ha)	Area of RU1 Primary Production Zone (ha)	Number of land holdings	Average Size of Land holdings (ha)	Median Size of Land holding (ha)
<16	7,102	1,513	4.7	3.2
16 – 20	2,080	120	17.3	16.7
20 – 40	2,342	91	25.7	24.0
40 – 100	2,188	37	59.1	53.4
100 – 200	1,004	8	125.5	128.8
>200	2,958	7	422.5	390.4
Total average	17,673	1,776	10.0	4.0

The data in Table 13 indicates the following.

- There are 1,776 landholders with a weighted average landholding of 10ha and median landholding of 4 hectares
- 22% of the RU1 Primary Production zone is held by 1% of landholders with landholdings larger than 100 hectares
- 26% of the RU1 Primary Production zone is held by 7% of landholders with landholdings from 20ha to 100 hectares
- 40% of the RU1 Primary Production zone is held by 85% of landholders with landholdings less than 16 hectares

Table 14 RU2 Rural Landscape zone land holdings analysis

Land holding Size (ha)	Area of RU2 Rural Landscape zone (ha)	Number of land holdings	Average Size of Land holdings (ha)	Median Size of Land holding (ha)
<16	6,522	1,740	3.7	2.0
16 - 40	4,695	195	24.1	21.8
40 - 100	7,378	122	60.5	56.3
>100	9,640	50	192.8	155.3
Total average	28,235	2,107	13.4	2.3

The data in Table 14 indicates the following

- There are 2,107 landholders in the RU2 zone with a weighted average landholding of 13.4 hectares and a median landholding of 2.3 hectares
- 60% of the RU2 zone is held by 8% of landholders with landholdings of 40 hectares and larger
- 23% of the RU2 zone is held by 83% of landholders with landholdings less than 16ha

Table 15 RU4 Rural Small Holding Zone land holdings analysis

Land holding Size (ha)	Area of RU4 Rural Small holdings zone (ha)	Number of land holdings	Average Size of Land holdings (ha)	Median Size of Land holding (ha)
<2	599	630	1.0	1.0
2 - 4	1,025	442	2.3	2.1
4 - 6	95	21	4.5	4.4
6 - 10	78	10	7.8	8.1
>10	323	9	35.8	22.0
Total average	2,120	1,112	1.9	1.7

The data in Table 15 indicates the following

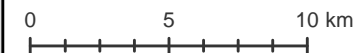
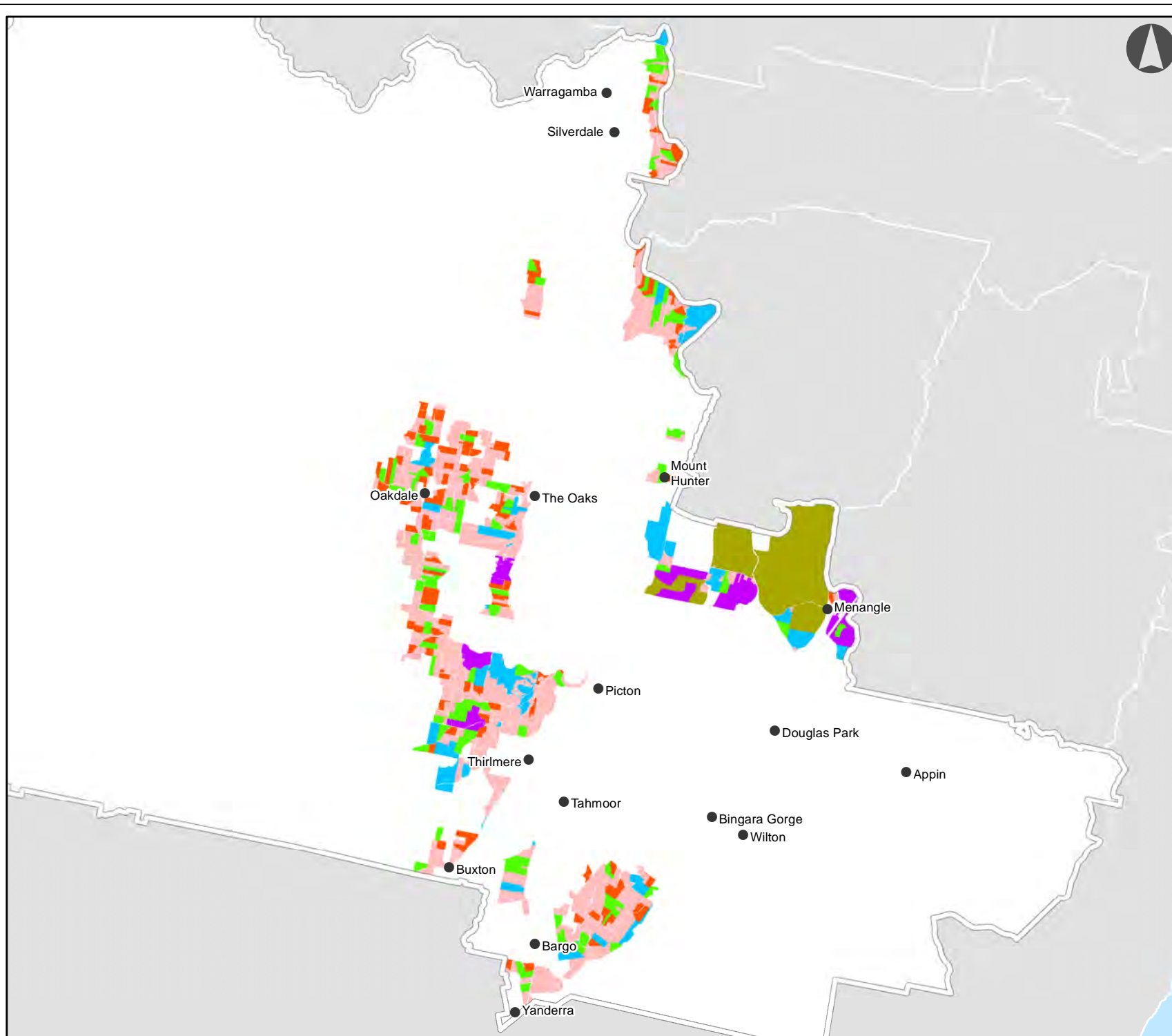
- There are 2,120 landholders in the RU4 zone with a weighted average landholding of 1.9 hectares and a median landholding of 1.7 hectares
- 23% of the RU4 zone is held by 3.6% of the landholders with landholdings larger than 4 hectares
- 28% of the RU4 zone is held by 57% of the landholders with landholdings less than 2 hectares
- 23.4% of the RU4 zone is held in landholdings larger than 4 hectares



FIGURE 29
Rural holdings in the
RU1 Primary Production Zone

Legend

- Towns/ Villages
- <16ha
- 16-20ha
- 20-40ha
- 40-100ha
- 100-200ha
- >200ha
- Wollondilly Local Government Area
- Local Government Areas



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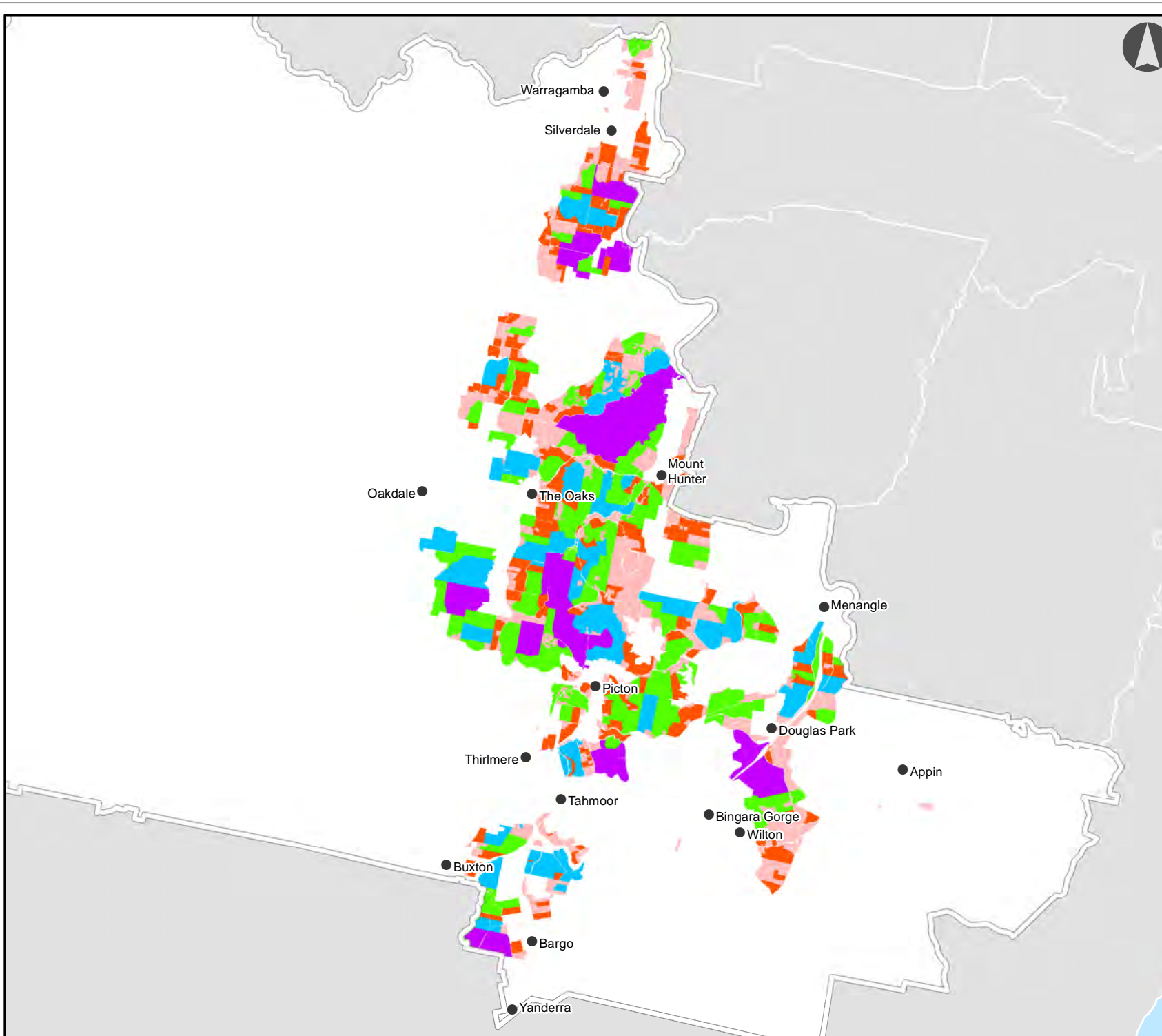




FIGURE 30
Rural holdings in the
RU2 Primary Landscape Zone

Legend

- Towns/ Villages
- <16ha
- 16-40ha
- 40-100ha
- 100-200ha
- >200ha
- Wollondilly Local Government Area
- Local Government Areas



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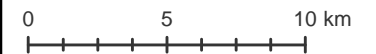
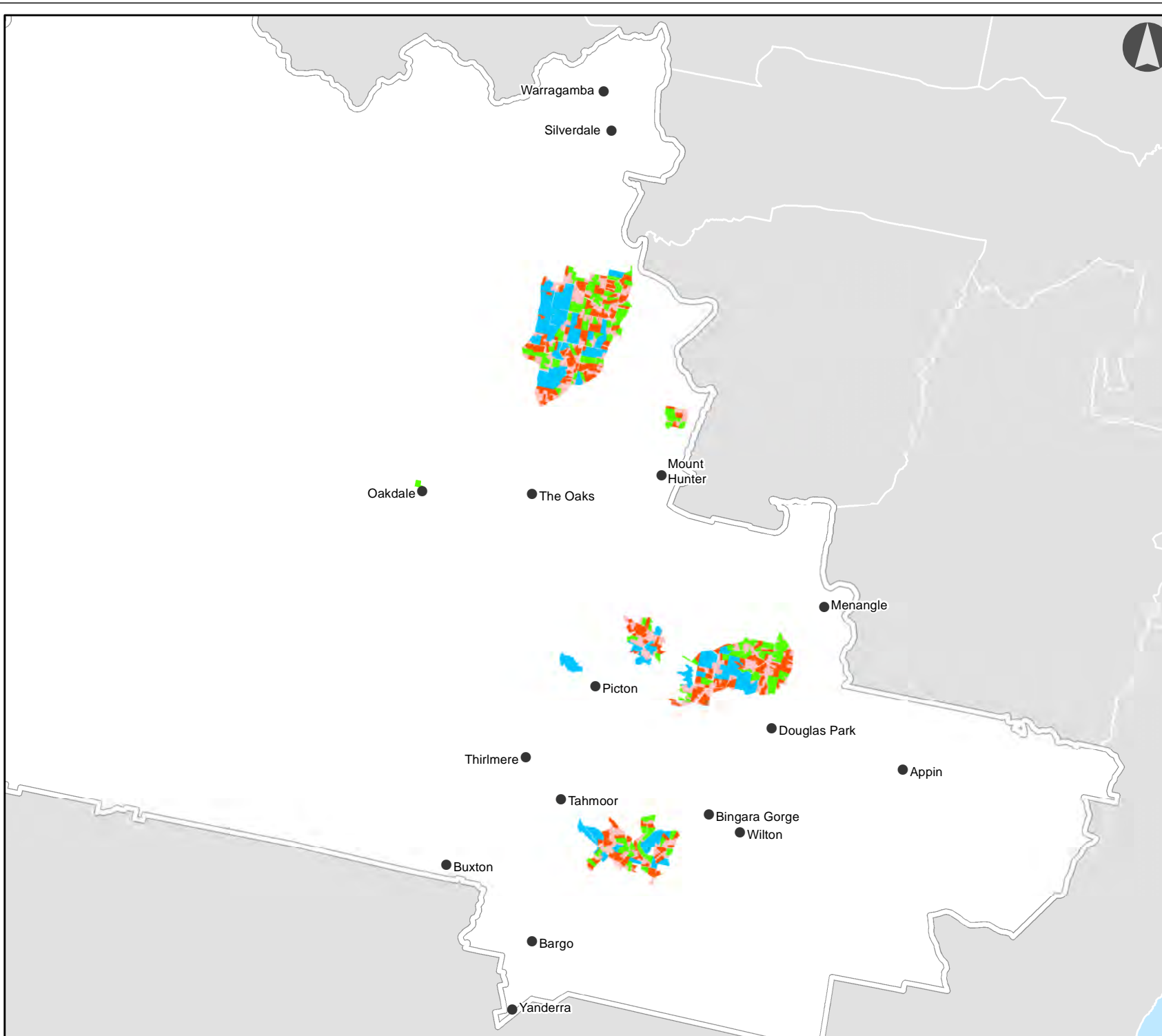


FIGURE 31

Rural holdings in the E4 Environmental Living Zone

Legend

- Towns/ Villages
- <4ha
- 4-8ha
- 8-12ha
- >12ha
- Wollondilly Local Government Area
- Local Government Areas



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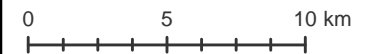
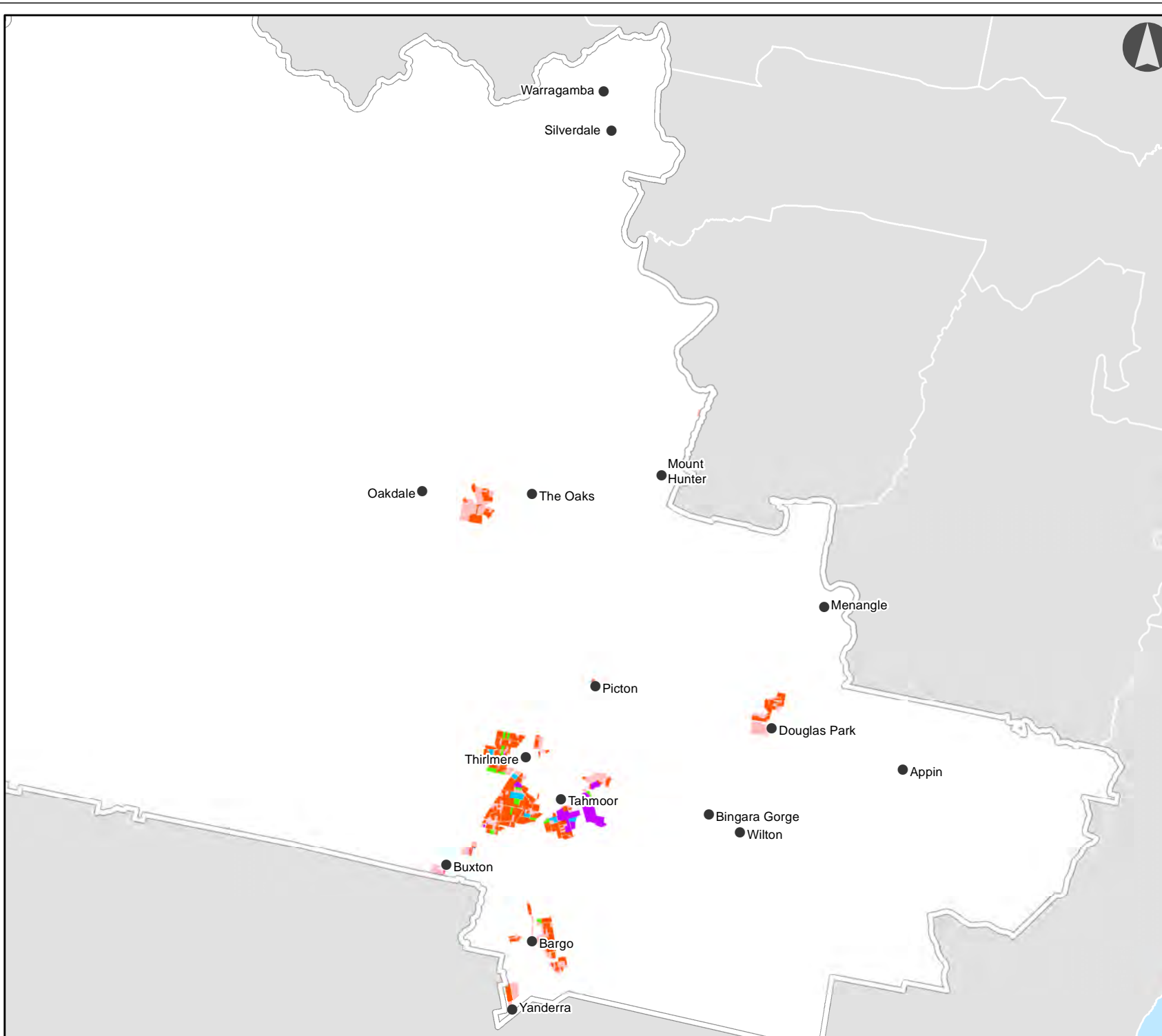


FIGURE 32

**Rural holdings in the
RU4 Rural Small Holding Zone**

Legend

- Towns/ Villages
- <2ha
- 2-4ha
- 4-6ha
- 6-10ha
- >10ha
- Wollondilly Local Government Area
- Local Government Areas



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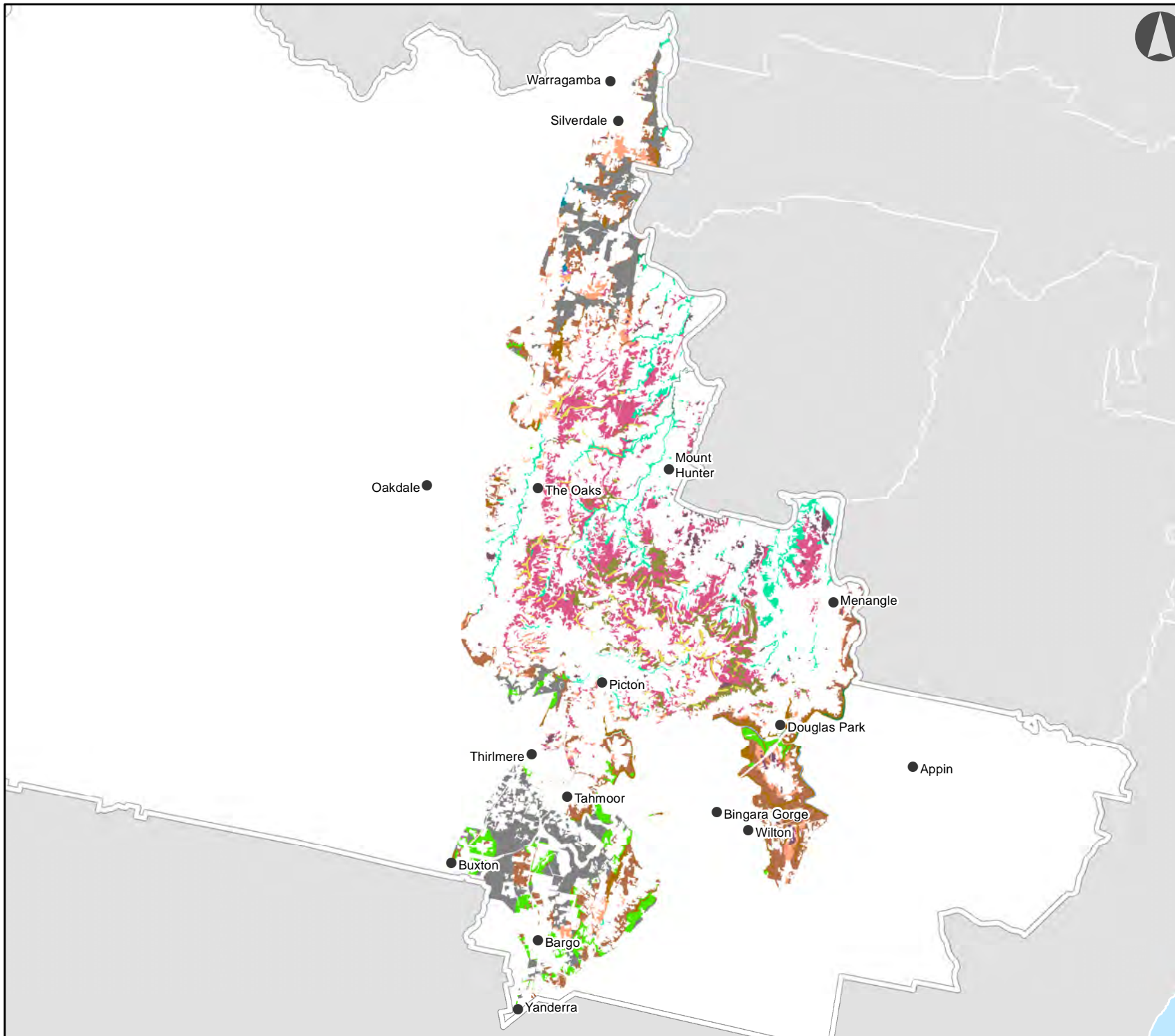


Appendix D – RURAL LAND USE



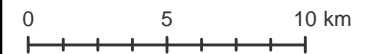
FIGURE 33

**Extract of Western Cumberland
Sub-Region Remnant Vegetation Map**



Legend

- Towns/ Villages
- Shale Sandstone Transition Forest (Low Sandstone Influence)
- Shale Hills Woodland
- Shale Plains Woodland
- Alluvial Woodland
- Riparian Forest
- Western Sydney Dry Rainforest
- Moist Shale Woodland
- Turpentine-Ironbark Forest
- Shale Sandstone Transition Forest (High Sandstone Influence)
- Sandstone Ridgetop Woodland
- Upper Georges River Sandstone Woodland
- Western Sandstone Gully Forest
- Riparian Scrub
- Turpentine-Ironbark Margin Forest
- Unclassified Vegetation
- Wollondilly Local Government Area
- Local Government Areas

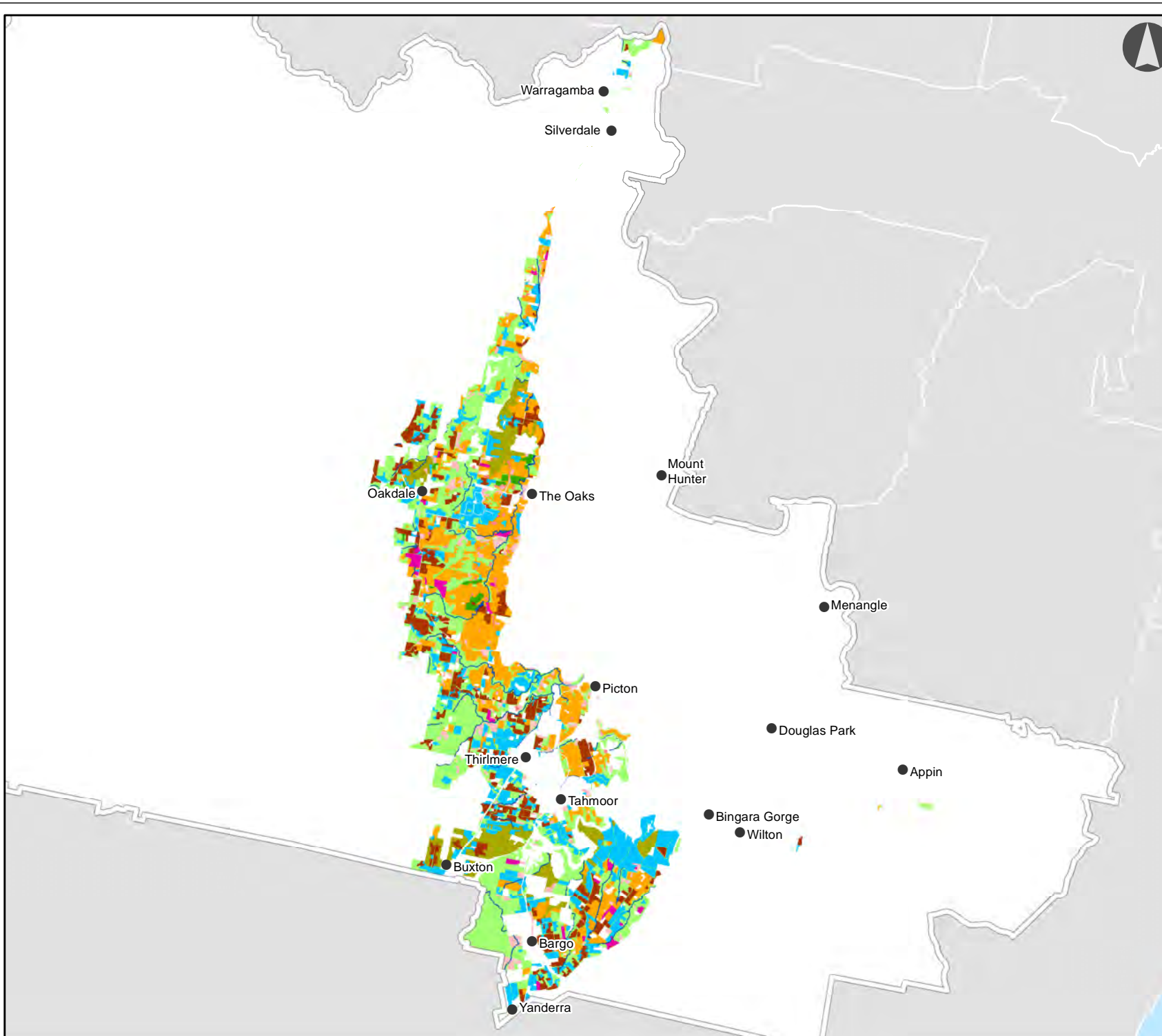


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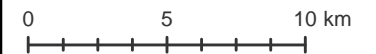


FIGURE 34
Land Use in 2017
(Western side of Wollondilly)



Legend

- Towns/ Villages
- Native Vegetation
- Grazing native vegetation
- Grazing modified pastures
- Cropping
- Intensive animal production
- Residential and farm infrastructure
- Rural residential with agriculture
- Rural residential without agriculture
- Reservoir/dam
- River
- Wollondilly Local Government Area
- Local Government Areas



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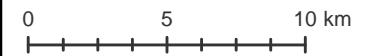
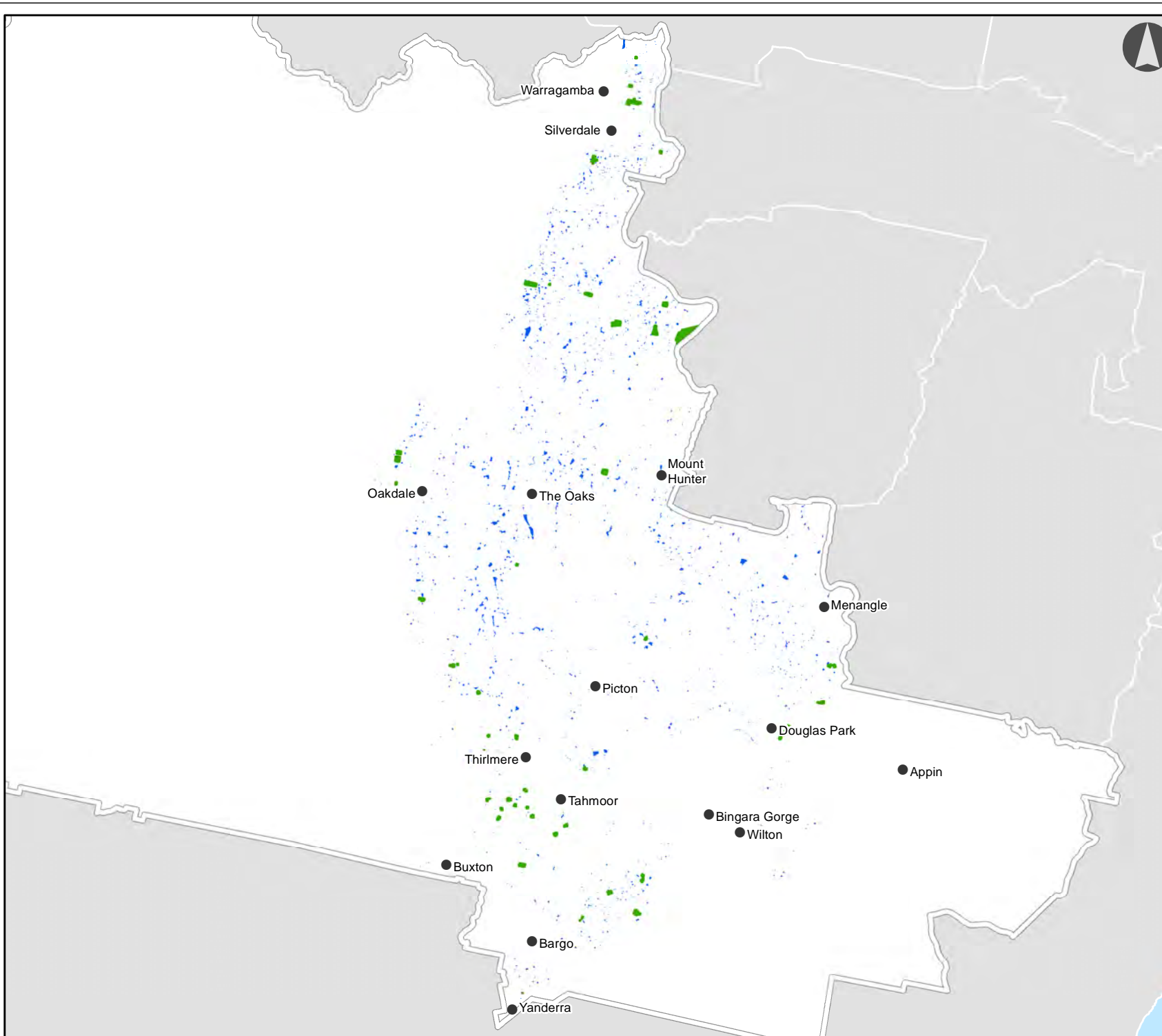




FIGURE 35
Horticulture

Legend

- Towns/ Villages
- Horticulture
- Farm Dams
- Wollondilly Local Government Area
- Local Government Areas



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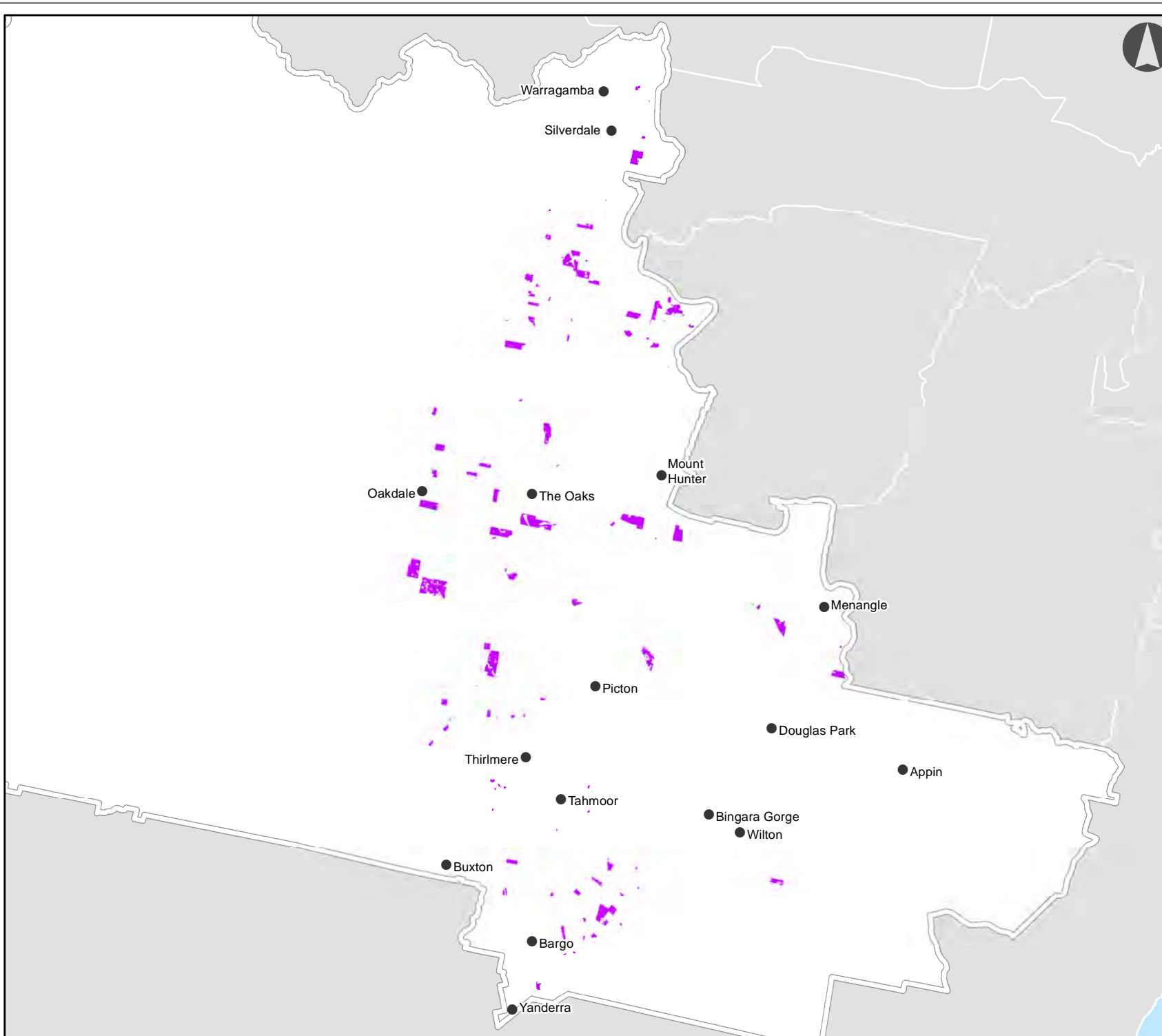




FIGURE 36
Intensive Animals

Legend

- Towns/ Villages
- Intensive Animals
- Wollondilly Local Government Area
- Local Government Areas



0 5 10 km

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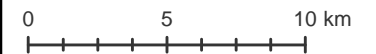
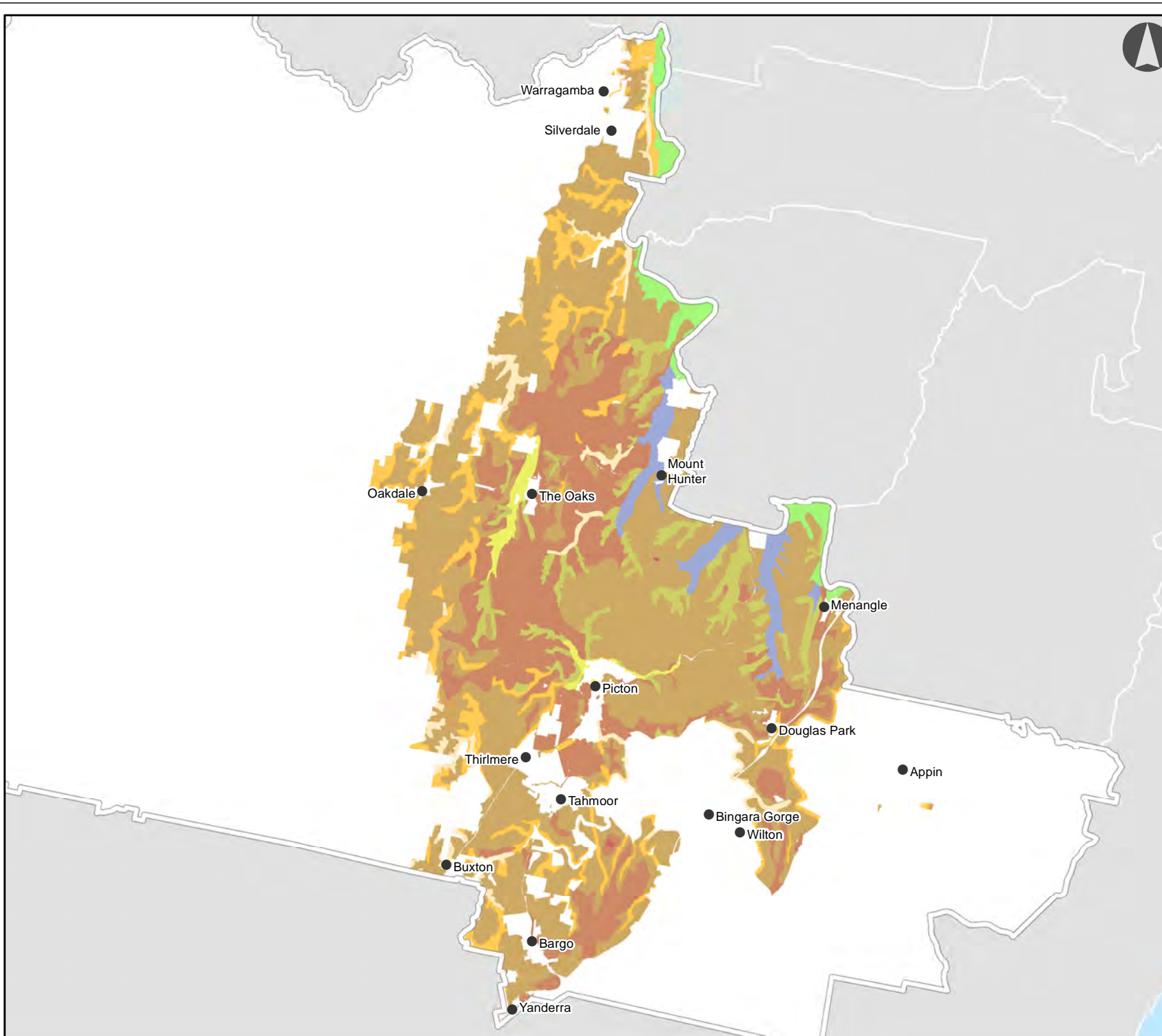
Appendix E – Soil Profile and Geography



FIGURE 37
Soil Types-
Australian Soil Classification

Legend

- Towns/ Villages
- Dermosols
- Ferrosols
- Hydrosols
- Kurosols
- Kurosols, Natric
- Rudosols
- Rudosols and Tenosols
- Sodosols
- Tenosols (Alluvial)
- Water
- Wollondilly Local Government Area
- Local Government Areas



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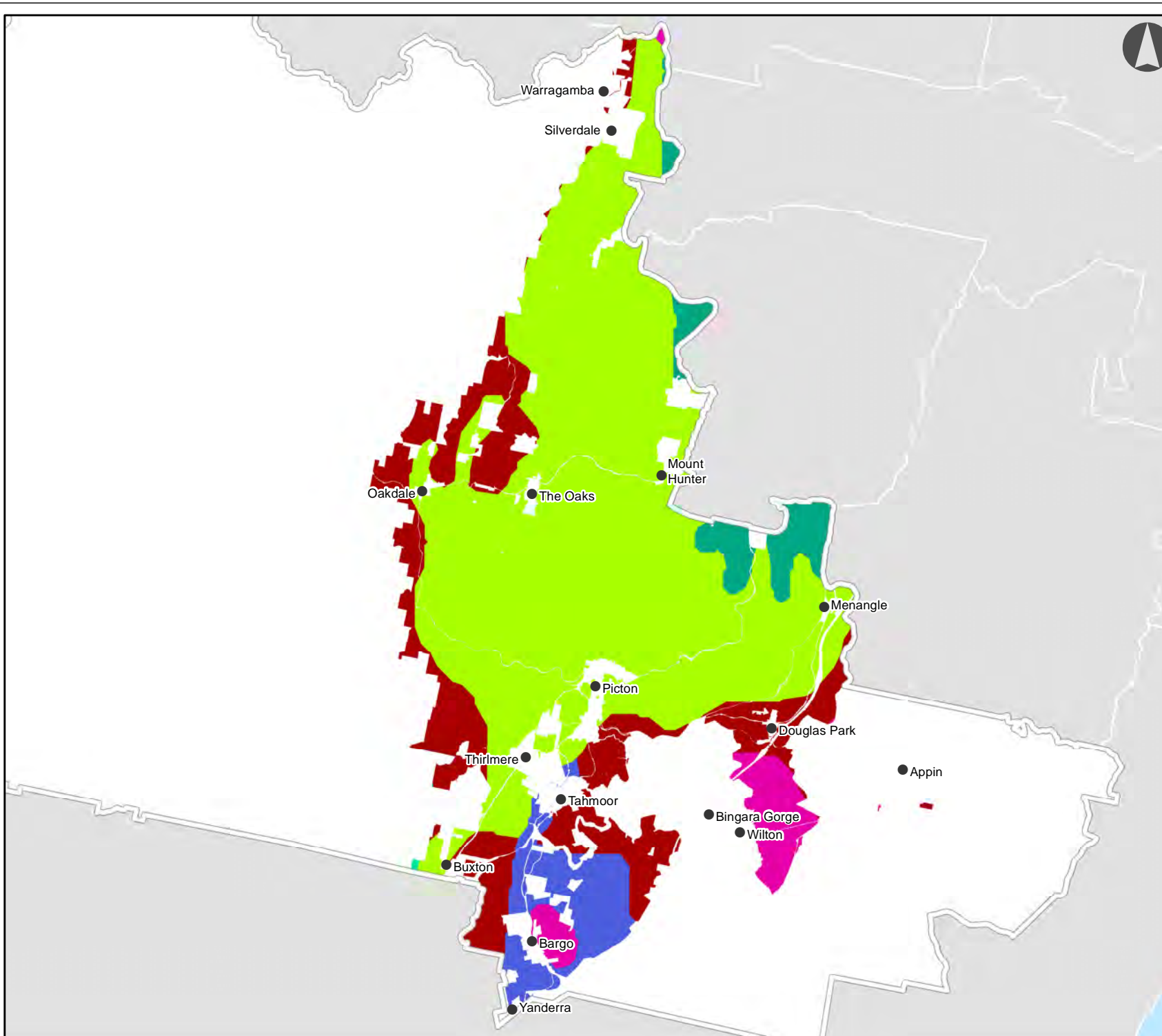




FIGURE 38
Soil Types-
Atlas of Australian Soils

Legend

- Towns/ Villages
- Mb2
- Pb12
- Pb13
- Tb28
- Tb33
- Tb35
- Ub47
- Wollondilly Local Government Area
- Local Government Areas



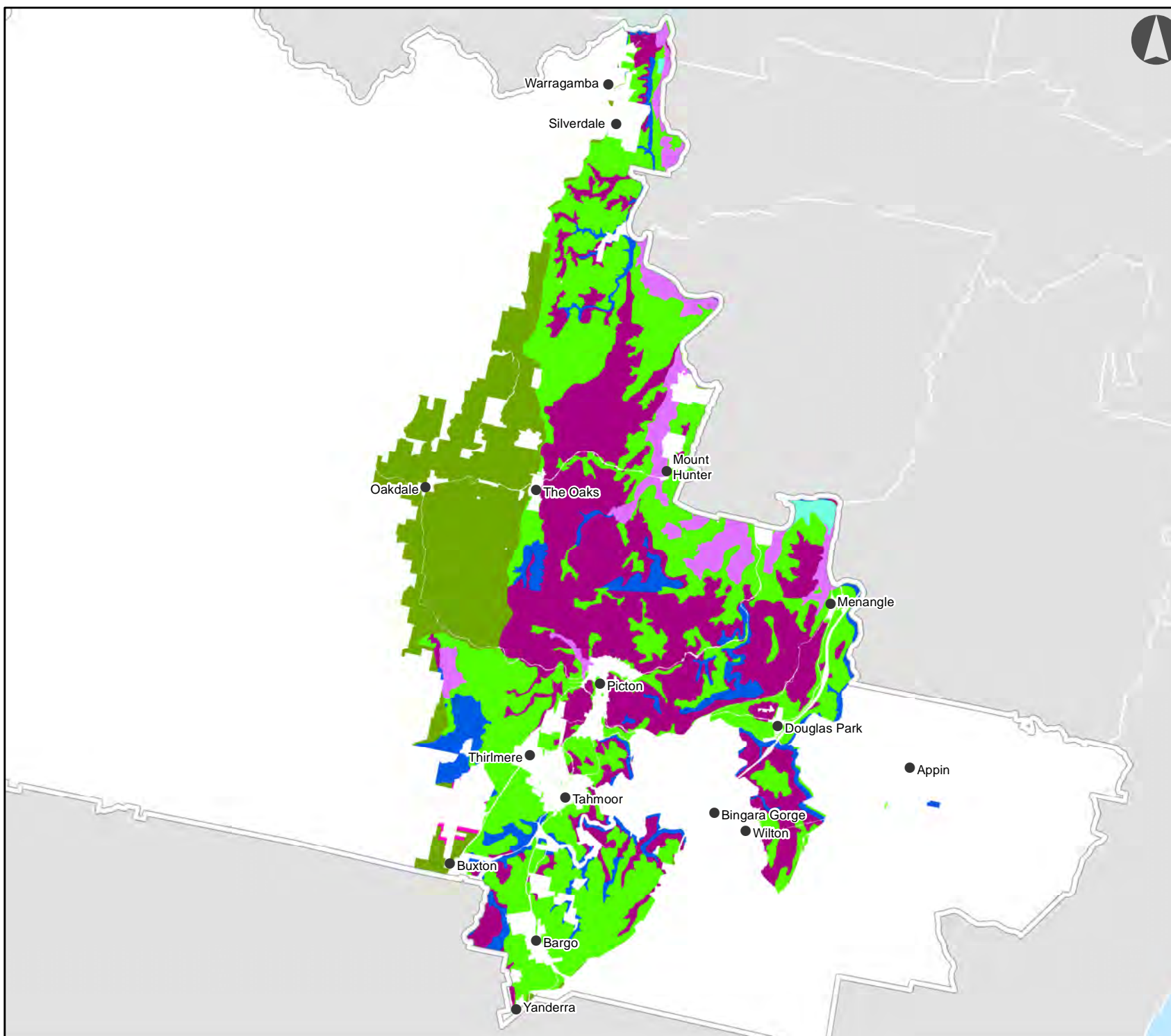
0 5 10 km

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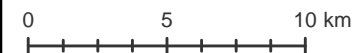


FIGURE 39
Agricultural Land Classification



Legend

- Towns/ Villages
- 1
- 2
- 3
- 4
- 5
- 12
- 13
- Wollondilly Local Government Area
- Local Government Areas



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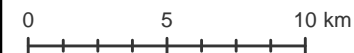
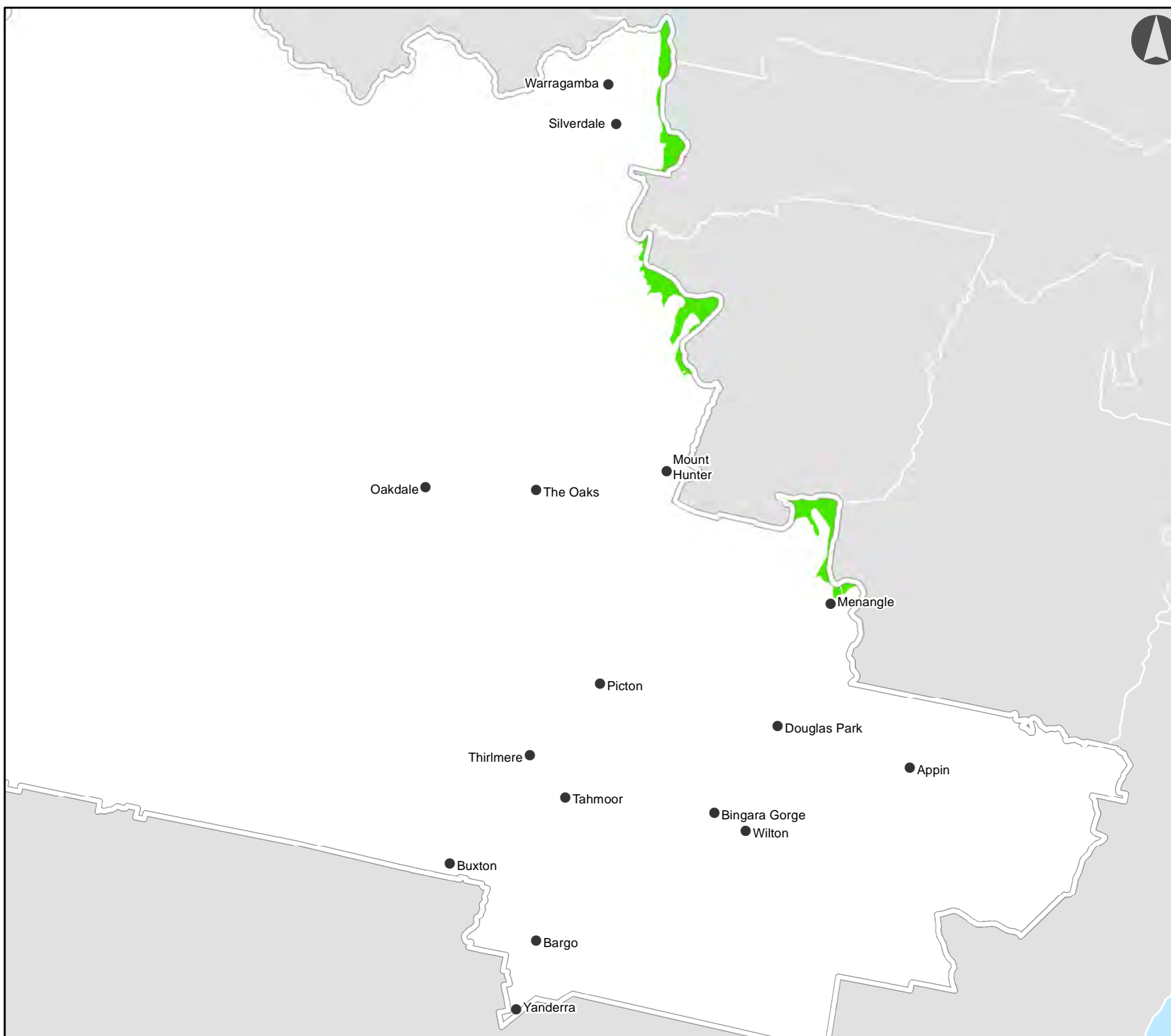


FIGURE 40

**Biophysical Strategic
Agricultural Land**

Legend

- Towns/ Villages
- Biophysical Strategic Agricultural Land
- Wollondilly Local Government Area
- Local Government Areas

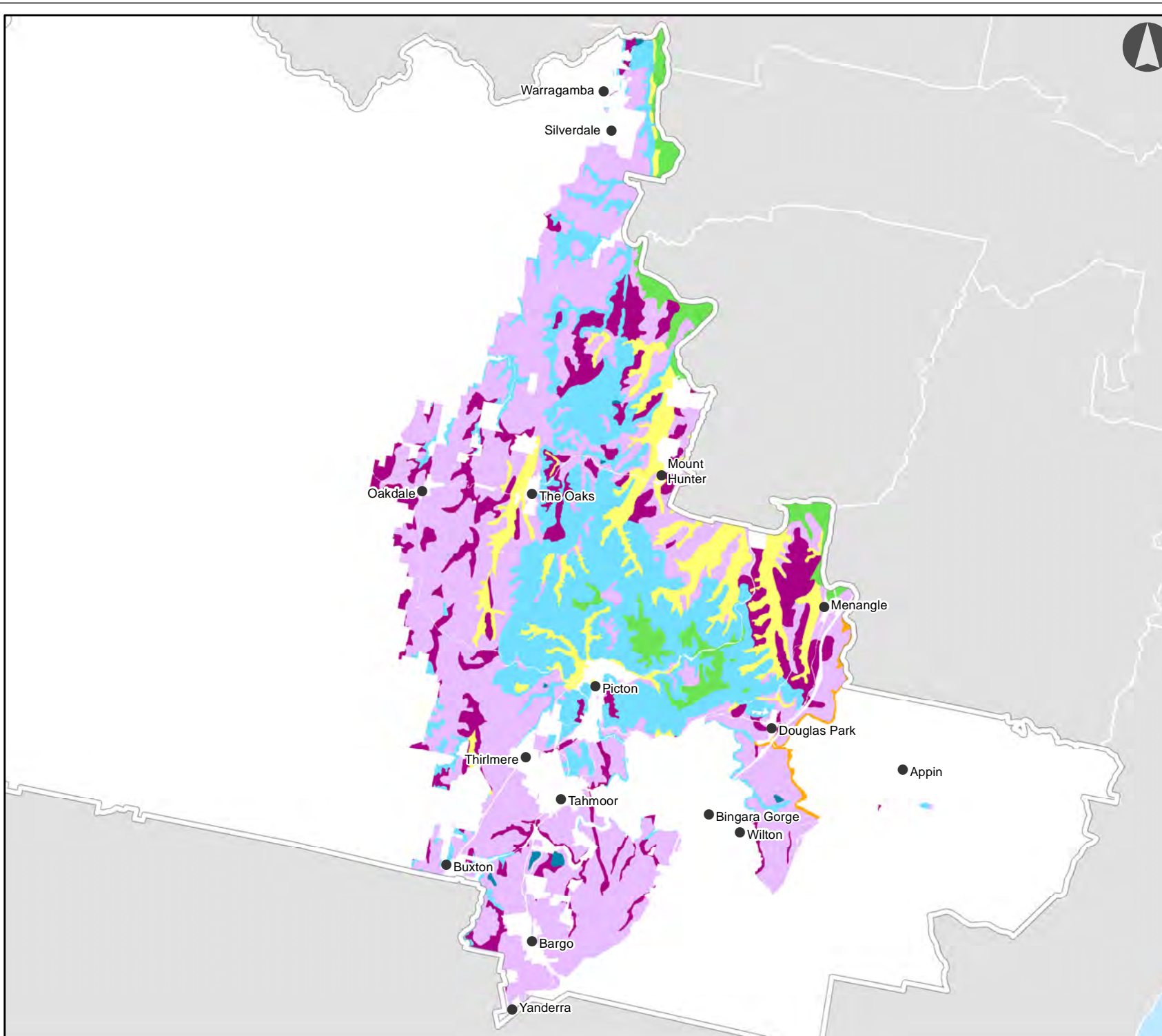


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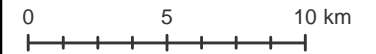


FIGURE 41
Land and Soil Capability



Legend

- Towns/ Villages
- 3
- 4
- 5
- 6
- 7
- 8
- 98
- 99
- Wollondilly Local Government Area
- Local Government Areas

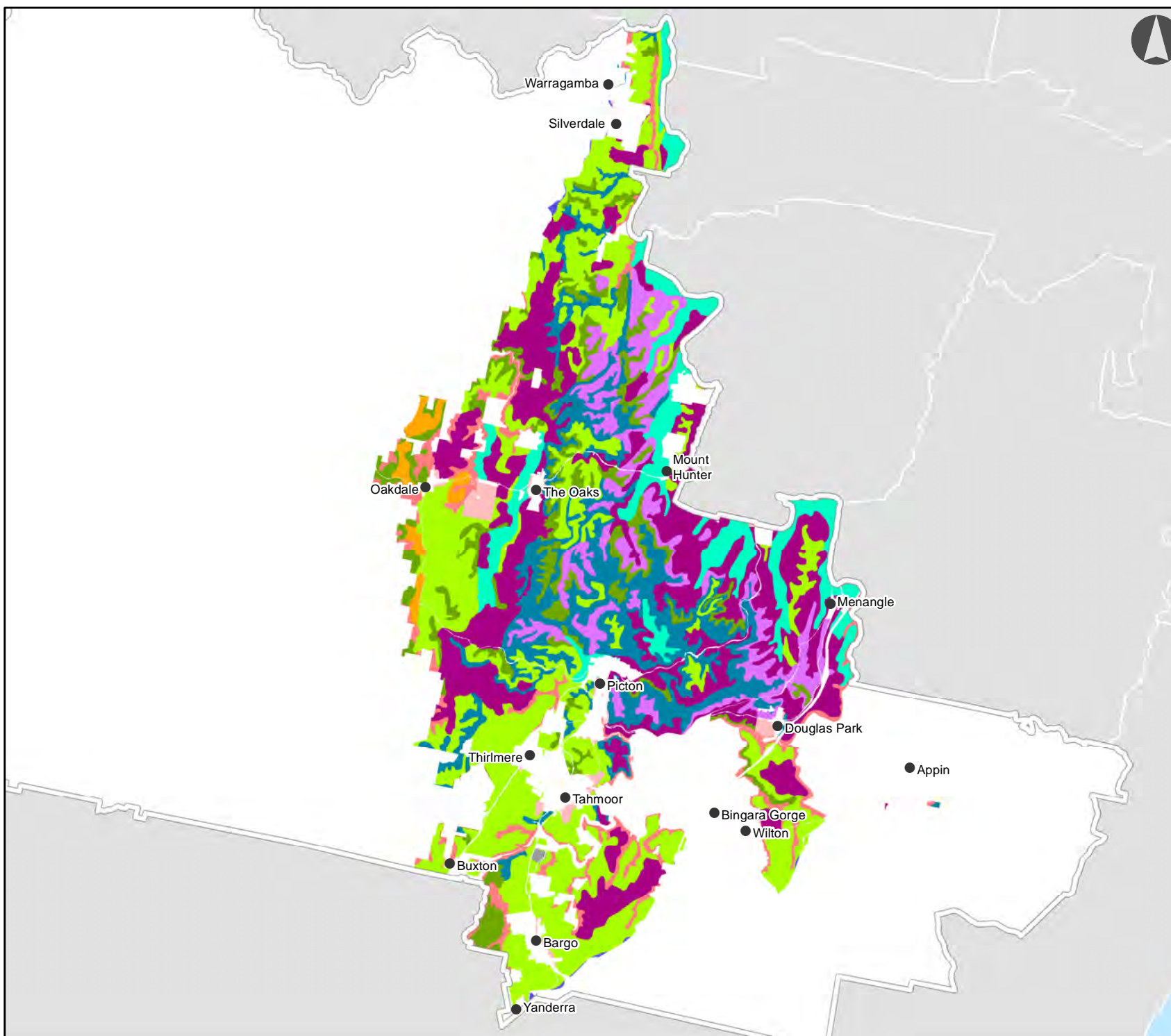


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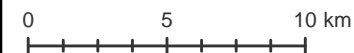


FIGURE 42
Rural Land Capability



Legend

- Towns/ Villages
- 2
- 3
- 4
- 4c
- 5
- 6
- 7
- 8
- Mining
- Metropolitan Water Sydney Drinking Basin Restricted Area
- National Park
- Urban
- Wollondilly Local Government Area
- Local Government Areas



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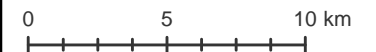
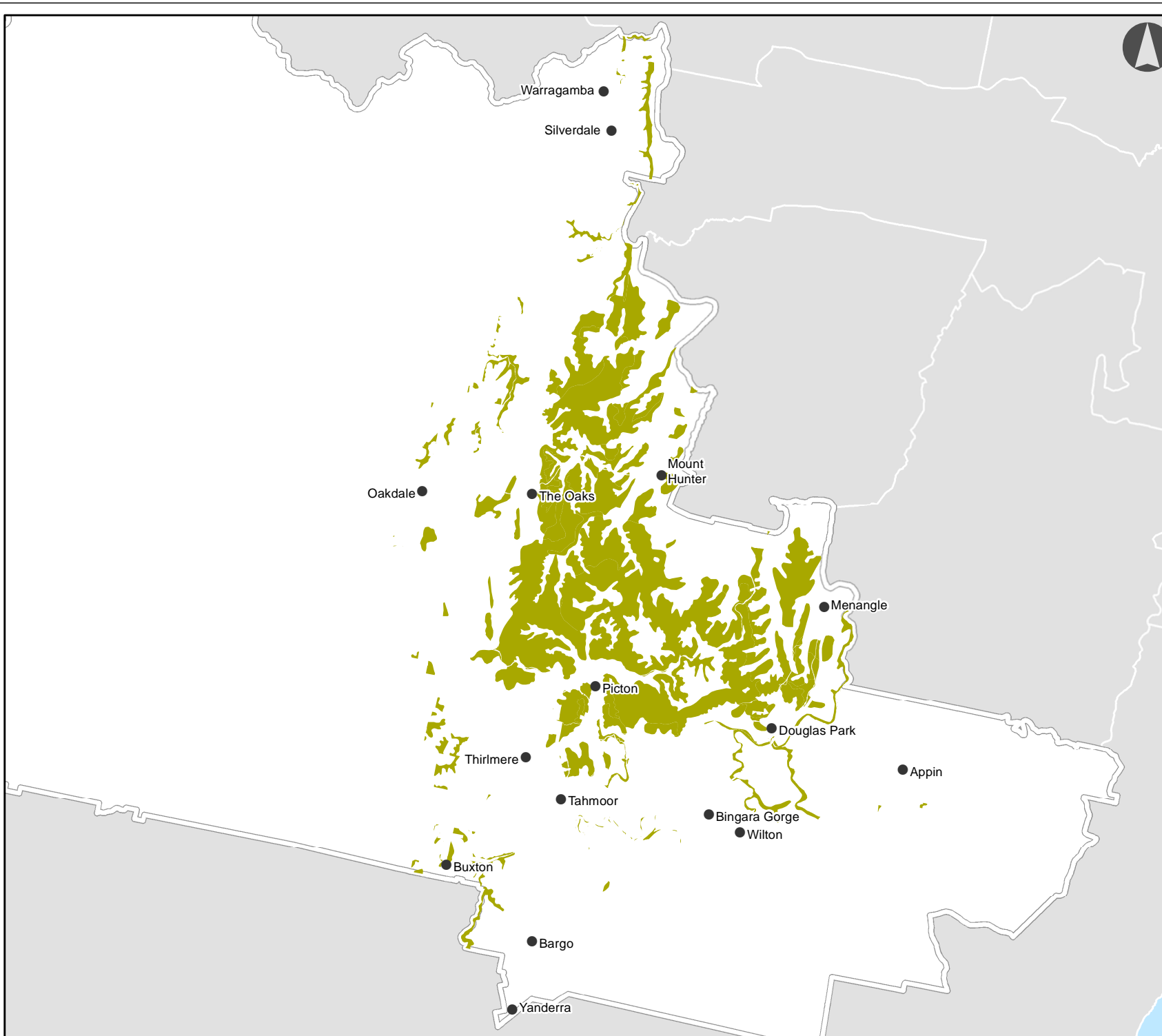
FIGURE 43

Slope Constrained Land

Legend

- Towns/ Villages
- Slope Constrained Land
- Wollondilly Local Government Area
- Local Government Areas

Note: Data source is Rural Land Capability mapping, DLWC 1988



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