SUMMARY

The percentage of the District's usually resident population employed in the agricultural, fishing and forestry, as measured at the Statistics New Zealand Census of Population and Dwellings, has declined steadily over recent years.

- In 2001 11.1 percent of the District's usually resident workforce was involved in these industries and by 2013 the percentage was 7.7 percent, at the same time the percentage of the District's daytime workforce involved in these industries declined from 19.8 percent to 13.1 percent.

The following information about business and employees is provided by Statistics New Zealand’s Business Demographic Series which collates information about businesses and paid employees each February. Some farming businesses do not have people who receive tax paid wages/salaries via the PAYE system, but have working owners who are involved with the provisional taxation system. Between 2001 and 2013:

- Dairy farms increased by 15 (11.9 percent) and the number of people employed by these enterprises increased by 160 (107.5 percent).
- Information regarding the increase in the level of activity provided by the Livestock Improvement Corporation indicates that there has been greater than a threefold increase in the number of dairy cows and a doubling of the effective area in dairying since 2000/01.
- In the 2012/13 season there were 58,820 dairy cows in the District, in 99 herds on 16,933 effective hectares of land, with an average of 594 cows per herd at a stocking rate of 3.5 cows to the hectare.
- Sheep, beef and grain farms decreased by 65 (8.3 percent) and employees decreased by 210 (140.8 percent)
- Deer farms decreased by 80 (65.8 percent) and employees decreased by 5 (20.0 percent)
- Nurseries and flower farms decreased by 65 (55.5 percent) and employees increased by 35 (78.1 percent)
- Vegetable and mushroom farms decreased by 45 (59.9 percent) and employees increased by 25 (45.5 percent)
- Fruit and nut farms decreased by 104 (50.0 percent) and employees decreased by 30 (60.2 percent)
- Poultry farms decreased by 9 (26.5 percent) and employees decreased by 5 (5.5 percent)
- Other livestock farms increased by 1 (0.5 percent) and employees decreased by 10 (14.3 percent)
- Other crop farm increased by 155 (555.5 percent) and employees decreased by 17 (48.8 percent)
1 INTRODUCTION

This analysis of agriculture and forestry activity in the Waimakariri District is based on the information available from recent Censuses of Population and Dwellings and the Statistics New Zealand Business Demographic Series.

The Census provides information about the occupations and industries with which people living in the District are involved, irrespective of where they are employed. It also collects information about occupations and industries for the people who work in the District irrespective of where they live, i.e. the "daytime" work force. It is the daytime work force data that provides an indication of the level of agriculture and forestry activity in the District.

The Statistics New Zealand Business Demographic Series collates information about businesses and their employees annually, based on returns for February each year from businesses registered for goods and service tax (GST). This data series is linked with the Inland Revenue Department's pay as you earn (PAYE) database, and is not likely to include employers and people who are self-employed who usually pay tax via the provisional taxation system.

There is a further discrepancy between the data provided from the Census and the Business Demographic Series. The Census reports the information provided by people about their main job in detail, although it collects information about the amount of time worked in other jobs including unpaid farm work. This means that if a person has a second job involved with farming it will not be reported in the Census results. By contrast, if a person has two jobs and that work involves the payment of a wage/salary taxed at source both jobs will be counted in the Business Demographic Series, although there will be no distinction between full-time and part-time employment.

The Livestock Improvement Corporation (LIC) provides very detailed statistics about the dairy industry, including the number of dairy herds, the average number of cows per dairy herd, the effective hectares in production and the total number of dairy cows for each territorial authority area. This data provides a much clearer indication of the level of activity in the dairy industry than the Business Demographic Series, but it does not provide information about the number of people employed on dairy farms.

2 PEOPLE EMPLOYED IN AGRICULTURE, FISHING AND FORESTRY

While the Waimakariri District’s usually resident workforce has increased over the last 12 years the number of people involved with agriculture, fishing and forestry recorded by each of the last three Censuses in 2001, 2006 and 2013 has declined slightly.

In 2001 there was 2049 or 11.1 percent of the District’s full-time and part-time labour force involved in agriculture, fishing or forestry. By 2006 there were 2056 of the usually resident workforce involved in agriculture, fishing or forestry, and these people represented 9.3 percent of the people living in the District in paid employment.
In terms of the people employed in the District in the agriculture, fishing or forestry industries, the 1809 people classified in this industrial group from the 2001 Census comprised 19.8 percent of the District’s daytime workforce. In 2006 the 1788 people identified as being involved with the agriculture, fishing or forestry industries represented 16.3 percent of the District’s daytime workforce.

In 2013 there were 2004 of the District’s usually resident population working in the agriculture, fishing and forestry industries, and these people represented 7.7 percent of the people living in the District who were in paid employment. The daytime workforce involved with agriculture, fishing or forestry industries in 2013 comprised 1878 people, and represented 13.1 percent of the people identified as working in the District at that time.

This means that since 2001 there has been a gradual decline in the percentage of the people working in the District involved with primary industries of 6.7 percent. In absolute terms however, there was an increase in the number involved of 69 people in 2013 compared with 2001, and an increase of 90 people compared with 2006.

3  
BUSINESSES AND EMPLOYEES IN EXTENSIVE AGRICULTURE

3.1 Dairy farms

The main change in pastoral farming in the Waimakariri District since the beginning of the twenty-first Century has been the development of large scale dairy farming on the upper Waimakariri-Ashley plain, because of the commencement of the Waimakariri Irrigation scheme.

The effect of this was for some of the smaller dairy farms on the heavy soils to the east of the District to cease production, and for larger farms to establish on land that had previously been used for sheep or cropping farming.

Figure 1 sets out the changes in the number of dairy farms as business units as recorded by the Statistics New Zealand Business Demographic Series, and the number of employees for 2001, 2006 and 2013.

![Figure 1: Waimakariri District dairy farms 2001, 2006 and 2013](chart.png)
Figure 1 shows that there has been an increase of 15 (11.9 percent) in the number of dairy farms as business units, but an increase of 160 (107.5 percent) in the number of people employed by these businesses. As most of the new dairy farming businesses are corporate entities or involve a number of business partners, the managers of these enterprises are likely to be included as employees. In cases where the farms have owners running the enterprises, these people are not likely to be included among the employees. This means that the number of people employed directly in dairy farming in the District in each of the years under review is likely to be higher than indicated in Figure 1.

It should also be noted that an extensive amount of data relating to the growth of the dairy industry in the District, including the number of cows, the effective area in dairying and production per cow and per hectare are available from the LIC website.

3.2 Sheep, beef and grain farms

The Business Demographic Series groups together sheep, beef cattle and grain farms, and Figure 2 sets out the number of business units and employees recorded for 2001, 2006 and 2013.

![Figure 2: Waimakariri District sheep, beef and grain farms 2001, 2006 and 2013](image)

Figure 2 shows that there has been a decline in the number of business enterprises involving sheep, beef cattle and grain farms in the District since 2001. This in part reflects the fact that since 2001 a number of larger farms have been subdivided into small holdings, but this alone does not account for the loss of 181 sheep beef and grain farms between 2006 and 2013. It is likely that some of the owners of smaller holdings have chosen not to operate their holdings as formal businesses, registered for GST. While the number of businesses declined from 780 in 2001 to 715 in 2013 (8.3 percent), there remain a substantial number of farms remain but do not employ labour.

3.3 Deer farms

The farming of deer has fluctuated more widely than many other forms of agriculture in New Zealand in recent years. The scale of deer farms also varies widely, and it is also relatively easy to move out of deer farming into another enterprise including dairy support with a down-turn in the profitability of deer farming.
Figure 3 sets out the changes that have occurred in the number of businesses and employees involved in deer farming in the District since 2001.

![Figure 3: Waimakariri District deer farms 2001, 2006 and 2013](image)

Figure 3 shows that the number of business units registered as deer farms declined from 141 to 61 (56.8 percent) between 2001 and 2013, while the number of people employed by these businesses fluctuated from 25 to 15 in 2006 and 20 in 2013. This suggests that some of the larger deer farms have remained while the raising of deer on many of the smaller units run by farm owners have not survived. Despite this, it should be noted that the number of business units exceeds the number of employees which means that some farms are still run by owners, and thus the number of people involved with deer farming in the District in 2013 still exceed the number of people employed.

4 Businesses and employees in horticulture

4.1 Nurseries and flower farms

Nurseries and flower farms have been seen as having considerable potential as intensive land uses in the Waimakariri District. In particular, the District's proximity to Christchurch International Airport has encouraged the exporting of flowers from the District, although some have not survived the fluctuating prices being paid for flowers in some key markets, or changes in the value of the New Zealand currency vis-à-vis those of the countries with which these growers were trading.

Figure 4 shows the changes that have occurred in the number of businesses and employees involved in nurseries and commercial flower growing between 2001 and 2013.
Figure 4 shows that while the number of businesses running nurseries and growing flowers has declined sharply from 117 in 2001 to 52 in 2013 (55.5 percent), the number of employees involved with these businesses has increased from 45 to 80 (78.1 percent). These changes in the situation with respect to the District’s nurseries and flower growing enterprises indicates an increase in the scale of the businesses that remain, and highlights the potential for increasing employment in larger scale enterprises which may have greater market place resilience than smaller owner operated ones in this sector of horticulture.

4.2 Vegetables and mushrooms

The Business Demographic Series groups vegetable growing and the production of mushrooms, and the changes in the number of businesses and levels of employment between 2001 and 2013 are set out in figure 5.

Figure 5 shows that the number of enterprises involved with vegetables and mushrooms in the District declined from 72 in 2001 to 29 in 2013 or by 59.9 percent. In contrast, the number of people employed increased from 55 in 2001 to 100 in 2006,
but has remained relatively high in 2013 despite the sharp decline in the number of businesses involved with these aspects of horticulture. The change between 2001 and 2013 represents an increase in the number of people employed in vegetable and mushroom farming of 31.3 percent.

4.3 Fruit and nut farms

Figure 6 sets out the changes that have occurred in the number of businesses and employees involved with growing fruit and nuts in the District between 2001 and 2013.

![Figure 6: Waimakariri District fruit and nut farms 2001, 2006 and 2013](image)

Figure 6 shows that the number of businesses involved with fruit or nut production in the District declined from 207 to 103 (50.0 percent) between 2001 and 2013, while the number of employees declined by 30 (60.2 percent). The decline in the number of businesses involved with the production of fruit and nuts has seen a substantial decline in the number of businesses, and this is greater than the decline in the absolute number of employees. This means that many of the businesses that have ceased operation have been ones involving self-employed owner operators.

5 Other agricultural production

5.1 Forestry and logging

In a report prepared by Agriculture New Zealand for the Council in 2001 it was indicated that the forestry industry along with agriculture and the earnings of people living in the District who worked in Christchurch would be the main sources of wealth coming into the District in the future. Figure 7 sets out the number of businesses and employees involved in forestry and logging registered as based in the District in 2001, 2006 and 2013.
Figure 7 shows that that in 2001 there were significantly more forestry and logging businesses identified by Statistics New Zealand for the District than there were in 2013. It is unclear the extent to which this data provides an indication of the level of business activity in the forestry sector in the District. For example, it does not provide information about the value of the District’s trees under active management or logs felled over the period.

5.2 Poultry farms

Poultry farming in the District mainly involves the rearing of chickens and turkeys for meat in barns. Figure 8 sets out the number of businesses and employees involved with poultry farming in 2001, 2006 and 2013.

Figure 8 shows that the number of businesses involved with poultry farming in the Waimakariri District fluctuated between 34 in 2001, 22 in 2006 and 25 in 2013. While the number of enterprises changed, the number of people employed remained reasonably stable. The relative stability of the poultry industry in the District can be attributable to the fact that much of the activity is being produced on contract to the major processing companies, and the extent of capital invested in buildings and plant.
5.3 Other livestock

All other commercial livestock production is grouped by Statistics New Zealand in the Business Demographic Series. The numbers of businesses and people employed involved in these are set out in Figure 9.

Figure 9 shows that the number of business units has fluctuated over the period 2001 and 2013, and that the number of people employed by these enterprises has fallen slightly. The number of business units is significantly higher than the number of people employed, and this signals that many of the businesses that involve other livestock such as alpaca and lamas, horses and dogs are owner operated. They may also be managed alongside another source of income such as wages or salaries from employment away from the property.

5.4 Other crop farming

The classification of other crop farming includes any extensive cropping not included under any of the horticultural categories or under the general mixed farming classification sheep, beef cattle and grain. Figure 10 sets out the number of business units and employees involved in other growing other crops in the District.

Figure 10: Waimakariri District other crop farms 2001, 2006 and 2013
Figure 10 shows that there has been a very significant increase in the number of business units classified as involving the growing of “other” crops in recent years. The Business Demographic Series which involved the collection of data annually shows that there was a major increase in the number of businesses in this classification between 2008 with 77 business units and 2009 with 125 business units.

At the same time, there was a sharp decline in the number of sheep, beef cattle and grain business units identified, which suggests that there could have been a change in the classification of these businesses. Despite this, there has been a substantial increase in the number of business units involved with the production of “other” crops since 2009. The limited number of people employed compared with the number of enterprises suggests that many of these may be relatively small scale owner operated businesses.

6 Support services for agriculture and forestry

6.1 Forestry support

Figure 11 sets out the number of businesses and employees involved with forestry support in 2001, 2006 and 2013.

![Figure 11: Waimakariri District forestry support business and employees 2001, 2006 and 2013](image)

Figure 11 shows that the number of business units providing support to the forestry industry based in the District has fluctuated, as has the number of people employed. As the number of employees exceed the number of business units, these are enterprises that involve limited numbers of support staff, although there may still be owners who is not drawing wages/salary that is taxed via the PAYE system.

6.2 Agriculture and fishery support

The Business Demographic Series groups agriculture and fishery support services together, although it is probable that most of the business units based in the District set out in Figure 12 are involved in the agricultural sector rather than fishing.
Figure 11 shows that there has been a substantial increase in the number of businesses providing advisory services mainly to agriculture based in the District. The extent to which the increase in the number of business is exceeded by the number of employees between 2001 and 2013 also signals that some at least of these service businesses have increased in scale. Others are likely to involve consultants operating as sole practitioners.

7  Dairying in the Waimakariri District

7.1 Dairy herds

Figure 12 sets out the changes in the number of dairy herds in the Waimakariri District since the 2000/01 season.

Figure 12 shows that there has been an increase of 27 in the number of herds in the Waimakariri District with an increase of eight between the 2011/12 and 2012/13 seasons. In recent years the LIC statistics have included the number of owner/operators and sharemilkers in each District. In 2011/12 the District had 62 owner/operators and 29 sharemilkers, and in 2012/13 it has 71 owner/operators and 28 sharemilkers.
7.2 Dairy cows in the District

Figure 13 sets out the change in the number of dairy cows in the Waimakariri District between 2000/1 and 2012/13.

Figure 13 shows that the number of dairy cows has increased by approximately 320 percent in the 13 season since 2000/1. It also shows that there was an increase in the number of over 6,350 cows between the 2006/07 and 2007/08 seasons, an increase of almost 6,200 cows between the 2007/08 and 2008/09 seasons, and a further significant increase of approximately 6,000 cows between the 2011/12 and 2012/13.

There is not a direct relationship between the increase in the number of herds and increases in the number of cows, as an increase in herds usually involves the conversion of additional land to dairying. When the use of land changes to dairying from either other livestock and/or crop farming it takes a few years to build up the level of fertility needed to reach maximum carrying capacity. This means that when new dairy farms are established there is likely to be a gradual increase in the number of cows carried on these farms over the first few years after establishment.

7.3 Effective area in dairy farming

Figure 14 sets out the change in the effective area in dairy farming in the District between the 2000/01 and 2012/13 seasons.
Figure 14 shows that while the number of dairy cows has increased more than threefold, the effective area in dairying has increased by 8,869 hectares or slightly more than doubled over the thirteen seasons under review.

7.4 Cows per hectare

Figure 15 sets out the change in the number of cows per effective hectare used for dairy farming between 2000/01 and 2012/13.

Figure 15 shows that the average number of cows per effective hectare used for dairy farming has steadily increased since 2000/01. In 2000/01 there were 2.3 per effective hectare on the District’s dairy farms and in 2012/13 this had increased to 3.5 cows per effective hectare.

7.5 Number of cows per herd

Figure 16 sets out the increase in the number of cows per herd between the 2000/01 season and 2012/13 seasons.
Figure 16 shows that between 2000/01 and 2012/13 there was an increase in the average number of cows per dairy herd of 336 of approximately 130 percent. This reflects the very significant change in dairying in the District that accompanied the introduction of the Waimakariri Irrigation Scheme. Prior to the commencement of this irrigation scheme dairying was mainly carried out on relatively small farms to the east of the District. With the introduction of the run of the river irrigation scheme from the Waimakariri River, and land to the west of the Waimakariri/Ashley plain was converted to dairying the District’s dairy farms increased in size with many involving corporate ownership or partnerships involving participants not actively involved with the management of the dairy farms.

8 Conclusion

The Business Demographic Series data collected by Statistics New Zealand annually provides a clear indication that there are a wide range of business scale land based activities being undertaken in the Waimakariri District, in addition to the highly publicized growth in the dairy industry. The data from LIC shows very clearly the progress made by the dairy industry since 2000.

There have also been some significant changes in many of production classification, and in some there has been a decline in the number of business units but an increase in the number employees. This indicates that some enterprises have maintained or increased in scale, while a number of the smaller scale enterprises have ceased production. This is particularly the case for nurseries and flower growing, and vegetables and mushrooms. The reverse situation has prevailed for fruit and nut production and deer farming where the numbers of business units and employees have both declined markedly.

This Business Demographic Series data also highlights the extent to which some horticultural enterprises have the capacity to provide employment. It should be noted however, that both the employment data recorded in this series and at Censuses is for February and early March, which is a time of the year when some land based enterprises are in peak production and employing casual/seasonal labour. Despite this about half as many people were employed in nurseries, flower and vegetable growing in the District in 2013 as were employed in the dairy industry.