10 Land Use and Agriculture

The Yass Valley LGA is an area primarily known for its history associated with agriculture and in particular grazing. A review of land use shows the comparative predominance of estimated grazing to this day.

Table 10.1 outlines the types of land uses present in the Yass Valley LGA and their area and Figure 10.1 shows the location of these land uses across the LGA.

Grazing and woodland pasture comprise almost 60% of land use, with grazing occurring over most of the LGA. Cropping and mixed farming occurs in the northern and central regions and comprises about 14% of the total area. Horticulture is concentrated around Yass and Murrumbateman.

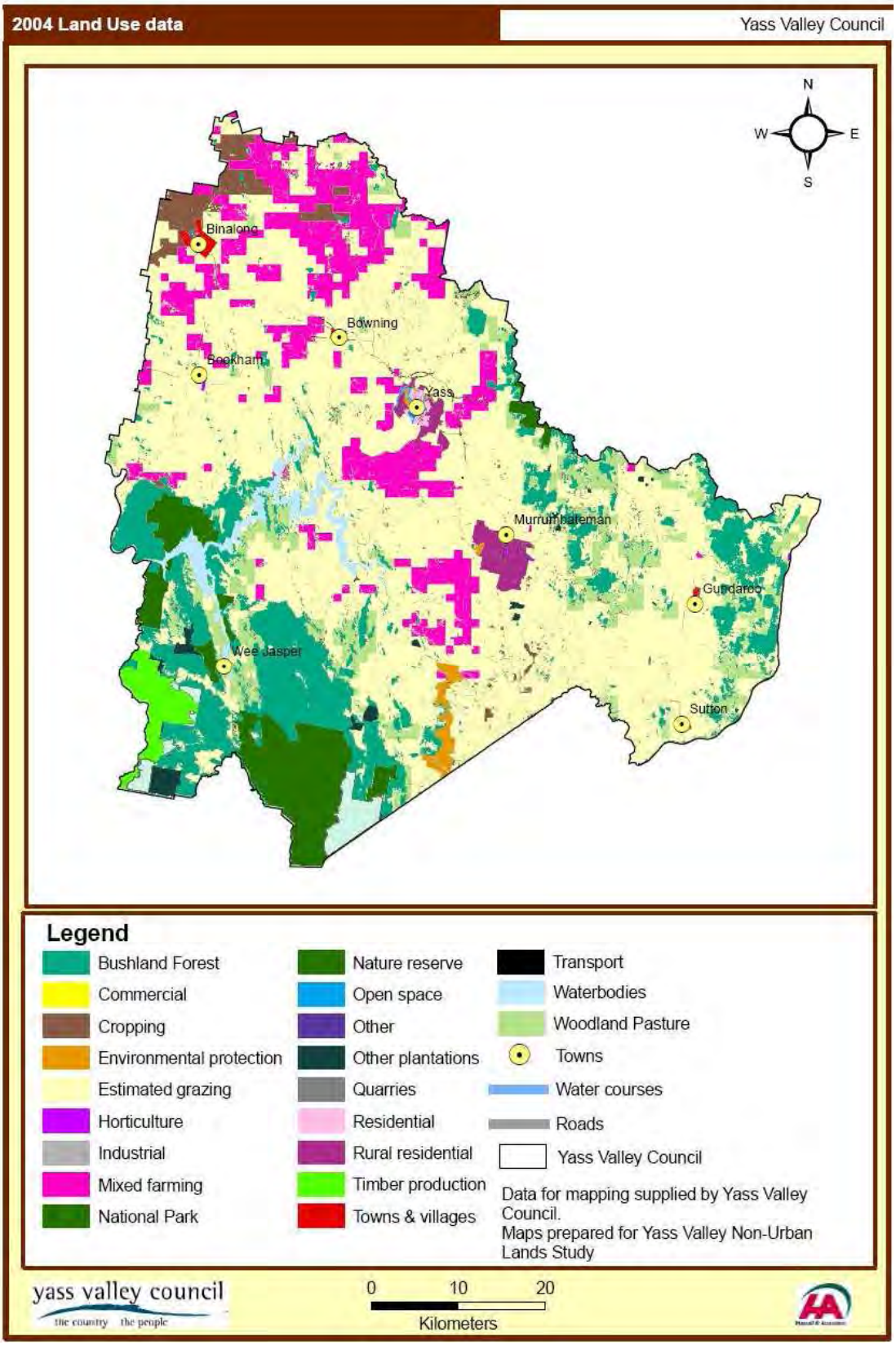
National parks, nature reserves, bushland forest and other vegetated areas comprise about 25% of the area. These are mostly located in the south west of the LGA although a significant amount of bushland forest also occurs towards the east.

Rural residential land use occupies more than 4,000 ha or 1% of the total land area, and is concentrated around Yass and Murrumbateman.

Table 10.1 Estimated land uses in the Yass Valley LGA, 2004

Land Use	Area (ha)	Percentage (%)
Bushland Forest	63,521	16
Commercial	32	0.001
Cropping	15,666	4
Environmental Protection	2,212	1
Estimated Grazing	191,906	49
Horticulture	367	0.1
Industrial	38	0.01
Mixed farming	39,957	10
National Parks	14,424	4
Nature Reserves	6,847	2
Open Space	287	0.1
Other	38	0.01
Other Conservation	4,267	1
Other Plantations	2,697	1
Quarries	120	0.03
Residential	553	0.1
Rural Residential	4,243	1
Towns and Villages	1,188	0.3
Timber Production	4,868	1
Transport	2,751	1
Water Bodies	5,346	1
Woodland Pastures	33,757	9
Total	**395,086**	**100**

Figure 10.1 **Estimated land uses in the Yass Valley LGA, 2004**



10.1 Agriculture

Current agricultural land uses and more recent changes have been obtained from the 2001 ABS Agricultural Census data and are presented in Table 10.2. The Agricultural Census was undertaken in 2006 however at this time the data has not been analysed to a local government area level and therefore is unable to be included.

By far the greatest land use in the Yass Valley LGA is for pastures, which were at 91% in 1997 and increased to 93% in 2001. The pastures form the basis of the LGA's livestock industries. Horticulture also increased between 1997 and 2001 from 94 hectares to 172 hectares. This increase is likely attributed to the increase in plantings with grapes, olives and other horticultural crops in recent years.

It is interesting to note the increase in the area of lucerne, hay and silage between 1997 and 2001. This could be a reflection of the drought conditions that have necessitated an increase in fodder reserves required for livestock.

Table 10.2 Agricultural land use in hectares (percentage)

	1997	2001
Land for agricultural uses	244,137 ha	267,332 ha
By Industry:		
Horticulture	94 (0.07%)	172 (0.08%)
Lucerne, hay and silage	567 (0.4%)	3,096 (1.4%)
Field crops	5,867 (4.4%)	6,138 (2.8%)
Cereals	5,150 (3.8%)	4,238 (1.9%)
Oil seeds	153 (0.1%)	920 (0.4%)
Grain legumes	90 (0.1%)	291 (0.1%)
Pastures	122,534 (91%)	205,001 (93%)
Irrigation	368 (0.3%)	628 (0.3%)

Source: BS Agricultural Census, 1997 and 2001

As outlined in Section 5, agricultural industries play an important role in the economy of the Yass Valley LGA and is the predominant land use.

The suitability and extent of different types of agriculture depend on a range of factors that are described below. It is important to remember that a single factor will rarely operate in isolation to determine enterprise suitability and productivity. Generally a number of factors will combine to influence the landholder's choice of land use. These factors will be discussed in further detail in this section.

10.2 Land capability and suitability

Most agricultural enterprises depend on the local natural resources base that determines the capability and suitability of a location for a specific enterprise. There is a range of natural resources that need to be considered and these include soil type, topography, climate and water availability.

10.2.1 Land capability

The former NSW Soil Conservation Service adopted a land classification system described as rural land capability. This system classifies land in terms of its inherent physical characteristics or physical constraints. The classification system denotes measures that are needed to protect the land from soil erosion and other forms of land degradation. The eight classes indicate the capability of the land to remain stable under particular land uses.

The land in the Yass Valley LGA has been classified as shown in Table 10.3 and an explanation of the classification system is provided in Table 10.4.

Table 10.3 Land capability classes within the YVC LGA

Land Capability	Area (ha)	% of LGA
1	309	0.08
2	7,093	1.79
3	34,609	8.72
4	110,887	27.94
5	66,568	16.78
6	103,226	26.01
7	42,752	10.77
8	17,490	4.41
Water	5,153	1.30
Mine	28	0.01
Crown land	7,482	1.89
Urban	796	0.20

Table 10.4 Description of rural land capability classes

Category	Class	Description
Land capable of being regularly cultivated	Class 1	No special soil coservation works or practices necessary
	Class 2	Soil conservation practices such as strip cropping, conservation tillage and adequate crop rotation
	Class 3	Structural soil conservation works such as diversion banks, graded banks and waterways, together with soil conservation practices in Class 2
Land not capable of being regularly cultivated but suitable for grazing with occasional cultivation	Class 4	Soil conservation practices such as pasture improvement, stock control, application of fertiliser and minimal cultivation for the establishment or re-establishment of permanent pastures
	Class 5	Structural soil conservation works such as absorption banks, diversion banks and contour ripping, together with the practices as in Class 4.
	Class 6	Soil conservation practices including limitation of stock, broadcasting of seed and fertiliser, prevention of fire and destruction of vermin. This class may require some structural works.

	Class 7	Land best protected by green timber.
	Class 8	Cliffs, lakes or swamps and other land incapable of sustaining agricultural or pastoral production

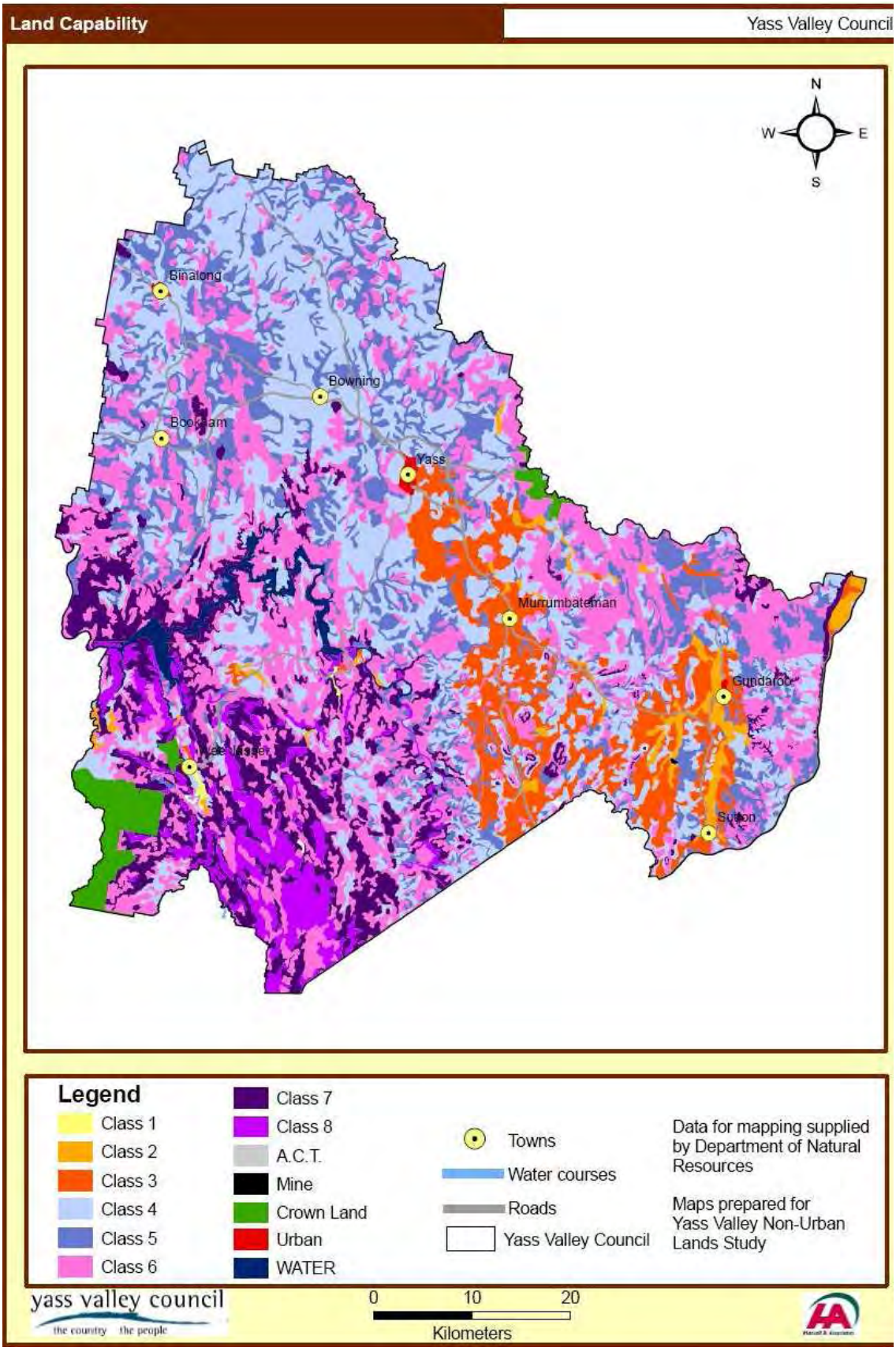
Source: NSW Soil Conservation Service

In the Yass Valley LGA there is limited land (11%) that is capable of being regularly cultivated (Classes 1 to 3) while the majority of land (45%) is suitable for grazing with occasional cultivation (Classes 4 and 5). A significant 26% is determined to be suitable for grazing only (Class 6).

Figure 10.1 shows the Yass Valley LGA's land capability and demonstrates that the areas that are most favourable for cropping or more intensive production (Classes 1 – 3) are located in the south east of the LGA. The areas through the centre of the LGA and continuing up to the northwest are suitable for grazing with occasional cultivation, while the areas in the south west are less capable of supporting traditional agricultural industries.

The map of land capability should be considered with some caution because of the broad scale used for its construction (1:100,000 scale). Within the broader areas considered to be unsuited to more intensive types of agriculture (e.g. cultivation), there may be small parcels of land that could support such production and thus provide diversity of land use and income.

Figure 10.1 Land capabilities within the Yass Valley LGA



10.2.1 Agricultural Suitability

The NSW Department of Primary Industries (DPI) has developed a land classification system described as Land Suitability Classification. Land is classified in terms of its suitability for general agricultural use by evaluating biophysical, social, and economic factors that may constrain the use of land for agriculture.

The land in the Yass Valley LGA has been classified as shown in Table 10.5 and an explanation of the classification system is provided in Table 10.6. A map of the Land Suitability classes is shown in Figure 10.2.

There is no Class 1 land in the Yass Valley LGA and only a small area of Class 2 land. The majority of land is either Class 3 or Class 4. Class 3 land, which is suitable for grazing and pasture improvement, predominates in the northern, central and south eastern areas of the LGA. Class 4 land, which is suitable for grazing but not for cultivation, is prevalent towards the eastern and western boundaries.

There is a significant percentage of Class 5 land (18.7%) which is generally unsuitable for agriculture (except for light grazing) and this occurs in the south west and also in patches towards the north east of the LGA.

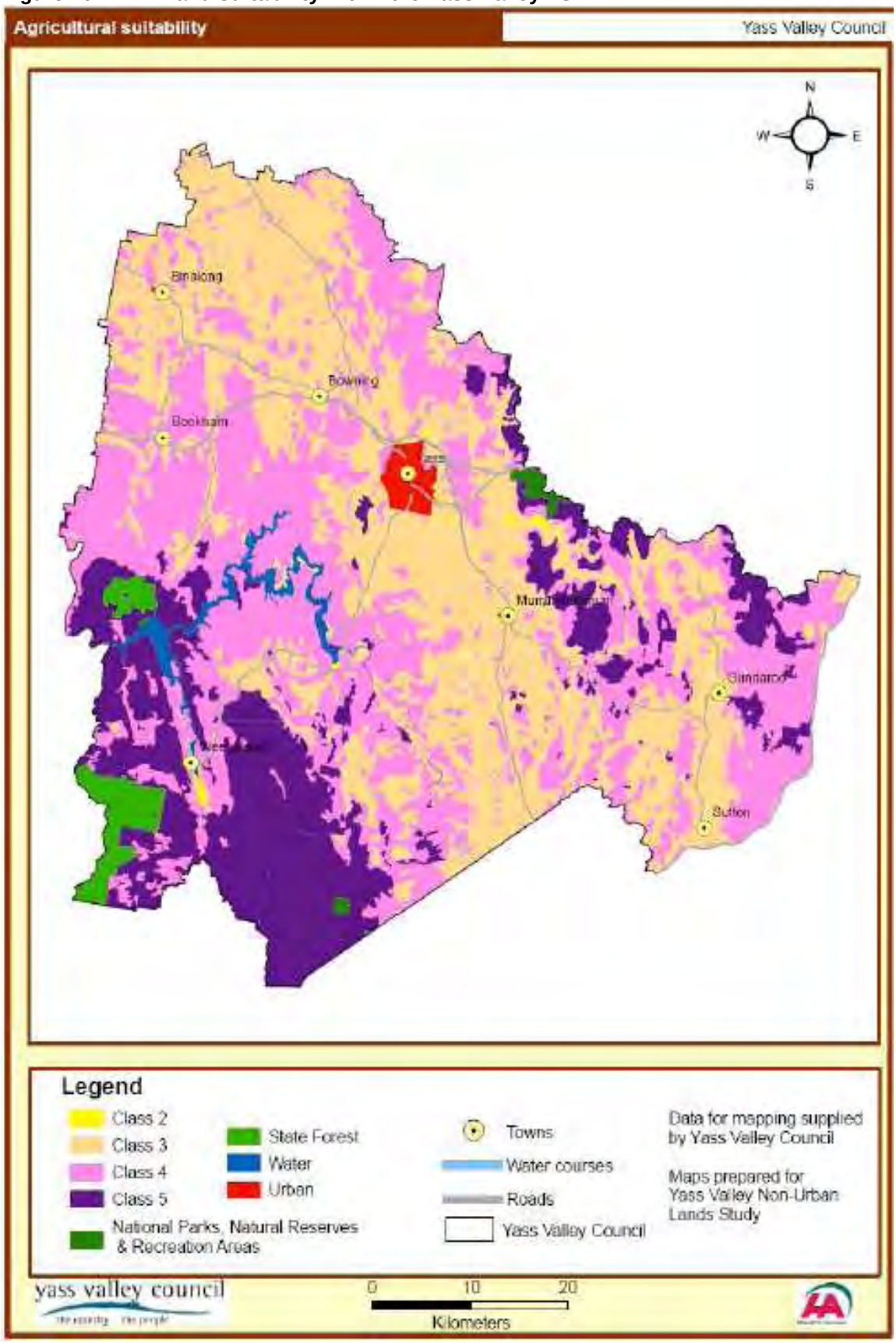
Table 10.5 Agricultural suitability classes

Agricultural suitability classes	Area (ha)	% of the LGA
Class 1	0	0%
Class 2	739	0.2%
Class 3	146,983	37.1%
Class 4	157,048	39.6%
Class 5	74,221	18.7%
State Forest	5,679	1.4%
Water	7,135	1.8%
Urban	3,267	0.8%
National Parks and Nature Reserves	1,381	0.3%

Table 10.5 Description of Agricultural Suitability Classes

Agricultural suitability class	Description
Class 1	Arable land suitable for intensive cultivation, minor constraints to sustained high levels of agricultural production
Class 2	Arable land suitable for regular cultivation for crops but not suitable for continuous cultivation. Environmental constraints may limit the cropping phase to a rotation with sown pastures
Class 3	Grazing land or land well suited to pasture improvement. Erosion hazard and other factors including climate may limit the capacity for cultivation and soil conservation
Class 4	Land suitable for grazing but not cultivation. Production may be seasonally high but the overall level of production is low as a result of major environmental constraints
Class 5	Land unsuitable for agriculture, at best suited only to light grazing. Very low agricultural production levels result from severe constraints, including economic factors, precluding land improvement

Figure 10.2 Land suitability within the Yass Valley LGA



10.3 Agricultural enterprises

As outlined in Section 5, agriculture is the predominant industry of the Yass Valley LGA. Within this industry, sheep are the primary form of livestock, although cattle also have a significant presence.

Wool production remains the dominant sheep enterprise. Participants at community meetings indicated a preference of this enterprise compared to the alternative prime lamb enterprise because of the greater suitability of merino sheep to the conditions. The climate, soils and pasture base are more suited to a merino wool producing enterprise that does not require the higher quantity and seasonal availability of pasture demanded to "finish" prime lambs.

The general pasture conditions also favour sheep enterprises over cattle enterprises except in areas with better soils that can support improved pastures. Such areas would be suitable for mixed grazing of sheep and cattle, or exclusively for cattle if required.

There is at least one cattle feedlot in the Yass Valley LGA (as advised by the Binalong Community Meeting). Feedlots can operate largely independently of the natural resource conditions, although factors of water availability, effluent disposal, noise and odour need to be considered.

Although it is difficult to source relevant data, through observation and reports it can be seen that traditional rural industries are now being accompanied by new ones. Crops such as zucchini, berries, apples, peaches and pears, and animals such as alpacas and ostriches are now found in the LGA. The Yass Valley LGA is also responsible for producing some top quality cool climate wines, with nine wineries and over 30 vineyards producing about 60% of the ACT region's wines.

It should be noted, however, that these new enterprises are also subject to change. For example, reports have been received that some landholders are removing grape vines from their properties because of a recent downturn in grape prices that have reduced financial returns.

10.3.1 Agricultural Diversity

From the above it can be seen that there is considerable diversity in agricultural enterprises in the Yass Valley LGA. The diversity is present on individual farms and from area to area depending on natural resource, market and skills conditions. The diversity itself is driven by a number of factors including the need to remain viable in the face of changing market conditions, the need to optimise productivity from a non-uniform land resource, and the entrepreneurial characteristics of owners.

Although diversity can increase both productivity and profitability, it also introduces risks into the farming system. Apart from market risks, there may be financial risks associated with any capital expenditure required in establishing the new enterprise. The management skills of the owner/operator and any labour required may need to be augmented through training, with inadequate skills adding to the risk of a new enterprise.

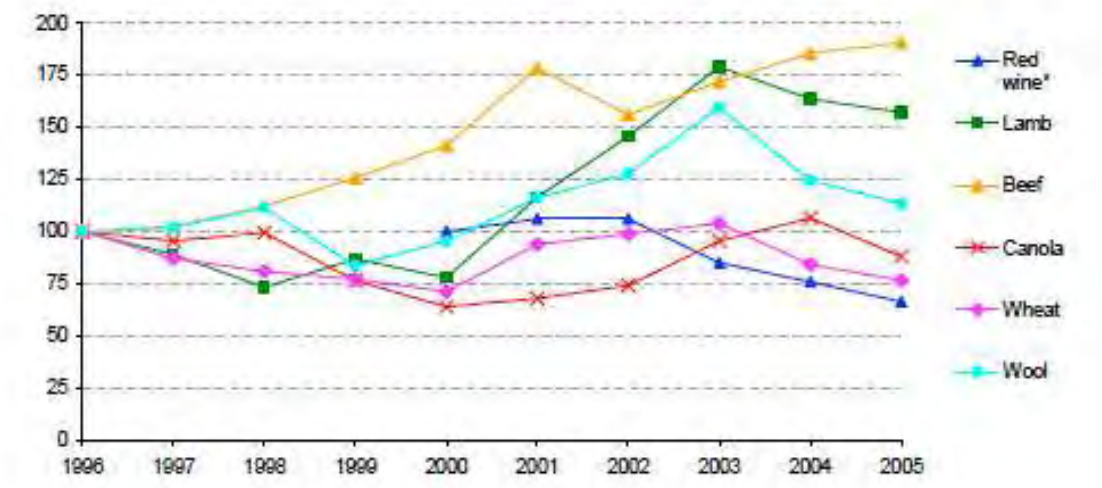
10.3.2 Agricultural Diversity

The future for agriculture in the Yass Valley LGA will be determined by a range of interacting factors. At the time of preparing this report the Region is experiencing continued drought which is placing a severe stress on the viability of farmers. In the absence of drought, decision making in agriculture will continue to be largely determined by market forces, although these forces will be offset by the availability of off-farm income as outlined in Section 4.

In considering the profitability of future enterprises it is important to look at historical price trends for different commodities with the understanding that such fluctuations are likely to continue in the future (Figure 28). Over the past decade there has been an increase in the prices received for beef and lamb while prices for grains and wine have been variable but have generally decreased. Wool prices have declined since 2003.

On a global scale, prices in real terms have been decreasing. In Australia, the effect of the reduction in prices on farm incomes has been offset by production efficiency gains and increasing farm sizes, and also off-farm incomes. Competition and productivity gains at the world level will result in a further drop in real prices for most agricultural commodities (Keogh 2006).

Figure 10.3 Index of Commodity Prices, 1996 - 2005

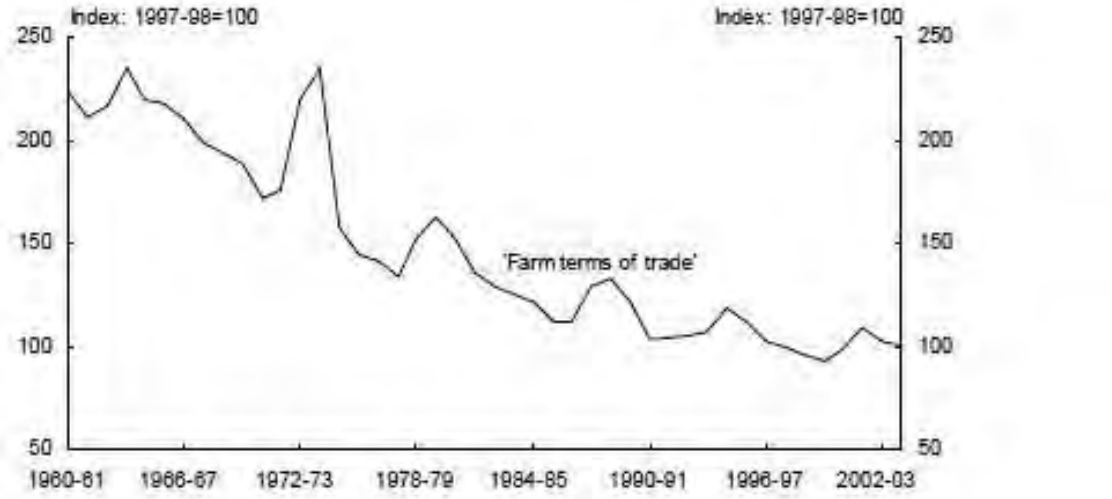


Source: ABARE (2006)

** red wine price available from 2000 only.*

In addition to variable prices received for agricultural commodities there has been a long term downward trend in the prices of commodities relative to production costs. Figure 10.4 shows the declining 'farm terms of trade'.

Figure 10.4 Farm Output Prices relative to Input Costs



Source: ABARE, Australian Commodity Statistics 2004

(a) The ratio of an index of prices received by farmers to an index of prices paid by farmers.

Landholders need to respond to the declining terms of trade if they are to remain viable. Failure to respond would potentially result in a reduction in living conditions and capital expenditure. The latter could have negative consequences on investment in natural resource management, including pest and weed control. There are a number of response strategies that could be adopted, with Keogh (2006) stating that three key changes have been:

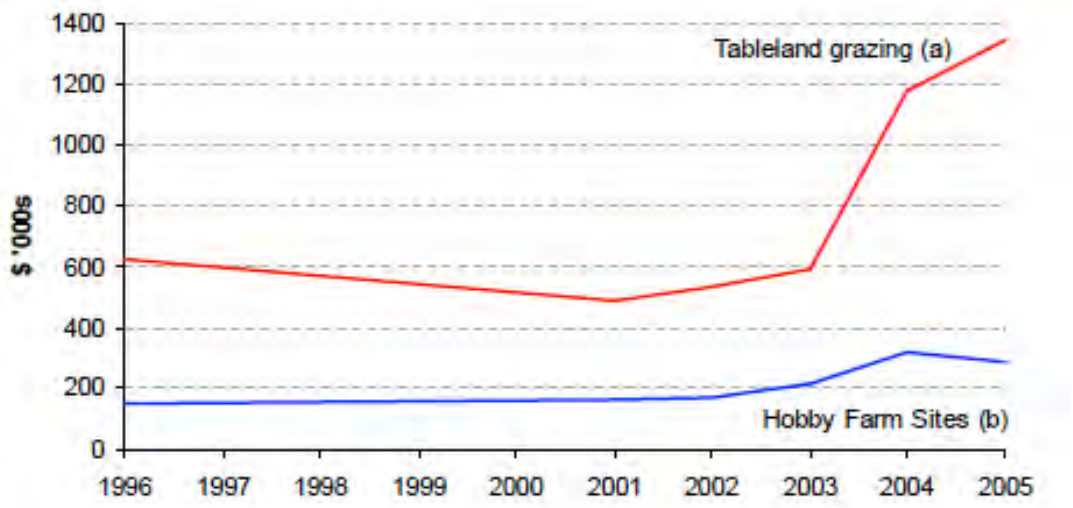
- ·a bimodal distribution of farm sizes;
- ·a reduction in total employment in agriculture; and
- an increase in reliance on off-farm income.

The bimodal distribution (increasing percentage of smaller and larger farms with declining medium sized farms) has occurred through the consolidation of farms as landholders (including corporate entities) by neighbouring properties, and other landholders downsize by selling allotments and seeking off-farm employment. This trend may have impacts on the occurrence of land use conflict as larger landholders seek to subdivide and more rural lifestylers move in and purchase these properties.

10.3.3 Agricultural Property Prices

Property prices in the Yass Valley LGA have increased over the past decade and more strongly over the past 5 years (refer to Figure 10.5). Tableland grazing prices in the Yass LGA in particular have experienced significant growth. Between 2003 and 2004 the value of grazing land doubled (based on 700 ha, 3,000 DSE property). On average, prices were estimated to have risen a further 14% between 2004 and 2005

Figure 10.5 Yass Valley LGA property prices – grazing land and hobby farms



Source: Department of Lands 2006
(a) Grazing properties 704 hectares in size
(b) Hobby farms 25 hectares, 18km from town

Land values for hobby farm sites have also increased over the past 5 years, though to a lesser degree. Between 2001 and 2005, the average value of a 25 ha hobby farm 18km from the town of Yass increased by 78% to $289,000. Property values for hobby farms are estimated to have peaked in 2004 at $320,000, before falling by 9% between 2004 and 2005.

The increase in the value of rural land in the Yass Valley LGA is comparable to observed property price increases for other parts of NSW. Average grazing land property prices across a number of NSW regional centres in the tablelands increased by 126% compared to 117% for the Yass Valley LGA.

The increases in property values in the Yass Valley LGA, and more broadly across rural NSW, are likely to have an impact on rural land uses. Specifically, as land values increase it becomes increasingly difficult for agricultural producers to expand their operations, often an important management strategy adopted in generating economies of scale to maintain viability over the long term and counteract the impact of the decline in the farm terms of trade. However, farmers who want to exit agriculture would benefit from the higher prices. The higher prices become an added barrier to new entrants i.e. true agricultural industry aspirants, not lifestylers.

10.4 Issues arising

The issues arising from the discussion outlined in this section, which need to be considered from a planning perspective, include:

- the effect that natural resources (including water availability) have on the suitability of agricultural enterprises in different locations;
- the impact of agriculture on natural resource sustainability, especially soil, water and vegetation and implications for future management and or control;

- the effect of changes in future agricultural enterprise choice, including impacts on infrastructure required or likely to become redundant;
- diversification of enterprises and whether this should be supported through the provision of training;
- the trend towards a bimodal model of land ownership and its impact on community services and infrastructure; and
- the impact of property prices on farm viability and future expansion.