COOTAMUNDRA-GUNDAGAI REGIONAL COUNCIL

CGRC Rural Lands Strategy

Rural Lands Issues Paper:

FORESTRY

CGRC Rural Lands Strategy

FORESTRY

Finalised October 2018

This report was prepared
Cootamundra-Gundagai Regional Council

Contents

1. Executive Summary

Forestry has been, and continues to be, an important part of the local and regional community. The South West Slopes region, including Cootamundra-Gundagai Regional Council, is represented by historically significant investment by the wider forestry industry.

The role of the forestry industry within the Cootamundra-Gundagai Regional Council area, while a relatively small part of overall existing rural land use, has direct and flow on effects into the wider economy.

The forestry industry includes growing, harvesting and processing of timber products. While the majority of processing occurs in adjoining local government areas, the industry represents a major regional employer.

The industry and local community face a number of challenges including industry skills and labour, the condition of essential infrastructure (e.g. roads), industry impacts on transport corridors and land management issues. Despite these challenges there are also a number of opportunities in the industry reliant on improved co-ordination and participation in finding solutions.

Forestry remains, and is recognised, in land use planning as an important rural activity within the Council area.

2. Introduction

Cootamundra-Gundagai Regional Council is the merged local government area of former Cootamundra and Gundagai Shires. The two towns of Cootamundra and Gundagai are the main population centres with a number of villages and rural communities also serving as residential options. All these residential areas have strong existing and historical connections to the surrounding rural lands and the architecture and wealth of the towns in particular are directly attributable to the agricultural industry.

The total land area is 398,141.7 hectares, home to 11,141 people (*ABS, 2016*). Agriculture, Forestry and Fishing is the largest employment industry, employing 15.3% of employed persons. Manufacturing (which includes agricultural value add industries) is a close second, employing 10.6% of employed persons (*Census Time Series Profile, 2011*).

In 2011 the combined value of agricultural commodities produced from the Cootamundra-Gundagai Regional Council Local Government Area was $103 million, however this figure does not capture other agricultural outputs such as agritourism, local markets, events and so on.

Figure 1: CGRC LGA

Rural Lands Strategy Background

The merger of Gundagai Shire Council and Cootamundra Shire Council as Cootamundra-Gundagai Regional Council has stimulated the need for new planning instruments and policies; in particular a Local Environment Plan and Development Control Plan which cover the regional council area. A strategy to deal specifically with the rural lands of CGRC is proposed which aims to analyse agricultural trends and opportunities for the area. This strategy will help to update mapping for the new Local Environmental Plan while also providing rationale and reasoning for zoning and minimum lot sizes in rural areas.

Rural land is often neglected from a planning perspective due to more pressing planning needs in larger centres, however agricultural land often has a disproportionate impact on residential and economic activity when compared to development in a town, with intensive feedlots, quarries, landfills, etc. Furthermore, agricultural activities themselves such as piggeries, vineyards, feedlots and so on have a long-term impact on the use and viability of the site and surrounding lands. Through the strategic planning process, controls and principles of development can be placed on agricultural land to ensure the viability of the land into perpetuity as well as providing opportunities for emerging and new agricultural enterprises to establish in the area.

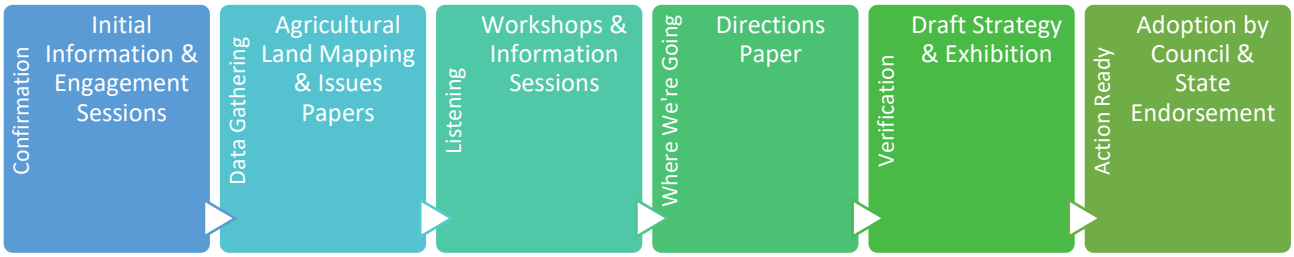
The two former shires have varied terrain and soil quality which makes formulating one course of action or plan for rural land difficult. However, this should be viewed as an opportunity which will make Cootamundra-Gundagai Regional Council more attractive and marketable to residents, visitors and prospective residents as a wide variation of agricultural pursuits can be explored in this single local government area.

It is Council's intention that the Rural Lands Strategy serves not only as a land use planning document, but as a plan for economic success and growth through the shared identity of agriculture. This leverages off what Cootamundra-Gundagai Regional Council does best (agriculture), connections to logistic hubs and routes as well as capitalising on changing recreation and tourism trends.

Purpose of the Issues Papers

The Issues Papers are integral to the success of the Rural Lands Strategy as they are background documents based on research and science; analysing trends elsewhere and juxtaposing this with the situation within Cootamundra-Gundagai Regional Council.

There are ten Issues Papers which will be produced with the community having shaped not only the overarching theme of each paper, but also having has identified a number of existing constraints and opportunities to be investigated. Based on the findings of the Issues Papers and workshops during the "listening" phase, a directions paper will be produced which will list key directions for the Rural Lands Strategy.



3. Legislation

The operation and planning for the forestry industry is influenced by key legislation and strategy frameworks including the following.

Federal

- *Environment & Planning and Assessment Act 1979;*
- *1992 National Forest Policy Statement;*
- *Illegal Logging Prohibition Act 2012;*
- *Plantations for Australia: The 2020 Vision;*
- *National Indigenous Forestry Strategy; and*
- *Forestry Act 2012.*

State

- Regional Forestry Agreements (RFAs).

Local

Gundagai Local Environment Plan 2011 zone table RU3. The following is an extract of the land use planning controls for forestry. There are no provisions in the former Cootamundra Shire Council for forestry on public or private lands.

Table 1: Zone RU3 Forestry

Objectives of Zone	▪ To enable development for forestry purposes; ▪ To enable other development that is compatible with forestry land uses.
Permitted without Consent	▪ Roads; uses authorised under the *Forestry Act 2012*.
Permitted with consent	▪ Nil.
Prohibited	▪ Any development not specified in Item 2 or 3.

4. Background

Forestry is a major industry within Australia.

Australia's forest and forest products industries contribute over $23.7 billion of economic turnover annually and employs over 67,000 people. (*Department of Agriculture and Water Resources 2018a*)

Within Australia there is a total of 125 million hectares of forests (Department of Agriculture and Water Resources 2018a). Native forests make up 123 million hectares and are dominated by eucalypts (75%) followed by acacias (8%) and then melaleucas (5%).

Commercial plantations cover the remaining 2 million hectares with over half of those plantations made up of exotic softwood species, predominantly *Pinus radiata*. The other half is made up of hardwood species such as *Eucalyptus globulus* (*Department of Agriculture and Water Resources 2018a*).

4.1 Native Forests

The National Forest Inventory identifies six tenure classes used for native forests.

These tenure classes include:

- Multiple-use public forest (8% of total native forest)
    - Crown land managed for a range of values including conservation, recreation and environmental protection.
- Nature conservation reserve (18% of total native forest)
    - Crown land formally reserved for environmental, conservation and recreational purposes including national parks and nature reserves.
- Other Crown land (7% of total native forest)
    - Crown land held for purposes such as mining water catchments and use by indigenous communities.
- Private forest (27% of total native forest)
    - Forests on privately owned land.

- Leasehold forest (40% of total native forest)
    - Crown land privately leased and managed.

- Unresolved tenure (1% of total native forest)
    - Ownership status not determined for forest.

(*Department of Agriculture and Water Resources, 2018b*)

4.2 Indigenous Forests

Over 41 million hectares of Australia's forests are defined as indigenous forests. Indigenous land tenure and management can be broadly categorised into one of the following:

- Indigenous owned and managed;
- Indigenous managed;
- Indigenous co-managed; and
- Other special rights.

(*Department of Agriculture and Water Resources, 2018b*)

4.3 Plantations

In the 1920s the NSW Government established softwood plantations on areas of government-owned land with the South West Slopes. (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017*).

Between the 1960s – 1970s Commonwealth loans were made to state government to promote further establishment of plantations (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017*).

Between 1980 – 1990 additional areas of plantations were established close to areas of state-owned plantations by small private investors. Within the South West Slopes Region areas of softwood plantations were established during 1990 – 2000s through Managed Investment Scheme companies. However, these companies collapsed in the late 2000s and were forced to consolidate private softwood plantation estates (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017*).

These formerly private owned plantations are now owned by large institutional investors such as Global Forest Partners and New Forests (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017, p4*).

4.4 Cootamundra-Gundagai Region

The South West Slopes region (SWS region) includes the LGAs of Albury City, City of Wagga Wagga, Greater Hume Shire, Snowy-Monaro Regional Council, the Snowy Valleys Council and the Cootamundra-Gundagai Region Council (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017*).

Plantations in this region began to be established in the 1950s with virtually no new plantation areas being established since 2008 (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017*).

The main species grown within the region is *Pinus radiata* a softwood used for both domestic and commercial uses including structural timber, flooring, furniture, panels, pulp and paper and many more commercial uses.

Many rural towns within the SWS region have been sustained through the forestry industry.

Growth of the industry in the Cootamundra-Gundagai region and the greater SWS region has stagnated in the past because of lack of new investment (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017*).

Furthermore, some towns within the SWS region, including the Cootamundra-Gundagai region are experiencing population decline. With the major timber mills having contracts to fulfil, timber has had to be sourced from surrounding areas to cope with the demand for quantity.

This has resulted in an increase in B-doubles and heavy haulage occurring over larger areas and this has had a significant impact on the transport corridors to the major processing mills.

5. History

Within Australia the forestry industry has evolved into a billion dollar industry. This has slowly been evolving since European settlement when non-indigenous cultures altered the state of the existing forests that were under Indigenous management (*Department of Agriculture and Water Resources, 1998*).

Immediately following settlement all land became property of the Crown rather than *terra nullius* and such land was allocated to either freehold or leasehold for agriculture, grazing or urban use. The 46.6 million that were not allocated became state forests, timber reserves, nature conservation areas and other Crown Land. (*Department of Agriculture and Water Resources, 1998, p16-17*).

> *"Every type of Australian forest has been cleared for agricultural crops to some extent, but it has only been since 1980s that the full consequences of deforestation have come to be evaluated with those of pastoralism and other forms of forest use on a regional or catchment scale." (Department of Agriculture and Water Resources, 1998, p18).*

5.1 Pastoralism and Agriculture

Pastoralism and agriculture have played a major role in the alteration of the rural landscape and this has affected large areas of forests.

Initially, settlement altered the fire intensity and frequency patterns which affected the forest composition and structure, hard hoofed stock compacted the soil, overgrazing of runs occurred during droughts and year-round by plagues of rabbits and settlers felled and ringbarked trees to promote the growth of grass for their stock (*Department of Agriculture and Water Resources, 1998, p17*).

In order to grow crops in the areas of good quality soil, trees needed to be removed. From the 1870s through to the 1920s some of the best tall forest areas in New South Wales were extensively cleared for dairying.

5.2 Nineteenth Century Mining and Sawmills

The impacts of mining on forestry occurred within the 19th Century with urgent demands for timber for mining related activities. Where mines were formed the surrounding forests were quickly unburdened by any standing tree that could be used for poles, timber for shelter or fuel to power steam engines (*Department of Agriculture and Water Resources, 1998, p18*).

All the timber required was produced by pit-sawing, hewing and splitting where accessible however, as demands for supply rapidly increased in the 1850s the number of sawmills also increased (*Department of Agriculture and Water Resources, 1998, p18*).

Most sawmills in the 19th Century were small, locally owned and followed the path of inland railways. Sawmilling was dependent on bullock wagons or tramways systems until the 1920s when these methods of transport were replaced by roads and trucks (*Department of Agriculture and Water Resources, 1998, p19*).

Following World War II there was an intense demand for timber which saw total production double and plateau by 1960 (*Department of Agriculture and Water Resources, 1998, p20*). This plateau is seen to be a result of the progressive movement into construction materials such as concrete, plastic and metals (*Department of Agriculture and Water Resources, 1998, p20*).

5.3 State Forests

State forests (or multiple use forests) were adopted by state governments to reflect the model adopted by the British Empire for demarcating some of the best forests and making the protecting and management of these assets the responsibility of an agency specifically staffed with professionally trained foresters (*Department of Agriculture and Water Resources, 1998, p20*).

The formation of state forests came as a result of the devastation caused by deforestation for mining and colonisation. Forestry legislation in NSW was passed in 1870 despite resistance and opposition from agricultural interests (*Department of Agriculture and Water Resources, 1998, p20*).

State forest services now had to map forests and assess resources, control fires, regulate sawmillers as well as develop systems to regenerate forests and sustain future yield. While the transition of control from Crown Land to State control was met with considerable difficulties, forest services were established prior to World War II with advances occurring in:

- Opening previously inaccessible remote mountain forests;
- Detailed mapping and assessment that sustainably informed saw log production;
- Regeneration methods of forests, including high-value ash-type forests; and
- Establishment of softwood plantations to offset reduced hardwood log production.

5.4 Mills

The following is a chronological summary of the history within the SWS region.

1960s	A plywood mill (Wagga Wagga) established: ▪ Numerous owners between 19890 – 2010) now owned by Big River Group.
1967	CSR particle board plant (Tumut) established: ▪ Second particle board line to the Tumut plant 1982; and ▪ Sold Tumut saw mill to Weyerhaeuser International – late 1990s.
1974	A softwood saw mill (Tumbarumba) established.
1980	ANM newsprint mill (Albury) established.
1982	Laminex commissioned a medium density fibreboard (MDF) plant (Wagga Wagga) established: ▪ Expansion in 1986; and ▪ Closure 2000.
2000s	Hyne Timber purchased and reconstructed Tumbarumba saw mill – early 2000s.
2002	Visy Industries invested in kraft paper and pulp (Tumut): ▪ Stage 1 – 2002; and ▪ Stage 2 – 2009.

Source: Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017, pi

6. Forestry in CGRC

6.1 Scale

Data collected in 2002 revealed that within NSW, forest areas included:

- 51,289ha hardwood;
- 270,467ha softwood; and
- 923ha unknown.

(*Department of Agriculture and Water Resources, 2017, p2*).

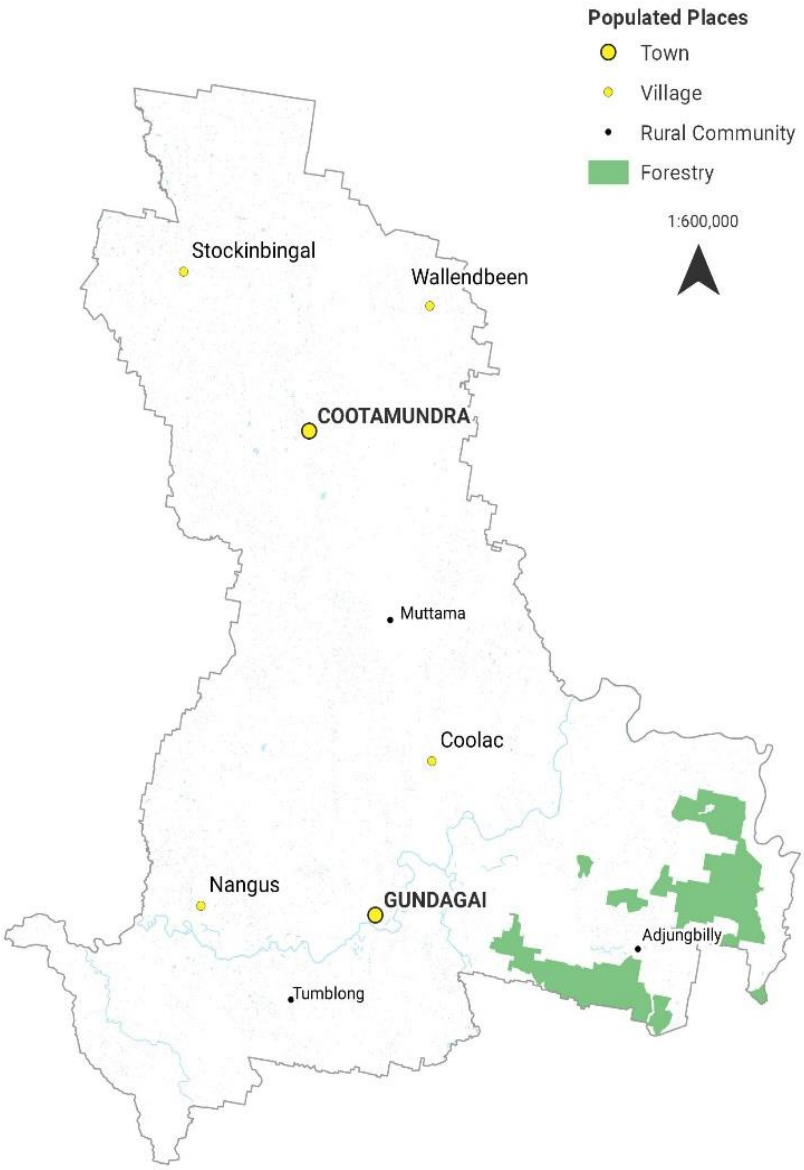
In 2004, within the SWS region there were over 110,000ha of forestry which was comprised of 74% public and 26% private plantations (Forest and Wood Products Research and Development Corporation, 2005).

By 2017 the area of softwood plantations in the SWS region was approximately 165,000ha and these plantations supply 2.55 million tonnes of fibre to wood and paper processors (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017, p.6*).

Within the Cootamundra-Gundagai region there is approximately 9,500ha of plantation land within the LGA, most of which is managed by the Forestry Corporation (*B. Germantse, personal communication, 4 May 2018*).

The area of plantation in the Cootamundra-Gundagai LGA represents approximately 7% of the total 132,000ha across the five LGAs within the SWS Region (see Figure 3). (*B. Germantse, personal communication,4 May, 2018).*

Figure 2: Forestry in the CGRC LGA



6.2 Processing

Over Over 85% of the timber harvested in the SWS region is processed within the region with most of the remaining percentage being harvested from the Bombala region and processed outside the SWS region (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017*).

The timber sourced from plantation in the CGRC area, as part of the SWS region can be taken to anyone of the following plants/mills to be processed:

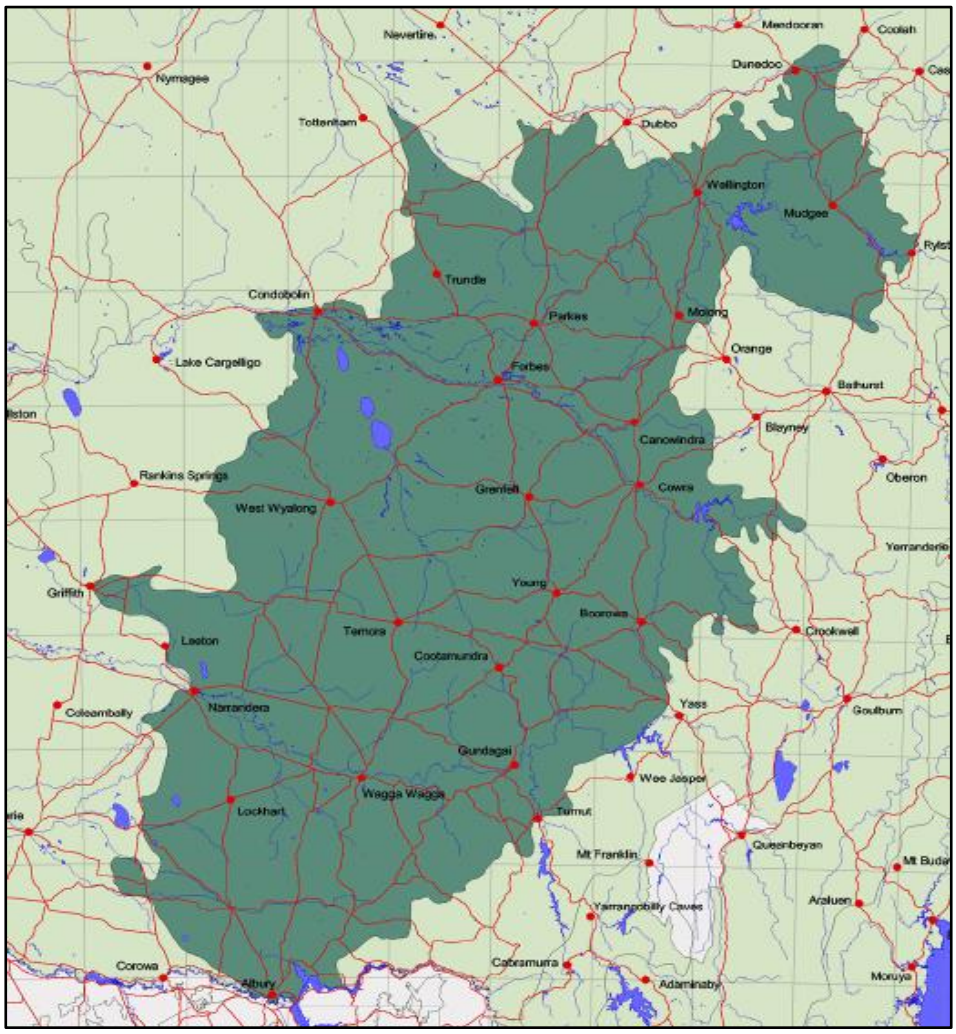
- Visy Industries (Tumut);
- Carter Holt Harvey Sawmill (Tumut);
- Carter Holt Harvey Woodproducts panel manufacturing facility (Tumut);

- Norske Skog newsprint (Albury);
- Hyne Timber (Tumburumba);
- Big River Group (Wagga Wagga); and
- Dongwha Timbers (Bombala).

Timber from the SWS region is also transported to Canberra for processing at Aus West Timbers.

Sawlogs, which are generally straighter, have larger diameters and have fewer knots, are processed at sawmills. The remains from the sawmilling process are then supplied to composite wood manufacturers and pulp/paper mills which ensures that there is minimal waste produced and that the entire plantation is utilised (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017*).

Figure 3: South West Slopes Region



6.3 Value

The following information demonstrates the significant contribution and value the forestry industry makes to the local economy.

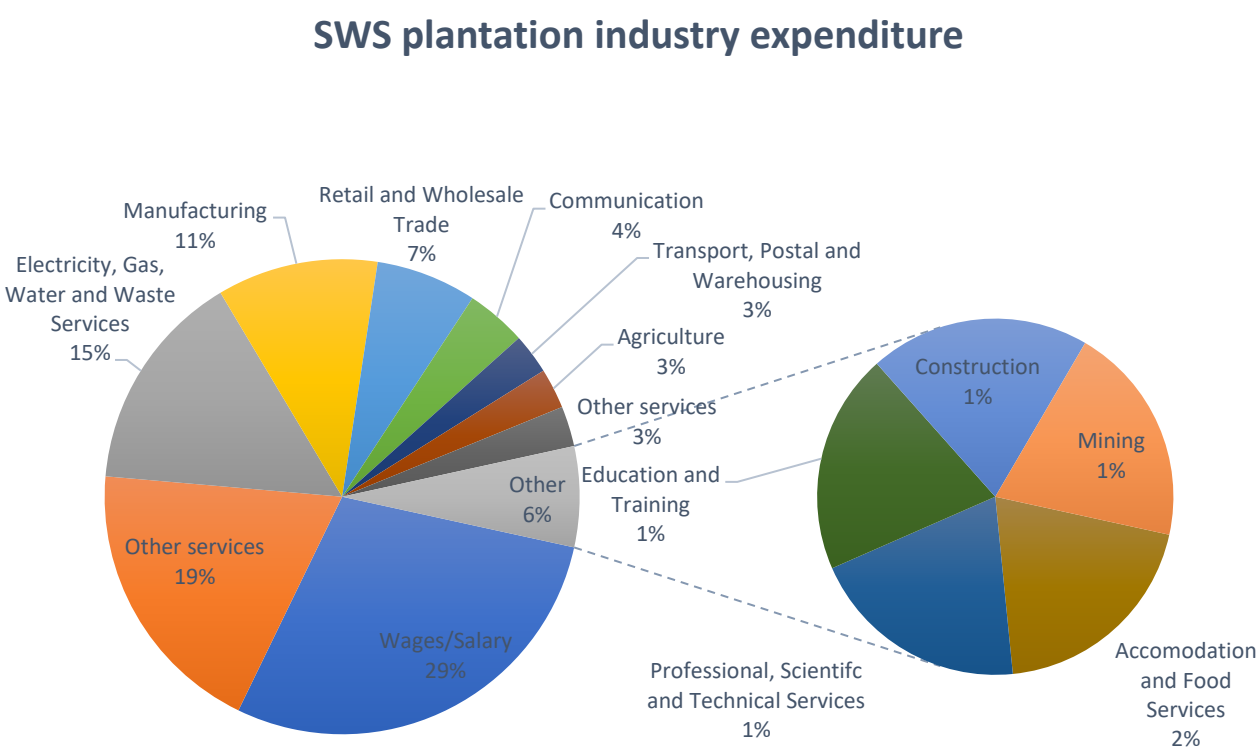
Between 1993 – 1994 the value of output within the SWS region was over $401 million which equated to $4,270 per hectare. This figure grew to $5,334 per hectare between 2002 – 2003, which translated to an output value of over $574 million (*Forest and Wood Products Research and Development Corporation, 2005*).

Between 2015 – 2016 the value of output from the industry was $1,050 million.

Within the SWS region the Gross Regional Production was $1,014 million, $580 million of which was from flow on effects.

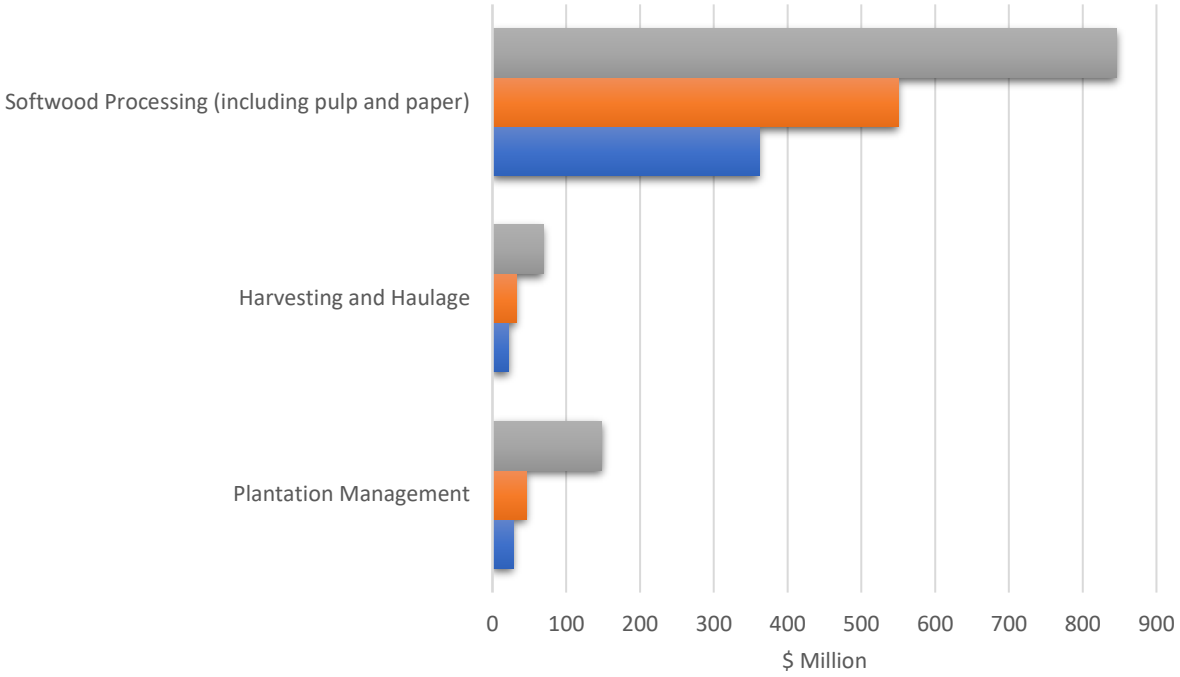
Furthermore, within this period the largest component of expenditure for the industry was wages and salaries. $155 million went straight into the local economy via household incomes (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017*, pi).

Figure 4: Industry Expenditure



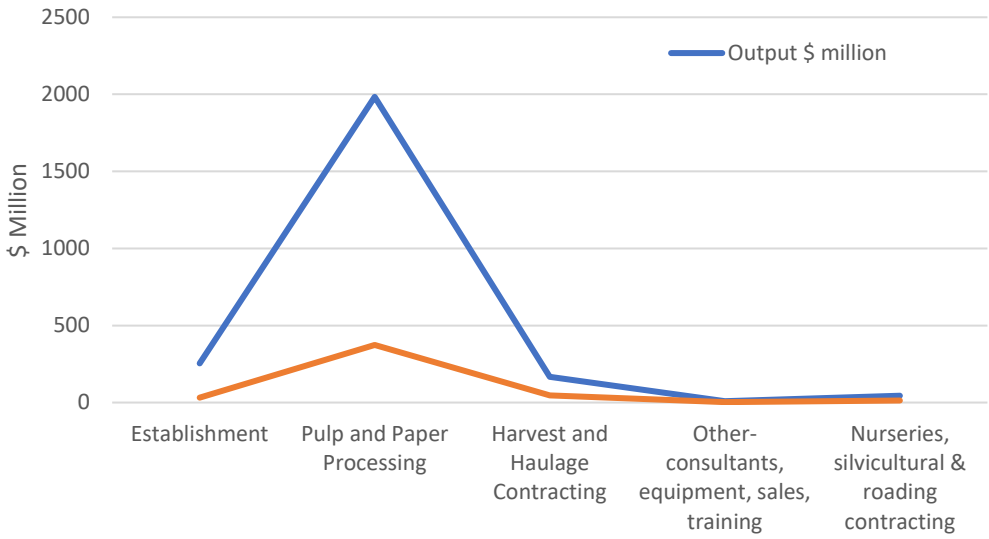
Source: Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017, pi

Figure 5: 2015 – 2016 Value of Forestry Output



Source: Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017, pi

Figure 6: Economic Contributions



Source: Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017, pi

6.4 Employment

By 2004 there were a total of 1,680 fulltime jobs generated directly from the forestry industry including growing/managing, harvesting and processing (*SWS 2005*).

With 1.03 full time equivalent (FTE) positions in processing and 0.5 FTE positions in management, harvesting and haulage, this equates to 1.53 FTE positions per 100ha of forestry in the SWS region (*SWS 2005*).

As of February 2017, the forestry industry directly employed 1,917 people in the region with 66% of these jobs generated by wood and paper processing (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017, pi*).

Total employment (direct and flow on) generated by the SWS plantation industry equals 5,375 people within the region and 6,026 across NSW (*Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017, pi*).

Growing	15.2% responsible for the establishment and management of growing (nurseries, planters, site preparation).
Harvesting	17.8% responsible for harvesting plantations and transporting to processing facilities.
Processing	66% responsible for processing into products within the SWS region.

6.5 Industry Skills

Information and Communication Technology (ICT) skills:

- Needed by: managers, administrative staff, machinery and plant operators;
- ICT Skills integrated into the roles above to utilise existing technologies; and
- Some specialist skills required like GIS, operations tracking, outward facing ICT like website and social media on-line business and financial management.

Specialist professionals:

- Recruiting challenges in areas of horticulture, mechanics, engineering and finance; and
- Require few but heavy reliance on individuals.

Mechanics:

- Reported issues accessing skilled mechanics vehicles and machinery by harvest and haulage processing teams.

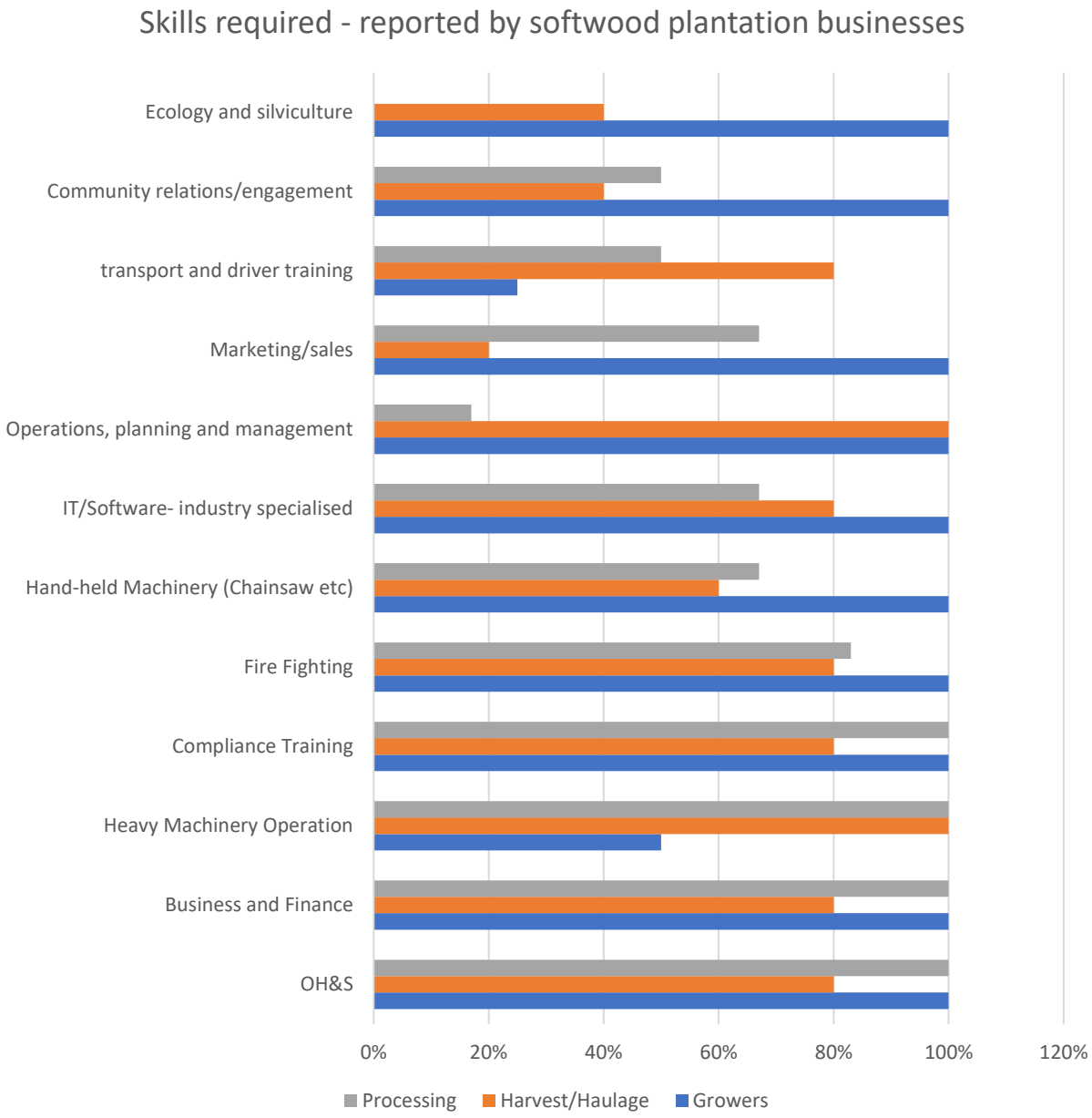
Middle Managers:

- Locally based with adequate experience and ability to act as manager.

Skilled Drivers:

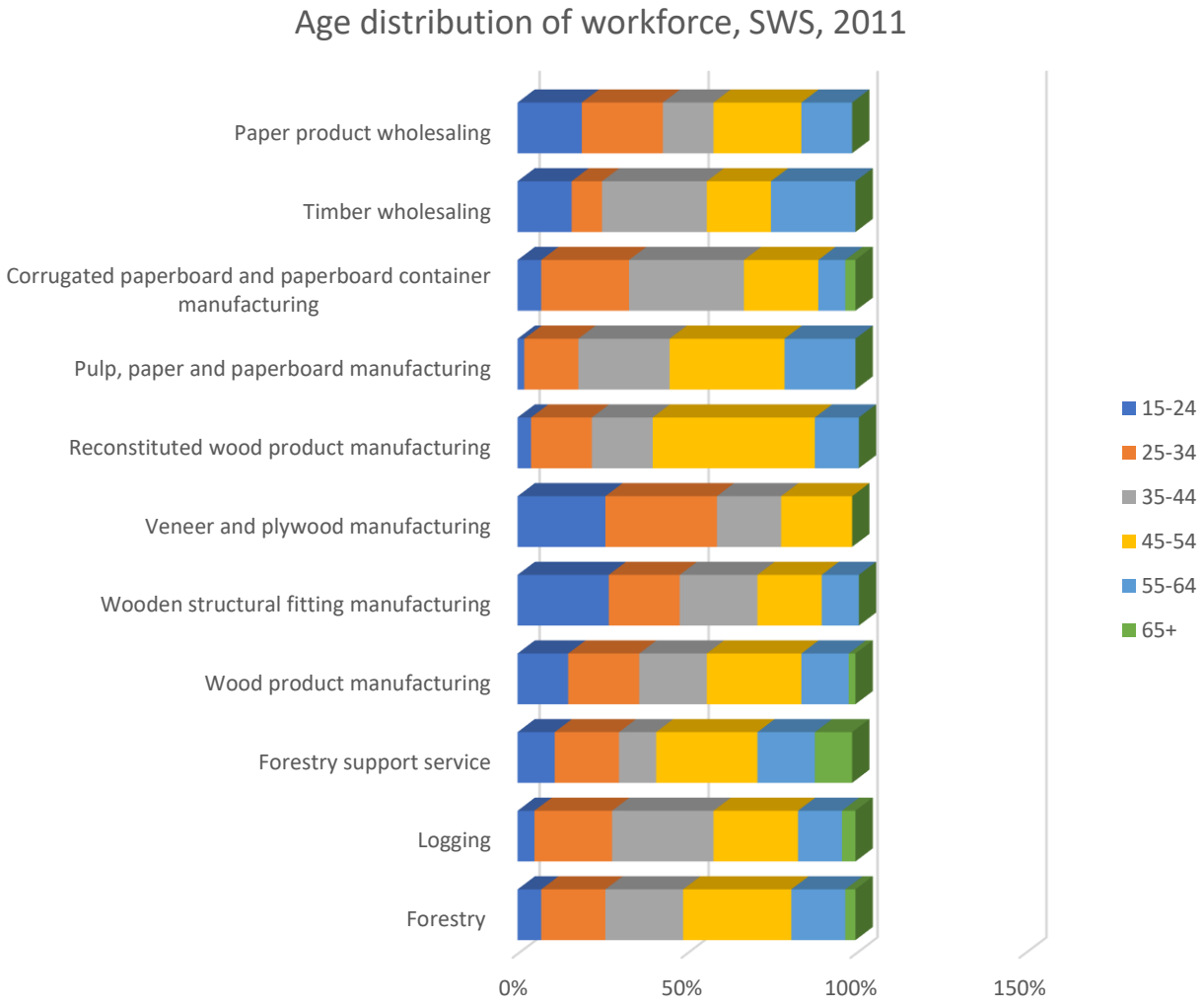
- Some companies find increasing difficulty recruiting skilled drivers- having to invest in skilling inexperienced to maintain workforce.

Figure 7: Skill Requirements



Source: Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017, pi

Figure 8: Age Distribution



Source: Schirmer, Gibbs, Mylek, Magnusson & Morison, 2017, pi

6.6 Roads and Transport

The processing of timber in the region requires movement of fallen trees to plants such as the Visy Pulp Mill via B-Doubles. Wood and Paper processors use a total of 3.26 million tonnes of fibre with the SWS region plantations supplying 2.55 million tonnes of fibre to wood and paper processors. The remaining required fibre is transported into the region from other plantations in areas such as Northern Victoria (*Forest and Wood Products Research and Development Corporation, 2005*).

The necessary movement of timber within the region has a significant toll on all related roads. The high traffic of B Doubles on regional roads significantly degrades the surface of the road and requires constant maintenance at the cost of local government.

The CGRC as part of the Riverina Eastern Regional Organisation of Councils (REROC) region, contains some of the most heavily utilised road transport corridors, servicing major industries including forestry/timber and pulp/paper. Forestry related freight through the CGRC contributes to the 41 million tonnes of freight transported through NSW annually (*REROC 2016*).

In 2016 REROC produced a Regional Freight Transport Plan in October 2016. The purpose of this report was to identify and investigate the freight infrastructure network of the Riverina region from a regional perspective. The report identified over 40 road routes of regional significance. For the purpose of this paper further assessment of this document was centralised to networks that identified with the following terms: timber, forestry, pulp, and paper.

The results of this report revealed roads and routes of regional significance as follows:

- Hume Highway (M31);
- Olympic Highway (Main Road 78, Route No A41);
- Burley Griffin Way (Route No. B94);
- Snowy Mountains Highway (HWY 18, B72);
- Gocup Road (Main Road 279);
- Canola Way (RR243);
- Cootamundra to Stockinbingal Road (MR235);
- Coolac to Cootamundra (MR87), Muttama Road; and
- Adjungbilly Road, Cootamundra-Gundagai Shire.

Freight and logistics are interconnected to the economic well-being of the region. Timber and paper are just one of 10 commodities that are generated within the REROC Region with over 15 million tonnes produced annually, with a 2% – 3% forecasted growth by 2031 (*REROC 2016*). One of the goals of REROC is to develop a network of freight corridors to deal with the challenges councils face as a result of growth in transport on rural roads (*REROC 2016*). Many of the roads within the region are not suited to constant, prolonged use by heavy vehicles.

Image 1: Road frequented by haulage trucks – Adjungbilly Road. Image taken by B Strickland

Figure 9: Major Timber Freight Routes

Source: REROC 2016

6.7 Biodiversity Threats

There are several known threats to biodiversity that occur with plantations. While they may vary in status, severity and impact they are all considered threats.

Some of the most prominent pests and weeds in the region, as identified by the Riverina Local Land Services, are:

Table 2: Biosecurity Threats

Pests		Weeds	
European fox	*Vulpes Vulpes*	**Blackberry**	*Rubus fruticosus agg.*
European rabbit	*Oryctolagus cuniculus*	**St Johns Wort**	*Hypericum perforatum*
Wild dog	*Canine spp.*		

While the presence of biodiversity threats within the plantations is an ongoing issue, it is one that has limited feasible resolutions. Arguably the main issue with biodiversity threats occurring within the plantation is the risk of them spreading to neighbouring properties. Under the *Biosecurity Act 2015* Part 3 clause 22 *"any person who deals with biosecurity matter…has a biosecurity duty to ensure that, so far as reasonably practicable, the biosecurity risk is prevented, eliminated or minimised".*

When the *Biosecurity Act 2015* commenced several Acts were wholly or partially repealed (Table 3). The commencement of the new Act saw the responsibility of duty now extend to any person who is aware, or ought to be, of a biosecurity risk.

As part of Division 3 of the Act, clause 18 states that "*A biosecurity duty cannot be transferred to another person*". This then fuels an already contentious issue of whose responsibility it is to manage pests and weeds on a property and at what, or more importantly, whose cost.

> *Any Person who deals with biosecurity matter or a carrier who knows, or ought reasonably to know, the biosecurity risk posed or likely to be posed by the biosecurity matter, carrier or dealing has a biosecurity duty to ensure that, so far as is reasonably practicable, the biosecurity risk is prevented, eliminated or minimised.*
>
> BIOSECURITY ACT 2015
> PART 3 GENERAL BIOSECURITY DUTY
> 22 BIOSECURITY DUTY- DEALINGS WITH BIOSECURITY MATTER AND CARRIERS

Table 3: Wholly and Partly Repealed Acts

Wholly repealed	Partially repealed
▪ Animal Disease and Animal Pests (Emergency Outbreaks) Act 1991 ▪ Apiaries Act 1985 ▪ Deer Act 2006 ▪ Fertilisers Act 1985 ▪ Non-Indigenous Animals Act 1987 ▪ Noxious Weeds Act 1993 ▪ Plant Diseases Act 1924 ▪ Stock (Chemical Residues) Act 1975 ▪ Stock Disease Act 1923 ▪ Stock Foods Act 1940	▪ Fisheries Management Act 1994 ▪ Stock Medicines Act 2013 (Part 10 Pests) ▪ Wild Dog Destruction Act 1921

One of the most common complaints associated with the industry comes from adjoining land holders. There is a common belief that populations of weeds and pests found on private property come from adjoining forestry plantations. The cost involved for private land owners to prevent, eliminate and minimise biosecurity risks on their land is a point of contention as the costs involved in performing biosecurity responsibilities are significant.

The *Biosecurity Act 2015* states that it is the responsibility of any person who is aware of a biosecurity threat to prevent, eliminate or minimise such a threat. Conflict can arise from this clause as it can be argued that both Forestry Corporation and private land owners are equally aware of and responsible for biosecurity measures. It then becomes the responsibility of each party involved to negotiate a coordinated approach to biosecurity measures to prevent, eliminate or minimise biosecurity threats. An example of such negotiations has already been undertaken within the Cootamundra-Gundagai Region with the '*Adjungbilly Cooperative Wild Dog and Fox Management Plan July 2016 – June 2019*'. This management plan was signed and approved by all relevant parties including the Riverina Local Land Services, Forestry Corporation NSW, Hume Forests and landholders. Other management plans relevant to the prevention, elimination and minimisation of biosecurity threats within the LGA include the '*Riverina Regional Strategic Weed Management Plan 2017-2022*' and the '*Draft Riverina Regional Strategic Pest Animal Management Plan 2018-2023*'.

Image 2: Weeds found with plantation in Adjungbilly

Source: B Strickland

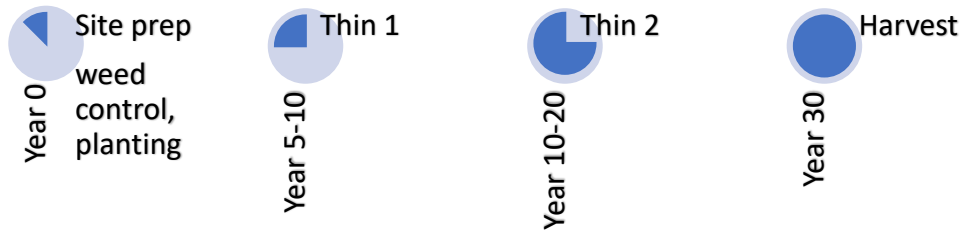
Image 3: Weeds found within and between plantations in Adjungbilly

Source: B Strickland

7. Economic Benefit of Forestry Versus Agriculture

Plantations are established (year 0) thinned at least once (year 5-10) depending on season and a number of factors that impact growth rate and quality.

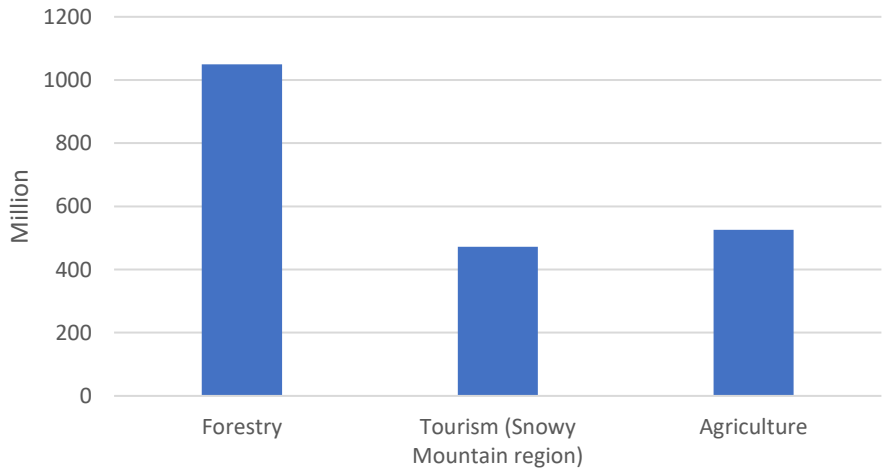
A second thinning may take place between 10 and 20 years and harvest occurs generally at 30 years. As plantations take 30 year to see profit, new planting takes place segmentally in rotation to ensure continual harvests. The constant demand for transport and haulage, in turn, has a detrimental effect on roads.



Historically, Gundagai was a highly productive agricultural district producing wheat, barley, maize, oats, millet, potatoes and butter (*Gaunt 1944 p18*). Currently, the most common form of agricultural use in the Gundagai is grazing (see Figure 11).

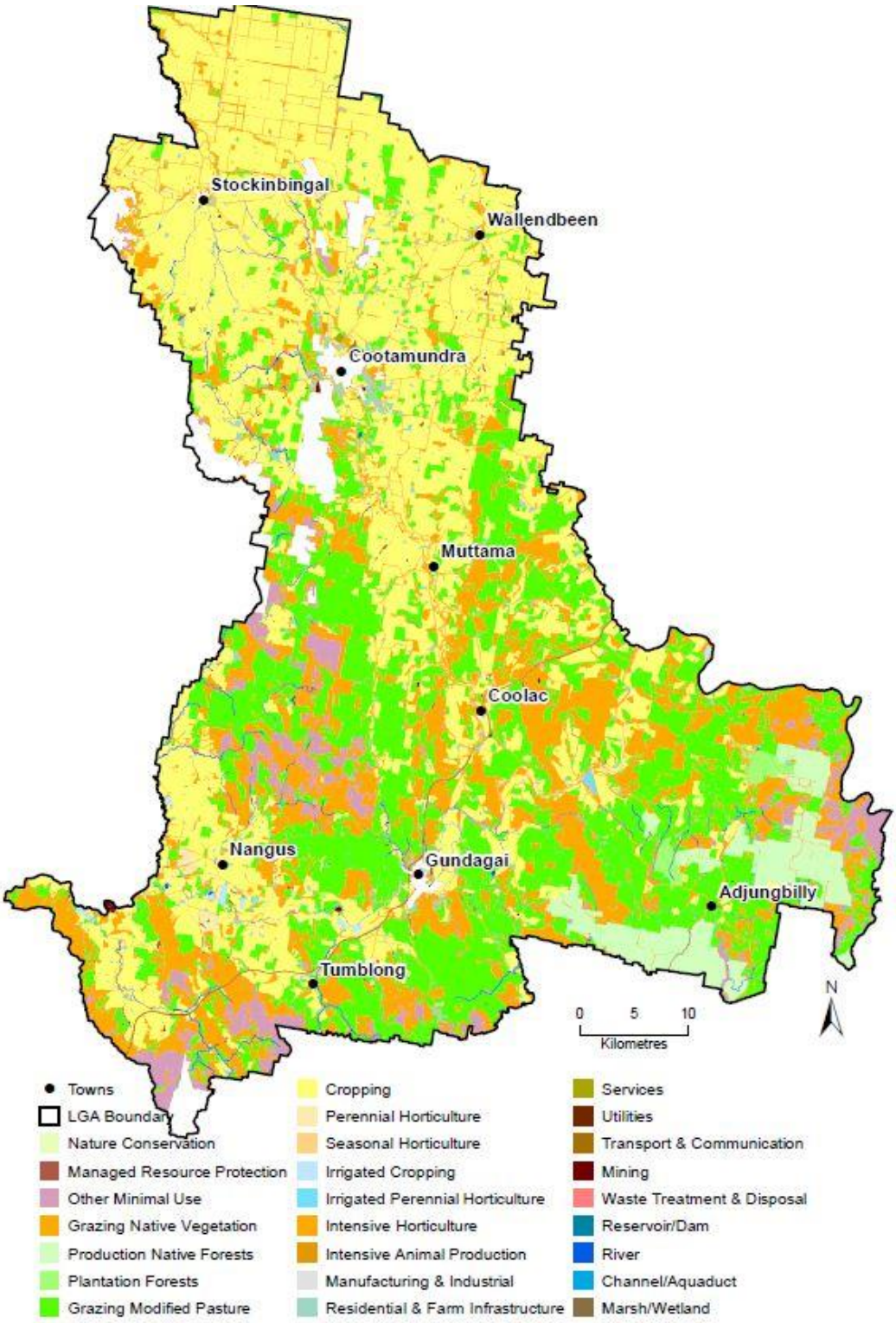
Figure 10 summarises the value of major industries within and immediately surrounding the Cootamundra-Gundagai same geographic area.

Figure 10: Industry value



Source: Schirmer, J., Gibbs, D., Mylek, M., Magnusson, A. & Morison, J. 2017

Figure 11: Land Use



Social trends reveal that areas with higher dependency on agriculture also reported higher populations of retirement age rather than working age. However, localities with high plantation sector employment see an increase in working age population. This trend implies that there are better prospects for long term economic growth and population stability in the forestry industry.

While some may argue that the short-term benefits and economic dependence on traditional agriculture can be more fruitful to a local economy, the long-term economic benefits tied to the forestry industry cannot be overlooked.

Image 4: Young plantation with older plantation in background

Source: B Strickland

8. Remediation, Repurpose/Multi-Purpose Forests

Through analysis of data it has been identified that there are three major elements affecting the establishment of new plantations within the region.

The first is negative community attitude towards new plantations is influencing the viability of new establishments within the region as no one wants forestry 'in their backyard'.

The second is the cost of land and while land value fluctuates so too does the price of stock and crops which affects private land owners' desire and need to sell land to the highest bidder.

The third element and perhaps the most important element is the lack of new long-term investment commitments to softwood plantations. While the future of forestry in the region is not guaranteed to grow it will remain constant. This limits the potential to remediate forestry in the region.

However, there is potential that during the 30-year period before harvest plantations could be used for other purposes. Plantations could potentially have multipurpose uses, eg for bushwalking, recreation, flora and fauna observation and other activities. However, this would require co-ordination with state and private forestry corporations, the public and other authorities.

9. Summary

9.1 Key Issues

- Transport and haulage impacts on public roads;
- Ongoing cost of maintenance of roads by council;
- Biodiversity Threats;
- Conflicting neighbouring land use;
- Forestry versus grazing;
- Future investment in plantations;
- Obtaining skilled labour and training existing labour;
- Aging workforce;
- Skillset for industry increasing; and
- Fragmentation of plantations between agricultural land.

9.2 Opportunities

- Expansion of plantations within the private sector;
- Growth in employment opportunities;
- Alternate haulage and transport methods;
- Coordinated biosecurity approaches; and
- Lease plantations to farmers for stock feed and weed management.

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