



THE UNIVERSITY OF  
SYDNEY



Department of  
Primary Industries

# Land ownership change in rural NSW

## Northern Transect Report

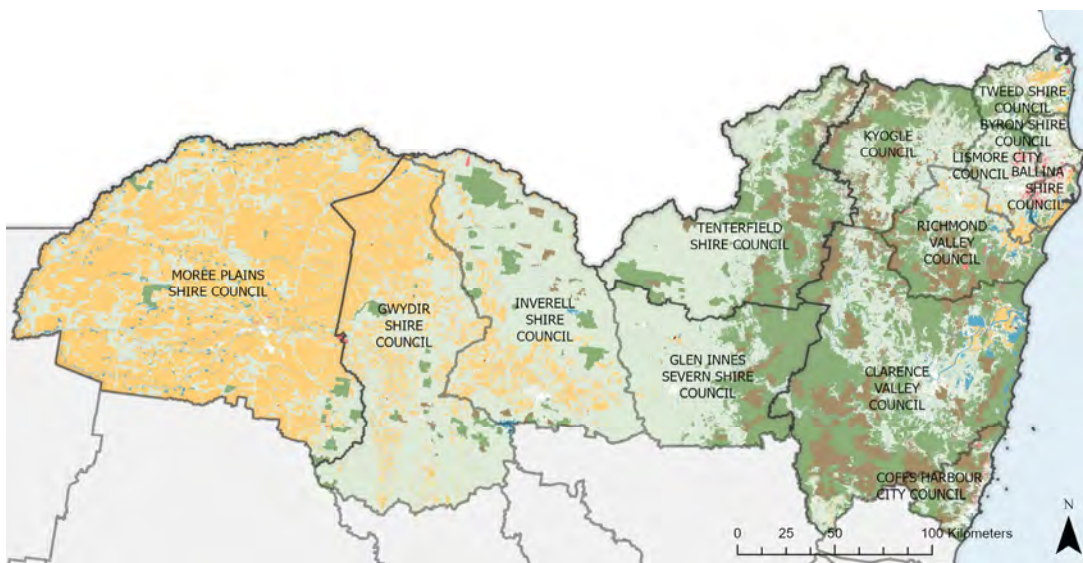
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## **Land Ownership Change in Rural NSW: Northern Transect Report**

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# Table of Contents

Acknowledgements and overview .....	1
Summary of findings.....	3
1. Introduction.....	6
1.1 Measuring substantive change.....	6
1.2 Report sections.....	7
2. Rural land ownership trends in the Northern Transect .....	9
2.1 The transect in context.....	9
2.2 Rates of ownership change by LGA .....	11
2.3 Trends in land concentration.....	18
2.4 Land prices.....	23
3. Demographic trends as drivers of rural land ownership change in the transect.....	28
4. Agricultural restructuring and rural land ownership change in the Northern transect..	40
4.1 Agricultural land use in the transect .....	40
4.2 Transitions in agricultural employment .....	47
4.2 The effects of drought on agricultural land markets.....	54
5. Land-use planning trends affecting land ownership patterns .....	56
5.1 Zoning and land-use permissibility.....	56
5.2 Minimum lot sizes .....	60
5.3 Dwelling entitlements and subdivision .....	62
5.4 Land-use conflicts .....	64
6. Bibliography.....	66
Appendix A: Methodology.....	68
Appendix B: LGA data .....	70
1. Tweed .....	70
2. Byron .....	72
3. Ballina .....	74
4. Lismore .....	76
5. Richmond Valley .....	78
6. Clarence Valley .....	80
7. Coffs Harbour .....	82
8. Kyogle .....	84
9. Tenterfield .....	86
10. Glen Innes Severn.....	88
11. Inverell.....	90
12. Gwydir .....	92
13. Moree Plains.....	94

Appendix C: Focus group indicative questions.....	96
Contact .....	97

## List of Tables

Table 1 - Transect Overview: area and number of parcels in our sample by LGA, 2004-20 .....	6
Table 2 - Proportion of agricultural and non-agricultural land in the Northern Transect .....	6
Table 3 – A framework for LGA clusters in the transect.....	12
Table 4 - Ownership trends for top 50 landowners by LGA .....	19
Table 5 - Ownership trends for top 15 landowners by LGA .....	20
Table 6 - Farmland prices by LGA .....	25
Table 7 - Demographic overview (data based on ABS 2021) .....	28
Table 8 - Change in population size 2006-2020 .....	31
Table 9 - 10-year age group growth pattern (2011-16) (%) .....	32
Table 10. Population change by geographical category, 2016-21 .....	33
Table 11 - Changes in rural population by LGA .....	34
Table 12 - Median age of Indigenous and Non-Indigenous population .....	35
Table 13 - Migration into rural parts of the transect .....	37
Table 14 - Proportion of agricultural land-uses in the Northern transect .....	45
Table 15. Agriculture as a percentage of total employment, 2016 and 2021.....	47
Table 16. Change in agricultural employment, 2016-21 .....	48
Table 19 - List of LEP specific objectives for RU1 Primary production zone. ....	57
Table 20 - Number of parcels in the transect, 2004-20.....	61
Table 19 - Lot sizes in the Northern transect .....	63
Table 22 - Tweed Land-use Overview.....	71
Table 23 - Profile of top 15 largest private landholders in Tweed .....	71
Table 24 - Byron Land-use Overview .....	73
Table 25 - Profile of top 15 largest private landholders in Byron .....	73
Table 26 - Ballina Land-use Overview.....	74
Table 27 - Profile of top 15 largest private landholders in Ballina .....	75
Table 28 - Lismore Land-use Overview.....	76
Table 29 - Profile of top 15 largest private landholders in Lismore .....	77
Table 30 - Richmond Valley Land-use Overview .....	78
Table 31 - Profile of top 15 largest private landholders in Richmond Valley .....	79
Table 32 - Clarence Valley Land-use Overview.....	81
Table 33 - Profile of top 15 largest private landholders in Clarence Valley .....	81
Table 34 - Coffs Harbour Land-use Overview .....	82
Table 35 - Profile of top 15 largest private landholders in Coffs Harbour .....	83
Table 36 - Kyogle Land-use Overview.....	84
Table 37 - Profile of top 15 largest private landholders in Kyogle .....	85
Table 38 - Tenterfield Land-use Overview.....	86
Table 39 - Profile of top 15 largest private landholders in Tenterfield .....	87
Table 40 - Glen Innes Severn Land-use Overview .....	88
Table 41 - Profile of top 15 largest private landholders in Glen Innes Severn .....	89
Table 42 - Inverell Land-use Overview .....	90
Table 43 - Profile of top 15 largest private landholders in Inverell.....	91
Table 44 - Gwydir Land-use Overview.....	92
Table 45 - Profile of top 15 largest private landholders in Gwydir .....	93
Table 46 - Moree Plains Land-use Overview .....	95
Table 47 - Profile of top 15 largest private landholders in Moree Plains.....	95

## List of Figures

Figure 1 - Research Project Transects .....	2
Figure 2 - Northern Transect .....	8
Figure 3 - Rate of substantive rural land ownership change, transect and NSW.....	10
Figure 4. Hot Spot Analysis - LGA median rate of rural land ownership change, 2004-20 .....	10
Figure 5 - Rate of agricultural and non-agricultural land ownership change in the Northern transect.....	11
Figure 6. Scatter plot of LGA land ownership median change rate by annual volatility .....	12
Figure 7 - Rate of substantive rural land ownership change in Tweed LGA.....	15
Figure 8 - Rate of substantive rural land ownership change in Byron LGA.....	15
Figure 9 - Rate of substantive rural land ownership change in Ballina LGA.....	15
Figure 10 - Rate of substantive rural land ownership change in Lismore LGA.....	15
Figure 11 - Rate of substantive rural land ownership change in Richmond Valley LGA .....	16
Figure 12 - Rate of substantive rural land ownership change in Clarence Valley LGA.....	16
Figure 13 - Rate of substantive rural land ownership change in Coffs Harbour LGA.....	16
Figure 14 - Rate of substantive rural land ownership change in Kyogle LGA.....	16
Figure 15 - Rate of substantive rural land ownership change in Tenterfield LGA.....	17
Figure 16 - Rate of substantive rural land ownership change in Glen Innes Severn LGA .....	17
Figure 17 - Rate of substantive rural land ownership change in Inverell LGA .....	17
Figure 18 - Rate of substantive rural land ownership change in Gwydir LGA.....	17
Figure 19 - Rate of substantive rural land ownership change in Moree Plains LGA .....	18
Figure 20 - Percentage occupied by top 50 landowners (2004-19) (East to West).....	19
Figure 21 - Percentage occupied by top 15 landowners (2004-19) (East to West).....	20
Figure 22. Category of land buyers, coastal areas near Ballina.....	21
Figure 23. Categories of land acquirers, 2004-19.....	23
Figure 24. The decoupling of agricultural land prices from commodity prices.....	24
Figure 25 - Summary of findings, rate of ownership change and concentration of land in the Northern Transect .....	27
Figure 26 - Proportion of population who moved to select SUAs (2011-16) .....	39
Figure 27 - Proportion of population moving from rural SA2s to SUAs (2011-16).....	39
Figure 28 - Proportion of population moving from select SUAs to transect (2011-16) .....	39
Figure 29 - Proportion of population moving to rural SA2s from SUAs (2011-16).....	39
Figure 30 - Northern transect Land-use Map.....	46
Figure 31. Agricultural employment change, coastal LGAs, 2006-21.....	49
Figure 32. Composition of agricultural employment, coastal LGAs .....	50
Figure 33. Agricultural employment change, hinterland LGAs, 2006-21 .....	52
Figure 34. Composition of agricultural employment, hinterland LGAs, 2021.....	52
Figure 35. Agricultural employment change, inland LGAs, 2006-21 .....	53
Figure 36. Composition of agricultural employment, inland LGAs, 2021.....	53
Figure 37 - Northern transect Zoning Map.....	56
Figure 38 - Minimum lot size map, categorised by size .....	61
Figure 39 - Minimum Lot Size Ratio Map .....	64
Figure 40 - Incidence of change on agricultural and non-agricultural rural land in Tweed ....	70
Figure 41 - Tweed Land-use Map .....	70
Figure 42 - Largest 50 Landholders in Tweed.....	71
Figure 43 - Incidence of change on agricultural and non-agricultural rural land in Byron .....	72
Figure 44 - Byron Land-use Map .....	72
Figure 45 - Largest 50 Landholders in Byron .....	73
Figure 46 - Incidence of change on agricultural and non-agricultural rural land in Ballina ....	74

Figure 47 - Ballina Land-use Map .....	74
Figure 48 - Largest 50 Landholders in Ballina .....	75
Figure 49 - Incidence of change on agricultural and non-agricultural rural land in Lismore ..	76
Figure 50 - Lismore Land-use Map .....	76
Figure 51 - Largest 50 Landholders in Lismore .....	77
Figure 52 - Incidence of change on agricultural and non-agricultural rural land in Richmond Valley .....	78
Figure 53 - Richmond Valley Land-use Map .....	78
Figure 54 - Largest 50 Landholders in Richmond Valley .....	79
Figure 55 - Incidence of change on agricultural and non-agricultural rural land in Clarence Valley .....	80
Figure 56 - Clarence Valley Land-use Map .....	80
Figure 57 - Largest 50 Landholders in Clarence Valley .....	81
Figure 58 - Incidence of change on agricultural and non-agricultural rural land in Coffs Harbour .....	82
Figure 59 - Coffs Harbour Land-use Map .....	82
Figure 60 - Largest 50 Landholders in Coffs Harbour .....	83
Figure 61 - Incidence of change on agricultural and non-agricultural rural land in Kyogle ....	84
Figure 62 - Kyogle Land-use Map .....	84
Figure 63 - Largest 50 Landholders in Kyogle .....	85
Figure 64 - Incidence of change on agricultural and non-agricultural rural land in Tenterfield .....	86
Figure 65 - Tenterfield Land-use Map .....	86
Figure 66 - Largest 50 Landholders in Tenterfield .....	87
Figure 67 - Incidence of change on agricultural and non-agricultural rural land in Glen Innes Severn .....	88
Figure 68 - Glen Innes Severn Land-use Map .....	88
Figure 69 - Largest 50 Landholders in Glen Innes Severn .....	89
Figure 70 - Incidence of change on agricultural and non-agricultural rural land in Inverell ...	90
Figure 71 - Inverell Land-use Map .....	90
Figure 72 - Largest 50 Landholders in Inverell .....	91
Figure 73 - Incidence of change on agricultural and non-agricultural rural land in Gwydir ...	92
Figure 74 - Gwydir Land-use Map .....	92
Figure 75 - Largest 50 Landholders in Gwydir .....	93
Figure 76 - Incidence of change on agricultural and non-agricultural rural land in Moree Plains .....	94
Figure 77 - Moree Plains Land-use Map .....	94
Figure 78 - Largest 50 Landholders in Moree Plains .....	95

## Acknowledgements and overview

The Northern 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 Selina Stillman for her assistance in facilitating fieldwork and providing local knowledge that was of great use for this report.

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 upon. As we share our own knowledge, teaching, learning and research practices within the context of this research project, we may also pay response to the knowledge embedded forever within the Aboriginal Custodianship of Country.





# Summary of findings

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*“Often we have an overly simplistic understanding of rural land – needs to be more place based. Rural landholders are extremely diverse (old school farmers, conservation focused, new land owners with a range of different philosophies)”  
(quote from a focus group participant, Tweed Shire)*

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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 Northern Transect 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 November 2020, January 2021, and July 2022. Three separate visits to the transect region were required because of delays and interruptions caused by the COVID-19 pandemic.

Thirteen LGAs (Moree Plains, Gwydir, Inverell, Glen Innes Severn, Tenterfield, Kyogle, Clarence Valley, Coffs Harbour, Richmond Valley, Ballina, Lismore, Byron, and Tweed) representing a continuous 480km stretch from the coast to New South Wales’s northwest, were selected for analysis. These LGAs represent a large diversity of rural landscapes. Unlike the other regional reports in this series (Hunter, Riverina and the Central West), this report is therefore not framed around a discrete biophysical and social region. It goes without saying that Byron Bay is very different from Boomi (in Moree Plains). For this reason, parts of the text here discuss the transect not as a single region but divide it into ‘Coastal’, ‘Hinterland’, and ‘Inland’.

Throughout this report, our findings are summarised in text box “Key Insights”. The following discussion synthesises these “Key Insights” to build an overall picture of rural land ownership change in the transect.

## Key messages from this study

1. From Coffs Harbour to Tweed, the coast is booming with high rates of land turnover, new entrants providing the majority of land buyers, and intense pressures on land subdivision. Existing planning instruments are holding some of these pressures in check ensuring the worst elements of unplanned development do not occur, but new thinking is required to ensure a viable place for agriculture in an increasingly urbanised coastal strip.
2. The grazing and cropping belt in the inland north of the state will become increasingly differentiated due to access to water and the trend towards larger farming establishments. Long-term trends of population decline will continue in many LGAs, however prospects for agricultural production may remain robust assuming climate vulnerabilities can be addressed.
3. Strategic regional planning will increasingly need to take into account a more diverse set of economic and social circumstances within and across areas of the transect, with sustainable growth opportunities connected to infrastructure access and provision.
4. The protection of agricultural land on the coast is challenging. Legal instruments specify the requirement for state- and region- significant farmland to be incorporated into strategic planning, but these obligations are crosscut by an array of other considerations in planning and ‘backdoor’ means to gain dwelling approvals and subdivisions.

Key findings and insights are presented in 19 *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.

### Insights into land aggregation, family farms and corporatisation

**Insight 1.** This is a transect where rural land changes hands at a faster rate than the state average. Given the diversity across the transect, different drivers have propelled this outcome. The tendency for rural land to change hands at a faster rate than the state average became more prominent after 2014.

**Insight 2.** Composite analysis of the overall rate of change, volatility and trend during the study period reveals three sub-regional clusters: (1) A 'coastal Richmond-Tweed cluster' with a high and increasing rate of rural land ownership change and little year-on-year volatility (Tweed, Byron, Ballina, Lismore); (2) a 'Hinterland cluster' with high and increasing trends of rural land ownership change and large year-on-year volatility (Richmond Valley, Clarence Valley, Kyogle, Tenterfield); (3) An 'Inland mixed cropping/grazing cluster' experiencing a boom in rural land transactions, 2015-17 (Inverell, Gwydir). The three remaining LGAs do not readily fall into a cluster.

**Insight 3.** The ownership of land is becoming less concentrated in the coastal parts of the transect, due to the effects of fragmentation and subdivision, particularly associated with the conversion of farmland to rural residential purposes. In western LGAs of the transect, land is becoming more concentrated as farms aggregate. Glen Innes Severn is an outlier to this trend. As an inland LGA with non-irrigated grazing in a state of transition, it has been less attractive for agricultural investors in search of large-scale properties, compared to Inverell, Moree Plains and Gwydir.

**Insight 4.** There is an east-west gradient to the pattern of who is acquiring land in the transect. New entrants to the region are relatively more important acquirers of land in coastal portions of the transect, representing 57.5% of land acquisitions in coastal LGAs over the study period. In the furthest west area, Moree Plain, new entrants were responsible for only 40.4% of land acquired. The inverse pattern is apparent with respect to aggregators (landholders already in the region). In coastal LGAs, aggregation represented just 12.7% of land acquired, while in Moree Plains, it was 27.4%.

**Insight 5.** The rising cost of land is a key driver of ownership change in the Northern transect, that transcends cyclical trends in the property market. There are long-term drivers of land price inflation in the transect, including rural residential forces on the coast, and strategic land acquisition inland.

### Insights into demographic drivers of land ownership change

**Insight 6.** The Northern transect is younger at its edges, although all LGAs across the transect are facing ageing populations. The proportion of people over 60 in the transect increased between 2011-16, while children, teenagers, and 30-49-year-olds experienced population decline. Byron and Coffs Harbour subvert this trend, with Byron's young workforce increasing and Coffs Harbour experiencing an increase in young families.

**Insight 7.** Population growth has been rapid in coastal LGAs, but some inland LGAs are experiencing population decline. The exception is Inverell, which has benefited from value-added, relatively labour-intensive, agricultural investments.

**Insight 8.** Migration patterns for the Northern transect have significant spatial and age-related influences. People under 50 demonstrate higher rates of mobility. There is a distinct spike in out-migration for 20-24-year-olds, with the majority of these youths leaving to the Gold Coast and Brisbane. Meanwhile, in-migration is strongest among people aged 25-39 and 65-and-above – suggesting both young families and retirees are drawn to the transect.

## Agricultural land-uses and restructuring insights

**Insight 9.** Access to water and scale economies of production are providing the crucial drivers of land ownership change in inland parts of the transect. In turn, these drivers trigger shifts in specific agricultural industries.

**Insight 10.** There is considerable change to agriculture on coastal areas of the transect, as n high-value forms of horticulture, such as macadamias and blueberries takeover land used previously for crops such as sugar and bananas.

**Insight 11.** Land leasing is an important process in agriculture throughout the transect, and especially on the coast. It potentially provides a means for younger farmers to enter the industry without a requirement for purchasing land. In general, agricultural land leasing is poorly documented and its wider implications minimally analysed.

**Insight 12.** Rural land uses are increasingly hybridised – not fully productivist and not fully lifestyle. Capturing this process is an important ingredient for rural planning.

**Insight 13.** Agriculture has fallen as a share of total employment in all LGAs over the study period because of economic diversification. However, the total number of persons employed in agriculture across the transect remained steady from 2006-2021, and in coastal LGAs, employment in agriculture has generally increased.

**Insight 14.** The increase in agricultural employment in coastal parts of the transect is largely due to the fruit and tree crop sector, which is more heavily dependent on paid labour than most other agricultural industries.

**Insight 15.** Agricultural employment is falling west of the Dividing Range, due to technological change and establishment consolidation.

## Land-use planning insights

**Insight 16.** Relevant planning instruments recognise the need to safeguard agricultural land in the context of rapid population growth on the North Coast. Nevertheless, agricultural land remains under threat due to the potential for rezoning, notwithstanding these instruments.

**Insight 17.** Minimum Lot Sizes are a blunt and inconsistent tool for protecting agricultural land from subdivision. They bear little economic relationship to farm viability. Nevertheless, in the absence of a policy alternative, they remain relevant in terms of curbing unplanned development

**Insight 18.** One ‘backdoor’ route to sidestepping restrictions on dwelling entitlements – concessional lots – is being closed; but others (liberalisation of dual occupancy) are being opened. The Agritourism Order of 2022 may further open opportunities for landowners to construct dwellings on their land. These developments pose challenges for policymakers charged with seeking to protect agriculture.

# 1. Introduction

This report presents research findings on the dynamics of rural land ownership change in the NSW Northern transect. It forms one of four transect reports into regions of NSW (Figure 1). Transects provide a basis for comparative assessment of the different drivers of rural land ownership change across the state.

For the purposes of this report, the Northern Transect is defined as the Local Government Areas (LGAs) of Moree Plains, Gwydir, Inverell, Glen Innes Severn, Tenterfield, Kyogle, Clarence Valley, Coffs Harbour, Richmond Valley, Ballina, Lismore, Byron, and Tweed. Ownership histories are considered for 54,912km<sup>2</sup> of rural land in the thirteen 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 <sup>2</sup> )	Percentage of region area	No. of Land Parcels
Tweed	863	1.57%	5,919
Byron	412	0.75%	4,062
Ballina	361	0.66%	3,706
Lismore	994	1.81%	6,610
Richmond Valley	2,125	3.87%	6,449
Clarence Valley	6,492	11.82%	14,416
Coffs Harbour	491	0.89%	4,110
Kyogle	2,389	4.35%	5,205
Tenterfield	5,589	10.18%	7,626
Glen Innes Severn	3,785	6.89%	6,508
Inverell	7,212	13.13%	8,124
Gwydir	8,191	14.92%	6,372
Moree Plains	16,008	29.15%	7,789
<b>Grand Total</b>	<b>54,912</b>	<b>100.00%</b>	<b>86,896</b>

*Note: LGAs are presented in order from east to west. Number of parcels as of 1 January 2020*

The majority of land analysed in this report is dedicated to agriculture (81.50%), while approximately 18.50% is non-agricultural uses, including tourism and residential uses (Table 2).

*Table 2 - Proportion of agricultural and non-agricultural land in the Northern Transect*

Sample	Percentage of total
<b>Agricultural</b>	81.50%
<b>Non-agricultural</b>	18.50%
<b>Total</b>	100.00%

## 1.1 Measuring substantive change

Substantive land ownership change in the Northern 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 of 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 change occurs when a spelling error is corrected, 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 an 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:

$$\text{Substantive churn rate} = (\text{Land area in the sample that changed hands in a particular year excluding on-paper names changes with over a 70\% similarity}) / (\text{Total sample area}) \times 100$$

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.

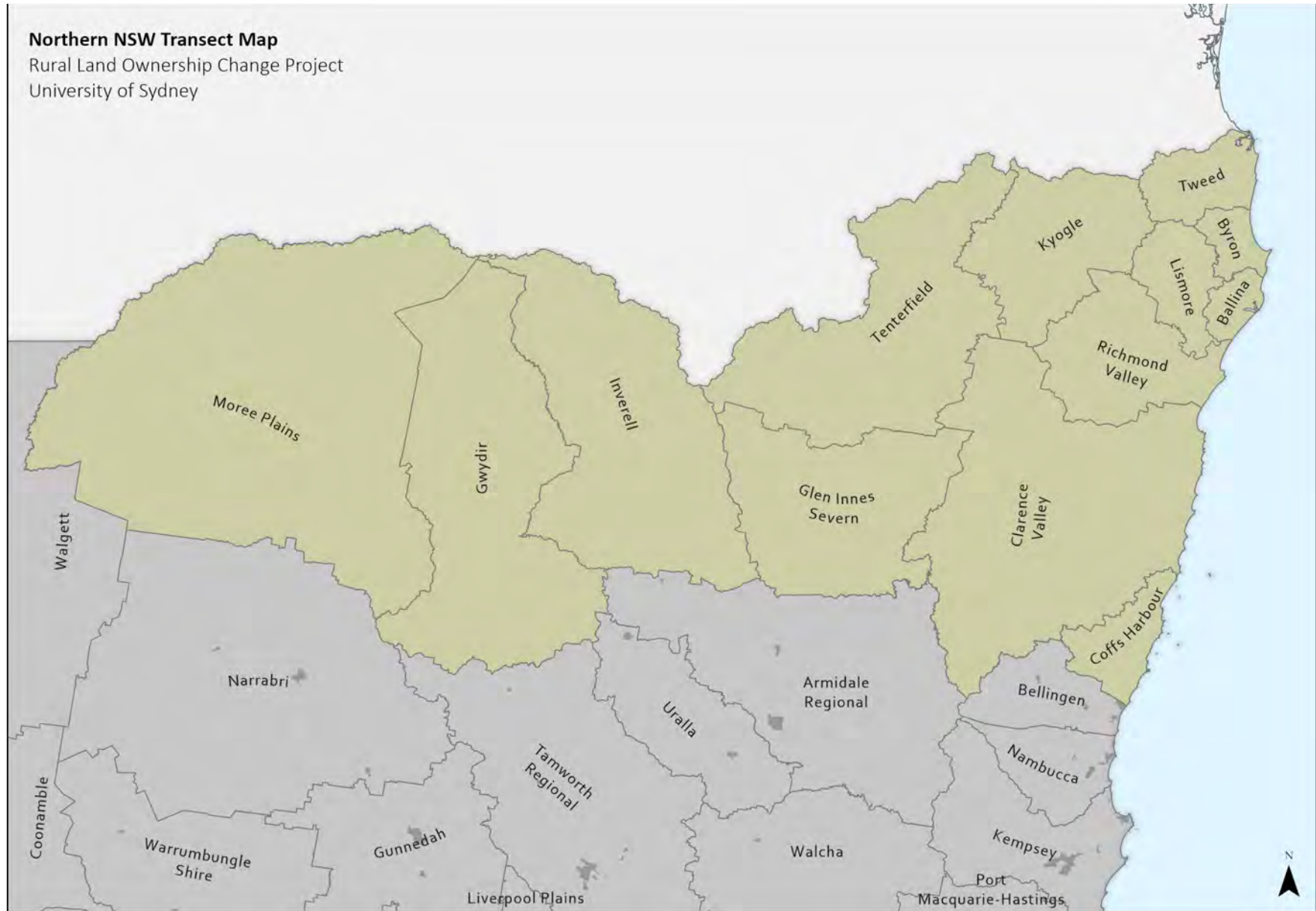
Applying these data to longitudinal regional analysis is a major innovation of this project. Once data was generated, we presented these to regional stakeholders in a series of in-depth interviews and focus groups at different times from 2020-22. Travel restrictions during the COVID-19 pandemic meant that these meetings occurred over extended period. 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 Northern Transect:

- 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 - Northern Transect



## 2. Rural land ownership trends in the Northern Transect

The area considered by this report is an east-west transect of 13 LGAs connecting the northern coast of NSW to the northwest of the state. These LGAs encapsulate an extremely diverse rural geography, from large-scale broadacre cropping and grazing in the west to considerable pockets of horticulture, conservation, agritourism, and residential land by the coast. Such diversity explains why the Northern transect LGAs are part of two different planning regions, the New England and North West (Moree Plains, Gwydir, Inverell, Glen Innes, and Tenterfield) and North Coast (Kyogle, Coffs Harbour, Clarence Valley, Richmond Valley, Lismore, Ballina, Byron, and Tweed). Of the four transect reports that have been produced by this report project, this is the most diverse. Consequently, considerable emphasis in this report is given to processes occurring within different parts of the transect, rather than whole-of-transect summaries alone.

### 2.1 The transect in context

**Insight 1. This is a transect where rural land changes hands at a faster rate than the state average. Given the diversity across the transect, different drivers have propelled this outcome. The tendency for rural land to change hands at a faster rate than the state average became more prominent after 2014.**

Rural land in the Northern transect changed hands at a faster rate than the state average, especially after 2014 (Figure 3). This is an intriguing result. There is huge land use diversity across the region, so no single driver can explain this outcome. In coastal LGAs, an uptick in the rate of land ownership change after 2014 or thereabouts seems connected to stronger rural population growth identified in the 2016 and 2021 censuses (see elsewhere in this report). In these cases, rural land was in higher demand, typically for non-agricultural purposes. However, the rate at which rural land changed hands also increased (to rates above the state average) in the inland LGAs of Kyogle, Tenterfield, Inverell, Glen Innes and Gwydir from circa 2013-14 until drought depressed the market in 2019. This trend would seem to be driven by a boost in demand for agricultural land in grazing regions and changing ownership arrangements in the forestry sector. In Moree Plains, where cropping predominates, trends were highly volatile and not above the state average over this period.

The relatively higher incidence for rural land to change hands in the northern transect area overall was identified and discussed in the NSW Report in this series (Pritchard et al., 2021: 38-41) (see [here](#)). That report used *Hot Spot Analysis* (also known as Getis Ord GI\* methodology), a spatial statistics technique which generates a measure of the extent to which the result for a single feature (in our case, an LGA's median rate of change) is statistically similar to/different from its neighbouring features (i.e., medians for surrounding LGAs). Thus, for the purposes of our research, it provides a method to identify statically significant clusters of LGAs with high and low median values. In lay terms, the optimised Hot Spot analysis was conducted using the Getis Ord GI\* statistic is a tool that seeks to answer the following question: for any LGA, is its median rate of rural land ownership change over the study period a product of its geography? That is, is relatively high or low rate a random product of its own circumstances, or is it statistically similar to the results for its neighbouring LGAs, meaning that it is part of a process where its geography matters?

Using Hot Spot Analysis, the northeast corner of NSW, including all the Northern Transect except Moree Plains, was identified as having a cluster of LGAs with relatively higher rates of rural land ownership (Figure 4). To recall, this indicates that for these LGAs, their location (defined in terms of both their results and those of their neighbours) was a factor encouraging a higher-than-average rate of land ownership change over the

study period. This continuum is both illuminating but perplexing. It's existence across the diversity of LGAs in coastal and inland northern NSW suggests a synchronisation of different drivers. Each of these drivers was manifested across a larger area than a single LGA, indicating a 'neighbour effect' that is represented in statistically significant Getis-Ord  $G_i^*$  outcomes. As indicated in Figure 5, trends in rates of land ownership change for both agricultural and non-agricultural land followed a similar pattern through the study period, although there was a sharp increase in rural land transactions for non-agricultural land in 2015, which appears to highlight the strength of rural residential expansion on the North Coast.

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

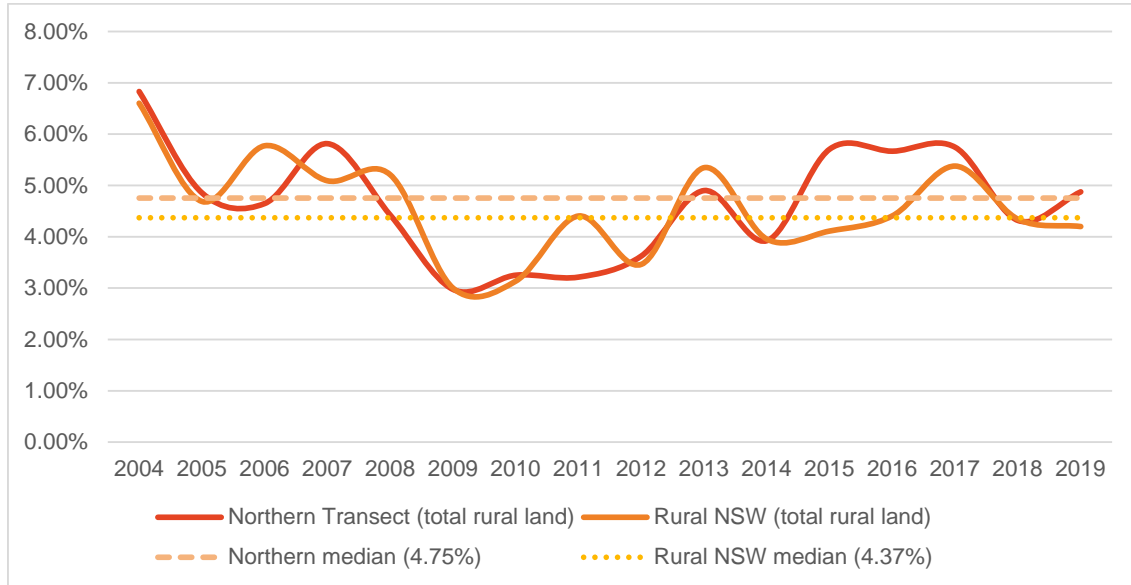


Figure 4. Hot Spot Analysis - LGA median rate of rural land ownership change, 2004-20

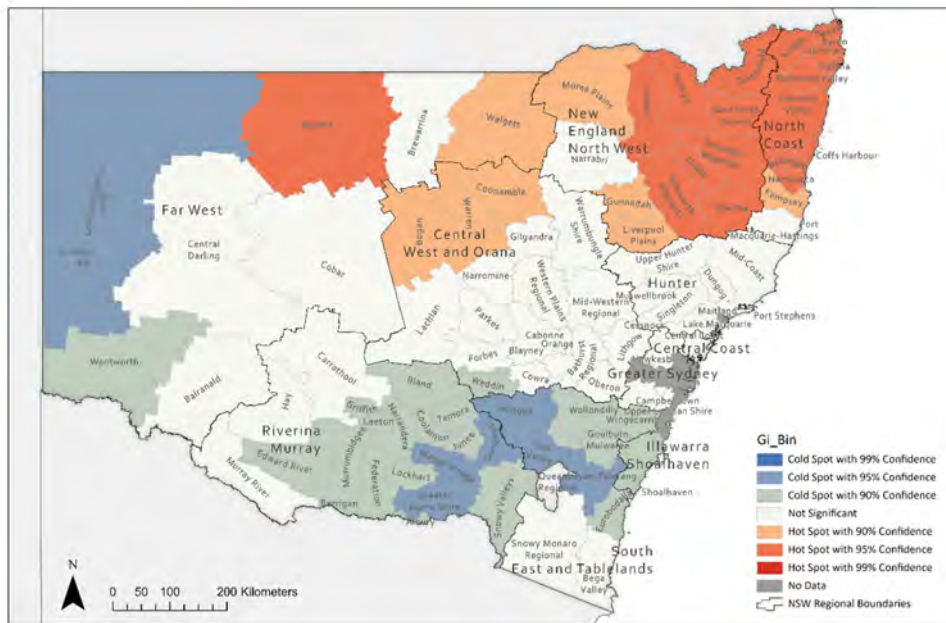
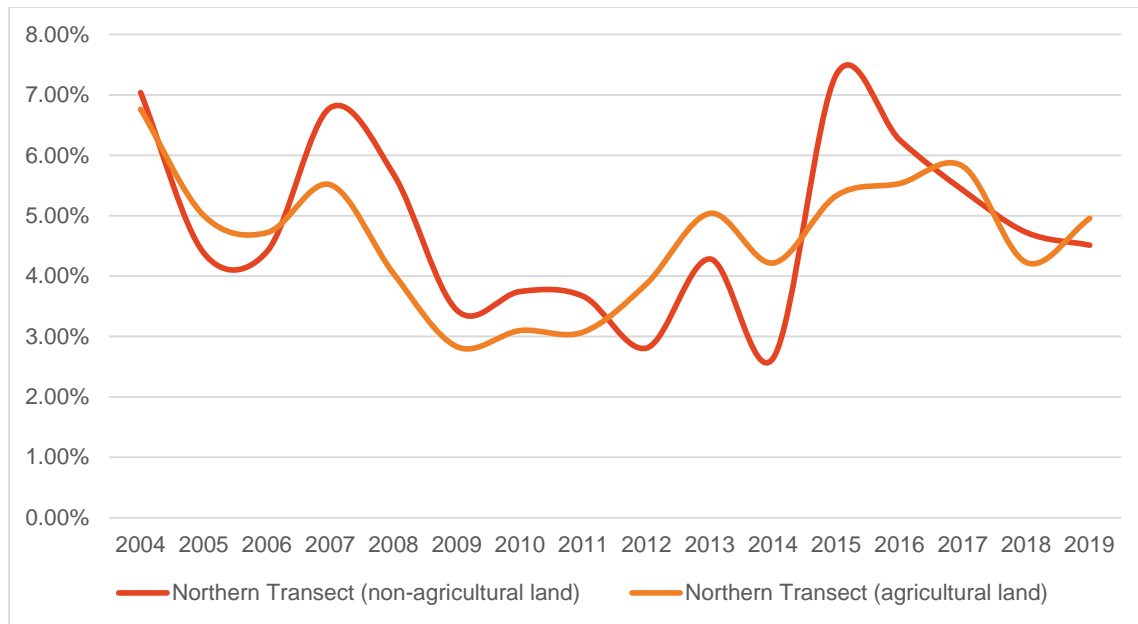




Figure 5 - Rate of agricultural and non-agricultural land ownership change in the Northern transect



## 2.2 Rates of ownership change by LGA

**Insight 2. Composite analysis of the overall rate of change, volatility and trend during the study period reveals three sub-regional clusters: (1) A 'coastal Richmond-Tweed cluster' with a high and increasing rate of rural land ownership change and little year-on-year volatility (Tweed, Byron, Ballina, Lismore); (2) a 'Hinterland cluster' with high and increasing trends of rural land ownership change and large year-on-year volatility (Richmond Valley, Clarence Valley, Kyogle, Tenterfield); (3) An 'Inland mixed cropping/grazing cluster' experiencing a boom in rural land transactions, 2015-17 (Inverell, Gwydir). The three remaining LGAs do not readily fall into a cluster.**

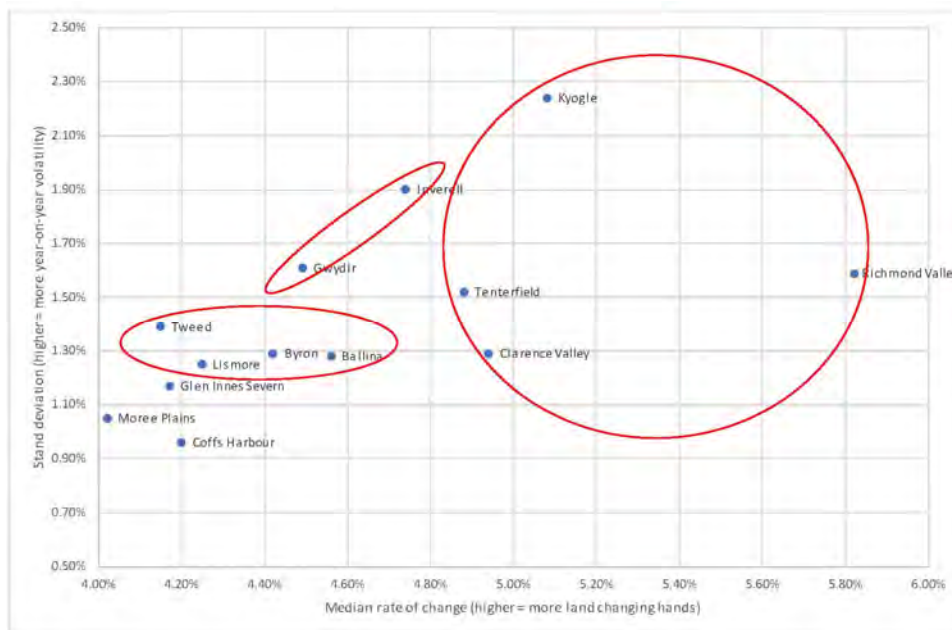
To examine trends of rural land ownership change *within* the transect, year-on-year rates of rural land ownership for each LGA was assessed through a perspective that combined three sets of indicators: (1) the overall rate of change over the study period, in relation to the NSW median, (2) year-on-year variability, measured by standard deviation, and (3) trend over the study period, as seen in Figures 7-19.

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 a clustering of sub-areas (denoted by the shading in Table 3). The three clusters described in Table 3 are represented graphically by the circles in Figure 6.

Table 3 – A framework for LGA clusters in the transect

LGA	Median rate of change	Distance from NSW median	Trend, 2004-19	Standard deviation
<b>Tweed</b>	4.15%	-0.22%	Upwards since 2009, slightly above state median since 2014	1.39%
<b>Byron</b>	4.42%	0.05%	Upwards since 2009, above state median since 2014	1.29%
<b>Ballina</b>	4.56%	0.19%	Upwards since 2009, above state median since 2014	1.28%
<b>Lismore</b>	4.25%	-0.12%	Upwards since 2009, above state median since 2014	1.25%
<b>Coffs Harbour</b>	4.20%	-0.17%	Upwards trend 2004-11, then static, dipping below state median from 2016	0.96%
<b>Richmond Valley</b>	5.82%	1.45%	Upwards since 2009, above state median since 2014 with large volatility	1.59%
<b>Clarence Valley</b>	4.94%	0.57%	Upwards since 2009, above state median since 2014 with large volatility	1.29%
<b>Kyogle</b>	5.08%	0.71%	Upwards and above state median since 2014 with large volatility	2.24%
<b>Tenterfield</b>	4.88%	0.51%	Upwards since 2011, above state median mainly since 2014 with large volatility	1.52%
<b>Glen Innes Severn</b>	4.17%	-0.20%	Upwards since 2009, above state median since 2014 with large volatility	1.17%
<b>Inverell</b>	4.74%	0.37%	Upwards since 2014, above state median with a boom, 2015-17	1.90%
<b>Gwydir</b>	4.49%	0.12%	Upwards since 2014, above state median with a boom, 2015-17	1.61%
<b>Moree Plains</b>	4.02%	-0.35%	Upwards since 2009, no clear trend vis-à-vis state median afterwards	1.05%
<b>All NSW</b>	4.37%	-		0.93%

Figure 6. Scatter plot of LGA land ownership median change rate by annual volatility



### Hinterland cluster

In the top right of this diagram are Kyogle, Richmond Valley, Clarence Valley and Tenterfield; four LGAs that we describe as a 'hinterland cluster'. Although Clarence Valley and Richmond Valley both have coastal portions, most of their land area is in inland areas dominated by grazing and forestry. These four LGAs have the faster median rate of rural land ownership change in the transect (indicated by their positions towards the right of the diagram) and have generally high levels of year-on-year volatility (indicated by their relatively high standard deviation scores). Not shown in Figure 6 (but apparent in Figure 11, Figure 12, Figure 14, and Figure 15) is that the annual rate of land ownership change started an upwards trend circa 2014 with very large yearly fluctuations thereafter. The fallout from failed forestry Managed Investment Schemes was a key contributor to the fluctuations in rates of rural land ownership in this period. This story commences in 1997, when legislative changes provided investors in forestry MISs with highly attractive tax breaks. The aim of this policy was to stimulate investment in commercial forestry, but its unintended consequence, as detailed in a subsequent Government Inquiry (The Senate: Economics Reference Committee, 2016), was to stimulate the flow of capital into non-viable forestry schemes. In 2006 the policy was reviewed and then wound back over the following years. After a period in which many of the land assets held by forestry MIS owners were frozen awaiting the conclusion of legal and financial issues, considerable areas of land went onto the market in this region during the second half of the study period. Focus group discussions with local key stakeholders suggested much of the land acquired and then disposed by forestry MIS owners in LGAs such as Kyogle and Richmond Valley was poorly suited to commercial-grade forestry, and has reverted to grazing or, in a couple of cases, to Tea Tree oil plantations. At the same time, focus group participants also indicated that the LGAs in the Hinterland cluster underwent a more intense period of agricultural restructuring in the period from around 2014, due to the entry of some new sectors (such as blueberries and other horticultural activities in pockets of Richmond Valley, Clarence Valley and Kyogle Shires), growth of poultry (Richmond Valley and Tenterfield Shires), and some shifts to cropping sectors (sugar on alluvial land, and soy and maize inland) in the region.

### Coastal Richmond-Tweed cluster

Tweed, Byron, Ballina and Lismore LGAs are in tight proximity to one another in Figure 6. Ballina and Byron have a slightly higher rate of rural land ownership change than Tweed or Lismore, but this is within 0.2 percentage points. The rate at which rates of rural land ownership change varied from year to year was small for all four LGAs, with standard deviations lying in a tight band between 1.39 (Tweed) to 1.25 (Lismore). As indicated in Figure 7, Figure 8, Figure 9 and Figure 10, rural land changed hands at an accelerating rate in all four of these LGAs over the study period, and especially so after 2014 when in most years, rates of land ownership change in the LGAs exceeded the state median.

These four LGAs form a sub-region in the far northeast of the state with similar demographic trends and physical geographies. The land covered by these four LGAs has high amenity values for the human population, productive soils for agriculture, and prized environmental assets protected through National Parks. Rural land prices in these four LGAs have rocketed over the past five-ten years reflecting high rural residential demand (Rural Bank, 2021). A key common element across these four LGAs has been the restructuring of rural land uses as primary industries with lower financial rates of return per area of land, including cattle grazing and sugar cropping, have given way to high-value horticulture and rural residential land conversion. As discussed later in this report, planning instruments have had a vital role in shaping these transitions and have potentially curbed what could otherwise have been a higher rate of rural land ownership change through farm subdivision. The fact that rural land ownership change in these LGAs is entwined with change in land uses, especially around rural residential factors, and this is managed via planning instruments which tend to remain in place over the medium term, may contribute to the relatively stable year-on-year trends in these LGAs. Unlike the Hinterland cluster, described above, there has been no single event in coastal Richmond-Tweed LGAs that propelled major short-term cataclysms to rural land markets. That said, the dataset used for this report goes to January 2020 only, and the much-discussed supposed acceleration of

urban-to-rural 'tree change' migration during the pandemic period of 2020-22 may have provided such an event during this later period.

#### *Inland mixed cropping-grazing cluster*

The two adjacent LGAs of Inverell and Gwydir have broadly similar experiences. Rural land in these two LGAs changed hands at a faster rate than the state median, had generally high levels of year-on-year fluctuations, and both LGAs experienced a significant boom/bust cycle of change during 2015-17. Although the trends for these two LGAs are less obvious and prominent than the two clusters described above, their broad similarity bears consideration.

The starting point for assessing Inverell and Gwydir is to recognise the dominance of large-scale mixed agriculture as a rural land use. Figure 30, later in this report, shows that these two LGAs are uniquely positioned in the transect, at the juncture where grazing gives way to cropping (further west) as a predominant form of agriculture. This begs the question as to whether this comparability in agricultural land uses has influenced the similarity of rural land ownership trend outcomes identified in Table 3. In both these LGAs, the rate at which rural land changed hands accelerated after 2009, with heightened fluctuations in the latter years of the study period. This pattern was not unlike the other adjacent LGAs of Glen Innes Severn and Tenterfield, however as seen in Figure 6, these similarities in trends over time did not flow into similar *overall* rates of change or year-on-year volatility. The experiences of Inverell and Gwydir point to healthy conditions for large-scale agriculture during the 2015-17 period driving up demand for land. Focus groups in these LGAs affirmed the legitimacy of interpreting the market in boom/bust terms during this period, with large corporate and financialized investors (many of which backed by superannuation funds) entering the market. As drought conditions intensified from 2018, demand for land dropped off.

#### *Others*

Three LGAs do not readily fit within a cluster. Coffs Harbour is an interesting case because its demographic and agricultural contexts are quite similar to those of the coastal Richmond-Tweed cluster; however, the data displayed in Table 3 and in Figure 13 suggest a quite different rural land story. The rate at which rural land in Coffs Harbour changed hands remained flat and generally below the state median during the study period. This occurred notwithstanding the well-known major shifts to agriculture in the region inland from Coffs Harbour and Woolgoolga urban centres, as blueberries and some other forms of horticulture expanded and in some locations, replaced bananas. Interviews with stakeholders in Coffs Harbour however attributed this outcome to in situ agricultural restructuring by existing landowners, so that whereas the form of agriculture changed, this did not always imply a change in the farmer who owned the land. This process helps explain why the dynamism of agricultural change in the Coffs Harbour region was not reflected in an upsurge in rural land ownership change.

Moree Plains and Glen Innes Severn provide two other LGAs that do not readily contribute to a cluster. In both LGAs, there was a number of high-profile, large agricultural land acquisitions during the study period. Media reports, backed by narratives told in our focus discussion groups, point to agri-corporate investors acquiring and aggregating land as part of wider financial strategies. Nevertheless, unlike the inland mixed grazing/cropping cluster of Inverell and Gwydir, these events did not contribute to an overall surge in the rate of rural land changing hands. A potential contributing factor to these outcomes is that large acquisitions occurred at the same time that smaller, family farm enterprises 'hung on' to their properties in expectations of riding out uncertain conditions. There is a degree of speculation in this interpretation, however this explanation was offered by stakeholders including real estate agents during focus groups in these LGAs.

Figure 7 - Rate of substantive rural land ownership change in Tweed LGA

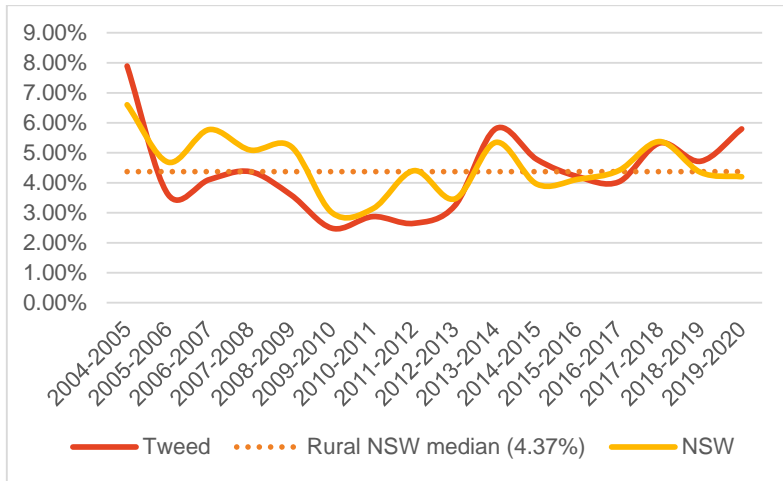


Figure 9 - Rate of substantive rural land ownership change in Ballina LGA

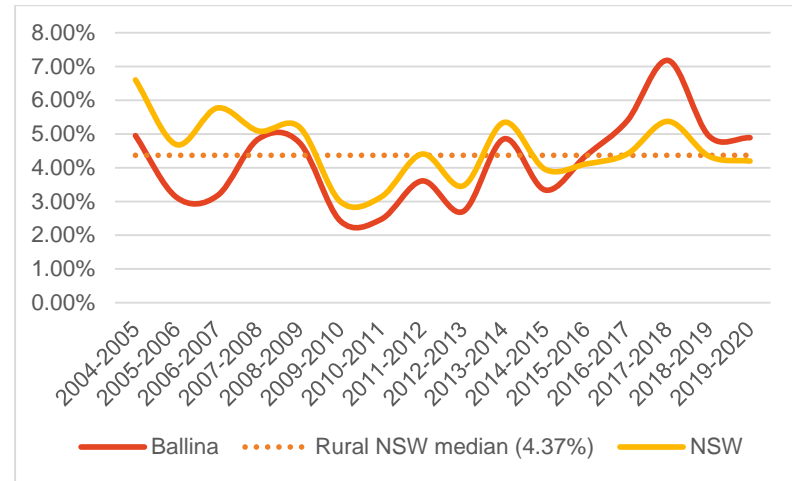


Figure 8 - Rate of substantive rural land ownership change in Byron LGA

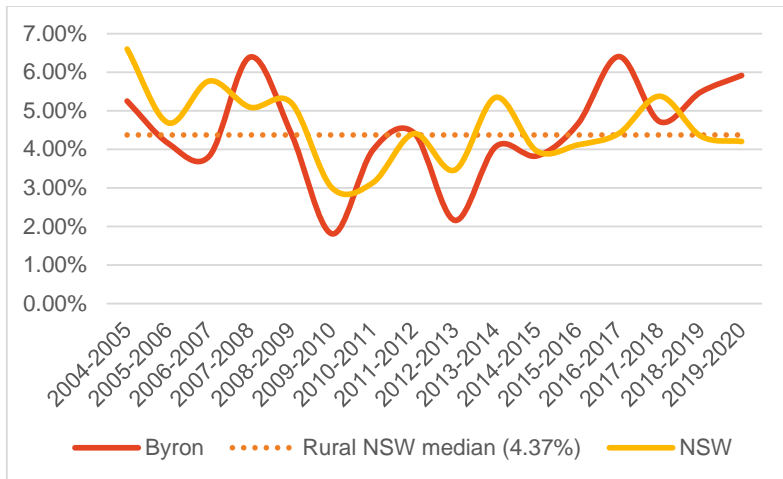


Figure 10 - Rate of substantive rural land ownership change in Lismore LGA

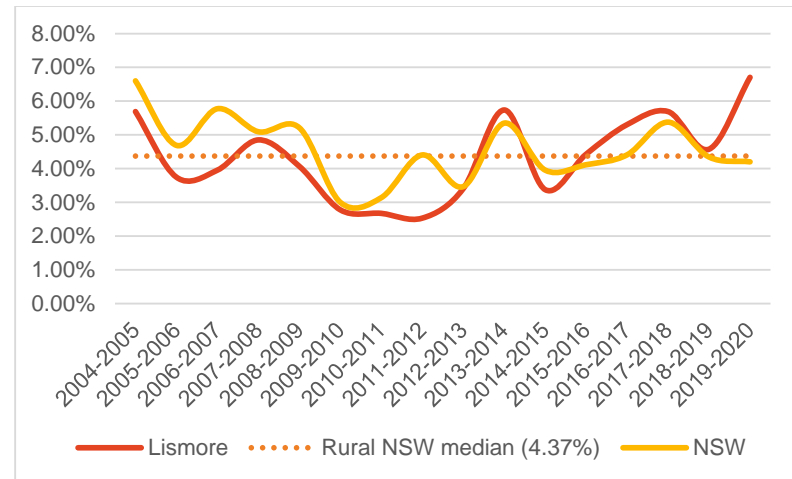


Figure 11 - Rate of substantive rural land ownership change in Richmond Valley LGA

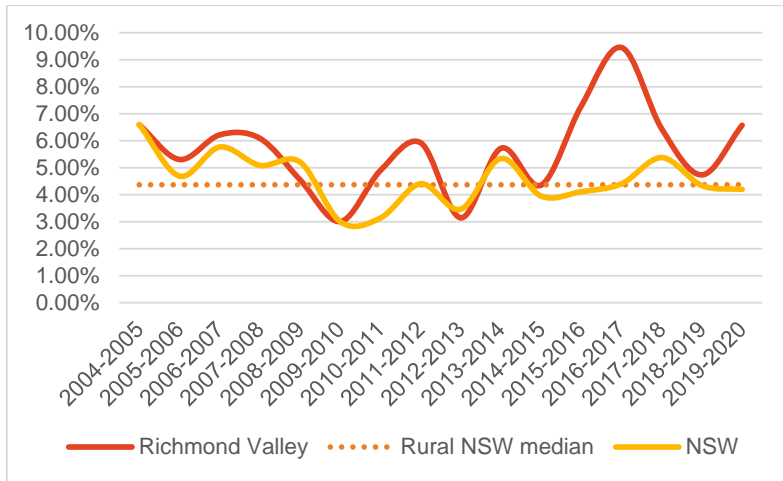


Figure 13 - Rate of substantive rural land ownership change in Coffs Harbour LGA

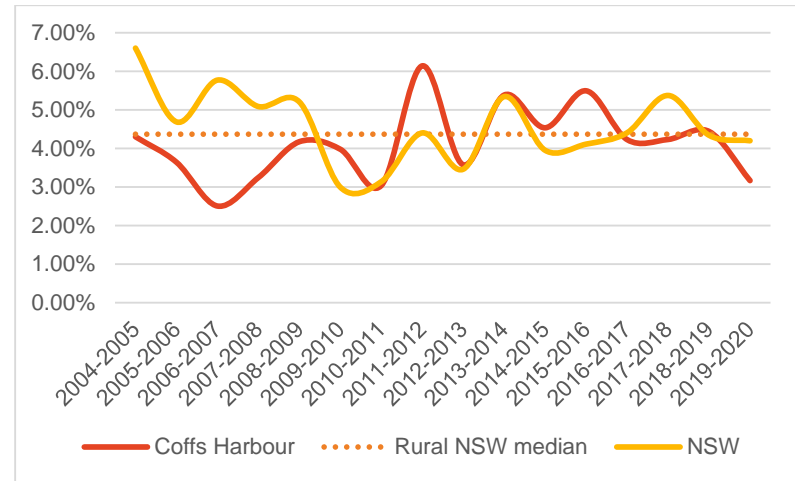


Figure 12 - Rate of substantive rural land ownership change in Clarence Valley LGA

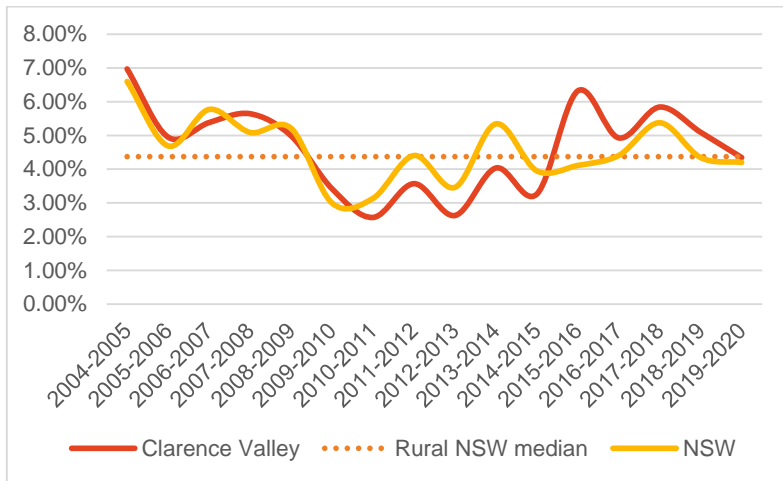


Figure 14 - Rate of substantive rural land ownership change in Kyogle LGA

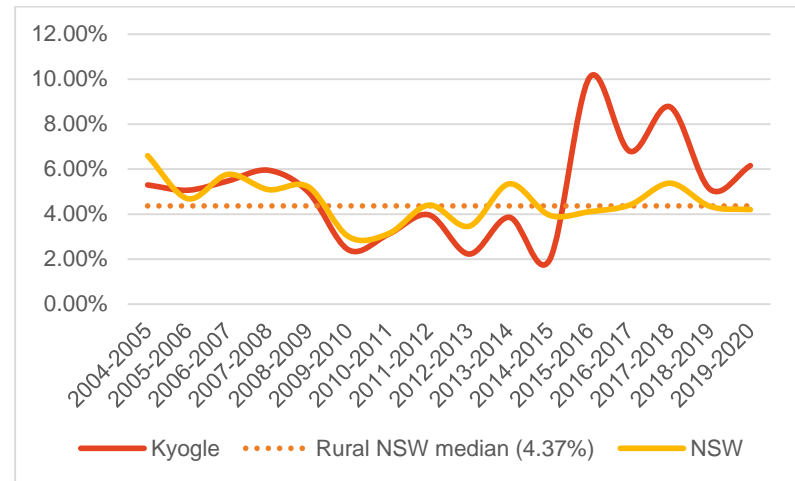


Figure 15 - Rate of substantive rural land ownership change in Tenterfield LGA

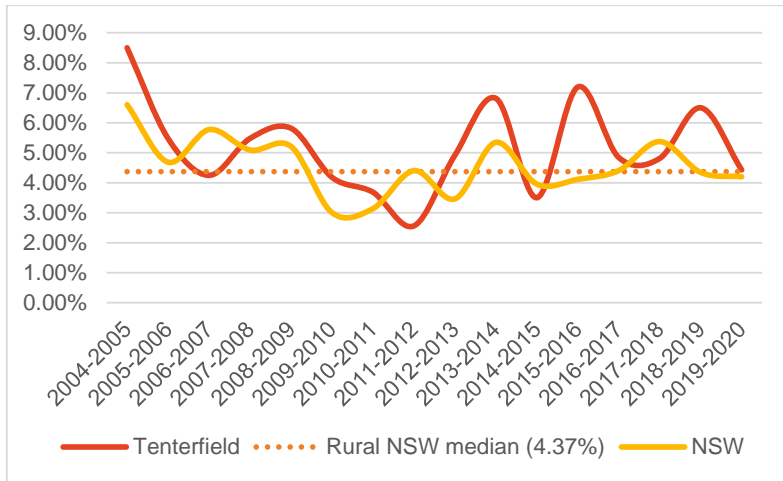


Figure 17 - Rate of substantive rural land ownership change in Inverell LGA

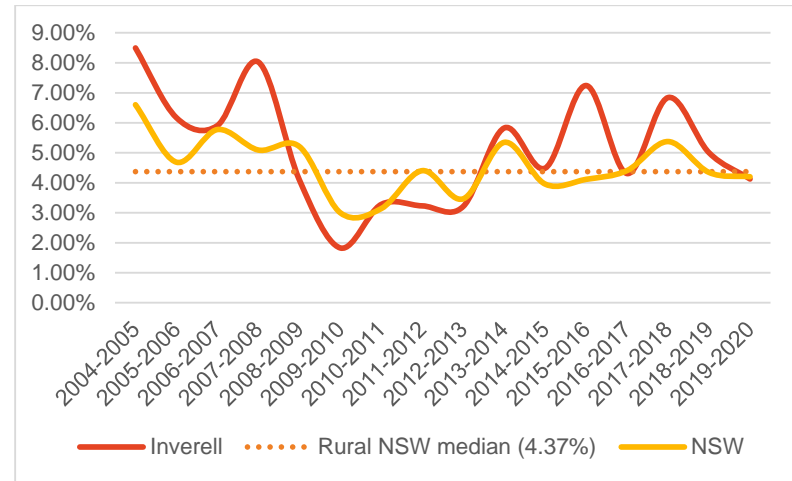


Figure 16 - Rate of substantive rural land ownership change in Glen Innes Severn LGA

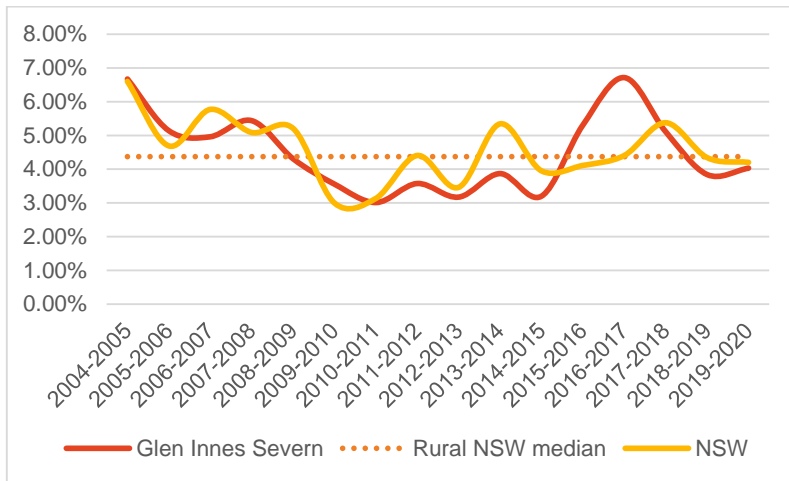


Figure 18 - Rate of substantive rural land ownership change in Gwydir LGA

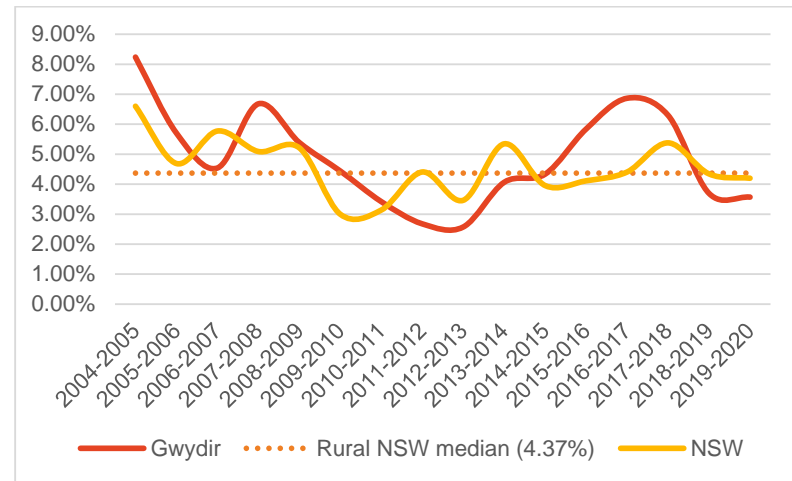
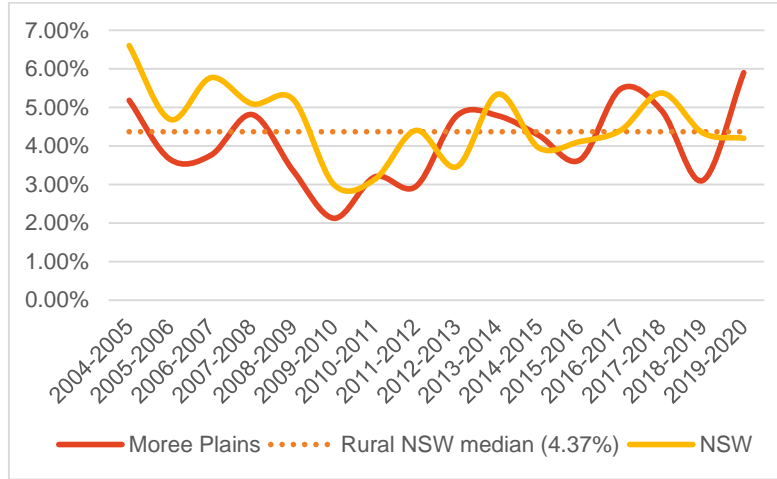


Figure 19 - Rate of substantive rural land ownership change in Moree Plains LGA



## 2.3 Trends in land concentration

**Insight 3.** The ownership of land is becoming less concentrated in the coastal parts of the transect, due the effects of fragmentation and subdivision, particularly associated with the conversion of farmland to rural residential purposes. In western LGAs of the transect, land is becoming more concentrated as farms aggregate. Glen Innes Severn is an outlier to this trend. As an inland LGA with non-irrigated grazing in a state of transition, it has been less attractive for agricultural investors in search of large-scale properties, compared to Inverell, Moree Plains and Gwydir.

Reflective of its diverse geography, there is no overarching trend of land concentration in the Northern transect. For coastal LGAs, where there is accelerating demand for land, the ownership concentration of land has fallen. The story in these LGAs is relatively straightforward - large landowners have fragmented or subdivided their estates reducing the overall level of land concentration. Inland, a general trend of consolidation and greater land concentration has predominated. These trends reflect the changing economies of scale in farming and the entry of some large-scale investors into the sector, especially in LGAs such as Moree Plains, Inverell and Gwydir. Table 4 and Table 5 present these trends by showing the change in the area of land held by the 50 largest and 15 largest landowners in each LGA respectively, for 2004 and 2019. Figure 20 and Figure 21 then display these data graphically, sorted from east to west, to create a readily understandable visible representation of trends.



Table 4 - Ownership trends for top 50 landowners by LGA

LGA	% Of study area occupied by top 50 landowners		Difference between 2004 and 2019	Number of corporate landowners in top 50		Difference
	2004	2019		2004	2019	
<b>Tweed</b>	14.78%	13.80%	-0.98%	10	17	7
<b>Byron</b>	14.22%	13.68%	-0.55%	12	19	7
<b>Ballina</b>	20.97%	18.36%	-2.60%	10	16	6
<b>Lismore</b>	11.64%	11.31%	-0.32%	6	10	4
<b>Richmond Valley</b>	24.67%	21.86%	-2.80%	12	19	7
<b>Clarence Valley</b>	22.10%	20.51%	-1.59%	11	17	6
<b>Coffs Harbour</b>	24.42%	23.22%	-1.20%	9	11	2
<b>Kyogle</b>	18.57%	18.88%	0.31%	11	13	2
<b>Tenterfield</b>	22.31%	22.72%	0.41%	9	14	5
<b>Glen Innes Severn</b>	27.44%	25.65%	-1.79%	11	13	2
<b>Inverell</b>	22.23%	24.16%	1.93%	10	15	5
<b>Gwydir</b>	18.23%	21.17%	2.93%	14	17	3
<b>Moree Plains</b>	27.26%	31.77%	4.52%	18	25	7
<b>Median</b>	22.10%	21.17%	-0.55%	11	16	5

Figure 20 - Percentage occupied by top 50 landowners (2004-19) (East to West)

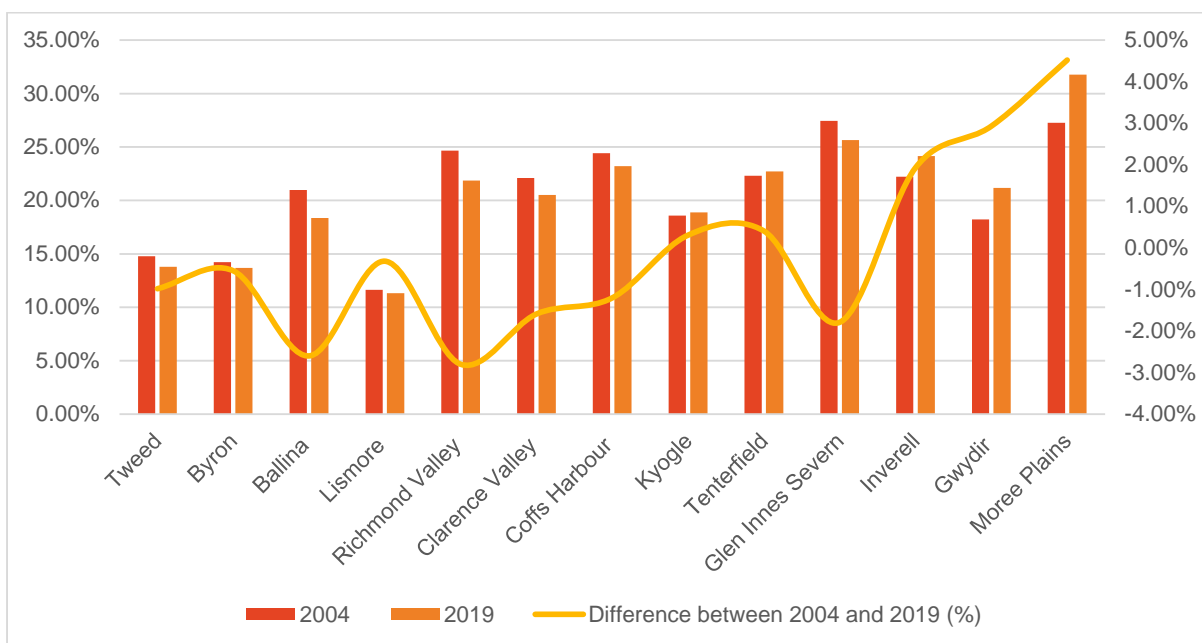
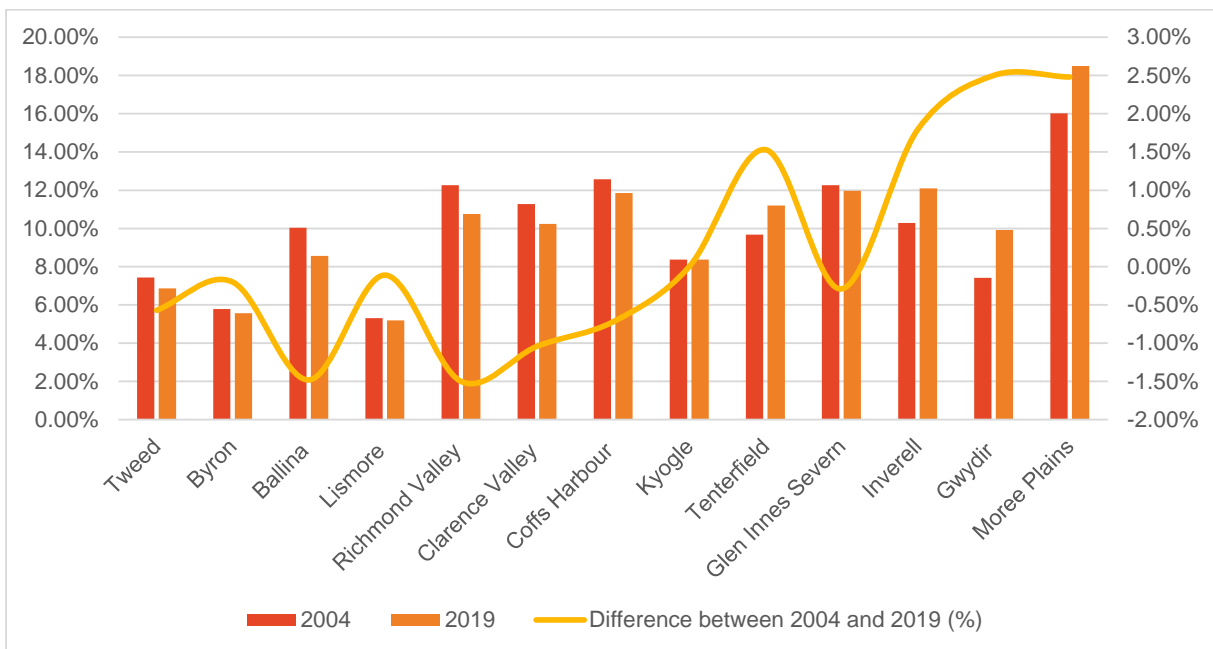


Table 5 - Ownership trends for top 15 landowners by LGA

LGA	% Of study area occupied by top 15 landowners		Difference	Number of corporate landowners in top 15		Difference	% Of study area occupied by top 15 landowners that is corporate owned		Difference
	2004	2019		2004	2019		2004	2019	
<b>Tweed</b>	7.44%	6.87%	-0.57%	6	7	1	66.14%	64.81%	-1.34%
<b>Byron</b>	5.78%	5.57%	-0.20%	5	6	1	32.82%	42.30%	9.48%
<b>Ballina</b>	10.04%	8.56%	-1.48%	5	6	1	36.54%	38.01%	1.47%
<b>Lismore</b>	5.31%	5.19%	-0.11%	4	5	1	36.21%	48.18%	11.96%
<b>Richmond Valley</b>	12.26%	10.75%	-1.50%	5	8	3	42.57%	56.69%	14.13%
<b>Clarence Valley</b>	11.27%	10.23%	-1.04%	6	4	-2	49.50%	35.63%	-13.86%
<b>Coffs Harbour</b>	12.57%	11.85%	-0.72%	3	5	2	23.71%	36.07%	12.36%
<b>Kyogle</b>	8.37%	8.37%	0.00%	3	5	2	20.98%	35.21%	14.24%
<b>Tenterfield</b>	9.67%	11.20%	1.53%	1	6	5	8.59%	38.02%	29.43%
<b>Glen Innes Severn</b>	12.26%	11.97%	-0.29%	5	6	1	32.56%	40.24%	7.69%
<b>Inverell</b>	10.29%	12.09%	1.79%	4	4	0	30.93%	36.74%	5.81%
<b>Gwydir</b>	7.42%	9.92%	2.50%	7	8	1	44.66%	61.12%	16.46%
<b>Moree Plains</b>	16.02%	18.50%	2.48%	11	10	-1	72.73%	67.13%	-5.60%
<b>Median</b>	10.04%	10.23%	-0.20%	5	6	1	36.21%	40.24%	9.48%

Figure 21 - Percentage occupied by top 15 landowners (2004-19) (East to West)



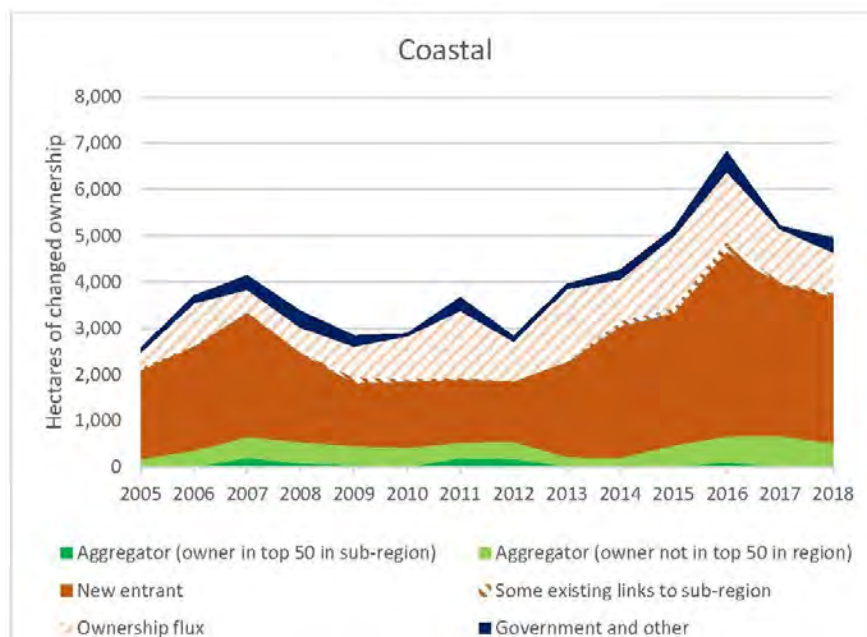
## Coastal areas

The area owned by the top 50 and top 15 landowners fell between 2004-19 for all coastal and hinterland LGAs - Coffs Harbour, Clarence Valley, Richmond Valley, Ballina, Byron, Tweed and Lismore. As discussed earlier, these areas were all characterised by an increased turnover of land ownership during the study period, and as addressed in the next section, have all experienced intensified population growth. To assess some of the detail of these patterns of land fragmentation and subdivision, we focus on one portion of the coastal part of the Northern transect, the region around Ballina. We define this as the six SA2s (a spatial scale used in the Census) of Ballina, Ballina Region, Lennox Head-Skennars Head, Evans Head, and Bangalow. For all land transactions in this area during the study period, we classified buyers into one of four categories:

- 'new entrants' (buyers who were not previously landowners in the area);
- 'aggregators' (existing landowners in the area acquiring additional land);
- 'some links to the region' buyers (where several individuals were listed as the buyers of a parcel, and at least one of these individuals already had land in the area), or
- 'ownership flux' buyers (where there is an overlap of some of the same names as both buyers and sellers, usually representing cases where land is transacted among various family members).

Figure 22 shows the results from this analysis. It is clearly apparent that 'new entrants' are the major category of buyers of land in this area, and the increased area of land being transacted in the second half of the study period is largely attributable to this category. Most of the land in the Coastal region acquired by new entrants was agricultural, but buyers did not necessarily retain existing land uses. While the average agricultural holding size is 58 hectares in Ballina Region (the SA2 that mostly covers the Coastal region), only 4% of the transfers of agricultural land to new entrants in Coastal over the study period involved holdings of this size or larger. Most (59%) involved transfers of less than 10 hectares of land. This points to widespread fragmentation of agricultural holdings through the separate sale of individual parcels or, where possible through regulation, parcel sub-division. Much of this activity occurred on grazing land, leading to a dramatic reduction in cattle farming in the coastal region (a 23% fall in the number of beef cattle farmers in the region between the 2011 and 2016 censuses).

Figure 22. Category of land buyers, coastal areas near Ballina



### Forested lands: Kyogle and Tenterfield

Trends in land concentration were relatively static in the two LGAs of Tenterfield and Kyogle, both featured by extensive areas of private forested land with farming (mainly beef grazing) on valley areas. Trends in these LGAs were influenced heavily by a rollercoaster ride of changing land acquisition and disposal patterns as forestry companies established to take advantage of the favourable tax treatment adjusted their land investments. Prior to our study period, two major companies built large portfolios of forest lands in Kyogle and Tenterfield, along with other adjacent LGAs. Over the first few years of the study period, they further expanded their interests through strategic acquisitions of farmland for conversion to forestry. The ending of favourable tax treatment during the first decade of the 2000s however mortally wounded these companies, which both entered voluntary administration in 2009 and 2010 respectively. After years of legal wrangling, from 2014-15 these companies' land assets were disposed. The net effect of these developments was to fragment what were previously large holdings. However, at the same time, overall processes of land concentration in the grazing sector were also taking place, creating a situation where trends in these two sectors (grazing and forestry) were offsetting one another hence leading to a net situation of little change in overall rural land concentration.

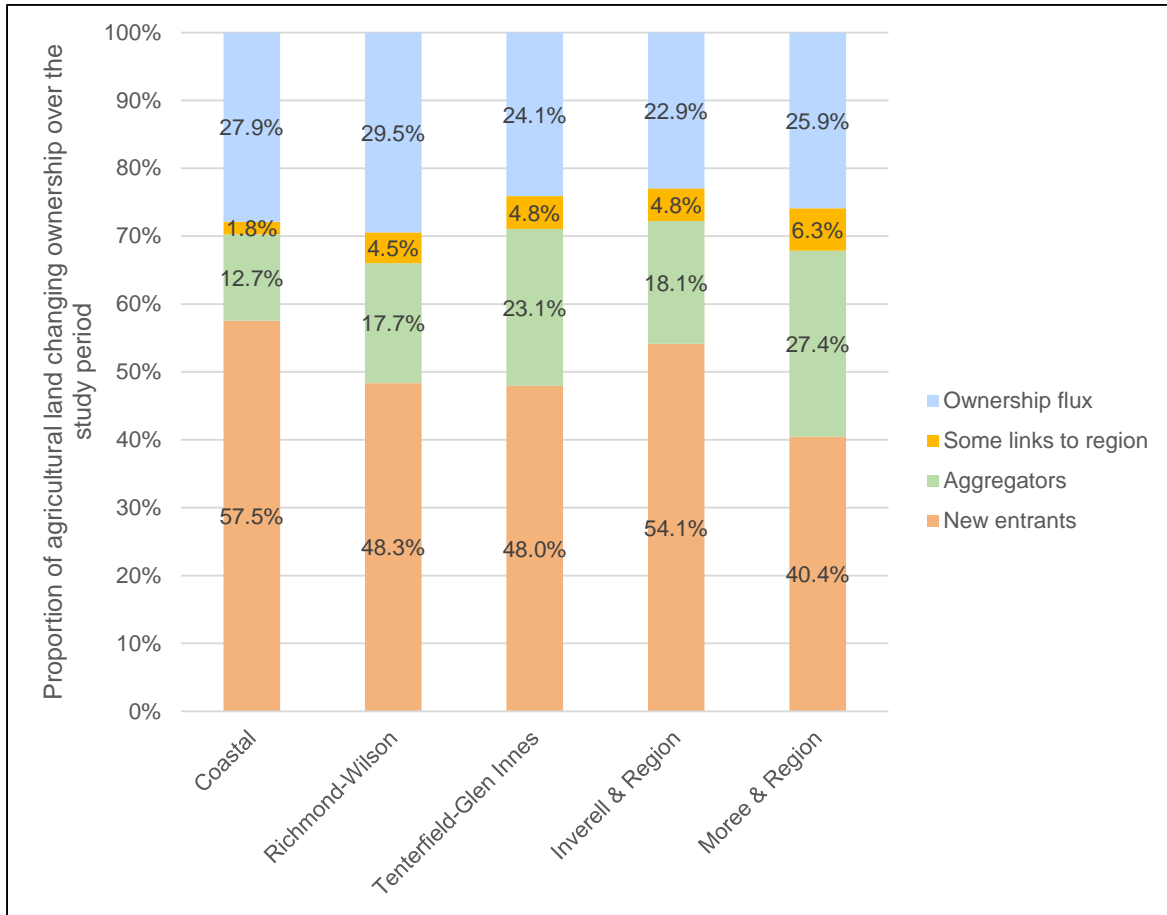
### Inland cropping and grazing areas

During the study period, the ownership of land became more concentrated in Inverell, Gwydir and Moree Plains. This is an unexpected result for these LGAs. The large-scale grazing and cropping activities which dominate these areas are subject to ongoing pressures to build economies of scale. Somewhat anomalously, Glen Innes Severn did not follow this same pattern. Over the study period, the proportion of land held by the 15 and 50 largest landowners declined, indicating a trend of ownership dilution, not concentration (Figure 20, Figure 21). When stakeholders in Glen Innes Severn were appraised of these data during focus group discussions, a plausible explanation emerged relating to the absence of irrigated water in the LGA in the context of drought for much of the study period. These factors meant that the LGA did not face the comparable demand for large-scale land acquisitions that were felt further north and west, especially in Gwydir and Moree Plains. Stakeholders additionally pointed out that agriculture in Glen Innes Severn Shire is in a state of transition, with sheep giving way to cattle, and uncertainties relating to farm viability have tempered demand for land to be aggregated into larger holdings.

### Who is acquiring land: new entrants or existing landowners?

In Figure 23, the 12 LGAs constituting the transect are aggregated into five regions based on biophysical characteristics. (This means, for example, that the coastal portions of Richmond Valley and Clarence Valley LGAs are separated from their inland portions.) With the minor exception of Inverell and Region, there is a steady transition east to west. New entrants make up higher shares of acquirers in eastern parts of the transect, and the role of aggregators (landowners already in the same area) comprise higher proportions in western parts. These results confirm expected trends, in that the coastal parts of the transect are magnets for incomers to the region, while western portions less so. The results also indicate that although the entry of new agricultural investors, such as superannuation firms, gains considerable attention in parts of the transect such as Moree Plains and Gwydir, changes to land ownership arrangements in these areas are strongly shaped by the role of existing landholders building larger farms through local aggregation.

Figure 23. Categories of land acquirers, 2004-19



**Insight 4.** There is an east-west gradient to the pattern of who is acquiring land in the transect. New entrants to the region are relatively more important acquirers of land in coastal portions of the transect, representing 57.5% of land acquisitions in coastal LGAs over the study period. In the furthest west area, Moree Plain, new entrants were responsible for only 40.4% of land acquired. The inverse pattern is apparent with respect to aggregators (landholders already in the region). In coastal LGAs, aggregation represented just 12.7% of land acquired, while in Moree Plains, it was 27.4%.

## 2.4 Land prices

A prevailing feature of Australia’s contemporary rural economy is that land prices have grown more rapidly than economic returns from farming. This is demonstrated in Figure 24, which shows that since circa 2014, rural land prices have grown faster than the agricultural commodity price index. The data in Figure 24 are for all NSW, but these trends are equally prominent in the transect region. However, they have different drivers from east to west, with increased competition for rural land in coastal areas triggering land price increases, and agricultural land investment driving change further west.

Figure 24. The decoupling of agricultural land prices from commodity prices



Source: Rural Bank (2021)

Coastal regions have high rural land prices per hectare, as might be expected. The Rural Bank estimates that farmland prices in Ballina, Coffs Harbour and Tweed are upwards of \$17,000 per hectare (Table 6). Due to a small number of transactions recorded by the Rural Bank, data for Byron Shire were not published, however it would be expected that this would be similar. Lismore, slightly inland but still with high amenity values and rural residential demand, had farmland prices of more than \$14,000 per hectare. The Rural Bank also records that farmland prices in Ballina and Coffs Harbour had compound annual growth rates over the past five years of upwards of 20%, signalling massive demand for rural land. The messages from the Rural Bank data are complemented by the most recent publication by the NSW Valuer-General (2022) which points to accelerating land price increases. In the year from June 2020 to June 2021, land prices on the NSW North Coast (albeit a larger area than this transect, and also including urban land) increased by 28.7% (2021: 16). By comparison, land prices in Sydney grew by (just) 18.4% in this same one-year period.

At the time of writing (November 2022) there has been a deceleration of land prices across the state from their 2021 highs. Nevertheless, beyond such cyclical trends, the consistent perspective from focus group respondents is that a long-term trend towards higher land prices in high amenity rural parts of the coast and immediate hinterland. These trends seem to have been strengthened, moreover, by the disruptions of COVID-19 and its inducements towards more flexible working arrangements, including work-from-home. During the COVID-affected period of June 2020 to June 2021, the coastal LGAs of the transect experienced massive increases in land prices. The NSW Valuer-General reported that increases in residential land values during this twelve-month period for selected LGAs included: Byron (51.9%), Ballina (39.3%), Richmond Valley (38.4%), Clarence Valley (31.9%) and Kyogle (27.4%) (NSW Valuer-General, 2022: 16). Equally however, rural land values (as opposed to residential land values) also grew strongly, as described as follows:

“Byron increased 70.5% as the residential market moved into hobby farms and lifestyle properties, while nearby Ballina experienced a very strong 32.2% increase. Strong increases were also seen in Coffs Harbour (11.9%), Nambucca (28.8%) and Clarence Valley (22.9%), with increased demand from both lifestyle changers and rural producers. Good rainfall, buoyant commodity prices, low interest rates and

a favourable seasonal outlook has seen on-going demand for quality cropping and grazing land from local and interstate buyers and western graziers” (NSW Valuer-General, 2022: 16).

The analysis by the NSW Valuer-General is instructive because it points not only to the growth of demand for rural land from lifestyle changers, but also the interconnections between the farming economy of western NSW and the coast. This was a point raised in several focus groups and connects these parts of the northern transect. As described below, aggregation of rural properties in inland farming areas can enable exiting farmer farmers, often in near-retirement age-brackets, to capitalise on their assets and move to higher amenity areas near the coast. This provides a further impetus to land ownership change and land price inflation in these areas.

Evidently, there are also strong land use implications from higher land prices. These act to squeeze out low-return forms of agriculture in favour of activities that generate higher returns per hectare, such as intensive horticulture, or non-agricultural activities based around the capitalisation of amenity. Demand for agricultural land is hence being buoyed by rural residential and amenity uses, including the rapid expansion of Airbnb rural properties in LGAs such as Ballina, Byron, Tweed, Lismore and Coffs Harbour. At the focus group in Byron Shire, the researchers were advised that 18% of all dwellings in the LGA were listed on Airbnb. Around Ballina and Byron, the boom in ‘location weddings’ is tied to the Airbnb leasing of dwellings on rural land. As one participant in the Ballina focus group commented “if owners can make so much money out of weddings, why would they bother farming?”. The implications of this are substantial and full analysis awaits further investigation.

Land price escalation is also connected to restrictions on rural subdivisions and minimum lot size mandates created through planning instruments. On the one hand, this reduces the stock of parcels potentially available for rural residential purposes, increasing the price of parcels with existing dwelling entitlements. In other instances, the existence of these restrictions may generate speculative demand by ‘land banking investors’ who bid up prices for rural land in expectation of changes to planning restrictions. In one focus group in a coastal LGA, council officers told of the sustained pressure they were under from consultants advocating for changes to the size and location of urban release areas on behalf of their clients. Moreover, even when urban development is permissible on land, the owners may strategically delay its release pending more conducive market conditions, leaving areas of land unused for several years.

*Table 6 - Farmland prices by LGA*

LGA	2020 Median \$/ha	LGA	2020 Median \$/ha
<b>Tweed</b>	\$17,154	<b>Kyogle</b>	\$9,267
<b>Byron</b>	-	<b>Tenterfield</b>	\$3,836
<b>Ballina</b>	\$18,830	<b>Glen Innes Severn</b>	\$5,110
<b>Lismore</b>	\$14,240	<b>Inverell</b>	\$4,021
<b>Richmond Valley</b>	\$7,160	<b>Gwydir</b>	\$3,421
<b>Clarence Valley</b>	\$6,785	<b>Moree Plains</b>	\$4,787
<b>Coffs Harbour</b>	\$17,596	<b>NSW</b>	\$5,855

Source: Rural Bank (2021)

In western portions of the transect, land prices have also increased, though with cyclical implications arising from seasonal agricultural conditions. Research associated with this project has demonstrated that the rate at which agricultural land changes ownership is positively correlated with post-drought recovery conditions. During these periods, land prices increase and farmers, some of whom may be financially stressed from drought, take advantage of these market conditions. Demand for prime agricultural land in the western parts

of the transect has been further strengthened by large agricultural investors into the region. The entry of large domestic and international financial operations connected to superannuation funds has been a point of considerable publicity in parts of the transect over the past decade. This is part of a wider set of processes associated with the financialisation of agriculture. Large institutional investors have identified land as a long-term asset class which generates returns not only from operational (farming) activities, but also capital gains. A parallel phenomenon has been the purchase of land by foreign agri-corporate organisations from countries not previously associated with foreign investment in Australian agriculture, such as China and the United Arab Emirates. There is a number of prominent examples of these investors in the western portions of the transect area, and these investors have been said to have been associated with paying “good prices” (in the words of one focus group participant) for prized agricultural land.

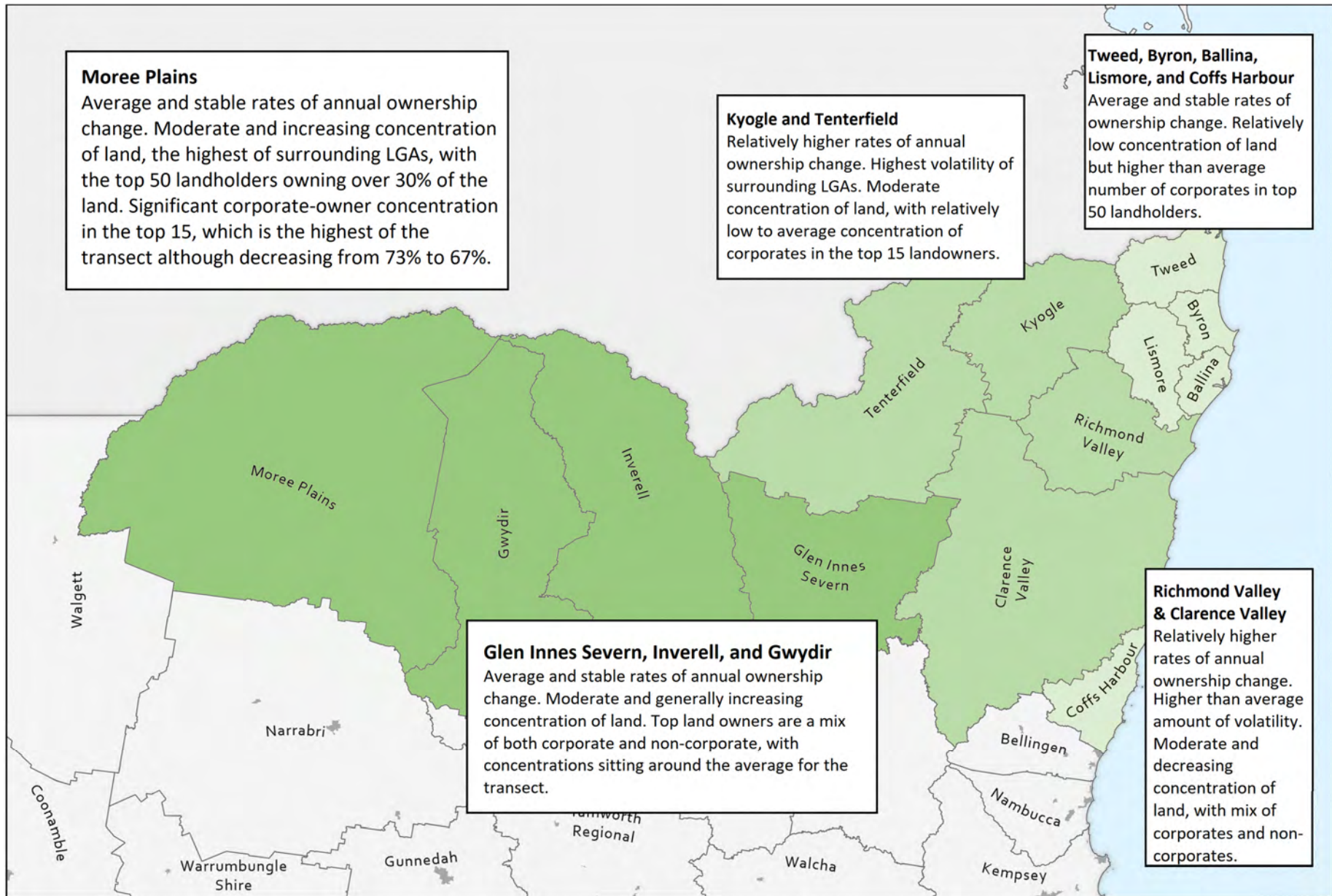
**Insight 5. The rising cost of land is a key driver of ownership change in the Northern transect, that transcends cyclical trends in the property market. There are long-term drivers of land price inflation in the transect, including rural residential forces on the coast, and strategic land acquisition inland.**

**Themes for future research:** The 2020-2022 period has been one of great change in the way land changes ownership in NSW. The COVID-19 pandemic, combined with the end of the most intense period of drought in recent years, record low interest rates, record high commodity prices and an intense La Niña, have significantly affected some of the trends of previous years. As such, it is important to consider annual churn rates beyond the period explored in this report. Future research should dive into these themes in more detail.

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.



Figure 25 - Summary of findings, rate of ownership change and concentration of land in the Northern Transect



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

There has been rapid population growth in coastal portions of the northern transect, with other areas experiencing slowly increasing or declining populations. Strongest growth has been in the north-eastern LGAs of Tweed (up 22.8% between 2006-21), Byron (up 25.6%) and Ballina (20.4%). Further south, Coffs Harbour LGA increased in population by 21.3% between 2006-21 (Table 7).

The story inland is more mixed. Richmond Valley and Clarence Valley, two large LGAs with significant rural towns (Casino and Grafton respectively), large areas of agriculture and forestry, and coastal portions (centred around Evans Head and Yamba/Iluka respectively) grew at a steady clip of 12.6% and 10.4% respectively. For Lismore and Tenterfield, population growth was approximately half that rate, with modest gains of 5.0% and 4.2% respectively over the fifteen years 2006-21. Kyogle and Glen Innes Severn trod water, with growth of just 1.1% and 1.7% respectively. The furthest west LGAs, Gwydir and Moree Plains, lost population. The striking outlier to these trends was Inverell, which posted population growth of over 15% (approximately 1% per year) during 2006-21. Analysis discussed below indicates that this growth came from outside Inverell town, in the rural portions of the LGA.

*Table 7 - Demographic overview (data based on ABS 2021)*

LGA	Total population (2021)	Population change (2006-21)	Population density (persons/km <sup>2</sup> ) (incl UCLs)	Percentage of residents living in rural areas of LGA (non-UCL) (2016)
<b>Tweed</b>	97,392	22.8%	75.23	13.84%
<b>Byron</b>	36,116	25.6%	63.23	28.35%
<b>Ballina</b>	46,296	20.4%	93.25	20.29%
<b>Lismore</b>	44,334	5.0%	33.91	28.85%
<b>Richmond Valley</b>	23,565	10.6%	7.71	30.61%
<b>Clarence Valley</b>	54,114	12.4%	4.96	27.23%
<b>Coffs Harbour</b>	78,759	21.3%	66.16	10.90%
<b>Kyogle</b>	9,359	1.1%	2.45	62.62%
<b>Tenterfield</b>	6,810	4.2%	0.88	52.87%
<b>Glen Innes Severn</b>	8,931	1.7%	1.62	34.42%
<b>Inverell</b>	17,853	15.1%	1.89	35.19%
<b>Gwydir</b>	4,910	-7.5%	0.57	56.99%
<b>Moree Plains</b>	12,751	-8.8%	0.73	30.36%

These population trends have significance for the rural land market across the transect. To establish a more comprehensive picture of their ramifications, Table 8, Table 9 and Table 10 present population data in three dimensions. Table 8 examines change in each LGA's population between the 2006, 2011 and 2016 censuses in terms of the split between Urban Centres and Localities (equating to built-up towns and regional cities), and other parts of the LGA, essentially, rural areas consisting of farm and hamlet populations. At the time of

writing, this split in data for each LGA was not available for the 2021 census. However, total population estimates for each LGA for 2021 are also included in this table. Table 9 displays the changing age composition of each LGA during the 2011-16 census period. Age cohorts declining in population are shaded red. Finally, Table 10 displays populations at the 2016 and 2021 census for all SA2 areas in the transect. These data are divided into the geographically bespoke categories of 'coastal residential', 'urban centres' and 'mainly rural'. Glen Innes, Tenterfield and Kyogle are not included in this table because their SA2 areas do not coincide readily with this classification.

Reading these tables together leads to the following observations:

- The populations of **Ballina Shire** and **Byron Shire** boomed during 2016-21, increasing in annualised growth from 1.6% to 2.9% (Byron) and 1.3% to 2.2% (Ballina). This continues an earlier acceleration in growth during the decade 2006 to 2016. This growth was mainly contributed by increased populations outside of their titular towns. In Byron Shire, the population outside of Byron Bay township fell at an annualised rate of 0.24% from 2006-11 but then increased by 1.65% annualised 2011-16. For the 2016-21 period, the population of Brunswick Heads-Ocean Shores, just outside of Byron Bay township, grew by almost 12% (Table 10). Clearly this provides evidence of spill overs from Byron Bay into adjoining coastal areas. The SA2s of Mullumbimby and Bangalow, although classified as 'urban centres' in Table 10 because they are substantial towns in their own right, also have large rural portions and they also grew substantially in the 2016-21 period, by 11.3% and 22.7% respectively. In Ballina Shire, there was a sharp increase in the population growth rate outside of Ballina township in 2011-16, and data from 2016-21 tell a similar story to Byron. The coastal region of Lennox Head-Skennars Head grew in population by 19% in the five years to 2021, and 'Ballina Surrounds' which includes Alstonville and Wollongbar, increased by 8.9%. By contrast, Ballina township itself grew by 8.8% in tis same period. Demographic data reported in Table 9 for 2011-16 indicate that the core working age populations (20 to 59 years) in these two LGAs increased, suggesting that employment was an important driver of wider population trends.
- **Tweed** and **Coffs Harbour** LGAs also display rapid population growth, but not with the sharp escalation apparent in Byron and Ballina. In Tweed, population growth from 2006-16 was focused on the urban parts of the Shire. Data from 2016-21 paint a mixed picture of population change, with some SA2s outside of Tweed Heads urban area exhibiting rapid growth (for example, Murwillumbah Surrounds) while others, less so (for example, Terranora-North Tumbulgum). Like Byron and Ballina, population growth in coastal 'spillover' areas (such as Kingscliff-Fingal Head) was rapid. A similar pattern ensued in Coffs Harbour, where the population of the city itself grew at a faster rate than rural areas of the Shire from 2006-16. Rapid coastal population growth occurred in Korora-Emerald Beach (north of Coffs) from 2016-21, but growth was modest south of the city, in the coastal strip Sawtell-Boambee, and in the hinterland region of Coramba-Nana Glen-Bucca. Similarly to Byron and Ballina, working age populations in Tweed and Coffs Harbour grew.
- **Lismore** and **Richmond Valley** LGAs posted modest population growth during the study period. In both cases, during 2011-16, population growth outside of urban centres and localities increased more than within urban areas. This continued in the 2016-21 period, for example with Lismore City's population falling by 0.3% and Goonellabah increasing at a modest 3.6%, while 'Lismore Surrounds', which takes in rural areas mainly to the north of Lismore City, increasing in population by 5.0%. In Richmond Valley, Casino township increased in population by just 0.5% between 2016-21, while 'Casino Surrounds' increased by 5.9% and the coastal area of Evans Head increased by 8.1%. In Lismore, the number of people in all age brackets under 60 years of age fell during 2011-16.
- **Kyogle** and **Tenterfield** LGAs are interesting cases. Both experienced little population change in the 2006-11 before suffering a drop in population in 2016 and a strong rebound in 2021. There are competing dynamics at play in both these LGAs. Agricultural-based populations are falling, but there is population growth attached to lifestyle migration. This takes the form of both retirees and middle class new entrants acquiring rural blocks, and others taking advantage of lower housing costs in these towns (at least in the period up until circa 2020-21). In popular regional imaginations, these two

areas have been dubbed as part of an expanding frontier of amenity migration. At our focus group in Kyogle, one participant suggested that planning should not try to create a “*Bangalow-isation*” of the town, while Tenterfield has been whimsically labelled “Byron Heights” by some, in recognition of the availability of lifestyle blocks for would-be migrants to Byron Shire, at much cheaper prices than on the coastal strip. These trends should not be overstated however. By age, the only population segments in these LGAs that have been growing are people over 60 years of age, reflecting an ageing population. In Tenterfield, the town population has been falling but the population of rural parts of the LGA have been increasing. This is a signal of rural residential growth, as the number of farm families continues to decline in this area.

- **Glen Innes Severn** and **Inverell** offer contrasts to one another, despite the geographical similarities. Inverell has posted modest growth, while Inverell’s population grew by over 15% between 2006 and 2021, a result that is more in line with the performance of coastal LGAs in the transect. Significantly, Inverell’s population grew in every inter-census period between 2006-21, signifying this is a continued (rather than one-off) phenomenon. Moreover, the age group 20-29 years increased in Inverell by 13% between 2011-16, reflecting very strong employment-led population change. At the Inverell focus group, participants pointed to the relatively robust level of water security in rural parts of the Shire enabled by Copeton Dam, and its impact in terms of encouraging value-added agriculture including horticulture and feedlots.
- **Gwydir** and **Moree Plains** provide an expected recent history of population change for these largely agricultural areas. Town populations have declined slowly over time. Rural populations increased from 2011-16 largely because of a positive response to better economic conditions following the Millennial drought. There is ageing in both these LGAs, but in Gwydir, some evidence of working age populations increasing.

The impact of ageing cannot be underestimated when discussing the population trends of the transect. This occurs both through existing populations getting older in the context of outmigration by younger people, and in the case of the coastal LGAs, strong inwards migration from retirees. Examining the median ages of LGAs and their proportion of residents over 65-years-old reveals that the Northern transect is younger at its westernmost and easternmost edges. While the median age of the transect was 46 years in 2016, Moree Plains was significantly younger with a median age of 38 – the same as the national median (ABS 2016a). Moree Plains’ median age is greatly influenced by the LGA’s Indigenous population which comprises 21.63% of the LGA’s total population. Excluding Indigenous residents, Moree Plains would have a median age of 41. While this is closer to the transect’s figure, it is still the youngest of all LGAs in the region.

About a fifth of the transect’s population is over the age of 65, with the greatest proportion of over 65-year-olds in Tenterfield. Between 2011-16, the proportion of those over 65 increased by 17.3% in the transect. Kyogle and Tenterfield stand out, with a respective 32.5% and 31.94% increase in their population over 65.

The transect’s population growth is attributed to growth in older age groups (over 50), while young people and families are making up a progressively smaller proportion of the community (see Table 9). Conversely, Byron and Coffs Harbour demonstrated notable increases in the number of youths. For Byron LGA, 20-29-year-olds increased by 14.63% between 2011-16. For Coffs Harbour, there appears to be an increase in young families, indicated by growth in the number of young children (0-9 years) and 20-39-year-olds. However, the growth of older age groups in these LGAs still surpasses that of younger age groups.

Table 8 - Change in population size 2006-2020

LGA	Population in 2006	Population in 2011	Population in 2016	Population 2021	Av. annual change 2006-11	Av. annual change 2011-16	Av. annual change 2016-21
<b>Tweed</b>	<b>79,320</b>	<b>85,107</b>	<b>91,374</b>	<b>97,392</b>	<b>1.46%</b>	<b>1.47%</b>	<b>1.31%</b>
• UCLs	65,720	72,986	78,728	---	2.21%	1.57%	---
• Rest of LGA	13,600	12,121	12,646	---	-2.18%	0.87%	---
<b>Byron</b>	<b>28,765</b>	<b>29,207</b>	<b>31,556</b>	<b>36,116</b>	<b>0.31%</b>	<b>1.61%</b>	<b>2.89%</b>
• UCLs	20,401	20,942	22,611	---	0.53%	1.59%	---
• Rest of LGA	8,364	8,265	8,945	---	-0.24%	1.65%	---
<b>Ballina</b>	<b>38,462</b>	<b>39,272</b>	<b>41,786</b>	<b>46,296</b>	<b>0.42%</b>	<b>1.28%</b>	<b>2.15%</b>
• UCLs	30,574	32,240	33,308	---	1.09%	0.66%	---
• Rest of LGA	7,888	7,032	8,478	---	-2.17%	4.11%	---
<b>Lismore</b>	<b>42,209</b>	<b>42,764</b>	<b>43,134</b>	<b>44,334</b>	<b>0.26%</b>	<b>0.17%</b>	<b>0.55%</b>
• UCLs	28,927	30,603	30,689	---	1.16%	0.06%	---
• Rest of LGA	13,282	12,161	12,445	---	-1.69%	0.47%	---
<b>Richmond Valley</b>	<b>21,314</b>	<b>22,038</b>	<b>22,805</b>	<b>23,565</b>	<b>0.68%</b>	<b>0.70%</b>	<b>0.67%</b>
• UCLs	14,640	15,424	15,824	---	1.07%	0.52%	---
• Rest of LGA	6,674	6,614	6,981	---	-0.18%	1.11%	---
<b>Clarence Valley</b>	<b>48,148</b>	<b>49,666</b>	<b>50,670</b>	<b>54,115</b>	<b>0.63%</b>	<b>0.40%</b>	<b>1.36%</b>
• UCLs	33,806	35,707	36,873	---	1.12%	0.65%	---
• Rest of LGA	14,342	13,959	13,797	---	-0.53%	-0.23%	---
<b>Coffs Harbour</b>	<b>64,913</b>	<b>68,414</b>	<b>72,949</b>	<b>78,759</b>	<b>1.08%</b>	<b>1.33%</b>	<b>1.59%</b>
• UCLs	56,284	60,949	64,995	---	1.66%	1.33%	---
• Rest of LGA	8,629	7,465	7,954	---	-2.70%	1.31%	---
<b>Kyogle</b>	<b>9,257</b>	<b>9,227</b>	<b>8,939</b>	<b>9,359</b>	<b>-0.06%</b>	<b>-0.62%</b>	<b>0.94%</b>
• UCLs	3,375	3,332	3,341	---	-0.25%	0.05%	---
• Rest of LGA	5,882	5,895	5,598	---	0.04%	-1.01%	---
<b>Tenterfield</b>	<b>6,536</b>	<b>6,809</b>	<b>6,624</b>	<b>6,810</b>	<b>0.84%</b>	<b>-0.54%</b>	<b>0.56%</b>
• UCLs	3,372	3,227	3,122	---	-0.86%	-0.65%	---
• Rest of LGA	3,164	3,582	3,502	---	2.64%	-0.45%	---
<b>Glen Innes Severn</b>	<b>8,782</b>	<b>8,655</b>	<b>8,832</b>	<b>8,931</b>	<b>-0.29%</b>	<b>0.41%</b>	<b>0.02%</b>
• UCLs	6,519	5,788	5,792	---	-2.24%	0.01%	---
• Rest of LGA	2,263	2,867	3,040	---	5.34%	1.21%	---

<b>Inverell</b>	<b>15,505</b>	<b>16,077</b>	<b>16,485</b>	<b>17,853</b>	<b>0.74%</b>	<b>0.51%</b>	<b>1.65%</b>
• UCLs	10,836	10,523	10,684	---	-0.58%	0.31%	---
• Rest of LGA	4,669	5,554	5,801	---	3.79%	0.89%	---
<b>Gwydir</b>	<b>5,310</b>	<b>4,965</b>	<b>5,255</b>	<b>4,910</b>	<b>-1.30%</b>	<b>1.17%</b>	<b>-1.31%</b>
• UCLs	2,406	2,214	2,260	---	-1.60%	0.42%	---
• Rest of LGA	2,904	2,751	2,995	---	-1.05%	1.77%	---
<b>Moree Plains</b>	<b>13,973</b>	<b>13,428</b>	<b>13,158</b>	<b>12,751</b>	<b>-0.78%</b>	<b>-0.40%</b>	<b>-0.62%</b>
• UCLs	9,831	9,652	9,163	---	-0.36%	-1.01%	---
• Rest of LGA	41,42	3,776	3,995	---	-1.77%	1.16%	---
<b>TOTAL</b>	<b>382,494</b>	<b>395,629</b>	<b>413,567</b>	<b>441,191</b>	<b>0.69%</b>	<b>0.91%</b>	<b>1.33%</b>

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

Table 9 - 10-year age group growth pattern (2011-16) (%)

	Tweed	Byron	Ballina	Lismore	Richmond Valley	Clarence Valley	Coffs Harbour	Kyogle	Tenterfield	Glen Innes Severn	Inverell	Gwydir	Moree Plains
<b>0-9 years</b>	3.67	-2.38	2.33	-7.29	-3.22	-6.01	4.67	-17.97	-23.57	-6.45	-1.61	5.65	-5.05
<b>10-19 years</b>	-3.88	-3.00	-4.50	-9.11	-2.09	-12.17	-5.78	-17.20	-10.50	-4.26	-3.55	-4.17	-13.18
<b>20-29 years</b>	3.97	14.63	0.92	-2.88	8.75	4.05	9.91	-10.36	-1.14	2.26	12.93	6.98	-2.70
<b>30-39 years</b>	5.73	0.97	1.60	-3.03	-8.24	-7.94	5.90	-13.21	-29.51	3.35	-6.10	0.42	-11.12
<b>40-49 years</b>	0.32	1.79	-0.17	-7.76	-2.52	-7.51	-1.48	-14.51	-3.57	-5.90	-4.05	-7.11	-6.68
<b>50-59 years</b>	8.15	-1.41	2.61	-0.85	0.47	1.15	1.42	-3.29	-10.94	-1.31	5.08	16.41	4.95
<b>60-69 years</b>	22.31	45.21	24.03	29.70	18.83	16.63	21.49	26.30	24.93	5.22	5.60	1.98	9.74
<b>70-79 years</b>	16.16	38.17	25.22	21.93	19.33	22.55	23.96	22.07	24.13	23.33	16.65	27.42	24.76
<b>80-89 years</b>	6.53	-2.94	3.52	8.45	11.02	16.56	9.13	11.45	16.07	13.35	8.30	13.27	17.55
<b>90-99 years</b>	45.60	53.14	52.22	25.89	8.24	36.19	46.55	58.33	32.56	12.64	9.84	51.28	4.17
<b>100+ years</b>	5.00	33.33	-12.50	160.00	40.00	7.69	27.27	-100.00	[NaN]	[NaN]	16.67	[NaN]	[NaN]

Table 10. Population change by geographical category, 2016-21

	2016	2021	Change
<b>Coastal residential</b>			
Korora - Emerald Beach	8,740	10,262	17.4%
Sawtell – Boambee	19,474	20,066	3.0%
Brunswick Heads - Ocean Shores	8,212	9,170	11.7%
Evans Head	5,219	5,643	8.1%
Lennox Head - Skennars Head	7,741	9,236	19.3%
Kingscliff - Fingal Head	13,150	14,818	12.7%
Pottsville	13,181	14,086	6.9%
Banora Point	15,636	16,320	4.4%
<b>Total</b>	<b>91,353</b>	<b>99,601</b>	<b>9.0%</b>
<b>Mainly Rural</b>			
Grafton Surrounds	15,313	16,875	10.2%
Coramba - Nana Glen – Bucca	3,816	3,950	3.5%
Inverell Surrounds – East	5,235	5,200	-0.7%
Inverell Surrounds – West	5,987	5,734	-4.2%
Moree Surrounds	5,451	5,356	-1.7%
Ballina Surrounds	16,835	18,327	8.9%
Casino Surrounds	6,972	7,381	5.9%
Lismore Surrounds	15,028	15,786	5.0%
Murwillumbah Surrounds	9,653	10,352	7.2%
Terranora - North Tumbulgum	3,249	3,324	2.3%
<b>Total</b>	<b>87,539</b>	<b>92,285</b>	<b>5.4%</b>
<b>Urban centre</b>			
Grafton	18,673	19,255	3.1%
Maclean - Yamba – Iluka	16,283	17,533	7.7%
Coffs Harbour – North	17,464	18,099	3.6%
Coffs Harbour – South	10,294	11,305	9.8%
Woolgoolga – Arrawarra	12,521	14,463	15.5%
Inverell	11,660	12,057	3.4%
Moree	8,203	7,845	-4.4%
Ballina	17,115	18,629	8.8%
Bangalow	5,670	6,958	22.7%
Byron Bay	9,503	10,914	14.8%
Mullumbimby	7,994	8,896	11.3%
Casino	12,231	12,298	0.5%
Goonellabah	13,122	13,591	3.6%
Lismore	15,282	15,229	-0.3%
Murwillumbah	8,942	9,501	6.3%
Tweed Heads	19,418	20,563	5.9%
Tweed Heads South	8,146	8,423	3.4%
<b>Total</b>	<b>212,521</b>	<b>225,559</b>	<b>6.1%</b>

**Insight 6.** The Northern transect is younger at its edges, although all LGAs across the transect are facing ageing populations. The proportion of people over 60 in the transect increased between 2011-16, while children, teenagers, and 30-49-year-olds experienced population decline. Byron and Coffs Harbour subvert this trend, with Byron’s young workforce increasing and Coffs Harbour experiencing an increase in young families.

**Insight 7.** Population growth has been rapid in coastal LGAs, but some inland LGAs are experiencing population decline. The exception is Inverell, which has benefited from value-added, relatively labour-intensive, agricultural investments.

*Table 11 - Changes in rural population by LGA*

<b>LGA</b>	<b>Total population in rural areas of the LGA (non-UCL) (2016)</b>	<b>Population change in rural areas of the LGA (non-UCL) (2006-16)</b>
Tweed	12646	-7.01%
Byron	8945	6.95%
Ballina	8478	7.48%
Lismore	12445	-6.30%
Richmond Valley	6981	4.60%
Clarence Valley	13797	-3.80%
Coffs Harbour	7954	-7.82%
Kyogle	5598	-4.83%
Tenterfield	3502	10.68%
Glen Innes Severn	3040	34.33%
Inverell	5801	24.25%
Gwydir	2995	3.13%
Moree Plains	3995	-3.55%
<b>Total</b>	<b>96177</b>	<b>0.39%</b>

**Insight 8.** Migration patterns for the Northern transect have significant spatial and age-related influences. People under 50 demonstrate higher rates of mobility. There is a distinct spike in out-migration for 20-24-year-olds, with the majority of these youths leaving to the Gold Coast and Brisbane. Meanwhile, in-migration is strongest among people aged 25-39 and 65-and-above – suggesting both young families and retirees are drawn to the transect.



Table 12 - Median age of Indigenous and Non-Indigenous population

	Total Population		Non-Indigenous		Indigenous		Proportion of Population (2016)
	2011	2016	2011	2016	2011	2016	
Tweed	45	47	46	48	20	23	3.96%
Byron	42	44	43	45	22	27	1.82%
Ballina	45	48	46	48	21	23	3.28%
Lismore	40	43	41	44	19	21	5.03%
Richmond Valley	42	44	44	46	19	20	7.17%
Clarence Valley	46	49	47	50	20	23	6.34%
Coffs Harbour	42	44	43	45	19	22	4.99%
Kyogle	45	50	47	51	23	28	4.26%
Tenterfield	47	53	49	54	19	25	6.04%
Glen Innes Severn	46	47	48	49	23	25	6.07%
Inverell	41	42	42	44	19	20	8.52%
Gwydir	45	48	46	49	16	17	5.69%
Moree Plains	35	38	38	41	23	24	21.63%
<b>TRANSECT</b>	43	46	44	47	20	23	5.34%

As mentioned above, out-migration is more prevalent among younger cohorts, with the greatest proportion of those leaving the transect to Significant Urban Areas (SUAs) being aged 20-24. This trend is consistent with other transects in NSW (see, e.g. Hunter transect Report). Most young migrants are leaving to Gold Coast-Tweed Heads<sup>1</sup> and Brisbane (see Figure 26 and Figure 27), perhaps in search of tertiary education and employment opportunities.

Meanwhile, in-migration is skewed towards slightly older cohorts. Migration into the transect from select SUAs is more prevalent among 25-39-year-olds as well as those aged 65 and above (Figure 28/Figure 29). There is a similar spike in in-migration for 5-9-year-olds, suggesting that it is common for young families to move into the transect. Regardless of the specific SUA, out- and in-migration tends to follow the same age pattern. These trends become significantly clearer when looking at migration in and out of *rural* areas of the transect. Examining migration into rural parts of the transect only (Figure 29) demonstrates that it is more common for both young families (5-9-year-olds and 25-39-year-olds) and older cohorts to move from Sydney or Brisbane.

Comparable with other transects in NSW, 36.12% of the Northern transect's rural population in 2016 did not live there five years earlier (Table 13). This high rate of mobility is upheld by migration – both within and out of the transect – among people under 50. 45.26% of people under 50 in rural parts of the Northern transect did not live in the same SA2 five years prior. Instead, the figure for people over 50 was 25.97%. People moving

<sup>1</sup> The proportion of population who moved to Gold Coast-Tweed Heads SUA is likely overstated. Out-migration was calculated by using a proxy measure based on the number of people residing in a specific SUA who lived in any of the Northern transect LGAs five years ago. Because Tweed LGA overlaps with Gold Coast-Tweed Heads SUA, people included in the 'moved to Gold Coast-Tweed Heads' category may have already been living in the area five years ago. Figure 27 presents a more accurate picture of out-migration to Gold Coast-Tweed Heads as there is no overlap between the SUA and SA2.

into the transect from Sydney are typically older, with a higher proportion of people over 50 moving from Sydney than people under 50.

In terms of LGA specific trends, rural Byron (Mullumbimby and Bangalow SA2s) had the greatest proportion of people who moved from Sydney between 2011-16. This area of the transect similarly had the greatest proportion that migrated to Sydney between 2011-16. Migration to and from the Gold Coast – Tweed Heads SUA is most likely to occur in eastern areas of the transect, perhaps largely due to geographical proximity. Considerable proportions of Richmond Valley (3.66%), Clarence Valley (3.48%), and Byron's (3.28%) rural populations migrated out of the transect to Brisbane between 2011-16. Interestingly, people moving into the transect from Brisbane tend to become residents of rural parts of Clarence Valley, Byron, and Tenterfield. Of those who have moved from Brisbane to Tenterfield, 32.34% are 60-69 years old, further contributing to the region's ageing population.

Richmond Valley experienced the highest rate of mobility between LGAs within the Northern Transect. 6.74% of Richmond Valley's population had moved to the LGA from another part of the transect between 2011-16. Ballina closely followed, with 6.55% of their population having moved from elsewhere in the transect. People moving to Richmond Valley and Ballina from elsewhere in the transect are more likely to be from Lismore, perhaps due to the geographical proximity between these LGAs. Indeed, for all LGAs bar Kyogle, Tenterfield, and Glen Innes Severn, there is a higher incidence of movement between bordering LGAs. Most people moving to Kyogle were from Lismore. For Tenterfield, most had migrated from Tweed, while for Glen Innes Severn, most people had moved from Clarence Valley.

**Themes for future research:** Migration trends are in flux because of the effects of the COVID-19 pandemic and aftermath. Once 2021 Census data becomes fully available, these issues will be able to be considered in greater, more current, detail.

Table 13 - Migration into rural parts of the transect

SA2	Total population						Persons over 50					
	Usual residence 2016 (persons)	Same SA2 five years earlier (persons)	Not in same SA2 five years earlier (persons)	Not in the same SA2 in 2011 (proportion, %)	Moved from Sydney (2011 - 2016) (persons)	Moved from Sydney (2011 -2016) (proportion, %)	Usual residence 2016 (persons)	Same SA2 five years earlier (persons)	Not in same SA2 five years earlier (persons)	Not in the same SA2 in 2011 (proportion, %)	Moved from Sydney (2011 - 2016) (persons)	Moved from Sydney (2011 -2016) (proportion, %)
Murwillumbah Region	9653	5924	3729	38.63	191	5.12	4518	3208	1310	29.00	102	7.79
Mullumbimby	7994	4525	3469	43.40	266	7.67	3599	2480	1119	31.09	87	7.77
Bangalow	5670	3070	2600	45.86	345	13.27	2359	1581	778	32.98	101	12.98
Ballina Region	16835	10444	6391	37.96	494	7.73	7560	5636	1924	25.45	167	8.68
Lismore Region	15028	9826	5202	34.62	274	5.27	6758	5261	1497	22.15	94	6.28
Casino Region	6972	4460	2512	36.03	74	2.95	3224	2405	819	25.40	27	3.30
Evans Head	5219	3339	1880	36.02	52	2.77	2596	1910	686	26.43	23	3.35
Grafton Region	15313	10013	5300	34.61	254	4.79	7606	5646	1960	25.77	112	5.71
Maclean – Yamba – Iluka	16283	10894	5389	33.10	364	6.75	9271	6740	2531	27.30	194	7.66
Coramba – Nana Glen – Bucca	3816	2264	1552	40.67	67	4.32	1518	1187	331	21.81	22	6.65
Kyogle	7312	4991	2321	31.74	51	2.20	3672	2829	843	22.96	31	3.68
Tenterfield	6624	4366	2258	34.09	69	3.06	3570	2515	1055	29.55	40	3.79
Glen Innes	8832	6033	2799	31.69	102	3.64	4211	3197	1014	24.08	41	4.04
Inverell Region – East	5235	3322	1913	36.54	40	2.09	2303	1741	562	24.40	16	2.85
Inverell Region – West	5987	3938	2049	34.22	65	3.17	2836	2177	659	23.24	32	4.86
Moree Region	5451	3444	2007	36.82	37	1.84	1781	1371	410	23.02	12	2.93
TOTAL	142224	90853	51371	36.12	2745	5.34	67382	49884	17498	25.97	1101	6.29

Note: 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 major population centres of the transect (Moree Town, Inverell Town, Grafton Town, Woolgoolga – Arrawarra, Koroo – Emerald Beach, Coffs Harbour – North, Coffs Harbour – South, Sawtell – Boambee, Ballina Town, Lennox Head – Skennars Head, Lismore Town, Goonellabah, Byron Bay, Brunswick Heads – Ocean Shores, Murwillumbah Town, Tweed Heads, Tweed Heads South, Banora Point, Pottsville, Terranora – North Tumblegum, and Kingscliff – Fingal Head) to be excluded. For convenience, we call this population the ‘rural Northern transect’.

- ‘Murwillumbah Region’ SA2 = Tweed excluding Murwillumbah Town, ‘Tweed Heads’, ‘Tweed Heads South’, ‘Banora Point’, ‘Pottsville’, ‘Terranora – North Tumblegum’, and ‘Kingscliff – Fingal Head’ SA2s.
- ‘Mullumbimby’ and ‘Bangalow’ SA2s = Byron LGA excluding Byron Bay and ‘Brunswick Heads – Ocean Shores’ SA2.

- *'Ballina Region' = Ballina LGA excluding Ballina Town and 'Lennox Head – Skennars Head' SA2.*
- *'Lismore Region' = Lismore LGA excluding Lismore Town and 'Goonellabah' SA2.*
- *'Casino Region' and 'Evans Head' SA2s = Richmond Valley LGA, excluding Casino Town and inclusive of part of Kyogle LGA.*
- *'Grafton Region' and 'Maclean – Yamba – Iluka' SA2s = Clarence Valley LGA excluding Grafton Town and a small portion of 'Dorrigo' SA2 which does not completely fit within the border of Clarence Valley LGA.*
- *'Coramba – Nana Glen – Bucca' SA2 = Coffs Harbour LGA excluding 'Woolgoolga – Arrawarra', 'Korora – Emerald Beach', 'Coffs Harbour – North', 'Coffs Harbour – South', and 'Sawtell – Boambee' SA2s, alongside a small portion of 'Dorrigo' SA2 which does not completely fit within the border of Coffs Harbour LGA.*
- *'Kyogle' SA2 = Kyogle LGA excluding those parts included in 'Casino Region'.*
- *'Tenterfield' SA2 is the same as its LGA.*
- *'Glen Innes' SA2 = Glen Innes Severn LGA.*
- *'Inverell Region – East' SA2 = Inverell LGA, excluding Inverell Town, those parts included in 'Inverell Region – West', and inclusive of parts of Armidale Regional and Uralla LGAs.*
- *'Inverell Region – West' SA2 = Gwyidr LGA, excluding those parts included in 'Moree Region' and inclusive of a small portion of Inverell LGA.*
- *'Moree Region' SA2 = Moree Plains LGA, excluding Moree Town and inclusive of a small portion of Gwyidr LGA.*

Figure 26 - Proportion of population who moved to select SUAs (2011-16)

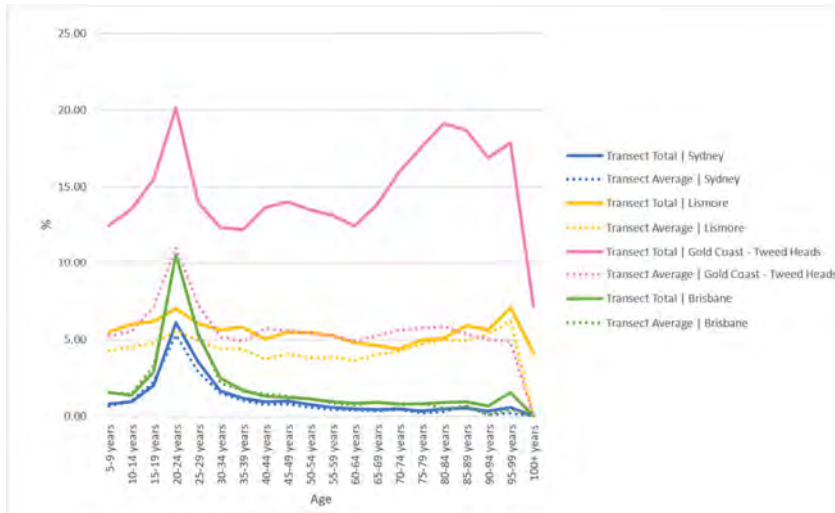


Figure 27 - Proportion of population moving from rural SA2s to SUAs (2011-16)

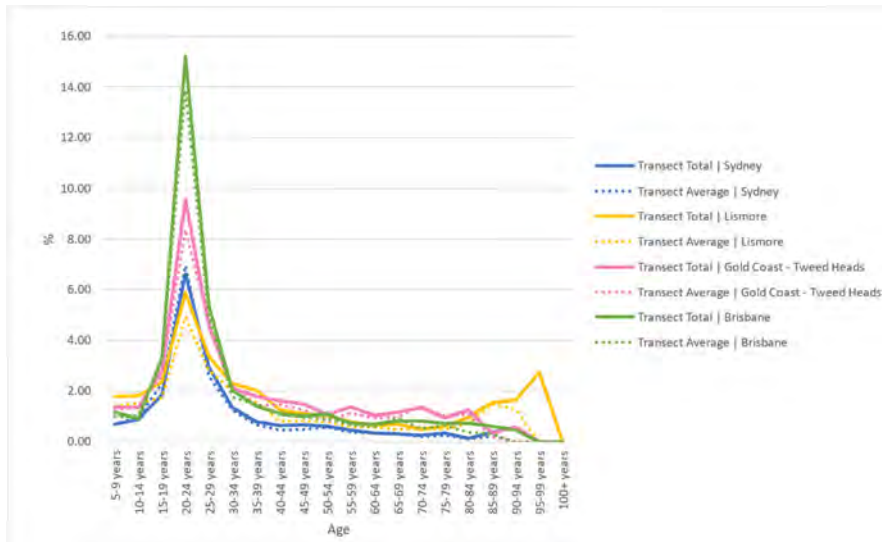


Figure 28 - Proportion of population moving from select SUAs to transect (2011-16)

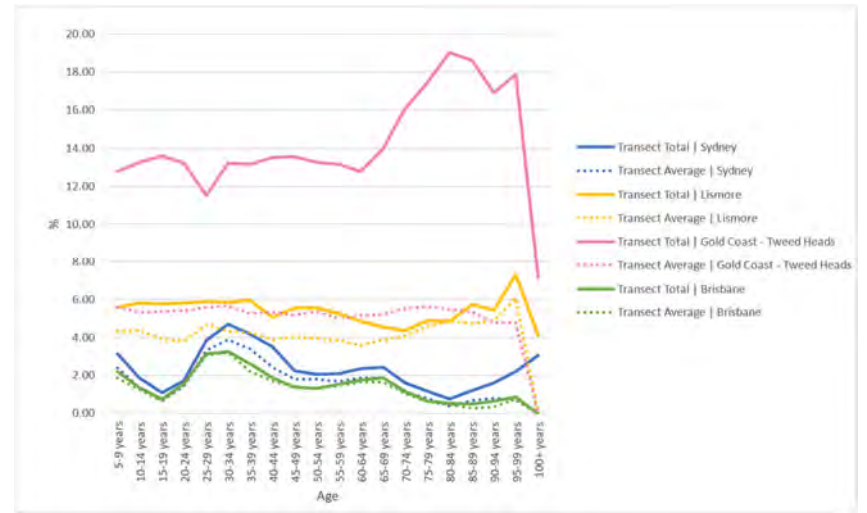
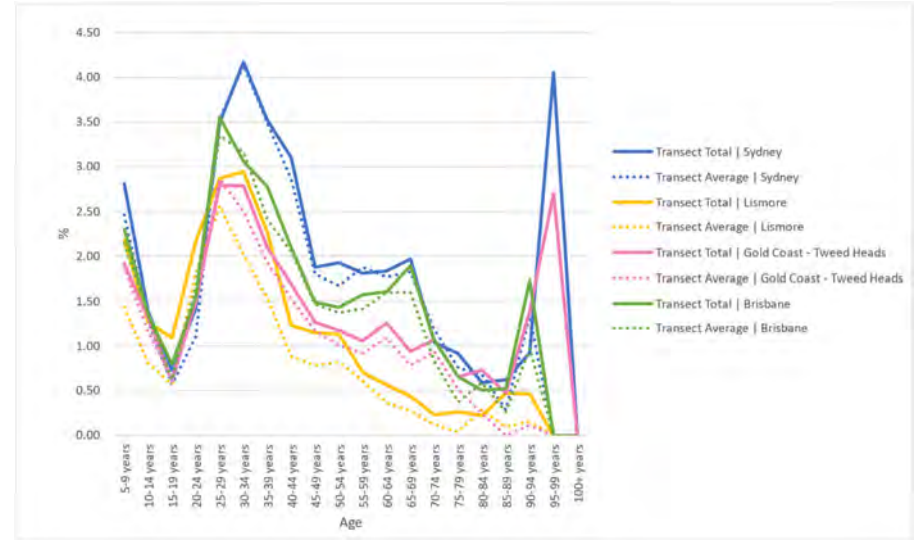


Figure 29 - Proportion of population moving to rural SA2s from SUAs (2011-16)



## 4. Agricultural restructuring and rural land ownership change in the Northern transect

### 4.1 Agricultural land use in the transect

The agricultural diversity of the transect makes it meaningless to ascribe importance to region-wide averages of agricultural land use. While Table 14 provides such data, as seen in Figure 30, different types of agricultural land use have distinctive sub-regional manifestations. Key drivers of change in different parts of the transect include the following.

#### **Economies of scale in large-scale cropping and grazing**

Consistent with national trends, there are strong impulses for cropping and grazing business establishments in the transect to become larger and hence capture economies of scale. Along with these impulses come changes to the organisational arrangements of cropping and grazing businesses. Much popular attention has been given to the acquisition of large-scale agricultural holdings by foreign corporate agricultural investors and financial sector entities, such as superannuation funds. Parallel work as part of this research project has revealed, for example, that in the New England North West region (which overlaps partially with the Northern transect), the three largest agricultural landowners are all large-scale financial investors (Pritchard et al., forthcoming). Beyond these headline investments however, there is an inexorable rise in size of agricultural holdings through so-called 'neighbour acquisition' as existing farm family businesses seek to capture new business opportunities from local properties as they come on the market. As farm family holding sizes increase, there is a trend among some owners to reorganise business structures into what are called 'family offices', which are family-owned and run corporate vehicles managing large and sometimes dispersed properties. These processes are most visible in the inland LGAs of the transect. In the evocative words of one participant at the Moree Plains focus group: "There are no dumb farmers left - they've all gone broke and left the industry".

As farms increase in size, they develop greater scope to manage their operations in new ways. At the Moree Plains focus group, participants noted an increasing trend in the prevalence of on-farm grains storage, anecdotally described as boosting average on-farm capacity from "600,000 tonnes to 1.4 million tonnes". Large farmers with available capital are driving these trends in recent years. The implication of this shift is that it enhances farmer control over when they sell their grain and at what price, rather than needing to sell immediately at harvest time. Moreover, there is an increased ability for quality assurance in storing grains in sealed silos prior to transit. When it is time to sell the grain, direct on-farm storage enable sit to be transported straight to the train, increasing efficiency and reducing the need for middle-ground storage. According to focus group participants, this is expected to lead to a \$30/ton saving in transport. This is an example of the type of innovation associated with economies of scale that produces benefits for larger farms, vis-à-vis smaller operations.

#### **Agricultural land use conversion in inland LGAs**

There is an ongoing dynamic of converting agricultural lands from one purpose to another in response to market prices, the advent of new technologies, or business strategies. During the study period, a major factor impacting on changes to agricultural land use in LGAs such as Moree Plains, Gwydir and Glen Innes has been

water availability. In addition to the effects of recurrent drought cycles in impacting upon farmers' cropping and grazing decisions, the study period witnessed major shifts to water policy in the Murray-Darling. Government water buybacks created conversions from irrigated to dryland agriculture in some key parts of the transect, leading to a replacement of irrigated crops such as cotton for grazing. In conjunction with these transitions, some existing landowners sold their operations to new entrants, or in some cases, to government agencies fulfilling remits to expand areas under environmental conservation.

Agricultural restructuring in areas of relative water security has also involved the introduction of tree crops including pecans and almonds. In Inverell, furthermore, the availability of water from Copeton Dam has been a vital asset for the growth of horticulture, including tomatoes. As noted earlier in this report, Inverell's population has increased during the study period, unlike its neighbours. The labour-intensive character of those industries might be expected to be a key factor behind this growth, although as seen in Figure 36, later in this chapter, the 2021 Census did not record any significant employment at all in Inverell in this sector.

**Insight 9. Access to water and scale economies of production are providing the crucial drivers of land ownership change in inland parts of the transect. In turn, these drivers trigger shifts in specific agricultural industries.**

### Changes to the forestry sector

The transect region covers large areas of land where forestry has been a dominant land use activity, especially in Clarence Valley, Richmond Valley, Kyogle and Tenterfield LGAs. During the study period there were significant changes to the operation of forestry in the region. Similar to the point made above, governments have taken action to expand areas for environmental conservation, which has seen some areas formerly managed by the forestry interests converted to national parks or reserves. Additionally, there was a rollercoaster of forestry investment in the region accompanying the rise and demise of Managed Investment Schemes (MISs) with forestry assets. Following legislative changes in 1997 which provided highly favourable tax treatment to investors in MISs, there was an investment rush into the acquisition of land for conversion to commercial forestry. However as detailed in a subsequent Government Inquiry (The Senate: Economics Reference Committee, 2016), many investments were non-viable leading to the financial collapse of MIS holding companies. In the transect region, two MIS companies (Tasmanian Plantations and Great Southern Properties) had acquired extensive landholdings in Richmond Valley, Clarence Valley and Kyogle and Tenterfield LGAs. The activities of these two companies are well documented in the public domain. At its peak (2009) Tasmanian Plantations amassed 13,757 hectares, and Great Southern Properties 11,115 hectares across the transect. In the years that followed, both these companies were entered into receivership and their assets sold. The effect of these divestments was to allow the entry of new landowners, who re-converted the land back to grazing and/or were attracted by rural residential attributes. The database for this project identified these two companies offloading their land in the transect through 56 separate transactions, in which 47 of the buyers were new entrants to the region.

### Multifunctional rural drivers in coastal LGAs.

The coastal portions of the transect provide the most complex and contentious set of issues with respect to agricultural land use covered in this research. Rural land prices escalated sharply during the study period in coastal portions of the transect, on the back of high population growth, as described in the previous chapter. The result is that rural landscapes dominated formerly by commodified agricultural production, which in this region was largely cattle grazing (for dairy and beef) and sugar, have been transformed into a slew of alternative modes of occupancy including rural residential subdivisions and acreages, and land set aside for nature conservation and amenity functions. Furthermore, agriculture in multifunctional rural regions also

changes, as the increased price of land forces farmers into activities that generate higher returns per unit of land, such as intensive horticulture, high-value tree crops, and niche production for specialist markets, often attached to environmental and credence claims about the social and environmental attributes of production. Both these dynamics have operated in the coastal portions of the transect.

On the one hand, the area dedicated to agriculture is shrinking, as rural residential and amenity uses take over former farming land. During focus groups with coastal and hinterland LGAs, council staff from across the board described the large increase in enquiries they had received in recent years regarding rural land proposals for activities such as microbreweries, day spas, wellness retreats and wedding and conference centres.

In terms of agricultural land use transitions, there have been major shifts in the production base of the region into activities that generate higher profits per area of land. As discussed in the next section, employment in fruit and tree crops in these LGAs has increased steadily during the study period, at a time when (in the eyes of many) agriculture has been assumed to be in decline in these coastal areas. These changes have been prominent with regards to two agricultural land use conversions: land formerly used for sugar cane being repurposed for macadamias, mainly in Ballina Shire; and the expansion of blueberries into formerly grazing and banana lands, mainly in Coffs Harbour (and to a lesser extent, in Clarence Valley).

### **Conversion from sugar cane to macadamias**

Changes on sugar cane growing areas have included expansion of macadamias and, in some locations, investment in greenhouse activities. South Ballina and the Clarence Valley just inland from Iluka/Yamba provide examples of both. The expansion of macadamias from plateaus onto flood plains has occurred during the past decade. One dynamic mentioned in focus groups was the ageing of farmers in the sugar cane sector. As existing farmers have retired, openings have been created for new investors on their land. At the 2021 Census, 62% of 'other cropping' (mainly sugar cane) farmers in Ballina Shire were over 60 years of age. By comparison, 42% of all farmers in Ballina Shire were over 60. For Clarence Valley, the relatively aged character of sugar cane farmers was similar: 56% of 'other cropping' farmers were over 60 compared to 46% of farmers more generally. In cases when older farmers retire and the land remains in use for cane, it is generally existing growers who expand their operations. At the focus group in Tweed Shire, the researchers were advised that much cane land in the Tweed Valley was being acquired by a prominent corporate grower, who was building economies of scale to maintain viable production in the region. At times this was through direct land purchase, at others, by lease.

Macadamias were well established on the plateau regions inland from the Richmond-Tweed coast for several decades prior to their establishment on sugar cane flood plains. Industry experts present at a focus group for this project indicated a catalytic event were industry workshops in 2015-16 which reviewed the prospects for growing macadamias on flood plain land. The following year, macadamia prices increased sharply, which led to a rise in land conversion to macadamias.

During focus groups, participants indicated that although the expansion of macadamias onto the floodplains was partially due to some existing canegrowers 'flipping' to macadamias, most new developments came from either new investors into the region, or existing macadamia growers on the plateau who were expanding onto the flood plains. This is an industry where large operators (both domestic and foreign) play prominent roles. A commercially viable macadamia plantation was said to require a minimum area of 40 hectares. An industry expert in one focus group (conducted in 2020) advised that annual revenue for macadamias was \$18,000/ha compared to \$7000-8000/ha for cane. Even though expenditures per hectare for macadamias are higher than cane, including \$5000/ha for planting and a wait of several years prior to first harvest, the assumption was that macadamias were more profitable than cane over time. In 2020, when industry experts were interviewed, the researchers were advised that macadamias were able to produce a profit of \$7,000-\$8,000 per hectare.



Some participants in focus groups questioned the long-term viability of growing macadamias on flood plains, noting that in some places, low-lying topography and salt intrusion can create problems for this tree crop. Moreover, as flood plains are repositories for acid-sulphate soils, the waterlogged, low pH character of these environments require significant attention by cultivators (Bright, 2020). Nevertheless, the expansion of macadamias onto flood plains continues, accompanied by professional nurturing of cultivation needs.

### **Conversion of grazing and banana lands to blueberries**

The blueberry sector has been a boom industry over the study period, with Coffs Harbour establishing itself as a national hub for the industry. The blueberries market is 95% domestic but focus group participants indicated there were considerable opportunities for expanding the export market. In light of the dominance of domestic sales, value chain arrangements in this sector are hinged around grower cooperatives and larger producers with packing houses, who consolidate production for supply to major supermarkets. Blueberries were conventionally grown in the ground, but now increasingly in substrate (poly tunnel production), which can produce in 18 months, compared to a bush in the ground which can take 1 -2 years. A blueberry bush is productive for roughly 10 years, meaning that significant upfront investments can be recouped over the medium-term.

In the Coffs Harbour hinterland, blueberries have expanded at the expense of banana and grazing land but, perhaps more significantly, encroached on land in transition to residential purposes. Hence, in terms of land use conflict issues, blueberries in Coffs Harbour are unusual in that the has come from *agriculture moving in*, rather than *residential land moving out* (into farming land).

**Insight 10. There is considerable change to agriculture on coastal areas of the transect, as n high-value forms of horticulture, such as macadamias and blueberries takeover land used previously for crops such as sugar and bananas.**

### **Land leasing**

There are important implications for land ownership coming from the conversion to high-value horticulture. Key informants during focus groups in Ballina, Tweed and Byron indicated there was an increase in agricultural land being leased for these purposes. The high price of rural land along the coast provides steep barriers for farming entrepreneurs to start up new enterprises, hence alternative land access arrangements are much discussed. An example provided from the Ballina focus group was an organic seedlings company near Fernleigh which was operating largely on leased land. Activities involving nursery or greenhouse production were said to be amenable to operating on leased land. In Coffs Harbour, leasing of land used for banana cultivation is common, with an industry expert suggesting that 50% of growers are cultivating on leased land. As narrated in a focus group, the trajectory of the industry seems to have moved from a cohort of established family farmers to a more complex assortment of cultivators comprising larger producers owning their land, and a wide variety of smaller producers leasing land and/or combining banana growing with other agricultural and non-agricultural livelihood activities. Many of these smaller cultivators are 'next-generation' farmers with a lesser focus on owning a discrete area of agricultural land and a greater focus on building a suite of commercial activities that sustain a business model.

There are relevant legal issues in relation to agricultural land leasing. Parties are obliged to ensure any terms and conditions are consistent with the [Agricultural Tenancies Act 1990](#), which applies for any area 1 hectare or greater that is leased for agricultural purposes. Lessees can make improvements on rented land, so long as any fixtures are removed at the conclusion of the lease and/or compensation or agreed arrangements with the owner are made. This would allow, for example, a lessee to construct water reticulation or greenhouse structures on leased land. Agricultural leases with a term of 5 years or less tend to be preferable

to parties, because a lease over a partial area of a parcel that is more than 5 years in duration may constitute a de facto subdivision as defined under Section 4B of the *Environmental Planning & Assessment Act 1979* (see Land Registrar General Guidelines, [here](#)). This provision has implications for the use of leasing for tree crops such as macadamias or avocados, which are longer term investments with commercial lives well in excess of five years. It discourages the use of leasing for these crops, except if the entirety of a land parcel is leased out.

A variant to the standard agricultural land leasing is sharecropping, which some focus group participants said had extensive prevalence in the macadamia industry (Burt, 2022). Sharecropping arrangements were described as involving a 70/30 profit split between producer/landowner.

**Insight 11. Land leasing is an important process in agriculture throughout the transect, and especially on the coast. It potentially provides a means for younger farmers to enter the industry without a requirement for purchasing land. In general, agricultural land leasing is poorly documented and its wider implications minimally analysed.**

### Rural-residential hybrid forms of occupancy and activity

*“Often we have an overly simplistic understanding of rural land – needs to be more place based. Rural landholders are extremely diverse (old school farmers, conservation focused, new land owners with a range of different philosophies)”* (quote from a focus group participant, Tweed Shire)

In addition to the forces described above, the multifunctional rural transitions in coastal portions of the transect have created new, hybrid forms of occupancy that deny simple description. New landowners on large rural blocks may not be full-time farmers but still use the land, at low intensity, for agricultural purposes. According to one participant in a focus group, the high amenity values of coastal and hinterland areas on the Far North Coast mean that farmers who might otherwise retire and ‘get out of farming’ in other places, have a greater propensity here to ‘hang on’ for lifestyle reasons, albeit with less intensity.

In other instances, the lifestyle and amenity values of the area mean that it allures newcomers into buying agricultural land without having experience of farming. A case in hand was detailed in meetings in Tweed Shire, where focus group participants described a process in which rural landowners with no experience in farming would nonetheless cooperate with local cattle producers to agist livestock on their land. In such cases, land remains in agricultural use, but in low intensity with commercial returns being ‘pocket money’ for landowners. The rise of payment for ecosystem schemes adds further permutations to this scenario, with new landowners revegetating pasture with a view to gain carbon or biodiversity credits. These activities are not agriculture per se but can provide an income-earning purpose for rural land.

As rural land increases in price and amenity attributes become more valued, agricultural-tourist uses of land can become hybridised. The prominent example of ‘The Farm’, in Ewingsdale outside of Byron Bay, represents a use of land in which agriculture acts as a foundation for value-added function, restaurant and educational activities. This business (and many like it) are founded on re-valuations of rural land as sites for conjoined production and amenity, centred on inclusive notions of *provenance*. These principles are evident also in the host of farmgate businesses that are cropping up along the coast and hinterland.

These variants raise important questions for rural planning. How should agriculture be planned for in instances where the prime use of land (by area) is agricultural, but the households in charge of those assets don’t necessarily rely centrally on this land for their economic wellbeing? As summarised by a participant to our focus group in Tweed Shire:

*“Traditional agriculture [in this LGA] is not too common, most farms run a few cows here and there (or the neighbour runs their cattle on it) and they have jobs in town. The family farms are a lifestyle and identity rather than a livelihood. The majority of income is earned elsewhere”.*

Finally, much of the discussion above has focused on high-amenity places, however the concept of rural land hybridity also has currency in areas where property prices and demand for rural land are lower. Focus groups in Richmond Valley and Tenterfield, for example, addressed the issue of ‘bush blocks’ and unplanned/unregulated development. In some parts of Richmond Valley for example, traditional family farm properties with existing dwellings but limited further agricultural potential have evolved into relatively lower-priced accommodation. The rural land surrounding existing dwellings can be used for a myriad of low-intensity activities including truck parking, beehives and agistment. In forested parts of the Shire, council officials noted there can be caravans parked and sheds used for occasional dwelling use, with ongoing Council oversight difficult. In Tenterfield, a focus group participant characterised as aspect of newcomer as people who wanted to “hide away from society and hide in the bushes.” Low costs of living, including council rates, was a point of attraction for some. There are obvious implications of such unplanned/ unregulated housing in terms of bushfire risk. Both Tenterfield and Richmond Valley were heavily impacted by the bushfires of 2019-20.

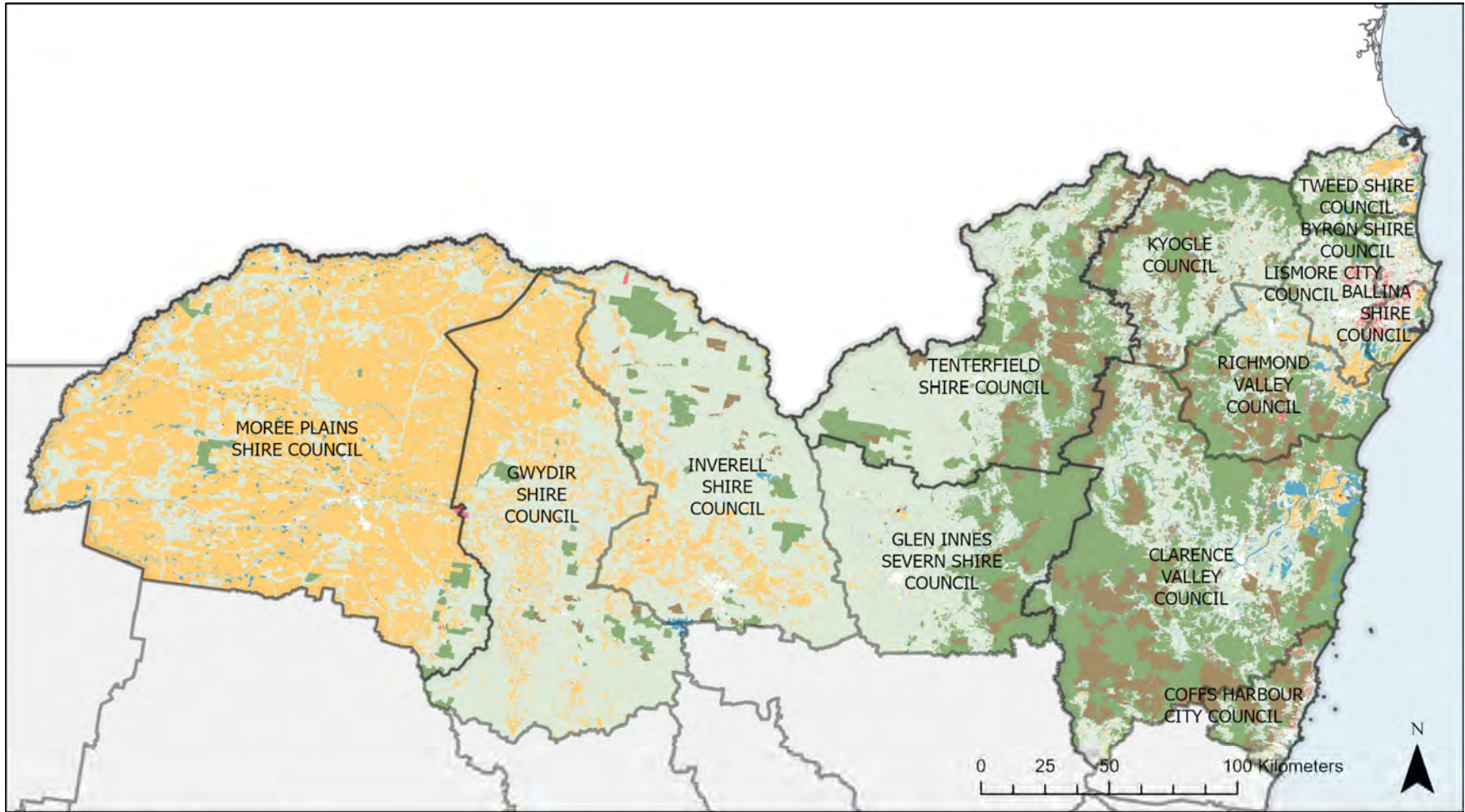
**Insight 12. Rural land uses are increasingly hybridised – not fully productivist and not fully lifestyle. Capturing this process is an important ingredient for rural planning.**

*Table 14 - Proportion of agricultural land-uses in the Northern transect<sup>2</sup>*

<b>Agricultural Land-use</b>	<b>Total Area (ha)</b>	<b>Proportion of the transect</b>	<b>Details</b>
<b>Cropping</b>	1,535,966	27.97%	Includes irrigated cropping, including cereals, cotton, and pulses. Includes land under rotation, which at other times may be pasture.
<b>Grazing</b>	2,856,083	52.01%	Includes grazing on native and modified pastures.
<b>Horticulture</b>	23,864	0.43%	Includes perennial and seasonal horticulture (both irrigated and non-irrigated).
<b>Intensive animal production</b>	1,583	0.03%	Includes feedlots for cattle or sheep, dairy sheds and yards, poultry farms, pig farms, horse studs, saleyards, and some forms of aquaculture.
<b>Total</b>	4,417,496	80.45%	-

<sup>2</sup> 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-v1p2-f0ed>

Figure 30 - Northern transect Land-use Map



**Northern NSW Transect**  
 NSW Land Use (ALUM 2017)



## 4.2 Transitions in agricultural employment

**Insight 13. Agriculture has fallen as a share of total employment in all LGAs over the study period because of economic diversification. However, the total number of persons employed in agriculture across the transect remained steady from 2006-2021, and in coastal LGAs, employment in agriculture has generally increased.**

At the 2021 Census, agriculture employed 5.5% of the transect’s workforce (Table 15). Not surprisingly, the relative importance of agriculture as a source of employment varied considerably among LGAs, with Gwydir (35.0%), Moree Plains (20.2%), Tenterfield (20.1%) and Glen Innes Severn (17.3%) being most agriculture dependent. In more economically diverse coastal LGAs such as Ballina, Byron and Tweed, agriculture was a source of 2-3% of jobs. Coffs Harbour was somewhat higher, at 4.2%, reflecting the importance of labour-intensive horticulture. Comparing these results to agriculture’s proportion of total employment in 2016, Table 15 indicates that in all LGAs, the proportion of employment constituted by agriculture fell. The proportionate fall was greater in those highly agricultural dependent LGAs such as Gwydir and Moree Plains, reflecting the larger employment base.

Yet whereas Table 15 gives the suggestion that agriculture is declining in importance in the transect region, a different picture emerges when Table 16 is considered. The absolute number of persons employed in agriculture across the transect region increased by 3.1% in the five years to 2021. An interesting pattern emerges, in that the inland LGAs all exhibited an absolute decline in the number of persons employed in agriculture, whereas agricultural employment numbers increased in coastal LGAs. As elaborated upon below, this reflects farm aggregations inland, reducing the total agricultural workforce, and the shift to more labour-intensive forms of agriculture on the coast, which is stimulating agricultural labour demand.

*Table 15. Agriculture as a percentage of total employment, 2016 and 2021*

	Percentage of workers employed in agriculture 2016	Percentage of workers employed in agriculture 2021	Percentage point change 2016-21
Ballina	3.9%	3.5%	-0.4
Byron	3.3%	2.8%	-0.5
Clarence Valley	4.8%	4.5%	-0.3
Coffs Harbour	4.3%	4.2%	-0.1
Glen Innes Severn	18.9%	17.3%	-1.6
Gwydir	39.4%	35.0%	-4.4
Inverell	12.1%	12.0%	-0.1
Kyogle	18.1%	17.0%	-1.1
Lismore	5.4%	5.2%	-0.2
Moree Plains	22.4%	20.2%	-2.2
Richmond Valley	7.2%	6.9%	-0.3
Tenterfield	23.3%	20.1%	-3.2
Tweed	2.2%	2.0%	-0.2
Total	6.2%	5.5%	-0.7

Source: ABS Tablebuilder. Employment excludes ‘not applicable’ (persons not employed) and ‘not stated’.

Table 16. Change in agricultural employment, 2016-21

	Employed persons in agriculture, 2016	Employed persons in agriculture, 2021	Change (absolute)	Change percent
Ballina	660	716	56	8.5%
Byron	419	456	37	8.8%
Clarence Valley	814	871	57	7.0%
Coffs Harbour	1213	1425	212	17.5%
Glen Innes Severn	579	568	-11	-1.9%
Gwydir	790	675	-115	-14.6%
Inverell	738	830	92	12.5%
Kyogle	557	583	26	4.7%
Lismore	944	1029	85	9.0%
Moree Plains	1180	1028	-152	-12.9%
Richmond Valley	569	623	54	9.5%
Tenterfield	526	472	-54	-10.3%
Tweed	760	791	31	4.1%
Total	9761	10065	304	3.1%

Source: ABS Tablebuilder. Employment excludes 'not applicable' (persons not employed) and 'not stated'.

For **coastal LGAs**, as illustrated in Figure 31, there is a positive story to tell about agricultural employment during the study period. Although a common perception about agriculture in these areas is that it is declining because of alternative land use pressures, the reality is that since 2011 at least, the number of persons employed in agriculture increased in the four LGAs of Ballina, Byron, Coffs Harbour and Tweed. The increase was especially strong in Coffs Harbour, with agricultural employment more than doubling in this 15 year period. The sector-specific drivers of this growth are illustrated in Figure 32. In all four LGAs, the ABS category 'Fruit and Tree Nut Growing' was the largest employer. This category has nine further sub-categories and drilling down to that level identifies that more than 90% of employment in this sector in Ballina, Byron and Tweed were in the 'other fruit and tree crop growing' sector, which includes macadamias and avocados. By contrast, in Coffs Harbour, almost 90% of employment in the sector was in the berry industry (mainly blueberries). Interestingly, employment in Byron Shire, 'Fruit and Tree Nut Growing' fell starkly between 2006-11 (from 191 persons to 109 persons) before stabilising. Contrastingly, the take-off for employment in the berry industry on Coffs Harbour was between 2011-16, when employment grew from 491 to 862 persons.

The Status in Employment (SIEMP) data from the Census add further detail to these insights. For the purposes of this report, persons employed in agricultural sectors are classified as:

- *Employees*
- *Owner managers with employees*
- *Owner managers without employees*
- *Contributing family workers* (persons who work without pay in an enterprise operated by a relative).

In 2016, 60.3% of persons employed in the Fruit and Tree Crop sector in the four coastal LGAs of Ballina, Byron, Coffs Harbour and Tweed were employees. A further 26% were owner managers, and 13.7% were contributing family members. This represents a relatively high employee-to-owner ratio for agriculture, indicative of this industry's labour intensiveness. By 2021, the reliance on paid employees increased to 63.8% of total persons employed. The proportion of persons employed who were owner managers fell to 24.5%

and contributing family members fell to 11.7%. This would seem to indicate a consolidation of businesses (fewer owner managers) and replacement of labour from owners and their families by paid workers. It might also be noted that this trend potentially understates the significance of this shift, as the 2021 Census was undertaken in the midst of the COVID-19 pandemic which reduced labour migration into the region, and hence may have meant owner managers and their families had to do more themselves rather than rely on paid labour.

As indicated in Figure 32, although Fruit and Tree Nut growing is the largest employer in coastal LGAs, there has also been significant increases in employment in the nursery and floriculture sectors in Ballina, Byron and Tweed Shires. During focus groups, participants raised the importance of this sector. Areas in the Ballina hinterland, especially the Alstonville Plateau, have become attractive sites for companies.

**Insight 14. The increase in agricultural employment in coastal parts of the transect is largely due to the fruit and tree crop sector, which is more heavily dependent on paid labour than most other agricultural industries.**

The category labelled ‘sheep, beef cattle and grain farming’ is the second largest sector in Byron, Tweed and, to a lesser extent, Ballina. In these LGAs, this wholly constitutes beef grazing. It has been a declining activity over the study period. Unlike the fruit and tree crop sector, paid employment plays a small role in the labour arrangements of this sector – only 15% of persons employed in beef cattle grazing in these coastal LGAs are employees. These are family farms where labour comes from the owner manager and her/his family. The category ‘other crop growing’, significant for Ballina and Tweed, largely represents sugar cane, and likewise, has declined as a source of employment since 2006. It also largely uses family farm labour. Finally, nursery and floriculture has been a growing source of employment in Ballina, Byron and Tweed during this period. Like Fruit and Tree Crops, this subsector is highly reliant on paid labour.

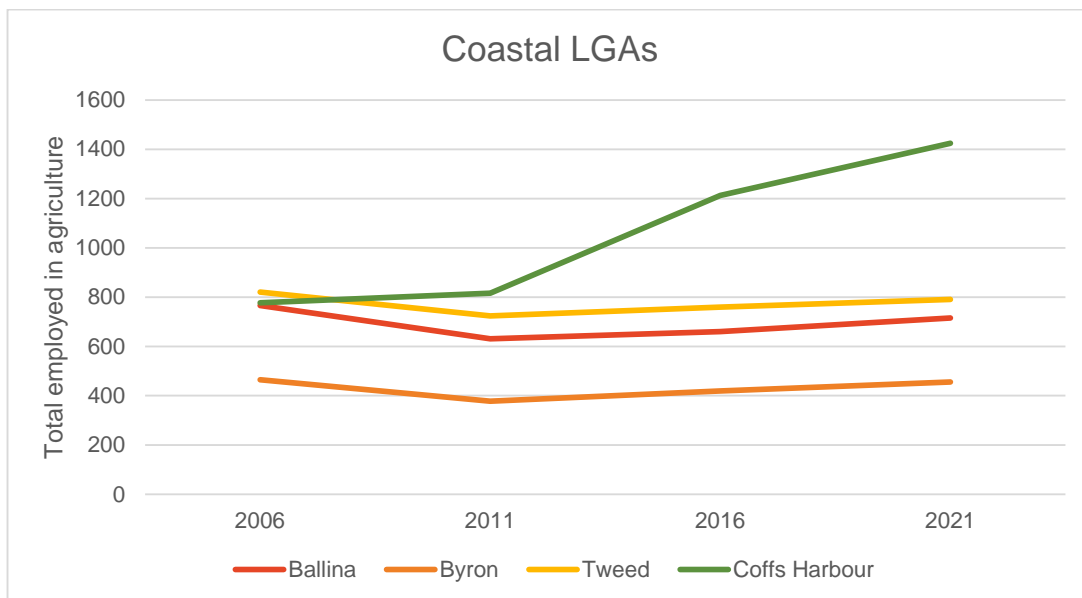


Figure 31. Agricultural employment change, coastal LGAs, 2006-21

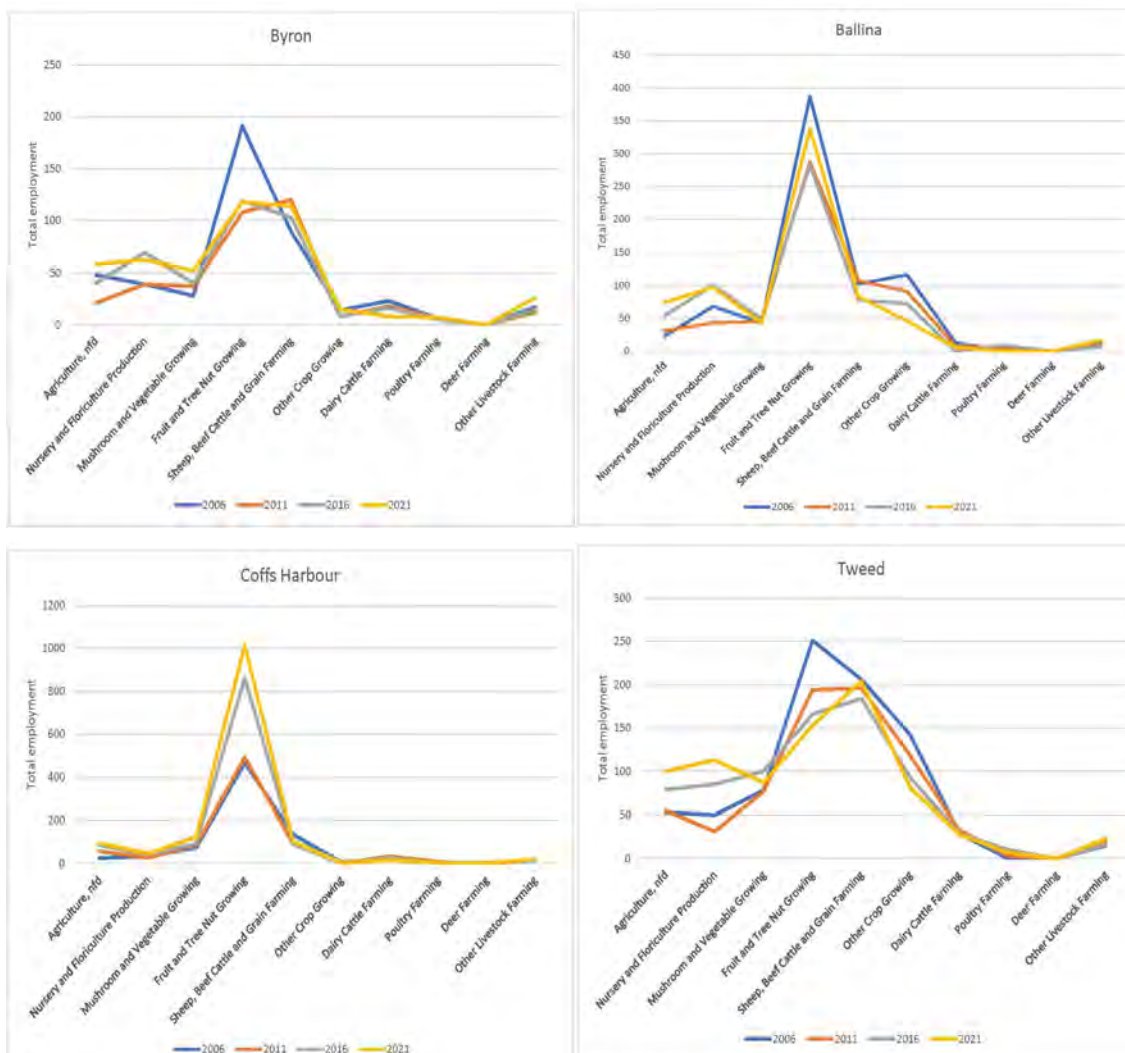


Figure 32. Composition of agricultural employment, coastal LGAs

The LGAs of Lismore, Kyogle, Richmond Valley and Clarence Valley are grouped together for this analysis as **hinterland LGAs**. All of these LGAs also have exhibited increases in agricultural employment since 2011 (Figure 33), with Lismore growing fastest. This is likely associated with the wider agricultural diversity in Lismore compared to the other three LGAs. Of these hinterland LGAs, Lismore is the only one where fruit and tree crops is the major agricultural employer. However, unlike the situation among coastal LGAs, the number of persons employed in this sector has gone backwards in Lismore since 2006. Between 2006-11 the industry shed one-quarter of this workforce (from 466 to 362 persons) but in the subsequent years has rebounded, with 405 persons being recorded as in the fruit and tree crop sector in Lismore in 2021. Lismore has also experienced strong growth in the nursery and floriculture sector (Figure 34). In the other three LGAs, beef cattle (in the ‘sheep, beef cattle and grain farming’ category) is far and away the largest agricultural employer although shrank as a source of employment in all these LGAs between 2006-21. To some extent these three LGAs have a degree of agricultural diversification, with dairy in Kyogle, fruit and tree crops in Clarence Valley (as the sector has expanded north from Coffs Harbour) and dairy and sugar (‘other cropping’) in Richmond Valley.



The five **inland LGAs** are all highly singularly dependent on the ‘sheep, beef cattle and grain farming’ sector, although LGAs were exposed to different degrees across the subsectors of this industry. For example, in Moree Plains, cropping contributed 51% of employment in the sector, while specialised beef farming accounted for the largest source of this sector’s employment in Tenterfield (75%), Glen Innes Severn (64%), Inverell (46%) and Gwydir (42%). Employment on mixed livestock-grains farming represented significant contributions in Gwydir, Inverell and Moree Plains, but negligible amounts in Glen Innes Severn and Tenterfield. Regardless of these differences, agricultural employment fell in four of these LGAs from 2006-21, with Moree Plains providing the fastest decline (Figure 35). The exception was Inverell, which in the 2016-21 period saw a rise in agricultural employment. Drilling down the data to the next level of categorisation reveals that the beef sector was the major contributor to this increase.

In the inland LGAs where livestock dominated, between 70-80% of labour was owner managers and their families. In Moree Plains, where grains were dominant, paid employees represented 42% of persons employed in the subsector. This highlights the relative difference in cropping compared to grazing, especially in Moree Plains where there is a number of large agri-corporate grain growers.

There is an important point to make about employment trends in the ‘sheep, beef cattle and grain farming’ sector in these inland LGAs. Employment has declined, but this does not imply the industry’s output has fallen. In fact, notwithstanding the strongly cyclical nature of output trends because of climatic factors, total output has tended to grow in the sheep, beef and grains sectors in most parts of the transect. This is certainly the case in Moree Plains, for example, the largest LGA in the transect and the site for a proposed NSW Government Special Activation Precinct to build on recent industry growth (discussed in the following chapter). The decline in employment in this sector is reflective both of farm consolidation (noting the observation above about the importance of family workers) and labour-saving technologies. There are obvious regional economic implications of labour replacing technologies. Reduced local employment has major negative effects for the strength of regional agriculture’s economic multiplier, as workers live and spend in their local towns, while technology and capital tend to be purchased external to the region. (And increasingly, repairs and maintenance are also serviced by non-local firms.) The cumulative effects of reduced local labour demand for agriculture can lead to outmigration by working age persons and mean, potentially, that smaller regional towns may at some point reach a ‘tipping point’ where there is insufficient local labour to maintain key aspects of town life. Such concerns were expressed in focus groups in inland LGAs.

On the other hand, the increased size and corporatisation of large farming establishments generates increased demand for professional services, which tend to be clustered in larger regional towns. Within the transect, Moree has developed a specialist agricultural services sector including financial advisors and banks, accountants, stock and station agents, etc. There are financing options available locally through experienced and well-trained bank staff - e.g. agribusiness branches of the big four banks and specialist agricultural lenders. In turn, this has encouraged some agribusiness firms to headquarter their Australian or regional operations in Moree. These trends do not amount to a large number of employed persons, but they are relatively high-paid professionals who contribute to local civic life and the economy.

Putting these trends together, a picture emerges of increased regional differentiation in terms of inland grazing and cropping. Some inland parts of the transect are emerging as sites for key competitive agricultural assets, while others with topography less amenable to large-scale production and poorer soil and water security, are languishing. Rural policy, thus, needs to straddle an increasing bifurcated inland economic landscape: on the one hand, facilitating sustainable development and expansion in sites of opportunity (for example, the Moree Special Activation Precinct) and arresting (if not managing) decline in vulnerable places of population and economic shrinkage.

**Insight 15. Agricultural employment is falling west of the Dividing Range, due to technological change and establishment consolidation.**

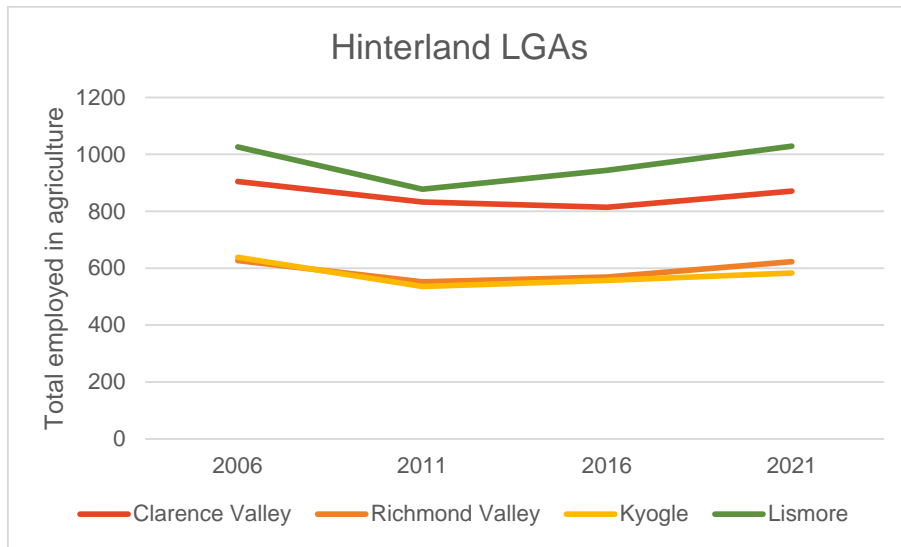


Figure 33. Agricultural employment change, hinterland LGAs, 2006-21

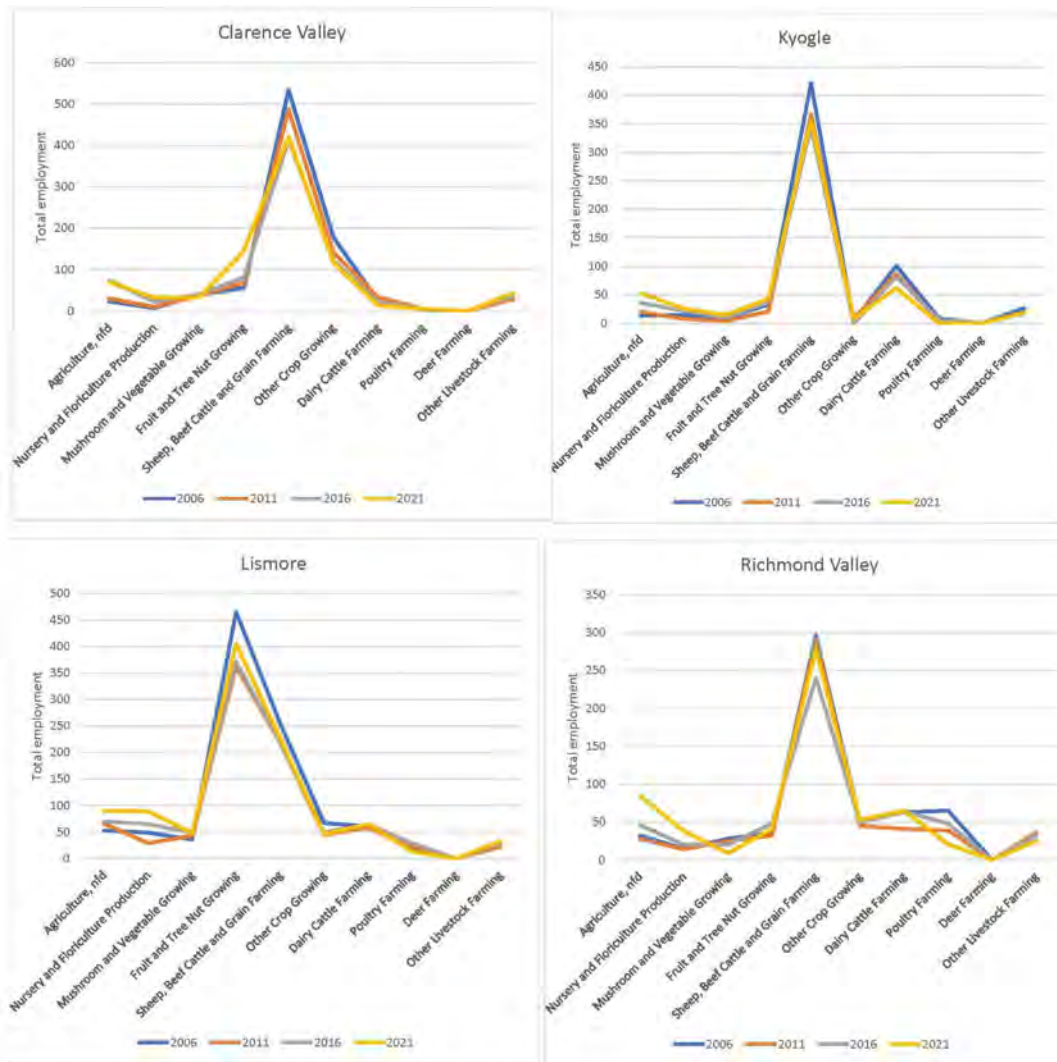


Figure 34. Composition of agricultural employment, hinterland LGAs, 2021

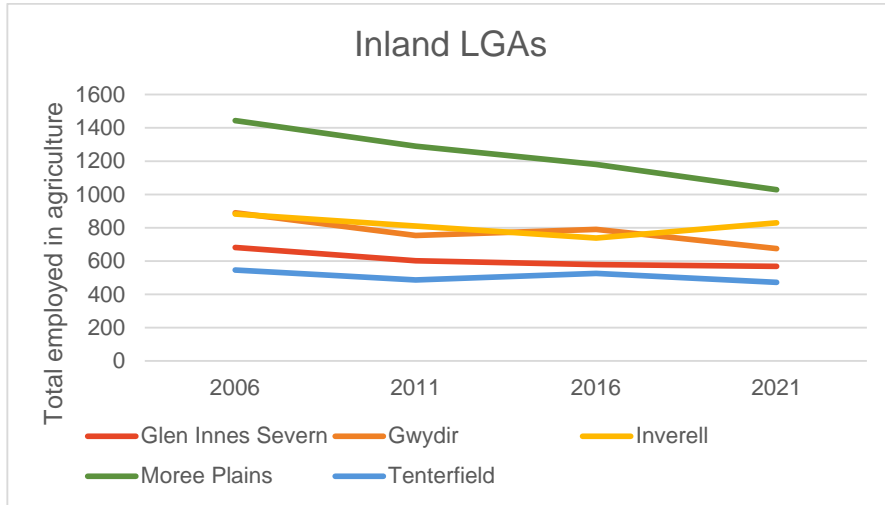


Figure 35. Agricultural employment change, inland LGAs, 2006-21



Figure 36. Composition of agricultural employment, inland LGAs, 2021

## 4.2 The effects of drought on agricultural land markets

The effects of drought are very different in the inland and coastal parts of the transect.

### Inland areas

Droughts are significant catalysts of financial and emotional hardship for farming communities in inland areas of the transect. Droughts can exacerbate existing emotional and financial stressors, such as reductions in commodity prices, succession planning, and accumulated debt; or generate new sources of stress, such as reduced feed, poor crop yields, unsatisfactory conditions for livestock, and overwhelming workloads. Overall, droughts have the potential to generate considerable changes in the management of livestock, crops, workforce, debt, and irrigation arrangements, with significant repercussions for farmers' financial well-being and mental health.

However, what is their effect on rural land markets? A parallel piece of work as part of this research project analysed this question for the whole of rural NSW. It sought to answer the question of whether there is correlation between recurring drought and the incidence of rural land ownership change within local land markets. Recurring drought was defined as the additive proportion of the extent to which an area had been in drought over a period of time. Drought status was classified by the NSW Government's Combined Drought Indicator (CDI). Key conclusions from that study are as follows:

“Results indicate that in the short-term (< 5 years), the proportion of time in drought is not a major influence on the extent of agricultural land ownership change. However, over a 10-year timespan, there is a statistically significant negative correlation between the two for non-irrigated agricultural land, grazing land and land owned by individuals (as opposed to companies). These findings suggest these agricultural land markets are sensitive to the long-term effects of drought. The take-home message seems to be that the persistence of drought saps the vitality of these agricultural land markets, leaving farmers with reduced prospects to capitalise on their land assets (Umaña Restrepo, Pritchard, Welch, forthcoming).

The state-wide findings chime with observations and insight provided by focus group participants in the inland LGAs of the transect. The observation that farmers tried to hang onto land during drought, rather than put it on the market immediately, was made in focus group meetings in Moree Plains, Gwydir, Glen Innes Severn, Richmond Valley and Tenterfield. For the grazing sector, the assumption was that landowners would adopt a range of coping strategies such as destocking prior to considering land sale. At the Glen Innes Severn focus group, data from Local Land Services was provided that indicated of the 8,400 grazier landowners on the Northern Tablelands, at the peak of the most recent drought in 2019, some 1,900 had no cattle on their properties.

The expansion of feedlots in the inland portions of the northern transect has, in the opinion of focus group participants, emerged as a “drought-proofing diversification strategy”. This is because cattle can be fed on grains imported into the region rather than rely on grass. Of course, the price of feed grain can escalate sharply during drought, but (in principle at least) this is then factored into higher cattle saleyard prices. Council officers in Moree Plains noted an increase in development applications for feedlots in 2020, as the drought broke and the cattle sector was able to reinvest in its future. At the Glen Innes Severn focus group, participants commented that “During the drought, farmers started grain feeding stock in the paddocks and now landowners are seeking to formalise these arrangements to get a better price at market for grain-fed cattle”. Similar sentiments were also aired in the Gwydir and Inverell focus groups. In 2021, the number of cattle in feedlots was at an all-time high, indicating an ongoing set of transformations in the way this sector operates (Goodwin, 2021).

Farmers' abilities to retain their land over the drought cycle however does not signify an absence of stress. At the Moree Plains focus group, an industry expert commented that: “close to 50% of landholders in the

area faced financial stress within the recent drought. Many did not have any further borrowing capacity and insurance only goes so far in helping farmers”.

Several further points about drought were made in inland LGA focus groups. Although noting the relevance of the Combined Drought Indicator as a measurement of drought, participants indicated that the timing of rain in terms of harvest was crucial. Rain at the wrong time can have a detrimental impact on the harvest potential of the crop, so economic and emotional hardship associated with climatic cycles cannot be simplified in terms of drought and rainfall measurements alone.

### **Coastal areas**

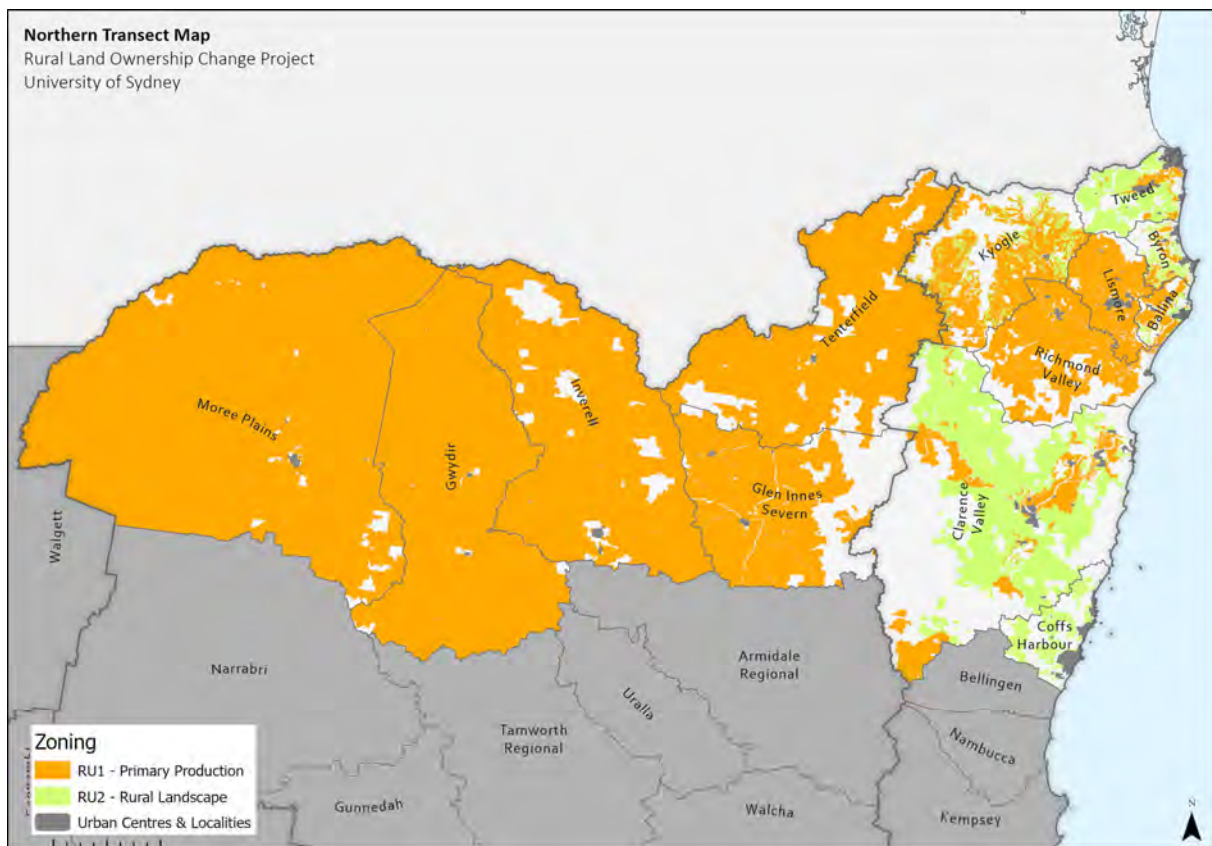
Interviews and focus groups with key stakeholders in Coastal LGAs reported the relevance of drought on agriculture during the previous decade. In these areas, drought tends to be considered a lower than usual level of rainfall for a few months. Because of the strength of the non-agricultural economy, drought tends to have minimal impacts across the regional economy but does of course impact on water-dependent agricultural producers. Evidently, such effects are connected to changes in land use, including increased residential demand and the rise in horticulture with its greater water demands. The expansion of horticulture has been accompanied by a growth in the number of on-farm dams which have allowed growers control over the management of their water needs. Where drought generates stress, landowners are said to opt for short-term business refinancing with key informants from coastal councils not seeing it as a catalyst for land disposal.

## 5. Land-use planning trends affecting land ownership patterns

### 5.1 Zoning and land-use permissibility

Being a diverse transect with a variety of rural land uses, the Northern transect similarly has diversity in its zoning. While land in the west of the transect is zoned for primary production (RU1), moving east encounters national park and forestry zoning, before giving way to RU2 Rural Landscape zones (Figure 37). These RU2 zones are concentrated in Coffs Harbour, Clarence Valley, Byron, and Tweed. Coffs Harbour has no RU1 zone but included additional RU2 zone objectives in their 2013 Local Environmental Plan (LEP) that reflect the goals of the NSW standard for RU1 Primary Production zones.

Figure 37 - Northern 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, as outlined in Table 17. As seen in the table below, many of the transect's coastal councils (Tweed, Byron, Ballina, Lismore, and Coffs Harbour) have included additional objectives pertaining to the protection of the cultural or scenic character of the locality, provisions for rural tourism (granted it is compatible with primary production), and the minimisation of land-use conflict and fragmented rural land. Meanwhile, LGAs in the west of the transect, specifically, Tenterfield, Glen Innes Severn, Inverell, and Gwydir have no additional objectives, reflecting a more traditional agricultural character that aligns with the standard RU1 Primary production zone objectives.

*Table 17 - List of LEP specific objectives for RU1 Primary production zone.*

Local Environmental Plan (LEP)	LEP specific objectives for the RU1 zone (additional to those prescribed by the standard instrument LEP)
<b>Tweed:</b> <i>Tweed LEP2014</i>	<ul style="list-style-type: none"> <li>To protect prime agricultural land from the economic pressure of competing land uses.</li> </ul>
<b>Byron:</b> <i>Byron LEP 2014</i>	<ul style="list-style-type: none"> <li>To encourage consolidation of lots for the purposes of primary industry production.</li> <li>To enable the provision of tourist accommodation, facilities and other small-scale rural tourism uses associated with primary production and environmental conservation consistent with the rural character of the locality.</li> <li>To protect significant scenic landscapes and to minimise impacts on the scenic quality of the locality.</li> </ul>
<b>Ballina:</b> <i>Ballina LEP 2012</i>	<ul style="list-style-type: none"> <li>To maintain the rural, cultural and landscape character of the locality.</li> <li>To enable development that is compatible with the rural and environmental nature of the land.</li> <li>To ensure that there is not unreasonable or uneconomic demands for the provision of public infrastructure.</li> </ul>
<b>Lismore:</b> <i>Lismore LEP 2012</i>	<ul style="list-style-type: none"> <li>To preserve rural resources by ensuring that the viability of rural land is not extinguished by inappropriate development or incompatible uses.</li> <li>To enable a range of other uses to occur on rural land providing such uses do not conflict with existing or potential agriculture and do not detract from the scenic amenity and character of the rural environment.</li> </ul>
<b>Richmond Valley:</b> <i>Richmond Valley LEP 2012</i>	<ul style="list-style-type: none"> <li>To ensure that development does not unreasonably increase the demand for public services or public facilities.</li> </ul>
<b>Clarence Valley:</b> <i>Clarence Valley LEP 2011</i>	<ul style="list-style-type: none"> <li>To prevent dispersed rural settlement.</li> <li>To ensure that development does not unreasonably increase the demand for public services or public facilities.</li> <li>To ensure development is not adversely impacted by environmental hazards.</li> </ul>
<b>Coffs Harbour:</b>	<ul style="list-style-type: none"> <li><i>No RU1 zone. Additional RU2 objectives</i></li> <li>To minimise the fragmentation and alienation of resource lands.</li> </ul>

<i>Coffs Harbour LEP 2013</i>	<ul style="list-style-type: none"> <li>• To support sustainable rural economic development and small-scale tourism and visitor destination opportunities that are compatible with the rural attributes of the land.</li> <li>• To protect environmental value and minimise land use conflict.</li> </ul>
<b>Kyogle:</b> <i>Kyogle LEP 2012</i>	<ul style="list-style-type: none"> <li>• To ensure that the productive capacity of agricultural land is appropriately recognised and managed.</li> <li>• To enable a range of other uses to occur on rural land providing such uses do not conflict with existing or potential agriculture and do not detract from the scenic amenity and character of the rural environment.</li> <li>• To enable development that does not adversely impact on the natural environment, including habitat and waterways.</li> </ul>
<b>Moree Plains:</b> <i>Moree Plains LEP 2011</i>	<ul style="list-style-type: none"> <li>• To permit development for certain purposes if it can be demonstrated that suitable land or premises are not available elsewhere.</li> <li>• To protect significant agricultural resources in recognition of their value to the longer term economic sustainability of Moree Plains.</li> <li>• To maintain the rural character of the land.</li> </ul>

Note: There are no special provisions for RU1 land in the *Gwydir Local Environmental Plan 2013*, *Inverell Local Environmental Plan 2012*, *Glen Innes Severn Local Environmental Plan 2012*, *Tenterfield Local Environmental Plan 2013*.

### Zoning issues and population growth on the coast

Sustained population growth along the North Coast has caused a set of ongoing debates and controversies about the zoning of land in areas adjacent to established urban centres. The overarching framework for how to accommodate increased population is specified in documents associated with the *North Coast Regional Plan 2041*. The *North Coast Settlement Planning Guidelines*, part of the Plan, has the objective of seeking to accommodate population growth within existing urban areas and hence minimise negative impacts on rural areas:

“The North Coast Regional Plan 2036 (the Regional Plan) recognises that the region’s historical low-density settlement pattern has placed growth pressure on sensitive environments. It is projected that the North Coast will need to accommodate an additional 76,200 residents who will generate a need for 46,000 new homes by 2036. To minimise this impact, and maximise the use of services and infrastructure, new urban development will be directed to existing urban growth areas mapped in the Regional Plan. However, in some instances it may be necessary to identify new urban areas located outside the existing mapped urban growth areas to accommodate the growth expected in the region” (Department of Planning and Environment, 2019: 5).

In cases where residential expansion outside of existing areas can be justified, these need to be built into the relevant council’s *Local Strategic Planning Statement*. Identification of specific areas for residential expansion needs to take into account *land release criteria*, which include consideration of whether residential expansion impacts upon ‘Important farmland’ (Department of Planning and Environment, 2019: 17). Additionally, Ministerial Directive 9.4 (*Farmland of State and Regional Significance on the NSW Far North Coast*) specifies that for land outside of “urban growth areas mapped in the North Coast Regional Plan 2041”:

“...when preparing a planning proposal, that applies to land:

(a) mapped as

i. State significant farmland, or



- ii. regionally significant farmland, or
  - iii. significant non-contiguous farmland,
- (b) on the set of four maps held in the Department of Planning and Environment marked “Northern Rivers Farmland Protection Project, Final Map 2005 (Section 117(2) Direction)”; and Direction 9.4 (1)

A planning proposal must not:

- (a) rezone land identified as “State Significant Farmland” for urban or rural residential purposes.
- (b) rezone land identified as “Regionally Significant Farmland” for urban or rural residential purposes.
- (c) rezone land identified as “significant non-contiguous farmland” for urban or rural residential purposes.” (NSW Department of Planning and Environment, 2022)

The Ministerial Directive however also permits councils to request approvals from the Planning Secretary to rezone areas from RU1 and RU2 to zones enabling residential development if a case can be made that this is consistent with the Regional Plan. This allowance provides a means for land to be rezoned out of agriculture even if it is designated state or regionally significant farmland. As one of a number of examples of the rezoning of RU1 land in the region over the study period, in 2016 Lismore City Council rezoned an area on Pineapple Rd despite concerns raised by the Department of Primary Industries (Lismore City Council, 2016).

**Insight 16. Relevant planning instruments recognise the need to safeguard agricultural land in the context of rapid population growth on the North Coast. Nevertheless, agricultural land remains under threat due to the potential for rezoning, notwithstanding these instruments.**

### Special Activation Precincts

A further issue with respect to zoning is the potential for Special Activation Precincts (SAPs) to be developed as an approach to coordinate infrastructure and planning decisions coherently with local economic opportunities. Special Activation Precincts are defined as:

“Dedicated areas within regional New South Wales which have been identified by the NSW Government to drive regional economic development. They bring together planning and investment support services to create jobs, foster economic activity and grow our regional areas” (Regional Growth NSW Development Corporation, 2022).

In the transect region, a SAP has been developed for Moree. The aim of this is to build on the competitive advantages of this local region in terms of cropping by ensuring planning coherence for infrastructure delivery that best facilitates efficiencies and opportunities for value-addition. The logic is described as follows:

“The [SAP] master plan applies to approximately 4,716 hectares located south of the Moree township and Gwydir Highway, straddling both sides of the Newell Highway and Inland Rail. The Precinct currently benefits from commodity focused intermodals, rail access sidings, Moree Solar Farm, Moree Regional Airport and Gateway Estate, and utilities including gali-water, sewer, NBN, communications and Transgrid Fibre. The master plan identifies a flexible Regional Enterprise Zone that allows for a wide range of employment and industrial uses, including over the existing industrial area, and providing a streamlined planning process for a wide range of businesses. A Rural Activity Zone that protects the amenity of land located west of the Precinct, and clear separation distances for development within the Precinct ensures that the amenity enjoyed by residents surrounding the Precinct is maintained” (Regional Growth NSW Development Corporation, 2022).

The use of SAPs provides an example of a strategic planning and development intervention that seeks to 'nudge' private sector market behaviour in line with wider regional and social contexts. It is premised on the assumption that governments cannot (and should not) act independently of market forces but have a facilitatory agency in constructing environments that assist competitive advantage to be built. At a time when the fortunes of rural and regional industries can hinge on the presence of large-scale infrastructure (including transport, fibre optic cable, airports, freight corridors, etc), this is an aspect of planning that holds particular future potential to the transect region.

## 5.2 Minimum lot sizes

Minimum lot sizes (MLS) vary considerably across the transect. LGAs along the eastern coast have smaller MLS on average than those in the west, predominantly following the east to north-west gradient observed in earlier sections of this report. Much of the coast has an MLS of 40 hectares. This specification dates to a decision in 1973 that a 100 acre (40 hectare) holding size was appropriate for the economic viability of a farm. At the time of this policy, dairying was the dominant agricultural industry on much of the NSW North Coast. The presumption was that a 40 hectare dairy farm could sustain a farm household. This presumption was however never backed by any economic analysis, and subsequently, of course, dairying no longer plays the dominant role it once did. However, the legacy effects of that decision remain in place throughout much of the region.

LGAs in the centre of the transect – Glen Innes Severn, Inverell, and Gwydir – have the largest MLS on average, as displayed in Figure 38. Both Glen Innes Severn and Inverell exhibit a pattern of urban centres being encapsulated by smaller MLS that progressively increase the further one moves from the centre. Paradoxically, Moree Plains has a smaller MLS than these LGAs, despite the larger size of farms in this more western area. The lack of coherence between MLS and farm size viability emphasises the historically haphazard ways in which MLSs were developed. Decisions were made on an ad hoc basis by individual councils at different points in time, leading to little rationality when viewed from a wider regional perspective.

Overall, there is evidence that MLS rules provided a barrier to rural subdivision in the Northern transect. At the start of the study period, the area covered by the thirteen transect LGAs contained 87,041 unique land parcels (noting the exclusions described in Appendix A). At the endpoint of the study, in January 2020, this area was covered by 86,896 unique parcels, indicating a small net consolidation in the number of parcels of 0.17% (Table 18). Not surprisingly, coastal LGAs including Coffs Harbour, Ballina and Byron experienced an increase in the number of parcels over the study period, due to the dominant effects of subdivision. Inland and hinterland LGAs saw a net reduction in the number of parcels, through owner consolidation.

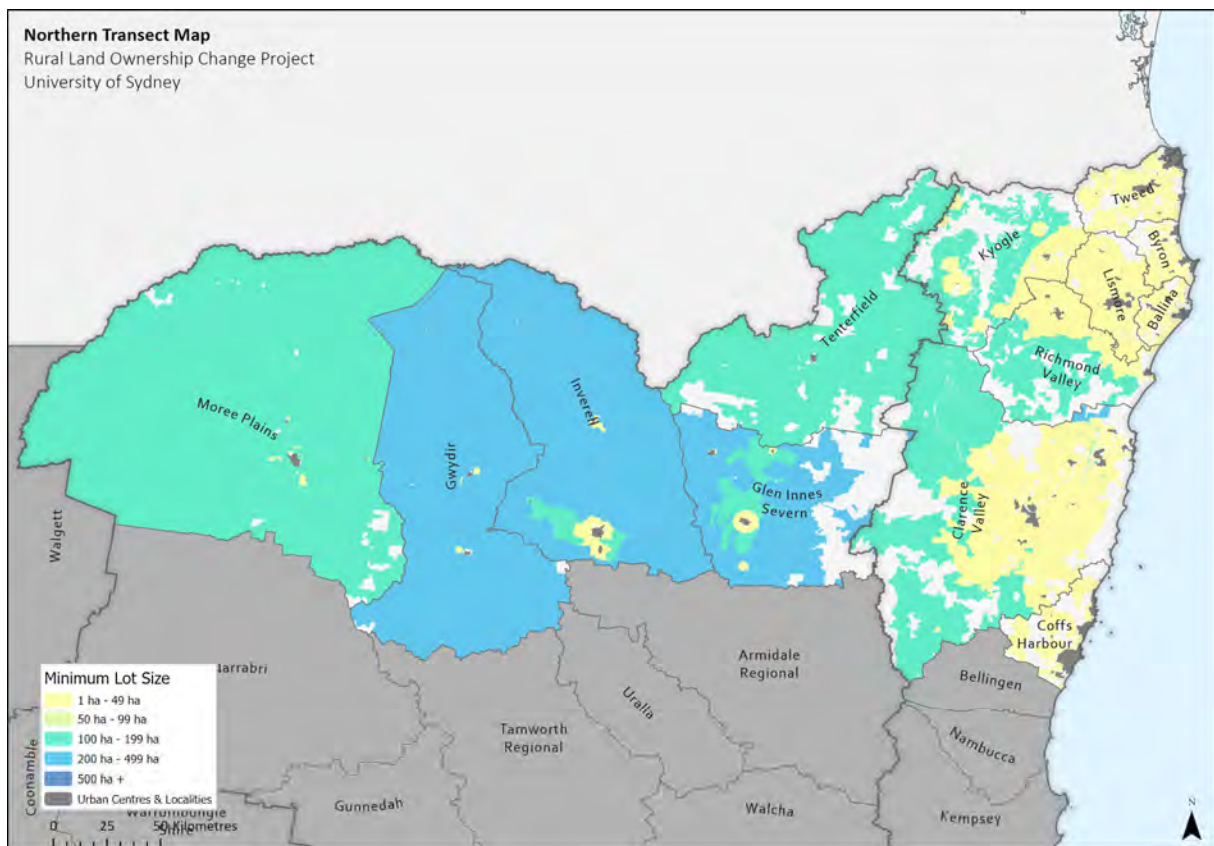
The data also show that there were relatively few boundary changes, implying that the overwhelming majority of ownership changes took place within the confines of pre-existing parcel boundaries. A number of LGAs did have a small net increase in the number of individual parcels (Byron, Ballina, Lismore, Richmond Valley, Coffs Harbour, Kyogle, Tenterfield). Most of these LGAs are in the east of the transect, where demand for residential subdivisions close to urban centres would be high.

Table 18 - Number of parcels in the transect, 2004-20

LGA	Number of parcels (Jan 2004)	Number of parcels (Jan 2020)	Percentage Change (2004-2020)
Tweed	5,968	5,919	-0.82%
Byron	3,952	4,062	2.78%
Ballina	3,498	3,706	5.95%
Lismore	6,606	6,610	0.06%
Richmond Valley	6,345	6,449	1.64%
Clarence Valley	14,695	14,416	-1.90%
Coffs Harbour	3,866	4,110	6.31%
Kyogle	5,145	5,205	1.17%
Tenterfield	7,534	7,626	1.22%
Glen Innes Severn	6,638	6,508	-1.96%
Inverell	8,226	8,124	-1.24%
Gwydir	6,501	6,372	-1.98%
Moree Plains	8,067	7,789	-3.45%
<b>Northern transect (total)</b>	<b>87,041</b>	<b>86,896</b>	<b>-0.17%</b>

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

Figure 38 - Minimum lot size map, categorised by size



**Insight 17. Minimum Lot Sizes are a blunt and inconsistent tool for protecting agricultural land from subdivision. They bear little economic relationship to farm viability. Nevertheless, in the absence of a policy alternative, they remain relevant in terms of curbing unplanned development.**

## 5.3 Dwelling entitlements and subdivision

As Table 19 demonstrates, lot sizes vary significantly across the transect. LGAs in the west have on average larger parcel sizes than the east. However, this does not necessarily reflect subdivision or dwelling potential. A ratio of minimum lot size rules to actual lot sizes can be established to determine patterns of lot size across the transect, as shown in Figure 39.

Figure 39 indicates that Glen Innes Severn has the most restrictive MLS rules in the transect, as the majority of existing land parcels are below the size required to subdivide or add a new dwelling. The general observed pattern is that areas in the east of the transect are more restrictive, while those in the west are more likely to allow for subdivision or additional dwellings. Indeed, the overwhelming majority of land parcels in Moree Plains are subdividable and/or can have a new dwelling as they are above the minimum lot size requirements. A considerable proportion of parcels across the entire transect meet the size requirements for an additional dwelling.

### **Inland**

Minimum Lot Sizes are less of a contentious issue in many inland LGAs because demand for subdivision is thinner. Issues that rise tend to be on town margins where there are transitions from one MLS to another. Because of problems of declining population in most LGAs, councils tend to adopt liberal views whenever possible to proposals for subdivision. A case in point is Tenterfield, where there is no appetite to remove legacy entitlements for dwelling approvals because of the council's overarching desire to promote rural residential population growth whenever possible.

### **Coastal and hinterland**

LGAs on the coast have paid attention to the amount of rural land that remains potentially subdividable. This happens when parcels are more than 2x the Minimum Lot Size. As a general rule, there is not too much land with this potential along the coast (Figure 39). And indeed, of that land which potentially is subdividable because of MLS provisions, local topography (including flood-prone elements) mean that dwellings may not be entitled to be built, in any case. Hence, unless planning policies change, there seem to be relatively few opportunities for further subdivision and rural densification in many parts of the coast. In saying that, however, it is recognised that councils and government more generally continue to face pressures from developers and there remains the prospect that restrictions existing at one point in time may be overturned to permit further development. One implication of this is a tendency for some property developers to engage in so-called 'land banking', where land is acquired with a perspective that if regulatory arrangements change, they can capitalise on more liberal rules around subdivision and dwelling construction. The broad dimensions of managing population growth are set out in the North Coast Regional Plan 2036 however there is discretion on the timing and fine detail of the strategy.

A 'backdoor' means of converting agricultural land to residential uses relates to concessional lots. As elsewhere in the state, concessional lot provisions introduced in the 1970s and in existence until 2008 (NSW Department of Planning, 2008) have created great uncertainty within Councils about the extent to which legacy provisions from these arrangements may lead to (further) unplanned rural residential development. Many councils have introduced sunset clauses, at the completion of which, subdivision applications based on

concessional lot legacy provisions will not be honoured. In Clarence Valley, for example, a sunset clause at the end of 2021 put an end to these subdivisions.

In the absence of being able to subdivide existing rural parcels, many landowners have looked to dual occupancy provisions as a way of enhancing the value of their land. This is a highly contentious area of planning policy. The implications of dual occupancy for agriculture remains a point of dispute. On the one hand, detached dual occupancy on a parcel reduces the land potentially available for agriculture, and densifies the population concentration of a rural area. If a dual occupancy is used for short-term leasing/Airbnb, it may also be accompanied by landscaping on the parcel that alters its character from production to amenity. At the same time, if parcels are too small to maintain agricultural as a viable activity in its own right, it may be the case for some landowners that dual occupancy approval can generate a secondary income source that helps sustain some form of farming on the remainder of the property.

Coastal LGAs have adopted different perspectives towards dual occupancy. Although any proposal needs to comply with all other relevant provisions, in principle, dual occupancy is allowed in Ballina, Coffs Harbour and Lismore for example, but not permitted in Tweed. In Lismore and Kyogle, furthermore, there is a long history of community title, and there is no provision parcels with multiple occupancy to be converted to community title.

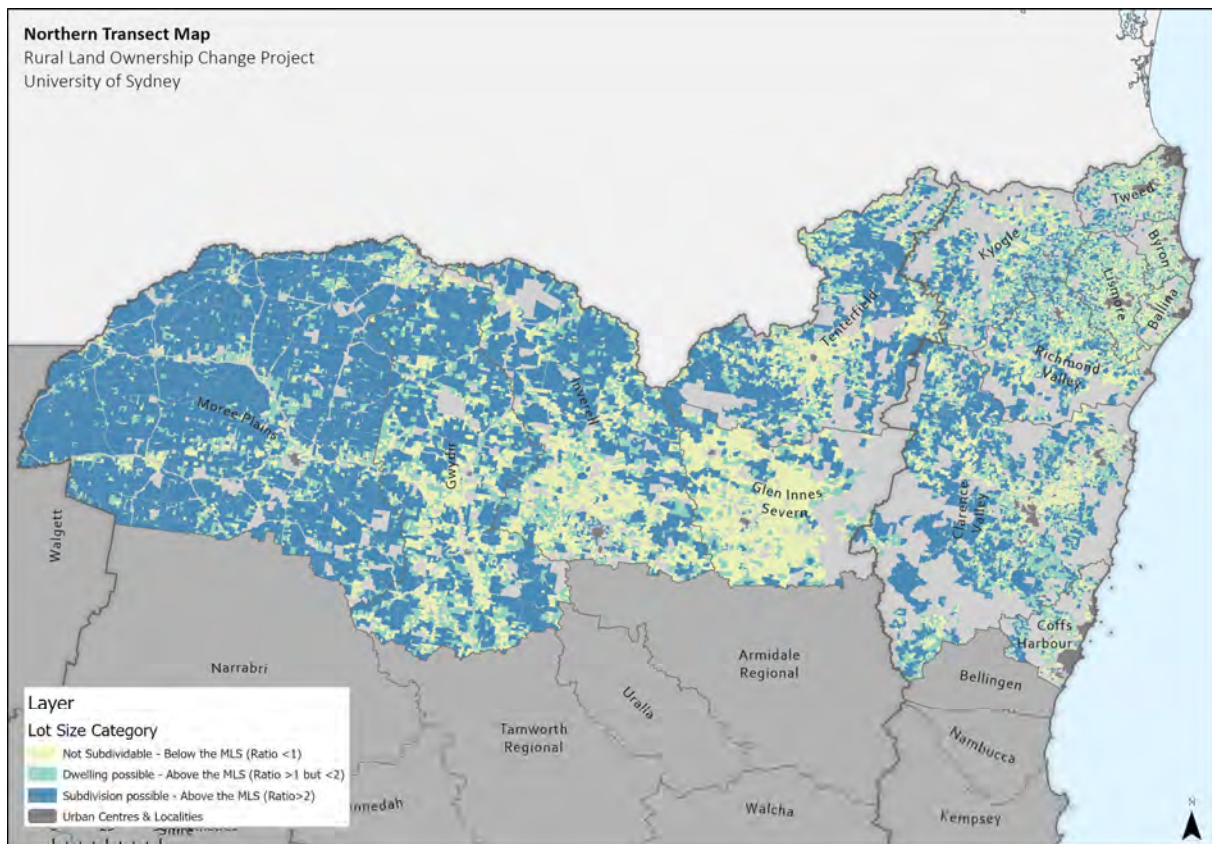
It needs noting that interviews and focus groups were conducted prior to the passage of the *Standard Instrument (Local Environmental Plans) Amendment (Agritourism) Order 2022*, the objectives of which are to ease approvals for on-farm developments that promote agritourism. This has implications for applications for dual occupancy dwellings connected to agritourism, as the Order specifically includes ‘farm stay accommodation’ within its remit.

**Insight 18. One ‘backdoor’ route to sidestepping restrictions on dwelling entitlements – concessional lots – is being closed; but others (liberalisation of dual occupancy) are being opened. The Agritourism Order of 2022 may further open opportunities for landowners to construct dwellings on their land. These developments pose challenges for policymakers charged with seeking to protect agriculture.**

*Table 19 - Lot sizes in the Northern transect*

LGA	Average parcel size (Jan 2020)	Largest parcel (Jan 2020)	Difference in the number of parcels 2004-20
Tweed	14.58 ha	533 ha	-49
Byron	10.14 ha	324 ha	110
Ballina	9.75 ha	484 ha	208
Lismore	15.04 ha	573 ha	4
Richmond Valley	32.95 ha	2,562 ha	104
Clarence Valley	45.03 ha	2,797 ha	-279
Coffs Harbour	11.94 ha	270 ha	244
Kyogle	45.90 ha	1,428 ha	60
Tenterfield	73.29 ha	4,141 ha	92
Glen Innes Severn	58.16 ha	2,767 ha	-130
Inverell	88.77 ha	5,408 ha	-102
Gwydir	128.55 ha	2,441 ha	-129
Moree Plains	205.52 ha	6,202ha	-278
<b>Northern transect (total)</b>	63.19 ha	6,202 ha	-145

Figure 39 - Minimum Lot Size Ratio Map



## 5.4 Land-use conflicts

### Coastal areas

In coastal areas, the expansion of horticulture has raised land use conflicts. The area in the transect where this has been felt most sharply is Coffs Harbour, where the growth of blueberries has abutted rapidly expanding residential areas. It needs noting that not all changes on agricultural land require development consent, potentially creating unexpected impacts on neighbours might arise that generate tensions. So, for example, whereas horticulture requires a 30 metre vegetated screening or 150 metre buffer when land is converted (say) from grazing to avocados, other changes (such as farm intensification) not involving a change in farm land use may not require a development consent. Councils in the coastal and hinterland areas face considerable pressures in mediating and managing such tensions. There is also a set of issues relating to compliance, with some parties arguing that buffer zone requirements are not always enforced, and when they are, breaches attract penalty notices that provide insufficient incentive for landowners to alter their practices. These issues remain hugely contentious in the Coffs Harbour region.

In other parts of the coast, focus groups identified spray drift from macadamias as highly problematic on land where there are many local rural residential neighbours. One implication of macadamias moving onto former sugar cane areas on flood plains is that this manifestation of land use conflict is reduced. Moreover, if cane is displaced, it reduces the other key land use conflict issue in these areas, which is the large 'ash footprint' from cane burning, which depending on wind conditions, can impact on local towns.

Land use conflicts in other coastal areas represent an expression of competition over land. In Ballina and Byron for example, increased demand for residential and industrial land can be met only by making sites available for these uses outside of floodplains, such as the hinterland plateaus, which in turn intensifies pressures on the presence of agriculture in these areas. These plateau areas are home to rich soils and high value agriculture however such uses can be outbid.

### **Inland areas**

Land use conflict tends to be a less prominent issue away from the coast because of lower rural population densities. In inland areas, the livestock and poultry sectors are a major source of land use conflict because of odours. Restructuring and consolidation in the poultry industry has made this a less significant industry in the transect, so, for example, whereas the area around Casino in Richmond Valley Shire was traditionally a large producer of poultry, much of this industry has moved to Tamworth. The expansion of feedlots in inland LGAs (see previous chapter) has, however, caused land conflicts to arise in some LGAs. A case in point is Glen Innes Severn, where a development application for a 1,000 head feedlot in 2020 was surrendered following a campaign and legal action by local residents (Messenger, 2020), but in 2022, a development application was approved for a separate 1,000 head feedlot, despite concerns by some locals about its impact on the town's water security (McNamara, 2022).

**Themes for future research:** Many of the socio-economic themes presented in this report have been communicated to us by stakeholders 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.

## 6. Bibliography

Australian Bureau of Statistics (2011a) Table Builder, Place of Usual Residence (online resource), accessed 9 January 2021.

Australian Bureau of Statistics (2011b) Table Builder, Place of Work (online resource), accessed 9 January 2021.

Australian Bureau of Statistics (2016a) Table Builder, Place of Usual Residence (online resource), accessed 9 January 2021.

Australian Bureau of Statistics (2016b) Table Builder, Place of Work (online resource), accessed 9 January 2021.

Australian Bureau of Statistics (2021) Regional Population 2019-20 – Estimates by Local Government Area. <https://www.abs.gov.au/statistics/people/population/regional-population/latest-release>.

Bright, J. (2020) Considerations for developing and managing macadamia on floodplain soils, *PrimeFact* 1656, NSW Department of Primary Industries.

[https://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0010/823744/Considerations-for-developing-and-managing-macadamia-on-floodplain-soils-second-edition.pdf](https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0010/823744/Considerations-for-developing-and-managing-macadamia-on-floodplain-soils-second-edition.pdf)

Burt, M. (2022) Going nutty: The macadamia story, *The Farmer*, 20 May

<https://thefarmermagazine.com.au/the-ups-and-downs-of-australias-macadamia-industry/>

Goodwin, S. (2021) Cattle on feed numbers surge, *Queensland Country Life*, 19 August.

Lismore City Council (2016) Approval of 87 Pineapple Road Goonellabah Rezoning Planning Proposal, TRIM record BP16/255:EF15/79, [https://lismore.nsw.gov.au/files/Council\\_Report\\_-\\_Approval\\_of\\_87\\_Pineapple\\_Road\\_Goonellabah\\_Rezoning\\_Planning\\_Proposal.pdf](https://lismore.nsw.gov.au/files/Council_Report_-_Approval_of_87_Pineapple_Road_Goonellabah_Rezoning_Planning_Proposal.pdf)

McNamara, M. (2022) Latest council battle over water supply, *Glen Innes Examiner*, 31 March.

Messenger, A. (2020) Glen Innes feedlot surrendered after legal action, *The Land*, 7 October.

NSW Dept of Planning (2008) State Environmental Planning Policy (Rural Lands) Planning Circular, PS 08-002 <https://www.planning.nsw.gov.au/-/media/Files/DPE/Circulars/planning-circular-state-environmental-planning-policy-rural-lands-2008-05-09.pdf>

NSW Department of Planning and Environment (2019) *North Coast Settlement Planning Guidelines*, <https://www.planning.nsw.gov.au/-/media/Files/DPE/Plans-and-policies/Plans-for-your-area/Regional-plans/North-Coast-settlement-planning-guidelines-2019.pdf?la=en>

NSW Department of Planning and Environment (2022) *Local Planning Directions*, <https://www.planning.nsw.gov.au/-/media/Files/DPE/Directions/Ministerial-Directions-commenced-on-1-March-2022.pdf?la=en>

NSW Valuer-General (2022) Report on NSW Land Values as at 1 July 2021, NSW Valuer-General. [https://www.valuergeneral.nsw.gov.au/\\_data/assets/pdf\\_file/0018/230274/Valuer\\_Generals\\_Report\\_on\\_NSW\\_Land\\_Values\\_at\\_1\\_July\\_2021.pdf](https://www.valuergeneral.nsw.gov.au/_data/assets/pdf_file/0018/230274/Valuer_Generals_Report_on_NSW_Land_Values_at_1_July_2021.pdf)

Pritchard, B., Umaña Restrepo, G., Welch, E., Mitchell, L. (forthcoming) Financialized agri-corporate investment as network switching: Analyzing sixteen years of land investment in an Australian agricultural region, 2004-19, *Journal of Economic Geography*

Pritchard, B., Welch E., Umaña Restrepo, G. (2021) Rural Land Ownership Change in NSW, 2004-20, University of Sydney & NSW Department of Primary Industries. [https://rural-land-science.sydney.edu.au/wp-content/uploads/2021/11/NSW\\_Report\\_final.pdf](https://rural-land-science.sydney.edu.au/wp-content/uploads/2021/11/NSW_Report_final.pdf)



Regional Growth NSW Development Corporation (2022) *Moree Special Activation Precinct: Delivery Plan*, <https://www.nsw.gov.au/media/26723/download?attachment>

Reserve Bank of Australia (RBA) (2022) Index of Commodity Prices, accessed 31 January 2022, <https://www.rba.gov.au/statistics/frequency/commodity-prices/2021/icp-1221.html>.

Rural Bank (2021) Australian Farmland Values – New South Wales 2021.

The Senate: Economics References Committee (2016) Agribusiness managed investment schemes: Bitter harvest, Parliament of Australia, Canberra.

[https://www.aph.gov.au/parliamentary\\_business/committees/senate/economics/mis/Report](https://www.aph.gov.au/parliamentary_business/committees/senate/economics/mis/Report)

Umaña Restrepo, G., Pritchard, B., Welch, E. (forthcoming) Does the extent of time in drought affect the rate of farm ownership change in a local government area? A sixteen-year assessment of rural land ownership change in New South Wales, Australia, *Journal of Rural Studies*.

# 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<sup>2</sup>). 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.

## In-depth interviews and focus groups

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

In-depth interviews and focus groups were undertaken at various times between November 2020 and July 2022. The effects of travel restrictions during the COVID-19 pandemic led to this extended period for travel and fieldwork. Each focus group session was 1.5 hours long and was attended by 3-10 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 Tweed, Byron, Ballina, Lismore, Richmond Valley, Kyogle, Tenterfield, Glen Innes Severn, Inverell, Gwydir, and Moree Plains. 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

## 1. Tweed

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

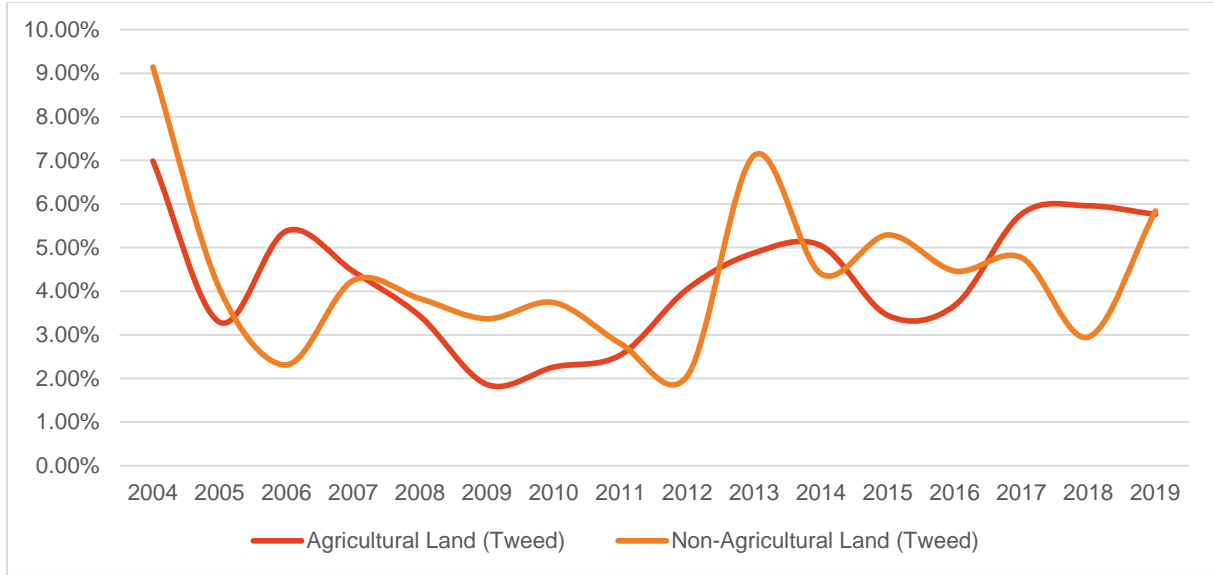


Figure 41 - Tweed Land-use Map

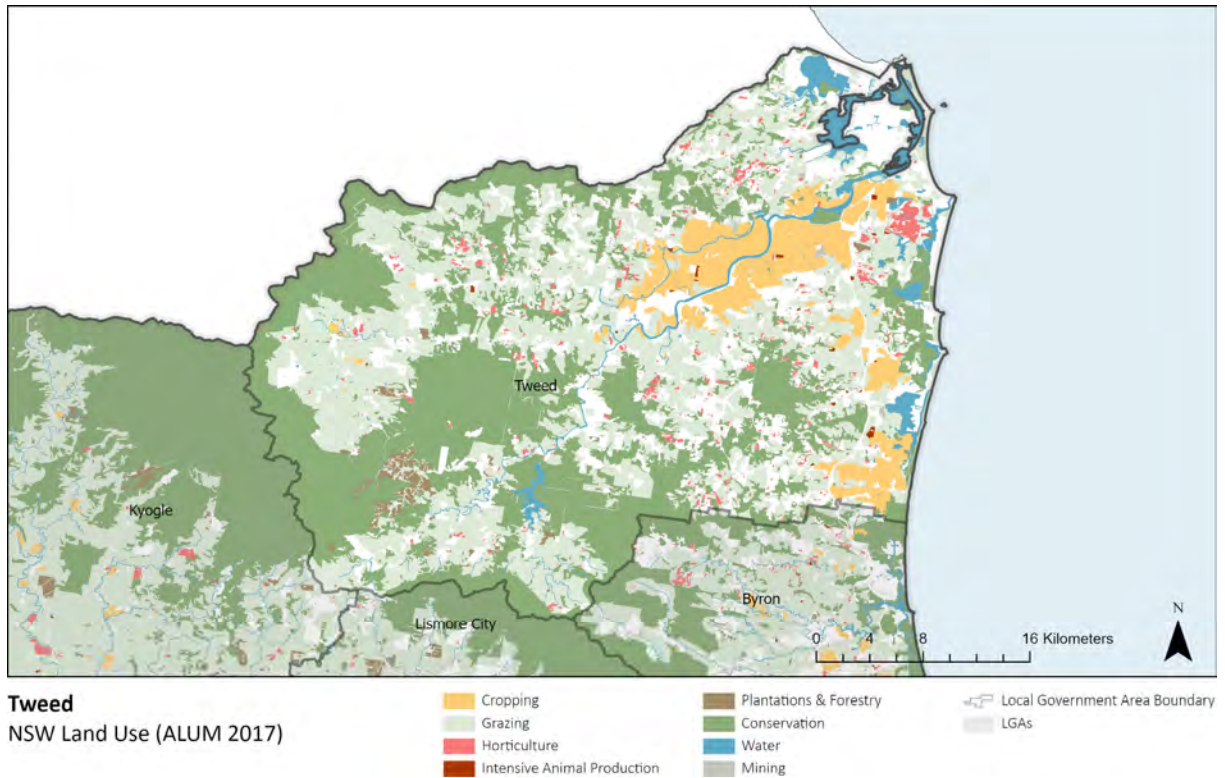


Table 20 - Tweed Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	73.20%	0.55%
Cropping	14.86%	0.00%
Horticulture	3.77%	0.21%

Figure 42 - Largest 50 Landholders in Tweed

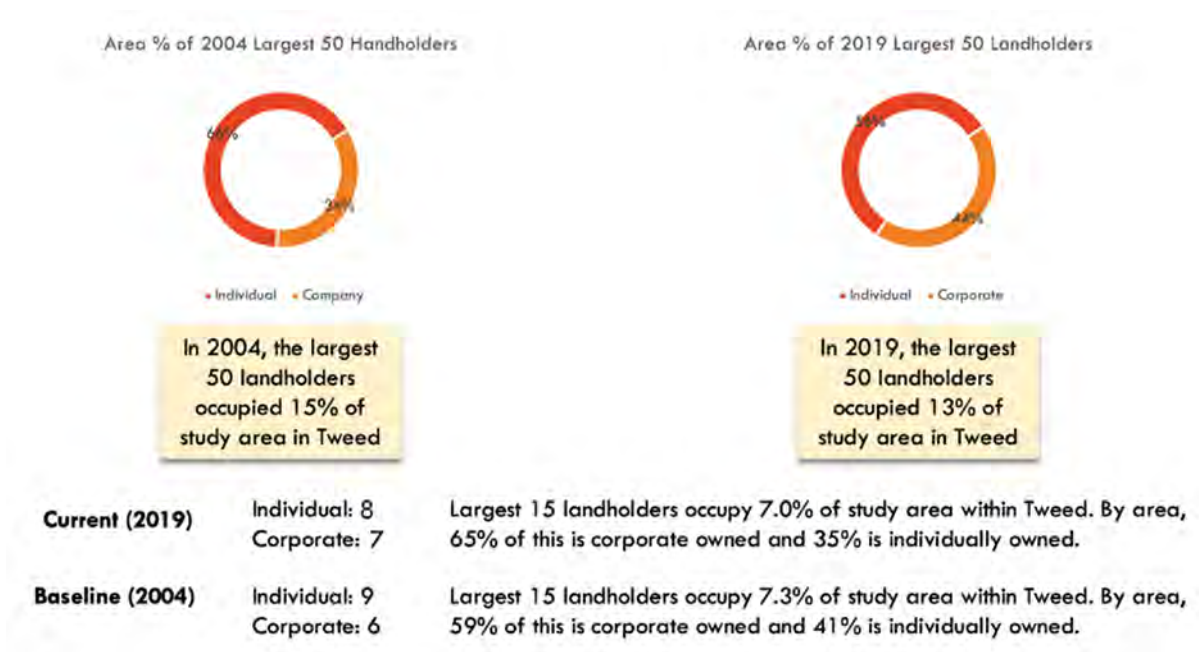


Table 21 - Profile of top 15 largest private landholders in Tweed

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	908	Corporate	# 2	848	7%
2	874	Corporate	#1	1,161	-25%
3	655	Corporate	#3	655	0%
4	441	Corporate	#5	441	0%
5	391	Corporate	#36	181	116%
6	341	Individual/s	#26	207	65%
7	333	Corporate	#6	333	0%
8	313	Corporate	#7	293	7%
9	287	Individual/s	#8	287	0%
10	257	Individual/s	#9	257	0%
11	257	Individual/s	#10	257	0%
12	252	Individual/s	#39	177	42%
13	240	Individual/s	#29	196	23%
14	229	Individual/s	#15	229	0%
15	224	Individual/s	#16	224	0%

## 2. Byron

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

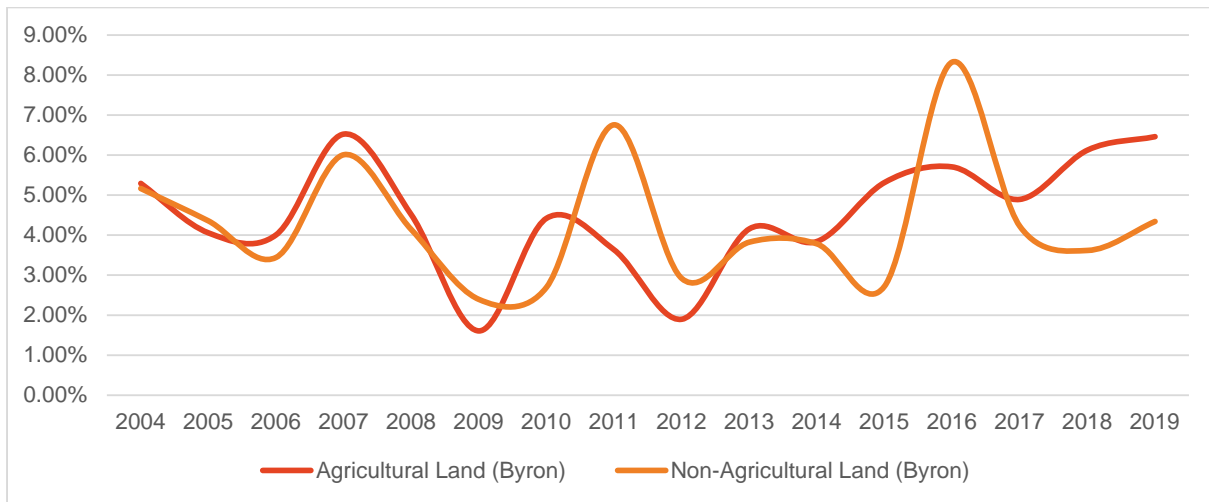


Figure 44 - Byron Land-use Map

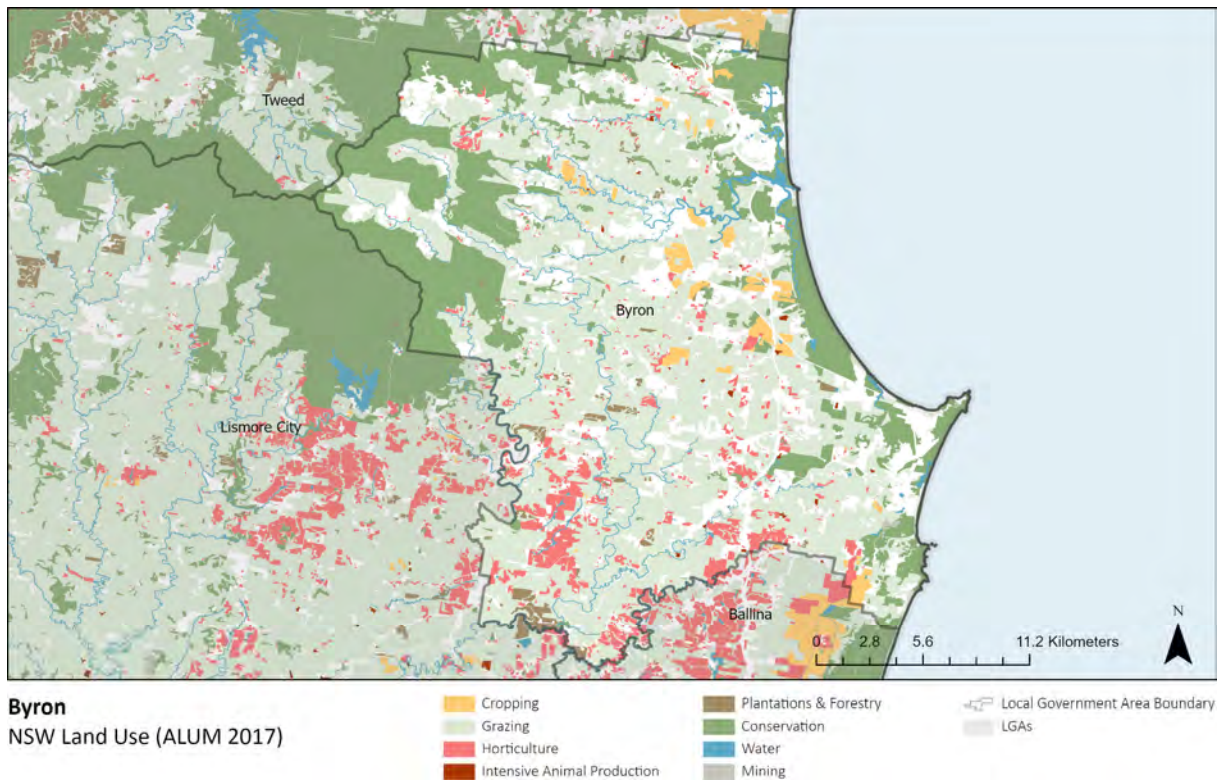


Table 22 - Byron Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	80.53%	0.00%
Cropping	2.74%	0.00%
Horticulture	8.55%	1.44%

Figure 45 - Largest 50 Landholders in Byron

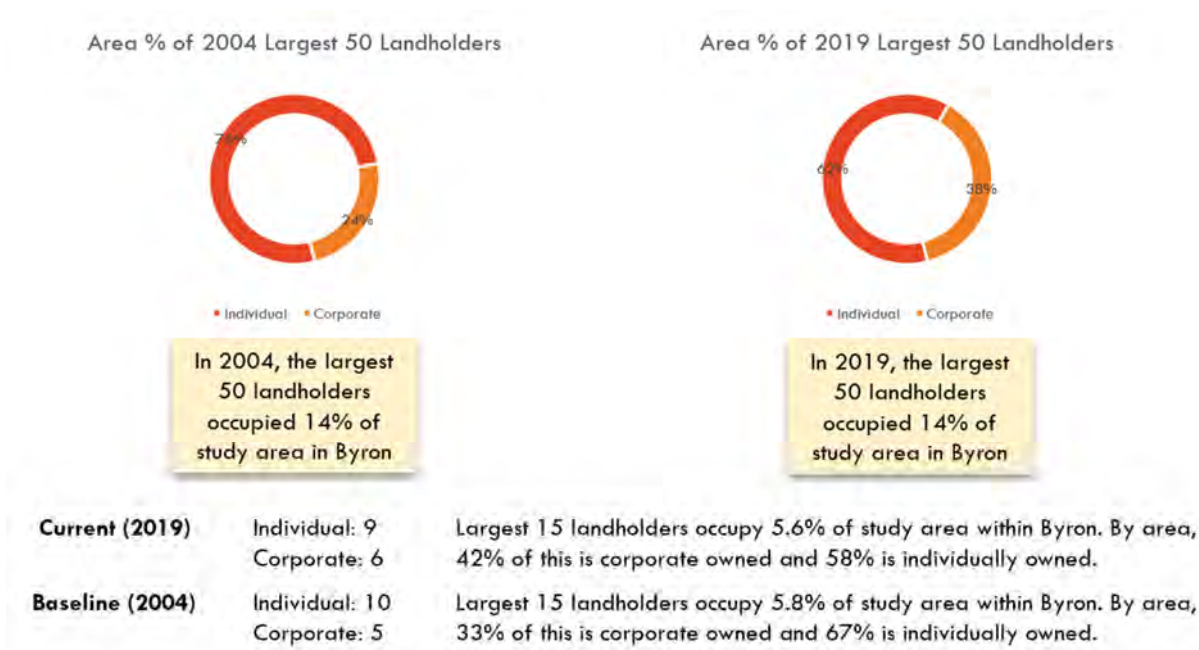


Table 23 - Profile of top 15 largest private landholders in Byron

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	209	Corporate	-	0	NEW
2	197	Corporate	-	0	NEW
3	186	Individual/s	Outside Top 50	1	18,505%
4	175	Individual/s	-	0	NEW
5	165	Corporate	#5	165	0%
6	163	Individual/s	#6	164	-0.05%
7	158	Individual/s	-	0	NEW
8	145	Corporate	#10	145	0%
9	141	Individual/s	-	0	NEW
10	132	Corporate	-	0	NEW
11	131	Individual/s	#13	131	0%
12	127	Individual/s	#15	127	0%
13	123	Corporate	Outside Top 50	16	669%
14	122	Individual/s	#18	122	0%
15	121	Individual/s	#19	121	0%

### 3. Ballina

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

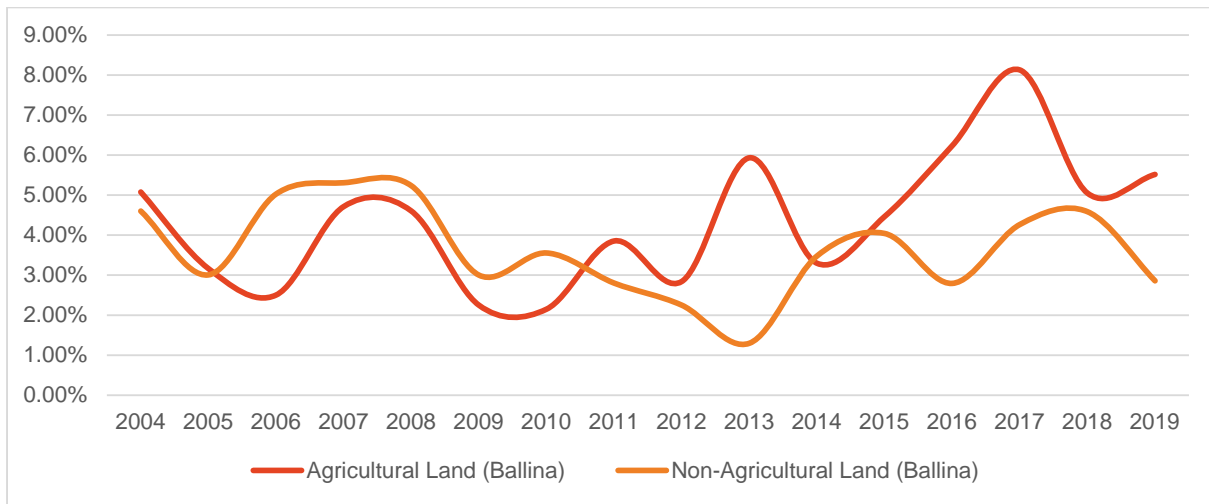


Figure 47 - Ballina Land-use Map

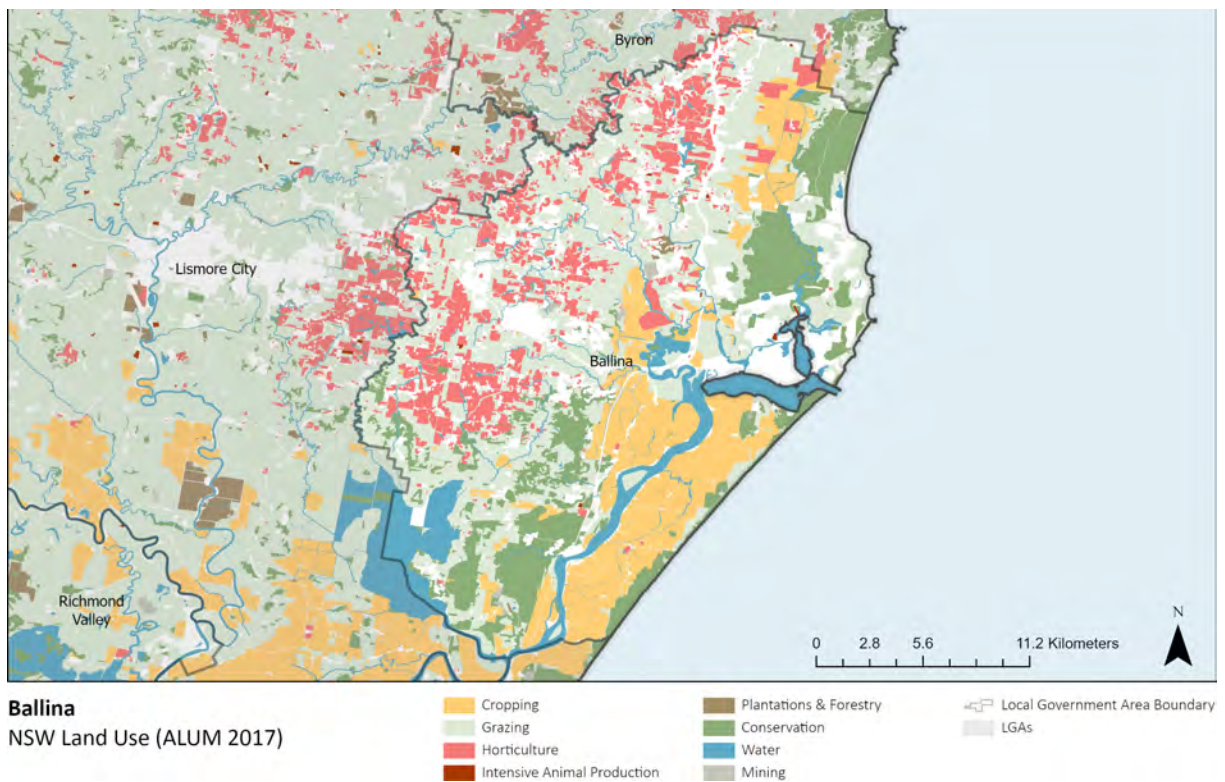


Table 24 - Ballina Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	49.58%	0.00%
Cropping	24.89%	0.00%
Horticulture	18.74%	0.27%



Figure 48 - Largest 50 Landholders in Ballina

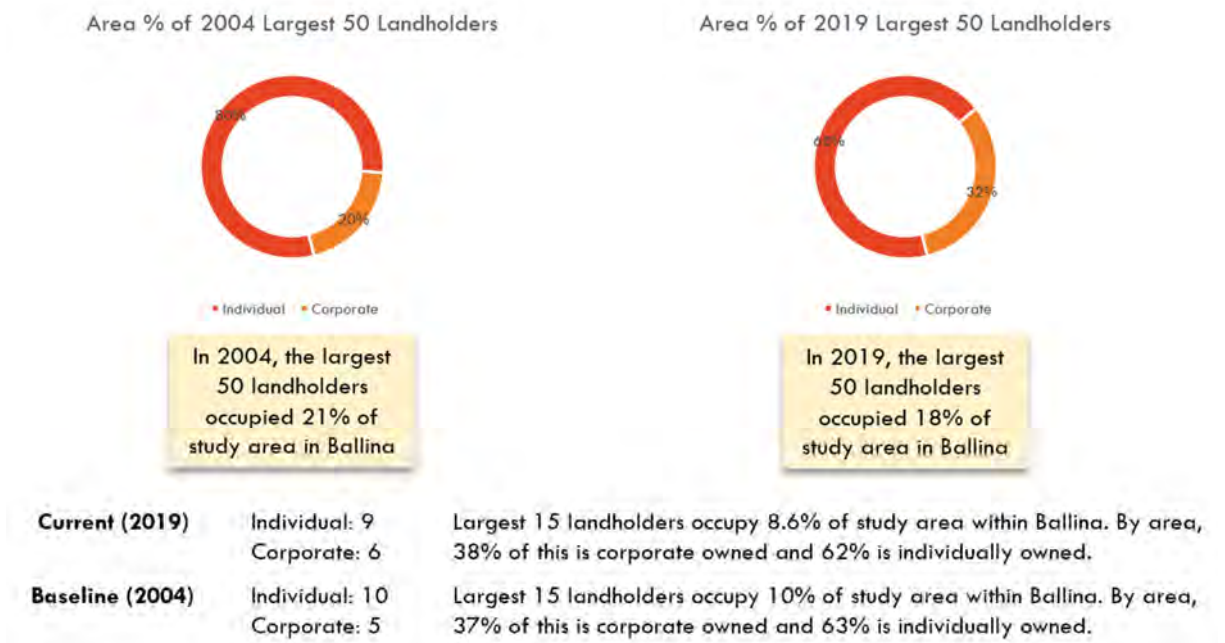


Table 25 - Profile of top 15 largest private landholders in Ballina

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	484	Individual/s	#1	484	0%
2	253	Corporate	-	-	NEW
3	246	Individual/s	-	-	NEW
4	220	Corporate	-	-	NEW
5	220	Corporate	#5	240	-8.46%
6	216	Individual/s	#19	141	52.89%
7	213	Individual/s	#8	213	0%
8	208	Corporate	-	-	NEW
9	198	Individual/s	#10	198	0%
10	166	Individual/s	#7	221	-24.88%
11	149	Corporate	-	-	NEW
12	133	Individual/s	-	-	NEW
13	131	Joint	-	-	NEW
14	129	Individual/s	-	-	NEW
15	126	Corporate	-	-	NEW

## 4. Lismore

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

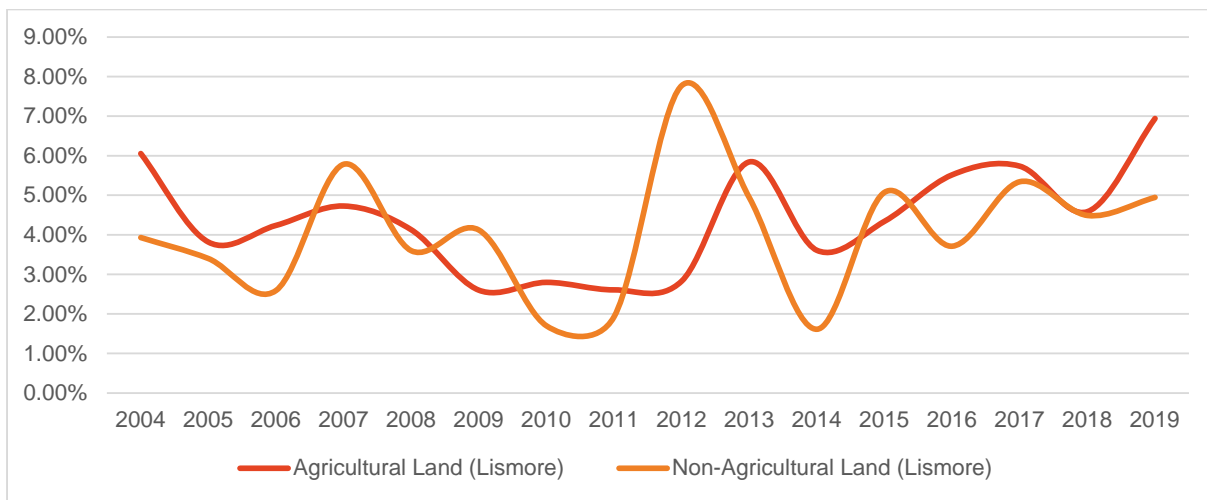


Figure 50 - Lismore Land-use Map

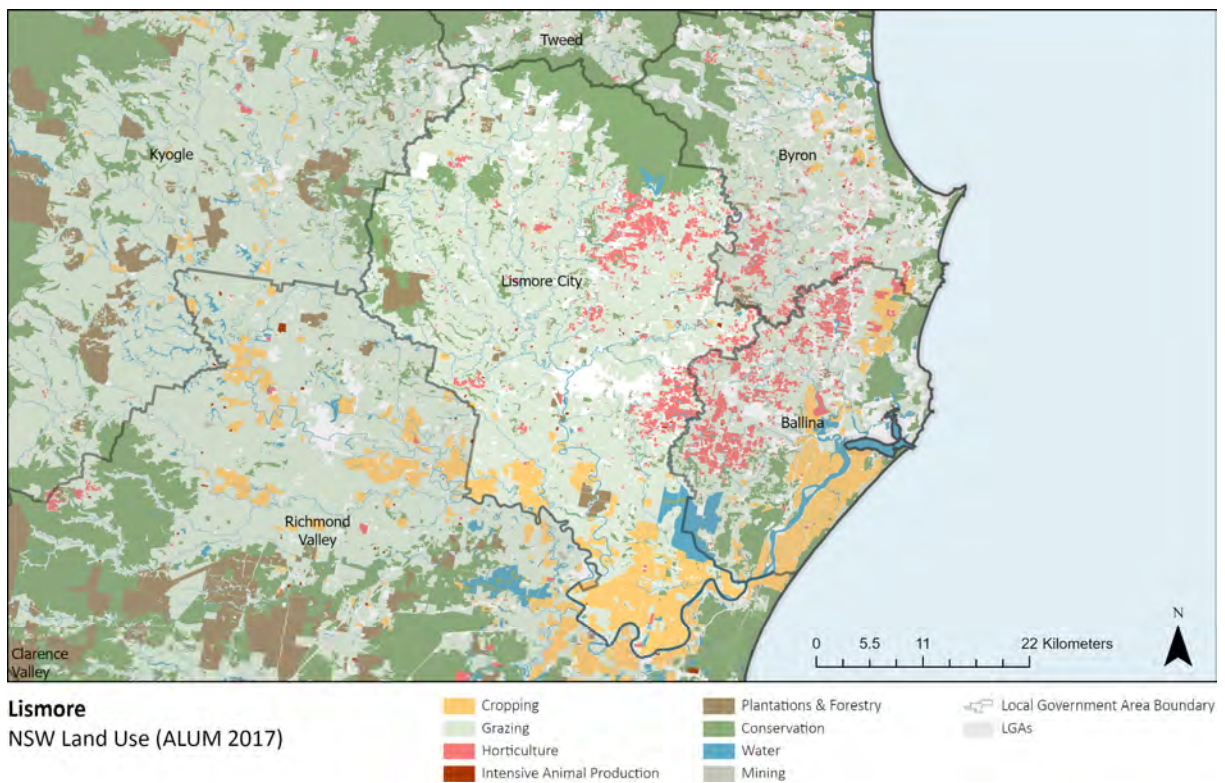


Table 26 - Lismore Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	76.02%	0.60%
Cropping	10.52%	2.08%
Horticulture	5.95%	0.10%



# 5. Richmond Valley

Figure 52 - Incidence of change on agricultural and non-agricultural rural land in Richmond Valley

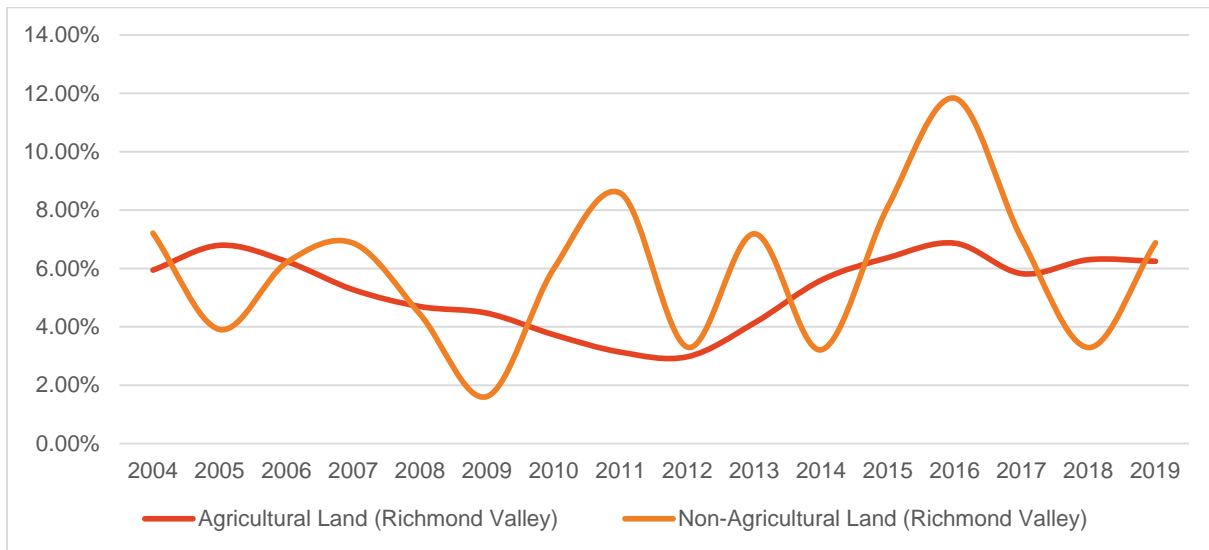


Figure 53 - Richmond Valley Land-use Map

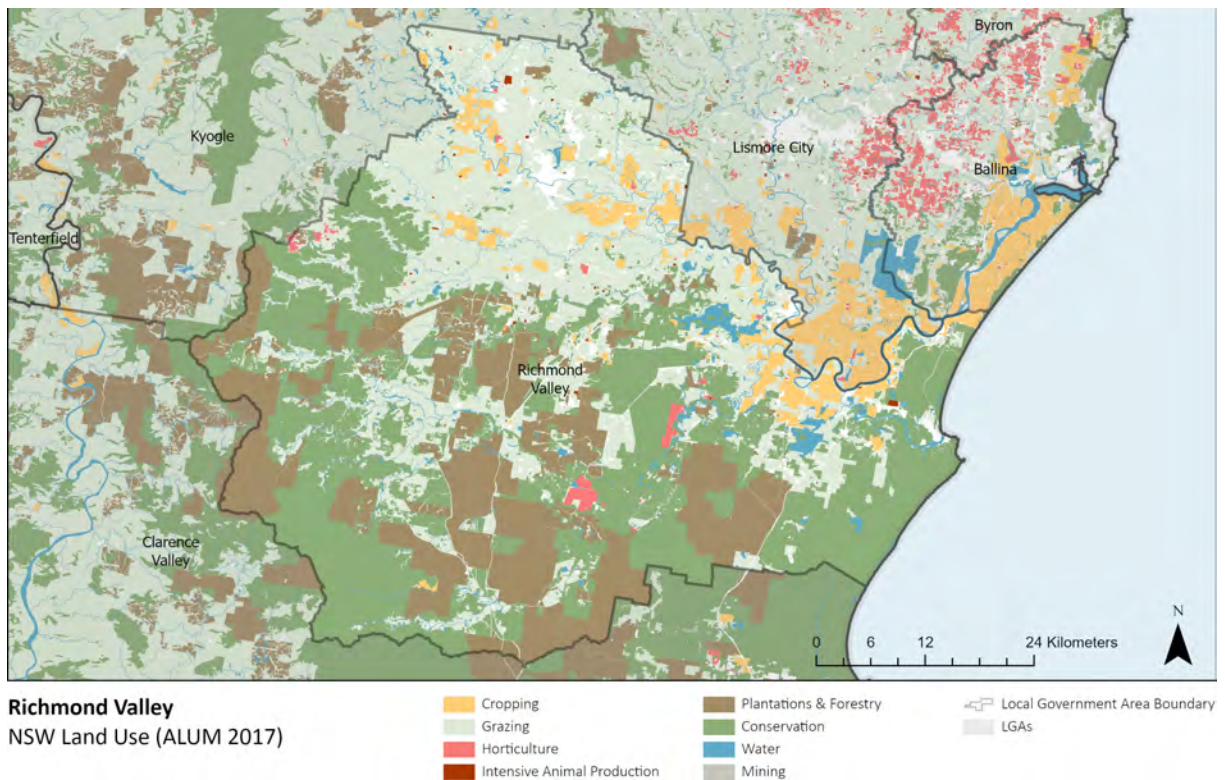


Table 28 - Richmond Valley Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
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Grazing	88.13%	0.32%
Cropping	11.25%	2.79%
Horticulture	1.72%	62.95%

Figure 54 - Largest 50 Landholders in Richmond Valley

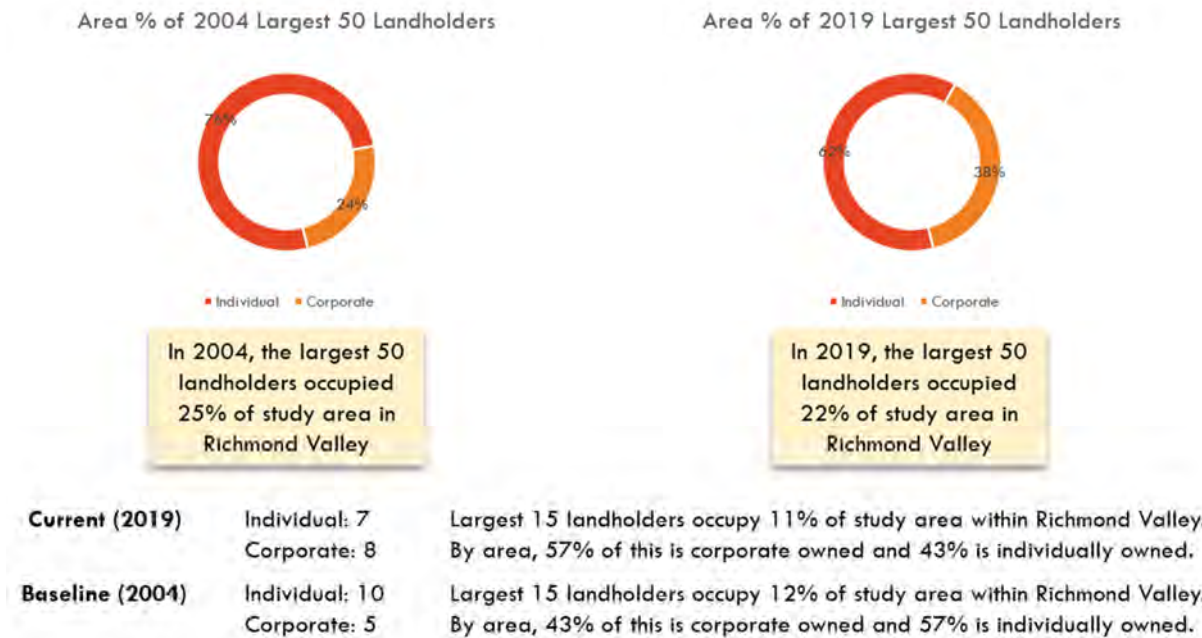


Table 29 - Profile of top 15 largest private landholders in Richmond Valley

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	4,291	Corporate	-	-	NEW
2	2,562	Individual/s	-	-	NEW
3	2,146	Corporate	#3	2,146	0.00%
4	2,037	Individual/s	#14	1,189	71.31%
5	1,323	Individual/s	-	-	NEW
6	1,295	Corporate	-	-	NEW
7	1,248	Individual/s	-	-	NEW
8	1,216	Corporate	-	-	NEW
9	1,162	Corporate	#20	1,022	13.76%
10	1,036	Corporate	#29	771	34.30%
11	973	Individual/s	-	-	NEW
12	940	Corporate	-	-	NEW
13	882	Individual/s	Outside Top 50	223	295.82%
14	870	Individual/s	-	-	NEW
15	868	Corporate	Outside Top 50	277	213.23%

## 6. Clarence Valley

Figure 55 - Incidence of change on agricultural and non-agricultural rural land in Clarence Valley

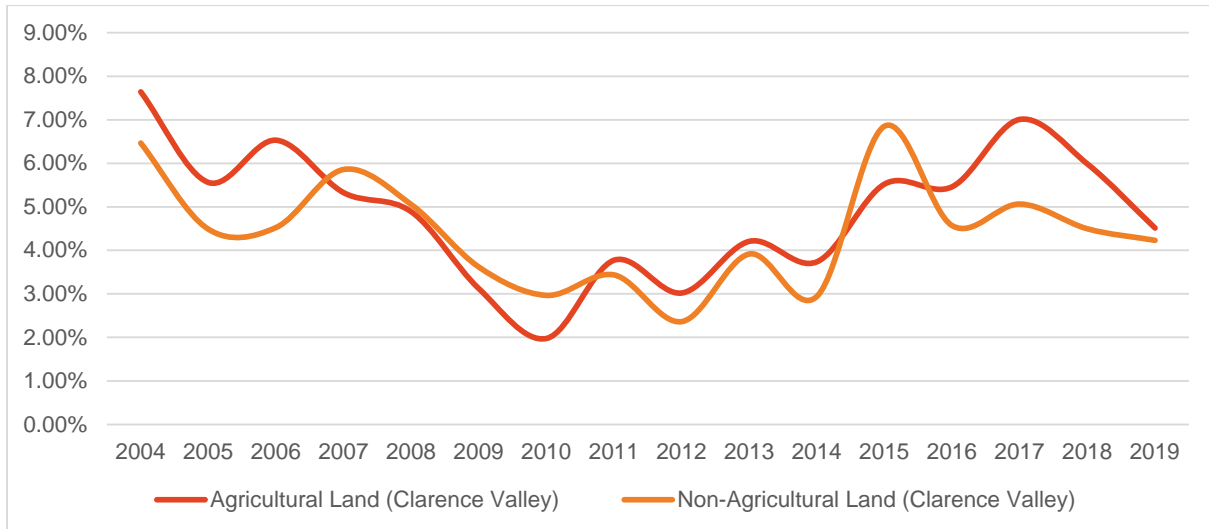


Figure 56 - Clarence Valley Land-use Map

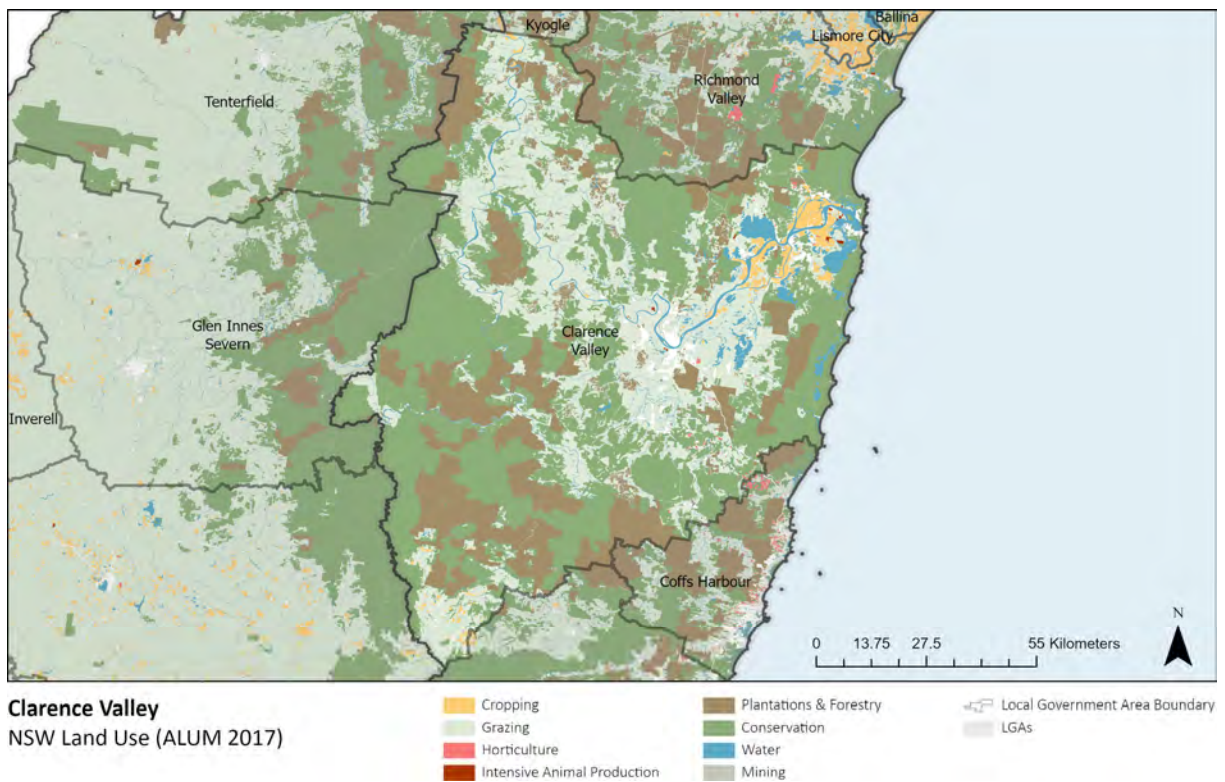


Table 30 - Clarence Valley Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	97.17%	0.03%
Cropping	5.23%	0.22%
Horticulture	0.36%	5.02%

Figure 57 - Largest 50 Landholders in Clarence Valley

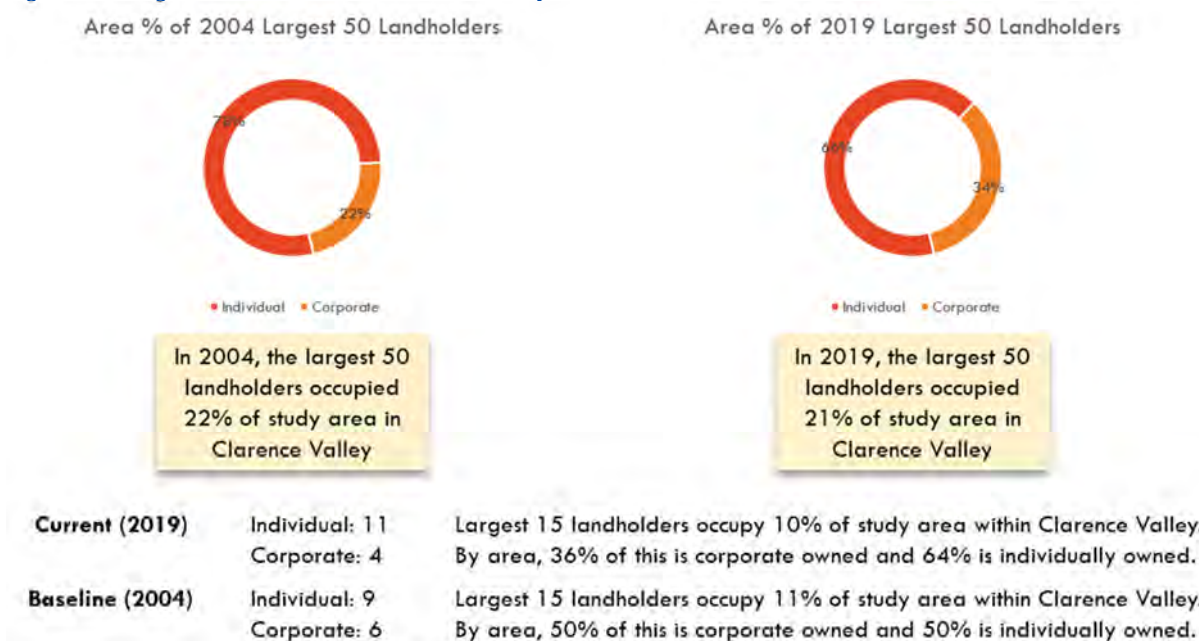


Table 31 - Profile of top 15 largest private landholders in Clarence Valley

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	10,550	Corporate	#3	9,506	10.98%
2	6,245	Corporate	#1	13,671	-54.32%
3	5,692	Individual/s	-	-	NEW
4	4,680	Individual/s	Outside Top 50	1,209	287.18%
5	4,646	Individual/s	#26	2,109	120.27%
6	4,519	Individual/s	Outside Top 50	716	531.12%
7	4,456	Individual/s	#4	4,233	5.28%
8	4,093	Corporate	-	-	NEW
9	3,965	Individual/s	#34	1,973	100.94%
10	3,098	Individual/s	#11	3,058	1.31%
11	3,085	Individual/s	#25	2,132	44.68%
12	2,982	Individual/s	-	-	NEW
13	2,817	Individual/s	-	-	NEW
14	2,797	Individual/s	-	-	NEW
15	2,771	Corporate	-	-	NEW

## 7. Coffs Harbour

Figure 58 - Incidence of change on agricultural and non-agricultural rural land in Coffs Harbour

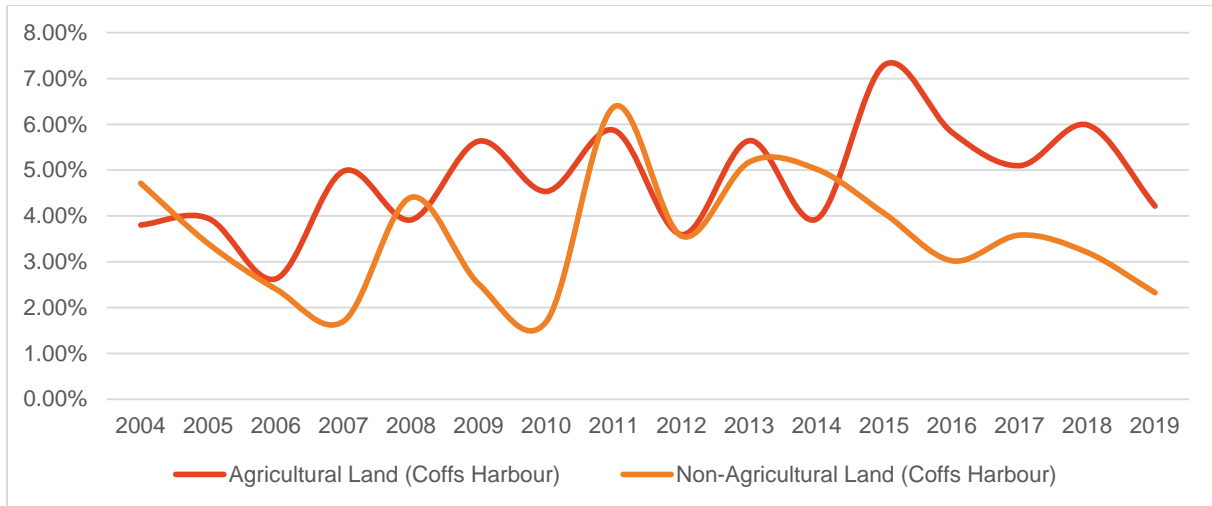


Figure 59 - Coffs Harbour Land-use Map

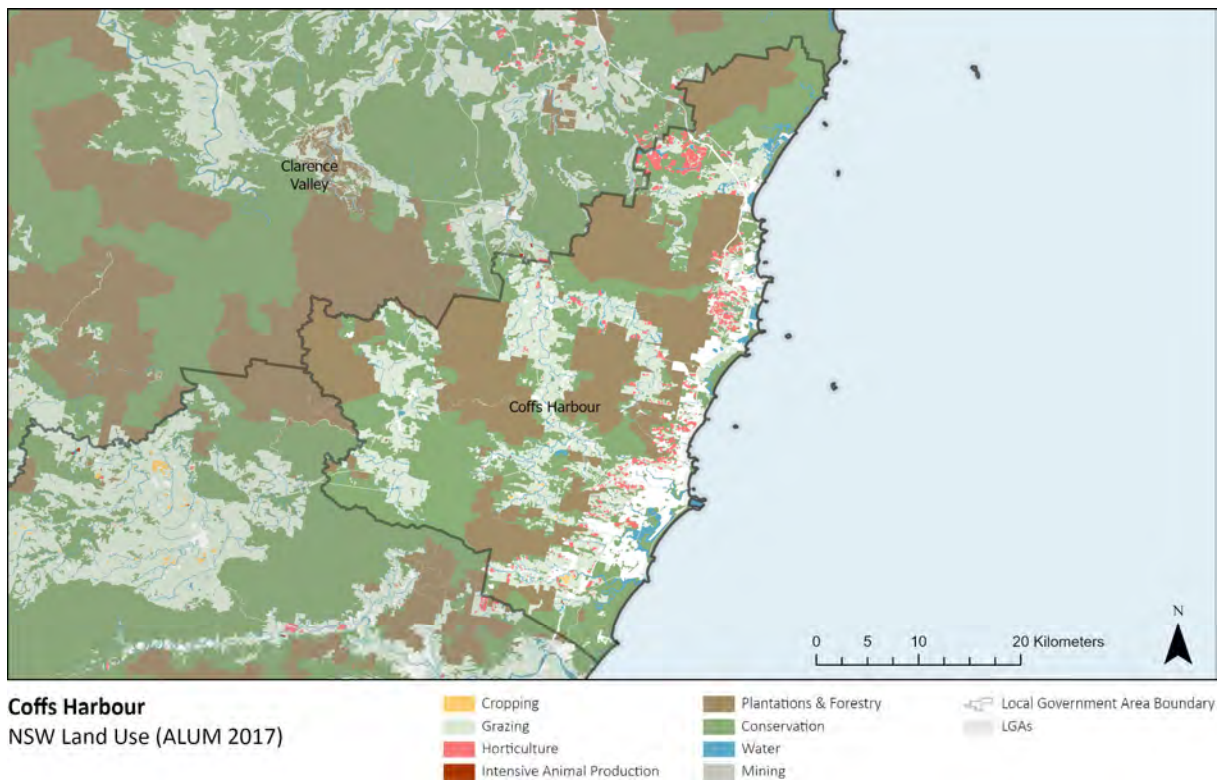


Table 32 - Coffs Harbour Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	85.93%	0.01%
Cropping	0.18%	0.00%
Horticulture	10.28%	0.14%



Figure 60 - Largest 50 Landholders in Coffs Harbour



Table 33 - Profile of top 15 largest private landholders in Coffs Harbour

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	911	Corporate	-	-	NEW
2	608	Individual/s	#15	251	142.49%
3	481	Individual/s	#3	481	0.00%
4	422	Individual/s	-	-	NEW
5	370	Individual/s	-	-	NEW
6	370	Individual/s	#11	349	6.10%
7	361	Individual/s	#6	437	-17.39%
8	359	Individual/s	Outside Top 50	20	1726.81%
9	317	Corporate	#12	317	0.00%
10	308	Corporate	-	-	NEW
11	305	Corporate	-	-	NEW
12	275	Individual/s	#14	275	0.00%
13	257	Corporate	#16	246	4.24%
14	244	Individual/s	#9	363	-32.61%
15	229	Joint	-	-	NEW

## 8. Kyogle

Figure 61 - Incidence of change on agricultural and non-agricultural rural land in Kyogle

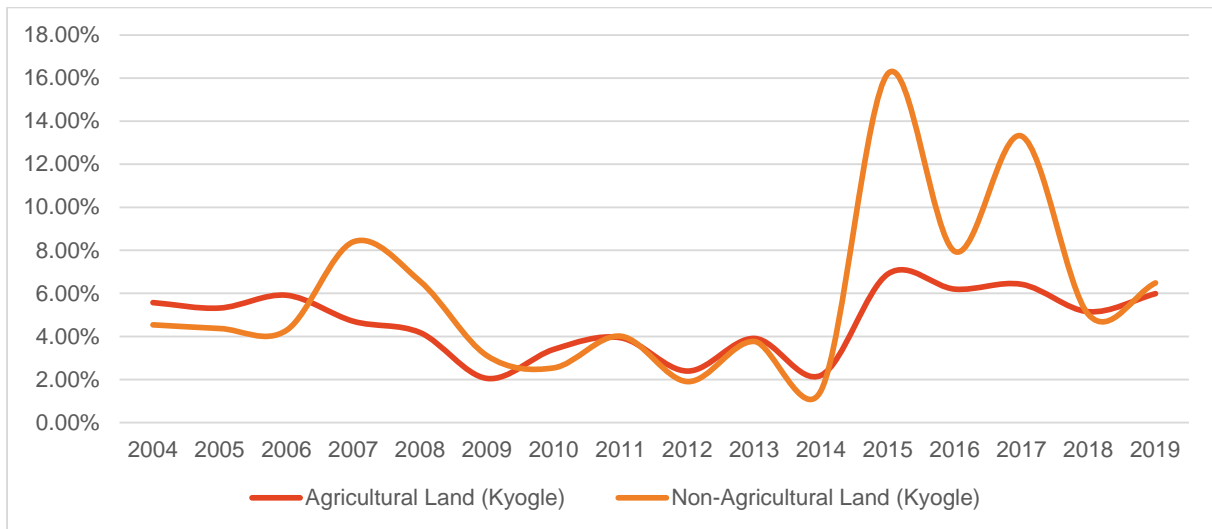
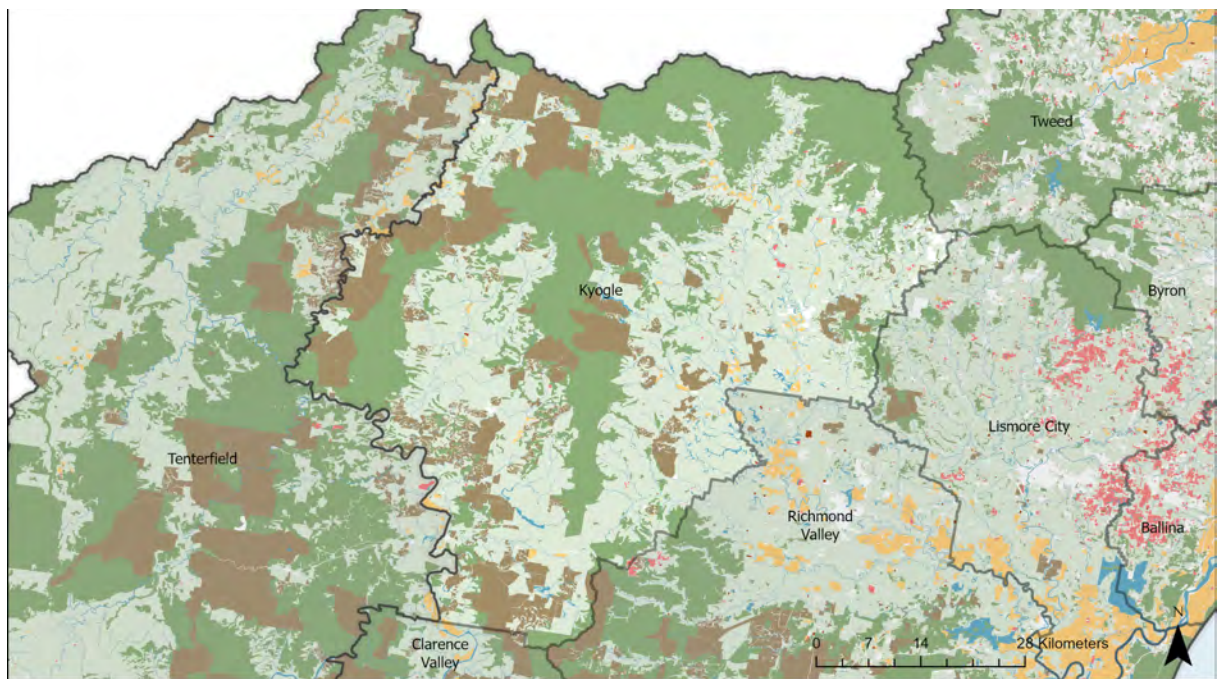


Figure 62 - Kyogle Land-use Map



### Kyogle

NSW Land Use (ALUM 2017)



Table 34 - Kyogle Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	94.70%	0.05%
Cropping	1.58%	0.00%
Horticulture	0.28%	0.00%

Figure 63 - Largest 50 Landholders in Kyogle

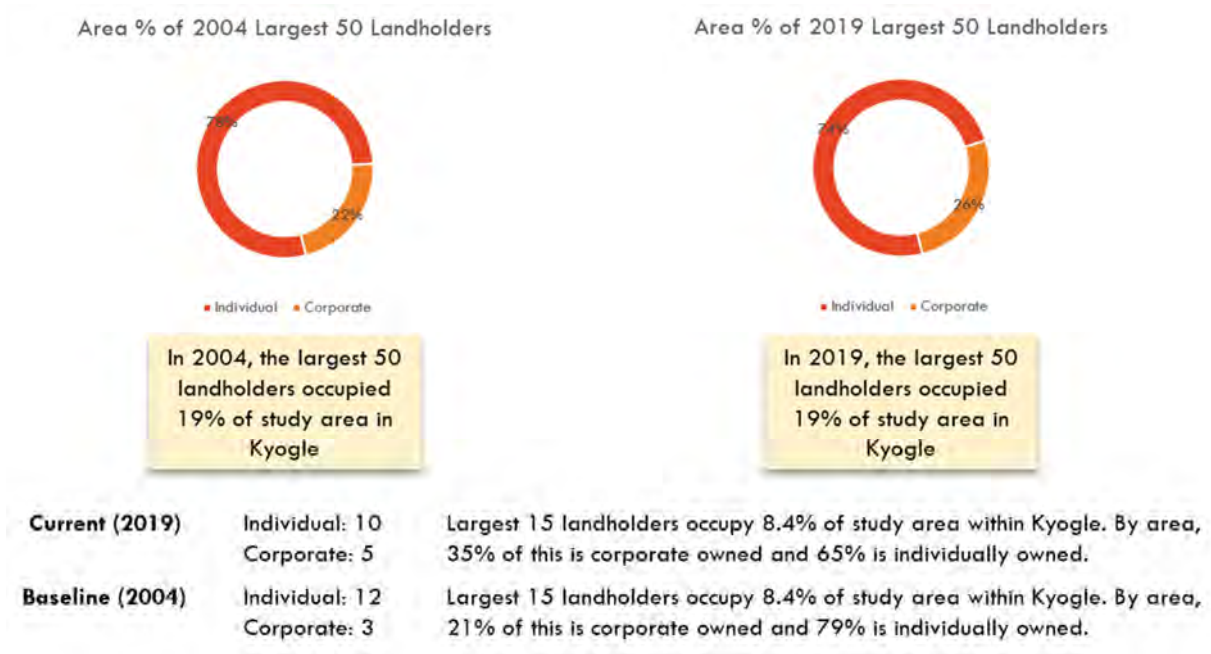


Table 35 - Profile of top 15 largest private landholders in Kyogle

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	2,346	Individual/s	#1	2,346	0.00%
2	1,937	Corporate	-	-	NEW
3	1,723	Corporate	-	-	NEW
4	1,641	Individual/s	Outside Top 50	170	863.87%
5	1,427	Individual/s	-	-	NEW
6	1,218	Corporate	#27	754	61.57%
7	1,195	Individual/s	-	-	NEW
8	1,192	Corporate	Outside Top 50	66	1705.50%
9	1,183	Individual/s	#9	1,183	0.00%
10	1,075	Individual/s	#33	684	42.52%
11	1,036	Individual/s	-	-	NEW
12	1,025	Individual/s	#13	1,024	0.08%
13	1,017	Individual/s	#14	1,017	0.00%
14	1,014	Individual/s	Outside Top 50	214	373.07%
15	972	Corporate	-	-	NEW

# 9. Tenterfield

Figure 64 - Incidence of change on agricultural and non-agricultural rural land in Tenterfield

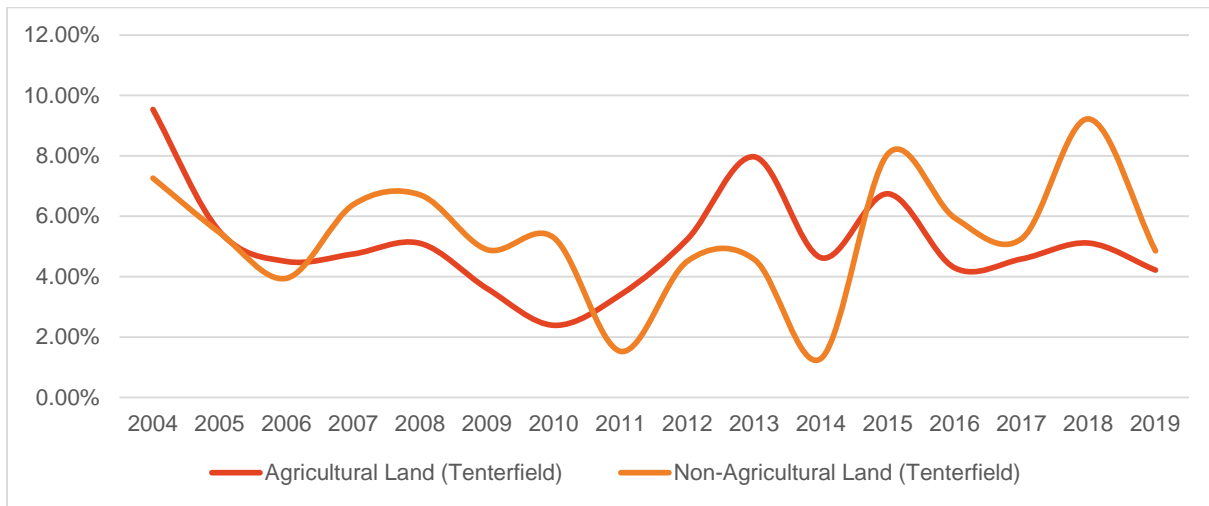


Figure 65 - Tenterfield Land-use Map

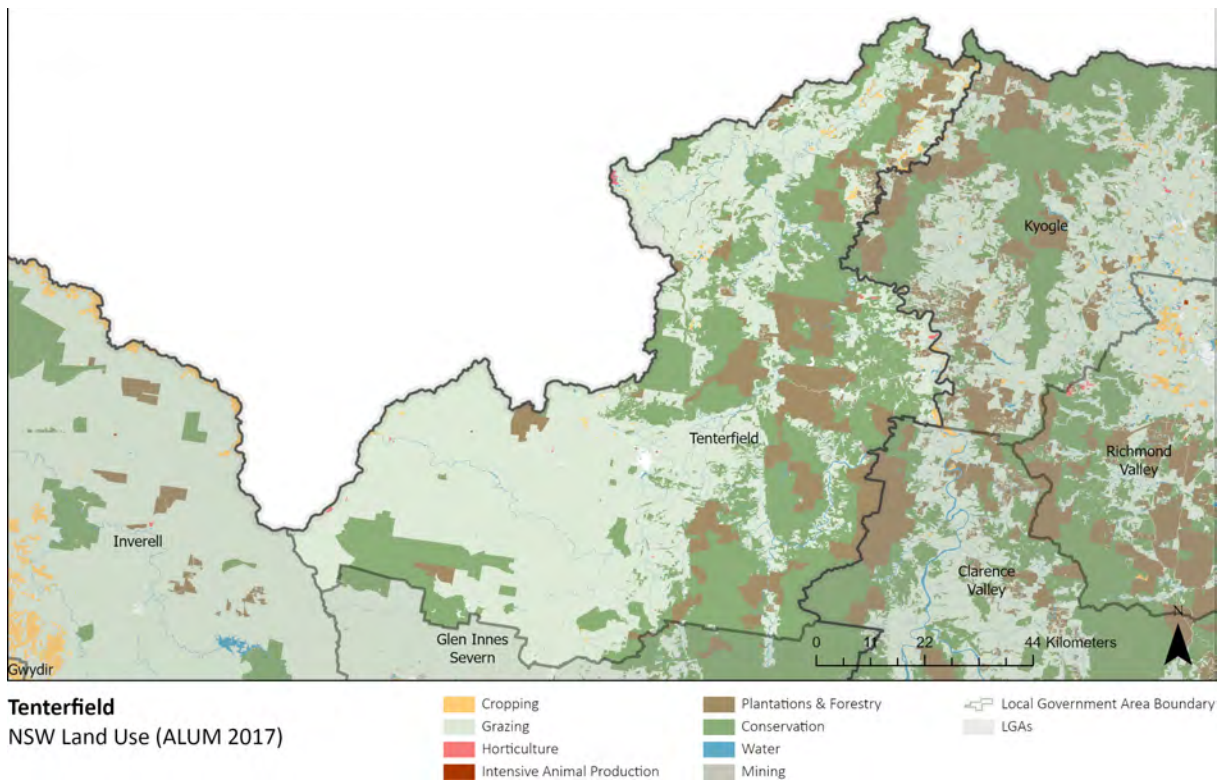


Table 36 - Tenterfield Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	99.64%	0.03%
Cropping	0.82%	4.99%
Horticulture	0.20%	20.49%

Figure 66 - Largest 50 Landholders in Tenterfield



Table 37 - Profile of top 15 largest private landholders in Tenterfield

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	8,355	Individual/s	-	-	NEW
2	8,164	Individual/s	-	-	NEW
3	5,724	Corporate	-	-	NEW
4	4,639	Corporate	#2	4,639	0.00%
5	4,426	Corporate	-	-	NEW
6	4,183	Individual/s	Outside Top 50	626	568.00%
7	3,621	Individual/s	#25	2,172	66.72%
8	3,462	Corporate	-	-	NEW
9	3,306	Individual/s	#6	3,972	-16.78%
10	3,089	Individual/s	-	-	NEW
11	2,884	Corporate	-	-	NEW
12	2,846	Individual/s	#12	2,846	0.00%
13	2,665	Corporate	-	-	NEW
14	2,621	Individual/s	-	-	NEW
15	2,615	Individual/s	#13	2,698	-3.09%

# 10. Glen Innes Severn

Figure 67 - Incidence of change on agricultural and non-agricultural rural land in Glen Innes Severn

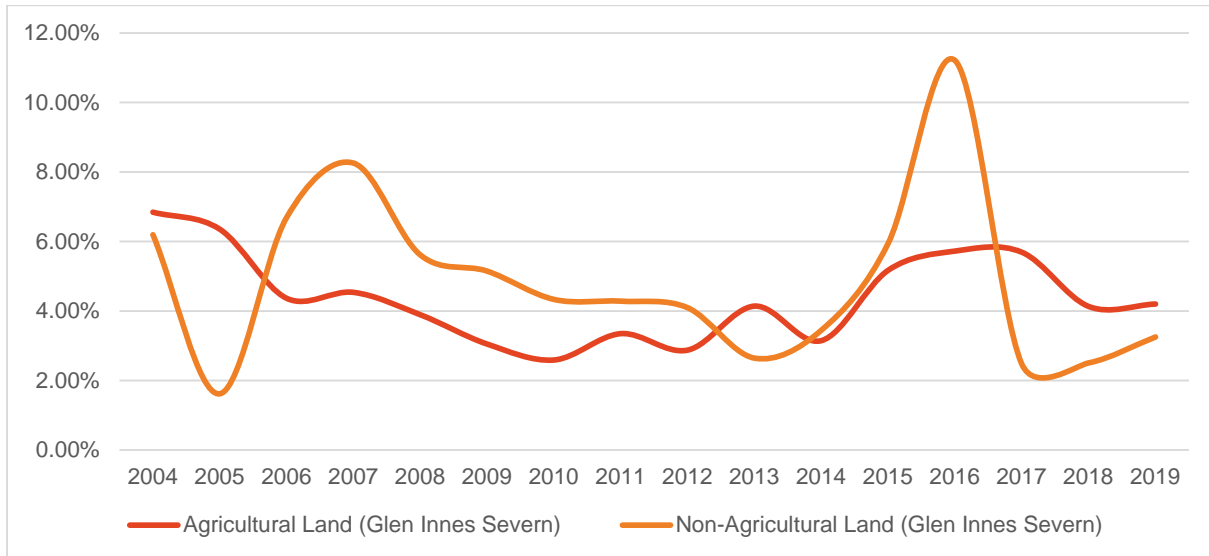


Figure 68 - Glen Innes Severn Land-use Map

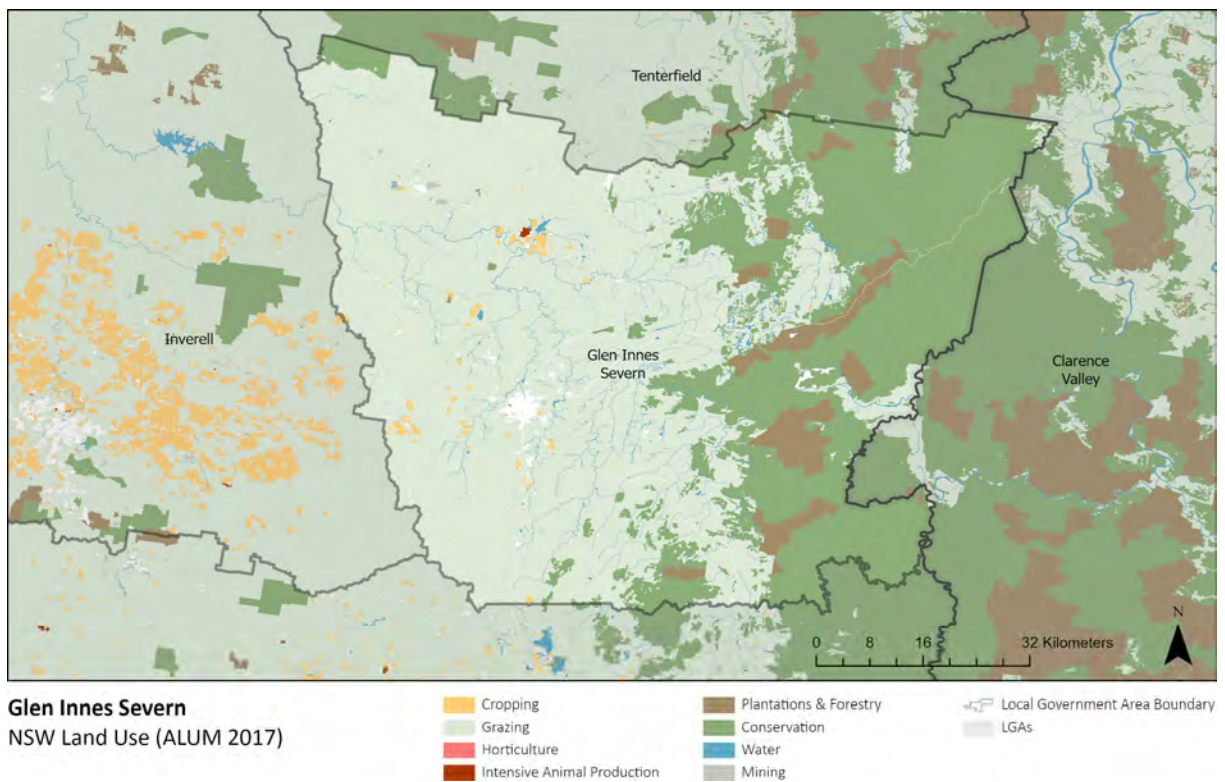


Table 38 - Glen Innes Severn Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	96.29%	0.01%
Cropping	0.80%	7.80%
Horticulture	0.004%	9.18%

Figure 69 - Largest 50 Landholders in Glen Innes Severn

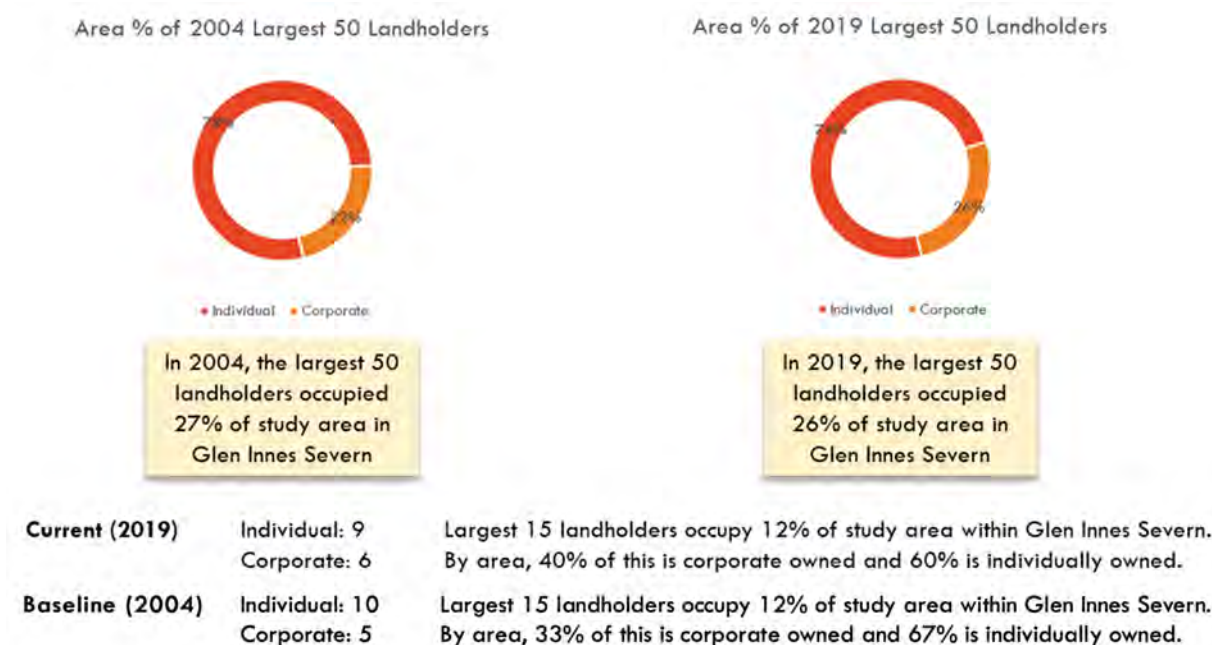


Table 39 - Profile of top 15 largest private landholders in Glen Innes Severn

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	4,260	Individual/s	#1	4,198	1.47%
2	4,093	Corporate	#2	4,093	0.00%
3	3,438	Individual/s	#4	3,766	-8.69%
4	3,297	Corporate	-	-	NEW
5	3,175	Individual/s	#5	3,529	-10.03
6	3,163	Corporate	#17	2,240	41.21%
7	3,050	Individual/s	-	-	NEW
8	2,999	Individual/s	-	-	NEW
9	2,979	Individual/s	#7	2,979	0.00%
10	2,724	Joint	-	-	NEW
11	2,616	Corporate	#10	2,612	0.15%
12	2,565	Corporate	#40	1,451	76.74%
13	2,501	Corporate	-	-	NEW
14	2,249	Individual/s	Outside Top 50	898	150.62%
15	2,200	Individual/s	#18	2,132	3.21%

# 11. Inverell

Figure 70 - Incidence of change on agricultural and non-agricultural rural land in Inverell

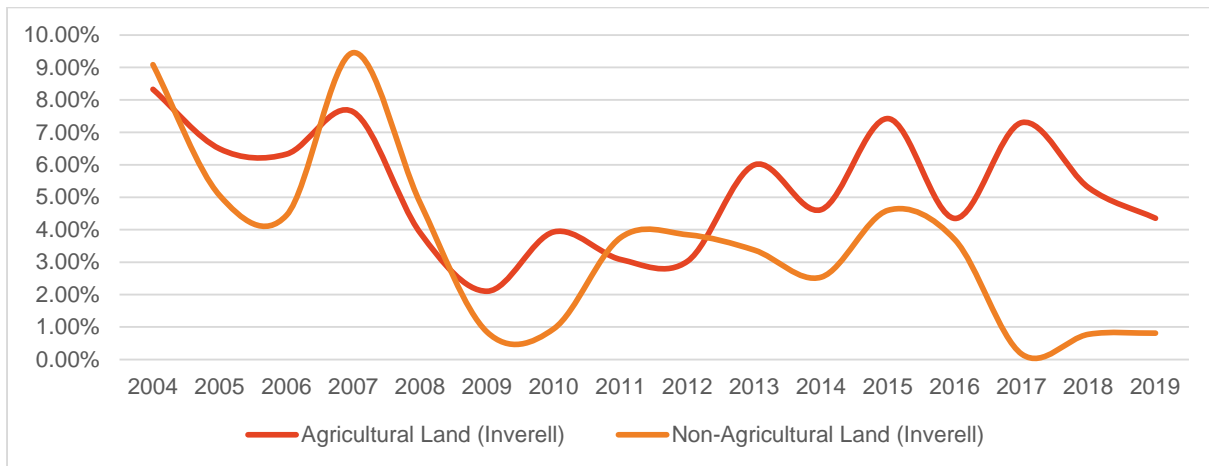


Figure 71 - Inverell Land-use Map

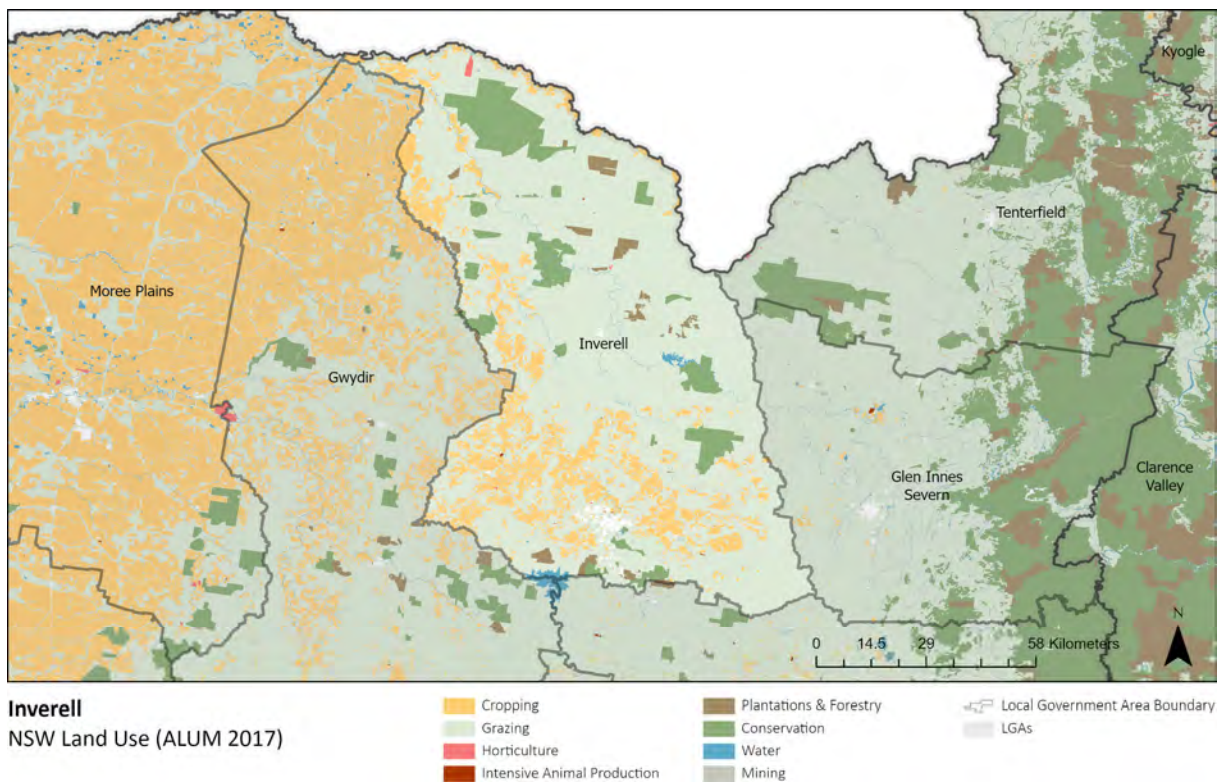


Table 40 - Inverell Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	83.59%	0.03%
Cropping	15.65%	3.36%
Horticulture	0.13%	94.88%



Figure 72 - Largest 50 Landholders in Inverell

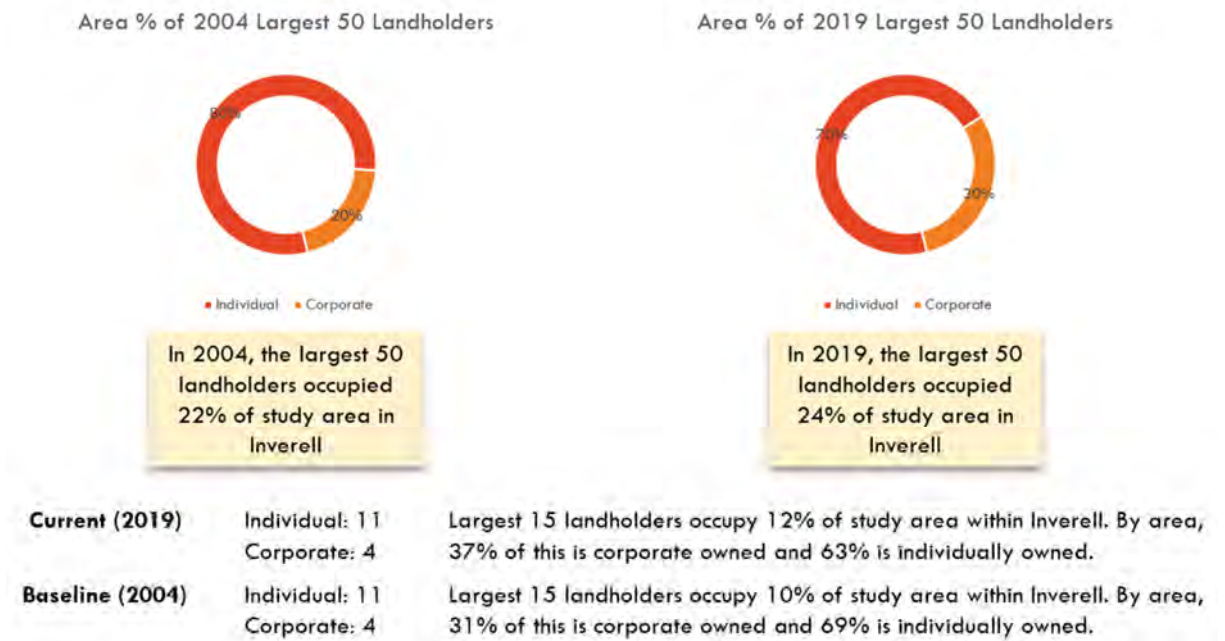


Table 41 - Profile of top 15 largest private landholders in Inverell

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	15,188	Corporate	-	-	NEW
2	12,146	Individual/s	#1	12,410	-2.13%
3	7,572	Corporate	-	-	NEW
4	5,683	Individual/s	Outside Top 50	1,075	428.73%
5	5,296	Corporate	-	-	NEW
6	4,719	Joint	-	-	NEW
7	4,639	Individual/s	-	-	NEW
8	4,498	Individual/s	#29	2,522	78.34%
9	4,231	Individual/s	Outside Top 50	1,695	149.60%
10	4,138	Individual/s	#9	4,138	0.00%
11	3,986	Joint	-	-	NEW
12	3,967	Corporate	#2	6,856	-42.14%
13	3,957	Individual/s	Outside Top 50	2,627	50.62%
14	3,573	Individual/s	-	-	NEW
15	3,571	Individual/s	-	-	NEW

## 12. Gwydir

Figure 73 - Incidence of change on agricultural and non-agricultural rural land in Gwydir

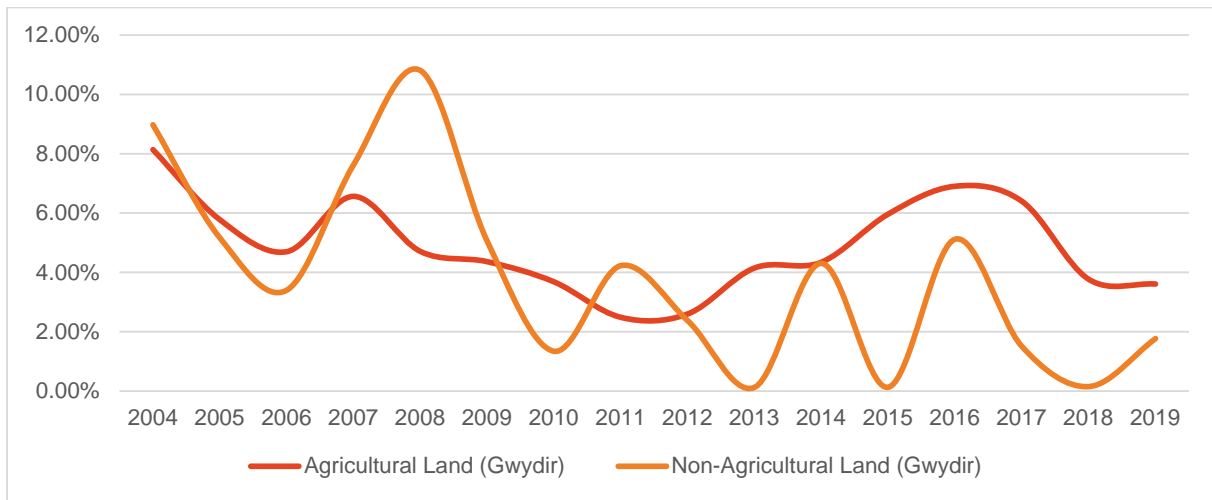


Figure 74 - Gwydir Land-use Map

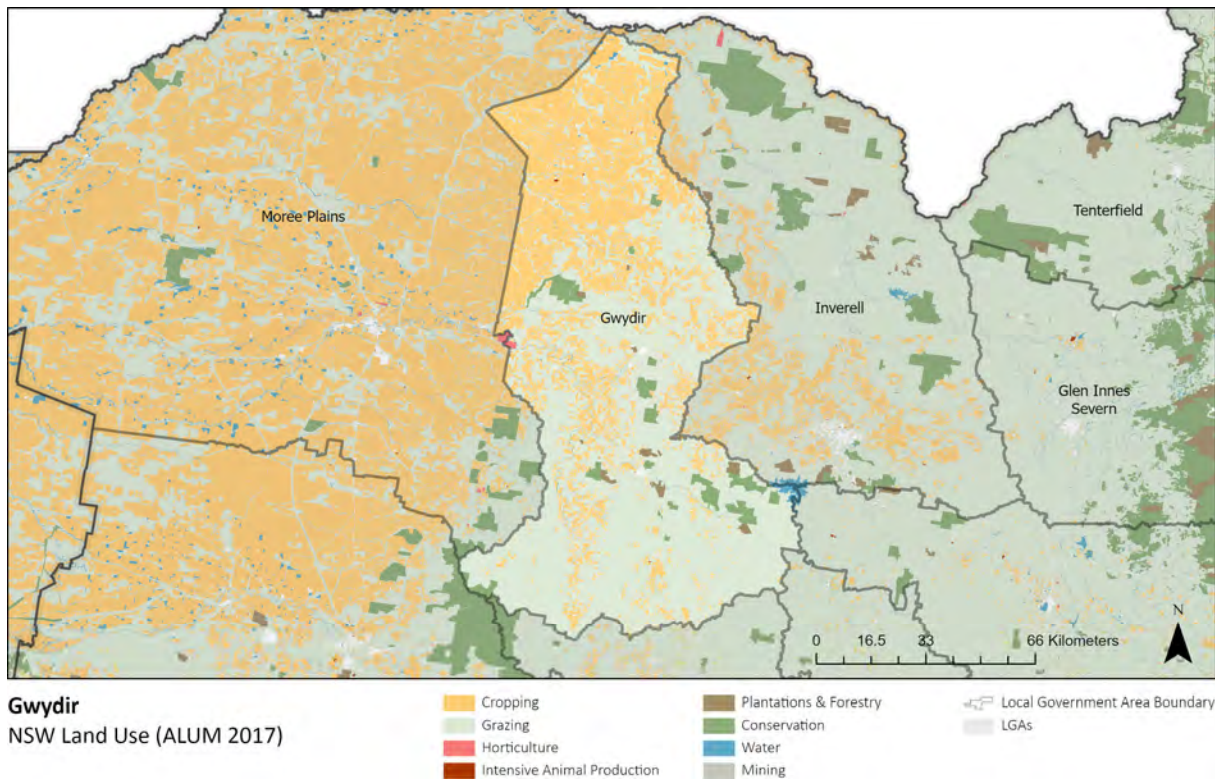


Table 42 - Gwydir Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	64.61%	0.01%
Cropping	34.75%	3.37%
Horticulture	0.07%	92.85%

Figure 75 - Largest 50 Landholders in Gwydir

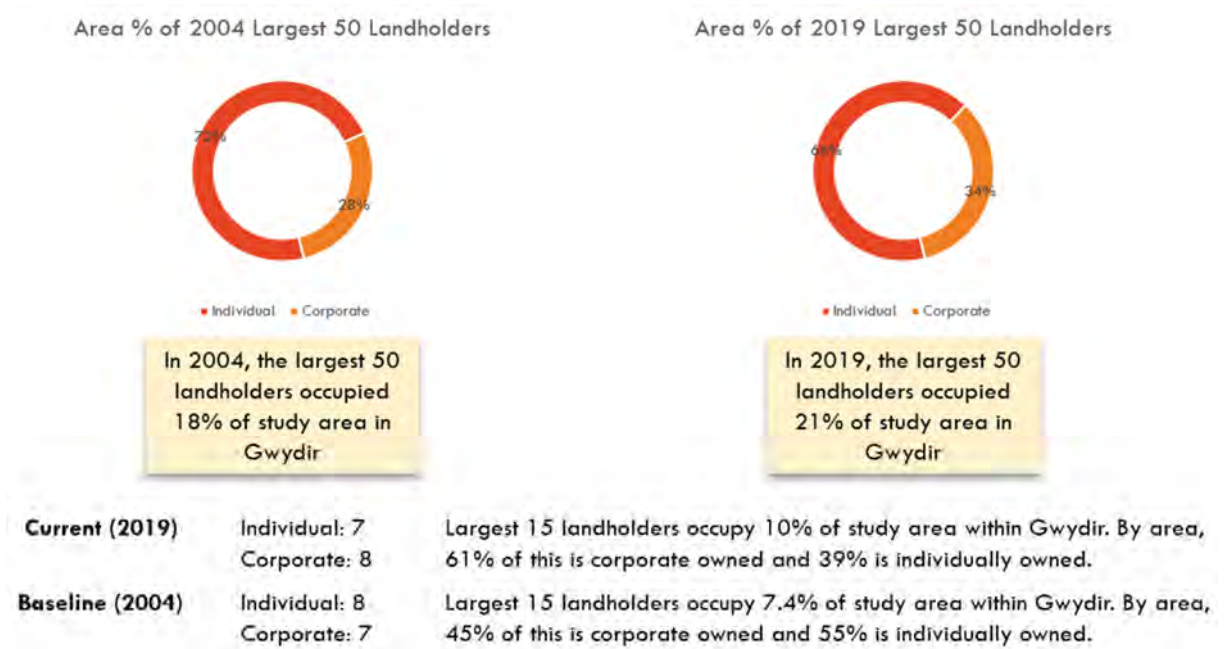


Table 43 - Profile of top 15 largest private landholders in Gwydir

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	11,809	Corporate	-	-	NEW
2	10,679	Corporate	Outside Top 50	41	26,060.99%
3	5,670	Corporate	#1	5,670	0.00%
4	5,365	Individual/s	#2	5,365	0.00%
5	5,155	Corporate	#15	3,321	55.24%
6	5,151	Individual/s	-	-	NEW
7	5,094	Individual/s	-	-	NEW
8	4,785	Corporate	-	-	NEW
9	4,659	Individual/s	-	-	NEW
10	4,328	Corporate	-	-	NEW
11	4,061	Individual/s	Outside Top 50	899	351.79%
12	3,759	Individual/s	#8	3,799	-1.04%
13	3,612	Corporate	#11	3,573	1.10%
14	3,604	Corporate	-	-	NEW
15	3,484	Individual/s	#36	2,429	30.28%

# 13. Moree Plains

Figure 76 - Incidence of change on agricultural and non-agricultural rural land in Moree Plains

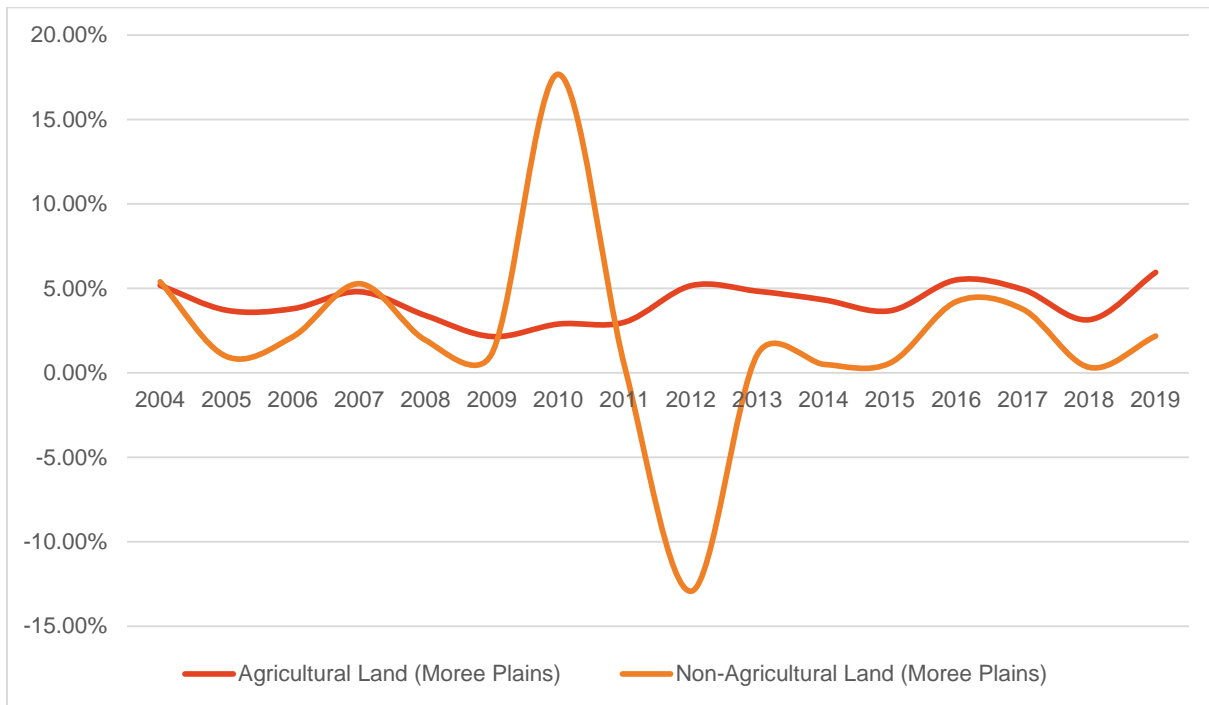


Figure 77 - Moree Plains Land-use Map

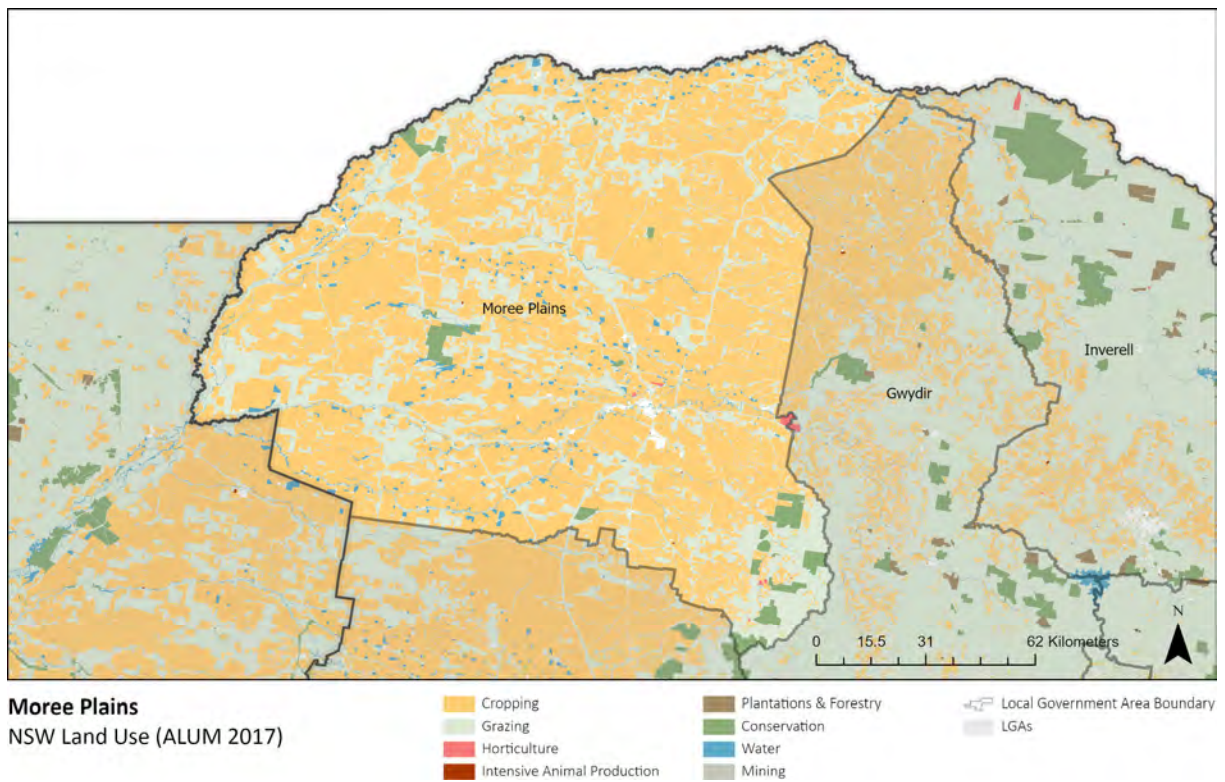


Table 44 - Moree Plains Land-use Overview

Primary Agricultural Activity	% of Total Agricultural Land (Area)	% of Area Irrigated
Grazing	28.72%	0.01
Cropping	69.27%	16.57
Horticulture	0.09%	81.55

Figure 78 - Largest 50 Landholders in Moree Plains

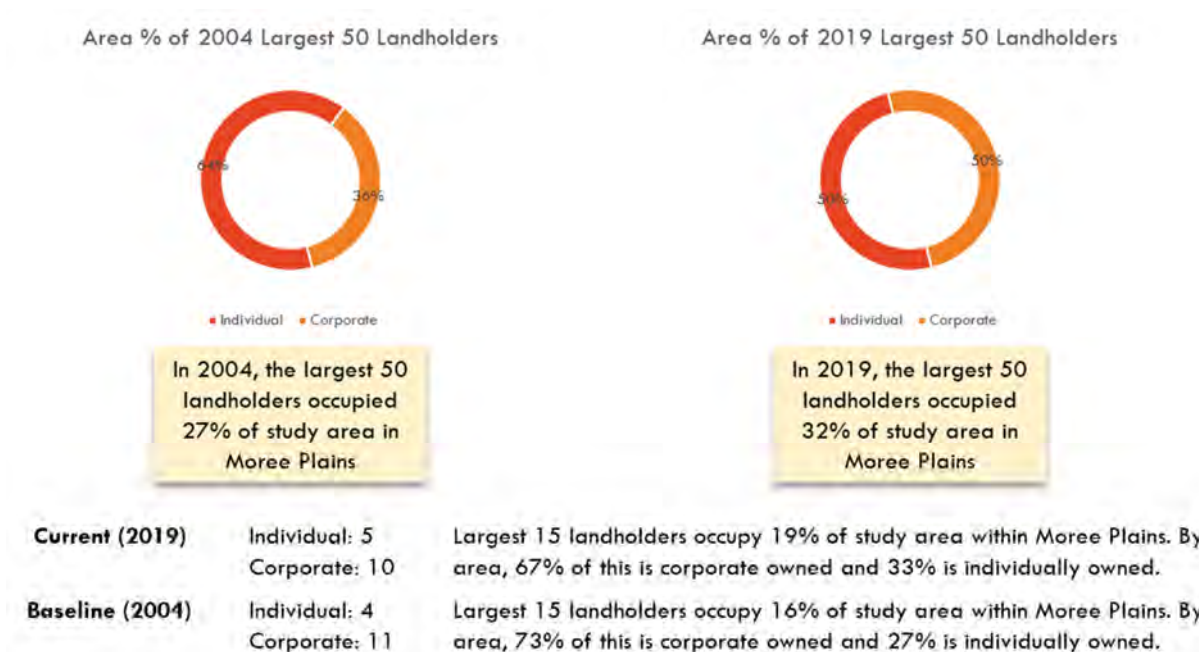


Table 45 - Profile of top 15 largest private landholders in Moree Plains

2019 Rank	2019 Area (ha)	Type of owner	2004 Rank	2004 Area (ha)	Change in holding %
1	46,579	Corporate	#4	18,972	145.51%
2	33,546	Individual/s	#3	30,179	11.15%
3	27,915	Corporate	#2	32,169	-13.23%
4	24,423	Corporate	-	-	NEW
5	19,847	Individual/s	#7	14,590	36.03%
6	18,233	Corporate	#5	17,758	2.68%
7	18,057	Corporate	#8	14,245	26.76%
8	17,444	Individual/s	Outside Top 50	3,146	454.55%
9	16,626	Individual/s	#6	17,666	-5.89%
10	14,693	Corporate	-	-	NEW
11	13,644	Corporate	-	-	NEW
12	12,956	Corporate	#10	12,956	0.00%
13	11,421	Corporate	-	-	NEW
14	10,893	Corporate	#11	11,781	-7.54%
15	9,880	Individual/s	#46	4,204	135.03%

## 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.

# Contact

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