

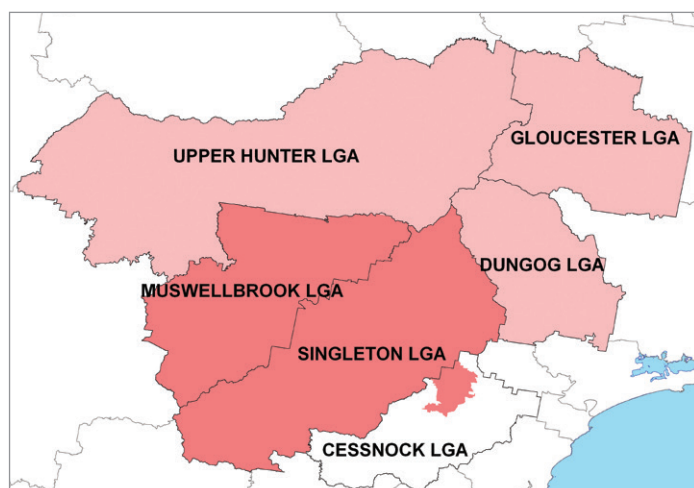
Upper Hunter Region Dairy Profile

FACTSHEET NO.3

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This profile identifies important dairy resources, critical agricultural industry features, their potential development and related land use planning issues across the Upper Hunter region as shown in Figure 1.

Figure 1 – Upper Hunter region and study area (in orange) covered by this profile



Introduction

The Department of Primary Industries (DPI) is developing a consistent method for mapping important agricultural lands to support strategic planning by local governments and industry.

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

They complement the state significant agricultural lands mapping developed for Strategic Regional Land Use Plans (led by the Department of Planning & Infrastructure).

A case study approach was adopted to identify the important agricultural lands for a range of agricultural industries within six local government areas (LGAs) including Orange, Cabonne, Blayney and Forbes in the central west; and Singleton and Muswellbrook in the Upper Hunter study

area. Those areas were chosen to cover a wide variety of agricultural landscapes and industries.

Figure 4 identifies the important dairy lands in the study area incorporating Singleton and Muswellbrook LGAs. This profile also identifies the critical industry features and land use planning issues that are shared by each LGA in the broader Upper Hunter region that additionally includes Gloucester, Dungog and Upper Hunter LGAs.

Milk Production – highlights

The region's temperate climate combined with the arable, fertile soils and reliable water sources supports highly productive pasture and fodder crop growth throughout the year. The resultant production of highly consistent milk yields is well suited for the supply of domestic fresh milk markets.

The Upper Hunter region is a traditional dairy farming area whose importance increased as broad acre irrigation and supplementary feeding expanded.

Figure 2 – Dairy Cattle with Centre Pivot Irrigator, Jerrys Plains (Photo: Glenda Briggs)



The region combines ready access to:

- reliable water sources and infrastructure
- hay and grain supplies in the central west and northern NSW and low transport costs;
- support services (including training);
- domestic and export markets; and
- multiple milk processing companies and plants.

Whilst the numbers of farms have significantly reduced over the last decade, the region increased its share of NSW milk production. This is largely due to larger herd sizes and increased yields.

Local dairy farms continue to improve their environmental and economic sustainability and are well placed to adapt to a changing climate and carbon restricted economy.

Economic contribution

Table 1 shows the currently available ABS data on dairy production within the Upper Hunter region. In 2005-06, 199 dairy farmers in the region contributed \$117million to the NSW economy (ABS 2006a). Significant changes in farm numbers have occurred since then, but dairy farming remains one of the top 5 farm enterprises in each LGA in the Upper Hunter region.

2011 industry data (Kempton pers comm.) shows that 125 dairy farms in the Upper Hunter region produced 16% of NSW milk (see Table 2) worth \$170m to the NSW economy.

Table 1- 2006 Upper Hunter Dairy data (ABS2006a, 2006b)*

Local Gov't Area)	Estim. value of Milk (\$ mill)	Prod'n of milk as a % of NSW total	No. of Farms	Employment
Dungog	\$29 m	3%	66	216
Gloucester	\$19 m	2%	37	124
Muswellbrook	\$28 m	3%	42	137
Singleton	\$25 m	3%	27	201
Upper Hunter	\$15 m	2%	27	73
Total	\$117 m	13%	199	751
NSW total	\$895 m	100%	1,441	5,903

* 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).

Table 2– 2011 Regional Significance (DPI 2011)

Region	Industry Estim. value of Milk	Prod'n of milk as a % of NSW total	No. farms	Ave Herd Size
UH Region	\$170 mill	16%	125	236
NSW	\$1,090 mill	100%	820	220

Dairy farming involves a high level of support services (eg daily milk transport, refrigeration and mechanical maintenance).

Dairy farming also contributes to the local and regional economy via cattle sales, the purchase of supplementary feed, farm equipment, milk transport and refrigeration services. Dairying also helps to maintain attractive rural landscapes.

The 2006 population census (ABS 2006b) identifies that the Upper Hunter region dairy industry results in 751 jobs in NSW.

Industry challenges

Statewide dairy industry pressures include:

- the increasing cost of fuel and power (affecting irrigation and transport cost, milking operations and feed costs)
- high capital costs to enter the industry due to the infrastructure required and cost of building a quality herd
- the rationalisation of milk processing capacity and the lack of processing capacity for surplus milk (north Sydney)
- supermarket pricing policies that restrict market access and farm milk prices

urban and rural residential (lifestyle) developments that inflate the price of suitable dairy lands and increase the risk of land use conflicts.

Following long term industry trends, the number of dairy farms in the region has declined significantly over the last 30 years, but this has largely been offset by a corresponding increase in herd sizes and milking yields as well as more efficient dairying operations.

The current average herd size in the region is typically larger than the state average (236 vs 220), particularly in the Singleton, Muswellbrook and Upper Hunter LGAs.

As dairy farming intensifies, the risk of land use conflicts with the region's expanding urban interface has also increased. For instance, the approval of rural residential (lifestyle) development adjoining highly productive dairy farms has restricted farming operations. For instance, poultry litter used as a fertiliser on dairy farms omits a pungent odour that is not conducive to lifestyle living.

Several Upper Hunter dairy farms directly adjoin existing coal mines and local dairy farmers are very concerned about the cumulative impacts of mining and potential coal seam gas developments. This includes:

- the mines buying dairy farms resulting in the loss of a critical industry mass of farms and support services
- restrictions on industry expansion due to high land prices and competing land uses,
- competition for water supplies
- impacts on water quality, dust and noise levels
- a severe lack of farm workers with appropriate skills and high workforce turn over.

Figure 3 - Dairy farm at Wylies Flat with Mt Thorley Mine in background
(Photo: Glenda Briggs)



Climate change

Climate change impacts on dairying include; increased heat stress, increased risks of storms and flooding and less reliable water supplies.

Heat stress is particularly critical for the welfare of dairy cattle (due to their high energy intake) and for milk production. Increased evaporation or flooding may also affect the cost of providing feed. Most dairy farms in the region rely heavily on local feed supplies.

However, in terms of dairy production in NSW, the Upper Hunter region has a relatively moderate climate. The reliable water supply supports fodder production over a long season. This provides important advantages for adapting to a changing climate.

A warming climate may also increase fodder production in the region, particularly in the higher rainfall areas where most dairy farms are located.

Regional dairy farmers have also invested in efficient irrigation and wash down systems as well as additional shading and feed pads that boost milk production and increase animal welfare. Such growers are well placed to adapt to a changing climate.

Infrastructure requirements

Water is used for cleaning dairy equipment, yards, for irrigation and livestock water. Hence a good reliable source of water is essential. Dairy farms at Singleton and Muswellbrook benefit from relatively secure regulated water supplies as well as from a relatively high annual rainfall.

A reliable electricity supply is also required for dairy machinery and irrigation equipment.

Good roads, bridges and access to towns are required for the daily delivery of milk to the market. Three major processors currently pick up milk from the Upper Hunter region. Ninety percent (90%) is currently processed in Sydney with the remainder processed at Hexham or the North Coast.

Good road access is also important for fodder supplements from the grain supplies and feed mills in the Central West and Northern NSW.

Development prospects

The unique geography of the Hunter Valley allows maritime influences to extend much further inland than other coastal catchments. The resultant milder temperatures; year round rainfall and reliable irrigation options are ideal for dairying.

Dairies in the Upper Hunter region can also readily access the Sydney milk market and high quality grain and hay produced either locally, or in the central west.

Reliable pasture production, low transport distances and efficient operations provide an important competitive advantage. This has allowed the region to increase its share of the state dairy production despite a progressive reduction in the number of dairy farms since the 1950's.

Dairy Australia is forecasting a 3 – 4% increase in national milk production in 2011/12. However, the short to medium term outlook for the dairy industry is a continuation of intense retail and wholesale competition and low unit prices.

In response, the national industry body, Dairy Australia, is advocating further investment in innovation, brand support and industry development.

Dairy farming is an innovative industry that is open to new ideas and opportunities. The Upper Hunter region also has excellent dairy training and extension services that can help local farmers to remain efficient and adapt to future climate variations.

Important Dairy lands

Dairy farms in the Upper Hunter region are predominately located on the alluvial soils of the major rivers and their adjoining slopes.

The map in figure 4 shows lands that are well suited to dairy farming in the Singleton and Muswellbrook and part of the Cessnock LGA (the pilot mapping area).

Such land is also well suited to a range of other enterprises and may be currently used for other agricultural purposes such as beef cattle, horses, horticulture or hay growing.

Important Dairy lands in the Upper Hunter feature:

- Fertile soils suitable for fodder production (class 1 to 3 Land and Soil Capability and moderate to high soil fertility);
- Highly reliable water sources (within 2km of the Hunter River or alluvium on the Hunter regulated river system);
- Adjoining lands for infrastructure and dry cattle; and
- Ready access to milk transport and markets

Land use planning implications

Specific resource requirements dictate the location of dairy developments. Economies of scale are also critical to allow dairy farms to remain competitive; to manage environmental impacts (including nutrient re-use); and to minimise land use conflicts (such as odour, noise and visibility).

Dairy farming is a long term investment (at least 25 years) due to the high levels of on-farm capital investment, low unit prices and reliance on economies of scale. Hence, compatible development of surrounding lands is critical.

Critical industry mass is also needed to ensure milk pick up and access to specialist support services (such as refrigeration maintenance). Isolated smaller properties find it increasingly difficult to secure milk contracts.

Landuse planning can support sustainable dairy development by; guiding the development of surrounding lands to minimise land use conflict risks. This includes strategically planning for residential and rural lifestyle developments in locations that do not comprise lands highly suitable for dairying.

Adopting an appropriate minimum lot sizes within important dairy land areas is critical for:

- adequate buffer distances to other houses
- the management of environmental impacts
- efficient operations and adaptation to market pressures

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Strategic Regional Land Use; <http://www.nsw.gov.au/strategicregionallanduse>

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Additional Reading

DPI Agricultural Land use planning and development assessment guidelines at; www.dpi.nsw.gov.au/agriculture/resources/lup

Dairy advisory information, NSW DPI <http://www.dpi.nsw.gov.au/agriculture/livestock/dairy-cattle>

Dairy gross margins (financials), NSW DPI 2011 <http://www.dpi.nsw.gov.au/agriculture/farm-business/budgets/livestock>

Dairy tomorrow natural resource management program; guidelines; case studies and research at www.dairyingfortomorrow.com

Environmental Management Guidelines for dairy at: www.dpi.nsw.gov.au/agriculture/livestock/dairy-cattle/nrm/publications/environmental-management-guidelines-for-the-dairy-industry

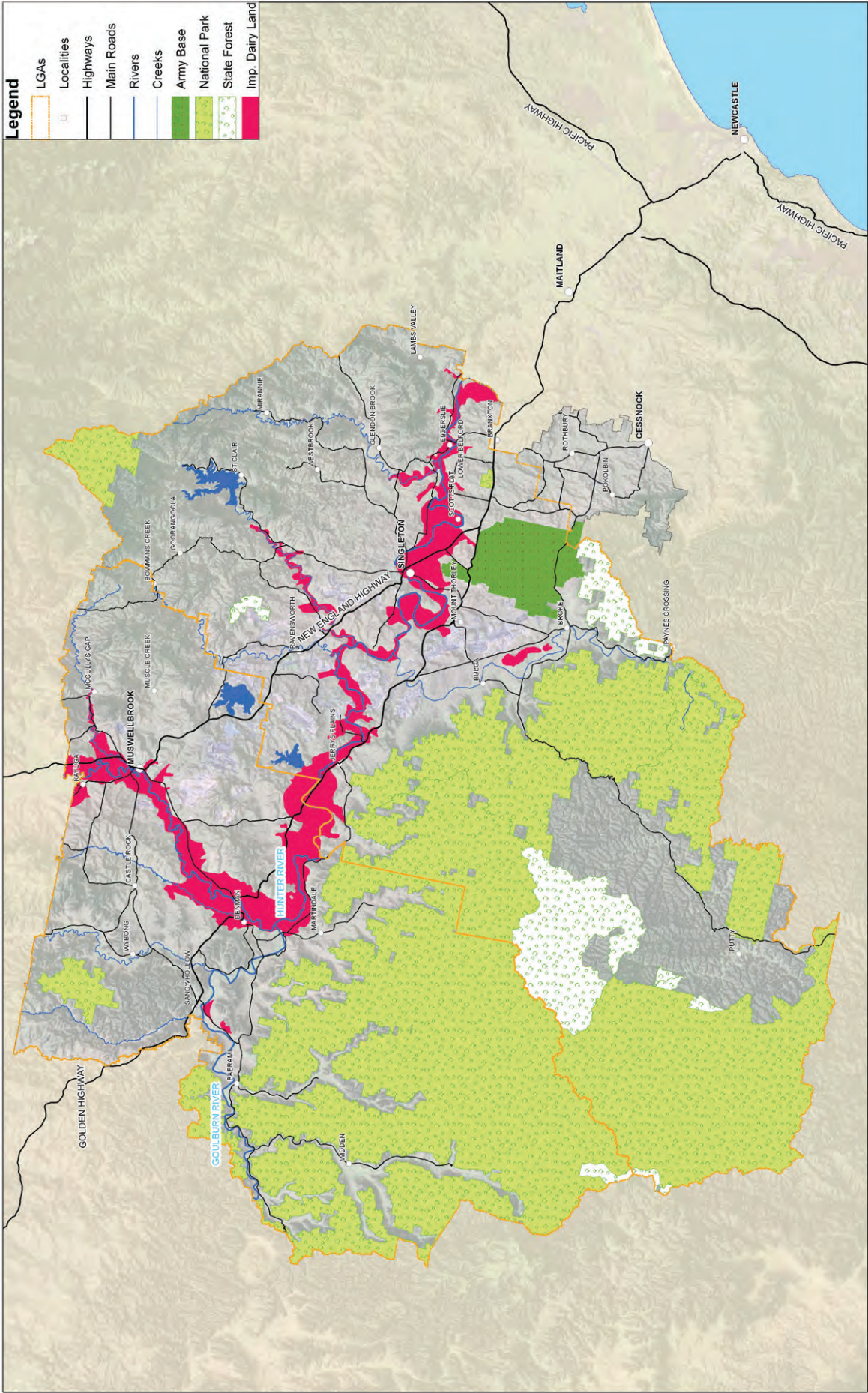
Glossary of Agricultural terms <http://www.dpi.nsw.gov.au/agriculture/info/ag-glossary>

Land Use Conflict Risk Assessment (LUCRA) Guide <http://www.dpi.nsw.gov.au/environment/landuse-planning/agriculture/lucra>

Land Use Planning <http://www.dpi.nsw.gov.au/agriculture/resources/lup>

Natural Resource Management in Dairying (DPI website and publications) at: <http://www.dpi.nsw.gov.au/agriculture/livestock/dairy-cattle/nrm>

Figure 4: Land important for dairy farming in the pilot mapping area (Singleton and Muswellbrook LGAs)



Singleton - Muswellbrook Pilot Area Important Dairy Land



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