

# Central West Region Pilot Area Cropping Profile

FACTSHEET NO.3

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*This profile identifies important agricultural resources, critical features of the regions industries, their development potential and land use planning issues for cropping across the central west study area as shown in Figure 1.*

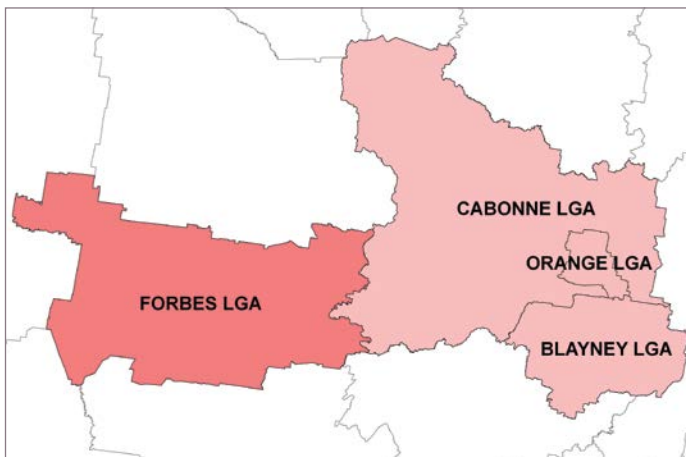


Figure 1- Central West Area covered by this profile

## Introduction

The Department of Primary Industries is developing a consistent method for mapping important agricultural lands.

Maps of Important Agricultural Land highlight areas that are well suited to selected agricultural industries at a local and regional scale.

The mapping pilot project aims to guide local councils with strategic land use planning; and support sustainable industry development. Included in this profile is a map identifying land highly suitable for cropping.

A case study approach was adopted to identify the important agricultural lands for a range of industries within six local government areas (LGAs). They include: Orange, Cabonne, Blayney and Forbes in the central west; and Singleton and Muswellbrook in the Upper Hunter. Those areas were chosen to cover a variety of agricultural landscapes and industries.

## Cropping – Highlights

Cropping in the study area represents 2.9% of the value of crops in NSW (ABS, 2006). Common cropping enterprises include bread wheat, barley, oats, canola, triticale and pulse crops such as lupins and field peas for food and stock feed.

In the Central Tablelands, cropping is an important, but secondary industry to sheep and cattle production. However, greater emphasis is being placed on cropping in recent years due to higher returns to improve producer cash flows. Cropping also provides forage to stock, both on and off farm, provides rapid returns and reduces weeds and diseases.

Further west, as land becomes flatter and temperatures are warmer, land used for cropping increases. The flatter land enables access to machinery for sowing, direct drilling, fertilising and harvesting. Livestock is still important but is run as a complimentary industry as part of the mixed farming system (cropping and livestock), although there are some farms with only livestock and farms that only crop.



Figure 2- Cabonne Shire landscape showing cropping land on the flood plains and adjacent undulating landscape (Photo: Cabonne Council)

The mixed farming systems in the area are primarily crop and pasture rotation systems and in parts of the western region there is some continuous cropping. Cereal production dominates, with wheat being the main crop in the area. Oats and barley are also important with lucerne and hay being grown on the alluvial flats and valleys. Canola is an important crop in both the Cabonne and Forbes LGAs with pulses grown mainly in the Forbes LGA. Winter cropping is also mixed with livestock production (mainly sheep).

## Economic Contribution

Cropping is an important industry in the study area. As shown in table 1, approximately 1106 farms produce grain, hay pulses or legumes contributing \$236 million to the value of NSW crop production (ABS, 2006). The Forbes LGA has the highest value of cropping production in the study area contributing \$138 million (ABS, 2006).

Table 1 - Central West Crop Production data (ABS 2006)\*

Local Gov't Area	Est. value of Cropping (\$mill)	Prod'n of cropping as % of NSW total	No of Farms	Employment#
Blayney	\$13m	0.2%	142	665
Cabonne	\$83m	1.0%	520	1808
Forbes	\$138m	1.7%	420	921
Orange	\$1.8m	0%	24	265
Total	\$236m	2.9%	1106	3658
NSW Total	\$7995m	100%	20,153	124,845

\* changes may have occurred since this data was collected

ABS data estimates the wholesale value of unprocessed agricultural products. These figures do not capture the flow on contribution of agriculture to other businesses in NSW. An estimate of the overall contribution of agriculture to the NSW economy, as presented in table 1, is obtained by multiplying the wholesale value of agriculture by the standard ABS multiplier for agriculture production which is 2.178. (I&I NSW, 2011)

An indication of the overall contribution of agricultural jobs to NSW employment was similarly obtained by multiplying employment in a particular industry sector by the standard ABS multiplier for agricultural employment of 1.828 (I&I NSW 2011).

# ABS data combines employment in beef cattle and mixed farming (sheep / cattle grazing and crops).

The cropping industry is based on economically sustainable farm enterprises that are adaptable to match the season, commodity prices and markets, and provide reliable production and profit generation. The advantage of mixed crop farming is that enterprises can switch according to markets or seasonal conditions. The cropping industry will continue to be important mainly for food supply to the export, domestic and local markets.

Profitable crop growing demands higher production per unit area at lower cost per unit of production that can be achieved by increasing grain yields through adoption of new or improved technology and by adopting the latest best management practices. The cropping industry relies on the latest research provided by organisations such as the NSW DPI Cowra Agricultural Research and Advisory Station which is undertaking a range of research in cropping such as

- research in grains, legumes, pastures mixes for cropping rotations
- phosphorus nutrition in collaboration with Sydney University
- management trials for newly released cereals funded by the GRDC and
- trials in collaboration or funded by the Central West Conservation Farmers group such as a lucerne variety persistence trial and wheat stripe rust management (NSW DPI, 2012)

Other research on cropping systems is undertaken at the NSW DPI Orange and Wagga Wagga Agricultural Institutes with research undertaken on scientifically sustainable agricultural systems and mixed farming systems.

As well as research the industry itself also supports other agricultural and rural industries such as

- feed to the poultry and feedlot industries in the area
- stock feed merchants
- food processors and
- produce to markets and suppliers

The industry therefore makes an ongoing contribution to local, regional and state economies.

## Industry Challenges

A threat to cropping in the pilot area is the fragmentation of land and associated high land prices, which limits expansion and adjustment of cropping properties. That is particularly evident in the Cabonne Shire. Water supply reliability is also an ongoing threat due to competition from mining, climate change and any natural variability in rainfall.

Other threats include:

- fertiliser costs and declining soil fertility (and increasing soil acidity)
- the shortage of skilled labour (due to the competition with mining), especially with the aging farm workforce
- fuel prices and transport costs raising input costs
- lack of grain storage due to the declining rail network
- concern over foreign ownership of lands and the impacts on the local community



Figure 3- Canola crop, Cabonne Shire (Photo: Cabonne Council)

## Climate Change

Climate change impacts vary according to the type and variety of crops grown. Wheat is the most studied of crops and research indicates that climate change impacts of higher temperatures will have beneficial impacts on that crop in southern NSW with increased wheat yields. However, wheat quality is also likely to be reduced as a result of increased carbon dioxide concentrations (NSW DPI, 2012).

Risk management strategies may also see a switch to crops with a shorter growing season (cereals, legumes) to counteract impacts of reduced rainfall. Changes in farming practises will also make the most of moisture in the soil profile, such as changing sowing times and crop varieties. Other strategies such as adopting new technologies and building soil carbon are other likely responses.

Climate change may also exacerbate the impacts of weeds, pests and diseases through increased prevalence and changes in geographic distribution. There is potential for increased rust incidence in crops and pasture species; however, a drier climate may reduce the impact of cereal diseases (NSW DPI, 2012).

## Infrastructure Requirements

The cropping industry relies on good transport systems to move grain or hay to markets for animal and human consumption and for the export market. Hence a good road or rail network is required to access ports, local and regional farms as well as the major cities and towns. The pilot region has a good system of roads that provide access to markets including the Newell Highway, Lachlan Valley Way and Henry Lawson Way (that connects with the Mid Western Highway).

Machinery for sowing, harvesting and baling hay as well as equipment for transferring grain to trucks and rail is also required. While the equipment is a significant capital investment, farms can choose to share machinery to reduce input costs, reducing the capital investment to run a mixed farm.

## Development Prospects

There are various aspects of this industry that assist in securing its place to maintain or increase crop production into the future. The industry is highly adaptable for varying climatic and market conditions. It has the ability to switch between crop varieties and mixed farming with livestock. The transport links that access good arterial roads and the railway to various ports is significant. There is also established local, domestic and export markets that will continue to demand the produce from this region.

The study area is well placed to continue to grow in the production of crops. The local and regional demand for food and stock feed, a growing export demand for grains combined with a farming system that is adaptable to climate and market conditions, will enable the region to continue to prosper.

## Important Cropping Lands

Cropping in the pilot area is dependent on cleared lands of less than 10% slope with:

- moderate to moderately high fertile soils at depths to 60 centimetres, good soil moisture storage capacity and a neutral pH
- land capability of class 2 to 4
- moderate rainfall of 600 to 810 millimetres (Canola requires 270-330mm during the growing season)

Areas highly suited to cropping in the pilot area are shown in Figures 4 and 5 which include:

- the alluvial lands and adjacent grazing lands of the Lachlan and Macquarie Valleys that are slightly more risk sensitive due to lower rainfall
- the slopes west of Manildra and Canowindra that have greater rainfalls and a greater diversity of crop varieties grown
- parts of the tablelands around Blayney, above 600 mm. These areas have more reliable rainfall but are more prone to frost risk affecting plant growth and potential damage to grain yields. The lands are also higher in value but are smaller in property size, often associated with small holding livestock operations
- a north south band from Manildra to Cowra is also significant in terms of its production of canola and other crops

The land highlighted on these maps as important for the cropping industry currently may be used for other agricultural land uses. This indicates how valuable the land resources are in this region for a variety of uses.

## Land Use Planning Implications

The cropping and mixed farming industry depends on the ability to provide larger tracts of land to support this ongoing activity. There is also the requirement to provide the physical space for machinery and to enable the economies of scale to be achieved.

Land use planning can assist by including planning provisions that will reduce or avoid conflicts between farmers undertaking cropping activities (i.e. ploughing, spraying, fertilising etc) and neighbours, particularly from rural lifestyle properties.

Planning provisions within any LEP will need to ensure that the land highly suitable for cropping is not fragmented into small lifestyle farms.



## Acknowledgements

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NSW DPI 2012 Winter Crops website: <http://www.dpi.nsw.gov.au/agriculture/broadacre/winter-crops>

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## Additional Reading

**Agricultural Land use planning guidelines;** [www.dpi.nsw.gov.au/environment/landuse-planning/agriculture](http://www.dpi.nsw.gov.au/environment/landuse-planning/agriculture)

**Cropping advisory information;** <http://www.dpi.nsw.gov.au/agriculture/field>

**Cropping gross margins (financials);** <http://www.dpi.nsw.gov.au/agriculture/farm-business/budgets>

## Glossary of Agricultural terms

<http://www.dpi.nsw.gov.au/agriculture/info/ag-glossary>

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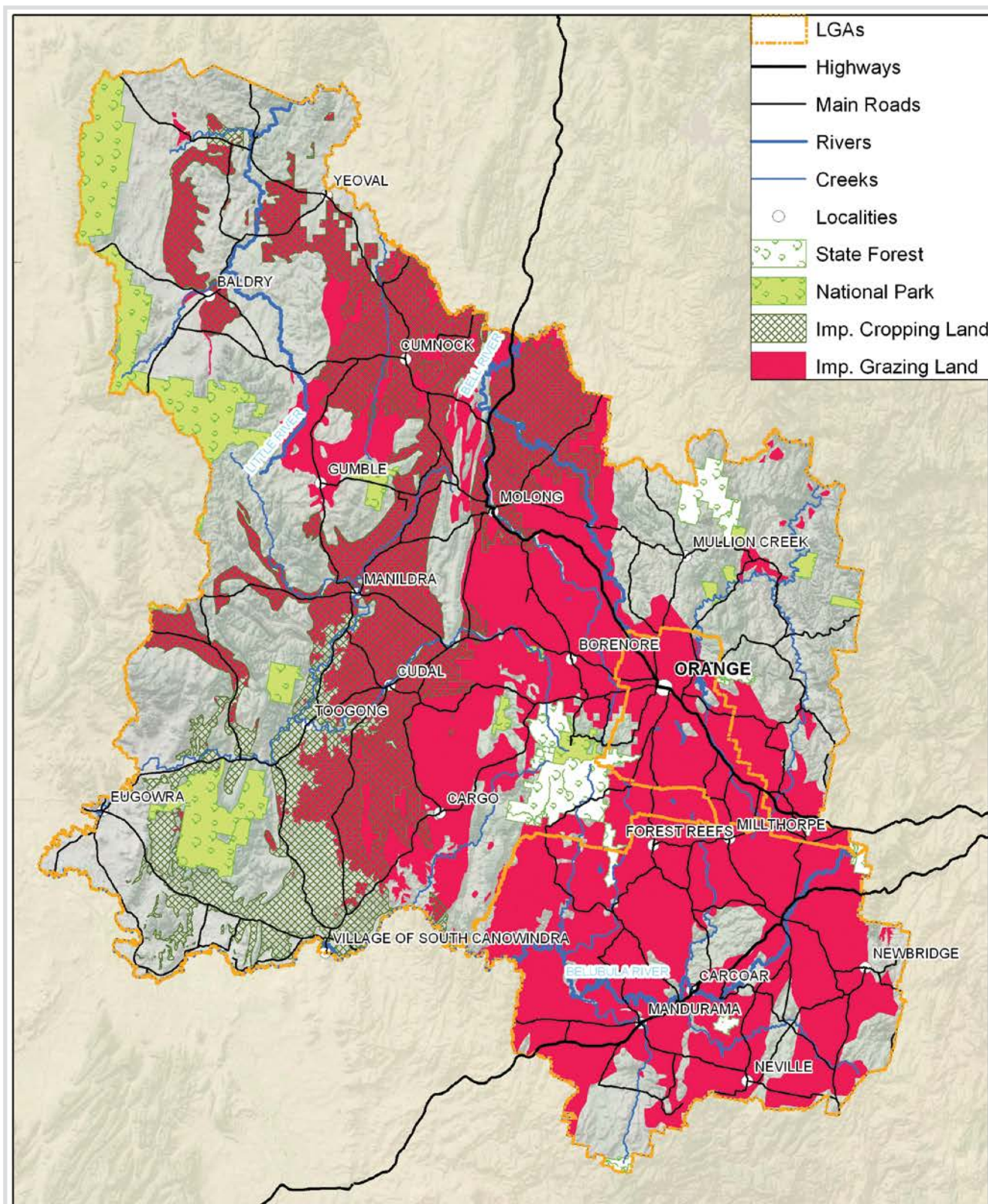
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**Blayney, Cabonne, Orange LGA Pilot Area  
Important Grazing and Cropping Land**

 **Department of  
Primary Industries**

0 2.5 5 10 15 20 25  
Kilometers

This map incorporates data which is: © Commonwealth of Australia (Geoscience Australia) 2006, Office of Environment and Heritage, [www.environment.nsw.gov.au](http://www.environment.nsw.gov.au) and NSW Land and Property Management Authority, Bathurst, Australia. Crown Copyright ©. All rights reserved [www.lands.nsw.gov.au](http://www.lands.nsw.gov.au).

Figure 4: Land important for cropping, with some of that land also important for grazing beef and meat sheep in the Blayney, Cabonne and Orange LGAs



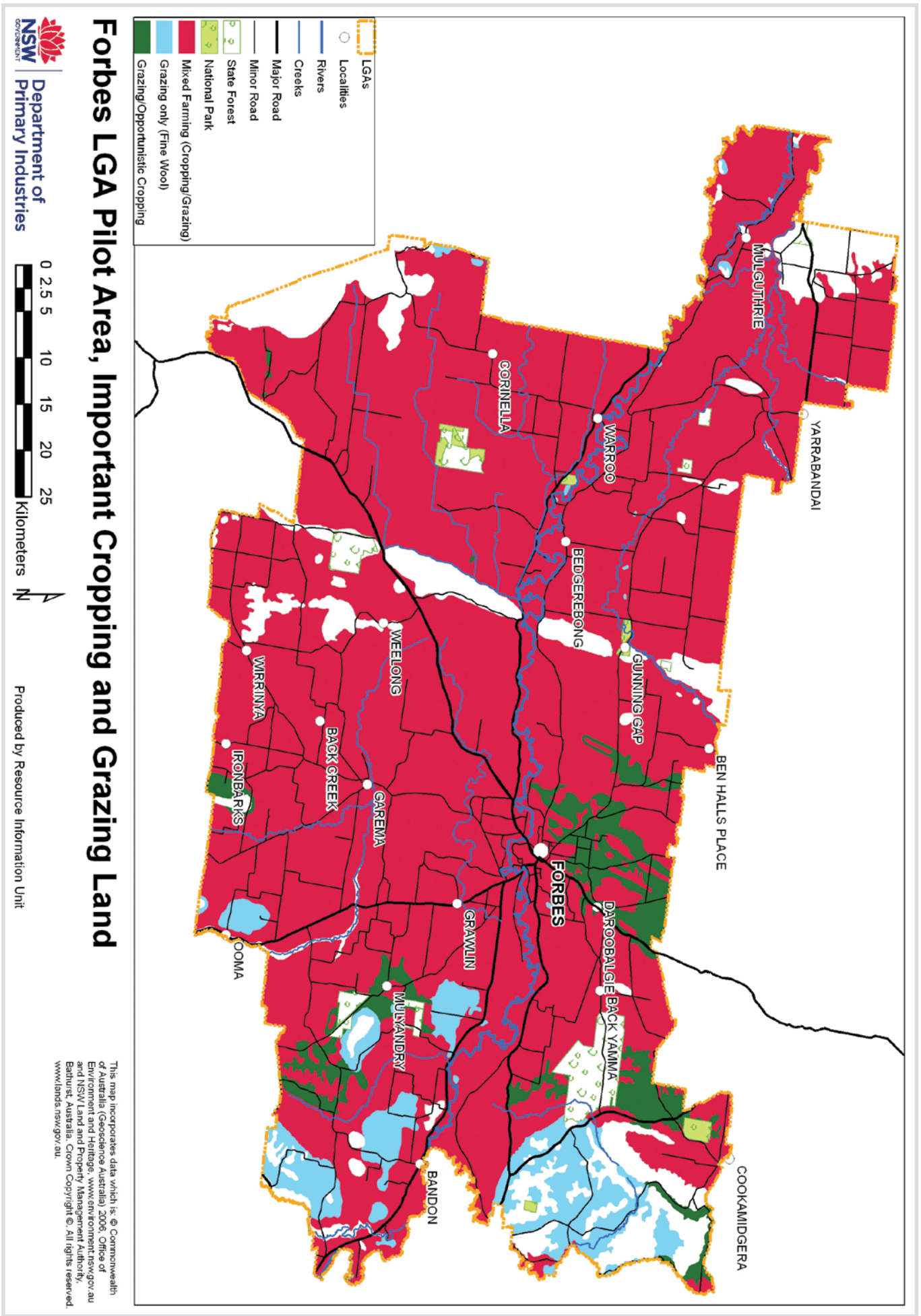


Figure 5: Land important for cropping with some of that land also important for grazing beef and sheep meat in the Forbes LGA