THE UNIVERSITY OF SYDNEY

NSW GOVERNMENT Department of Primary Industries

Land ownership change in rural NSW

Central West Transect Report

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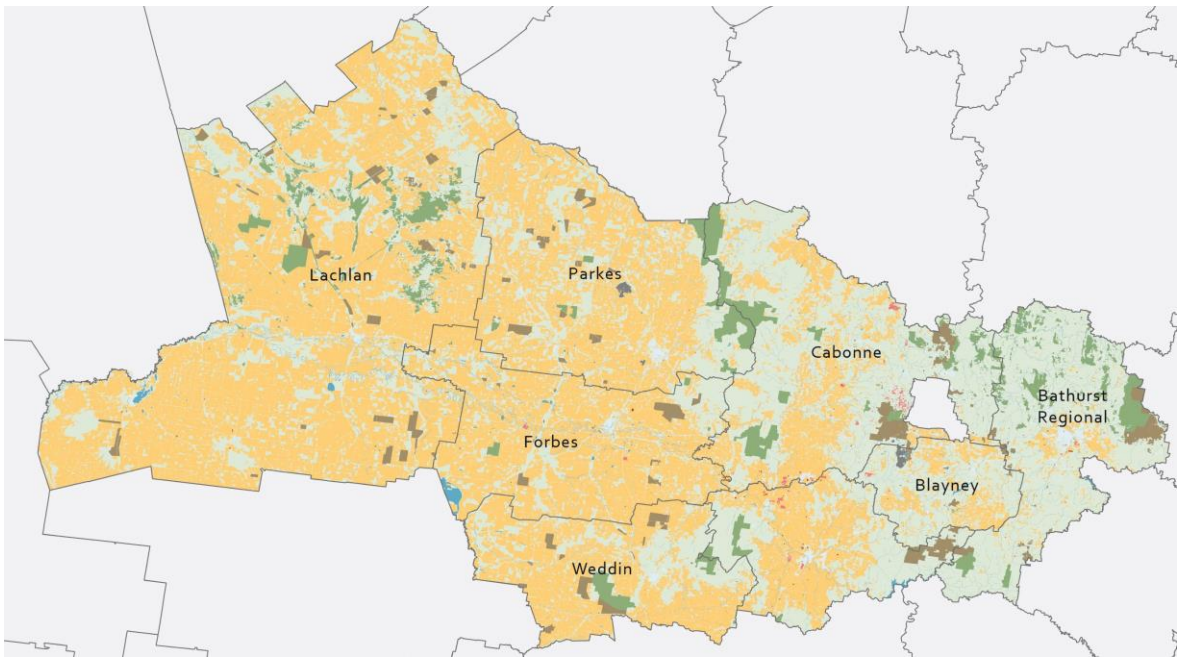

Land Ownership Change in Rural NSW: Central West Transect Report

November, 2021

This report has been commissioned as an output from the Australian Research Council's Linkage Project "The impacts of land ownership change on rural social and economic change" (LP170101125)

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How to cite this report:
Pritchard, B., Umaña Restrepo, G., Welch, E., Mitchell, L., Stone, C. (2021) Land Ownership Change in Rural NSW: Central West Transect Report, University of Sydney & NSW Department of Primary Industries. **https://rural-land-science.sydney.edu.au/**

ISBN 978-1-74210-516-1

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Acknowledgements and overview

The Central West transect report is an output from the Australian Research Council Linkage Project 'The impacts of land ownership change on rural social and economic change' (LP170101125) undertaken by the University of Sydney in partnership with the NSW Department of Primary Industries. Research reported here has the approval of the University of Sydney Human Research Ethics Committee (Protocols 2018/020 and 2019/749).

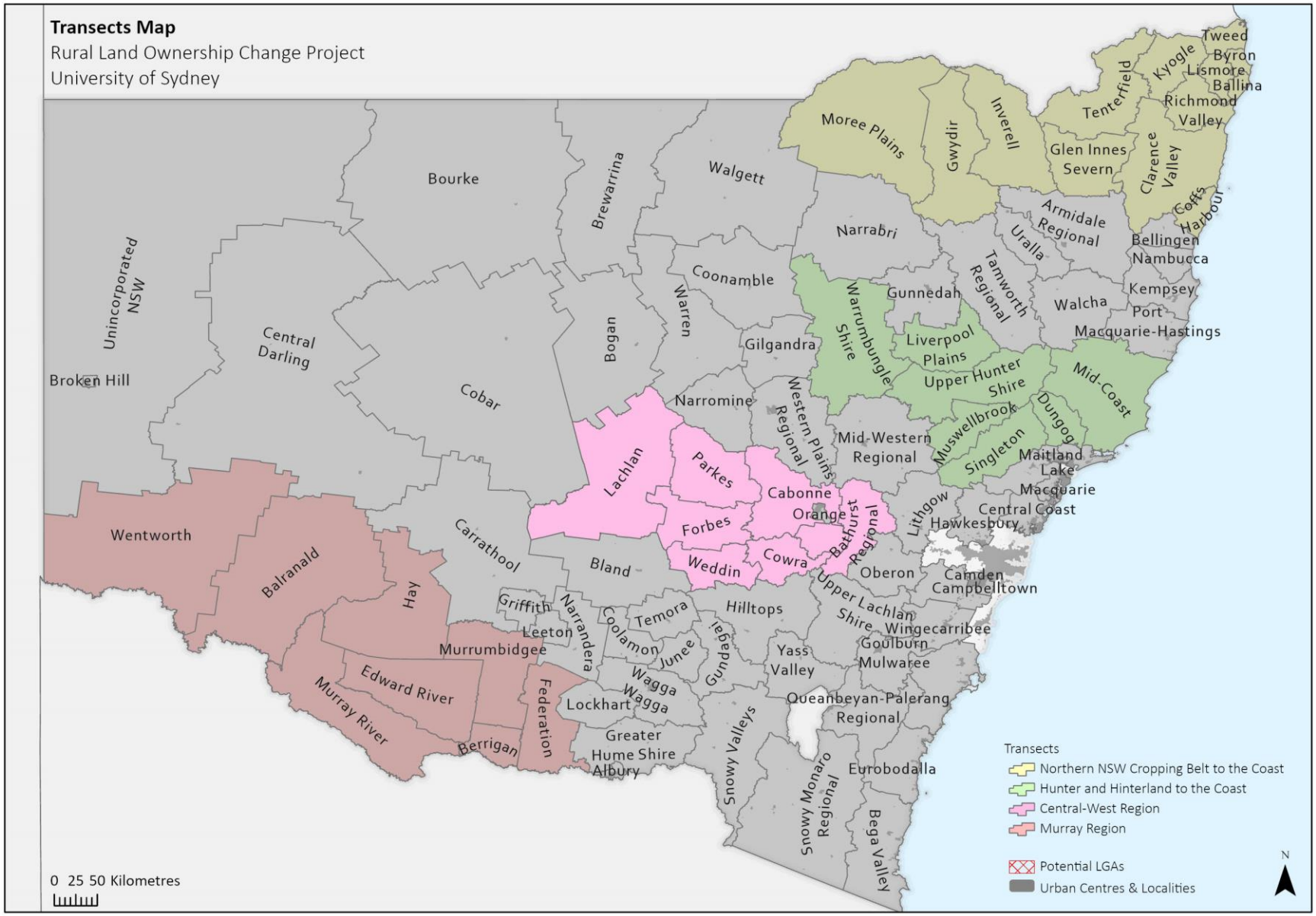
This report is one of four transect reports covering different regions of NSW. The aim of the broader project is to identify and explain key trends in the spatial and temporal patterns of changes in the ownership of land in rural NSW. The core component for achieving this objective is the construction of a unique, research-ready, spatially informed database that records and maps every land transaction in rural NSW over the 16-year period from January 2004 to January 2020. Details of the methodology for generating this dataset are provided in Appendix A of this report.

Preparation of this report has had oversight from the project's Steering Committee in the NSW Department of Primary Industries. We wish to thank members of the Steering Committee, and specifically the project liaisons, Tamara Prentice, and Mary Kovac. We also thank and acknowledge Dr Robyn Hean in the NSW Department of Primary Industries, who was our liaison officer in the initiation stages of the project. For more information, please consult the webpage for this research project: **https://rural-land-science.sydney.edu.au/**

Acknowledgement of Traditional Custodians of Country

We would like to acknowledge all Aboriginal and Torres Strait Islander Traditional Custodians of Country and recognise their continuing connection to land, sea, culture, and community. We pay our respect to Elders, past and present. In particular, we acknowledge and pay respect to all the Traditional Custodians of Country in NSW upon which this research is conducted. As we share our own knowledge, teaching, learning and research practices within the context of this research project, we also pay our respect to the knowledge embedded forever within the Aboriginal Custodianship of Country. We would like to particularly acknowledge the Traditional Custodians of the Wiradjuri Country in which research was undertaken to prepare this report.

Figure 1 - Research Project Transects



Summary of findings

"The Central West is water, climate and proximity to everybody"
Focus group stakeholder

The Central West Region has one of the most diverse regional economies in NSW. It is home to a strong agricultural industry that supports cool climate viticulture, forestry, cropping and grazing; as well as significant mining activities and an important services sector (NSW Government, 2017). This economic diversity, in combination with the region's proximity to Sydney and connectivity to other areas of the state, present distinctive contexts for understanding changing patterns of rural land ownership.

A key factor influencing demand for land in the Central West is its connectivity. As suggested by a stakeholder, the Central West's main advantage in proximity to everybody. Transport connections with Sydney, Canberra and Newcastle, including access to major airports, give agricultural producers in this region the ability to access a variety of markets. This also makes the area attractive to new entrants, including lifestyle farmers and others seeking non-agricultural uses of rural land. Key projects such as the Western Sydney Airport and the proposed inland railway will further increase the advantageous position of the Central West but will also have an impact on its rates of land ownership change.

The aim of this report is to provide stakeholders in the public, private and community sectors with key insights into patterns of rural land ownership in the Central West based on analysis of land titles data from January 2004 to January 2020, supplemented by a series of focus group discussions and interviews with regional decision-makers in April 2021.

To address the diversity of rural landscapes across the Central West, a transect approach was adopted in which eight LGAs (Bathurst Regional, Blayney, Cabonne, Cowra, Weddin, Forbes, Parkes, and Lachlan) were selected for analysis. These LGAs represent a contiguous 400km east-west stretch of land across the southern part of the Central West & Orana Planning Region.[1] The diversity of this region and the amount of data generated in the course of the research open many avenues of enquiry. The box below synthesises what we identify as the key messages from the study.

Key messages from this study

1. For most of the study period (2004-20), the rate at which rural land changed ownership in the Central West was slower than the rest of the state. This seems connected to strong legacies of tightly held family farming, in the context where the high price of land provides barriers for new entrants.
2. By the end of the study period, rural land was changing hands in the Central West transect at a faster rate than the rural NSW average, in large part driven by trends in Forbes and Lachlan associated with landholders' attempts to capture economies of scale.
3. During the study period, all transect LGAs except Bathurst Regional experienced an increase in the ownership concentration of rural land, but this was greatest in Weddin and Forbes, and was linked to large corporate investments in these LGAs.
4. Minimum Lot Size restrictions impose considerable constraints on rural subdivisions in Parkes and Weddin, and to a lesser extent Lachlan, but elsewhere in the transect region there is considerable land potentially available for sub-division, especially in amenity-rich eastern portions of the transect. This may place increasing competition on the use of land for agriculture and add to further inflationary pressures on rural land.

[1] The Central West & Orana region includes, in addition to the eight transect LGAs, the local government areas of Bogan, Coonamble, Gilgandra, Lithgow, Mid-Western Regional, Narromine, Oberon, Orange, Warren, Warrumbungle, and Western Plains Regional.

Our analysis paints a picture of a region in change, with increasing pressures on agriculture. Key findings and insights are presented in 26 *Insights* located throughout the report. These are also summarised in the remainder of this section to assist readers in building an overall picture of substantive rural land ownership change in the transect region. A discussion and expansion of these is provided in each report section.

Summary of transect-wide insights

Insight 1. The median substantive rate of rural land ownership change in the Central West transect from January 2004 to January 2020 was 3.88%, which is lower than the state-wide substantive rate of change of 4.37%. This is a surprising result, given the considerable demographic and agricultural changes in the transect during this period.

Insight 2. Despite the historically lower than average substantive rates of change in the transect, a trend (particularly since 2011) towards increasing annual rates of rural land ownership change have been observed. These changes are associated with the conversion of traditional agricultural land-uses into a diverse rural landscape in the east of the transect (Bathurst Regional, Cabonne, Cowra) and an increase in sales of large agricultural properties in recent years in the west (Lachlan in particular).

Insight 3. Year-on-year variability in the rate of rural land ownership change has been historically low in the Central West, compared to other areas of the state. However, as with rates of change, there is also an upward trend towards increased year-on-year variability in the later years of the study period. Variability is higher for non-agricultural land than for agricultural land. This is partly due to the smaller proportion of non-agricultural land in the transect but it is also related to large-scale mining and large-lot residential sales occurring from time to time in the transect.

Insight 4. The transect can be conceived in terms of the four geographical zones in relation to their pattern of rural land ownership (refer toFigure 17 for a visual overview):

1. **In Bathurst Regional**, where rural land churn rates have been historically low, year-on-year variability of rural land ownership change rates has increased since 2009. Greater proximity to Sydney has increased the effect of non-agricultural drivers on land markets, including rural residential demand and tourism. Weaker agricultural drivers, as a result, have led to a higher degree of variability.
2. In contrast, **Cabonne, Blayney and Cowra** have had steadily low and less-variable rates of rural land ownership change. This is associated with the long-term unfolding of family farm consolidation. However, some areas of these LGAs, particularly those closer to Orange and Bathurst, have been subject to similar demographic and land market shifts as those affecting Bathurst Regional.
3. In **Weddin and Forbes**, increased rural land ownership concentration and large-scale agricultural investment are prominent drivers of change. These processes have resulted in higher median rates of annual rural land ownership change (particularly in Forbes), and significant volatility with clear peaks and troughs between years.
4. Finally, in **Parkes and Lachlan**, year-on-year variability is relatively high driven by large-scale sales of prominent land holdings, however land concentration is occurring at a slower pace than Wedding and Forbes, due to a weaker impulse from new entrants.

Insights into land aggregation, family farms and corporatisation

Insight 5. Land consolidation (i.e. aggregation of parcels into large family and/or corporate owned holdings) is a dominant purchasing pattern in the transect, however the bulk of these consolidation processes have occurred in the west of the transect, particularly in Weddin and Forbes. In contrast, land concentration in Bathurst Regional, Cabonne and Cowra has remained relatively stable (and even decreased in Bathurst Regional LGA).

Insight 6. Corporatisation of agricultural land is not a dominant process in the Central West transect, compared to other transects across NSW. Although some areas have seen increasing concentration of land through corporate ownership, family farms remain the bread and butter of transactions and family offices (collections of farms under single family ownership) remain the top aggregators in the transect.

Insight 7. Leasing arrangements are becoming more prevalent across the transect. However, the extent of their prevalence is hard to ascertain. These types of arrangements cannot be identified easily through land-title register databases. Stakeholder insights however affirmed their increasing prevalence.

Insight 8. Although family-farms remain the bread and butter of transactions in the Central West transect, the top 15 landowners in each LGA are more likely to be corporations. This aligns with the pursuit of large-corporate players for economies of scale, which translates into significant changes in the amount of land help by the top few large-corporate owners over time.

Insight 9. The rising cost of land is an important factor in shaping ownership change in the Central West. This may be a key reason why the overall rate of rural land ownership change in the region is lower than the NSW rural average.

Insights into demographic drivers of land ownership change

Insight 10. There is a demographic east-west gradient in the Central West transect, which is largely reflective of the gradual change in land-uses and agricultural commodities. In the east, land parcels are on average smaller in size, population densities higher and existing land fragmentation evident in the diversity and lesser concentration of land. In the west, population densities are low, which correlate to larger land holdings and variability in the rate of ownership change associated with large transactions.

Insight 11. Bathurst Regional LGA is the key driver of population growth in the transect, which explains why its ownership patterns differ from those of the rest of the transect. In contrast to other LGAs in the transect, Bathurst is experiencing a combination of processes of rural land dis-aggregation, increasing volatility in rural land markets, lows levels of corporate aggregation and significant growth in land prices.

Insight 12. Agricultural diversification and rural amenity migration are key trends affecting the demographic profile of LGAs in the mid-portion of the transect (Blayney, Cowra, Cabonne, Weddin).

Insight 13. Slow population change and/or population decline are the key demographic trends in the west of the transect (Lachlan, Forbes, Parkes).

Insight 14. Migration into/out of the transect region is a major contributor to the differences in rates of population change across the LGAs of the transect. LGAs in the west of the transect are experiencing stronger patterns of population ageing than those in the east. Out-migration into Sydney and Orange is strongest for people aged 20-29. In-migration from Sydney and Orange is stronger for people aged 30-34.

Agricultural land-uses and restructuring insights

Insight 15. The agricultural diversity of the Central West transect is one of its key characteristics. However, in terms of land area, cropping farms dominate. This is different to the state-wide agricultural profile, in which grazing makes the bulk of the agricultural land (~46%) and cropping is only a small proportion of the agricultural area (~11).

Insight 16. Our findings suggest that the Central West transect has been subject to several trends in agricultural restructuring which are contributing to the already strong productivity and diversity of the

transect, but also putting pressure on land prices in certain areas. In the east, diversification is leading to increase year-on-year variability in the rate of ownership change, driven by increased sales of smaller holdings and breaking up of existing holdings. In some cases, this has resulted in certain lower-value industries moving west, whilst others have thrived and diversified. In contrast, restructuring of larger farm holdings in the west generates periods of high churn rates driven by the sale of large holdings and periods of sale 'troughs' during years of tightly-held land markets.

Insight 17. Despite strong land-use change pressures along the transect and an increase in non-agricultural employment sectors, agriculture remains a major employer. In 2016, 13.6% of employed persons in the transect were employed in agriculture, larger than any other individual sector. However, its proportion of total employment is decreasing.

Insight 18. Although the number of people employed in agriculture in the Central West transect increased between 2001 and 2016, the following types of agricultural industries saw an overall decrease in the percentage of people employed, mainly due to a decrease in people employed as managers or family workers: 'Mushroom and Vegetable Growing,' 'Fruit and Tree Nut Growing' and 'Sheep, Beef Cattle and Grain Farming.' Others saw a decrease in the percentage of owner managers of incorporated and unincorporated enterprises, including: 'Dairy Cattle Farming' and 'Poultry Farming.' These findings indicate that processes of corporatisation have been strongest in these industries compared to others in the transect.

Insight 19. Water access is a key consideration in individual land transactions in the Central West. This is particularly significant in the west of the transect where cropping farms, some which are irrigated, dominate. However, annual changes in the drought profile of LGAs in the Central West transect are not correlated to the extent of that year's land ownership change. In fact, it appears that other factors, such as interest rates and constantly growing commodity prices have a stronger effect on rates of land ownership change than drought.

Land-use planning insights

Insight 20. Local Environmental Plans (LEPs) along the transect highlight the diversity of land-use considerations that exist between LGAs. It reinforces the conceptualisation of the transect as an east-west gradient of land ownership patterns, influenced by land-use planning drivers, such as zoning and land-use permissibility.

Insight 21. Most land parcel boundaries remained intact over the study period, indicating that the Central West transect has a relatively stable cadastral landscape. For the small number of parcels with boundary changes, consolidation (merging parcels) played a larger role than sub-division (breaking up existing parcels) across the transect, leading to a net reduction in the number of rural parcels between 2004-20.

Insight 22. There is a clear east-west divide in relation to Minimum Lot Sizes (MLS) along the transect, with Lachlan, Parks and Weddin having >200ha MLS rules, while Cabonne, Cowra, Blayney and Bathurst Regional have MLS rules of <100ha. Forbes sits at a crossroad, with a variety of rural MLSs, including smaller lot sizes along the Lachlan River.

Insight 23. The ratio of MLS to lot sizes varies along the transect. However, some clear patterns exist, which influence patterns of rural land ownership change. These are:

- Higher subdivision and dwelling entitlement potential on lots at the far-east and far-west of the transect, particularly in Bathurst Regional LGA, western part of Forbes LGA and northern areas of Lachlan LGA.

- Low new dwelling entitlement and subdivision potential in Weddin and Parkes, with many lots already below the MLS rules.
- Mixed MLS to lot size ratio in Cowra, Cabonne and Blayney.

Insight 24. There is an east-west parcel size gradient, with smaller parcel sizes on average in Bathurst, Cabonne, Blayney and Cowra, compared to Weddin, Forbes, Parks and Lachlan. This is an indicator of the differences in the mix of rural land-uses between LGAs in the transect. This finding relates to the fact LGAs in the west are seeing consolidation trends, as large owners aggregate parcels into holdings, while those in the east are seeing pressures to fragment holdings and sell to new entrants, including for non-agricultural uses.

Insight 25. Unsurprisingly, the issue of rural land-use conflicts is most prevalent in the east of the transect, particularly in areas close to Orange and Bathurst City. The potential of land use conflict is likely to increase in areas where urban-rural migration is more prevalent and areas with booming agritourism and lifestyle farming.

1. Introduction

This report presents research findings on the dynamics of substantive rural land ownership change in Central West NSW. It is one of four transect reports into regions of NSW. Transects provide a basis for comparative assessment of the different drivers of rural land ownership change across the state.

The Central West transect is defined as the Local Government Areas (LGAs) of Lachlan, Parkes, Forbes, Weddin, Cabonne, Cowra, Blayney, and Bathurst Regional LGA. Because of the focus on rural land, Orange City LGA is not included in analysis. Ownership histories are considered for 36,588 km^2 of rural land in the eight LGAS and the total transect area.

Table 1 - Transect Overview: area and number of parcels in our sample by LGA, 2004-20

LGA	Sample Area (km^2)	No. of land parcels January 2004	No. of Land Parcels January 2020	Difference in the No. of parcels 2004-20
Bathurst Regional	2,946	7,857	7,864	7
Blayney	1,243	5,090	4,834	-256
Cabonne	4,670	10,615	10,263	-352
Cowra	2,227	6,018	6,065	47
Weddin	2,799	4,512	4,416	-96
Forbes	3,840	4,689	4,650	-39
Parkes	5,192	5,194	5,232	38
Lachlan	13,671	5,977	5,966	-11
Transect total	**36,588**	**49,952**	**49,290**	**-662**

Note: LGAs are presented in order from east to west.

The transect encompasses a diversity of land uses including mining, rural residential uses and tourism, however most of it is land dedicated to agriculture.

Table 2 - Proportion of agricultural and non-agricultural land in the Central West transect

Sample	Percentage of total
Agricultural	96.9%
Non-agricultural	3.1%
Total	100.00%

1.1 Measuring substantive change

Substantive land ownership change in the Central West transect was analysed for the 16-year period between 01/01/2004 and 01/01/2020. This was done by measuring the annual proportion at which rural land changes hands (this is referred to as the substantive 'churn rate') but excluding instances in which the previous owner and new owner in a land-title registration are more than 70% similar. A fuzzy logic methodology was used for this purpose. Details our data and methodology are provided in **Appendix A**.

Since our methodology relies on land title registrations, a transaction is defined as an instance in which the name of the owner on title changes in a given year. However, a name change on title not always represents a transaction. For example, an on-paper name changes occurs when a spelling error is correct, when one of several owners is removed or added to the land title, or when a company updates its name (for example to add or remove Ltd.). This is why applying a substantive change threshold (<70% similarity) is beneficial. This approach allows us to exclude on-paper land-registration name changes, not associated with conventional land sales/transfers, and allows us to present a more accurate representation of substantive churn rates in

the transect or LGA. The threshold of 70% was chosen as it was found that it is the point in which most on-paper name changes cease to be name corrections and amendments and start being conventional transactions. As such, the formula for the substantive churn rate is as follows:

> Substantive churn rate = (Land area in the sample that changed hands in a particular year excluding on-paper names changes with over a 70% similarity) / (Total sample area) x 100

This methodology also allowed us to identify the largest landowners in each LGA of the region and the change in area of land owned by the largest landowners at the start and end of the 16-year period. Because of privacy provisions we cannot name individual landowners, however we can use this information to establish whether an acquirer of land is a new entrant to the LGA, or an aggregator (a landowner already in the LGA increasing the size of their holding).

Year-on-year rates of land ownership change reflect the combined effect of multitude forces exerting influence over how and when land parcels transfer from one owner to another. These forces include the state of the agricultural economy, demand for rural land for amenity and lifestyle reasons, the effects of drought, changes to planning regimes, and actions by government such as the acquisition or protection of land for conservation purposes. Because these forces operate at different strengths and are responsive to different time periods, nuanced consideration of data from several angles assists the identification of relevant insights.

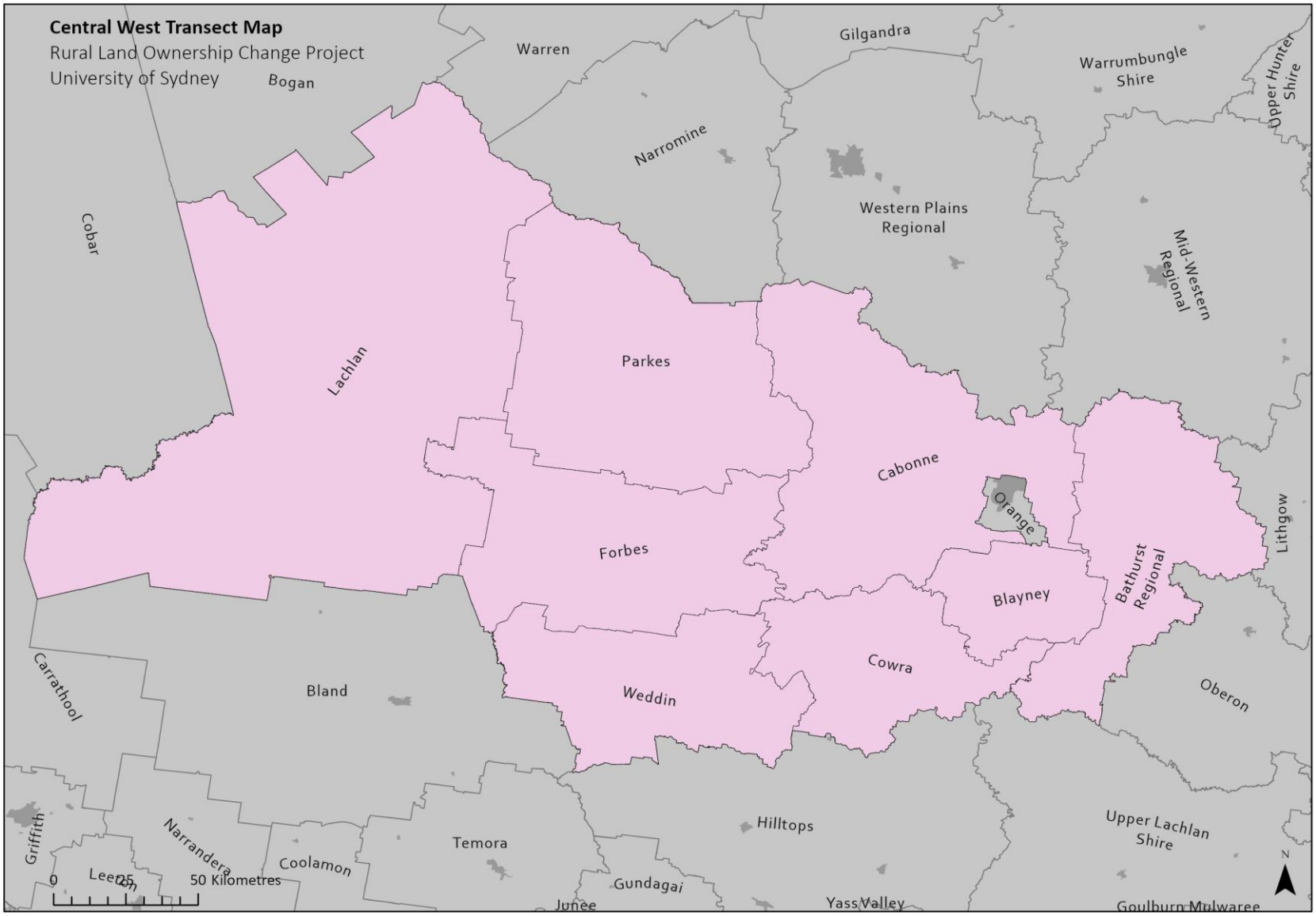
Examining trends in these data over time and space generates insights into rural land ownership that have not been possible to present in any previous analysis. Large-scale land titles data has been a mostly untapped resource for researchers and policymakers. Their development has been driven mainly by desires to facilitate the extraction of point-in-time single records for 'over-the-counter' enquiries about land titles, rather than for the extraction of state-wide records over a multi-year period. Applying these data to longitudinal regional analysis is a major innovation of this project. Once data was generated, we presented these to regional stakeholders in a series of in-depth interviews and focus groups during April 2021. Feedback from these meetings is incorporated into this report.

1.2 Report sections

The next section of the report introduces key findings on rural land ownership in the transect area. Then, three sections address how the use of our land titles database sheds light on four pressing issues at the forefront of agricultural policy in the Central West:

- What demographic trends, including population growth driven by amenity and lifestyle migration, impact on patterns of rural land ownership (Section 3),
- How agricultural restructuring translates into greater consolidation or fragmentation of rural land, including a discussion of how drought cycles influence rates of substantive rural land ownership change (Section 4),
- How planning instruments shape patterns of rural land ownership (Section 5).

Figure 2 - Central West transect



2. Rural land ownership trends in the Central West Transect

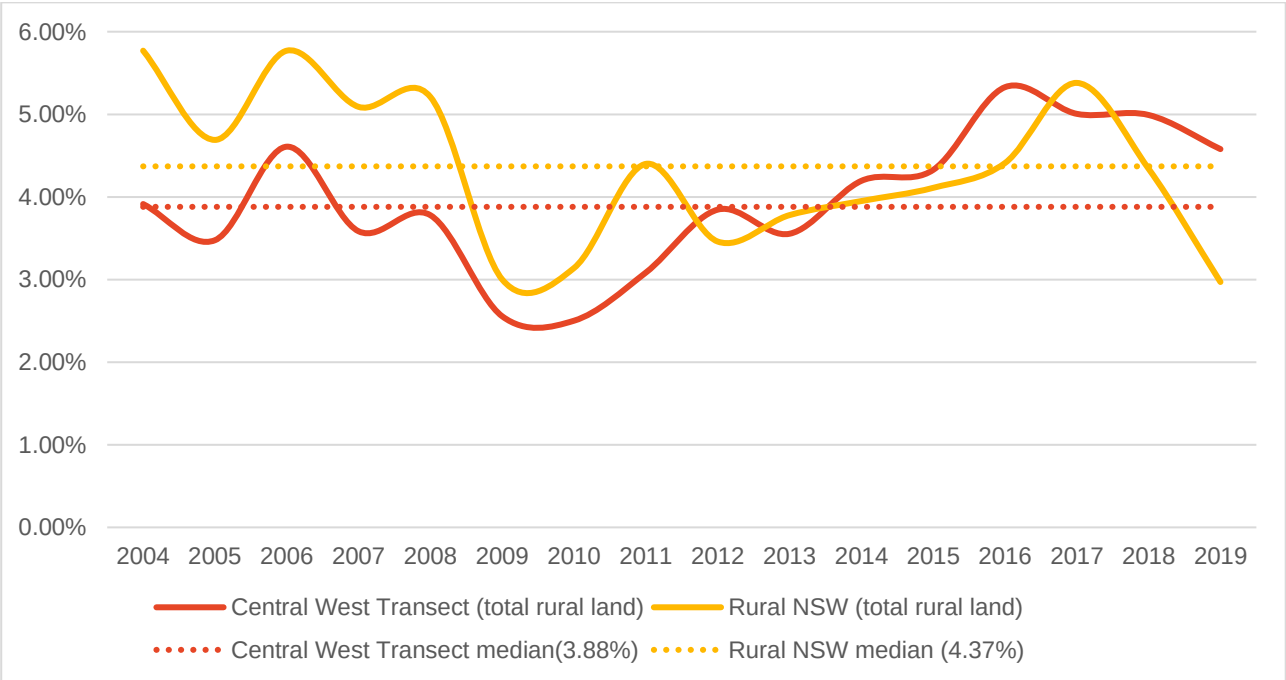
The Central West transect encapsulates eight LGAs that cover the southern part of the Central West and Orana region of NSW. These eight LGAs capture the highly varied dimensions of the Central West's rural geography, from rural residential pockets around Bathurst and Orange in the east, the wine-growing regions in Cowra and Cabonne Shires, and the progressively larger-scale broadacre cropping and grazing landscapes of in the western portions of the transect.

2.1 The transect in context

Insight 1. The median rate of substantive rural land change over the sixteen years from Jan 2004 to Jan 2020 in the transect was 3.88%, which is lower than the state-wide rate of change of 4.37%. This is driven by lower rates of change between 2004-11 as shown on Figure 3. This is a surprising result, given the considerable demographic and agricultural changes in the transect during this period.

As shown in Figure 3, from 2004 to 2011, the Central West transect's annual rates of substantive rural land ownership change were substantially below those of rural NSW as a whole. Since 2011 they have tracked closer or higher than the NSW overall rates, indicating a clear shift in the transect's substantive churn rates before and after 2011. This suggests an increase in the rate of rural land change in the Central West transect since the end of the Millennium Drought, which has not subsided, even during the 2019-19 drought.

Figure 3 - Rate of substantive rural land ownership change, transect and NSW[2]

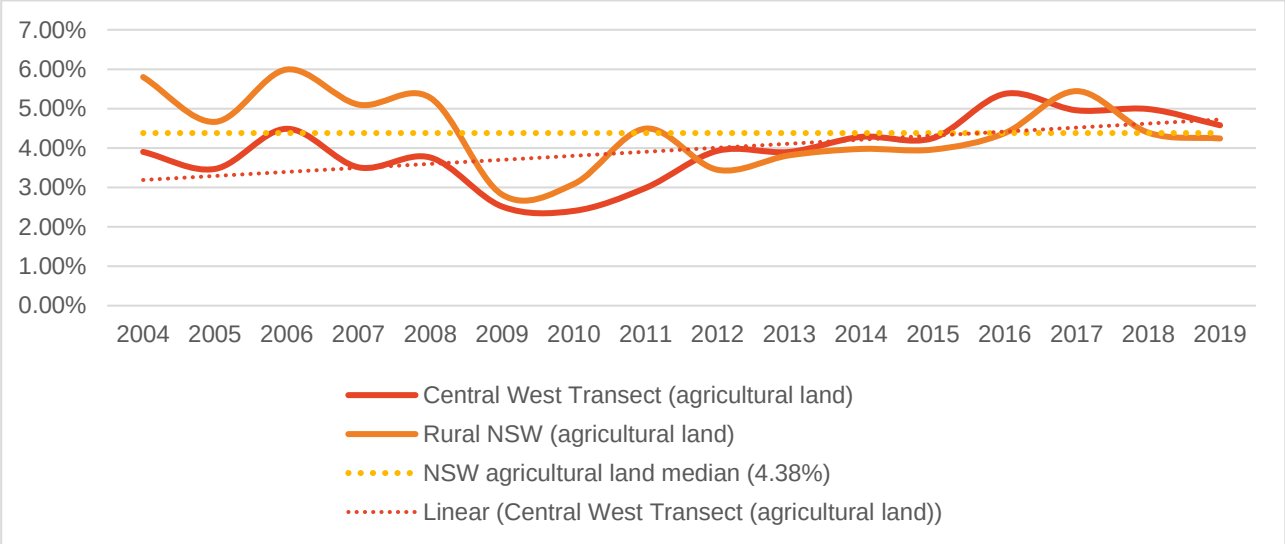


[2] This is measured as a percentage of total area. In this and all subsequent analysis presented in this report, the rate of land ownership change is calculated as 'substantive change.' This means that transactions in which former and subsequent owners have a similarity score of over 70% are not counted as being a change of ownership. For more information, see Appendix A.

Insight 2. There is a trend towards increasing rates of agricultural land ownership change in the Central West, particularly since 2011. These changes are associated with the conversion of traditional agricultural land-uses into a diverse rural landscape in the east of the transect (Bathurst, Cabonne, Cowra) and an increase in sales of large agricultural properties in recent years in the west (Lachlan in particular).

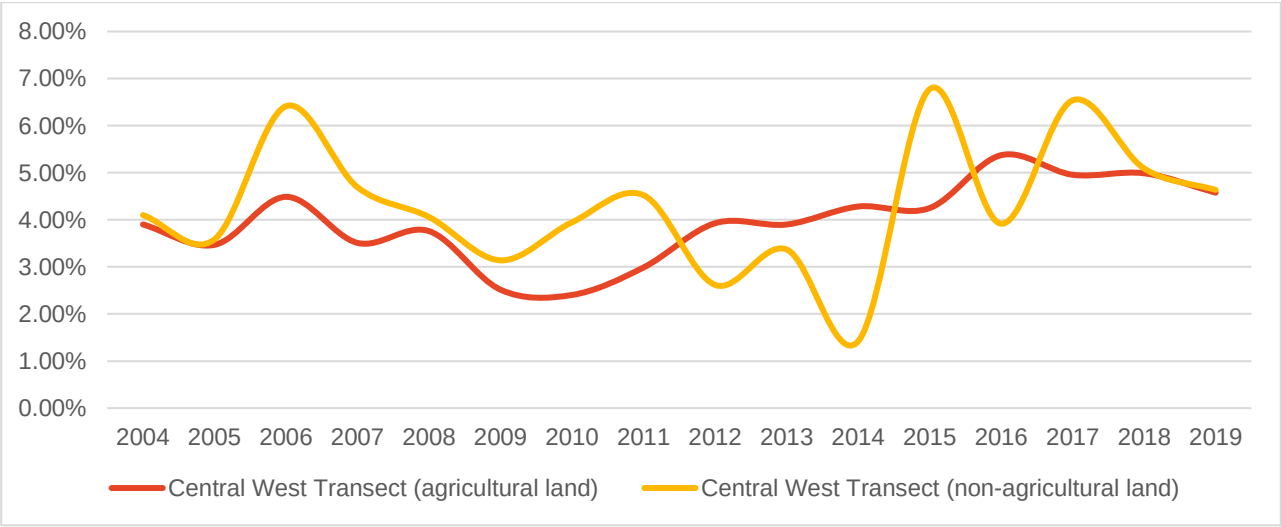
As shown in the Figure below, since 2011, the rate of annual substantive agricultural land ownership change in the transect has been increasing, surpassing the rate of NSW as a whole. In 2019, this trend was particularly visible, with 4.58% of rural land in the Central West changing hands, while the NSW rate dropped significantly to 2.97%. This difference of over 1.5% between the Central West rate and the rate for NSW is considerable and is an indicator of the demographic and agricultural changes in the transect during this period.

Figure 4 - Agricultural land churn rate in the Central West transect and Rural NSW



Insight 3. The variability of rural land ownership change in the Central West is higher for non-agricultural land than for agricultural land. This is partly due to the smaller proportion of non-agricultural land in the transect compared to agricultural land. It is also related to large-scale mining and large-lot residential sales occurring from time to time.

Figure 5 - Agricultural and non-agricultural churn rate in the Central West transect



2.2 Rates of ownership change by LGA

Insight 4. The transect can be conceived in terms of the following four geographical zones:

1. **In Bathurst Regional, where historically churn rates have been low, there has been an increase in the annual variability of rural land ownership change rates since 2009. Greater proximity to Sydney has increased the effect of non-agricultural drivers on land markets, including rural residential demand and tourism. Weaker agricultural drivers, as a result, have led to a higher degree of variability.**
2. **In contrast, Cabonne, Blayney and Cowra have low and less-variable rates of ownership change. This is associated with the long-term unfolding of family farm consolidation. However, some areas of these LGAs, particularly those closer to Orange and Bathurst, have been subject to similar demographic and land market shifts as those affecting Bathurst Regional.**
3. **In Weddin and Forbes, increased rural land ownership concentration and large-scale agricultural investment are prominent drivers of change. These processes have resulted in higher median rates of annual rural land ownership change (particularly in Forbes), and significant volatility with clear peaks and troughs between years.**
4. **In Parkes and Lachlan, year-on-year variability is relatively high, however land aggregation is occurring at a slower pace than Wedding and Forbes, due to a weaker impulse from new entrants.**

Annual rates of substantive rural land ownership change reflect the combined effect of multitude forces exerting influence over how and when land parcels transfer from one owner to another. These forces include the state of the agricultural economy, demand for rural land for amenity and lifestyle reasons, the effects of drought, changes to planning regimes, and actions by government such as the acquisition or protection of land for conservation purposes. Because these forces operate at different strengths and are responsive to different time periods, there need to be a nuanced consideration of data from several angles to assists the identification of relevant insights.

To compare LGAs within the transect, year-on-year rates of rural land ownership for each LGA through the following angles:

- the rate of change in relation to the transect average,
- year-on-year variability,
- whether volatility increased over time during the study period.

Taken together, these three ways of looking at the data on land ownership change provide a geographical framework for understanding the transect region in terms of four distinct sub-areas. As shown in Table 3, median annual rates of substantive rural land ownership change among seven of the eight transect LGAs were lower than those the state as a whole.

Reading this table in conjunction with data in **Appendix B** and insights from our key stakeholder meetings allows a fourfold classification of sub-areas across the transect to be proposed. LGAs in in Table 3 are ordered from east-west, consistent with other tables and figures in this report. The LGAs are colour-coded according to the four regions identified in this report to assist with the analysis of processes and trends affecting land ownership change patterns. A detailed analysis of each of the four regions is presented below.

Table 3 - Median Rate of Change Summary by LGA compared to All NSW (total sample)[3]

LGA	Median rate of change	Distance from NSW rate of change	Highest annual rate of change	Lowest annual rate of change	Distance between highest and lowest rate of change	Standard deviation
Bathurst Regional	3.67%	-0.70%	5.95%	1.97%	3.97%	1.02%
Blayney	2.99%	-1.38%	4.94%	2.10%	2.83%	0.95%
Cabonne	3.74%	-0.63%	5.43%	2.48%	2.96%	0.76%
Cowra	3.66%	-0.71%	4.97%	2.90%	2.07%	0.66%
Weddin	3.96%	-0.41%	6.35%	1.94%	4.41%	1.29%
Forbes	4.45%	0.08%	7.68%	1.19%	6.49%	1.77%
Parkes	4.03%	-0.34%	4.74%	0.97%	3.78%	1.04%
Lachlan	3.82%	-0.55%	6.54%	2.02%	4.52%	1.52%
All NSW (sample)	4.37%	-	5.77%	2.97%	2.80%	0.93%

Bathurst Regional

Bathurst's proximity to Sydney in the context of weak agricultural drivers is exhibited in a rising rate and increasingly variable patterns of substantive rural land ownership change since 2009. Apart from being the eastern-most LGA in the transect, its economic composition is different to that of adjoining LGAs. Agriculture plays a lesser role in the local economy and rural landscape of Bathurst Regional, compared to its immediate neighbours (Blayney, Cabonne and Cowra) (ABS, 2011ab and ABS, 2016ab). In Bathurst Regional LGA, for example, manufacturing employs almost twice as many people as Agriculture, Forestry and Fishing. Although there is some cropping and a small amount of horticulture in the Macquarie River valley near to Bathurst's urban centre, 93% of the LGA's agricultural area is devoted to beef cattle grazing. National Parks and conservation areas account for a considerable proportion of the LGA.

The economic and social environment of Bathurst Regional LGA encourages lifestyle rural landholders, which local government informants confirmed were playing a progressively prominent role in the social make-up of the LGA. Properties with grazing land are attractive for rural lifestylers, sometimes using dwellings for rural tourism and rentals, and having cattle on the property through agistment arrangements. These trends are consistent with the increase in the number of rural parcels in Bathurst Regional, observed due to processes of rural sub-division. As evidence of these trends, the rate of ownership change for rural parcels identified as non-agricultural in our analysis displayed considerably greater volatility than that for agricultural parcels, with a substantial boom of activity in 2018 (see Bathurst's detailed graphs in **Appendix B**). The strength of these non-agricultural drivers in shaping the LGA's substantive rural land ownership change patterns go a considerable way to explaining its higher and more volatile trends compared to its neighbours.

Cabonne, **Blayney, and Cowra**

The rate of substantive rural land ownership change in Cabonne, Blayney, and Cowra, LGAs with a rich and diverse agricultural sector, is less volatile than that of Bathurst. In fact, there is no evidence of significant

[3] Ordered from east to west. In this and all subsequent analysis, the rate of land ownership change is calculated as the area of land with a change in owner from one year to the next, divided by the total area of land covered in our study. For more information, see Appendix A.

changes in the patterns of substantive rural land ownership change in these three LGAs, compared to the others in the transect.

At first glance these patterns are eyebrow-raising. The agricultural sectors in these LGAs underwent considerable restructuring during the study period, associated especially with the growth of wine grapes cultivation. In Cabonne, the median rate of substantive rural land ownership change was 3.74% per year over the study period, the second highest of the eight transect LGAs. However, the fact that rates of substantive rural land ownership change increased during the study period at a slower rate and exhibited less volatility than the regional average and the state as a whole is important. What appears to be the case (and this is explored more in the next chapter) is that the dynamics of change associated with agricultural restructuring are situated within a wider context of family-based farm ownership where anchors of ownership continuity exert a stabilising influence. So, whereas a considerable proportion of rural land in these LGAs changes ownership each year, often associated with consolidation of existing farms, this process has unfolded as a long-term trend, rather than associated with peaks and troughs year-on-year.

Weddin and Forbes

Substantive rates of rural land ownership change in Weddin and Forbes illustrate rural landscapes where large agricultural new entrants over the study period generated substantial shifts to patterns of rural land ownership. This has resulted in increased rural land ownership concentration and large-scale agricultural investment. These two prominent drivers of change have led to cycles of sharp year-on-year fluctuations for Weddin and Forbes throughout the study period.

As an illustration of the impact of these more prominent processes of substantive rural land ownership change, compared to the other LGAs in the transect, in Weddin the three largest landholders in 2019 were all newcomers to the LGA, not present in 2004. Similarly, in Forbes, four of the five largest landholders in 2019 were not present in the LGA in 2004, and the one who was scaled up dramatically from a small holding.

Finally, Weddin and Forbes experienced the fastest increase in rural land concentration of any of the transect LGAs over the study period: the proportion of the LGA owned by the 50 largest landholders increased by five percentage-points in Weddin (from 24% to 29%) and six percentage-points in Forbes (from 27% to 33%). Consistent with these patterns, there was a high level of year-by-year volatility in the rate of substantive rural land ownership change. Weddin and Forbes had the two highest standard deviations in the rate of annual change among the eight LGAs (1.29 and 1.77 respectively), reflecting the impact of large (‘lumpy’) single transactions impacting on these LGAs episodically.

Parkes and Lachlan

Finally, as the physical geography of the transect flattens out and becomes drier in the west, large-scale agricultural acquisitions and restructurings remain important drivers for Parkes and Lachlan, though the presence of large new entrants becomes less striking. The proportion of each LGA owned by the 50 largest landholders increased by three percentage-points over the study period, substantially less than for Weddin and Parkes. This difference may be due to the drier environments and lower levels of agricultural productivity in Parkes and Lachlan, resulting in these LGAs being less-significant targets for large new agricultural entrants.

It is important to note, however, that Lachlan has experienced a significant increase in the rate of substantive rural land ownership change since 2016, with peak rates of change on par with those experienced in peak years by Weddin and Forbes (over 5% per annum), highlighting the role of aggregation by existing landholders. We elaborate on this trend in greater detail in the next chapter.

Figure 6 - Rate of substantive rural land ownership change in Bathurst Regional

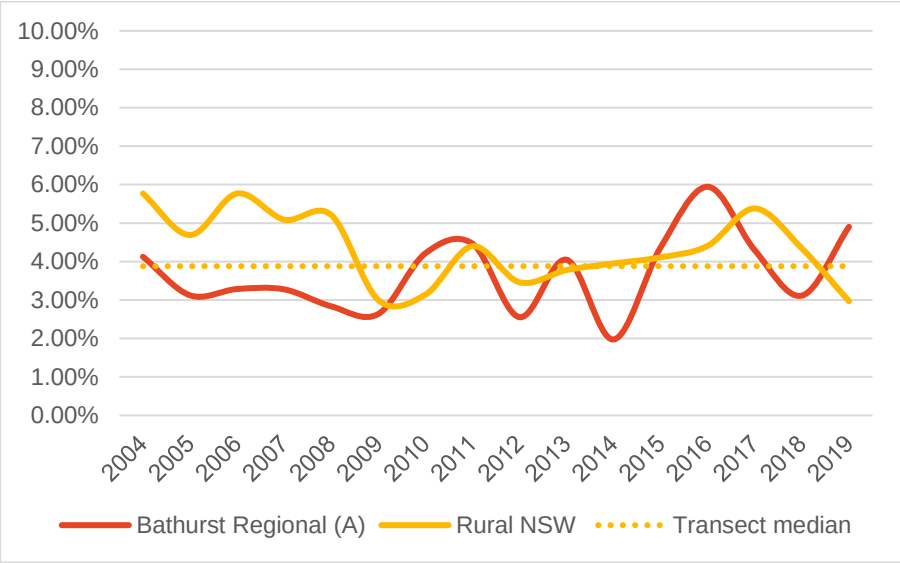


Figure 7 - Rate of substantive rural land ownership change in Blayney

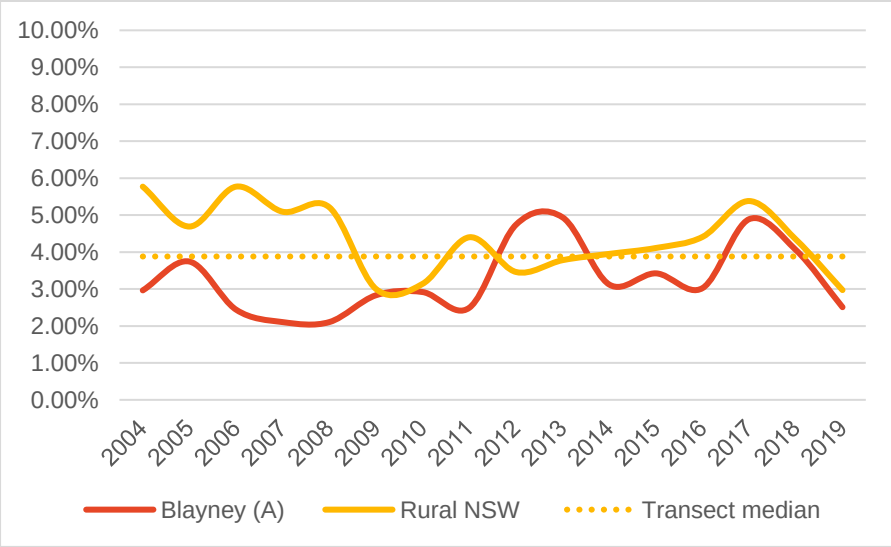


Figure 8 - Rate of substantive rural land ownership change in Cabonne

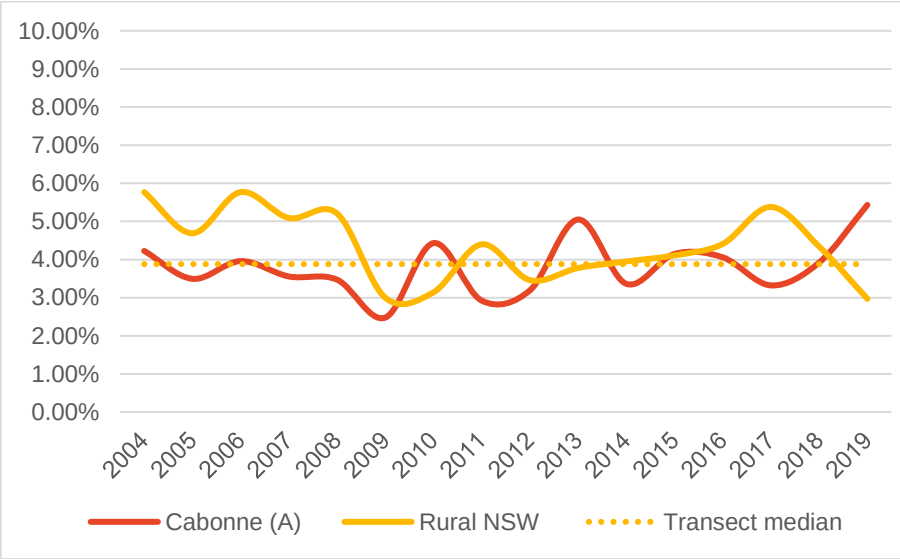


Figure 9 - Rate of substantive rural land ownership change in Cowra

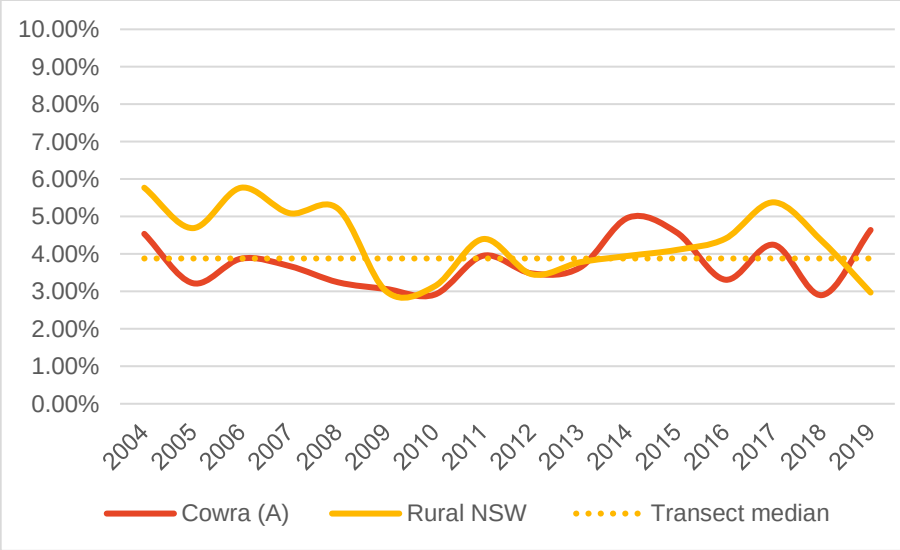


Figure 10 - Rate of substantive rural land ownership change in Weddin

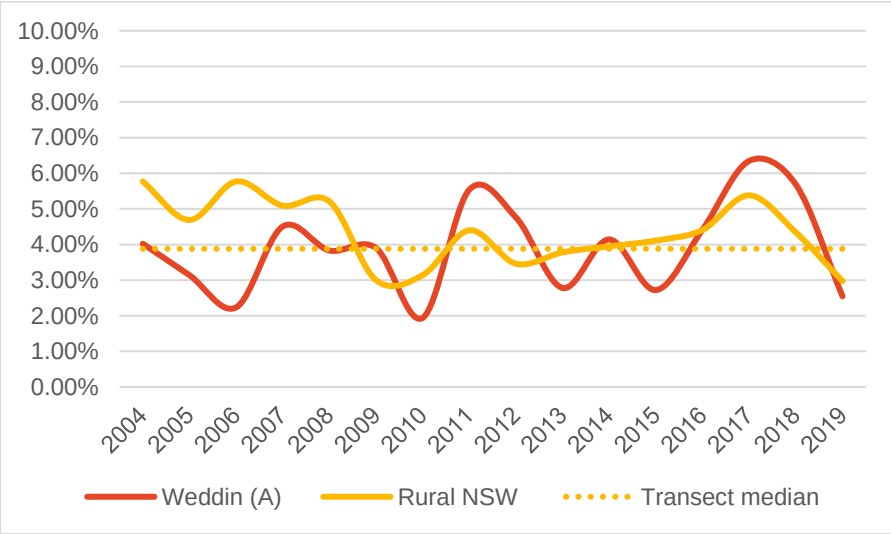


Figure 11 - Rate of substantive rural land ownership change in Forbes

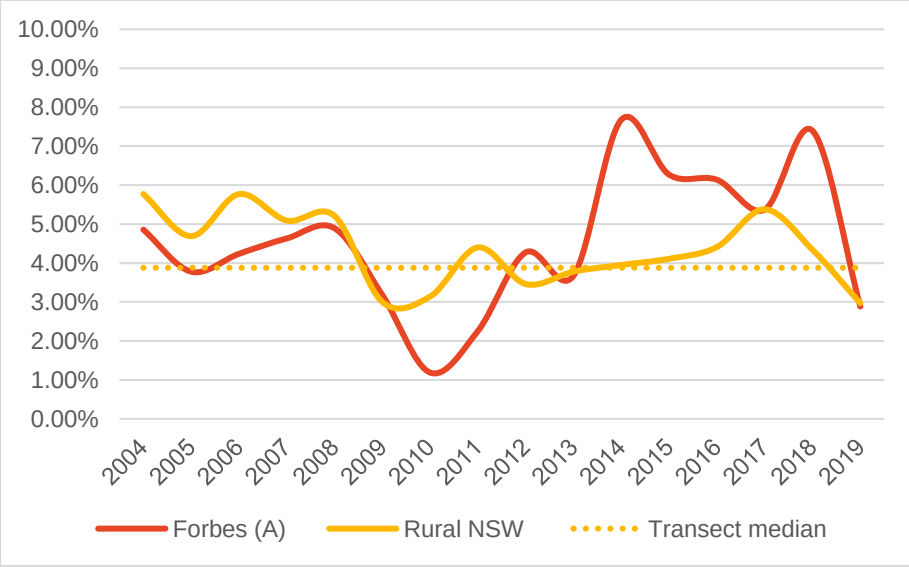


Figure 12 - Rate of substantive rural land ownership change in Parkes

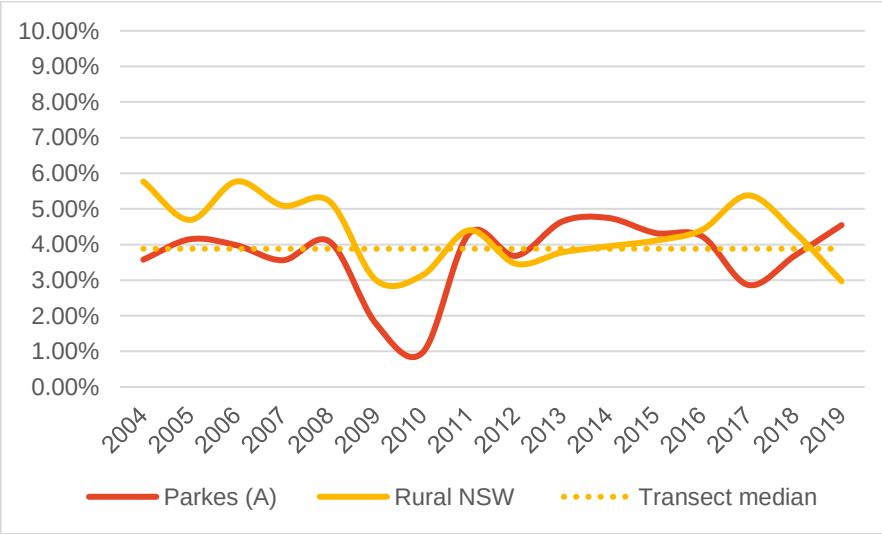
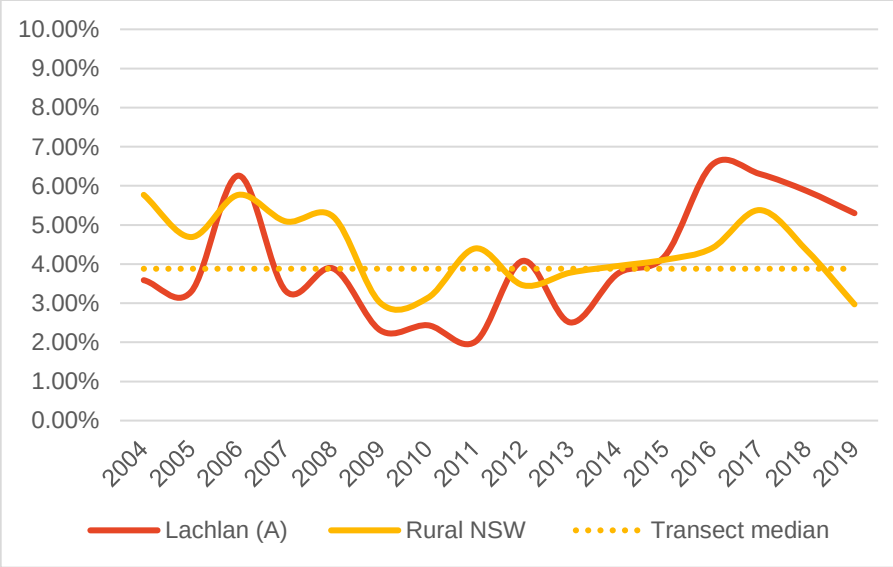


Figure 13 - Rate of substantive rural land ownership change in Lachlan



2.3 Trends in land concentration and aggregation

Insight 5. Aggregation is a dominant land purchasing pattern in the transect, however the bulk of processes of land aggregation have occurred in Weddin and Forbes. Some aggregation is evident in Blayney, Parkes and Lachlan as well but to a lesser extent. In contrast, land concentration in Bathurst Regional, Cabonne and Cowra has remained relatively stable (and even decreased in Bathurst Regional LGA).

A key finding from our data has been that, except for Bathurst Regional LGA, the area of land owned by the top landowners in each of the Central West transect LGAs increased in the 2004-19 period. The increase, however, has been greatest in Forbes and Weddin, as indicated by the peak in the line graphs in Figure 14 (measuring the area owned by the top 50 landholders in each LGA) and Figure 14 (the top 15 landowners). These differences may be related to the variation in dominant types of agricultural uses among them. Whilst Forbes and Weddin are home to large, irrigated land holdings, dairy operations and dryland agricultural production businesses, farming in the eastern part of the transect is dominated by high-value small-area production, such as horticulture and viticulture, family-farming and agritourism.

According to stakeholders, farms in traditionally agricultural areas of the transect have been forced to become larger because of economies of scale. Families will aggregate parcels of land to set up an agriculturally viable farm for the next generation and ensure the continuation of their operations. Smaller landholdings usually supplement farm income with off-farm employment. In contrast, in Bathurst and some areas surrounding Orange, rural lifestyle and tourism pressures have assisted in creating processes of dis-aggregation. As aggregation patterns are closely related to land cost trends, in these areas where non-traditional land-uses are on the rise, land-costs may be forcing some to sell or diversify. This partly explains why areas around Cabonne, Bathurst and Cowra have not been subject to the levels of aggregation seen in Forbes and Weddin.

Table 4 - Ownership trends for top 50 landowners by LGA

LGA	2004	2019	Difference between 2004 and 2019 (%)	Number of corporate landowners in top 50 2004	2019	Difference
Bathurst Regional	25%	24%	-1%	11	10	-1
Blayney	32%	35%	3%	20	19	-1
Cabonne	17%	18%	1%	18	16	-2
Cowra	22%	23%	1%	19	18	-1
Weddin	24%	29%	5%	8	11	3
Forbes	27%	33%	6%	17	20	3
Parkes	18%	21%	3%	11	12	1
Lachlan	20%	22%	2%	12	10	-2
Median	22%	23%	3%	17	16	-1

Figure 14 - Percentage of study area occupied by top 50 landowners (2004-19) (East to West)

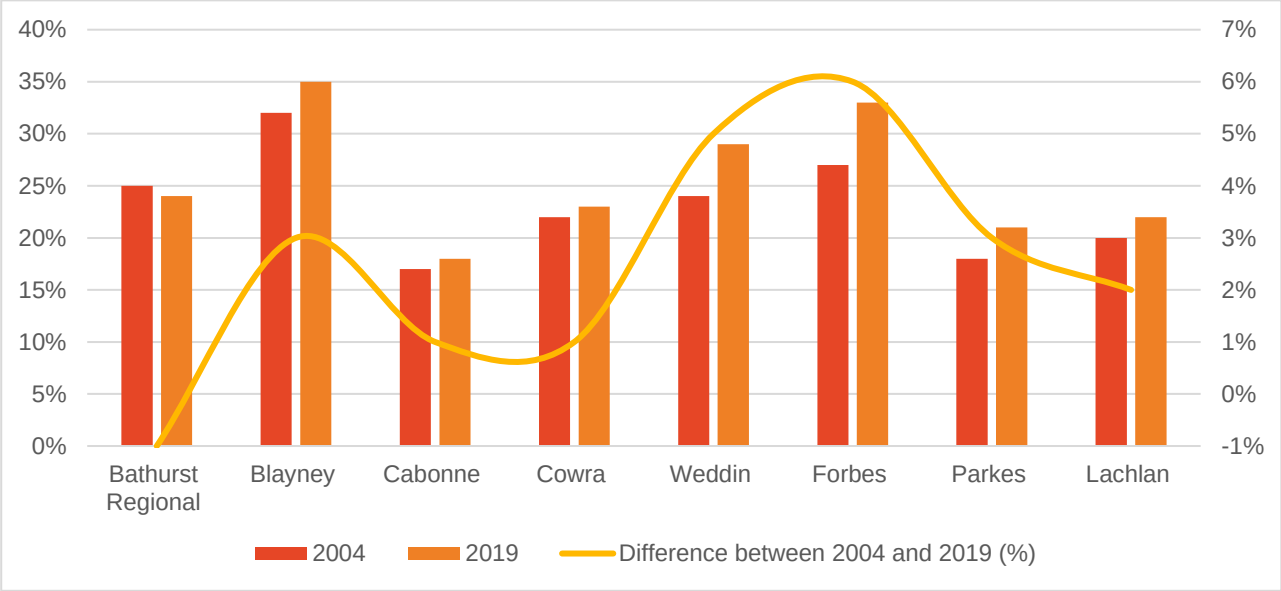
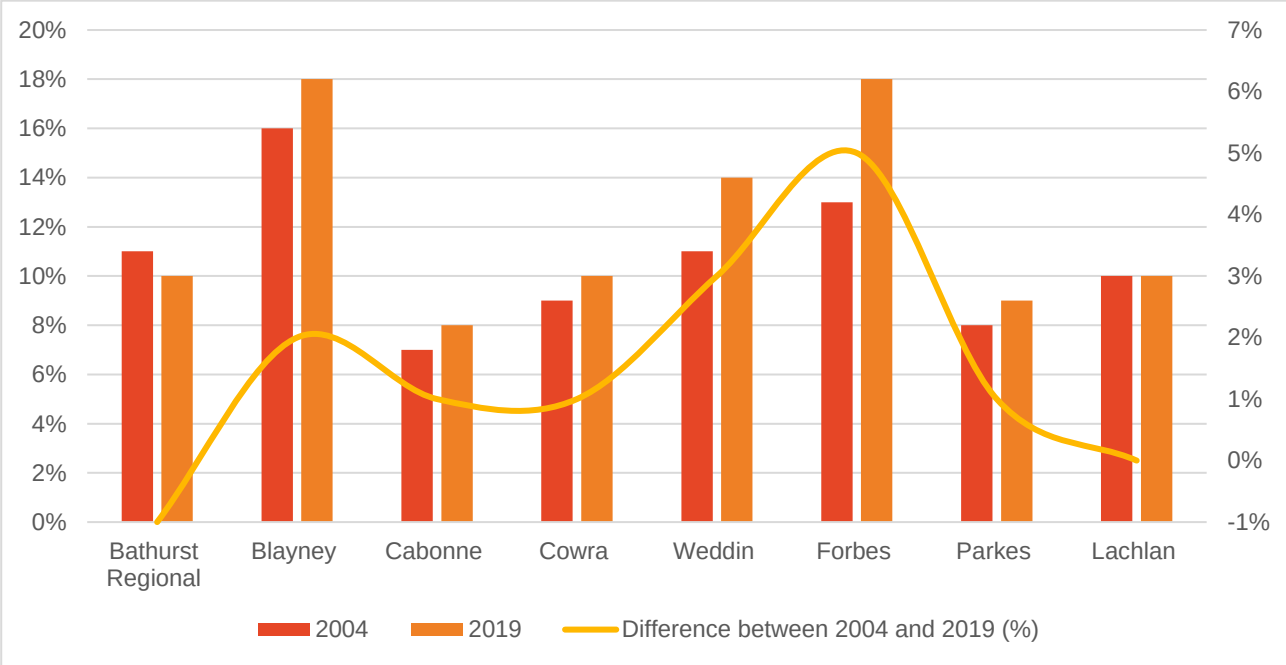


Figure 15 - Percentage of study area occupied by top 15 landowners (2004-19) (East to West)



Insight 6. Corporatisation of agricultural land is not a dominant process in the Central West transect. Although some areas have seen increasing concentration of land on corporate ownership, family farms remaining the bread and butter of transactions and family offices remain the top aggregators in the transect.

The percentage of land owned by the top 50 landowners that is attributed to corporate owners has been increasing in some LGAs in the transect and decreasing in others. These findings suggest that the rate of corporatisation across the transect is uneven. With the exception of Weddin, Forbes and Parkes, LGAs in the transect have seen a decrease in the number of large corporate landowners in the top 50 landowners. By the end of the study period, the median number of corporate owners in the top 50 was 16, with the majority of large landholdings remaining under private ownership. However, it is important to note that there are certain nuances to this. Blayney remains a tightly held area, however, the proportion of corporate

ownership is significantly higher than its surrounding LGAs. In contrast, rates of corporation in Weddin are high but the proportion of corporates remains relatively low compared to surrounding LGAs. In any case, the findings show that most large landholdings in the transect are under non-corporate ownership on paper. This does preclude other business arrangements in which corporates may play a larger role, such as leasing, which is explained below. Additionally, there is evidence of some local family farms changing their business structure to align with corporate entities, becoming a 'family corporates,' 'pastoral trusts' or similar. These changes in business structure may occur because of tax implications, to spread risk, or as part of succession planning.

Table 5 - Ownership trends for top 15 landowners by LGA

LGA	% Of study area occupied by top 15 landowners		Difference	Number of corporate landowners in group of top 15 landowners		Difference	% Of study area occupied by top 15 landowners that is corporate owned		Difference
	2004	2019		2004	2019		2004	2019	
Bathurst Regional	11%	10%	-1%	3	4	1	15%	23%	8%
Blayney	16%	18%	2%	10	8	-2	79%	64%	-15%
Cabonne	7%	8%	1%	9	11	2	60%	75%	15%
Cowra	9%	10%	1%	7	6	-1	39%	36%	-3%
Weddin	11%	14%	3%	4	4	0	29%	44%	15%
Forbes	13%	18%	5%	4	7	3	44%	61%	17%
Parkes	8%	9%	1%	5	5	0	49%	41%	-8%
Lachlan	10%	10%	0%	3	5	2	34%	43%	9%
Median	11%	10%	1%	5	6	1	42%	44%	9%

Insight 7. Leasing arrangements are becoming more prevalent. However, in most cases these types of arrangements cannot be ascertained through land-title register databases. As such, it is difficult to measure the extent of this trend. Insight from stakeholders on this matter provides a first step at understanding the trend.

Conversations with stakeholders in the transect have highlighted the increasing prevalence of leasing arrangements for agricultural land. Some of these are from investors, who are entering the market from outside the region, and leasing out the land back to farmers, particularly as low interest rates have made it easy to borrow and invest in rural property. As a stakeholder pointed out 'rural property values may be a better investment than shares for many people, which has led to more Sydney investors in recent years.' Some of these arrangements put the risk fully on the lessee, while some others include risk sharing arrangements. Another arrangement is across the fence leasing between existing landowners and leasing of land as a strategy to manage stock or grain during drought or other calamities (e.g. for agistment) or as a business is growing.

Some family farmers have clearly benefited from the leasing of land. An example in the transect shared by a stakeholder is of one family who sold two-thirds of their holdings to a corporate entity, then entered a long-term lease where they were the sole operators of the land they sold. Lease agreements can thus function as a lifeline, providing a cash injection during times of financial hardship. Such a trend of corporations investing in land rather than production was surmised to be the effect of unpredictability in agriculture – associated with weather and natural hazards – commodity prices, and interest rates. Leasing is the safer option, ensuring practically risk-free profit from capital gains. According to a real estate agent in

the transect, leasing can also be risky for the landowner, as adequate management of the land by the lessee is not guaranteed. Leasing arrangements for agistment are less risky and more widespread

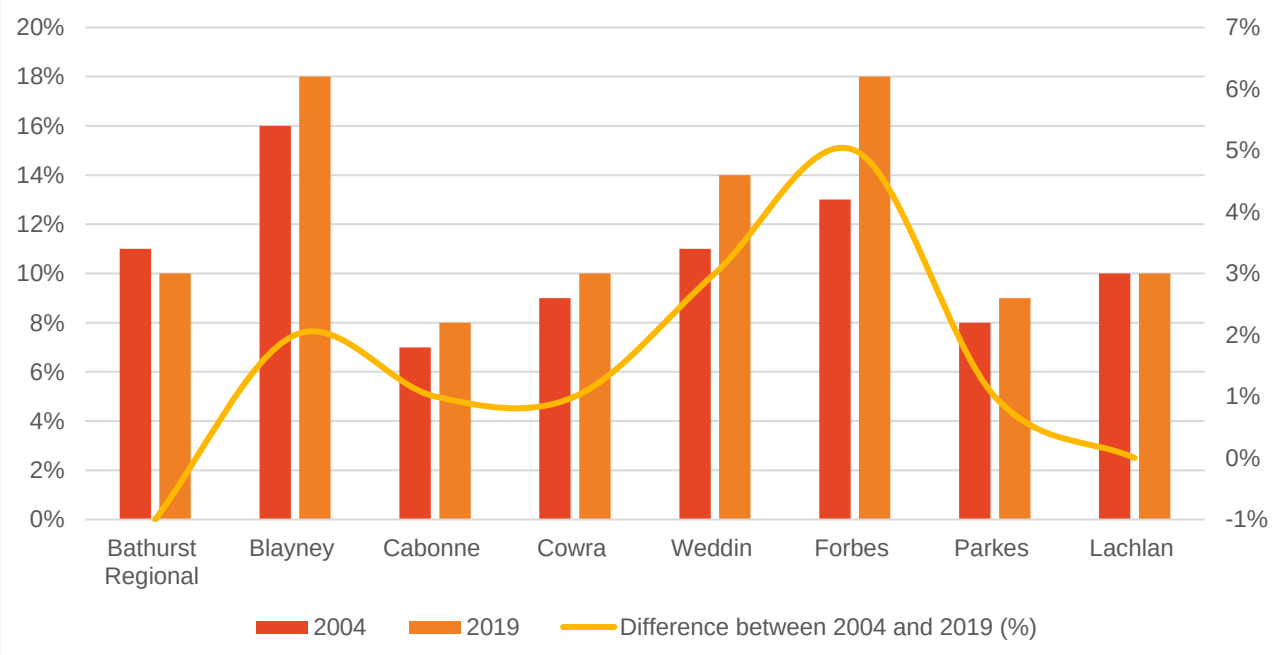
Insight 8. Although in the Central West transect family-farms remain the bread and butter of transactions, corporatisation patterns are most prevalent within the top 15 landowners (as opposed to the top 50 landowners and beyond). This aligns with the pursuit of large-corporate players for economies of scale, which translates into significant changes in the amount of land help by large-corporate owners over time.

The percentage of the study area occupied by the top 15 landowners follows a similar pattern to that of the top 50 landholders. Land aggregation patterns are stronger in Weddin and Forbes and weaker in the east and west of the transect. There is a key difference between the proportion of corporates in the top 15 list and the top 50 list. The following are some of these differences:

- The median proportion of corporates in the top 50 in 2019 was 30%, while the median in the top 15 is 40%.
- In some LGAs, the contrast between the top 15 and the top 50 is even stronger. For example, in Cabonne in 2019, 73% of the top 15 landowners were corporates, while only 32% of the top 50 were corporates. In Blayney, the contrast is 38% to 53%.
- While the number of corporates in the top 50 decreased for all LGAs except for Weddin, Forbes and Parkes, the number of corporates in the top 50 only decreased in Blayney and Cowra (which in fact have the highest proportion of corporates in the top 15).

A key indicator of corporatisation in the top 15 list is the percentage of the study area occupied by top 15 landowners that is corporate owned. As shown in the table below, concentration of land on corporate ownership in the top 15 is high in Cabonne, Blayney and Forbes. Although, concentration is lower in the other LGAs, the difference between 2004 and 2019 shows that concentration of land on corporate ownership has increased significantly in most of the transect. The incidence of corporatisation is higher in areas with access to larger properties. This is because land size is a key consideration for many corporate investors, such as superannuation funds and partnership trusts. Some international landholders are also purchasing land in the transect, as indicated by stakeholders. However, the extent of this process has not been quantified as part of this report.

Figure 16 - Percentage of study area occupied by top 15 landowners (2004-19) (East to West)



Insight 9. The rising cost of land is a key driver of ownership change in the Central West.

A common message from stakeholders across the transect was that strong demand for land is leading to increasing land values in the Central West. Research by the Rural Land Bank (2020 & 2021) recently confirmed this perception, indicating that the median farmland price per hectare has increased for the period between 2004 and 2019, despite annual variation in the volume of transactions. The steady increase in farmland values, despite volatility in the churn rates, is due to strong demand, particularly for high productive farmland. According to the Rural Land Bank (2020), the median price per hectare of farmland in Central New South Wales increased by 18.3 per cent in 2019 to $4,716 per hectare, which is attributed to strong commodity prices, a shortage of listings and low interest rates. However, land values are not increasing evenly across all areas in the transect. In Cabonne and Cowra land prices have remained very stable according, which is reflected in its stable church rate. This is demonstrated in the Rural Bank (2021) data, which shows the lower percentage increase for these two LGAs, compared to others in the transect. Bathurst Regional, Blayney, and Lachlan have had peak years way above the transect average. Data from the Rural Bank also shows that, despite constant growth in the median $/ha in the transect, median land values significantly differ between LGAs in the transect, following an East-West gradient. For example, in 2020 the median $/ha in, Blayney was $11,271, compared to $1,873 in Lachlan. Bathurst Regional ($6,468), Cabonne ($6,395) and Cowra ($7,442) also had higher median $/ha than Parkes ($2,412), Forbes ($4,225) and Weddin ($4,546).

Table 6 - Farmlands Sales by Municipality (adapted from Rural Bank, 2021)

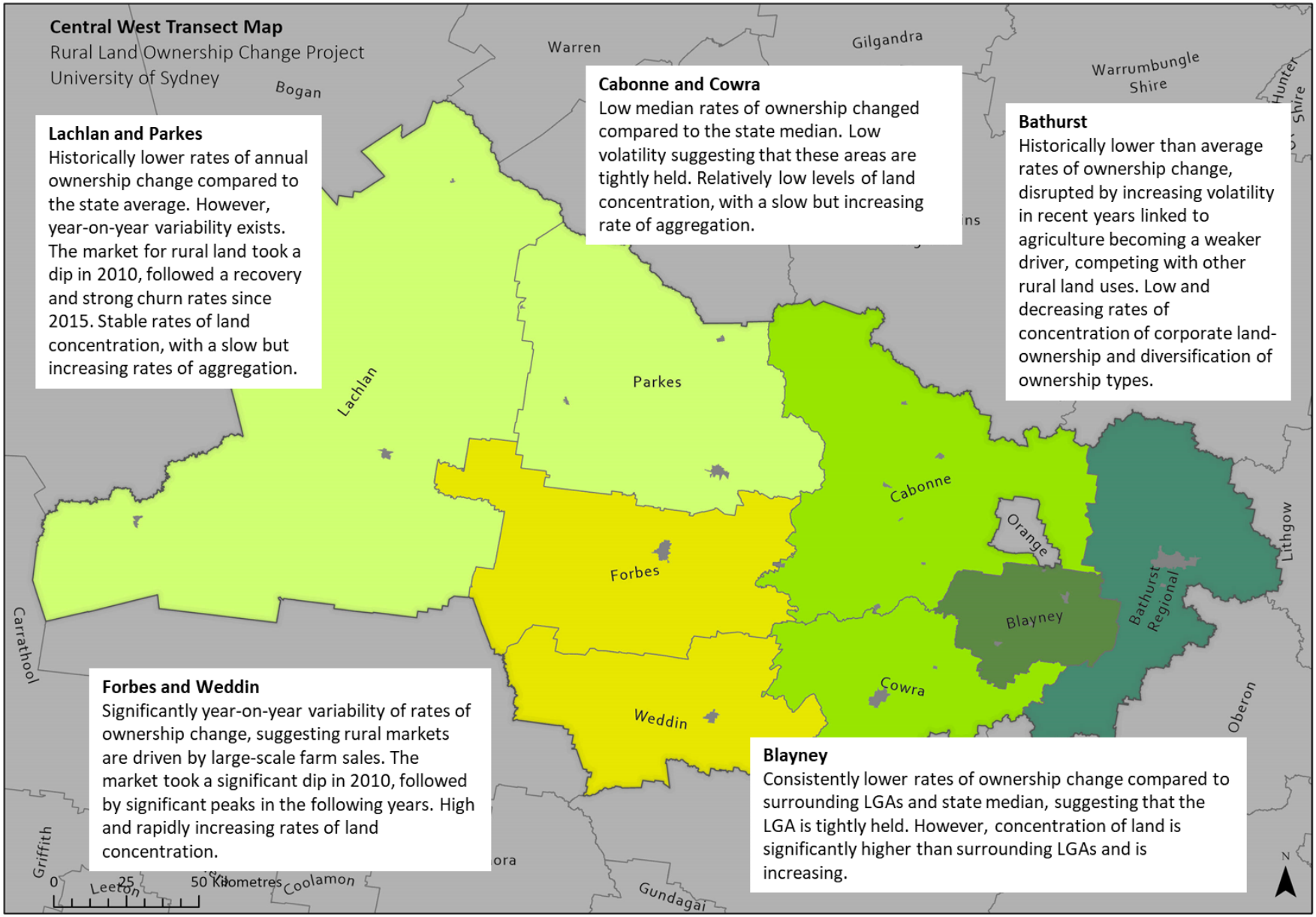
LGA	2020 Median $/ha	5yr CAGR	LGA	2020 Median $/ha	5yr CAGR
Bathurst LGA	$6,468	17.2%	**Weddin**	$4,546	12%
Blayney	$11,271	19.9%	**Forbes**	$4,225	12.8%
Cabonne	$6,395	6.9%	**Parkes**	$2,412	12.4%
Cowra	$7,442	9.5%	**Lachlan**	$1,873	16.4%

The cost of farmland is a key determinant of rural land markets. The price of land has a clear effect on the ability for existing farmers to expand and new entrants to access land. Stakeholders in our research agreed that the rising cost of land has been limiting for certain types of new entrants without the capital to keep up with rising costs and has limited the expansion of farms in the east of the transect. For some, the sale or purchase of farmland is a “once-in-a-lifetime” opportunity. Without funds, equity, and the financial capacity to repay loans – three factors deemed necessary to purchase land – some new entrants struggle to purchase land that is viable for agricultural production. However, this has not prevented those with the financial means to do so from accessing land in the transect.

There is a clear perception among stakeholders that corporate agricultural players have had an important effect on increasing land prices in the Central West. The benefits of this are not evenly distributed. Sellers are gaining from increased revenue, while some local operators willing to expand are missing out on the ability to purchase land or expand (particularly small expanding family farms). Despite this, the data suggests that family farms remain the bread and butter across the transect. Areas close to regional centres, such as Bathurst and Orange, present opportunities for families to diversify their income and access in-town job markets.

The pressure that larger corporate farms on property prices and land availability is also pushing some traditional operators into new ways of managing farms, looking to increase efficiencies and remain competitive. This has led to many family businesses to transition into operating as corporates, expanding and forming ‘family offices.’ However, as a stakeholder indicated, many people do not benefit from family corporate ownership structures (i.e. wages, insurance, worker compensation etc), which has maintained some of these traditional structures in tightly-held areas. After all, ownership and operation of land are often not the same. Many areas are privately owned and operated by a company, while others are corporate-owned and managed by local families.

Figure 17 - Summary of findings, rural landownership trends in transect region



3. Demographic trends as a drivers of rural land ownership change in the transect

Insight 10. There is a demographic east-west gradient within the Central West transect, which is largely reflective of the gradual change in land-uses and agricultural commodities along the transect.

The previous section showed that the Central West transect can be conceptualised as an east-west gradient in terms of differences in patterns of land ownership. In this section, it will be shown that these patterns are correlated to an east-west gradient in population density and growth within the Central West transect. Bathurst Regional is by far the most densely populated LGA in the transect with a population density of 10.8p/km^2, whilst Lachlan, at the western end of the transect, is the least densely populated at 0.4p/km^2 (ABS 2016a). Additionally, Cabonne, which surrounds the regional centre of Orange, is relatively more densely population than some of the regional areas around Weddin and Forbes.

The demographic gradient of the transect is largely reflective of the gradual change in land-uses and agricultural commodities along the transect. Areas in the east have, on average, smaller parcel sizes and a more diverse mix of uses, such as agritourism venues, intensive agriculture, and rural residential uses. Areas further west have bigger parcel sizes, on average, with larger farm estates and a higher proportion of large-scale cropping and grazing farms.

Rates of population change have also varied along the transect LGAs following an east-west gradient (as summarised in Table 7). However, across the transect area, there has been a relatively slow but increasing rate of population growth. Census data shows that, overall, the transect experienced a 0.60% increase between 2006-11, 0.78% between 2011-16 and 0.84% from 2016-20. Although these figures are below the national rate of growth (1.6% per annum during the study period), they demonstrate an upward trend in population growth, particularly in the east of the transect where land fragmentation and property price increases are higher.

Insight 11. Bathurst Regional LGA is the key driver of population growth in the transect, which explains why its ownership patterns differ from those of the rest of the transect (i.e in contrast to other LGAs in the transect, Bathurst is experiencing a combination of processes of land dis-aggregation, increasing volatility in rural land markets, lows levels of corporate aggregation and significant growth in land prices).

Bathurst Regional is the key driver of population growth in the transect. Although approximately 80% of the population of Bathurst Regional LGA reside in Bathurst City, the population of Bathurst Regional LGA outside of Bathurst City grew annually by 1.02% over 2006-11 and then 1.36% during 2011-16. This indicates an increasing population growth trend in rural areas of Bathurst LGA.

Proximity, amenity and a growing non-agricultural land market are key drivers of growth in Bathurst Regional LGA. Local stakeholders point to the following key trends driving the demand for land in rural areas of Bathurst LGA: proximity to Sydney, growth of Bathurst as a regional centre, with positive spin-off effects in rural areas of the LGA, and amenity ('tree-change') migration.

Table 7 - Change in population size 2011-2016

LGA	Population in 2006	Population in 2011	Population in 2016	Population 2020	Av. annual change 2006-11	Av. annual change 2011-16	Av. annual change 2016-20
Bathurst Regional	**35,845**	**38,517**	**41,301**	**43,996**	**1.39%**	**1.45%**	**1.63%**
• *Bathurst city*	28,992	31,294	33,587	---	1.47%	1.47%	---
• *Rest of LGA*	6,853	7,223	7,714	---	1.02%	1.36%	---
Blayney	**6,593**	**6,985**	**7,259**	**7,382**	**1.12%**	**0.78%**	**0.42%**
• *Blayney town*	2,745	2,810	2,964	---	0.46%	1.10%	---
• *Rest of LGA*	3,848	4,175	4,295	---	1.57%	0.57%	---
Cabonne	**12,396**	**12,823**	**13,391**	**13,677**	**0.67%**	**0.85%**	**0.54%**
• *Canowindra town*	1,499	1,424	1,395	---	-1.05%	-0.20%	---
• *Rest of LGA*	10,897	11,399	11,996	---	0.88%	1.00%	---
Cowra	**12,475**	**12,146**	**12,464**	**12,730**	**-0.54%**	**0.52%**	**0.53%**
• *Cowra town*	8,430	8,107	8,225	---	-0.80%	0.29%	---
• *Rest of LGA*	4,045	4,039	4,239	---	-0.03%	0.99%	
Weddin	**3,641**	**3,665**	**3,660**	**3,596**	**0.13%**	**-0.03%**	**-0.44%**
• *Grenfell town*	1,994	1,996	1,973	---	0.02%	-0.23%	---
• *Rest of LGA*	1,647	1,669	1,687	---	0.26%	0.22%	---
Forbes	**9,361**	**9,169**	**9,589**	**9,920**	**-0.42%**	**0.92%**	**0.86%**
• *Forbes town*	6,954	6,806	7,035	---	-0.43%	0.67%	---
• *Rest of LGA*	2,407	2,363	2,554	---	-0.37%	1.62%	---
Parkes	**14,281**	**14,592**	**14,611**	**14,728**	**0.43%**	**0.03%**	**0.20%**
• *Parkes town*	9,826	10,026	9,964	---	0.40%	-0.12%	---
• *Rest of LGA*	4,455	4,566	4,647	---	0.49%	0.35%	---
Lachlan	**6,669**	**6,477**	**6,195**	**6,089**	**-0.59%**	**-0.87%**	**-0.43%**
• *Condobolin town*	2,847	2,755	2,864	---	-0.67%	0.79%	---
• *Rest of LGA*	3,852	3,722	3,331	---	-0.70%	-2.10%	---
TOTAL	**101,261**	**104,371**	**108,467**	**112,118**	**0.60%**	**0.78%**	**0.84%**

Note: 2006, 2011 and 2016 data from Population Census. Data for 2020 from ABS (2021). Township data defined by Urban Centres & Localities from 2006, 2011 and 2016 censuses.

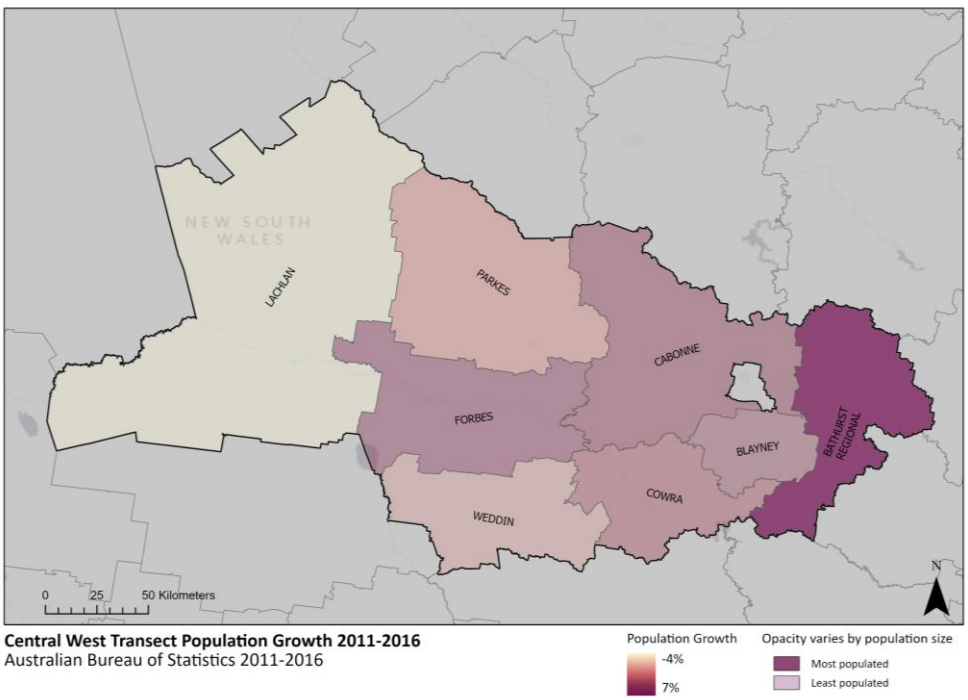
Insight 12. Agricultural diversification and rural amenity migration are key trends affecting the demographic profile of LGAs in the mid-portion of the transect (Blayney, Cowra, Cabonne, Weddin).

The two LGAs with narrower agricultural bases (Blayney and Weddin) and less obvious amenity attributes experienced progressively slower or negative population growth over the study-period. Blayney's average annual rate of population change slowed from 1.12% (2006-11), to 0.78% (2011-16) and 0.42% (2016-20). Weddin recorded a very small rate of population growth in 2006-11 but then slipped into population decline in 2011-16 and 2016-20. On the flipside, Cabonne's population growth rate bounced around in a range between 0.5% and 0.9% during the three time-periods, and Cowra, after experiencing a population decline from 2006-11, saw its population grow by 0.52% and 0.53% during the 2011-16 and 2016-20 respectively. For the two Census periods of 2006-11 and 2011-16, the rural parts of both Cowra and Cabonne experienced higher population growth than the populations of the largest towns in each LGA (Cowra and Canowindra, respectively).

Insight 13. Slow population change and/or population decline are the key demographic trend in the west of the transect (Lachlan, Forbes, Parkes).

Lachlan Shire, the furthest west in the transect, experienced population decline during the study period. Between 2011-16, population in the rural parts of the LGA fell by 2.1% per year, a high rate of decline given that the LGA was not in drought for most of this period. Parkes experienced slow growth over the whole period. The population of Forbes LGA grew by slightly less than 1% per year between 2011-20, second only to Bathurst Regional among the eight transect LGAs. From 2011-16, the population of rural Forbes grew by a relatively rapid 1.62% per year. Reasons for the higher growth of Forbes will be examined in greater detail in later parts of this report, but it is worth noting that agricultural land in Forbes is considerably more expensive than in the other two western LGAs of the transect. In 2021, the average price per hectare of farmland in Forbes was $4,225, compared to $1,873 in Lachlan and $2,412 in Parkes (Rural Bank, 2021).

Figure 18 - Population growth by LGA in the transect, 2011-16



Insight 14. Migration into/out of the transect region is a major contributor to the differences in rates of population change across the LGAs of the transect. LGAs in the west of the transect are experiencing stronger patterns of population ageing than those in the east. Out-ward migration into Sydney and Orange is strongest for people aged 20-29. In-ward migration from Sydney and Orange is stronger for people aged 30-34.

Population moving within the Central-West transect and from out of the transect are key demographic trends in the Central West. Approximately 33% of the transect's population in 2016 did not live in the same SA2 five years earlier, emphasising the overall high rate of mobility. The attractiveness of the transect is greater for people under 50, which is demonstrated by the fact that in 2016, 39.8% of people aged under 50 in the rural Central West were not living in the same SA2 five years earlier. In contrast, the figure for people over 50 was 21.4%. This is an important driver of rural land ownership trends, which questions the common assumption about older migration into rural areas. Although retirement migration frequently figures as a key narrative describing the inflow of people to rural parts of the Central West, factors more relevant to people under 50 (jobs and family lifestyle factors) would seem to be stronger attractors.

Rural parts of Bathurst Regional LGA experienced the highest flow of new people in the five years to 2016 (39%). It is important to note here that migration into Bathurst City is not included in this analysis (as our focus is on rural areas). If it was, it would skew the data towards younger population mobility, driven by the strong education sector driver present in Bathurst Regional LGA. The three 'middle-region' areas of Blayney, 'Orange region' (equivalent to Cabonne) and Cowra all exhibited very similar (32-33%) incidences of in-migrants in their 2016 populations. Grenfell (equivalent to Weddin) and Forbes had lower rates of in-migration (28-29%). At the western extreme of the transect, rural Parkes and Condobolin (equivalent to Lachlan LGA) respectively exhibited 33.55% and 32.54% rates.

Among the transect LGAs, inwards and outwards mobility was most prevalent in Bathurst Regional, with 5.3% of the population having moved into the LGA from Sydney between 2011-16 (ABS 2016a); and 3.3% of the Bathurst Regional's population in 2011 living in Sydney by 2016. Cabonne (1.8%), Cowra (1.7%), and Weddin (1.5%) experienced substantial out-migration to Sydney between censuses, while Cowra (4.4%), Blayney (3.7%), and Cabonne (3.6%) had significant in-migration from Sydney (ABS 2016a). Migration in and out of the urban hub of Orange was significant in Cabonne, likely because of the geographical proximity of these regions. Weddin retained the largest proportion of their residents between 2011 and 2016 of all LGAs in the transect, suggesting that there is again an east-to-west gradient of migration patterns. LGAs in the East tend to experience the most migration, particularly to and from Sydney, while those in the west exhibit lower migration.

The weighting of out-migration towards younger cohorts and in-migration towards older cohorts accelerates the ageing of the transect region's population. The median age of people in the transect increased from 40.5 years in 2011 to 42 years in 2016 (ABS 2016a). By comparison, Australia-wide, the median age of the population increased from 37 in 2011 to 38 in 2016. The cohort of people aged 65 years and over experienced the strongest growth in the transect, increasing by 13.6% between 2011 and 2016. By 2016, this group comprised 19.5% of the transect population (Australia-wide, it was 16%).

Table 8 - Migration into rural parts of the transect region[4]

SA2	Total Usual residence population 2016	Population in same SA2 five years earlier	Population **not** in same SA2 five years earlier	Proportion of 2016 population **not** in the same SA2 in 2011	Of those in column C, number of persons living in Sydney in 2011	Prop of persons moving into the SA2 that came from Sydney
	Column A	Column B	Column C	Column D	Column E	Column F
Bathurst Region[1]	6,913	4,219	2,694	38.97%	382	14.18%
Blayney	7,273	4,923	2,350	32.31%	269	11.45%
Orange Region[2]	11,607	7,672	3,935	33.90%	416	10.57%
Cowra Region[3]	5,449	3,645	1,804	33.11%	261	14.47%
Grenfell[4]	3,650	2,618	1,032	28.27%	111	10.76%
Forbes	10,166	7,139	3,027	29.78%	175	5.78%
Parkes Region[5]	3,383	2,248	1,135	33.55%	79	6.96%
Condobolin[6]	6,637	4,477	2,160	32.54%	89	4.12%
Total	55,078	36,941	18,137	32.93%	1,782	9.83%

Table 9 - Migration into rural parts of the transect region, persons over 50

SA2	Total Usual residence population 2016	Population in same SA2 five years earlier	Population **not** in same SA2 five years earlier	Proportion of 2016 population **not** in the same SA2 in 2011	Of those in column C, number of persons living in Sydney in 2011	Prop of persons moving into the SA2 that came from Sydney
	Column A	Column B	Column C	Column D	Column E	Column F
Bathurst Region[1]	2,975	2,200	775	26.05%	135	17.42%
Blayney	2,884	2,265	619	21.46%	15	2.42%
Orange Region[2]	4,504	3,653	851	18.89%	112	13.16%
Cowra Region[3]	2,592	2,009	583	22.49%	65	11.15%
Grenfell[4]	1,887	1,482	405	21.46%	34	8.40%
Forbes	4,273	3,467	806	18.86%	68	8.44%
Parkes Region[5]	1,557	1,164	393	25.24%	106	26.97%
Condobolin[6]	2,697	2,122	575	21.32%	109	18.96%
Total	20,672	16,240	4,432	21.44%	642	14.49%

Notes: 'Blayney' and 'Forbes' SA2 are the same as their respective LGAs. (1) 'Bathurst Region' SA2 = Bathurst Regional LGA excluding Bathurst City. (2) 'Orange region' SA2 = Cabonne LGA. (3) 'Cowra Region' SA2 = Cowra LGA. (4) 'Grenfell' SA2 = Weddin LGA. (5) 'Parkes Region' SA2 = Parkes LGA excluding Parkes town. (6) 'Condobolin' SA2 = Lachlan LGA.

[4] To draw closer comparisons with our land titles data, the statistics in these tables have been tailored to focus on rural parts of the transect. They use SA2 regions at the 2016 Census (rather than LGAs) allowing the two major population centers of the transect (Bathurst City and Parkes township) to be excluded. For convenience, we call this population the 'rural Central West transect'.

Notes: 'Blayney' and 'Forbes' SA2 are the same as their respective LGAs. (1) 'Bathurst Region' SA2 = Bathurst Regional LGA excluding Bathurst City. (2) 'Orange region' SA2 = Cabonne LGA. (3) 'Cowra Region' SA2 = Cowra LGA. (4) 'Grenfell' SA2 = Weddin LGA. (5) 'Parkes Region' SA2 = Parkes LGA excluding Parkes town. (6) 'Condobolin' SA2 = Lachlan LGA.

Figure 19 - Proportion of population who moved to Sydney and Orange (2011-16)[5]

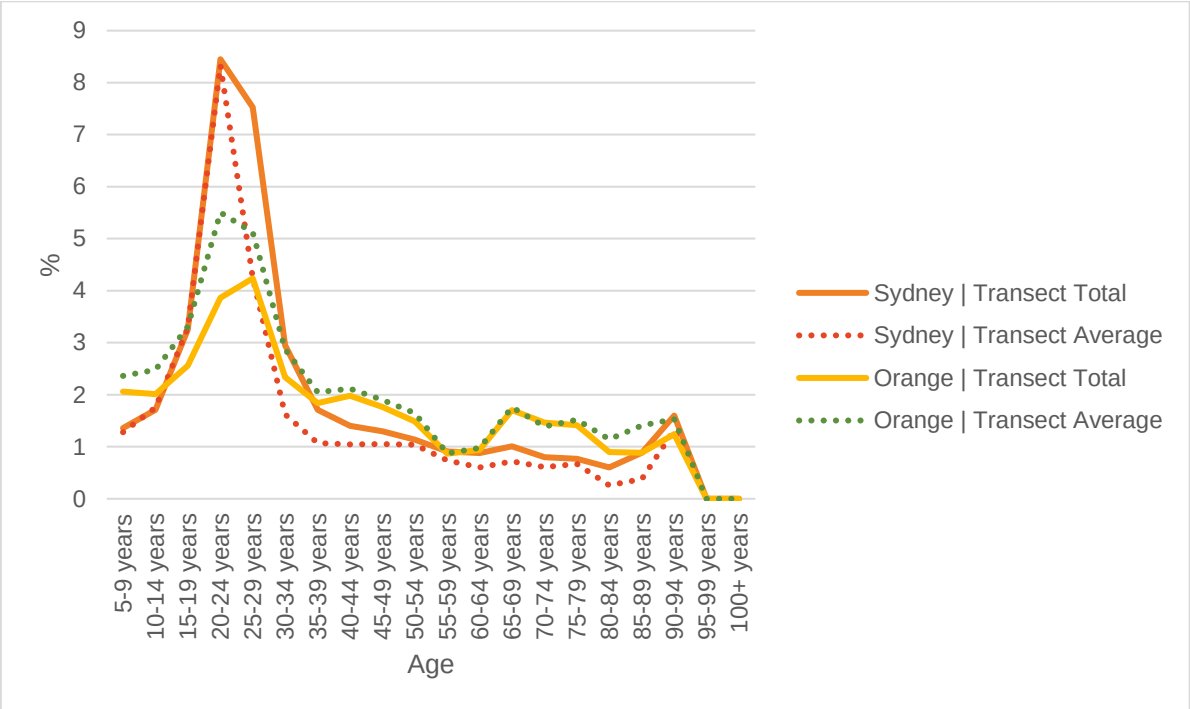
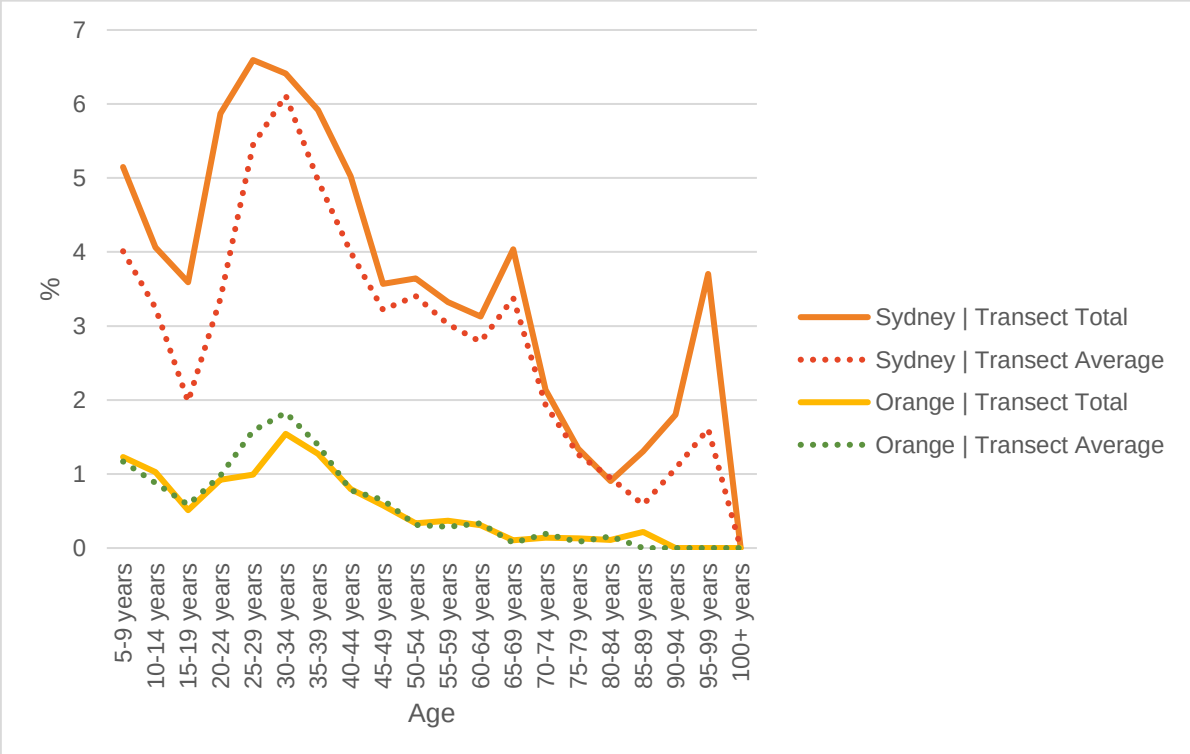


Figure 20 - Proportion of population who moved from Sydney/Orange to the transect 2011-16[6]



[5] Modified from source: ABS 2011a; 2016a

[6] Modified from source: ABS 2011a; 2016a.

4. Agricultural restructuring and rural land ownership change in the Central West transect

4.1 Agricultural land-use profile of the transect

Insight 15. The agricultural diversity of the Central West transect is one of its key characteristics. However, in terms of land area and, cropping farms dominate. This is different to the state-wide agricultural profile, in which grazing makes the bulk of the agricultural land (~46%) and cropping is only a small proportion of the agricultural area (~11).

The Central West transect remains one of the key productive agricultural regions in NSW. The agricultural diversity of the Central West transect is one of its key characteristics. According to the Australian Government, in 2018–19, the gross value of agricultural production in the Central West region was $1.4 billion, equivalent to 12% of the total gross value of agricultural production in NSW (Australian Government, 2021). This value comes from a variety of agricultural industries, which provides diversified income for farmers in the region (DPI, 2012).

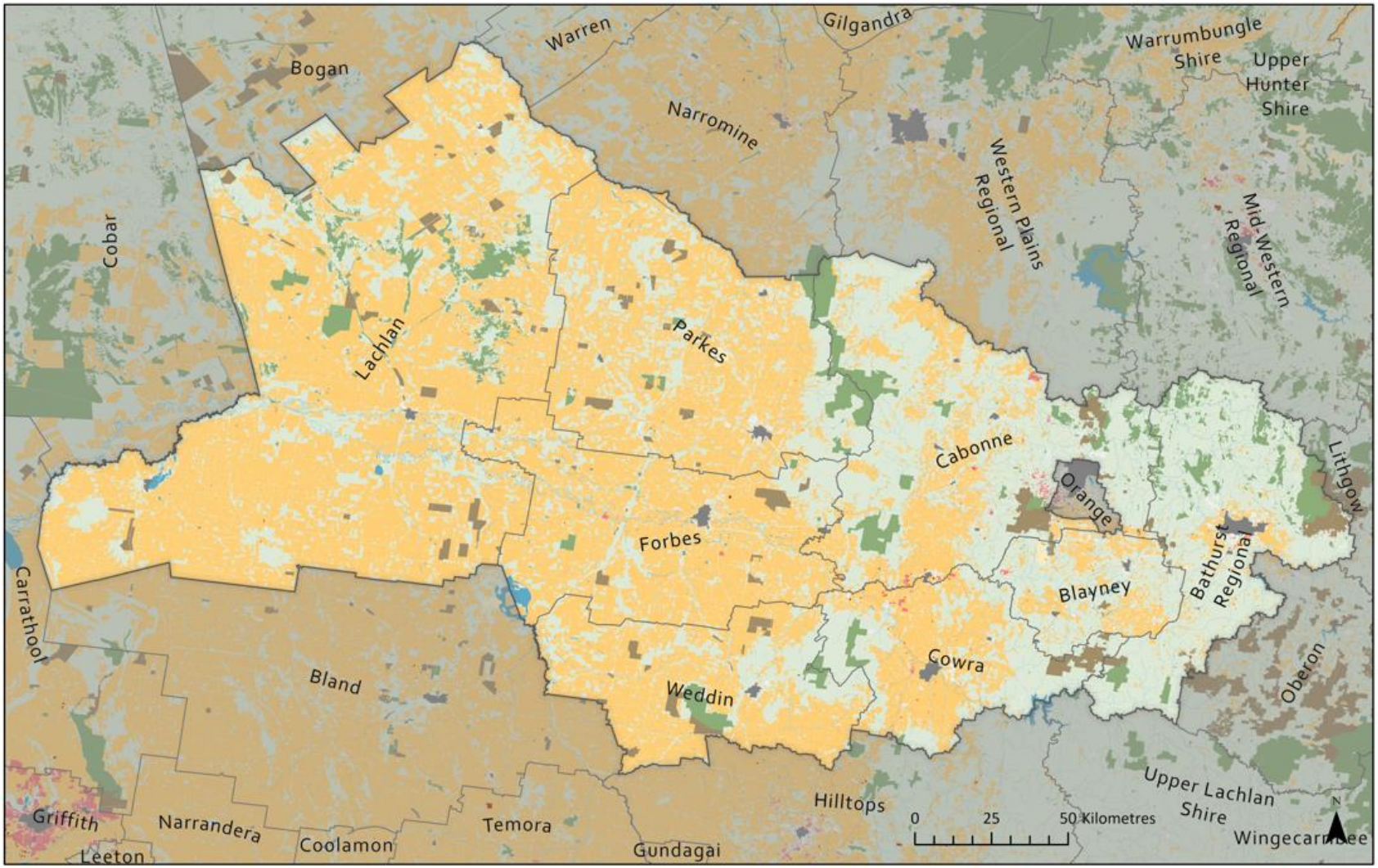
As shown in Figure 21 and Table 10, agricultural land uses make up over 89% of the land area of the region. In terms of land area, cropping is the dominant agricultural use in the Central West transect, with over half of the transect being dedicated to irrigated and non-irrigated crops (cereals such as wheat, oats and barley, hay and silage, and cotton). Land used for grazing on native and modified pastures makes up 39% of the transect's area. Horticulture and intensive animal production together make up less than 0.20% of the land area of the transect, but their output value is high in relation to the land they occupy. Other rural land uses make up less than 11% of the area of the transect.

Table 10 - Proportion of agricultural land-uses in the Central West transect[7]

Agricultural Land-use *	Total Area (ha)	Proportion of the transect	Details
Cropping	2,193,329	50.8%	Includes irrigated cereals such as wheat, oats and barley, hay and silage, cotton, and pulses. Includes land under rotation, which at other times may be pasture.
Grazing	1,679,357	38.9%	Includes grazing on native and modified pastures.
Horticulture	6,304	0.15%	Includes perennial and seasonal horticulture (both irrigated and non-irrigated). Fruit trees, olive trees, viticulture and other vine fruits are included in this category, as well as some vegetables, herbs, and turf farming.
Intensive animal production	1,316	0.03%	Includes feedlots for cattle or sheep, dairy sheds and yards, poultry farms, pig farms, horse studs, saleyards, and some forms of aquaculture.
Transect area (total)	4,314,777	100%	-

[7] Calculated based on the NSW Land use 2017 v1.2 dataset, publicly available for download on the NSW Government SEED website, https://datasets.seed.nsw.gov.au/dataset/nsw-landuse-2017

Figure 21 - Central West transect Land-use Map



4.2 Agricultural change in the Central West transect imprinted on patterns of land ownership

Insight 16. Our findings suggest that the Central West transect has been subject to several trends in agricultural restructuring which are contributing to the already strong productivity and diversity of the transect, but also putting pressure on land prices in certain areas. In some cases this has resulted in certain lower-value industries moving west, whilst others have thrived and diversified. In the east, diversification is leading to increase year-on-year variability in the rate of ownership change, driven by increased sales of smaller holdings and breaking up of existing holdings. In contrast, restructuring of larger farm holdings int the west generates periods of high churn rates driven by the sale of large holdings.

The most recognised example of agricultural land use transition in the transect is perhaps the transition from fruit orchards to viticulture in Cabonne, which is evidenced in the increased the value of production (and by consequence land costs) in the Mount Canobolas foothills. Anecdotal evidence shared by stakeholders in the transect suggests that agricultural land around Orange LGA is increasingly sought by for agritourism purposes associated with the wine industry. As a consequence of this, there has been a sharp restructuring of land-uses in Cabonne and Cowra in study period. However, the spread of viticulture has not removed the profitability of other high-value orchards in the area, especially cherries, which have remained strong and, in many instances, combined production income with agritourism as a way to diversify and increase profits. Despite its small area, horticultural land located in pockets around Cabonne and Cowra, and to a lesser extent Blayney, Bathurst, and Forbes, produces a significant amount of economic value for the region. Although transactions in horticultural land appear small in the scheme of total land area of the transect, these are important in terms of economic value and increasingly so as sources of tourism income for the region.

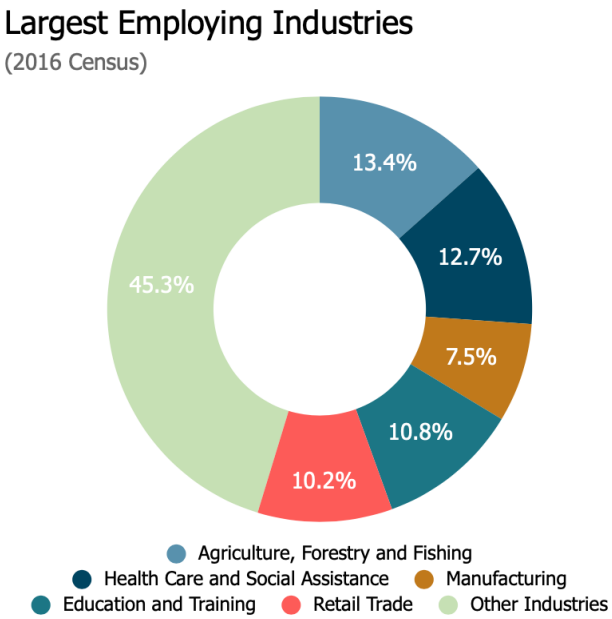
Other areas of agricultural restructuring mentioned by stakeholders along the transect include the growth in pig farming around Parkes, the transition of alpaca farms east-ward and strengthening of livestock farming around Condobolin, linked to sales to Wagga Wagga saleyards. Further research is required to explore industry and locality-specific trends. However, what is clear when comparing stakeholder comments to our data-base findings is that agricultural restructuring in the east, associated with the diversification of rural land-uses, is leading to increase year-on-year variability in the rate of ownership change, driven by increased sales of smaller holdings and breaking up of existing holdings. In contrast, restructuring of larger farm holdings int the west generates periods of high churn rates driven by the sale of large holdings (refer to the discussion 2 on rates of ownership change by LGA).

4.3 Transitions in agricultural employment

Insight 17. Despite strong land-use change pressures along the transect and an increase in non-agricultural employment sectors, agriculture is still the largest employing industry in the transect. However, its proportion of total employment is decreasing.

Agriculture remained the region's largest employing industry in 2016, as show in Figure 22 below. However, 'Health Care and Social Assistance' is a close second and a fast-growing industry in the transect, particularly in areas close to major regional centres such as Orange and Bathurst. In fact, between 2011 and 2016, the proportion of the total employment in agriculture decreased, despite the number of people employed in agriculture increasing by 21.1% in the transect due to other industries growing faster than agriculture (ABC, 2011a, 2011a).

Figure 22- Largest employing industries across the Central West transect[8]



Insight 18. Although the number of people employed in agriculture in the Central West transect increased between 2001 and 2016, the following types of agricultural industries saw an overall decrease in the percentage of people employed: 'Mushroom and Vegetable Growing,' 'Fruit and Tree Nut Growing' and 'Sheep, Beef Cattle and Grain Farming.' Others saw a decrease in the percentage of owner managers of incorporated and unincorporated enterprises, including: 'Dairy Cattle Farming' and 'Poultry Farming,' indicating that processes of corporatisation have been strongest in these industries.

ABS Status in Employment (SIEMP) census data was used to identify the percentage change in the number of people employed in different agricultural industries along the transect between 2011 and 2019. The following categories of employment were used for this purpose (with definitions from the ABS (2011, 2016):

- **Owner managers of incorporated enterprises** - a person who works in his/her own incorporated enterprises, that is, a business entity which is registered as a separate legal entity to its members or owners (also known as a limited liability company).
- **Owner managers of unincorporated enterprises** - a person who operates his/her own unincorporated economic enterprise, that is, a business entity in which the owner and the business are legally inseparable, so that the owner is liable for any business debts that are incurred. It includes those engaged independently in a profession or trade.
- **Contributing family workers** – A person who works without pay, in an economic enterprise operated by a relative.
- **Employee not owning business** - employees who do not own businesses (excluding owner managers of incorporated enterprises) and contributing family workers]

The findings in Table 11 indicate that most agricultural enterprises in the Central West transect had an increase in the number of workers employed, being owner managers, employees not owning a business or contributing family members. The growth in 'Agriculture, Forestry and Fishing, not further defined' and 'Agriculture, not further defined' between 2011 and 2016 were

[8] Modified from source: ABS 2016b.

66.67% and 68.77% respectively. In both agricultural categories there was significant growth in the number of people employed across all four employment categories. Owner managers of unincorporated enterprises in the 'Agriculture, Forestry and Fishing, not further defined' category grew by 466%, while the number of contributing family workers in the 'Agriculture, not further defined' category grow by almost six-fold. Although these two categories are broad, the data also shows growth in defined agricultural categories such as 'Nursery and Floriculture Production', 'Other Livestock Farming,' and 'Agriculture and Fishing Support Services.' However, even within these, there were different patterns of growth between the four types of m=employment categories, as discussed below.

Agricultural industries with a decrease in employment

As show in Table 10, the following industries saw a percentage decrease in the number of people employed:

- Mushroom and Vegetable Growing
- Fruit and Tree Nut Growing
- Sheep, Beef Cattle and Grain Farming

The reduction in these industries is associated with a reduction of owner managers and family workers. Despite this, in these three industries there was an increase in the number of employees not owning a business. This indicates that there has been a level of corporation in these three industries in the Central West, as the bulk of the workers in these industries are employed and not having any family association to the owner.

Agricultural industries with a decrease in employment of owners and managers but an increase in general employment

Finally, there are certain industries that saw an increase in number of workers, but a decrease in owner and family workers. This is an indication of corporatisation and scale economies, as explained above. The industries in which there was an increase in employment purely driven by a growth in the 'employee not owning business' category are:

- Dairy Cattle Farming
- Poultry Farming

To conclude this section, it is important to note that some of the industries listed above are intensive livestock and intensive horticulture uses, which have seen stronger processes of corporation in recent years than extensive cropping or extensive grazing farms. The amount of land, proportionally, occupied by these industries is small as their land requirements are less than extensive agricultural uses, meaning that their effect on overall rates of land-ownership change are less pronounced. However, understanding ownership patterns for these industries is key to get a full picture of land ownership patterns for the transect as a whole.

Table 11 - Percentage change in the transect's agricultural industries in the transect (2011-16)[9]

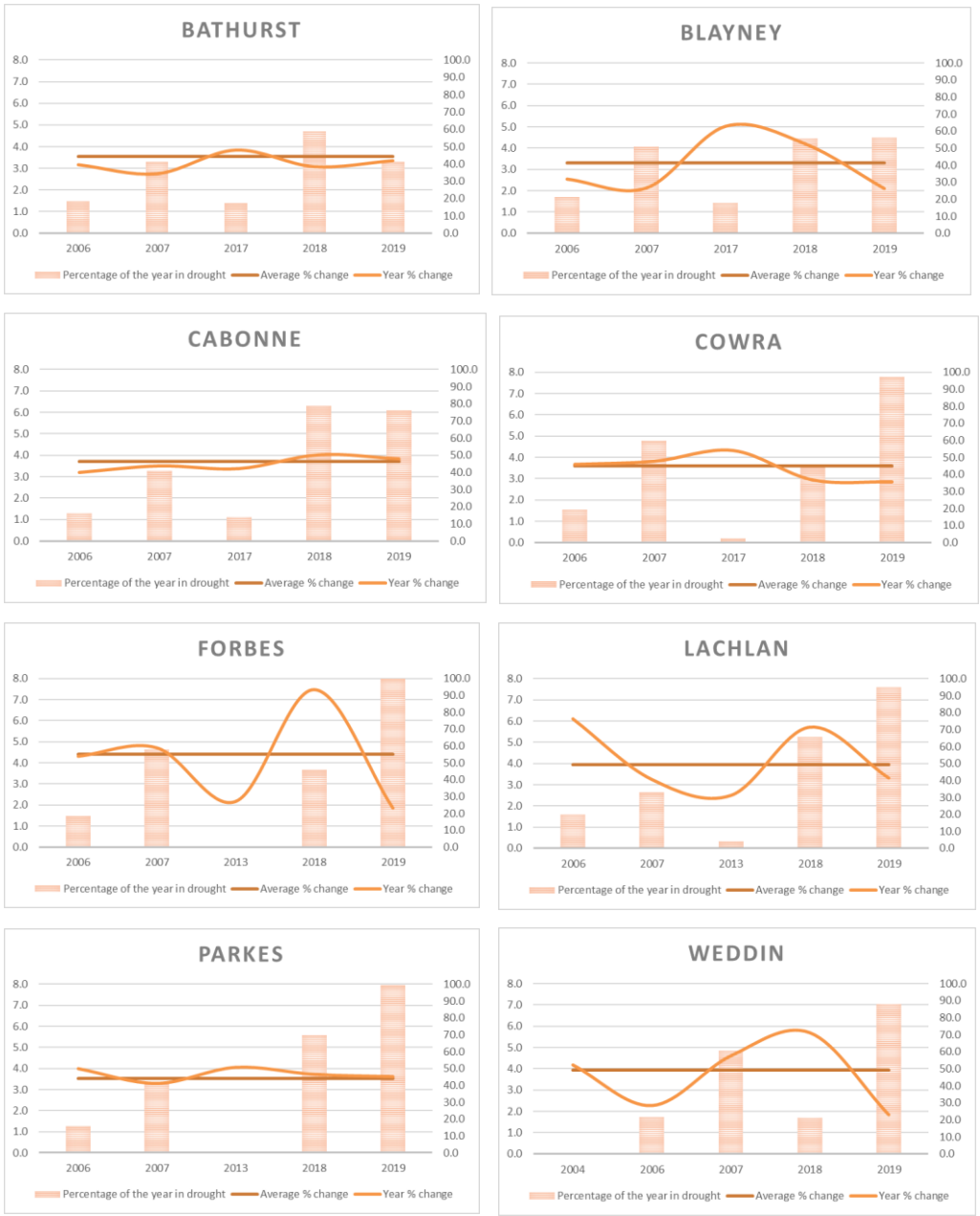
Percentage Change (%) in status of agricultural employment categories in Central West Agriculture INDP3 (2011-16)					
Agriculture INDP3	**Employee not owning business (%)**	**Owner managers of incorporated enterprises (%)**	**Owner managers of unincorporated enterprises (%)**	**Contributing family workers (%)**	**Total (%)**
Agriculture, Forestry and Fishing, not further defined	93.75	[NaN]	466.67	[NaN]	66.67
Agriculture, not further defined	290.63	56.00	94.17	595.65	68.77
Nursery and Floriculture Production	314.29	50.00	400.00	66.67	58.00
Mushroom and Vegetable Growing	10.00	-55.56	-12.50	-18.18	-9.23
Fruit and Tree Nut Growing	21.52	-21.43	-34.15	-3.23	-2.35
Sheep, Beef Cattle and Grain Farming	2.65	1.25	-15.52	-28.21	-14.98
Other Crop Growing	0.00	75.00	4.55	50.00	4.00
Dairy Cattle Farming	53.19	-100.00	-36.36	37.50	23.32
Poultry Farming	150.00	-100.00	-100.00	[NaN]	43.59
Other Livestock Farming	27.03	-7.14	32.43	4.00	12.86
Forestry and Logging	1.72	100.00	[NaN]	[NaN]	1.47
Hunting and Trapping	[NaN]	[NaN]	[NaN]	[NaN]	0.00
Forestry Support Services	16.67	-100.00	[NaN]	[NaN]	14.29
Agriculture and Fishing Support Services	145.76	50.00	55.17	54.55	51.21

[9] Status in Employment variable (SIEMP - INDP3) modified from source: ABS 2011b; 2016b.

4.4 Drought cycles in the Central West transect

Insight 19. Water access is a key consideration in individual land transactions in the Central West. This is particularly significant in the west of the transect where cropping farms, some which are irrigated, dominate. However, aannual changes in the drought profile of LGAs in the Central West transect are not correlated to the extent of that year's land ownership change. In fact, it appears that other factors, such as interest rates and constantly growing commodity prices have a stronger effect on rates of land ownership change than drought.

Figure 23 - Analysis of landownership change for top 5 drought years between 2004 and 2019[10]



[10] The percentage of time in drought in Parkes and Forbes was 0 for all years except for 2006, 2007, 2018 and 2019. The year 2013 is included in the charts as an example. The same situation occurs with Weddin regarding the year 2004.

Figure 23 shows the percentage of time in drought for each of the top 5 drought years for each of the LGAs in the transect in relation to the rate of substantive rural land ownership change for that year. The graphs show that the changes in the rate of ownership change are relatively independent of the particular year's drought profile, indicating that other factors may be contributing more to short term land markets.

Despite this lack of correlation, stakeholders in focus groups reflected that water is an extremely important consideration for individual transactions and for prospective buyers in the Central West. A key message from stakeholders is that water, as much of the transect's agricultural land market is made up cropping farms, some which are irrigated, water is a key decision-making point for individual transactions. This was characterised by a real estate agent stakeholder in one of the forums as follows: "We sell property because of water."

"We sell property because of water."
Focus Group Stakeholder

A common opinion shared by stakeholders in the transect is that farmers do not sell land when it does not look good. In fact, the moisture profile of a property is a key consideration for sale prospects. Land without access to water is appropriate for certain times of dryland agricultural production, however highest value crops are generally dependent on water access, some which heavily depend on water trading for viability. This suggests that in the short term there is willingness to look past dry conditions to secure tightly held land (Rural Bank, 2020 & Rural Bank, 2021). However, longer periods of cumulative water scarcity may significantly affect confidence in severely impacted properties and may also lead to increasing resilience by existing landowners, which are less likely to turn to selling the farm during drought.

Another insight shared as part of the focus groups is resilience generated by diversity of agricultural output capabilities within a holding. As outlined earlier, a key aspect of the Central West transect is its mix land-use capability, with many areas being capable of switching from cropping to grazing. This has made many farms resilient to the impacts of drought on certain industries more than others.

Drought generates significant emotional and financial pressure on farmers and farm businesses. A perception of some stakeholders in Lachlan Shire is that the population decline of the shire in the past 20 years can be partly attributed to cumulative years of drought. They indicate that years of drought have meant that many families have had to rely on off-farm income, including many family members leaving the area to find work. Other stakeholders believe that drought is leading to more investment in intensive agriculture, which is less reliant on rainfall and soil moisture. Water licensing, which allows some forms of agriculture to continue in some areas and it enables new forms of agriculture, however, does not put a limit on the significant stresses of droughts on farm businesses.

Finally, many stakeholders reported that the emotional burden of the 2019 drought has been higher than that of the longer, yet less intense Millennium drought. At the time of writing this report (2021), the 2019 drought had broken, and prime climatic conditions were leading to significant changes in rural land markets. There is an opportunity for future research to explore the relationship between drought recovery and other key drivers post-2019, including COVID-19, on rates of substantive rural land ownership change in NSW.

4.5 Commodity prices and other drivers of farm restructuring

There are other variables and trends affecting agricultural restructuring in the Central West Transect. Although it is not within the scope of this paper to examine these in detail, it is important to mention their impact. One of these is commodity prices. According to the Rural Bank (2021: 27), NSW has seen a historically 'strong correlation between commodity price and farmland values in NSW.' However, this correlation has been diverging in recent years, with median prices continuing to steadily grow, but property prices growing faster than commodity prices as shown in the Figure below.

Figure 24 - NSW Commodity Price Comparison (Rural Bank, 2021)[11]

Another theme brought up by stakeholder in focus groups is the prevalence of *across the fence* transactions. For many farmers, land transactions are a once-in-a-lifetime opportunity. Many who have been operating in the region for generations know their neighbour's land well and may have silently contemplated a purchase for years. Alternatively, they may have informally discussed potential across-the-fence deals for a long time with neighbours and others in the local area. There is an advantage here for local land purchasers, who know the land better than new entrants. They also have an advantage over corporate entrants in that decisions can be made faster, based on local knowledge and personal relationships in the local area. Corporate entities tend to require more time to make land transaction decisions. Their advantage, however, is the ability to offer more for the land in general, compared to across-the-fence transactions. Thus, stakeholders report that, when demand for land is high, there is an incentive for landowners to go to market, rather than engage in across the fence transactions.

Stakeholders identified that peaks in land transactions tend to occur during good agricultural years when land value is high. Usually, farms are sold as a whole, with individual parcels only being split when there is an incentive for a change of land-use (for example for rural residential) or for *across the fence* transactions. However, incidence of farmers deciding to sell to their neighbour instead of adding a formal listing to the market were reported as being common when prices are stable.

[11] Graph published by the Rural Bank (2021)

In markets where land costs are rising it is most common to see properties to auction or as expressions of interest. It is only in instances when land costs are stagnant or falling that prospective sellers would be incentivised to opt for a fixed amount.

Mining and renewable energy uses

As reported by stakeholders along the transect, mining is more prevalent in Cabonne, Blayney and Parkes than the other LGAs in the transect. According to some, mines are attracting farm workers due to better pay and stable wages. As corporate agriculture is increasingly reliant on wage labour, this may be the source of competing labour markets. Although not as prevalent as in other parts of the state, these are key considerations which do affect land markets in the long-run and require more research.

Similarly, wind generation opportunities have been identified in the Central West and Orana Regional Plan (NSW Government, 2017). These opportunities are focused around the tablelands and slopes of the Central West. There are also several solar farms built and planned across the transect. Some stakeholders identified potential conflicts of these projects with cropping land (especially those located in highly arable country). As with mining, the use of land for renewable energy presents interesting trends which affect labor markets and land ownership patterns. Their interaction with land ownership change patterns should be further explored.

Themes for future research: Many of the socio-economic themes presented in this report have been communicated to us by stakeholder who kindly shared their views about our data and shared their own experiences with the topic. This paper has attempted to consolidate these views and to create connections to the findings from our database.

Many of the anecdotal findings from focus groups have assisted to confirm our findings and to provide local context to the quantitative analysis from our database. These findings present interesting opportunities for further research and future conversations with stakeholders. As more data is collected through the land-titles registration method presented in this report and other outcomes of our project, we hope that more light will be shed on these important trends affecting the ownership and management of land in rural NSW.

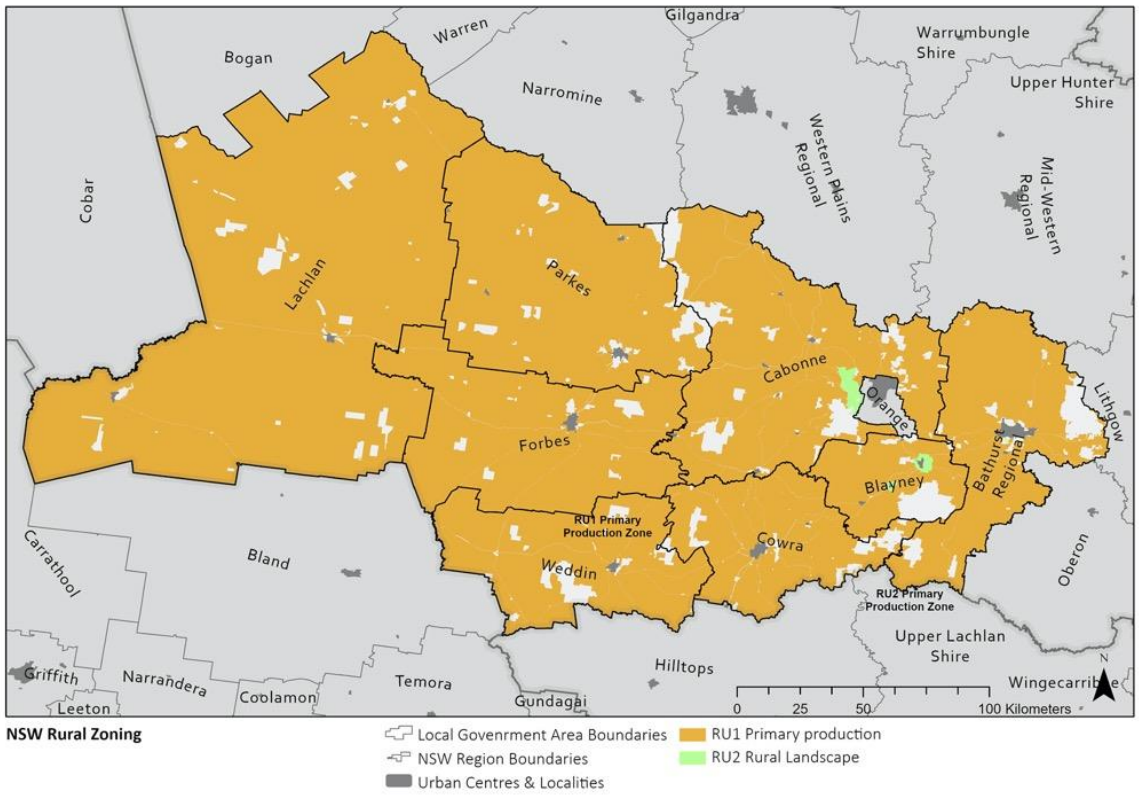
5. Land-use planning trends affecting land ownership patterns

5.1 Zoning and land-use permissibility

Insight 20. LEPs along the transect highlight the diversity of land-use considerations that exist between LGAs. It reinforces the conceptualisation of the transect as an East-West gradient of land ownership patterns, influenced by land-use planning drivers, such as zoning and land-use permissibility.

Most of the Central West transect is zoned for primary production (RU1), with small pockets surrounding rural centres zoned rural landscape (RU2) (Figure 19). Despite the relative zoning homogeneity, agricultural and non-agricultural land-uses along the length of the transect are diverse. Planning controls in the transect's local environmental plans (LEPs) reflect this diversity. The following is an analysis of planning controls and trends in the transect and their relationship to ownership patterns.

Figure 25 - Central West transect Zoning Map



The NSW standard LEP includes a list of standard objectives for all RU1 Primary Production zones:

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

However, councils can and often do add additional objectives to reflect the local character of the zone. Similarly, extensive agriculture is permitted without consent in RU1 zone of all LGAs, as per the standard instrument. Permissibility (with and without consent) of other agricultural land uses varies between LGAs, depending on the nature of the agricultural industries in each area, and in line with councils' objectives for the zone.

A common message evoked by stakeholders across the transect is the challenge in managing an increasingly diversified landscape, with pressures from non-agricultural uses to co-existing with primary production land. A rapidly changing environment for farmers is also putting pressure on planning controls to adapt to provide flexibility to respond to climate-change related conditions, natural disasters, new terms of trade and technological innovations. A survey of LEPs in the transect highlights the diversity of specific objectives and additional permitted uses across LGAs in the transect (Table 12). These complement the analysis presented earlier in the report which conceptualise the transect as an East-West gradient.

Bathurst Regional

The specific objectives for the RU1 zone in Bathurst Regional LGA focus on the importance of balancing pressures from non-agricultural uses with the objective of preserving the rural and scenic character of the land. It highlights existing trends in this LGA for towards diverse rural-land uses and council's role in protecting existing agricultural land from land-use conflicts associated with a mix of non-agricultural uses. Findings from the focus groups indicate that there are significant pressures to rezone land around major regional centres such as Bathurst and Orange, which is clearly reflected in the approach taken by council in adding additional objectives to the zone. Bathurst Regional permits intensive plant agriculture without consent in its Primary Production Zone.

Blayney and Cabonne

The Blayney and Cabonne LEPs, on the other hand, include an objective to enable agritourism-related land-uses, such as function centres and restaurants. This objective is a clear reflection of the trends in these LGAs towards viticulture (and to a lesser extent horticulture) related tourism.

Cabonne permits viticulture without consent in the RU1 zone considering the importance of the wine industry in this area. Blayney, permit intensive plant agriculture without consent in its Primary Production Zone.

Forbes

In contrast, Forbes' LEP focuses on providing opportunities for intensive and extensive agriculture in appropriate locations consistent with the environmental capability of the land, highlighting the challenges in this LGA to manage industrial growth (e.g around Newell Highway) whilst promoting the agricultural productivity of land in the LGA.

Parkes

The most compressive set of objectives for the RU1 zone in the transect are those in Parkes LEP, which focuses on tourism associated with primary production and employment-generating development that adds value to local agricultural production and integrates with tourism. Parkes permits intensive plant agriculture without consent in its Primary Production Zone.

Cowra, Lachlan and Weddin

LEPs in these three LGAs do not include context-specific objectives for the RU1 zone.

Table 12 - List of LEP specific objectives for RU1 Primary production zone.

Local Environmental Plan (LEP)	LEP specific objectives for the RU1 zone (additional to those in prescribed by the standard instrument LEP)
Bathurst Regional Local Environmental Plan 2014	• To maintain the rural and scenic character of the land. • To provide for a range of compatible land uses that are in keeping with the rural character of the locality, do not unnecessarily convert rural land resources to non-agricultural land uses, minimise impacts on the environmental qualities of the land and avoid land use conflicts.
Blayney Local Environmental Plan 2012	• To enable function centres, restaurants and appropriate forms of tourist and visitor accommodation to be developed in conjunction with agricultural uses.
Cabonne Local Environmental Plan 2012	• To enable function centres, restaurants or cafes and appropriate forms of tourist and visitor accommodation to be developed in conjunction with agricultural uses.
Cowra Local Environmental Plan 2012	• No additional objectives.
Forbes Local Environmental Plan 2013	• To provide opportunities for intensive and extensive agriculture in appropriate locations consistent with the environmental capability of the land.
Lachlan Local Environmental Plan 2013	• No additional objectives.
Parkes Local Environmental Plan 2012	• To encourage eco-tourism enterprises that minimise any adverse effect on primary industry production. • To permit non-agricultural uses that support the primary production purposes of the zone. • To permit small scale rural tourism uses associated with primary production and environmental conservation with minimal impact on primary production and the scenic amenity of the area. • To encourage the provision of tourist accommodation in association with agricultural activities. • To provide opportunities for employment-generating development that adds value to local agricultural production and integrates with tourism.
Weddin Local Environmental Plan 2011	• No additional objectives.

5.2 Minimum lot sizes

Insight 21. Most land parcel boundaries remained intact over the study period, indicating that the Central West transect has a relatively stable cadastral landscape. For the small amount of parcels with boundary changes, consolidation (merging parcels) played a larger role than sub-division (breaking up existing parcels) across the transect, leading to a net reduction in the number of rural parcels between 2004-20.

At the start of the study period, the area covered by the eight transect LGAs contained 49,952 unique land parcels (noting the exclusions described in **Appendix A**). At the endpoint of the study, in January 2020, this area was covered by 49,290 unique parcels, indicating a small net consolidation in the number of parcels of 1.3% (Table 13). This indicates that parcel boundary adjustments did not play a significant role in rural ownership change throughout the transect in the study period. There were relatively few boundary changes, implying that the overwhelming majority of ownership changes occurred within the confines of pre-existing parcel boundaries.

Table 13 - Area and number of parcels in the transect, 2004-20

LGA	Sample Area (km^2)	No. of land parcels January 2004	No. of Land Parcels January 2020	Percentage change, 2004-20
Bathurst Regional	2,946	7,857	7,864	0.8%
Cabonne	4,670	10,615	10,263	-3.3%
Blayney	1,243	5,090	4,834	-5.0%
Cowra	2,227	6,018	6,065	0.7%
Weddin	2,799	4,512	4.416	-2.1%
Forbes	3,840	4,689	4,650	-0.8%
Parkes	5,192	5,194	5,232	0.7%
Lachlan	13,671	5,977	5,966	-0.2%
Transect total	**36,588**	**49,952**	**49,290**	**-1.3%**

Note: LGAs are presented in order from east to west.

Insight 22. There is a clear east-west divide in relation to Minimum Lot Sizes (MLS) along the transect, with Lachlan, Parks and Weddin having >200ha MLS rules, while Cabonne, Cowra, Blayney and Bathurst Regional have MLS rules of <100ha. Forbes sits at a crossroad, with a variety of rural MLSs, including smaller lot sizes along the Lachlan river.

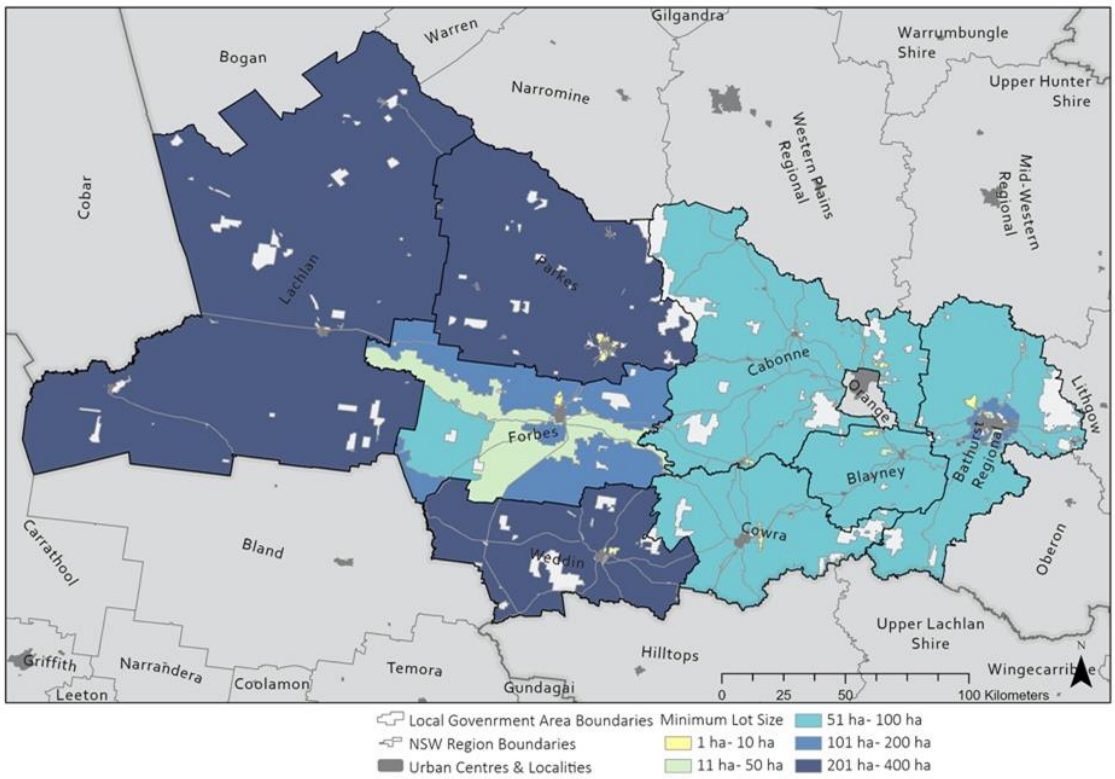
Minimum lot sizes (MLS) significantly vary across the transect, with areas on the east of the transect having smaller MLS on average than those on the transect's western LGAs ash shown on Figure 26 below. Cabonne, Cowra, Blayney and Bathurst Regional have smaller lots on average than those in Lachlan, Parks and Weddin, while Forbes has a mix of minimum lot sizes, sitting in the centre of the transect. The minimum lot sizes reflect the different uses of rural land between council areas along the transect and different council strategies towards rural land fragmentation, rural dwellings and farm succession, among other planning considerations.

Given the increasing value but low availability of land, there are increasing pressures for farm subdivisions, either to sell, lease out (for example for a quick cash injection during drought), diversify uses (including agritourism and rural dwellings) or for boundary adjustments with neighbouring properties. Subdivided land may also be sold for use in biobanking or carbon credit projects.

Social and economic processes have an intrinsic interaction with local planning rules for subdivision and dwelling entitlements. According to local stakeholders, in areas like Cabonne, there are increasing pressures to subdivide lots of up to 100ha which are only large enough for a hobby farm and not suitable for large-scale farming. However, this has proven to be a lucrative approach for landowners willing to move out, due to the increasing demand from urban arrivals into Orange and surrounds. The pressure of demographic shifts in areas around Orange and Bathurst have created complex policy decisions for councils in the eastern portions of the transect, grappling with the balance with an increasing demand for housing and accommodation, and the need to protect local farming.

On the other hand, at the west of the transect, stakeholders indicated that pressures to subdivide existing farmland are low and that current MLS rules are working as intended. In some areas, local flexible LEP clauses are used to allow rural subdivisions below the MLS for the purpose of primary production. Forbes, which sits in the middle of the transect has seen increasing pressures to make land available for residential purposes (as supply of residential accommodation is lacking) along the Lachlan River. However, balancing the location of existing and future manufacturing growth areas and the protection of strategic agricultural enterprise locations are different priorities this council are areas the councils is grappling with. Overall, the differences between MLSs along the transect reflect the east-west gradient discussed throughout this report and is evidence of the social and economic dynamics affecting patterns of substantive rural land ownership change along the transect.

Figure 26 - Minimum Lot Size categories map



The focus groups undertaken along the transect with stakeholders generated significant discussion about the appropriate minimum lot size for different types of rural areas. For many, a large MLS is important to prevent unwanted subdivision, however stakeholders were in agreement that too-large MLS rules may prevent the efficient use of land and significantly affect succession planning arrangements for farmers. For example, some stakeholders indicated that a

300ha MLS is appropriate for areas with important agricultural value as this is the minimum size required for a viable landholding. Others believe that encouraging highly productive farmland is possible with lots of 100ha. All in all, a key concern for stakeholders in the transect is ensuring that planning rules do not render large productive lots unproductive in what one stakeholder described as 'too big for a backyard, too small for a farm.' Striking the right balance between the prevention of fragmentation of land, and the sterilisation of land by preventing lot sizes that keep up with changes of technology, industry and management are key to the success of agriculture-oriented planning rules.

'Too big for backyard, too small for farm.'
Stakeholder in Forbes Shire

Although the purpose of this project is not to arrive at a recommended MLS, these discussions proved fruitful in exposing the different (and often competing) perspectives regarding the future of rural land fragmentation/consolidation patterns. Many stakeholders agreed that there is no right MLS for rural land along the Central West transect, and that appropriateness depends on the context. The reality is that MLS controls do not guarantee viable agricultural production, nor the continuation of agricultural activities on rural land. Council vision for an LGA, the degree of flexibility that is built into the system and the type of agriculture of an area are key considerations in arriving at the 'right' MLS approach.

5.3 Dwelling entitlements and subdivision

Insight 23. The ratio of MLS rules to lot sizes varies along the transect. However, some clear patterns exist, which influence patterns of rural land ownership change (see Figure 27). These are:

- **Higher subdivision and dwelling entitlement potential on lots at the far-east and far-west of the transect, particularly Bathurst Regional, western part of Forbes LGA and northern areas of Lachlan LGA**
- **Low new dwelling entitlement and subdivision potential in Weddin and Parkes, with many lots already below the MLS rules.**
- **Mixed MLS to lot size ratio in Cowra, Cabonne and Blayney.**

The topic of dwelling entitlements is a complex and hotly debated one. A dwelling entitlement is referred to as the ability of a landowner to get approval by a Council to construct a dwelling on a certain property. There are different approaches to dwelling entitlements depending on the socio-economic dynamics of each council. Some LEPs, for example, have grandfathered provisions which retain historic dwelling entitlements even for parcels which are below existing MLS rules. Some of these entitlements are subject to historic planning and land title documents, which makes it difficult to make an accurate assessment of the extent or impact of these provisions.

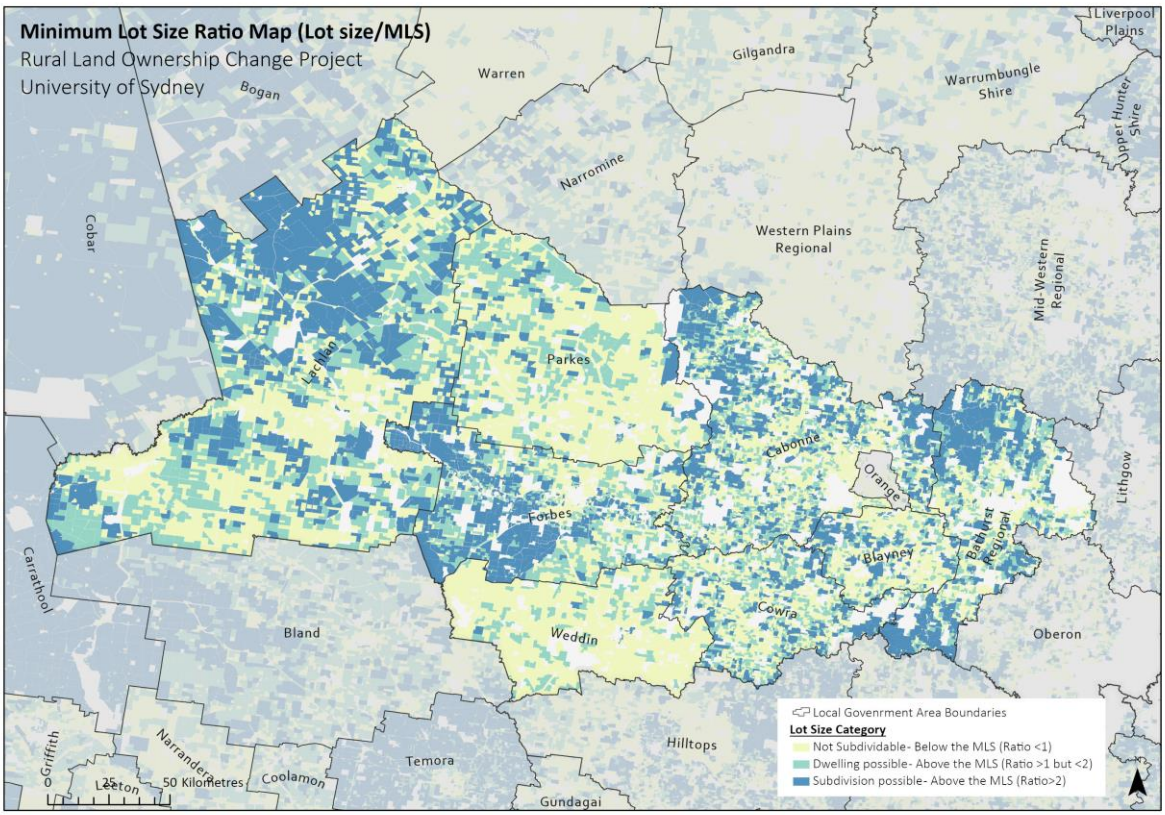
Applying a quantitative approach to measuring the 'viability' or dwelling entitlements is one way of understanding transect-wide patterns. We calculated the ratio between MLS rules and lot sizes to understand the potential for subdivision and new dwellings across the transect. This generated three categories of lots:

- Lots in which subdivision and new lots are possible on-paper based on MLS rules (i.e. lots with an area above MLS),

- Lots in which new dwelling entitlement exists on-paper because the lot is over the MLS rule but too small for subdivision,
- Lots in which on-paper no new dwelling entitlement or subdivision potential exist (i.e. under the MLS).

In the Central West transect, some councils actively encourage the consolidation of parcels as an incentive to prevent fragmentation of rural land, while in some areas concessional lots are still a source of new dwellings (some of which are subject to sunset clauses). This means that, although on-paper some lots appear not to be subdividable or have the potential for a dwelling, they may, in practice be entitled to them due to flexible LEP clauses or planning tools to vary the minimum lot size standards built into the system. Although there are a range of opinions on the topic, there is a common view that there is no silver bullet to prevent fragmentation of rural land and that a range of strategies is needed.

Figure 27 - Minimum lot size ratio map



Insight 24. There is an east-west parcel size gradient, with smaller parcel sizes on average in Bathurst Regional, Cabonne, Blayney and Cowra, compared to Weddin, Forbes, Parks and Lachlan. This is an indicator of the differences in the mix of rural land-uses between LGAs in the transect. This finding relates to the fact LGAs in the west are seeing consolidation trends, as large owners aggregate parcels into holdings, while those in the east are seeing pressures to fragment holdings and sell to new entrants, including for non-agricultural uses.

The average lot size of each LGA, as well as its largest parcel, are effective indicators of the types of land-uses and land-use pressures in an LGA. As shown in Table 14, lot sizes (as well as the largest parcel size) for LGAs in the east of the transect are smaller than those on the west. The table below also include the difference between the number of parcels in the sample for each LGA at the start and end of the study period, to provide another indicator of land fragmentation /consolidation.

Bathurst Regional and Cowra have small average parcel sizes, in relation to the transect, and increasing number of parcels through the study period. Cabonne and Blayney, on the other hand, had significantly less number of parcels at the end of the study period, indicating that land has been consolidates. Cabonne has a slightly bigger average lot size and Blayney has a significantly smaller average parcel size compared to surrounding LGAs. As discussed in previous sections, Blayney has a relatively higher concentration of land on the top 50 landowners compared to other LGAs in the transect. It also has significantly lower rates of annual ownership change, suggesting the area is tightly held. However, perhaps due to historic reasons, parcel sizes are significantly smaller than surrounding LGAs. The rates of net consolidation of parcels may indicate an active approach at preventing further subdivisions by the council. Wedding, Forbes and Lachlan, in contrast, have large average lot sizes and a reduction in the total number of lots throughout the study period. Parkes also has on average large lot sizes but also an increase in lot numbers, indicting it is subject to subdivision patterns not seeing in the other LGAs at the west of the transect.

Table 14 - Lot sizes in the Central West transect

LGA	Average parcel size (Jan 2020)	Largest parcel (Jan 2020)	Difference in the No. of parcels 2004-20
Bathurst Regional	37.6 ha	1,713 ha	7
Cabonne	45.5 ha	2,325 ha	-256
Blayney	25.6 ha	1,000 ha	-352
Cowra	36.7 ha	1,601 ha	47
Weddin	63.5 ha	1,010 ha	-96
Forbes	82.6 ha	3,073 ha	-39
Parkes	99.3 ha	3,012 ha	38
Lachlan	229.3 ha	4,047 ha	-11

5.4 Land use conflicts

Insight 25. Unsurprisingly, the issue of rural land-use conflicts is most prevalent in the east of the transect, particularly in areas close to Orange and Bathurst City.

Our findings from the focus groups confirm the existence of significant pressures in Bathurst Regional, Cabonne, Cowra and Blayney to convert rural land into non-agricultural uses, such as rural dwellings, tourism facilities, lifestyle uses (including hobby farms). This finding aligns with that of increasing land costs and residential pressures in these areas. Tensions over land-use appear to be more prevalent around Orange and Bathurst. The perception that non-farmers moving into rural areas have poor land management skills was also confirmed by stakeholders as a prevalent one. Some stakeholders were particularly concerned about bushfire risks associated with changes in land-use, namely, increasing fuel loads from inadequate monitoring of leaf litter and the like by newcomers.

The Central West has seen an influx in families and retirees seeking tree change. Lifestyle growth in the region presented a number of concerns for stakeholders. Firstly, the associated demand for accommodation might necessitate rezoning of rural spaces to residential areas. Some LGA's residential areas were already reaching capacity, particularly in the region's east. Thus, stakeholders anticipate a rise in farm stays with the proliferation of accommodation shortages. Alternatively, there may be more pressure for secondary dwellings and subdivision to alleviate the stress on extant accommodation. Responding to accommodation shortages with secondary dwellings creates further potential for conflict given the proximity of tenants to farm operations.

Council stakeholders in most areas agree that complaints from rural residential housing in proximity to farms are an important threat to farming. As rural lifestyle residents increase, there will be anticipated changes to land ownership dynamics. Stakeholders also report that there is a strong interest in investment properties. This interest is related to urban-to-rural migration from Sydney and from urban parts of the transect (including Orange). Succession planning is another key pressure for many to seek dwelling approvals on rural land. For many, buying and selling of land is a once-in-a-lifetime event. In fact, many of the transactions occurring, especially in tightly held areas, are due to succession after years of being on the same ownership.

In addition to the trends outlined above, stakeholders in our focus groups mentioned a number of other planning patterns affecting ownership changes along the transect. Although it is not the purpose of this report to explore these in detail, they are included below as information of what we heard during our visit to the transect, and to inform future research:

- Stakeholder agree that a key trend affecting how land is used in the Central West is the growing presence of agritourism. Agritourism was positioned as a useful secondary income stream, contingent on whether one's farm is still functional and water shortages have not impacted its visual amenity. Stakeholders in Bathurst Regional LGA reported an increasing demand for function centres and visitor accommodation in the LGA. In Cabonne and around orange, small lots have accommodated growth of the food and wine sector, including Cellar doors, farm-stay accommodation, weddings, and events.

- Many stakeholders agree that recent changes to planning rules for feedlots through the State Environmental Planning Policy (Primary Production and Rural Development) 2019 to allow change of uses without the need for planning approval during drought is a positive assistance to farmers. In Parkes, stakeholders reported feedlots were informally adopted during the drought and have been formalised following the drought breaking. However, some reported it is hard for councils to enforce these temporary rules and prevent them becoming permanent when not appropriate.

- The Seniors Living SEPP was mentioned by some stakeholders as a potential source of issues at the urban-rural interface.

- The concept of poverty blocks was raised by some stakeholders to refer to low quality rural land, with little access to services (such as banks, schools, medical facilities). These are cheap land with little agricultural value. Some of these are being taken up for rural residential uses, in most cases without council approval. Sometimes backdated planning approvals are sought; however, this presents a key challenge for councils.

Themes for future research: Many of the socio-economic themes presented in this report have been communicated to us by stakeholder who kindly shared their views about our data and shared their own experiences with the topic. This paper has attempted to consolidate these views and to create connections to the findings from our database.

Many of the anecdotal findings from focus groups have assisted to confirm our findings and to provide local context to the quantitative analysis from our database. These findings present interesting opportunities for further research and future conversations with stakeholders. As more data is collected through the land-titles registration method presented in this report and other outcomes of our project, we hope that more light will be shed on these important trends affecting the ownership and management of land in rural NSW.

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Appendix A - Methodology

The findings in this report are based on spatial analysis and a series of interviews and focus groups undertaken in the region by the research team.

The spatial database

Spatial analysis was undertaken by creating a spatial database that contains land parcel ownership information on an annual basis each year from 2004 to 2020. Land titles and cadastral data was provided to the research team through an agreement with NSW Land Registry Services (LRS). We augmented these data with linked datasets on land-use sourced from the NSW Department of Planning, Industry and Environment (DPIE) and drought data provided by the Department of Primary Industries (DPI). The spatial database covers 91% of rural NSW (639, 975 km^2). Full details of the state-wide scope of the spatial database are available in Pritchard et al. (2021). Each parcel of land in the study area includes the following information for each year of the study period:

- **Land parcel details:** including area (sqm), Cadastre ID (CADID), LGA and region where it is located
- **Ownership information:** including owner category, names of owners
- **Seller information:** including seller category and names of sellers (for parcels changing hands in the relevant year
- **Subdivision and amalgamation data:** whether the parcel was subdivided or combined with other parcels in the calendar year
- **Land use information:** the total area of the different land uses that apply to the parcel of land and the proportion of the lot that is dedicated to agriculture, developed by the overlay of Australian Land Use & Management (ALUM) onto our land parcel spatial dataset.
- **Other information:** whether the lot changed hands in the calendar year and the proportion of similarity between the owners and the seller.

The database excludes Urban Centres and Localities (UCLs), Metropolitan LGAs, national parks and parcels under 200sqm. This is because residential and industrial land in urban centres and rural towns follow different ownership change patterns and respond to different pressures. The same can be said of environmental protection areas. In rural areas parcels of land under 200sqm are too small to be viable farming land, and are likely to be road easements, drainage land or land dedicate to other infrastructure or services. These exclusions ensure that 'data noise' created by these specific land-uses was excluded from the analysis.

Furthermore, land titling has inherent legal and administrative complexities, including business registration rules, co-ownership of land between private owners and public agencies, land covenants and name changes. Consequently, the creation of a research-ready database required the development of sophisticated methodologies to facilitate the extraction, cleaning and interpretation of the data. Hence, this project's research-ready database is an innovative source of evidence on the NSW landownership change patterns over the past two decades.

Identifying substantive change

Since the data used for this report relies on land-titles registration names, there are inevitable formatting inconsistencies in the data associated with name changes which are not a result of a transaction. These are not as simple to identify and clean due to the scale of the dataset, and the possibility remains for certain administrative inconsistencies being picked up as 'ownership changes.'

For example, the correction of a spelling error for the same parcel of land across datasets could be classified as an 'event' because it involves a change in the owners' record name (e.g. a land parcel held by 'Jonathon Smith' one year and 'Johnathon Smith' the next may refer either to a spelling correction for the same person, or an actual transfer of ownership between two people with remarkably similar names).

The same issue occurs when the owner has the same name but a different surname across multiple years, which may represent a name change (for example due to a marriage) or it may represent a sale between two different people who share a given name. Some of these may be naming and spelling corrections, however the possibility remains that these are legitimate transactions between individuals with similar names or transactions between family members. In other situations, a parcel of land may be owned by (say) five individual owners, and one of these is removed from the title and an additional owner added. Classifying examples like these as transactions requires making a judgment of the extent under which a name is similar enough to be classified as being the same owner. The research team sought to clean the data as far as possible, but the possibility remains for certain data anomalies being picked up as transactions.

The method used by the research team to minimise the false identification of these formatting inconsistences as changes in ownership was based on identifying the extent of similarities between the seller and owner fields in the database. The *Fuzzy Lookup* ad-in for Microsoft Excel was used to determine the similarity between 'strings of text' in the owner and seller fields of the database. This tool provides a similarity score based on the percentage of the text string which matches.

The following thresholds were defined based on the percentage similarity between the owner and seller fields for each parcel of land on each year:[12]

- **0-20% similarity:** this level of similarity is considered a definite ownership change with little or null possibility for typographical or formatting errors to be present.
- **20-70% similarity:** this level of similarity is considered to be an ownership change; however, it includes instances in which there are partial ownership changes, including:
    - One or multiple owners being replaced in a multi-owner arrangement
    - Potential family transactions, where the owner and seller share a surname
    - Name changes (for example due to marriage)
    - Typographical and formatting errors are also possible, including different spellings for the same surname or given name, and different use of acronyms and special characters.
- **70-100% similarity:** when the similarity is above 70% it is considered not to be a legitimate ownership change, but a typographical or formatting issue associated with the same owner.

For the purposes of the analysis presented in this report, only substantial changes (where similarity between owner and seller is below 70%) are considered to be a 'change of ownership' as they indicate a significant change to the name on the land title.

<u>In-depth interviews and focus groups</u>

Once data was prepared, a series of interviews and focus groups were scheduled with stakeholders in the region to elicit local perspectives on patterns of rural land ownership change. Stakeholders included local and state government staff, real estate agents, landholders and primary producers. Adding this research component to our analysis of the spatial database

[12] These thresholds were identified by undertaking a survey of similarities across all years.

allowed a nuanced and locally grounded understanding of the factors shaping patterns of ownership change in the Central West.

In-depth interviews and focus groups were undertaken in April 2021. Each focus group session was 1.5 hours long and was attended by 3-5 stakeholders. A total of 31 stakeholders participated in the focus groups. Stakeholders included business and farm representatives, council and state government officers and real estate agents operating in Lachlan, Parkes, Forbes, Weddin, Cabonne, Cowra and Bathurst Regional. Each session included a presentation by the research team on the quantitative findings followed by an in-depth discussion about issues and factors surrounding patterns of ownership change.

The discussion was guided by questions prepared by the research team and submitted to the participants in advance. Indicative focus group questions are included in **Appendix C**.

In some cases, stakeholders were not available to participate in focus groups, and so individual, in-depth interviews were arranged.

Appendix B – LGA data

Bathurst Regional

Figure 28 - Incidence of change on agricultural and non-agricultural rural land in Bathurst LGA

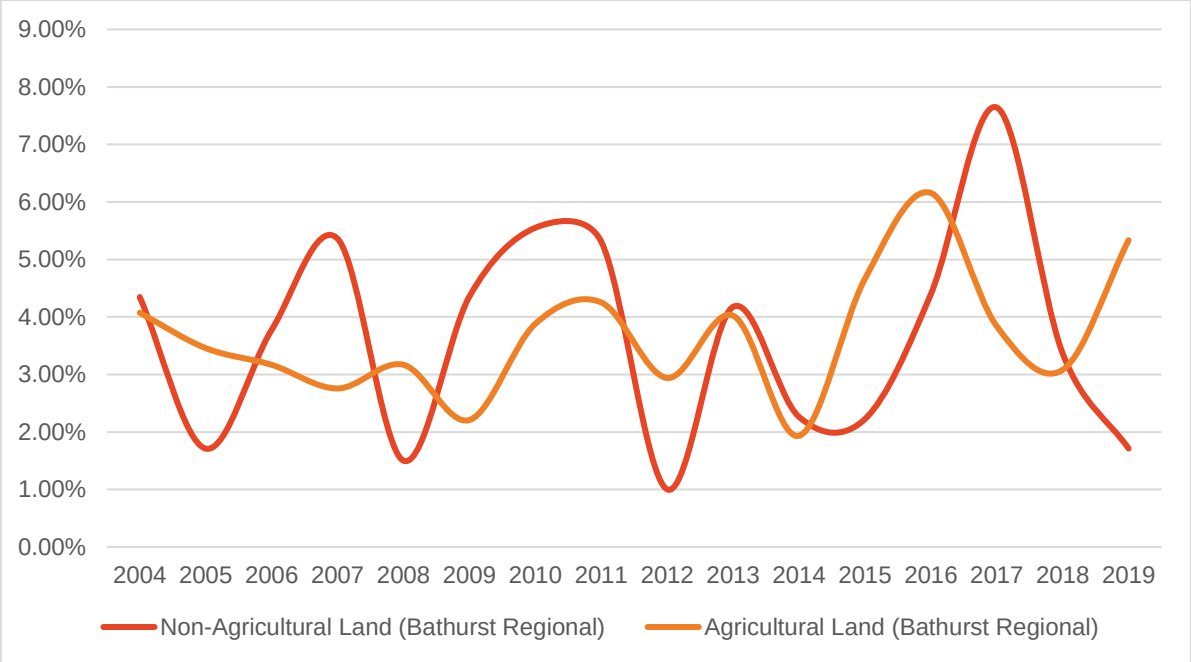


Figure 29 - Bathurst Regional Land-use Map

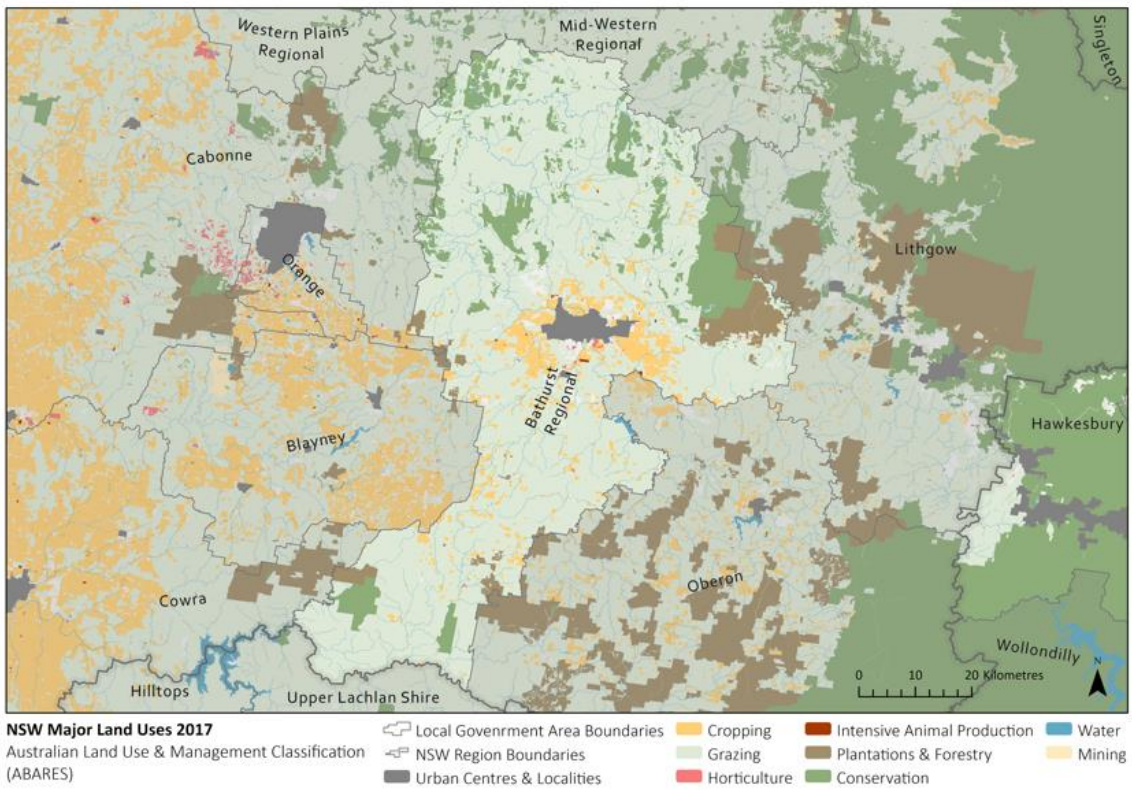
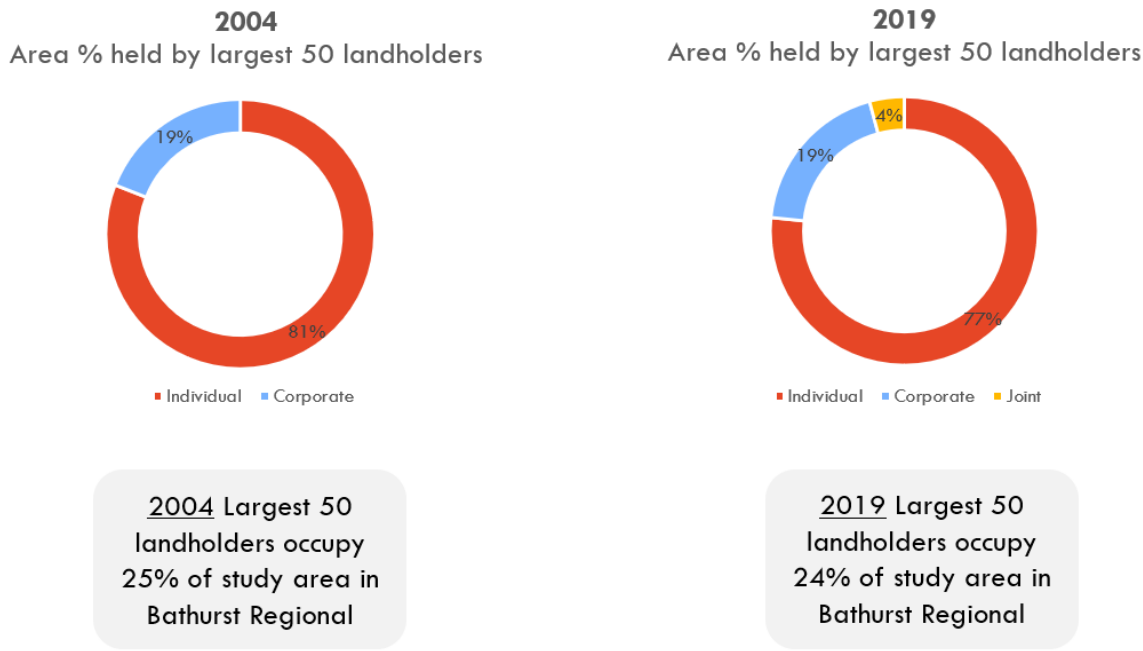


Table 15 - Bathurst Regional Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Land use Area Irrigated
Grazing	92.9%	0.0%
Cropping	6.9%	3.7%
Horticulture	0.2%	11.9%

Figure 30 - Largest 50 landholders in Bathurst Regional LGA



Current (2019)	Individual: 10 Corporate: 4	Largest 15 landholders occupy 10% of study area within Bathurst Regional. By area, 23% of this is corporate owned and 72% is individually owned.
Baseline (2004)	Individual: 12 Corporate: 3	Largest 15 landholders occupy 11% of study area within Bathurst Regional. By area, 15% of this is corporate owned and 85% is individually owned.

Table 16 - Profile of the 2019 15 largest private landholders in Bathurst Regional

Rank	2019 Area (ha)	Type of Owner	Rank in 2004	2004 Area (ha)	Change in holding % since 2004
1	7229	Individual/s	1	7227	0%
2	2186	Individual/s	4	2186	0%
3	2048	Company	-		NEW
4	1849	Company	-		NEW
5	1733	Individual/s	-		NEW
6	1719	Individual/s	-		NEW
7	1588	Individual/s	-		NEW
8	1563	Joint	-		NEW
9	1561	Individual/s	-		NEW
10	1511	Company	12	1511	0%
11	1491	Individual/s	13	1491	0%
12	1438	Individual/s	-		NEW
13	1430	Company	14	1439	-1%
14	1393	Individual/s	17	1393	0%
15	1376	Individual/s	-		NEW

Blayney

Figure 31 - Incidence of change on agricultural and non-agricultural rural land in Blayney

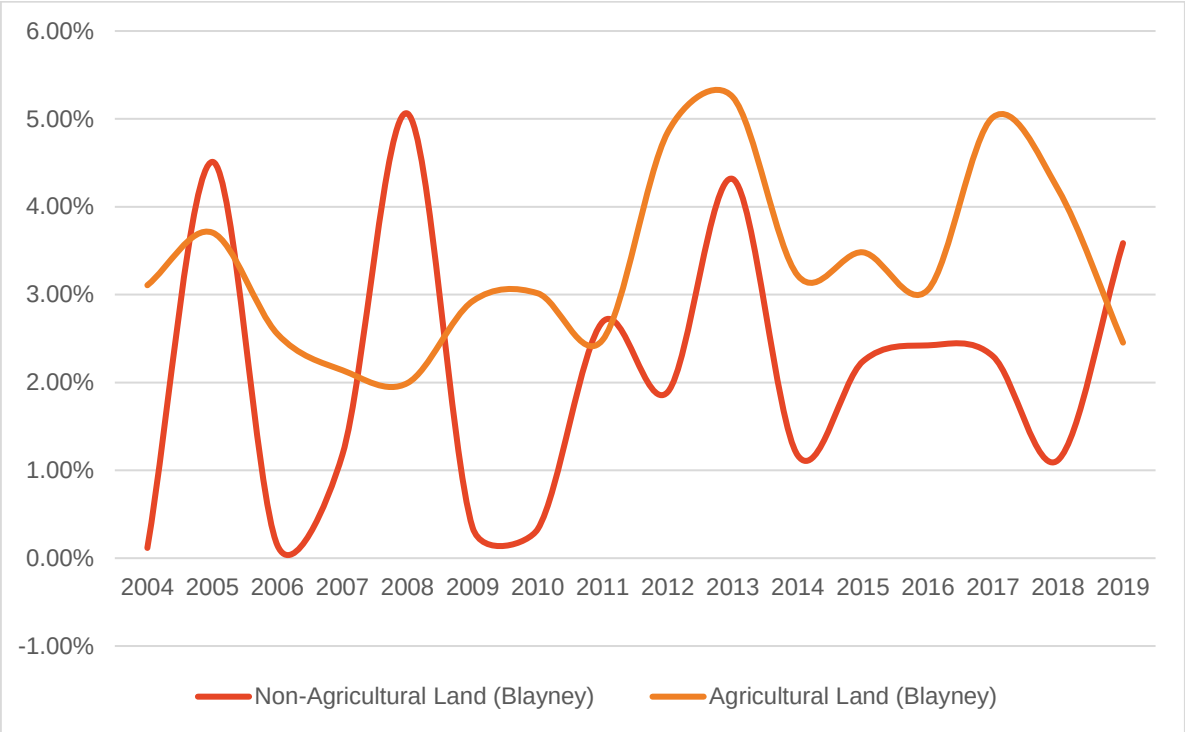


Figure 32 - Blayney Land-use Map

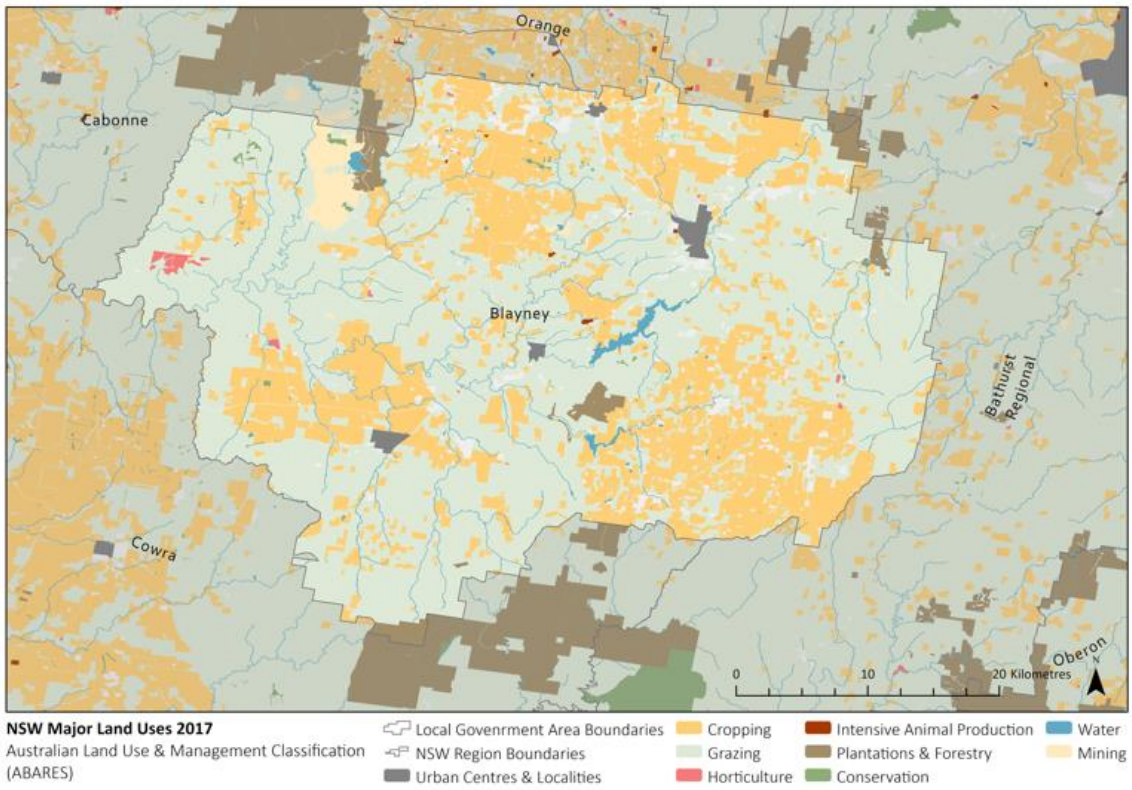


Table 17 - Blayney Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Land Use Area Irrigated
Grazing	67.9%	0%
Cropping	31.8%	0. 1%
Horticulture	0.3%	80.6%

Figure 33 - Largest 50 landholders in Blayney LGA

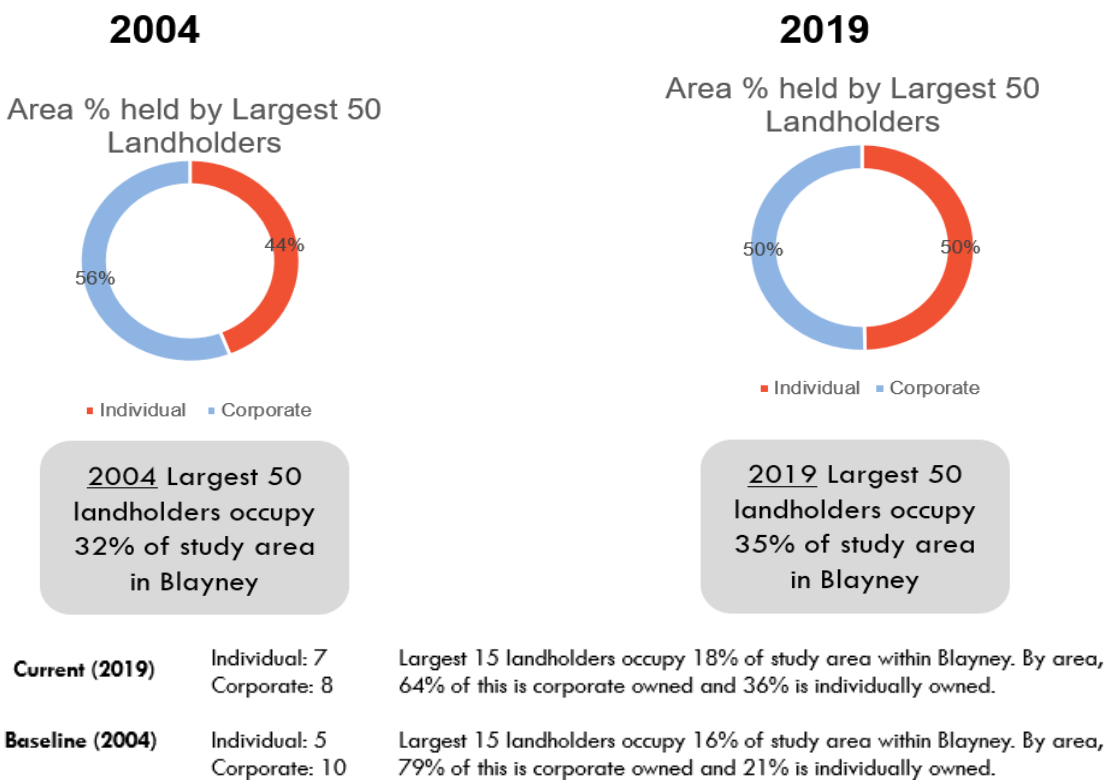


Table 18 - Profile of top 15 largest private landholders in Blayney

Rank	2019 Area (ha)	Type of Owner	Rank in 2004	2004 Area (ha)	Change in holding %
1	3868.36	Company	1	3045.08	27%
2	2596.12	Company	-		New
3	1942.20	Company	3	1942.27	0%
4	1815.90	Individual/s	-		New
5	1470.39	Company	6	1349.88	9%
6	1299.13	Company	9	997.45	30%
7	1143.32	Company	-		New
8	1133.95	Individual/s	-		New
9	1073.71	Individual/s	10	968.61	11%
10	1060.96	Individual/s	12	878.59	21%
11	1034.32	Individual/s	15	767.15	35%
12	1031.97	Individual/s	22	637.48	62%
13	1020.76	Company	7	1249.95	-18%
14	967.66	Individual/s	-		New
15	959.90	Company	4	1572.26	-39%

Cabonne

Figure 34 - Incidence of change on agricultural and non-agricultural rural land in Cabonne

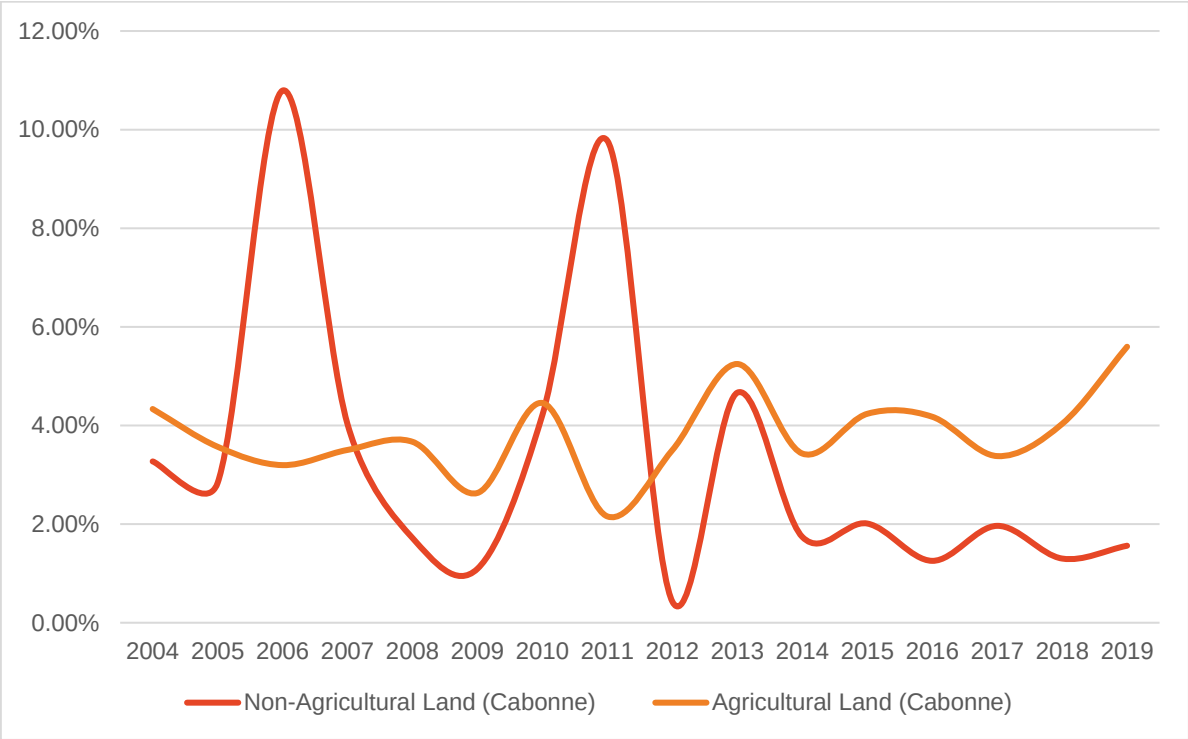


Figure 35 - Cabonne Land-use Map

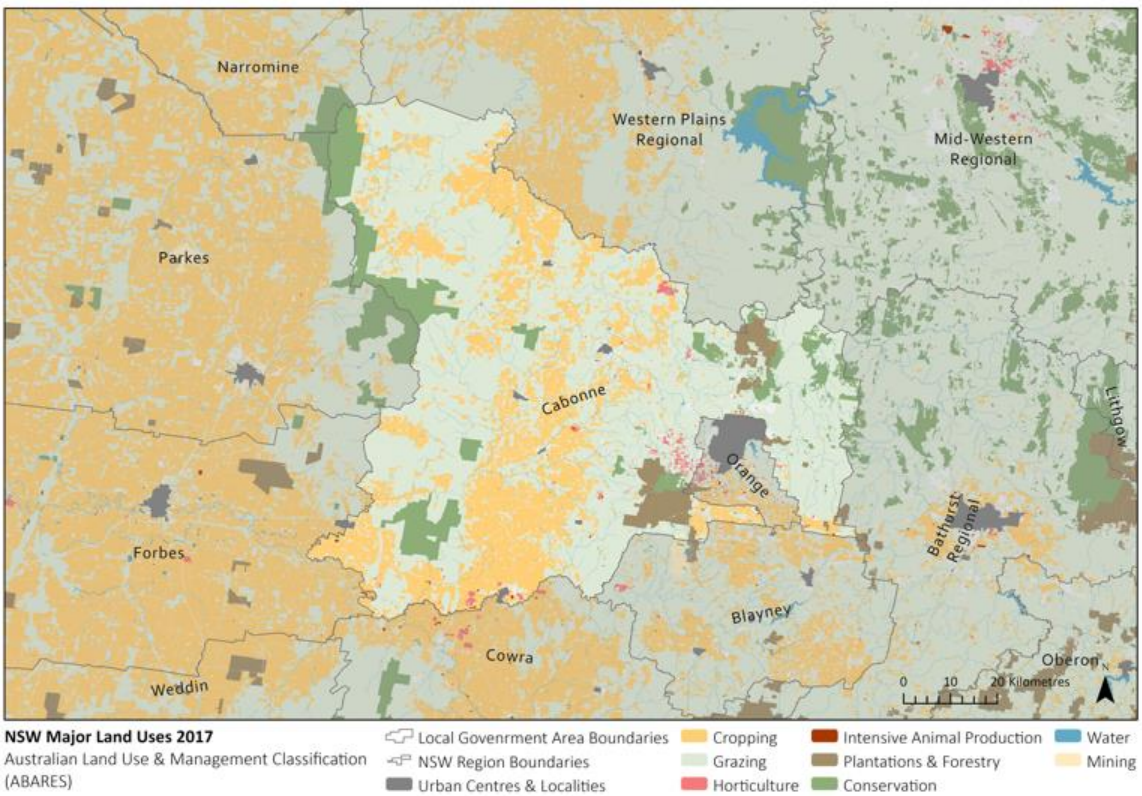


Table 19 - Cabonne Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Land Use Area Irrigated
Grazing	69.13%	0.03%
Cropping	30.18%	0.7%
Horticulture	0.69%	57.12%

Figure 36 - Largest 50 landholders in Cabonne LGA

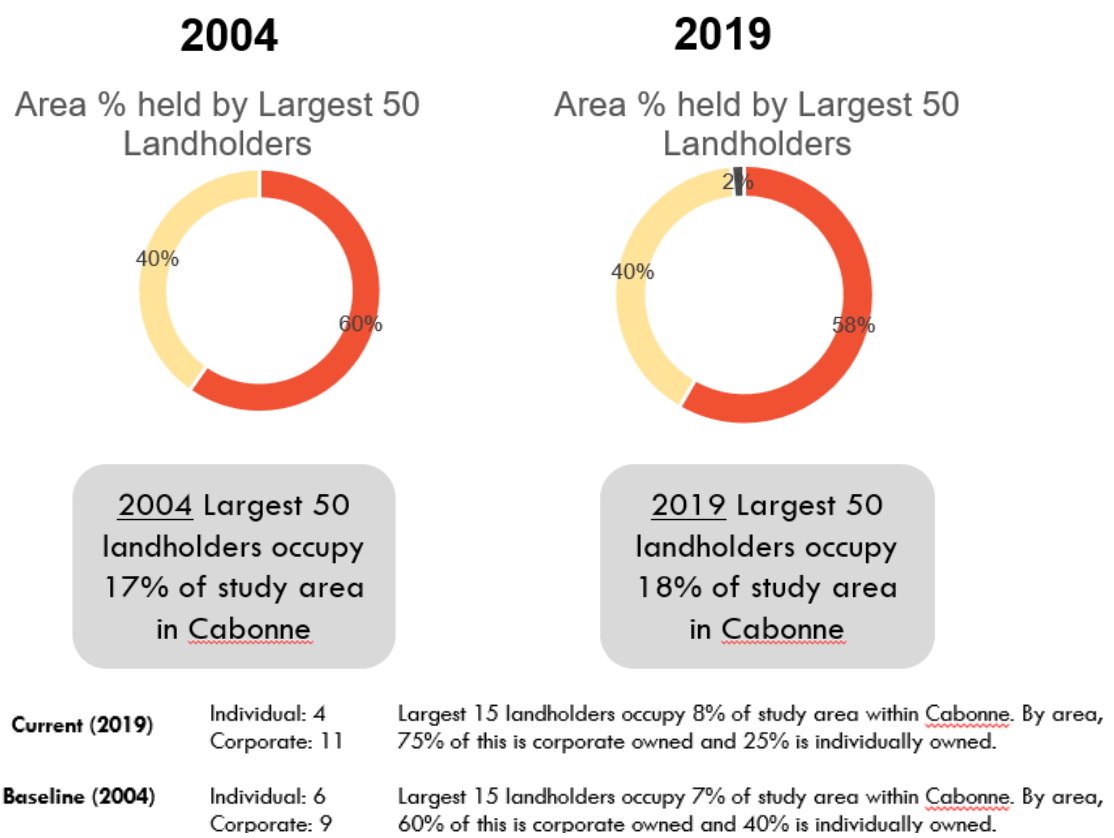


Table 20 - Profile of the 2019 15 largest private landholders in Cabonne LGA

Rank	2019 Area (ha)	Type of Owner	Rank in 2004	2004 Area (ha)	Change in holding %
1	4056.09	Company	-		New
2	3589.05	Company	-		New
3	2678.27	Company	2	2837.72	-5.62%
4	2565.32	Individual/s	-		New
5	2533.59	Individual/s	-		New
6	2488.74	Company	-		New
7	2463.23	Company	Outside top 50	1047.07	135.25%
8	2325.05	Individual/s	6	2325.05	0.00%
9	2128.59	Company	8	2100.89	1.32%
10	2101.91	Company	Outside top 50	945.24	122.37%
11	2036.84	Company	10	2036.84	0.00%
12	2011.53	Company	4	2705.32	-25.65%
13	1979.51	Company	-		New
14	1898.69	Company	-		New
15	1867.63	Individual/s	-		New

Cowra

Figure 37 - Incidence of change on agricultural and non-agricultural rural land in Cowra

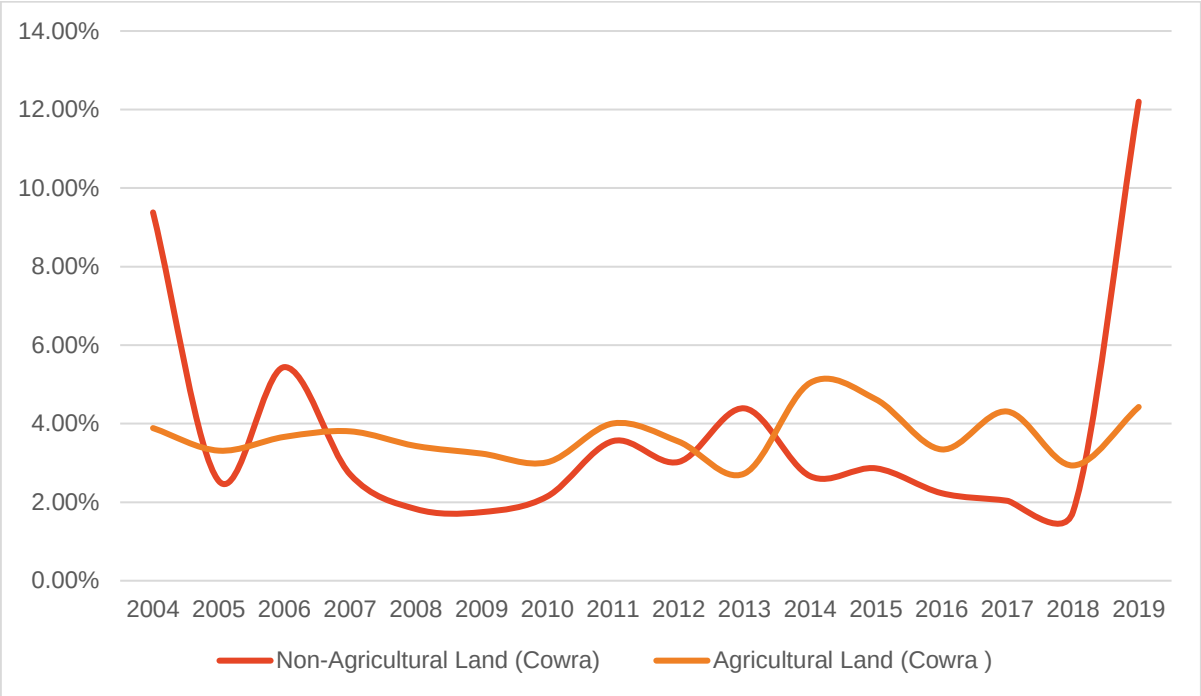


Figure 38 - Cowra Land-use Map

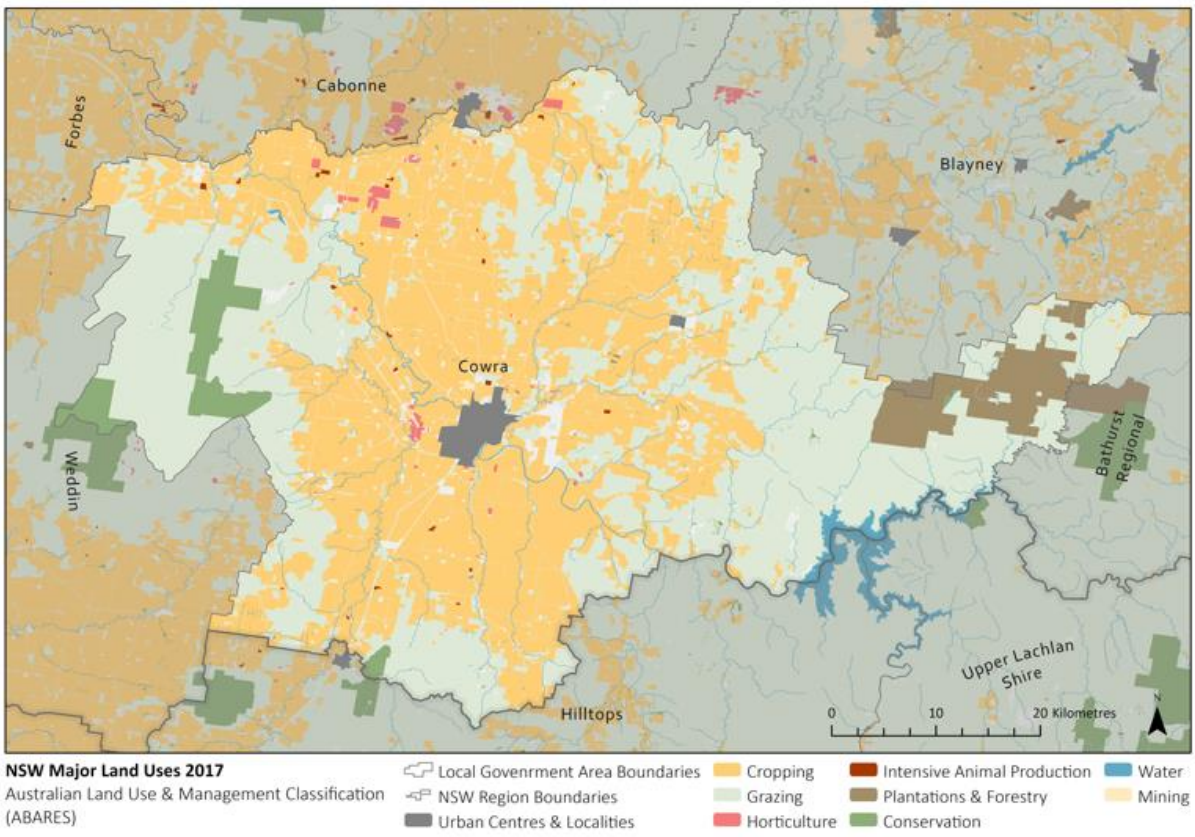
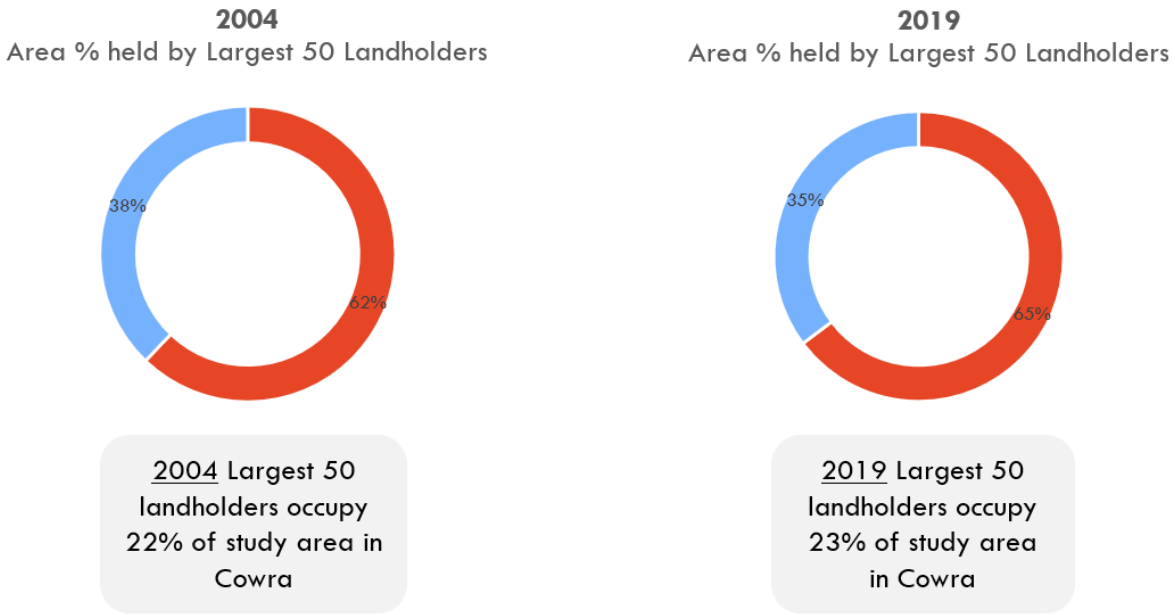


Table 21 - Cowra Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Land Use Area Irrigated
Grazing	48.38%	0.21%
Cropping	51.11%	3.56%
Horticulture	0.51%	80.49%

Figure 39 - Largest 50 landholders in Cowra LGA



Current (2019)	Individual: 9 Corporate: 6	Largest 15 landholders occupy 10% of study area within Cowra. By area, 36% of this is corporate owned and 64% is individually owned.
Baseline (2004)	Individual: 8 Corporate: 7	Largest 15 landholders occupy 9% of study area within Cowra. By area, 39% of this is corporate owned and 61% is individually owned.

Table 22 - Profile of the 2019 15 largest private landholders in Cowra

Rank	2019 Area (ha)	Type of Owner	Rank in 2004	2004 Area (ha)	Change in holding %
1	2664.73	Individual/s	-		New
2	1698.74	Individual/s	-		New
3	1598.49	Individual/s	2	1598.35	0.01%
4	1594.47	Company	7	1345.90	18.47%
5	1552.29	Individual/s	15	1098.47	41.31%
6	1462.00	Company	4	1462.00	0.00%
7	1451.18	Individual/s	Outside top 50	59.54	2337.20%
8	1440.10	Individual/s	Outside top 50	417.72	244.75%
9	1388.41	Individual/s	6	1388.31	0.01%
10	1366.44	Company	-		New
11	1347.15	Individual/s	24	907.62	48.43%
12	1246.64	Individual/s	25	903.91	37.92%
13	1239.87	Company	-		New
14	1228.32	Company	9	1226.51	0.15%
15	1218.38	Company	-		New

Forbes

Figure 40 - Incidence of change on agricultural and non-agricultural rural land in Forbes

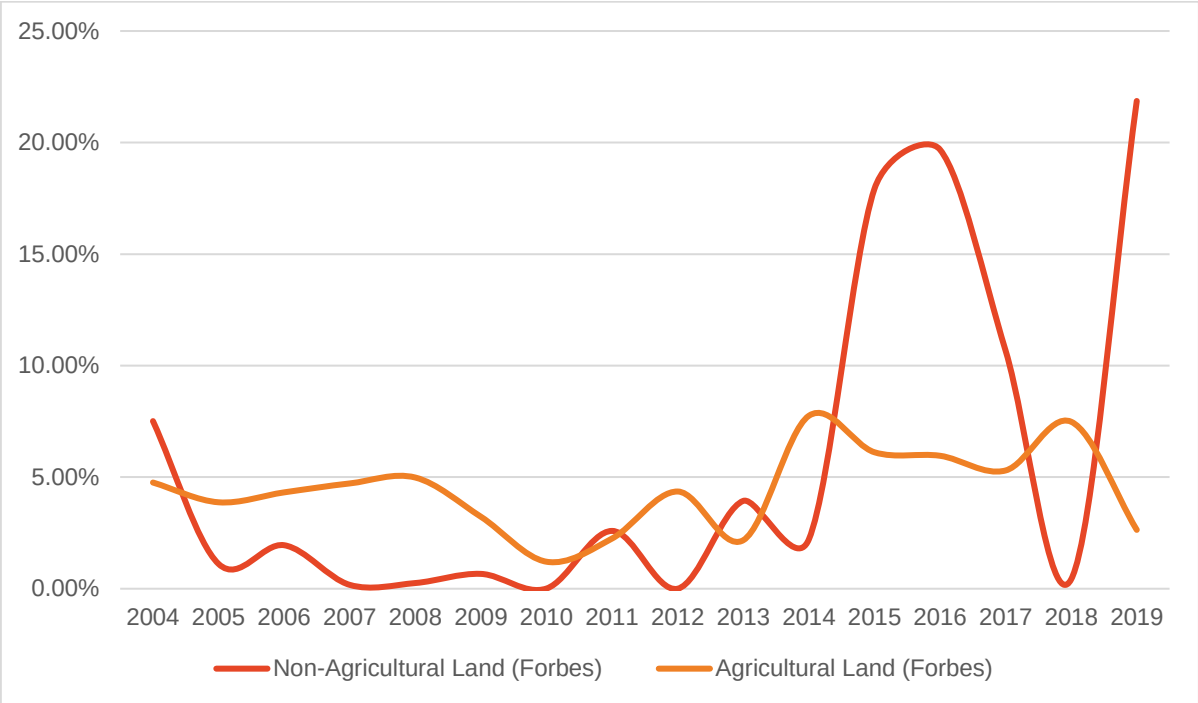


Figure 41 - Forbes Land-use Map

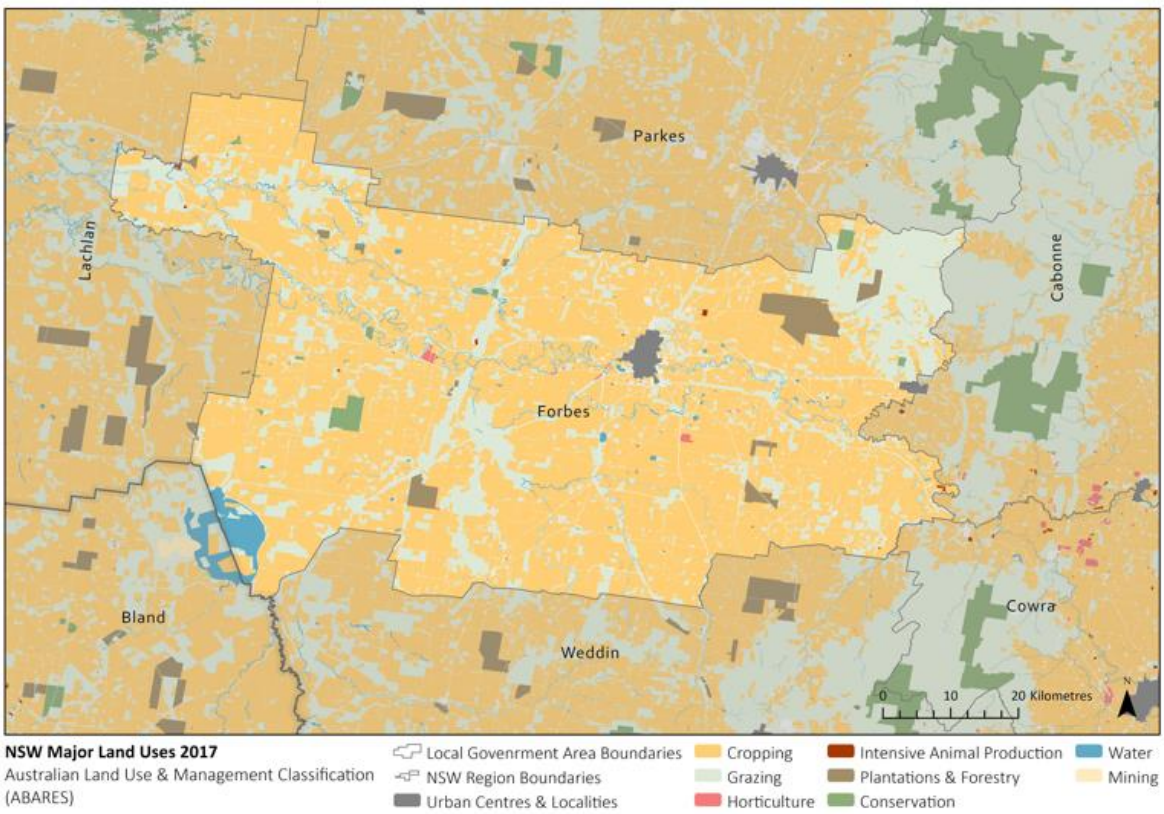
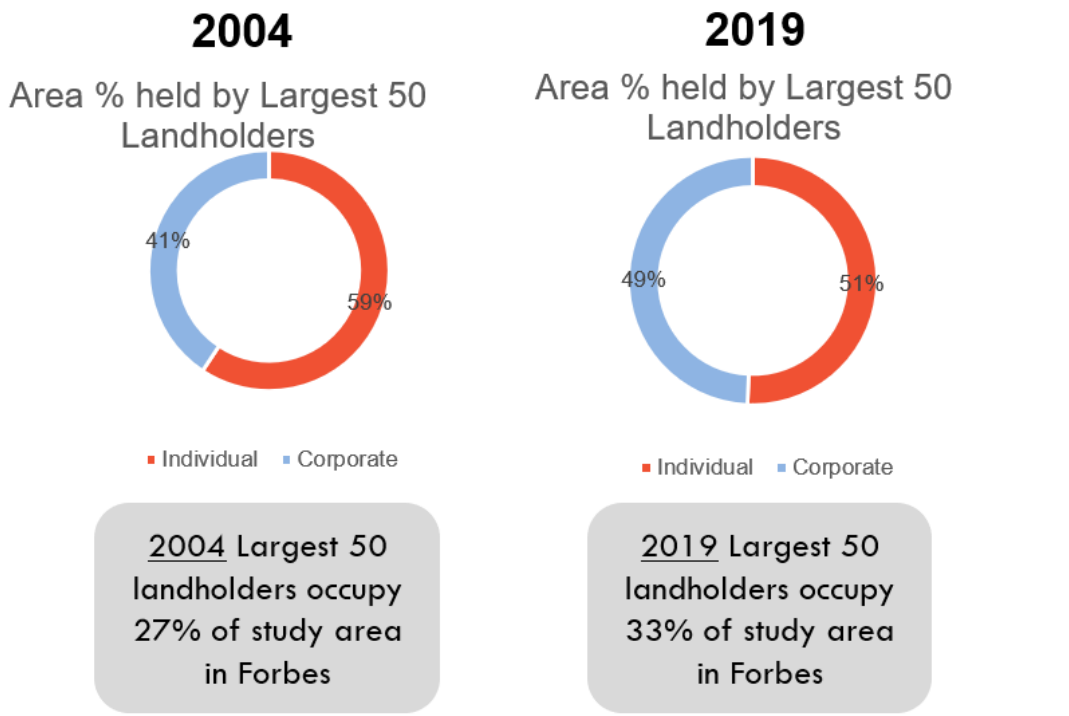


Table 23 - Forbes Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Land Use Area Irrigated
Grazing	23.65%	0.09%
Cropping	76.21%	11.98%
Horticulture	0.14%	41.65%

Figure 42 - Largest 50 landholders in Forbes LGA



Current (2019)	Individual: 8 Corporate: 7	Largest 15 landholders occupy 18% of study area within Forbes. By area, 61% of this is corporate owned and 39% is individually owned.
Baseline (2004)	Individual: 11 Corporate: 4	Largest 15 landholders occupy 13% of study area within Forbes. By area, 44% of this is corporate owned and 56% is individually owned.

Table 24 - Profile of the 2019 15 largest private landholders in Forbes LGA

Rank	2019 Area (ha)	Type of Owner	Rank in 2004	2004 Area (ha)	Change in holding %
1	10713.06	Company			
2	8740.37	Company			
3	6134.57	Company			
4	6072.73	Individual/s	Outside top 50	515.03	1079.10%
5	4865.61	Individual/s			
6	4564.80	Company			
7	4342.11	Individual/s	25	1776.26	144.45%
8	4157.93	Individual/s	23	1835.37	126.54%
9	3832.84	Company			
10	2754.42	Company	20	1876.63	46.77%
11	2688.70	Company			
12	2657.81	Individual/s	Outside top 50	1110.20	139.40%
13	2596.01	Company	7	2595.89	0.00%
14	2488.63	Individual/s			
15	2401.50	Individual/s			

Lachlan

Figure 43 - Incidence of change on agricultural and non-agricultural rural land in Lachlan

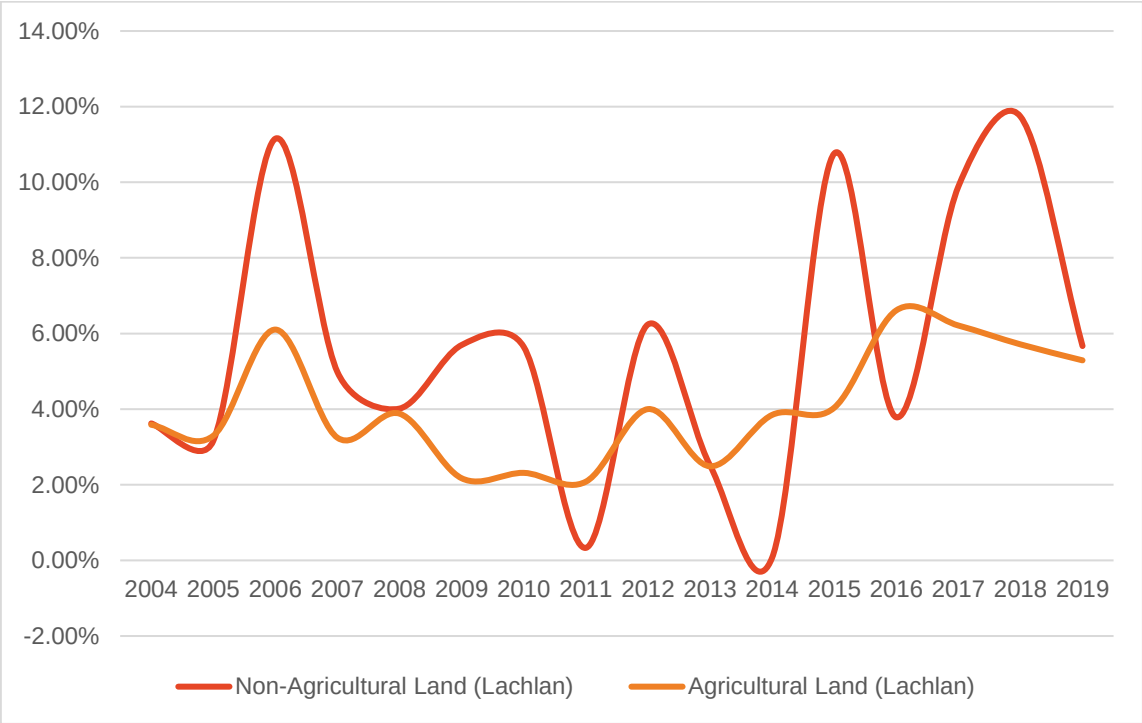


Figure 44 - Lachlan Land-use Map

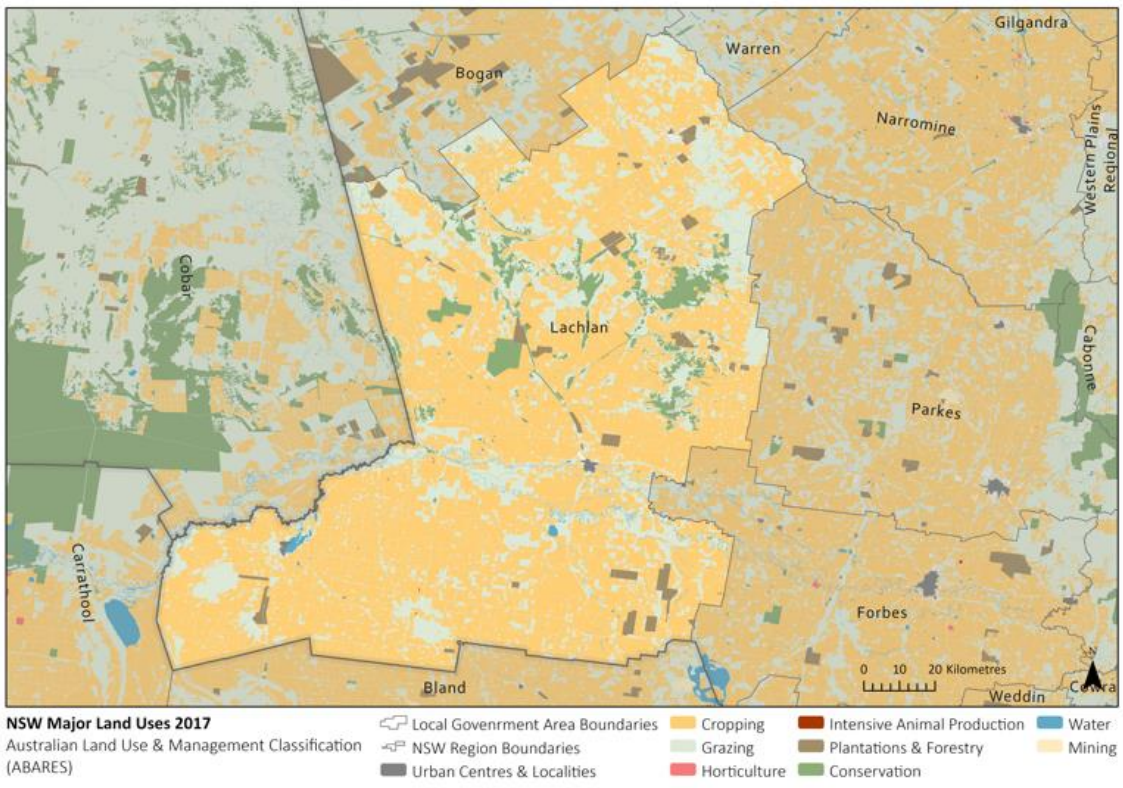
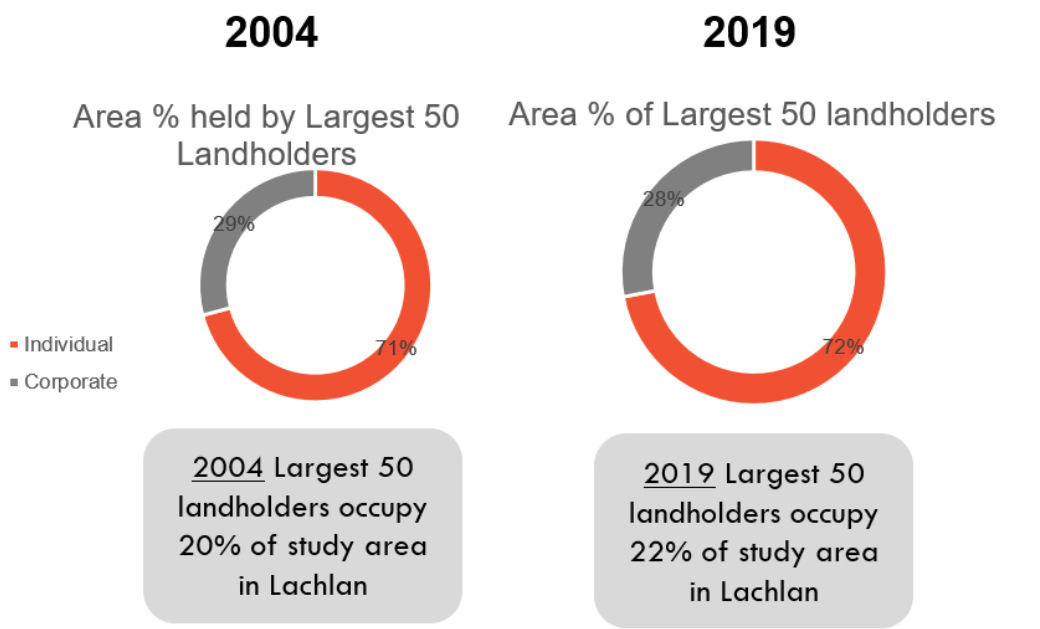


Table 25 - Lachlan LGA Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)
Grazing	28.5%
Cropping	71.49%

Figure 45 - Largest 50 landholders in Lachlan LGA



Current (2019)	Individual: 10 Corporate: 5	Largest 15 landholders occupy 10% of study area within Lachlan. By area, 43% of this is corporate owned and 57% is individually owned.
Baseline (2004)	Individual: 12 Corporate: 3	Largest 15 landholders occupy 10% of study area within Lachlan. By area, 34% of this is corporate owned and 66% is individually owned.

Table 26 - Profile of the 2019 15 largest private landholders in Lachlan LGA

Rank	2019 Area (ha)	Type of Owner	Rank in 2004	2004 Area (ha)	Change in holding %
1	21514.61	Company	-		New
2	12703.17	Individual/s	2	12703.17	0.00%
3	11196.88	Company	4	9027.85	24.03%
4	11006.15	Individual/s	-		New
5	10166.42	Company	-		New
6	9302.34	Company	-		New
7	8670.74	Individual/s	5	8663.27	0.09%
8	7540.35	Company	33	3901.82	93.25%
9	7509.33	Individual/s	-		New
10	6821.26	Individual/s	7	6821.26	0.00%
11	6545.84	Individual/s	Outside top 50	2752.97	137.77%
12	6343.09	Individual/s	-		New
13	6323.24	Individual/s	Outside top 50	1150.42	449.65%
14	6210.13	Individual/s	Outside top 50	775.60	700.69%
15	6194.21	Individual/s	-		New

Parkes

Figure 46 - Incidence of change on agricultural and non-agricultural rural land in Parkes

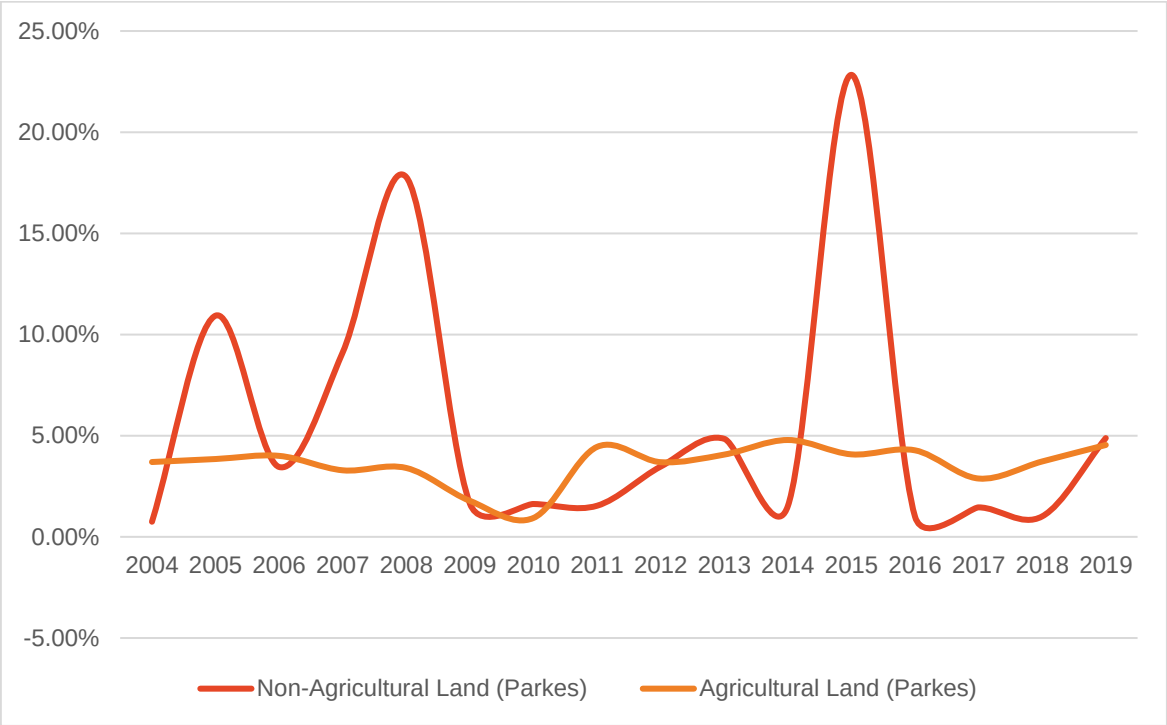


Figure 47 - Parkes Land-use Map

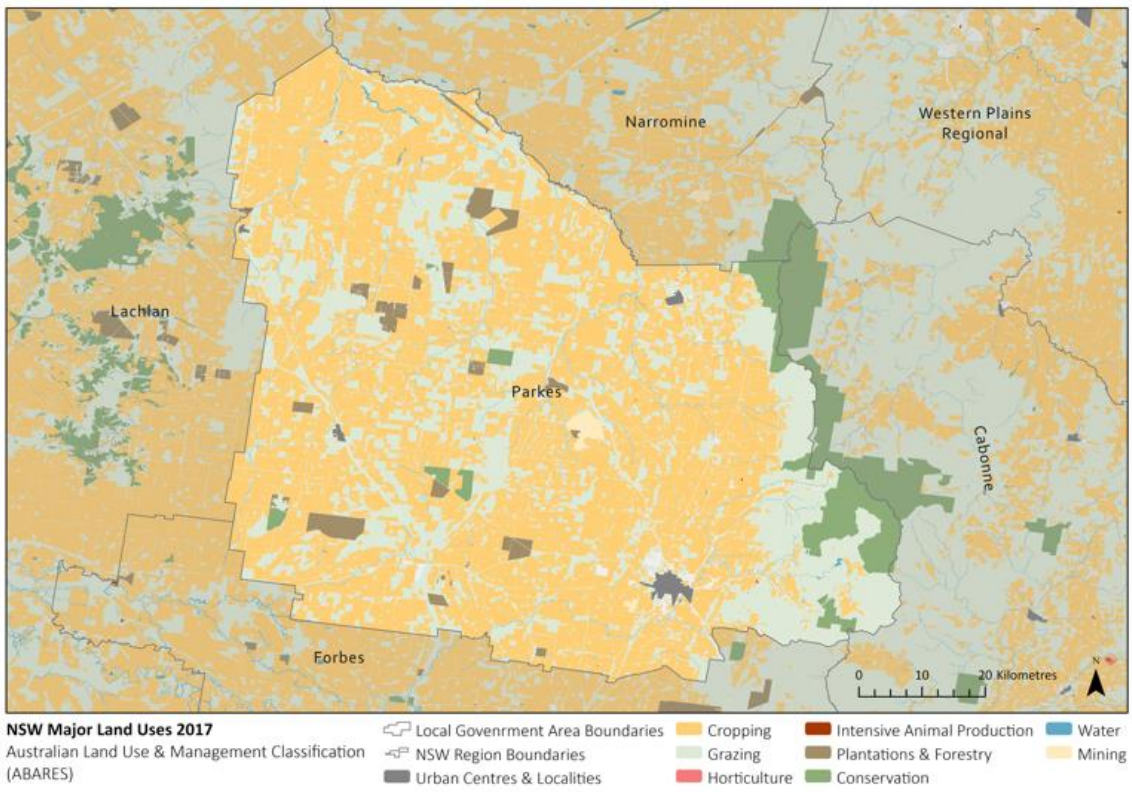
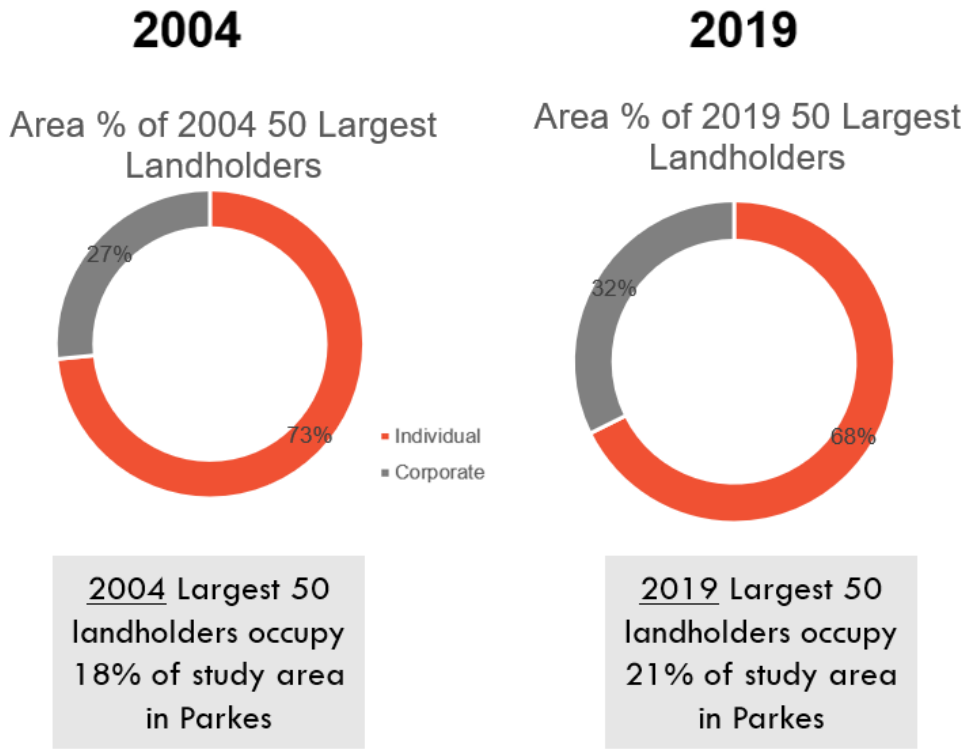


Table 27 - Parkes Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)
Grazing	34.46
Cropping	65.53

Figure 48 - Largest 50 private landholders in Parkes LGA



Current (2019)	Individual: 10 Corporate: 5	Largest 15 landholders occupy 9% of study area within Parkes. By area, 49% of this is corporate owned and 51% is individually owned.
Baseline (2004)	Individual: 10 Corporate: 5	Largest 15 landholders occupy 8% of study area within Parkes. By area, 41% of this is corporate owned and 59% is individually owned.

Table 28 - Profile of 2019 largest private landholders in Parkes

Rank	2019 Area (ha)	Type of Owner	Rank in 2004	2004 Area (ha)	Change in holding %
1	8079.24	Company	-		New
2	5627.76	Company	4	2912.47	93.23%
3	4605.23	Company	-		New
4	3288.99	Company	2	3288.99	0.00%
5	3104.74	Individual/s	30	1567.34	98.09%
6	3028.29	Individual/s	3	3030.03	-0.06%
7	2747.41	Individual/s	Outside top 50	1066.28	157.66%
8	2596.81	Individual/s	Outside top 50	219.49	1083.12%
9	2536.72	Individual/s	-		New
10	2389.91	Individual/s	Outside top 50	1308.92	82.59%
11	2338.38	Company	-		New
12	2323.20	Individual/s	-		New
13	2249.44	Individual/s	Outside top 50	715.54	214.37%
14	2164.72	Individual/s	Outside top 50	757.75	185.68%
15	2118.04	Individual/s	Outside top 50	1049.37	101.84%

Weddin

Figure 49 - Incidence of change on agricultural and non-agricultural rural land in Weddin

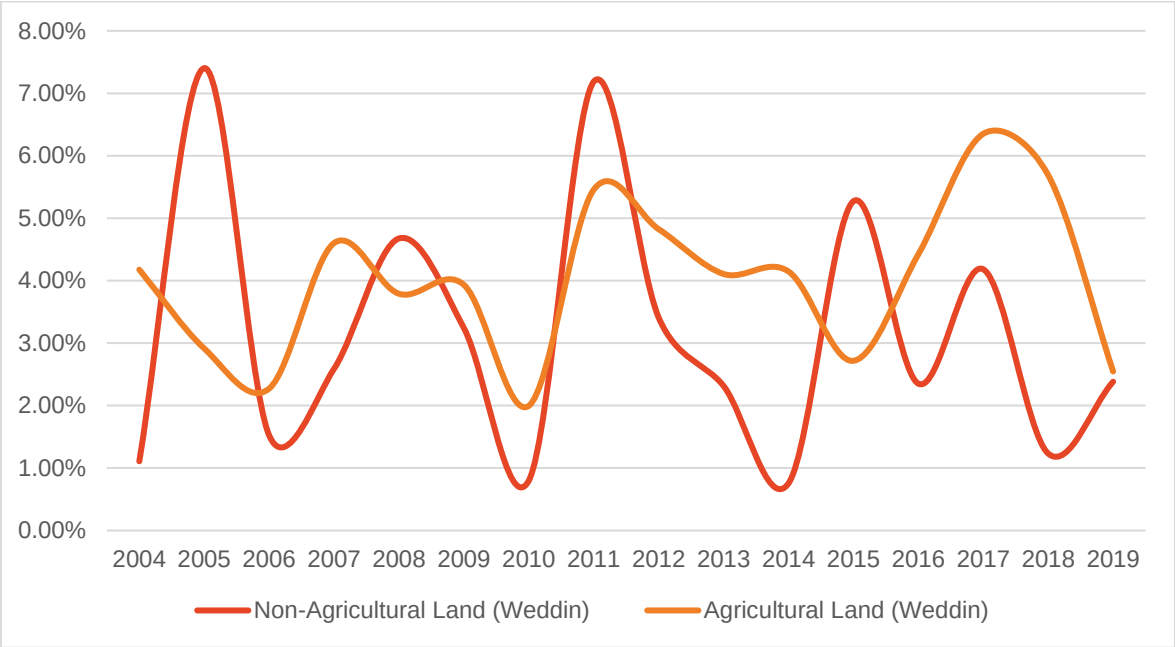


Figure 50 - Weddin Land-use Map

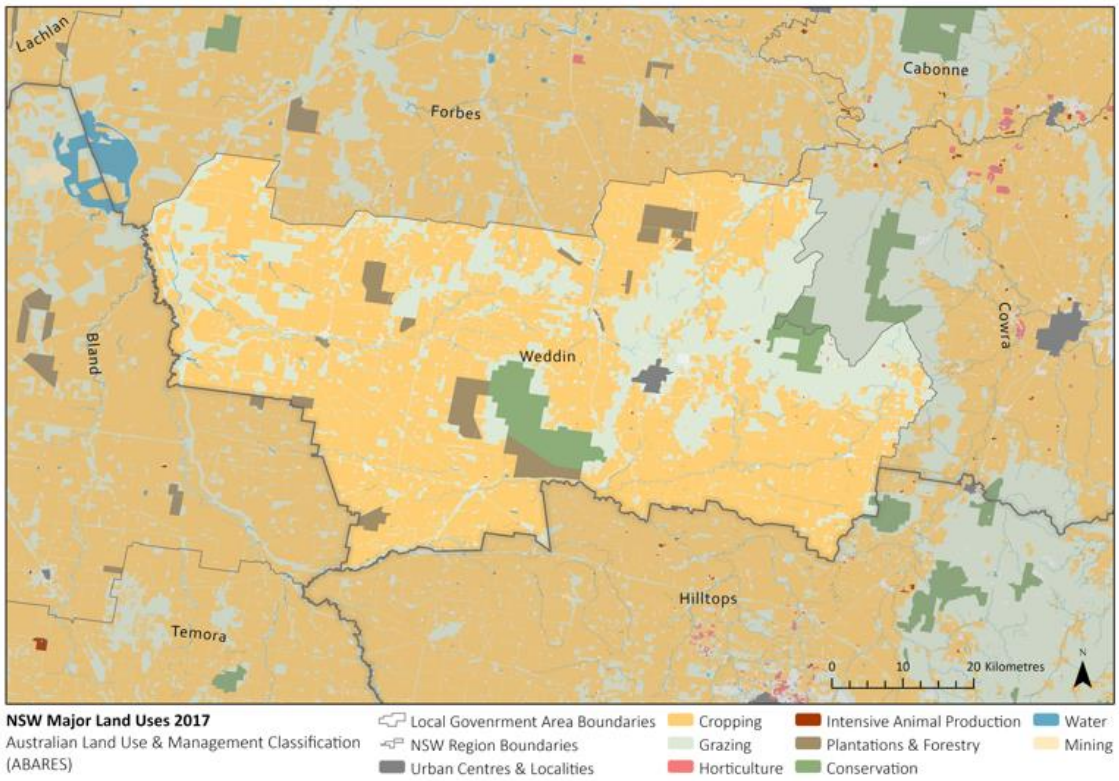


Table 29 - Weddin Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)
Grazing	31%
Cropping	69%

Figure 51 - Largest 50 private landholders in Weddin

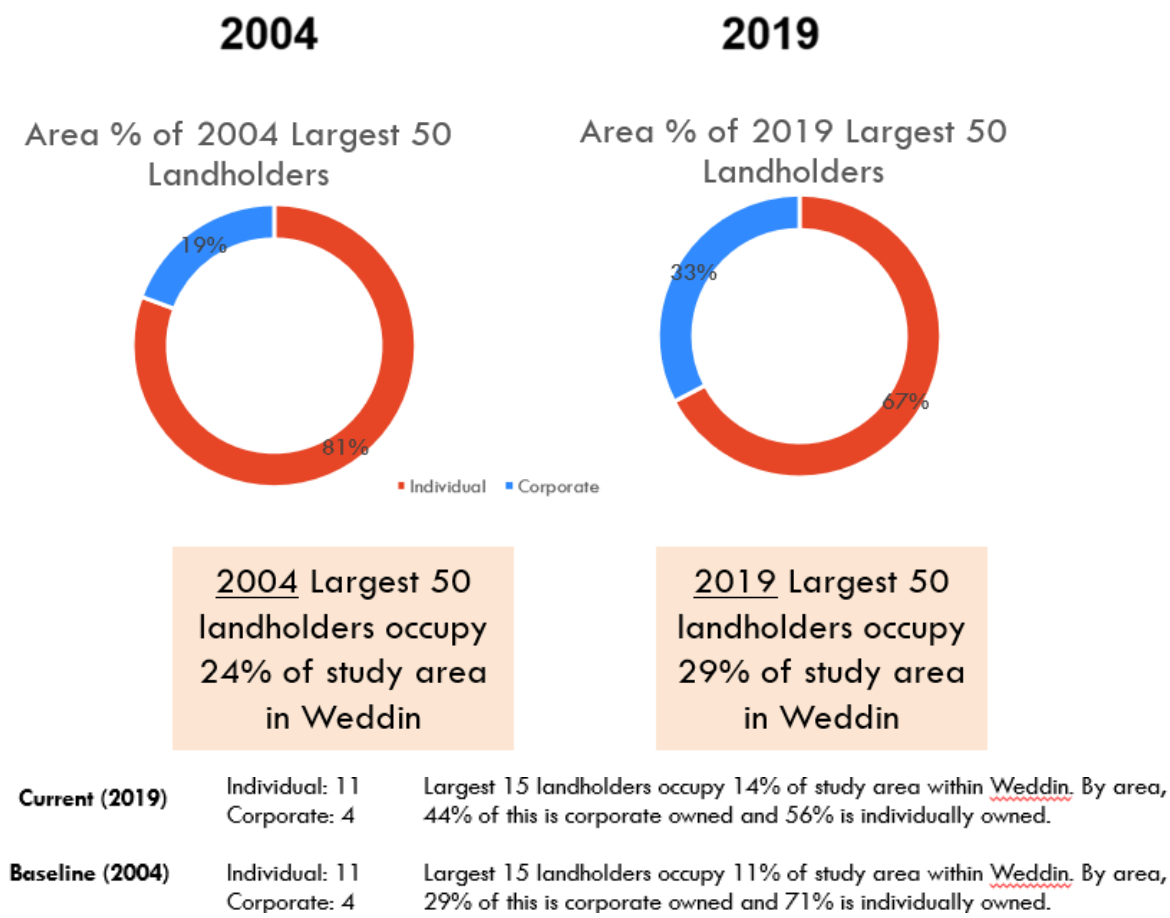


Table 30 - Profile of top 2019 15 landowners in Weddin

Rank	2019 Area (ha)	Type of Owner	Rank in 2004	2004 Area (ha)	Change in holding %
1	6820.89	Company	-		New
2	5331.14	Company	-		New
3	3853.34	Individual/s	-		New
4	3427.82	Company	2	3427.82	0.00%
5	2195.28	Individual/s	45	925.77	137.13%
6	2176.80	Individual/s	4	2176.80	0.00%
7	1946.81	Individual/s	-		New
8	1878.51	Individual/s	38	1068.79	75.76%
9	1786.64	Individual/s	6	1786.64	0.00%
10	1707.50	Individual/s	Outside top 50	853.01	100.17%
11	1575.13	Individual/s	-		New
12	1571.22	Individual/s	10	1572.30	-0.07%
13	1569.28	Individual/s	Outside top 50	84.17	1764.32%
14	1565.37	Company	11	1565.37	0.00%
15	1561.70	Individual/s	12	1561.70	0.00%

Appendix C – Focus Group indicative questions

The following is a list of the indicative questions submitted to stakeholders ahead of the focus group sessions.

- Who owns/is buying agricultural land in the LGA/region? How is land ownership relevant to different agricultural sectors/for the LGA/region?
- How does drought impact on rates of types of land ownership changes/sales? E.g., grazing, cropping, horticulture, irrigated/non irrigated land.
- In what ways is the composition of farm ownership changing in the LGA/region? E.g., Individuals/families, large companies, small companies, non-local/local.
- What is the profile of new entrants? Are existing owners increasing their holdings, landowners exiting/decreasing the scale of their holdings?
- Are different types of farms more likely to be bought/sold?
- How have planning and subdivision policy and instruments shaped drivers of rural land ownership change in NSW over time in the LGA/region?
- To what extent is fragmentation of agricultural land occurring in the LGA/region? What are the local drivers/pressures to fragment land?
- What has the impact of subdivision/new dwelling policies been on:
    - the conversion of farmland to non-farm uses
    - changes in average farm property size
    - construction of new dwellings for non-agricultural purpose.

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