



Industry &
Investment



Economic Profile of Agriculture on the Central Coast Plateau

**Final Report
December 2009**

Contents

Executive Summary	3
Background.....	5
Methodology	7
General Information on the District	8
Climate	8
Water.....	8
Soil	8
Topography	8
Land Use	9
Demographics	9
Industry and Employment.....	10
A Snapshot of Agriculture on the Central Coast Plateau	11
Introduction.....	11
Gross Value of Agricultural Production.....	13
Employment	15
Turnover	16
Key Product Analysis	16
Infrastructure and Services	30
Telecommunications	30
Trade Services	30
Transport.....	30
Financial Services	31
Professional Services.....	31
Education and Training	31
Utilities.....	31
Other Input Suppliers and Service Providers.....	32
Processors	32
List of Appendices.....	33
Appendix 1 – Bibliography.....	34
Appendix 2 – People Consulted	35
Appendix 3 – Selected Climatic Data	36
Appendix 4 – Primary and Secondary land use by hectares	39
Appendix 5 – Community Profiles Summary Statistics.....	41
Appendix 6 – Agricultural Employment by sector	43
Appendix 7 – Location of Horse Establishments, Gosford LGA	44

The economic profile of agriculture on the Central Coast Plateau is the property of the Central Coast Plateau Chamber of Commerce. This report cannot be reproduced or published without the written permission of the Central Coast Plateau Chamber of Commerce.

Executive Summary

The Gosford LGA and the Central Coast Plateau, where the bulk of agricultural activity is conducted within the LGA, produces a high proportion of all agricultural production in the Sydney Region.

The 2005-06 Agricultural Census shows that the value of production in the Gosford West Statistical Local Area (SLA), which includes the Plateau (where the bulk of agricultural activity in the SLA is situated), was approximately \$92 million, or 14.6% of agricultural production in the Sydney Region.

It also has the highest value of production per hectare in the Region, because of the intensive nature of activity. Furthermore, its share of total agricultural production in the Sydney Region is increasing.

Agriculture is a major source of employment of residents of the Plateau. The larger agricultural enterprises also employ people from elsewhere on the Central Coast.

This doesn't include the horse industry, a major activity on the Plateau but for which there are no reliable statistics on value.

The then NSW Department of Agriculture noted in 1984 that the Plateau is 'part of a small and shrinking total of good quality agricultural land remaining within the Greater Sydney Region and in the Gosford and Wyong Local Government Areas'.

The Report of Gosford City Council's Rural Lands Study Steering Committee in January 1999 stated that 'the Plateau (is) becoming increasingly important as agriculture is being marginalised in the Sydney Basin'.

The importance of the Plateau as a food producing area was again confirmed by the NSW Department of Planning in the Central Coast Regional Strategy 2006-2031. It notes that the western half of the Central Coast region, which includes the Plateau, holds agricultural production and water supply catchments, which must be protected from urban and rural residential uses.

The temperate climate, deep, well drained soil, reliable ground and surface water supply and gently sloping topography are key natural attributes of the district and the proximity to large and growing populations in Sydney and the Central Coast are also major advantages.

The industry is under significant pressure from population growth, residential development and other activities such as sandmining. However, there is strong and widespread support from industry, community and governments for the continuation of agriculture on the Plateau and the protection of the assets involved, especially at a time when the amount of agricultural land in the Sydney Region is reducing and there is increasing focus on food security.

This report aims to contribute to the debate on the future of the agriculture on the Central Coast Plateau by identifying and analysing the range and value of agricultural activities in the district.

The Report shows that chickens for meat, nurseries and cut flowers are the most important industries on the Plateau. Fruit and vegetable production remain important and the horse industry is also an increasingly significant activity.

Producers service a range of markets. A number of local producers have significant export markets and are recognised as world class.

The Central Coast Plateau Tourism Plan identified the nexus between tourism and agriculture. It identified the rural, agricultural and natural landscapes and equestrian facilities and a reputation for fine products such as citrus, flowers and fresh product as key differential strengths for the area.

The findings of this study demonstrate that agriculture on the Plateau is dynamic and diverse and has a number of natural (in particular climate and water supply) and other attributes (especially access to markets and the use of more efficient and sustainable production processes) underpinning this.

With appropriate protections and support, and increasingly efficient production processes, the Central Coast Plateau has the potential to continue to contribute substantially to the economy of the Central Coast and to supplying the food needs of the Sydney and Central Coast Regions.

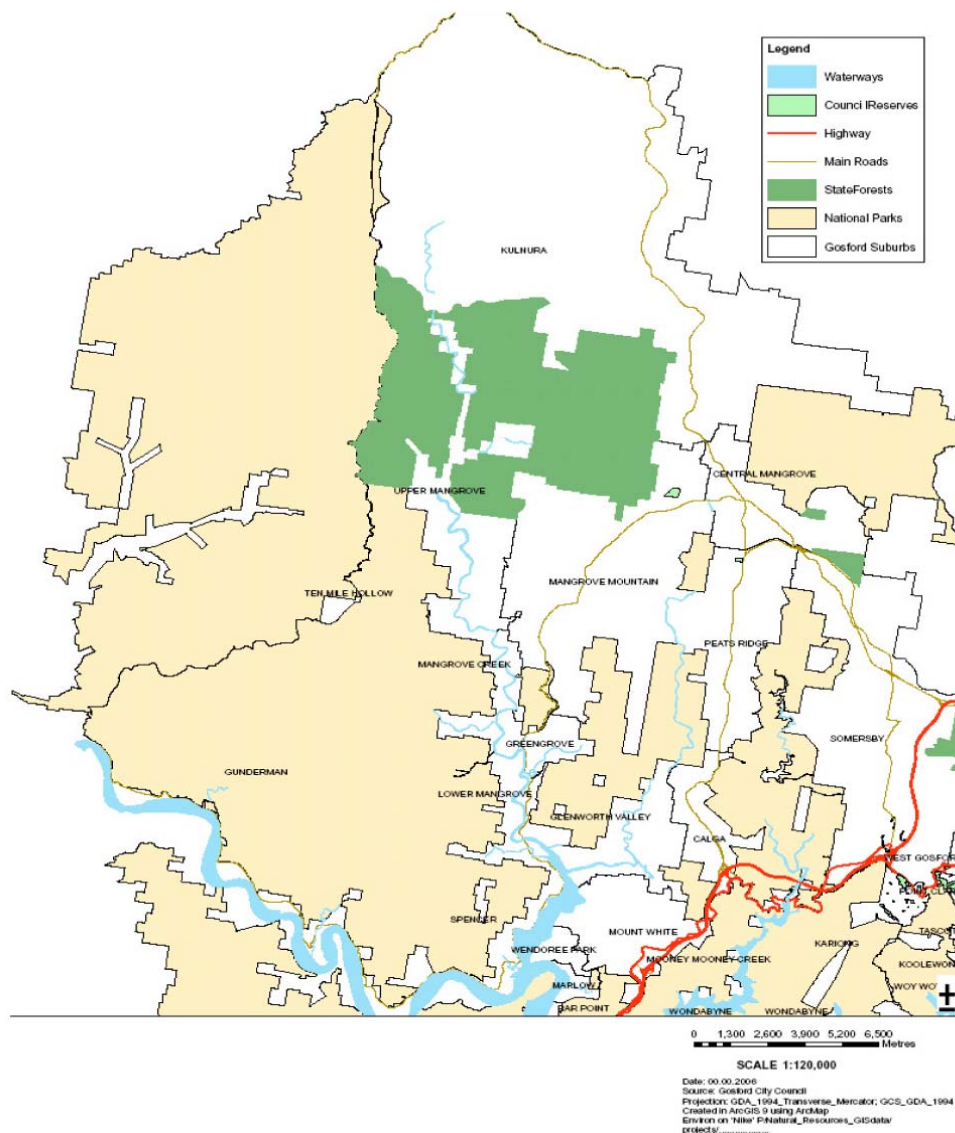
Background

The Central Coast Plateau is a series of raised undulating ridges above the escarpment west and south west of Gosford. The Plateau is part of the rapidly growing population centre of the Central Coast and less than 100 kilometres from the centre of Sydney.

It encompasses the area from Mt White in the south, Kulgura to the north, Somersby to the east, Spencer and, Gunderman to the south west and Upper Mangrove to the west. The area is basically dissected by Peats Ridge Road – George Downes Drive and Wisemans Ferry Road.

It includes the townships, villages and localities of Somersby, Mangrove Mountain, Central Mangrove, Upper Mangrove, Calga, Spencer, Gunderman, Mount White, Peats Ridge and Wendoree Park.

The map at Figure 1 depicts the area.



The Plateau has a long history of agricultural activity. A succession of strategies and documents produced over the last 25 years has highlighted the high agricultural values of the Plateau.

In 1984, the then NSW Department of Agriculture stated,

‘The area contains highly regarded agricultural land with a capacity to produce a range of fruits and vegetable crops, nursery plants, chicken meat and eggs. There are also more specialised users....It is part of a small and shrinking total of good quality agricultural land remaining within the Greater Sydney Region and in the Gosford and Wyong Local Government Areas.’

(Source: NSW Department of Agriculture, Summary Report of the Agricultural Lands of the Coastal Highlands at Somersby, Peats Ridge, Mangrove Mountain and Kulnura, 1984)

In 1998 the Central Coast Regional Agricultural Group with the assistance of the Central Coast Regional Development Corporation prepared the Central Coast Agricultural Development Plan. This document was a strategic plan for the development of agriculture on the Central Coast Plateau for the period 1988-2002. The Plan aimed to ensure that agricultural production and associated activities were sustainable in the longer term and significant contributors to the regional economy. Unfortunately, this plan was never implemented and is now outdated.

The Report of the Rural Lands Study Steering Committee in January 1999 stated that ‘the Plateau (is) becoming increasingly important as agriculture is being marginalised in the Sydney Basin’.

The Plateau incorporates ‘significant water resources, agriculturally productive lands and extractive resources as well as important and sensitive environmental, ecological and indigenous cultural areas’.

(Source: Draft Somersby Plateau Land Use Assessment, NSW DPI, 2005).

The latter statement is confirmed by the NSW Department of Planning in the Central Coast Regional Strategy 2006-2031, where it notes that the western half of the region, which includes the Plateau, holds agricultural production and water supply catchments, which must be protected from urban and rural residential uses. A key environmental challenge of this includes accepting the value of rural lands as food-producing lands and ensuring and encouraging the long-term protection of these assets.

(Source: Central Coast Regional Strategy, NSW Government Department of Planning, 2008)

As early as the 1970s, it became evident that agricultural activities on the Central Coast were coming under pressure by population growth, residential development and other activities such as sandmining.

At a community strategic planning workshop in October 2006, which was attended by approximately 100 community members, it was unanimously agreed that the most pressing issue facing the Plateau was the long-term sustainability and viability of the farming industry of the district. Following that meeting, the Chamber met with industry

organisations to discuss the future of farming and identify issues that were impacting on its future including:

- Competition from imports (especially for citrus and chicken production)
- Increasing infrastructure costs
- Land costs
- Urban development
- Various legislation and regulations.

There is clearly strong and widespread support from industry, community and governments for the continuation of agriculture on the Plateau and the protection of the assets involved.

This is a complex challenge and a cooperative approach is needed if it is to be met. A number of steps have been taken. Of particular importance is the establishment of the Central Coast Future Farming Taskforce, comprising representatives of:

- Regional Development Australia Central Coast
- Industry and Investment NSW
- Central Coast Plateau Chamber of Commerce
- NSW Farmers Central Coast Branch
- NSW Department of Planning
- Gosford City Council
- Wyong Shire Council.

The objectives of the Taskforce are to:

- A. Develop the economic reasons for the Central Coast of NSW being the best place to consolidate agricultural business
- B. Identify and examine the current and future planning issues
- C. Identify what is needed for agricultural development and sustainability on the Plateau

The Central Coast Plateau Chamber of Commerce is addressing point A by constructing an economic profile of the farming industry on the Central Coast Plateau as a means of establishing a picture of the current nature and scale of the industry.

Funding for this project was provided by the Department of Industry and Investment under the Community Economic Development Program and Coca Cola Amatil.

Methodology

Information in this report is drawn from two broad sources:

- Review of a range of publications and publically available statistics. (Please see Bibliography, Appendix 1).
- Consultations with a number of agencies, businesses and individuals on specific issues. (Please see Appendix 2).

In addition, 25 producers responded to a survey seeking a variety of information on their businesses. While this number of responses is insufficient to statistically valid, selected information, such as markets for products has been incorporated in this report.

General Information on the District

Climate

The Plateau has a temperate climate subject to coastal influence. Maximum rainfall is generally received in summer with a dry period in late winter to early spring. Irrigation is necessary for vegetable, cut flower and nursery plant production and desirable for fruit crops.

Selected information on climate for Kulnura, Mangrove Mountain and Peats Ridge is at Appendix 3.

Water

The Plateau has significant groundwater resources within the thick Plateau sandstone sequence. This supports the majority of agricultural activities, as well as mineral water extraction activities and supplementing residents' domestic water needs.

There is a number of water bottling plants on the Plateau extracting groundwater.

Water Sharing Agreements for the Kulnura Mangrove Mountain Groundwater Resource and Ourimbah Creek Water Source have been established.

The quality and security of water were identified repeatedly in surveys and interviews as key advantages of conducting agriculture on the Plateau.

Soil

The Summary Report of the Agricultural Lands of the Coastal Highlands conducted in 1984 by the then NSW Department of Agriculture identified the Plateau as 'the only significant area of sandy horticultural soils within the Greater Sydney Region; soils which have specific characteristics for crop growth which make them quite valuable'.

It further stated that the Plateau has a deep well drained soils, making it well suited to a large variety of crops which are subject to poor drainage.

In the context of the development of the Sydney Region Environment Plan, an extensive soil capability mapping exercise was undertaken to classify soil classes on the Plateau. Soil classes were based on depth of topsoil, type of parent material and suitability for agriculture. Classes 1 to 4 (and various subclasses) were identified as being "prime agricultural land" and suitable for fruit, vegetables, crops and pastures.

The Survey classified approximately 85% of land to be prime agricultural land.

Topography

The NSW Department of Agriculture has noted that the Plateau is a remnant of a very old, mature landscape with subdivided topography. Slopes rarely exceed 10 per cent while the deep soils are on lands of usually less than 5 per cent slope. These features allow cropping on most areas although care is needed on the steeper slopes to avoid loss by erosion under vegetable cropping.

Land Use

In the Draft Somersby Plateau Land Use Assessment, the then Department of Primary Industries (DPI) analysed the primary and secondary uses of land zoned rural and/or cleared for agriculture on the Plateau. It excluded lands that are not cleared and have not been identified as National Park or native vegetation, which are extensive on the Plateau.

Detailed data from the Assessment is at Appendix 4.

These data demonstrate that almost half of hectares in labelled lots on the Central Coast Plateau are devoted to agricultural activities.

There is a high level of integration between different activities, where by products of one industry, eg poultry, are used in other industries such as nurseries.

The study also compared the area of land associated with different activities with that identified in the Gosford City Council 1993 Rural Land Inventory. It found that the area of land associated with Extensive Agriculture and Intensive Plants had increased significantly while that associated with Intensive Animals had decreased slightly. The area of land associated with Extractive Industry had doubled in that period.

(Source: Somersby Land Use Assessment, Draft, Department of Primary Industries, 2005)

Demographics

Much data used in this Report is only available at the Statistical Local Area (SLA) level, in this case Gosford West. Gosford West incorporates the study area plus the area east of the F3 freeway to Gosford and south to Killcare and Pearl Beach and Patonga, including townships such as Woy Woy and north to the boundary of Wyong LGA.

A very small proportion of land east of the F3 freeway is devoted to agriculture and the majority of this is very small scale in nature.

As at the 2006 Census of Population and Housing, the total population of the Central Coast is just under 300,000, of which just over half reside in the Gosford Local Government Area (LGA).

The Australian Bureau of Statistics (ABS) provides Community Profiles for all the communities listed above, with the exception of Mount White and Upper Mangrove (it is thought these are incorporated within the data for other communities, most likely Calga and Kulnura respectively).

These are derived from the 2006 Census of Population and Housing. The total population of these communities in 2006 was 4089.

(Source: Community Profiles, Australian Bureau of Statistics, 2009).

Appendix 5 provides selected Census data on each of these communities.

The Department of Planning predicts population growth for the Central Coast of approximately 4000 per annum over the next 25 years.

The proximity to such a large growing population and to Sydney represents a major competitive advantage for agriculture in the region generally and the Central Coast Plateau in particular.

Industry and Employment

Appendix 5 provides information on employment by industry in the identified communities.

This data shows that agriculture, forestry and fishing is the largest employer in these communities, employing approximately 17% of employed residents.

Other major employers of residents include:

- Manufacturing
- Construction
- Retail trade
- Health care and social assistance
- Education and training.

There is no data available below SLA level for the number of businesses by industry.

The area contains a range of important extractive industry resources. This includes blue metal, clay/shale, sand and cut sandstone. There are a number of quarries on the Plateau which currently supply construction materials to local and regional building markets.

As mentioned above, spring water extraction is a significant activity on the Plateau. No information is available on its size and value.

Tourism is relatively undeveloped on the Plateau. The Central Coast Plateau Tourism Plan completed in October 2006 identified 100 tourism products in this area including three major tourist attractions (Australian Reptile Park, Glenworth Valley and Australia Walkabout Wildlife Park). It noted that there are a number of world class nurseries also in this area.

From discussions with operators, the consultants found that the visitor types who generally frequent the Central Coast Plateau include:

- Day visitors at specific attractions
- Day trippers – cars, bikies, cyclists and coach based travellers.
- Drive through visitors on their way to or from the Hunter Valley along Tourist Drive 33 (Peats Ridge Road and George Downes Drive)
- Special interest visitors to world class agricultural enterprises located in the area
- Overnight visitors to individual accommodation properties
- Visiting Friends and Relatives.

It identified a number of differential strengths of the area, including:

- rural, agricultural and natural landscapes
- equestrian facilities

- reputation for fine products
- clean air
- strategic location between Sydney and the Hunter Valley.

However, the Plan also identified very limited supply of accommodation and a low level of awareness of the areas as significant issues to be addressed.

(Source: Central Coast Plateau Tourism Plan, Calais Consultants, 2006)

No statistics are available below the LGA level for the level and value of tourism activity.

A Snapshot of Agriculture on the Central Coast Plateau

Introduction

Information on the structure and scale of agriculture was derived primarily from the 2005-06 Agricultural Census.

As stated above, the Agricultural Census data is only available at the Statistical Local Area (SLA) level, in this case Gosford West. Gosford West incorporates the study area plus the area east of the F3 freeway to Gosford and south to Killcare and Pearl Beach and Patonga, including townships such as Woy Woy and north to the boundary of Wyong LGA. Ag Census data indicates that 98.9% of agricultural production in the Gosford LGA is derived from the Gosford West SLA.

There is limited agricultural activity east of the F3 Freeway and is understood to consist primarily of nurseries and small scale livestock and horticultural activities. It is therefore considered that the Ag Census data for the Gosford West SLA can be relied upon as a good indicator of the general structure and level of activity of agriculture on the Plateau.

This is confirmed by informal advice from the DPI which suggests that agricultural activity east of the Freeway is restricted to a significant nursery in West Gosford and some commercial horticulture in the Matcham Holgate area, the latter of which is located in the Gosford East SLA.

However, it should be noted that, at various times, significant discrepancies have been identified between ABS data and estimates from industry and other sources. Specifically, it has been noted on a number of occasions that Census data tends to underestimate the value of production primarily because of 'simple under-counting in the Agricultural Census; in other words, instances where the Census has failed to record the full extent of agricultural activity on the ground...'

(Source: Value of Agriculture in the Sydney Region, NSW Agriculture, 2003)

Furthermore, and this is particularly relevant to the Plateau, the discrepancies tend to be most pronounced in horticulture and intensive horticulture in particular, which happen to be the predominant activities on the Plateau.

This was demonstrated very clearly in the Central Coast Agriculture Development Plan, conducted in 1998, which identified the following variations between ABS and

NSW Agriculture (the latter being higher in all cases) data across the whole Central Coast of:

- \$4.1 mil according to the 1995 Census compared to \$5 mil according to NSW Agriculture for citrus, a difference of 20%
- \$1.1 mil cf \$6.5 mil for stone fruit (600%)
- \$1.4 mil cf \$9 mil for vegetables (640%)
- \$9.6 mil cf \$20 mil for cut flowers and nurseries (21%)
- \$0.4 mil cf \$1.2 mil for egg production (300%).

NSW Agriculture noted that all Councils in the Sydney Region that had carried out Rural Land studies reported values 15-82% higher than the ABS data.

(Source: Value of Agriculture in the Sydney Region, NSW Agriculture, 2003)

It is not entirely clear why this is the case. One reason which has been cited is that the Census includes only those enterprises with an estimated farm gate value of production of more than \$5,000 per annum and therefore excludes a number of operators for whom horticulture represents only a small portion of total household income. Another factor cited is that many smaller operators earn a portion of income on a cash basis and therefore do not report it. Finally, it has also been suggested that some producers underestimate their own production, because of concerns about how the information may be used by other agencies such as the Australian Taxation Office.

On the other hand, NSW Agriculture utilises the on ground expertise of extension officers. They use 'a combination of methods to determine the gross value of agricultural production in addition to data from industry associations. Extension Officers specialise in specific industries and have a first hand knowledge of the farms and value of production in their district. By using the actual area of each agricultural enterprise, yields and indicative market prices, the gross values of agricultural production for each enterprise was calculated for the region on a whole of industry basis'.

(Source: Value of Agriculture in the Sydney Region, NSW Agriculture, 2003).

Unfortunately, NSW Agriculture data is not available below the LGA level and therefore can't be used to compare with the ABS data for the Gosford West SLA.

The above concerns are partly countered by a recent study on the vegetable industry in the Sydney region conducted by the NSW Department of Industry and Investment with funding by Horticulture Australia Limited. This found 1050 enterprises growing vegetables in the Sydney region, compared with around 850 according to the ABS. However, the study notes that many of these enterprises are very small in scale and therefore not included in the ABS statistics. It concludes that the results of this project also suggest that ABS (2008) Survey Data for the Sydney region is reasonably representative and more accurate than information provided by some industry observers and commentators.

(Source: Ground Truthing of the Sydney Vegetable Industry in 2008, Department of Industry and Investment, 2009)

Gross Value of Agricultural Production

A comparison of data from the 2001 and 2005 Agricultural Censuses Expansion shows that agricultural production in the Gosford LGA is significant and expanding. In 2001, total production in Gosford LGA was \$50,922,569 and in 2005, \$93,357,147, an increase of more than 83%. The bulk of this increase is derived from poultry, nurseries and cut flowers.

It is not clear what drove this expansion, but it is possible that 2001 production was adversely impacted by drought and the lingering effects of the Newcastle Disease outbreak.

The increase comes despite a slight decrease in the Total Area of Holding over that time period of about 3%.

(Source: 01-02 and 05-06 Agricultural Censuses)

However, it is interesting to note the apparently contrasting findings of the DPI that the area on the Somersby Plateau devoted to Extensive Agriculture and Intensive Plants significantly increased and between 1993 and 2005. Intensive Animals (primarily chicken production) decreased very slightly over that period.

(Source: Draft Somersby Plateau Land Use Assessment, Department of Primary Industries, 2005).

The Central Coast and the Central Coast Plateau are significant contributors to agricultural production in the Sydney region.

In 2003, NSW Agriculture estimated that, based on information from Rural Land Studies conducted by Councils to that time, agriculture in Gosford LGA represented 8.5% of the value of agricultural production of the Sydney region.

(Source: Value of Agriculture in the Sydney Region, NSW Agriculture, 2003).

However, a review of the 2005-06 Ag Census data indicates that the share of Gosford LGA of total agricultural production in the Sydney region was 14.8%, up from 11.6% as at the 01-02 Ag Census.

It would therefore appear that the Gosford LGA (incorporating Gosford East and West SLAs, the latter including the Central Coast Plateau) are becoming relatively more important in terms of their contribution to agricultural production in the Sydney region. (It is only possible to make comparisons at the Gosford LGA level, as the Gosford West SLA was established after the 2001 Ag Census. As noted above however, the vast bulk of agricultural production in the Gosford LGA is in the Gosford West SLA and it is likely that this has applied for some time).

Table 1 shows a comparison of production per hectare between Gosford West SLA, the Sydney Statistical Division and NSW.

Table 1: Production per Hectare Comparisons

Production per Hectare Comparison			
	Area of Holding (HA)	Total Production (\$)	Production per Hectare
Gosford West SLA	6,661	92,403,611	13,872
Gosford LGA	6,993	93,357,147	13,350
Sydney Statistical Division	103,780	630,137,889	6,072
NSW	62,119,245	9,034,542,039	145

(Source: ABS Agricultural Census 2005-06)

A degree of caution needs to be exercised when viewing these figures. They include all land in holdings, including unproductive land. Actual production per hectare will vary dramatically depending on the nature of the operation. For example, leading intensive horticulture operators estimate production per hectare of \$500,000 per hectare. On the other hand, the production per hectare of many operators would be far below the average shown above and is reflected in the small turnover of many operators as shown in Table 4.

Nevertheless, these data reflect the intensive nature of agricultural production in the Sydney region and the Gosford West SLA. Unlike the Sydney region as a whole, which has a large number of small market garden type operations, the Gosford West SLA has a number of large commercial operations, especially poultry, nurseries and cut flowers which significantly lift the production per hectare above the average for the Statistical Division.

It needs to be acknowledged that these figures do not take into account input costs, value of assets, equity held in those assets and change in value of assets and are therefore not a measure of profitability.

Table 2 below shows the main contributors to agricultural production in the Gosford West SLA.

Table 2: Gross Value of Agricultural Production Gosford West SLA 2005-06

Product/Commodity	No of establishments	Area (ha)	Value (\$)
Meat Chickens	46	N/A	56,598,111
Nurseries	26	96	12,751,701
Cut flowers	24	85	9,609,311
Vegetables	33	276	6,133,164
Fruit	67	681	5,650,330
Eggs	5	N/A	1,241,951
Cattle and Calves	118	3,581	385,718

(Source: ABS Agricultural Census 2005-06)

In terms of overall contribution to the economy, these figures represent only part of the story. As noted in the Central Coast Agriculture Development Plan, the economic contribution is considerably greater than the simple production value, with a multiplier effect of 2 to 3 times the value of production through expenditure of inputs in the form of products and services to support production generally considered realistic.

There is no information available on the Gross Regional Product of the Central Coast, so it is not possible to determine the relative importance of agriculture to the regional economy in terms of output.

Employment

Table 3 depicts the number of employees for all businesses in the Agriculture, Forestry and Fishing Industry Division for Gosford West SLA, including entries and exits between 2003 and 2007.

While it is understood there are a number of Forestry and Fishing businesses in Gosford West SLA, it is considered that this data is a good reflection of the pattern for agriculture.

Table 3: Employment in Agriculture, Forestry and Fishing by size of business, Gosford West SLA

Number of employees	Number of businesses
Non employing	210
1 to 4	39
5 to 19	30

(Source: ABS, Counts of Australian Businesses, including Entries and Exits, Jun 2003 to Jun 2007, Businesses by Industry Division by Statistical Local Area by Employment Ranges, 2007)

The predominance of non employing businesses is typical of agriculture and reflects the predominance of family owned enterprises in the district. However, the significant number of businesses with 5 to 19 employees may reflect the significant population of nurseries and cut flower producers.

It is noted that 4 of the 25 respondents to the survey reported that they employ more than 20 staff. This is clearly significantly different to the ABS statistics. The reason for this is unclear.

Appendix 5 depicts employment by sector in the Gosford West SLA, drawn from the Census of Population and Housing. This indicates that 375 residents of Gosford West SLA are employed in agriculture. By comparison, the data at Appendix 4 shows that 311 residents of the relevant communities on the Central Coast Plateau are employed in agriculture.

It should be noted that these statistics show the industry of employment of residents and do not necessarily correspond to the number employed by the industry in the SLA.

Anecdotal evidence is that generally agricultural workers do not tend to travel significant distances to work, so it is assumed that the majority of those listed above are in fact employed in the district. However, it is noted that interviews with a number of leading operators indicated that a proportion of staff travel to work from various locations on the Central Coast and further afield. However, this is a very small sample and may be due to those businesses being seen as good employers and/or paying above market wages.

Turnover

Table 4 depicts the turnover of all businesses in the Agriculture, Forestry and Fishing Division in Gosford West SLA, including entries and exits between 2003 and 2007.

As stated above, while there are a number of Forestry and Fishing businesses in Gosford West SLA, it is considered that this data is a good reflection of the pattern for agriculture.

Table 4: Turnover of Businesses in Agriculture, Forestry and Fishing, Gosford West SLA

Turnover range	Number of businesses
0 to \$25,000	72
\$25,000 to <\$50,000	36
\$50,000 to <\$75,000	36
\$75,000 to < \$100,000	33
\$100,000 to <\$150,000	9
\$150,000 to <\$200,000	24
\$200,000 to <\$500,000	45
\$500,000 to <\$1 million	21
\$1 million to <\$2 million	0
\$2 million to <\$5 million	3

(Source: ABS, Counts of Australian Businesses, including Entries and Exits, Jun 2003 to Jun 2007, Businesses by Industry Division by Statistical Local Area by Turnover Ranges, 2007)

Responses to the survey were skewed towards higher turnover, with 6 respondents reporting turnover of more than \$1,000,000 and another 2 with turnover of more \$501,000 or more.

Key Product Analysis

Following is a brief discussion of the major products of the Plateau in order of significance.

Poultry

The poultry industry including chickens for meat and egg production is the largest agriculture sector on the Plateau.

Meat Chickens

All chicken meat producers in Gosford West SLA are situated on the Plateau.

With an output of over \$56.5 million, the Plateau is the largest meat chicken production area in the Sydney Region and is considered by NSW DPI as equal to any other area in NSW.

All operators on the Plateau produce birds on contract to major processors such as Inghams. The largest supplier to Inghams is situated on the Plateau, a profile of whom is below.

The major processors favour areas which are in close proximity to their processing facilities, in this case Sydney and Newcastle.

Inghams has two processing facilities on the Central Coast, viz:

- Chickadee, at Lisarow (originally an independent operator but taken over by Inghams)
- Mangrove Mountain.

Both produce value added products such as roasted chicken meat and premium breast chicken schnitzels, chicken nuggets and sweet chilli tenders, using chickens slaughtered in Cardiff or Sydney.

The Plateau is also situated in close proximity to feed manufacturers in Newcastle and hatcheries in Sydney.

After a slump in the value of production of approximately 26% between the 96-97 and 00-01 Ag Censuses, primarily caused by Newcastle Disease, the value of production measured in the 05-06 Ag Census had increased by approximately 15%.

Graham and Kate Fripp

The Fripps commenced production of stone fruit and kiwi fruit and chicken production at Peats Ridge in 1973. Income was originally split roughly equally between fruit and chicken production.

In 1992, due to a number of factors, including competition from cheap overseas imports, the Fripps opted to concentrate on chicken production. From an original 2 sheds, they have expanded the operation to the current 10 sheds. The operation carries 390,000 birds on an ongoing basis, and turns off an average of 5.3 batches a year, making them the largest supplier to Inghams in New South Wales.

As a secondary operation, the Fripps have about 40 breeder cattle, of mixed Murray Grey/Simmental stock. They sell the cattle in Maitland saleyards and regularly achieve best price in sale.

They pay close attention to constantly improving soil and pasture quality and improving genetics to ensure their cattle are of top quality and to underpin their consistent sales performance.

They consider the Central Coast Plateau an outstanding district in which to conduct agriculture, with the climate, secure water supply and easy access to markets being the primary assets.

Eggs

As shown in Table 2, egg production is a relatively minor activity in Gosford West SLA and the Plateau.

It is understood that the one of the major operators is situated east of the F3 Freeway.

Nevertheless, the number of growers and the level of production increased significantly in the period between the 01-02 and 05-06 Ag Censuses (in 05-06 there were 5 producers and a value of production of approximately \$1.2 million compared with the 01-02 Ag Census which showed 3 growers in the Gosford LGA and production of approximately \$688,000).

Nurseries

In terms of value of production, the nursery industry in Gosford West SLA , with an output of approximately \$12.7 million, is exceeded by only Baulkham Hills North and Hornsby North SLAs in the Sydney Region. The Sydney Region represents about 40% of production value in NSW, so the Gosford West SLA can be considered a significant region for nurseries in the state.

It is understood that, apart from one large operation in West Gosford identified by NSW DPI, that the vast majority of the 26 enterprises identified in the 2005 Ag Census are situated on the Plateau.

The Central Coast Plateau Tourism Plan stated that there were over 30 nursery establishments on the Plateau in 2006 (this includes a number of retail nurseries), including 'a number of world class establishments'.

The majority of the value of production is represented by outdoor production, although undercover production is increasingly significant.

ABS statistics indicate that there has been virtually no variation in the number of establishments between 2001 and 2005 although the value of production increased significantly from approximately \$2.4 million in 2001 to over \$12.7 million in 2005.

This increase is likely due to a number of factors including:

- Impacts of drought in 2001 may have restricted production.
- More efficient production processes
- Improvements in supply chain.

Key markets for products include:

- Wholesale markets, primarily Flemington Markets in Sydney
- Major chains such as Bunnings and Woolworths
- Direct to local retailers.

Paradise Plants

This business developed from the interest in camellias of its owner, Bob Cherry.

His interest developed in the 1960s and expanded such that he established the business in 1970. A holding of 220 acres (89 hectares) was acquired. The nursery has since been separated from the total holding. The nursery is situated on a block of 10 hectares, of which about 6 to 8 hectares is in production.

The nursery produces a range of ornamental trees and shrubs for customers such as Bunnings, Big W, Flower Power and independent retail nurseries, primarily in the Sydney metro and regional area. Most plants are propagated on site. Camellias remain the biggest product line, while others such as photinias becoming increasingly important.

The company is constantly breeding and developing new varieties which are licenced to other producers.

It employs about 30 people in these activities, most of whom are permanent full time.

Paradise Plants has played a key role in a project led by the Department of Primary Industries (DPI) to test whether high quality green tea can be grown on the Central Coast Plateau. Green tea is a form of camellia and Bob Cherry had successfully grown the plant in his garden. Paradise Plants worked with the Japanese company Kunitaro and DPI in the propagation of plants for the trial and the company was also involved in a number of information sessions for potential growers.

Adjoining the nursery is a magnificent garden which is the creation of Bob Cherry. It is open to the public twice a year.

Trading conditions have been difficult for the company in recent years, the drought in particular having a severe impact on demand for its products. However, the company expects that, with developments such as green tea and other new markets such as agritourism, prospects for the future are positive.

Cut Flowers

The Cut Flower industry includes all forms of production systems from outdoor to intensive controlled environment systems. It includes the traditional flower industry (everything except Australian natives and South African proteas) and wildflower growers.

As demonstrated in Table 3, the Cut Flower industry in Gosford West SLA is significant with an output of approximately \$9.6 million. It is understood that the majority of enterprises are situated on the Plateau. The climate allows year-round production of a wide range of flowers.

There is a mix of growers with small production levels and turnover and growers with large to very large production and turnover.

ABS statistics indicated that the number of establishments in Gosford LGA remained steady between 2001 and 2005. In the Sydney Region, only Baulkham Hills North SLA has a higher level of production than Gosford West SLA.

There is no comparative data on the value of production available from the 2001 Ag Census.

Traditional and wildflower growers are both present on the Plateau, including:

- Ramm Botanicals
- Royale Orchids
- East Coast Wildflowers
- The Wildflower Farm
- CARISMATIC (profiled below).

A high proportion of flowers produced are sold on the domestic market, through the Sydney Flower Market at Flemington, Sydney, which is the largest wholesale flower market in Australia and direct to major retailers. There are also a number of flower exporters in the Sydney region who target key markets in Japan, South-East Asia, Europe and North America.

There has been an increase in specialised and targeted flower production on the Plateau in recent years. Operators use sophisticated modern production management systems to control their operations. Undercover production is highly efficient and well suited to cut flower production. More than two thirds of the value of production in 05-06 was represented by undercover production, which ranges from basic igloos to sophisticated controlled systems.

CARISMATIC PTY LTD

CARISMATIC is a member of the Fresh Flowers Group, a family owned company headed by Bill Lynch. The Group has a number of enterprises around Australia integrating flower production and distribution.

The farm was established in 1996. It produces lilies, chrysanthemums and kale at its 40,000 square metres of greenhouses at Peats Ridge. The Peats Ridge facility represents 12% of total lily production in Australia and is amongst the 10 largest lily producers in Australia.

The farm supplies the Coles and Woolworths supermarket chains.

The farm is managed by two young managers with high level specialist experience in horticulture and business management. It employs about 20 full time equivalent staff.

Management is focussed on maximising profitability and productivity and is continually improving production techniques and processes and the skills of its staff. It is involved in the Central Coast Integrated Pest Management Program, which is supported by the Department of Primary Industry.

The availability of water (sourced from rainfall) and easy access to the Group's distribution facility in Sydney were the key reasons for establishing the business on the Plateau and underpin its continuing success and growth.

Vegetables

The vegetable industry includes all forms of production, including traditional field crops, Asian and traditional market gardens, hydroponics, greenhouse, igloos, polyhouses, and controlled environment production.

It is understood that there are a few small scale vegetable producers east of the F3 Freeway, but the vast majority of production in Gosford West SLA is on the Plateau.

As shown in Table 3, the value of production in 2005 in Gosford West SLA was approximately \$6.1 million. There is no data on the value of production available from the 2001 Ag Census.

According to the Ag Census, the area under production in Gosford West SLA increased from 123 hectares in the whole of Gosford LGA in 2001 to 276 hectares in Gosford West SLA alone in 2005.

The reasons for such a significant increase in scale are not known. Anecdotal evidence is that there has been some migration of producers from areas on the fringe of Sydney.

However, there appears to have been a reverse in this trend since the 2005 Ag Census.

Using on ground inspection combined with wireless technologies, GPS, cadastral mapping and satellite imagery, the Department of Industry and Investment found that the total area in vegetables in the Sydney Region in 2008 was 2025 hectares (compared with 3,690 hectares reported in the 05-06 Ag Census and 3827 hectares

in the Agriculture Survey of 2006-07). The area in Gosford LGA in vegetables was 102.7 hectares (compared with 289 hectares reported in the 05-06 Ag Census).

(Source: Ground Truthing of the Sydney Vegetable Industry in 2008, P. Malcolm and R. Fahd, Department of Industry and Investment, 2008)

The study showed that greenhouse production represents about one sixth of land in vegetable production in Gosford LGA,. However, it is thought that the proportion of value of production would be much higher because of the intensive nature of production in many enterprises.

It is noted that the study found that there was no land used in the Gosford LGA for hydroponic production of vegetables. However, as noted below, there is at least one major hydroponic production facility at Peats Ridge.

The study found that the average holding in the Gosford LGA was 4.53 hectares, the highest of any LGA in the Sydney region.

Table 6 provides a detailed breakdown of vegetables produced in Gosford West SLA, using 05-06 Ag Census data.

Table 6: Most significant vegetables, Gosford West SLA, 2005-06

	No of establishments	Production (kgs)	Value (\$)
Asian Vegetables	1	1,700	6,733
Beetroot	1	2,000	433
Broccoli	2	27,409	56,919
Cabbages	13	1,143,000	773,606
Capsicums and chillies	11	182,614	312,760
Carrots	4	726,000	201,663
Cauliflower	7	473,000	330,022
Cucumbers	5	357,652	806,597
Eggplants	3	9990	15,985
Fennel Bulb	1	13417	36,627
Garlic	1	1880	22,882
Lettuce	8	752,000	688,366
Parsley	1	43,780	103,320
Pumpkins	5	129,000	90,295
Silverbeet and spinach	6	191,833	575,498
Tomatoes	12	957,000	1,119,169
Watermelons	1	28,000	15,325
Zucchini and button squash	12	328,901	917,633

(Source: ABS Agricultural Census 2005-06)

In order of value of production, the most significant products are:

- Tomatoes
- Zucchini and button squash

- Cucumbers
- Cabbages.

It is noted that data from the 2005 Ag Census data indicates that Asian Vegetables was a very minor activity in Gosford West SLA at that time. However, Bardens has a large hydroponic production facility on the Plateau, the largest in NSW in fact, and it is understood that there are currently at least 2 other enterprises currently producing Asian Vegetables on the Plateau. On this basis, it seems likely that Asian Vegetables would currently have the highest value of any vegetable produced on the Plateau.

Hydroponic production is highly efficient compared to traditional forms of production, requiring less time to grow the product, less land and inputs such as water, fertilisers and pesticides to produce a given quantity.

The high quality water available on the Central Coast Plateau is particularly suitable for hydroponic production.

The majority of vegetables are consumed in the Sydney region (although a significant proportion of Barden's product goes to Queensland). Products are sold through a number of outlets including:

- Direct to major chains
- Flemington Markets
- Farmers Markets on the Central Coast and in Sydney
- At the farm gate (the Tourism Strategy identified 5 farm gate stalls on the Plateau).

Barden Asian Hydroponics

Barden Produce was established in 1989 to supply grocers and supermarkets with a range of fresh products. Initially a providore sourcing products from a range of growers, the company decided, in order to secure reliable supply, to develop its own growing facilities.

It initially considered leasing land on the outskirts of Sydney but decided it was more cost effective to purchase land at Peats Ridge. It purchased 58 acres at auction and commenced operation in early 2007.

The Peats Ridge facility is already the largest producer of Asian vegetables in New South Wales, consistently supplying 60,000 to 80,000 bunches a week to the major supermarkets in Queensland and New South Wales. Its major products are pak choy, choy sum, baby choy sum and Chinese broccoli, as well as coriander and English spinach.

Utilising the latest in hydroponic Nutrient Film Technique technology, water (Bardens estimates that it uses one fortieth of the water required to grow the vegetables in the ground, largely because of the ability to recycle water) and fertiliser usage are minimised while maximising crop outputs to achieve consistently better quality products and minimising impact on the environment, for instance by utilising extremely efficient spraying techniques. There are plans to introduce a greenhouse to produce seedlings on site, further improving production and cost efficiency.

It has the highest level of on farm certification possible, meeting all the requirements of Coles and Woolworths quality systems.

It employs 22 people. Working patterns are highly flexible, reflecting the production and harvesting cycle.

Bardens is also committed to raising consumer awareness and understanding of Asian Vegetables. It has participated in displays at the Royal Easter Show in Sydney and is keen to support in store cooking and storage demonstrations.

Fruit

It is understood that there are a few small scale fruit producers east of the F3 Freeway, but the vast majority of production in Gosford West SLA is on the Plateau.

Table 7 provides a detailed breakdown of fruit produced in Gosford West SLA, using Ag Census data.

Table 7: Gross Value of Production, Most significant fruit, Gosford West SLA, 2005-06

	No of establishments	Production (kgs)	Value (\$)
Citrus	48	6,100,463	3,896,572
Stone Fruit	13	239,390	610,460
Avocados	22	214,434	483,395
Kiwifruit	2	199,516	470,636
Other Orchard Fruit	26	214,434	123,092
Grapes (for wine)	2	69,000	31,257
Other	N/A	N/A	34,918

Source: ABS Agricultural Census 2005-06

Citrus remains by far the most important product, representing more than half of the total value of production in Gosford West SLA in 2005.

Turnover per enterprise for most products is relatively low, with the exception of Kiwi Fruit.

Anecdotal information is that there have significant plantings of avocados in the years immediately prior to the 05-06 Ag Census and since then. Avocados can be produced in conjunction with citrus. They take a relatively long time to reach full production and it is expected that, by the time of the next Ag Census, the value of avocados will have increased significantly and the value of both it and Kiwifruit will exceed that of stonefruit.

The majority of fruit is consumed in the Sydney region. Products are sold through a number of outlets including:

- Flemington Markets
- Direct to major chains
- Farmers Markets on the Central Coast and in Sydney
- At the farm gate
- Exports.

There is some value adding conducted on the Plateau including:

- Agrana Fruit Australia, which produces fruit pastes and purees for dairy products
- East Coast Beverages, which processes primarily citrus fruit from its own orchards and other local growers.

There are also small scale processors of products such as jam.

Tim and Robert Kemp

The Kemp Family has owned land at Peats Ridge since the 1920s and are pioneers of farming on the Central Coast Plateau.

Tim Kemp and his father Robert are the current owners and operators of the 47 hectare farm, known as Meliora Farm. The farm produces citrus fruit (valencia and 3 varieties of navel oranges, lemons, limes, mandarines, tangelos, grapefruit, and tamarillos) and avocados, on about 7 and 9 hectares respectively. Citrus fruit have been grown there since the 1920s, while avocados were introduced to the farm in 1982 and there have been regular plantings since, the most recent being about 2 years ago. The farm also runs a number of cattle, as a secondary activity.

Oranges are grown all year round, valencias from December to March and navels for the balance of the year.

The Kemps have long been leaders and innovators in the industry.

Tim is current President of the local branch of the NSW Farmers Association.

They are great supporters of producers markets. Robert has long recognised the benefits of producers selling directly to customers and attempted to establish a producers' market on the Central Coast in the early 1980s. (The development of the producers markets in Australia is generally considered to have commenced in the late 1990s).

They now sell all citrus fruit at the EQ Village Markets at Fox Studios in Sydney on Wednesdays and Saturdays and at the Farmers and Gourmet Food Market at Avoca Beach on the Central Coast on the first Sunday of every month. They calculate they get a 1000% price premium from selling citrus at the producers markets compared to the Flemington wholesale markets.

A large part of this premium is derived from juicing seconds oranges at the stall, which is sold by the glass to customers. Tim calculates that the price premium derived from juicing the seconds fruit can be as high as 2000%. They commenced juicing oranges about a month after commencing at the markets in November 1999, after Tim spoke to an artisan bread maker who had a juicer which he was unable to use. They purchased the juicer and have modified it since to make it more efficient and easy to use.

While the price premium for avocados at the producers' market is also large, they are still sold primarily through the Flemington wholesale markets, mainly because of the ability to sell large quantities.

The Kemps are also innovative in their approach to farming and use sustainable techniques where possible.

They spray for pests only when required. They use zero turn mowers which minimises the need to spray weeds and 2 to 4 times a year for weeds. They also allow winter grass to grow which again minimises spraying but has additional benefits through the retention of moisture in the soil.

They have bought 300 tonnes of compost sourced from organic landfill at Woy Woy and are experimenting with different ways of using it most efficiently and effectively.

They feed all fruit peel left over from the markets to their cattle, as it is a great feed supplement.

Cattle and Calves

As shown at Table 2, beef production is a relatively minor activity in Gosford West SLA. Furthermore, the average production per enterprise is only \$3,268, indicating that it is at best a secondary and/or hobby activity.

There is at least one Murray Grey cattle stud situated on the Plateau.

Horses

The horse industry, including breeding, training, spelling and recreational is a significant activity on the Plateau.

The Agricultural Census includes limited information on the horse industry.

According to the 05-06 Census, there were 17 horse studs in the Gosford West SLA with an estimated 223 horses at 30 June 2006. This compares with 10 horse studs in Gosford SLA in 00-01, with an estimated 252 horses at 30 June 2001. Therefore, the number of studs increased over that period, but with slightly fewer horses.

The Census indicates a further 26 establishments in Gosford West SLA in 05-06 with 124 non stud horses as at 30 June 2006.

This makes a total population of 347 horses in Gosford West SLA at 30 June 2006.

It is not clear how and whether spelling facilities are accounted for in the ABS statistics. If they are, it seems likely that the relevant number would be significantly higher now, as there are in excess of 100 horses regularly on one property alone, GT Park, which is profiled below.

Anecdotal information and observation indicates that the maintenance of horses for recreational purposes is a significant activity on the Plateau. Again, no statistics are available but it is known that they have a considerable multiplier effect on the economy. Significant quantities of feed and other products are sold by produce merchants and a variety of services are provided to horse owners.

There is no information on the value of the industry in the Ag Census, other than that 40 horses were sold in the 05-06 Financial Year.

An alternative source of information on the horse industry is the Department of Industry and Innovation. The then DPI accumulated considerable information on the industry in the context of the Equine Influenza outbreak in 2007. The DPI found 247 'horse locations' (properties with horses resident on them) in Gosford LGA with a total of 2624 horses.

Some caution needs to be exercised in using these statistics. The Department warns that, although every effort has been made to ensure the reliability of the statistics, there may be a degree of double counting. Nevertheless, it is considered that they represent a far more accurate picture of the population of all kinds of horses in the area.

A map showing these horse locations indicates that most of these locations are on the Plateau. The map is at Appendix 7.

NSW Agriculture stated in 2003 that it is difficult to assign a value to horses.

(Value of Agriculture in the Sydney Region, NSW Agriculture, 2003)

NSW Agriculture stated that 'When values cannot be based upon outputs, then inputs are used as a basis of the industry's worth'. It used estimates by Gordon in 2001 of the costs of maintaining non registered horses of \$2,586 a year and annual returns to the Rural Lands Protection Board (RLPB) to determine a conservative base value of the horse industry in the Sydney region of \$36 million (plus the value of horses on properties under 10 hectares which is not costed or included in returns to the RLPB).

Based on a conservative population of 1312 horses (half those resident in the Gosford LGA during the Equine Influenza outbreak) and a maintenance cost of \$3276 per annum (the base figure of \$2,586 adjusted for inflation of 3% per year since 2001, as derived from the Reserve Bank of Australia), this would translate to an extremely conservative value of the horse industry on the Plateau of \$4,298,000.

GT Park

Racehorses lose considerable condition when competing in races. They generally rest for about 6 weeks between preparations at spelling facilities, restoring condition, energy and strength. These spelling facilities are an integral part of the horseracing industry.

GT Park at Kulnura is one of the leading spelling facilities in NSW. It comfortably accommodates between 120 and 130 horses, although as many as 150 horses were accommodated during the equine influenza epidemic.

The facility was initially developed for spelling in 1981. The Towell family acquired the original 8.9 hectares in 1983. In 1985, they acquired an additional 41.3 hectares and in 2000 a further 16.2.

Mark Towell considers the natural environment of the Central Coast Plateau to be ideal for the spelling of horses. Rainfall is abundant and reliable, so that there is always abundant grass. Drinking water is also secure, horses being watered through 4 bores. The sandy soil is excellent for horses' feet. Crucially also, given the sensitive temperament of racehorses, the area is very quiet and therefore relaxing for the horses.

GT Park has an excellent network of suppliers and service providers available to it. Horse feed, which is a significant cost to the business (Mark Towell estimates that it is approximately \$8/day per horse) is supplied by a local store and veterinary and farrier services are also sourced locally. Complex surgical procedures are generally performed at Randwick in Sydney, which is just over one hour drive away. The facility also uses chicken manure from local chicken producers to fertilise pasture.

These advantages, together with the special feed mix developed at GT Park, contribute to horses at GT Park consistently achieving weight gain of 7 to 10 kilograms a week.

The quality of its service is proven by the fact that Gai Waterhouse, the prominent Sydney trainer, is one of GT Park's major customers, with 30 to 50 of her horses spelling there at any one time throughout the year.

Other

Green Tea

The Central Coast Regional Agricultural Group, which oversaw the development of the Agriculture Development Plan, noted in 1999 that the Central Coast has a long tradition of trialling alternative crops because of its geographic location, range of soils, climatic suitability and proximity to research facilities.

The Central Coast has the ideal climate (humid summers, no frosts in spring) for high quality green tea production. A trial plantation of green tea cultivars was established in 1998 at the Somersby Research Station at Gosford. The quality of tea produced was excellent and suitable for out of season export to Japan (the main production season is spring, which is May in Japan). The trial also found there are no diseases or pests which would adversely affect its production. This potentially creates an opportunity for organic production, which has a significant price premium over conventionally produced green tea.

The Japanese company Kunitaro has a five hectare plantation at Somersby where it is already producing and exporting green tea to Japan. Kunitaro is planning to establish a processing plant on the Central Coast Plateau within the next year. However, this is contingent on sufficient numbers of landholders committing to growing Green Tea. The Department of Industry and Investment understands that the company requires landholders to devote a minimum 5 hectares to production.

The company is quoted in a newspaper article that it would like a minimum of 1,000 hectares in production.

In the same article, the Australian Green Tea Growers Association stated that, depending on the age of the plant, gross income is between \$6,000 and \$12,000 per hectare and in a good season it is possible to conduct three harvests, potentially tripling the yield. The Association notes that the yield is less than many other products such as cattle or cherries, but is less capital intensive than the former and , less risky than the latter. It also has lower labour costs than, for instance, orchards, as the crop is machine harvested.

(Source: Green tea growers brew up an export crop, Sam McKeith, Australian Financial Review, 26 October, 2009)

Other minor activities

It is understood that there is at least one alpaca breeder situated on the Plateau. It is also understood that there are a number of beekeepers operating on the Plateau. The 05-06 Ag Census showed that there were 18 hives operated by 3 beekeepers in the Gosford West SLA in 05-06.

Diversification

Farm diversification is a valid form of rural adjustment in response to the increased risk and uncertainty that has characterised the Australian farming sector since the early 1980s. It can take a variety of forms. Two types of diversification are commonly recognised: agricultural and non-agricultural.

There is no specific source of information on the extent to which primary producers are diversified. However, deductions can be made on the basis of Agricultural Census data.

The 05-06 Agricultural Census indicates that there were 214 agricultural establishments in the Gosford West SLA in 2005-06. Table 2 shows the number of establishments involved in individual products. The total number of establishments in Table 2 is 319. Comparing these two numbers, we find that up to 105 establishments (the difference between 319 and 214) are producing more than one product. It is necessary to say 'up to' because some establishments may be producing more than 2 products.

One quarter of respondents to the survey produce more than one product.

The other dimension to diversification is in the customer base. Businesses which rely on a limited number of customers for their income can be heavily impacted if they lose one or more of them. ABS statistics indicate that the smaller the business, the more likely that they are to rely on to a small number of clients.

(Source: Selected Characteristics of Australian Businesses, 2007-08, ABS, 2009)

Traditional marketing arrangements have made it difficult for commodity producers and especially primary producers to diversify their customer base.

Clearly, producing more than one product is one way of doing this, but using more than marketing outlet is another.

While not statistically valid, virtually all respondents to the survey indicated they had more than one market for their products.

Infrastructure and Services

Telecommunications

Much of the Central Coast Plateau has access to broadband and/or satellite delivered internet. However, improvements are needed in some areas.

Mobile phone coverage is generally good but there a number of 'black spots'.

Trade Services

There are a number of electricians, plumbers and building contractors located on the Plateau and there are numerous trade service providers based on the Central Coast.

Transport

The Central Coast is linked to Sydney, Newcastle, Melbourne and Brisbane by both the F3 Freeway and the Main Northern Railway. The Plateau is in close proximity to the F3 Freeway and to major railway stations at Gosford and Woy Woy.

There are a number of road transport providers on the Central Coast. The centre of Sydney can be reached in one and a half hours.

City Rail provides frequent services to Sydney from Gosford and Woy Woy. Travelling time from Gosford to Sydney Central train station is around 60 minutes.

The regional airport at Warnervale is suitable for light aircraft.

The Plateau is in close proximity to ports and airports in Sydney and Newcastle. All can be reached within two hours.

There are also a number of large distribution and logistics centres located on the Central Coast.

Financial Services

A comprehensive range of financial services are available on the Central Coast, including both bank and non bank entities.

Professional Services

A comprehensive range of professional services relevant to agricultural businesses is available on the Central Coast including:

- Accountants
- Solicitors
- Agronomists
- Veterinarians.

The Gosford Horticultural Institute at Narara provides extension and research and development support to primary producers. The Institute is to close down but will be replaced by a joint venture between NSW DPI and Newcastle University at the Ourimbah Campus of Newcastle University.

There are a number of Horticultural consultants located on the Central Coast.

Education and Training

The Central Coast has a good range of post school education and training facilities including:

- Wyong and Gosford TAFEs
- An annex of the University of Newcastle at Ourimbah.

Utilities

The major supplier of electricity is Energy Australia.

Domestic, industrial and commercial supplies of gas are available from LPG suppliers on the Plateau and the Central Coast.

A gas pipeline runs through the Plateau and could be accessed if demand warranted.

Other Input Suppliers and Service Providers

A number of rural supply stores are located on the Plateau and the Central Coast.

There are also a number of specialist service providers to the horse industry, such as farriers.

Processors

In addition to the product specific processors identified earlier, a number of large food processors are located on the Central Coast, including large scale operators such as:

- Masterfoods
- Sanitarium
- Sara Lee
- Kelloggs
- Bluetongue Brewery.

These processors have limited or no connection with local producers as they use predominantly pre-manufactured agricultural products such as food essences.

List of Appendices

Appendix 1: Bibliography

Appendix 2: People Consulted

Appendix 3: Selected Climate Data

Appendix 4: Primary and Secondary land use by hectares

Appendix 5: Community Profiles Summary Statistics

Appendix 6: Agricultural Employment by sector, Gosford West SLA, 2006

Appendix 7: Location of Horse Establishments, Gosford LGA

Bibliography

- Agricultural Census 2000-01, Australian Bureau of Statistics, 2003
- Agricultural Census 2005-06, Australian Bureau of Statistics, 2008
- Agricultural Land Use Survey, Gosford City Council, 1994
- Agricultural Trends in the Sydney Region, 1996-2001 Census Comparisons, NSW Department of Agriculture, 2003
- A Focus on Business: Report on the Central Coast Economy, Centre for Agricultural and Resource Economics, Armidale, 2008
- Central Coast Agriculture Development Plan, Bruce McCollum and Associates, Goondiwindi, 1998.
- Central Coast Regional Strategy, NSW Government Department of Planning, 2008
- Central Coast Tourism Plan, Calais Consultants, 2006.
- Counts of Australian Businesses, including Entries and Exits, Jun 2003 to Jun 2007, Businesses by Industry Division by Statistical Local Area by Employment Ranges, Australian Bureau of Statistics, 2007
- Community Profiles, Australian Bureau of Statistics, 2009
- Green tea producers brew up an export industry, Sam McKeith, Australian Financial Review, 26 October 2009
- Ground Truthing of the Sydney Vegetable Industry in 2008, P. Malcolm and R. Fahd, Department of Industry and Investment, 2008
- Production of High Quality Export Green Tea through Integrated Management, John Golding, Paul Roach and Sophie Parks, Rural Industries Research and Development Corporation, 2009
- Report of the Rural Lands Study Steering Committee, Gosford City Council, 1999
- Somersby Land Use Assessment, Draft, Department of Primary Industries, 2005
- Summary Report on the Agricultural Lands of the Coastal Highlands at Somersby, Peats Ridge, Mangrove Mountain and Kulnura, NSW Department of Agriculture, 1984
- Value of Agriculture in the Sydney Region, NSW Agriculture, 2003

People Consulted

Jeremy Badgery Parker, Greenhouse industry specialist, Primary Industries, Department of Industry and Investment

Joanna Blunden, Poultry Extension Officer, Primary Industries, Department of Industry and Investment

Peter Brown, Business Development Manager, State and Regional Development, Department of Industry and Investment

Virginia Brunton, Horticultural education resource officer, Primary Industries, Department of Industry and Investment

Nathan Clackson, Bardens Asian Hydroponics and Committee member, Central Coast Plateau Chamber of Commerce

Andrew Docking, Resource Management Officer, Primary Industries, Department of Industry and Investment

Sam Dominello, Cut Flower Producer and Vice President, Central Coast Plateau Chamber of Commerce

Helen Eves, Community Planner, Gosford City Council

Graham and Kate Fripp, Chicken producers, Peats Ridge

Doctor John Golding, Research Horticulturalist, Primary Industries, Department of Industry and Investment

Bettina Gollnow, Industry Development Officer (floriculture), Primary Industries, Department of Industry and Investment

Tim and Robert Kemp, Meliora Farm

Peter Lipscombe, Glen Ayr Kiwi and President, Central Coast Plateau Chamber of Commerce

David Mason, Urban Agriculture leader, Primary Industries, Department of Industry and Investment

Brian McKelvey, Chicken producer and Committee member, Central Coast Plateau Chamber of Commerce

John Robb and Jeff Thompson, Paradise Plants

Mark Towell, GT Park

Sue Verhoek, Secretary, Central Coast Plateau Chamber of Commerce

Rodger Wilson, Citrus and Chicken producer and Treasurer, Central Coast Plateau Chamber of Commerce

Robbie Wolton, CARISMATIC Pty Ltd

Appendix 3

Selected Climatic Data Various Locations

Kulnura

Statistic Element	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean max temperature (Degrees C)	26.3	25.5	24.4	22	18.1	15.2	15.3	16.8	19	21.7	23.5	26.4	21.2
Highest temperature (Degrees C)	39.4	39	35.4	31.1	25.9	21.7	23.1	25.8	33	35.3	38.4	39.2	39.4
Mean number of days >= 30 Degrees C	6.7	3.9	2.1	0.3	0	0	0	0	0.3	1.7	2.8	7.7	25.5
Mean min temperature (Degrees C)	16.3	16.4	15	12.3	9.5	6.9	5.6	6.6	8.5	11	12.8	15	11.3
Lowest temperature (Degrees C)	10.8	10.1	8.3	4.1	2.1	-1	0.5	-1.9	2.2	4.6	5.6	8.6	-1.9
Mean number of days <= 2 Degrees C	0	0	0	0	0	0.5	1.3	0.4	0	0	0	0	2.2
Mean rainfall (mm)	131.2	169.3	138.1	84	113.4	118.7	51.7	72.9	51.7	87.6	87.4	101	1205.4
Highest rainfall (mm)	425	432.1	406.2	381.2	577	437.8	295.2	534.4	180.1	332.5	300.6	271.1	2040.6
Lowest rainfall (mm)	16.9	12.9	3.5	7.8	0.3	1.8	1.1	3.7	0.8	3.9	5.7	7.7	626.5

Mangrove Mountain

Statistic Element	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean max temperature (Degrees C)	26.7	26.2	24.4	21.6	18.4	15.8	15.2	17.1	20.1	22.6	23.8	26	21.5
Highest temperature (Degrees C)	43	40.6	37.4	31.6	25.2	22.5	25.2	28.1	32.6	35.5	40.1	40.1	43
Mean number of days >= 30 Degrees C	7.8	5.3	2.8	0.2	0	0	0	0	0.7	2.1	4.1	5.9	28.9
Mean min temperature (Degrees C)	16.6	16.9	15	12.1	9.5	7.4	6	6.7	9.5	11.6	13.5	15.3	11.7
Lowest temperature (Degrees C)	9.6	10.6	7.7	2.8	2.2	0.2	-0.1	-0.5	0.8	3.1	3.7	6.9	-0.5
Mean number of days <= 2 Degrees C	0	0	0	0	0	0.6	1.8	1.7	0.1	0	0	0	4.2
Mean rainfall (mm)	98.1	143	121.6	79.6	101.1	102.5	40.7	57.9	73.4	69.4	87.2	80.9	1050.2
Highest rainfall (mm)	191.6	289	329	261	318.8	609.6	93.6	198.8	207.4	260	146	221	1917.8
Lowest rainfall (mm)	20.2	23.8	16	9.6	10.2	0	1	1.2	2	12.4	28.4	0.6	724.6

Peats Ridge

Statistic Element	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean max temperature (Degrees C)	27	26.3	24.6	22.1	19.1	16.4	15.9	17.6	20.5	23	24	26	21.9
Highest temperature (Degrees C)	42.9	40.5	38.9	34.7	26.9	23.6	23.7	28.9	33.3	38.6	40.7	40.8	42.9
Mean number of days >= 30 Degrees C	8.1	5.5	2.8	0.3	0	0	0	0	0.5	2.7	3.9	6.4	30.2
Mean min temperature (Degrees C)	16.1	16.2	14.5	12	9.6	7.2	6	6.5	8.6	10.9	12.8	14.8	11.3
Lowest temperature (Degrees C)	7.9	8.4	6.2	3.7	1.1	0	-0.1	-0.1	0	1.4	4.8	5.8	-0.1
Mean number of days <= 2 Degrees C	0	0	0	0	0	0.7	1.4	1.5	0.2	0	0	0	3.8
Mean rainfall (mm)	117.2	162.6	138.6	127.8	98.1	98	64.6	81	76.6	90.6	107.3	95.1	1258.5
Highest rainfall (mm)	262.4	620	337.9	526	350.8	611.6	226.8	341	215	385.2	283.8	225	2186
Lowest rainfall (mm)	6.2	27.6	22.4	4.8	4.8	3.6	1.2	0.8	2.6	1.2	18.4	9.2	842.9

Appendix 4

Primary and Secondary land use by hectares

Land Use	No of Lots	Total Ha	% Hectares of Total Surveyed Lots
Extensive Agriculture	374	6049	21.5
<i>Grazing</i>	309	4854	17.3
<i>Horse Stud</i>	63	786	2.8
<i>Forestry</i>	2	409	1.5
Intensive Animals	76	1130	4.0
<i>Poultry</i>	74	1095	3.9
<i>Poultry/Vegetables/Market Garden</i>	1	23	0.1
<i>Poultry/Protected Cropping</i>	1	12	0.0
Intensive Plants	396	5612	20
<i>Flowers</i>	2	175	0.6
<i>Vegetables/Market Garden</i>	205	2364	8.4
<i>Market Garden</i>	1	71	0.3
<i>Orchard</i>	159	2613	9.3
<i>Protected Cropping (e.g. greenhouse horticulture)</i>	23	330	1.2
<i>Nurseries</i>	6	59	0.3
Commercial	66	582	2.1
<i>Golf Course</i>	6	203	0.7
<i>General Store</i>	14	19	0.1
<i>Industrial Use</i>	32	52	0.2
<i>Petrol Station</i>	2	12	0.0
<i>Recreation</i>	3	107	0.4
<i>Water Extraction</i>	2	36	0.1
<i>Water Bottling Plant</i>	7	153	0.5
Extractive Industry	64	1085	3.9
<i>Sand Mining</i>	64	1085	3.9
Native Vegetation	547	10757	38.3
<i>Private Reserve</i>	547	10757	38.3
Public Use	28	1239	4.4
<i>Dog Centre</i>	1	3	0
<i>Motor Racing</i>	12	293	1.0
<i>National Park</i>	1	855	3.0
<i>Open Space</i>	1	3	0.0
<i>Regional Park</i>	1	48	0.2
<i>School</i>	6	13	0.0
<i>Water/Sewerage</i>	2	6	0.0
<i>Water Filtration Plant</i>	4	16	0.1
Rural Residential	255	1482	5.3
<i>Dwelling</i>	240	1268	4.5
<i>Horses</i>	15	214	0.8
Urban	88	21	0.1
<i>Urban Area</i>	88	21	0.1
Vacant	17	124	0.4
<i>Cleared Land</i>	17	124	0.4

(Source: Draft Somersby Plateau Land Use Assessment, NSW DPI, 2005).

The categories were developed by Ian Sinclair of Edge Planning and the definitions are below:

- *Rural Residential* means a house on a lot that is in a rural environment where the main source of income is from other sources other than the agricultural use of the land. It includes dwellings and recreational horses.
- *Intensive Plants* means the growing of vegetables and ornamental plants for commercial gain using the application of irrigated water and includes market gardening, protected cropping structures, orchards, vineyards, and other similar uses. It includes flowers, market gardens, nurseries, orchards, protected cropping.
- *Intensive Animals* means the rearing of animals using a feeding method other than natural grazing and includes poultry and piggeries mainly.
- *Extensive Agriculture* means the growing of plants using natural rainfall or the rearing of animals using grazing as a feeding method. It includes grazing, horse studs and forestry.
- *Vacant land* is land that is mostly cleared of native vegetation and which does not have any dwellings or other structures on it.
- *Commercial uses* are uses that are used for a commercial or industrial type of use and which do not have any dwellings associated with them.
- *Extractive Industry* means a use that extracts material from the land and includes sand and clay mining and quarrying of sandstone and other stones.
- *Public Uses* mean a use that is commonly used and or operated by a public authority or associated body. It includes community facilities, golf courses and Government owned uses of the land
- *Native Vegetation* means a lot that has no dwellings or structures on it and which has the majority of the land covered in native vegetation.

Community Profiles Summary Statistics

	<i>Central Mangrove</i>	<i>Kulnura</i>	<i>Mangrove Mountain</i>	<i>Peats Ridge</i>	<i>Somersby</i>	<i>Wendoree Park</i>	<i>Gunderman</i>	<i>Calga</i>	<i>Spencer</i>	<i>Total</i>
RESIDENT POPULATION	304	391	948	248	1251	201	150	299	297	4089
LABOUR FORCE										
Employed	158	198	434	119	501	106	72	135	118	1841
Unemployed	3	9	12	0	21	0	0	3	12	60
INDUSTRY OF EMPLOYMENT										
Agriculture, forestry & fishing	36	26	129	37	31	12	7	21	15	314
Mining	4	0	5	3	3	0	3	0	0	18
Manufacturing	16	35	37	10	47	10	4	9	15	183
Electricity, gas, water & waste services	10	0	3	0	0	0	0	3	3	19
Construction	16	17	19	8	67	9	4	9	5	154
Wholesale trade	3	4	29	3	26	10	5	6	6	92
Retail trade	12	15	27	15	45	8	3	13	6	144
Accommodation & food services	10	3	21	0	17	12	7	9	18	96
Transport, postal & warehousing	7	0	15	3	27	5	6	6	0	69
Information media & telecommunications	4	3	0	0	13	0	0	4	0	24
Financial & insurance services	3	0	3	0	8	3	0	0	0	17
Rental, hiring & real estate services	3	3	0	0	14	3	0	0	0	23
Professional, scientific & technical services	6	15	25	6	41	10	9	6	0	118

	<i>Central Mangrove</i>	<i>Kulnura</i>	<i>Mangrove Mountain</i>	<i>Peats Ridge</i>	<i>Somersby</i>	<i>Wendoree Park</i>	<i>Gunderman</i>	<i>Calga</i>	<i>Spencer</i>	<i>Total</i>
Administrative & support services	3	6	0	0	16	0	0	0	3	28
Public administration & safety	4	9	15	9	20	0	0	3	12	72
Education & training	4	18	34	6	34	5	3	7	15	126
Health care & social assistance	0	19	28	4	38	0	10	21	9	139
Arts & recreation services	7	3	12	6	21	6	0	4	9	68
Other services	4	9	18	0	19	6	7	9	0	72
Inadequately described/not reported	6	13	12	6	12	6	0	3	6	64
Total	158	198	432	116	499	105	68	133	122	1831

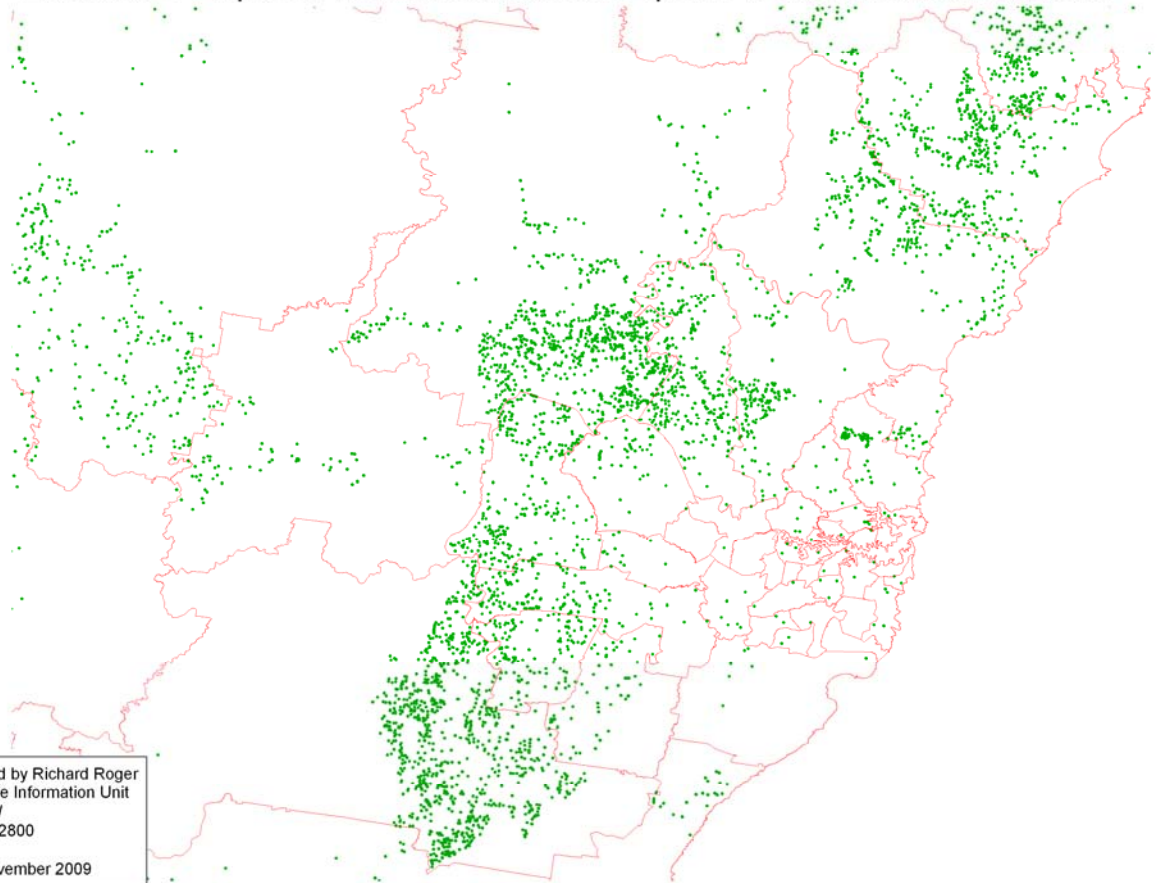
**Agricultural Employment by sector
Gosford West SLA 2006**

Sector	Males	Females	Total
Agriculture, Forestry and Fishing, nfd	4	0	4
Agriculture, nfd	10	0	10
Beef Cattle Farming (Specialised)	10	6	16
Citrus Fruit Growing	21	15	36
Floriculture Production (Outdoors)	31	19	50
Fruit and Tree Nut Growing, nfd	9	4	13
Grain-Sheep or Grain-Beef Cattle Farming	0	3	3
Horse Farming	10	16	26
Kiwifruit Growing	3	3	6
Nursery Production (Outdoors)	16	6	22
Nursery Production (Under Cover)	4	11	15
Other Crop Growing, nec	3	0	3
Other Fruit and Tree Nut Growing	4	3	7
Other Livestock Farming, nec	5	6	11
Poultry Farming (Eggs)	3	8	11
Poultry Farming (Meat)	19	15	34
Poultry Farming, nfd	32	14	46
Sheep Farming (Specialised)	9	0	9
Sheep-Beef Cattle Farming	0	3	3
Stone Fruit Growing	3	3	6
Vegetable Growing (Outdoors)	29	15	44
TOTAL	225	150	375

Source: Census of Population and Housing, 2006, Industry of Employment, by Usual Place of Residence

Location of Horse Establishments, Gosford LGA

Locations of Properties with Horses based on Equine Flu Horse Location Database



Prepared by Richard Roger
Resource Information Unit
I&I NSW
Orange 2800
25th November 2009