

CANTERBURY WATER MANAGEMENT STRATEGY:

WAIMAKARIRI ZONE

SOCIO-ECONOMIC PROFILE

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for Environment Canterbury and
the Waimakariri District Council

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EXECUTIVE SUMMARY

• Introduction

The Waimakariri Zone Socio-Economic Profile is one of a series of “current state” reports prepared for the Canterbury Water Management Strategy (CWMS) Waimakariri Zone in preparation for the development of the Waimakariri Water Zone Committee’s Zone Implementation Programme addendum.

The boundaries of the Waimakariri Zone approximately coincide with the Waimakariri District boundaries, and most of the data presented in this report relates to the District.

In pre-European times there were several important Ngāi Tahu settlements in the area, and today the hapū Ngai Tūāhuriri is based at Tuahiwi north of Kaiapoi.

Prior to 1989 the area was comprised of two Boroughs, Kaiapoi and Rangiora, and a number of small Counties, Oxford, Eyre, Rangiora and the southern part of Hurunui which had previously been the Ashley County.

• Population growth

When established in 1989 the Waimakariri District had a population of approximately 28,000 and by June 2015 it had an estimated population of 56,400. Since the early 1990s the District has been one of the two or three fastest growing of New Zealand’s territorial authority areas.

Approximately 60% of the District’s people live in the five main urban areas, Kaiapoi, Rangiora, Woodend, Pegasus and Oxford. Also, approximately 80% of the District’s population lives in the south-east in an area to the south of the Ashley River/Rakahuri and east of Two Chain Road.

The period since the 2010/11 earthquakes has seen a significant increase in the number of homes built, with many of these in the urban areas of Kaiapoi, Rangiora, and Pegasus. The Oxford urban area has also experienced a high level of new home construction compared with the years prior to the earthquakes.

In the period 2001 – 2013 the rural areas within the District have all experienced growth, with the greatest increases coming north of the Ashley River/Rakahuri, the rural south-east and the rural south-west.

The age distribution for the District as a whole differs significantly from that for New Zealand, as there are very few younger adults living in the area, and there is a higher percentage of the District’s population 40 years and over. The percentage of the District’s population in the older age groups has increased steadily since 1996 and is projected to continue to increase. Generally, the District’s rural population has a higher percentage of children 0 – 14 years and a lower percentage of people 60 years and over than the urban areas.

Population growth brings new residents into the District. In 2013 45.5% of the people living in the District were living in the same place in 2008. Of those who had moved during the period:

20.1% moved within the District;
18.3% moved from Christchurch;
16.0% moved from elsewhere in New Zealand; and
4.6% moved from overseas.

The age distribution for those moving into the District was younger than for those who had lived in the District for at least five years.

In 2006 the District had 5,955 people who were born overseas and of these 30.4% (1,809) had lived in New Zealand for fewer than five years. In 2013 the area had 8,205 people who were born overseas and of these only 18.1% (1,488) had lived in New Zealand for fewer than five years. On both occasions approximately 60% of the people in the District who were born overseas were born in the United Kingdom or Ireland.

- **The workforce**

In 2013 25,872 people, 65.0% of those 15 years and over living in the District were involved in the paid workforce, with 76.5% (19,544) as wage and salary earners, 12.8% (3,321) self-employed and 5.7% employers. Of these people 75.7% (19,560) were working full-time and 24.3% (6,312) part-time. The remaining people were unpaid family workers or their status was not specified.

At the 2013 Census 14,307 people were recorded as working in the Waimakariri District (i.e. the “daytime workforce”) and 80.0% (11,439) of these people lived in the District while 20.0% (2,868) came into the District to work. In 2013 40.5% (10,725) of the District’s usually resident workforce (i.e. people living in the District irrespective of where they worked) worked in Christchurch and 18.5% (3,711) worked elsewhere outside of the District. The percentage working in Christchurch in 2013 was similar to the percentages recorded in 2001 and 2006. The highest percentages of people working in Christchurch were from the rural south-east (47.4%) and the District’s urban areas (44.4%).

There has been minimal change in the number of people employed in agriculture fishing and forestry by occupation or industrial classification between 2006 and 2013. The percentage of the District’s usually resident workforce involved in these activities, however, has declined between 2006 and 2013 from 8.8% to 7.7% for occupation and 9.3% to 7.9% for industry.

Of the usually resident workforce employed in agriculture and forestry in 2013 65.3% were male and 34.7% female. The age distribution for those working in these industries in 2013 was

| | |
|-------|--------------------|
| 21.0% | 15 – 29 years; |
| 22.5% | 30 – 44 years; |
| 31.0% | 45 – 59 years; and |
| 24.6% | 60 years and over. |

In terms of work status in 2013 for these people:

| | |
|-------|--|
| 41.8% | farmers and farm managers |
| 21.5% | skilled animal and horticultural workers |
| 36.7% | farm, forestry and garden workers |

Of the 264 people living in the District and working in agriculture and forestry 42% had been in New Zealand for 20 years or more, and the highest percentage of these people (45.5%)

were born in the United Kingdom or Ireland. Only 17% had been in New Zealand for fewer than 5 years.

For the “daytime” workforce the percentage involved in agriculture, fishing and forestry declined between 2006 and 2013 from 14.7% to 11.6% for occupation, and 16.3% to 12.7% for occupation. The greatest increase in the number of those working in the District in this sector was in the south west of the District, with 72 more people working in that area in 2013 than in 2006.

- **Business statistics**

The Statistics New Zealand Business Demographic Series provides annual statistics for business units and employee counts at territorial authority and area unit level. The data for these statistics is collected in February each year and the employee count is linked to the Department of Inland Revenue’s PAYE (pay and you earn) database.

Between 2000 and 2015 there was an increase of 2,145 (51.6%) in the number of business units and 6,190 (82.6%) in the employee count for the District. Included in the increase for number of business units during the period was an increase of 1,497 (49.0%) in the number of businesses without employees which will include people who are self-employed and business partnerships where people are paying tax via the instalment method.

District businesses in each industrial classification have recorded increases in their employee counts between 2000 and 2015 except agriculture. The greatest increase in employee count since 2011 has been recorded by business units in the construction industrial grouping.

Among businesses without employees the greatest increase between 2000 and 2015 was recorded by those in the financial, professional and business support group with an increase from 564 to 1,596. Other industrial groupings except agriculture have recorded modest increases in the number of business units without employees while number in the agricultural sector has declined.

- **Agricultural business statistics**

Between 2000 and 2015 the number of sheep, beef and cropping business units has declined as has the employee count for these enterprises. There has been a relatively small increase in the number of dairy cattle farms but a more marked increase in the employee count for these business units.

From 2004, the employee count for dairy cattle farms in the District exceeded the employee count for sheep, beef and cropping business units. At the same time sheep, beef and continued to record a high number of business units, many without employees.

Across the remainder of the agricultural sector in the District, those where the employee counts exceed the number of businesses in 2015 included nursery and floriculture, mushroom and vegetable, and poultry farming. Those where the number of business units exceeded the employee count were fruit and nut tree growing, other crop growing, deer farming and other livestock farming, indicating that these are likely to be owner operated businesses.

In 2015, of the 84 dairy cattle business units with employees 42 (50.0%) are located in the south-west of the District, and the employee count for these business units of 250 represented 65.8% of the count for dairy cattle business units for the District as a whole. This area within the District also had a significant employee count for people involved in other agricultural businesses.

- **The community**

The Waimakariri District can be seen as having a series of overlapping and interlocking communities. Many of the District's community organisations are based in its main urban areas but draw members from across the District. Many sports organisations are based at the District's main sports parks outside of Rangiora and Kaiapoi such as Mandeville, Gladstone Park (Woodend), the Loburn Domain and Pearson Park (Oxford).

All of the District's rural primary schools have recorded increased rolls between 2010 and 2015, although the rolls for some of these schools have also seen their rolls fluctuating. Schools in the south-east and south-west have seen most growth, while the Waikuku School which was a relatively small rural school has moved to Pegasus and seen a threefold increase in its roll growth since 2010.

Most of the District's rural primary schools are either decile 9 or 10 schools, with 10 being the Ministry of Education's highest decile score. The schools with lower decile scores are Sefton (7), Woodend (8), Tuahiwi (6) and the Oxford Area School (7).

The Oxford Area School is one of the largest New Zealand area schools, and has also had increases in its roll between 2010 and 2015. For the year 1 – 8 children the increase was 11.6% (35) and for the year 9 – 13 students 17.6% (29). The Oxford Area School has had relatively few children with ethnicities other than European, when compared with the range and number of ethnicities other than European for children at the Amuri Area School. Amuri is also an area that has seen significant increase in dairying in recent years.

The District has a substantial number of early childhood centres including play centres, community and commercially run preschools. The rural areas of the District are relatively well served with early childhood centres.

The District as a whole is well served with social support organisations, with Wellbeing North Canterbury (the Waimakariri Community Development Trust) and the Oxford Community Trust receiving some funding from the Waimakariri District Council each year. The Oxford Community Trust principally provides services for Oxford and the surrounding rural area, while Wellbeing North Canterbury provides a range of services across the Waimakariri and Hurunui Districts. Other social support organisations based in the District rely on volunteers.

In addition to the wide range of community groups based in Oxford and the surrounding area there has been at least one major recent initiative involving the Oxford Community Trust, the Oxford Community Committee, the Oxford Promotion Association and the Waimakariri District Council to reach out to people from overseas who have recently settled in the Oxford area. In 2015/16 there have also been moves by the management of Te Whenua Hou (the Ngāi Tahu farms) to bring the people living on these farms together.

The activities of the wide range of community organisations in the District are well publicised in the area's community newspapers each week, and those in the Oxford/Cust areas are featured in the Oxford Observer which is published monthly.

Based on the international literature relating to individual participation in community organisations, the biggest barrier to people joining into community activities may well be the time spent travelling to and from work each day. The other probable barrier is the length of time spent at work and this is probably one of the main sources of social isolation for people working on farms, particularly in the dairy industry.

The strength of community organisations and the diversity of occupations in the Waimakariri District would indicate that if there are any adverse social consequences associated on constraints on land use, in order to improve water quality or quantity these are most likely to impact mainly on those working in agriculture and farming families.

1 INTRODUCTION

1.1 WAIMAKARIRI ZONE

The Waimakariri Zone is one of 10 water management zones established under the Canterbury Water Management Strategy (CWMS). This strategy is designed to provide for communities to participate in the collaborative management of water resources at a local level. To achieve this objective a series of zones were established across Canterbury, which coincided to a greater or lesser degree with territorial authority areas.

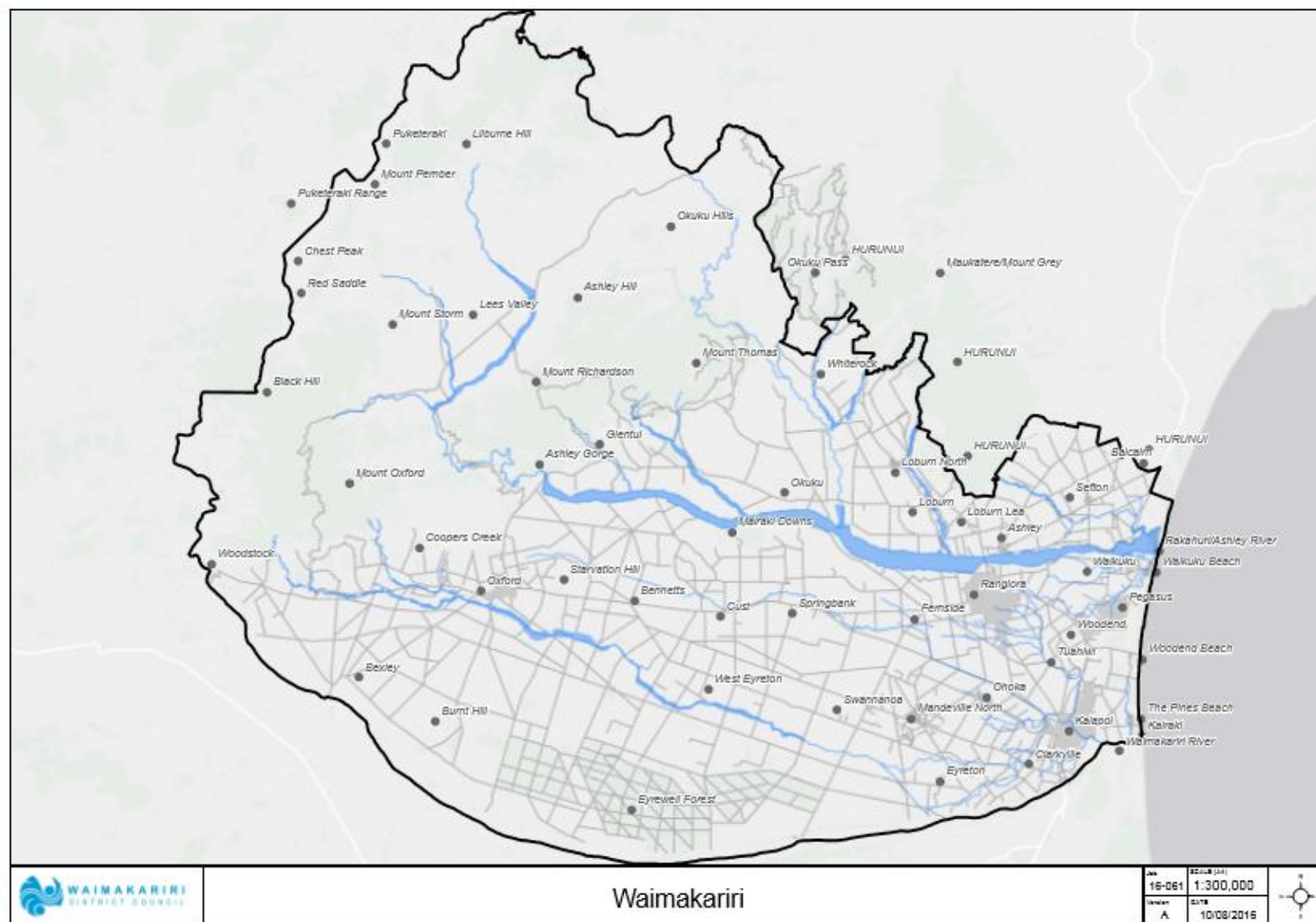
Activities in each of these zones is overseen by a joint Environment Canterbury/territorial authority advisory committee established under the Local Government Act 2002. Each Zone Committee has elected/commissioner representatives of Environment Canterbury and the territorial authority or authorities the territories of which are included in that Zone. The remaining members of the Zone Committees are community representatives selected because of their links with their respective communities and their interest in water management.

A cornerstone of the CWMS is to ensure that Maori has the opportunity to honour their values of kaitiakitanga or guardianship of the natural resources of the area. Te Rūnanga o Ngāi Tahu (TRONT) has a close relationship with Environment Canterbury, and participated in the development of the CWMS from the outset. Each of the Zone Committees has Rūnanga representatives to ensure that the aspirations of Maori are incorporated in regional water management decisions at all levels. The Waimakariri Water Zone Committee has representatives of Ngai Tūāhuriri Rūnanga, which is based at Tuahiwi.

One of the outputs from the process is a document (Zone Implementation Programme addendum), produced by the Waimakariri Water Committee, which lists solutions developed in the consultation with the community for the District.

The boundaries of the Waimakariri Zone approximately coincide with the boundaries of the Waimakariri District, which is bounded to the south by the Waimakariri River and from Pegasus Bay in the east. The Puketeraki Range is the western boundary and to the north is the Hurunui District. The only variation between the District and Zone boundaries is around the Okuku River area where the Zone extends to include the entire Okuku River catchment. These areas are shown outside of the District boundaries in the map below

The following map shows the Waimakariri Zone.



1.2 The Profile

The purpose of the profile is to provide an overview of the key characteristics of the Waimakariri community with an emphasis on the agricultural sector because of its links with the District's water resources. This profile is designed to inform the Zone Committee when they write their Zone Implementation Programme, which make recommendations for 'on the ground actions' and measures to be included Sub-Regional Chapter of the Canterbury Land and Water Regional Plan (CLWRP). The CLWRP is the regional planning document that provides the framework for the management of Canterbury's water resources, in accordance with superior documents in the hierarchy of documents under the Resource Management Act 1991 (RMA). In addition to the RMA, these documents are the National Policy Statement for Freshwater Management (NPSFM) and the Canterbury Regional Policy Statement (CRPS). While sub-regional chapters of the CLWRP are designed to provide flexibility to establish water management regimes that meet the aspirations of the various communities across Canterbury, these chapters must also fit within the general policy settings of the CLWRP.

As there are very few if any people living in the area of the Hurunui District that is included in the Waimakariri Zone, the information provided about the people living in the area will come from the Census results and other Statistics New Zealand data for the Waimakariri District. Information from Waimakariri District Council surveys will also be included where these contribute to the understanding of the aspirations of the people who choose to live in the area.

It should also be noted that in some instances the numbers from Censuses and other Statistics New Zealand data may vary slightly. This is because of the practice of "rounding to 3" in order to protect privacy particularly when relatively few cases are involved. In other instances, publically available tables from Statistics New Zealand do not make information available when there are few cases involved, although the existence of these cases is signalled with "confidential" rather than 0.

2 THE WAIMAKARIRI ZONE

2.1 The Land and its History

The Zone occupies approximately 225,000 hectares. A large portion of the area has fertile flat land, or productive rolling downs. Much of the land east of Rangiora is reclaimed swamp, which is still subject to poor drainage and occasional flooding. The north-western portion of the area is hill and high country. These hills, including Mt Oxford, Mt Richardson, Mt Thomas and Mt Grey dominate the District's western landscape.

In pre-European times there were several important Ngāi Tahu settlements in the area now occupied by the Zone. The centre of Ngāi Tahu was the pa of Tūrakatahi, known as Kaiapoi. Today, the hapū Ngai Tūāhuriri is based at Tuahiwi, to the north of Kaiapoi. At the 2013 Census people who identify themselves as having N.Z. Maori ancestry presently represent 9.0% of the area's usually resident population, and most of these people live in the eastern part of the Waimakariri District.

During the early years of European settlement, Kaiapoi developed as a river port. Rangiora was the area's main market town, and the development of Oxford was based on timber milling. The roles of these main urban areas have changed during recent years, mainly as the result of rapid population growth.

European settlement concentrated on the fertile soils of the plains. Until the middle of the 20th Century extensive agricultural and pastoral farming including cropping predominated. These were followed by horticulture and forestry. Initially dairy farming occurred mainly on the heavier soils to the east of the Zone, but with the commencement of the Waimakariri Irrigation Scheme taking water from the Waimakariri River dairy farming is now mainly concentrated on the lighter soils of the upper Waimakariri/Ashley plain.

The towns of Kaiapoi and Rangiora are the major urban areas in the Zone. These towns are respectively about 20 and 30 minutes travelling time by car from Christchurch City outside peak travelling times in the mornings and evenings. The District's other main urban areas are Woodend, Pegasus, and Oxford.

Since 1989 when the smaller county councils of Oxford, Eyre and part of Hurunui amalgamated with the Rangiora District and Kaiapoi Borough Councils the population of the Zone has increased rapidly. The population of Rangiora now exceeds 17,000. The number of people living in Kaiapoi now approximately 11,000, exceeds the number living in the town prior to the 2010 earthquake and subsequent red zoning of approximately 20% of its homes. Pegasus has developed rapidly in the aftermath of the 2010/11 earthquakes and currently has a population of some 3,500 – 4,000 people. In proportional terms Oxford has seen more rapid growth since 2010 than previously, the increase in the population in the rural areas including in Residential 4 (rural residential) Zones has been maintained.

The District has few major industries. A large fibre-board plant at Sefton draws on local wood resources as well as those from further afield. The other industries are mainly smaller-scale service or processing enterprises, with the exception of two major food and catering businesses based in Rangiora. Also, Heller Meats, a small goods manufacturing firm is located to the south of Kaiapoi. In addition, small business growth has been significant in recent years as has the overall level of employment in the District.

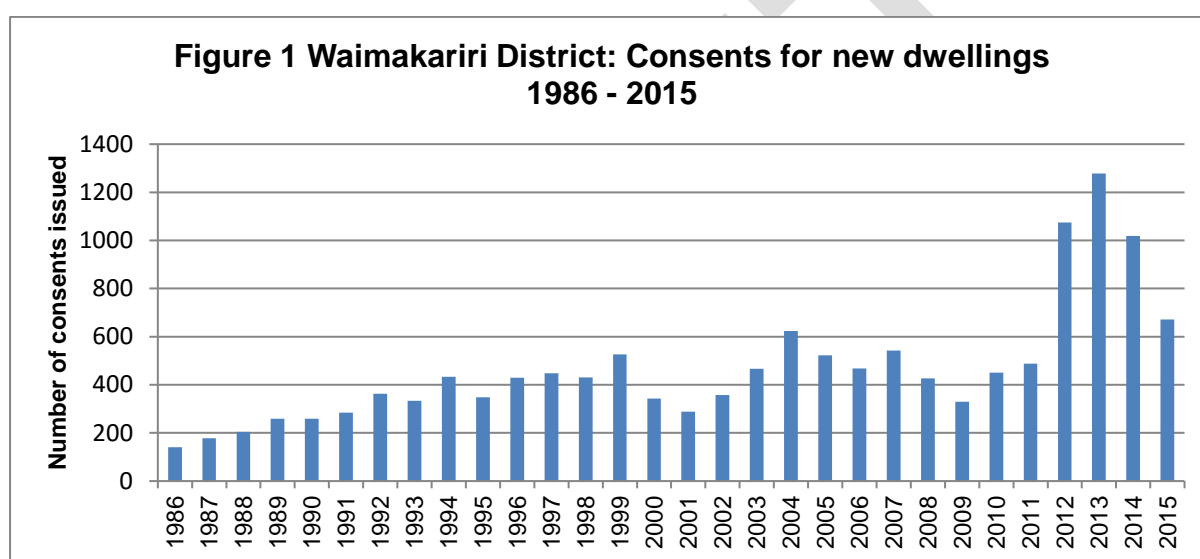
Today, in the face of sustained population growth over the past 25 years the District still retains much of its rural/small town character. Its two high schools (year 9 – 15), two composite schools (year 1 – 13), and many primary schools are well supported and those in the rural areas continue to be focal points for their respective communities. In addition, there are an increasing number of pre-schools in the District, and some of these are community based rather than commercial enterprises. The District also has an extensive range of community and recreational organisation, and Council surveys have found that a relatively high proportion of the District's households have people involved with one or more of these.

DRAFT

3 WAIMAKARIRI'S PEOPLE

3.1 Growth and distribution

The District has experienced very substantial population growth since its establishment at the end of the 1980s. The estimated population between 1991 and 30 June 2015 has increased from 29,000 to 56,400. Figure 1 shows the overall increase in the number of new dwelling consents issued annually by the Waimakariri District Council and its predecessors since 1986. It highlights the fluctuating rates of growth experienced during this period, in part influenced by the overall economic conditions and most recently by the demand for new homes in the aftermath of the 2010/11 earthquakes. The low levels of new home construction from 2000 – 2002 can be attributed to the absence of significant areas available for residential development in the District as the same time as the Northwood residential area was being developed in north Christchurch.



Source: Waimakariri District Council

Approximately 80% of these people live in the south-east of the District, to the east of Two Chain Road and south of the Ashley River/Rakahuri. The District has five main urban areas and together Kaiapoi, Woodend, Pegasus, Rangiora and Oxford accommodate about 60% of the District's population. Some of the remaining people live in small settlements, including the beach settlements of Waikuku, Woodend Beach and Pines Beach. Others live in the inland settlements such as Cust, Ohoka, Mandeville, Ashley, and Sefton. Many of the farms in the east of the District have been subdivided into smaller holdings, while the north and west of the District including Lees Valley still have significantly larger holdings.

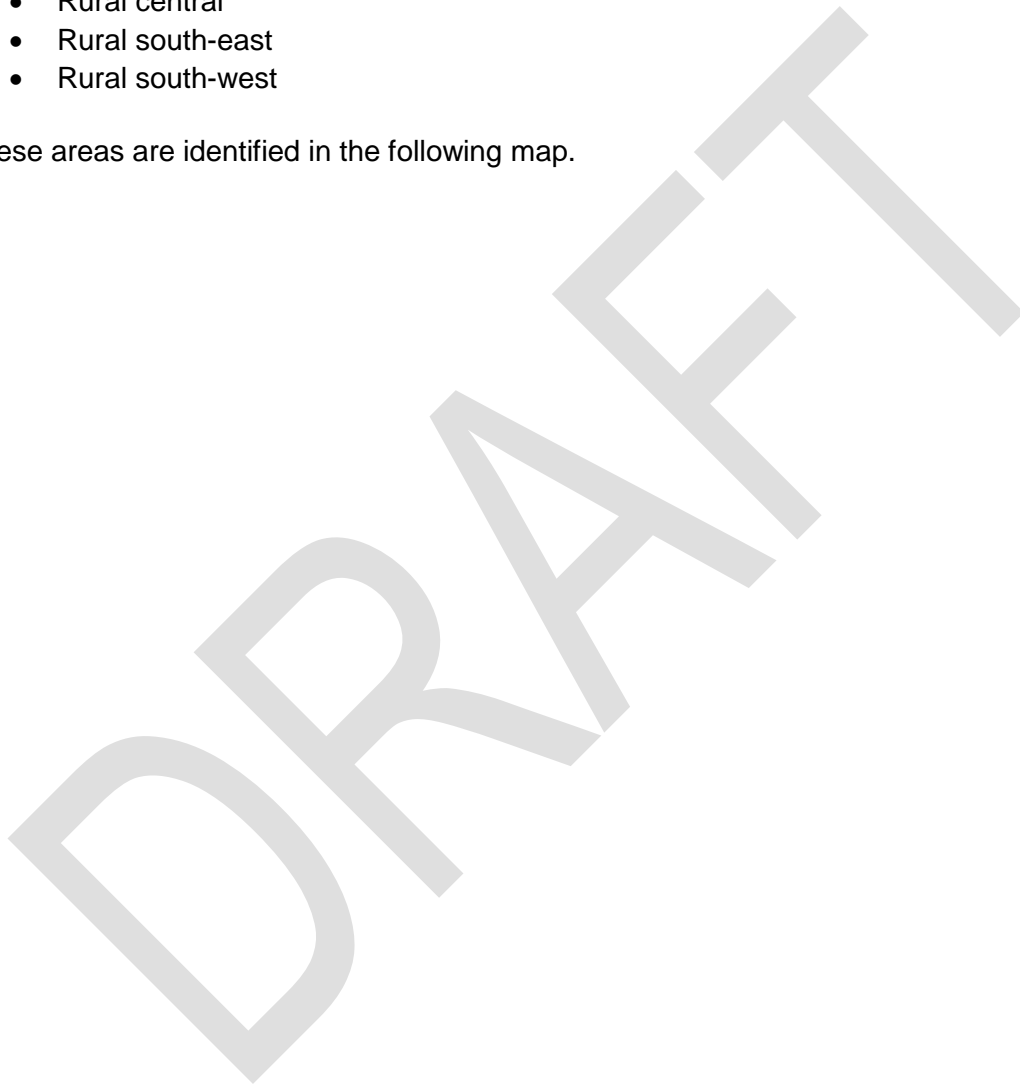
Population growth in the urban areas over the years has been associated with the opening up of new subdivisions on the periphery of Kaiapoi, Woodend and Rangiora. During the 1990s growth focused on southern Kaiapoi including the Courtenay subdivision, north Woodend and to the north and south of Rangiora. With the release of decisions on the Proposed District Plan substantial additional areas were approved for development to the north-east of Kaiapoi and the east and west of Rangiora. In the early 2000s the Environment Court also gave approval for the development of the new town, Pegasus. The availability of substantial areas available for development, meant that the District was able to

accommodate a substantial proportion of the initial demand for new homes following the earthquakes and subsequent “red zoning” parts of Christchurch and Kaiapoi.

Since 2000 in particular there has been significant housing development outside of the main urban areas in the east of the District. For the purposes of this analysis of development in the District’s rural areas, these have been divided into five localities based on Statistics New Zealand’s area units:

- North of the Ashley River/Rakahuri
- Rural east
- Rural central
- Rural south-east
- Rural south-west

These areas are identified in the following map.



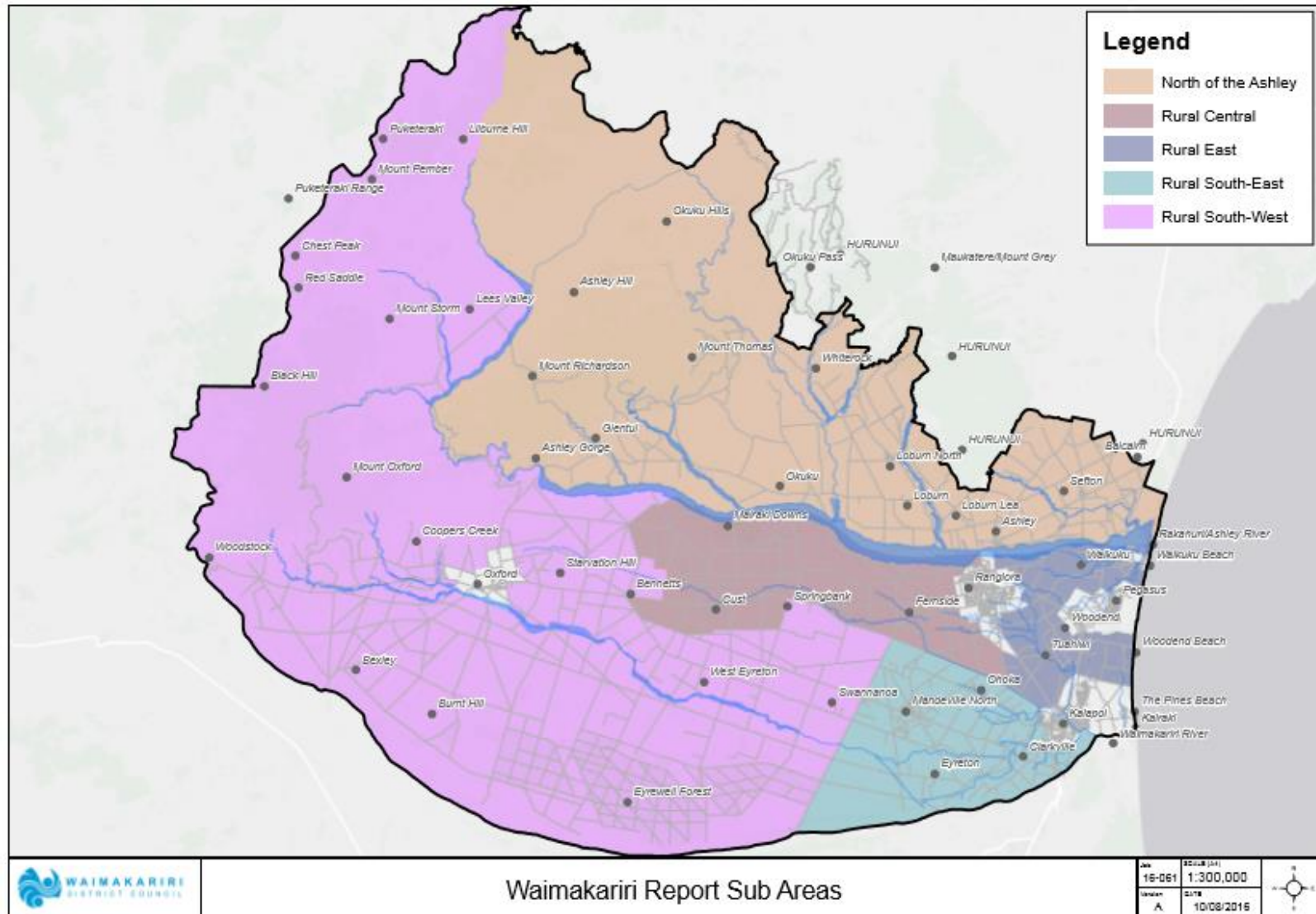
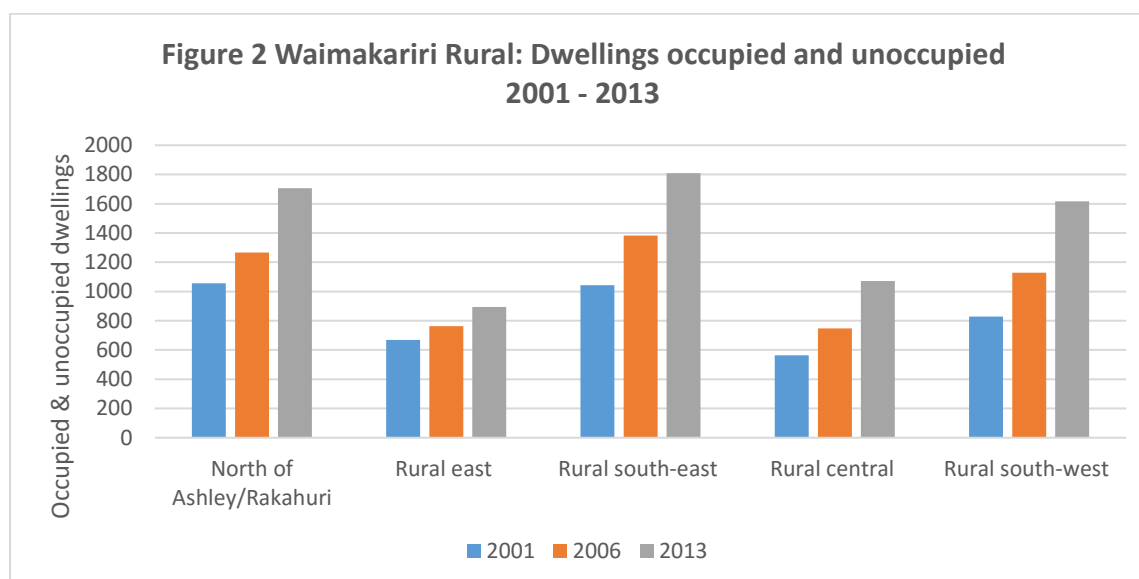


Figure 2 provides an indication of growth outside of the main urban areas by tracking the number of dwellings, occupied and unoccupied at each of the three most recent Censuses, in the rural localities.



Source: Statistics New Zealand – 2001 - 2013 Census of population and dwellings

The area to the **north of the Ashley River/Rakahuri** includes the small settlements of Sefton and Ashley, but only Ashley has seen limited development in recent years. Most of the increase in the number of houses shown in Figure 2 for this area has come from small holding development in the Ashley/Loburn area. Prior to the creation of the Waimakariri District, this area was in the Hurunui District and the minimum for rural subdivision in the Hurunui Plan at the time was 8 hectares. With the introduction of a 4 hectare minimum lot size in the Rural Zone under the Waimakariri District Plan there has also been scope for the further subdivision of 8 hectare lots in the area to the north of the Ashley River/Rakahuri.

The **east of the District** which covers the area to the east of Rangiora and includes Tuahiwi has seen relatively little new dwelling construction during the period under review. This is attributable to some extent to the existence of a number of well-established dairy farms in the area. There was also a considerable amount of sub-division of land into small holdings in the Tuahiwi area in the 1990s, when the controls in rural subdivision in this area differed from those that prevailed over most of the rest of the District's rural areas.

The **south-east of the District** has seen sustained small-holding development since the 1980s, with many of the new lots being approved under the "independent farm unit" planning test that prevailed under the District's Transitional Plan before the District Plan prepared under the RMA became operative. Some of the subdivision could be regarded as incremental, but there were also a number of innovations in the approach to small-holding development. These included the creation of a calla lily-growing co-operative based on 16 small-holdings with the subdivision of Mandelea to the west of Ohoka. The Ohoka Downs subdivision saw a series of small-holdings in the vicinity of 2.0 hectares each receiving planning approval to grow nut crops. A further subdivision, also adjacent to Tram Road involved the creation of a gated subdivision based on a proposal to establish a Truffiere. The largest of these developments is San Dona Olive Groves at Mandeville, established in five stages with approvals again obtained under the "independent farm unit" test. The lots

created by this development ranged from 1.5 hectares to approximately 2.0 hectares and each lot was offered to the market with 1 hectare of olive trees already planted.

The south-east of the District also includes the historic small settlement of Ohoka and the much more recent series of Residential 4 (rural residential) developments at Mandeville. Ohoka owes its origins to the relative isolation of the swampy areas to the west of Kaiapoi in the mid-19th Century. For example, by 1869 there was a flax mill at Ohoka employing about 20 people and by 1874 there were two further flax mills in the area and a “boiling-down” works, plus a post office and hotel.

Settlement at Mandeville is much more recent. It can be seen as dating from a decision of the Eyre County Council in the early 1980s to zone the area on the corner of McHughs and Tram Road for rural residential development. At about the same time people involved with sports clubs based at Ohoka began to develop a sports ground at Mandeville on publicly owned land that was originally the Mandeville Race Course.

Housing development at Mandeville began around 1990 with the initial area added in stages during the 1990s. At the same time, moves were being made to have further areas rezoned for this style of development including Ohoka Meadows and Truro Close and most recently Mandeville Park, Millfields and Braeburn Estate. Rural residential style subdivision has also occurred at Ohoka, with the Millstream and Wilson Drive developments occurring during the 1990s, and more recently planning approval has been given for further development, including Hadfield marketed in 2016.

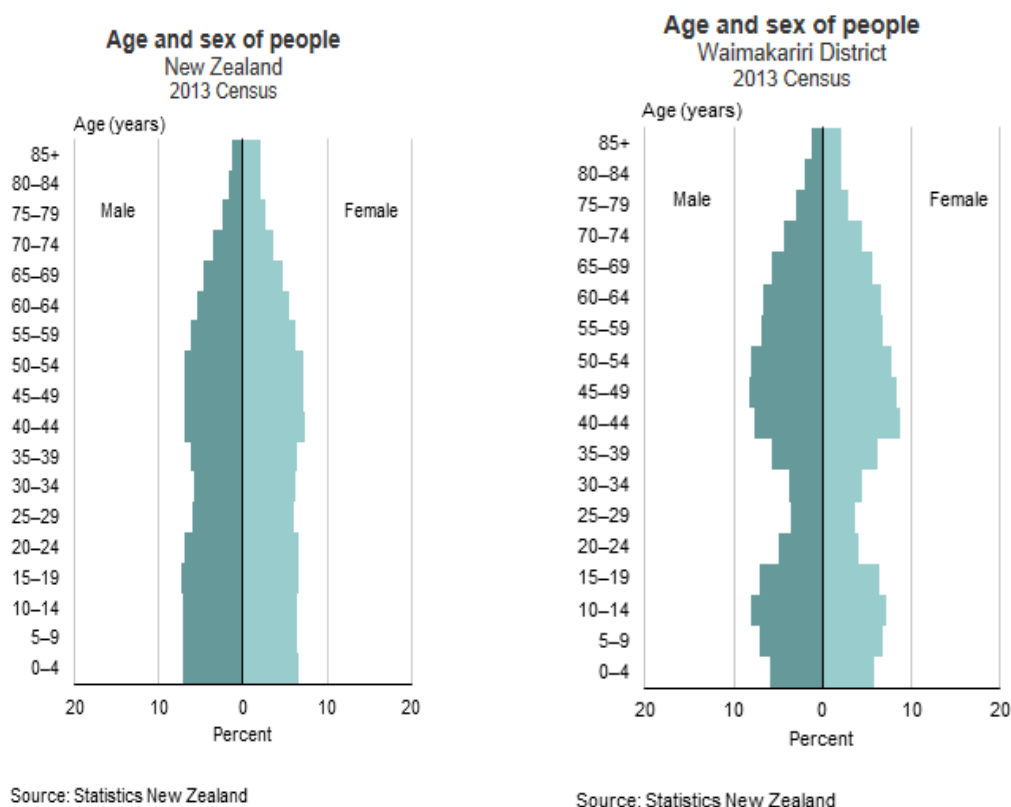
The **central rural** area includes Flaxton, Fernside and the Mairaki Downs areas and includes the Fernside Residential 4 (rural residential) which dates from the 1980s and was zoned for this style of development by the Rangiora District Council. There has also been extensive subdivision of land in this area in response to the pressure for small-holding development close to Rangiora, and also on the downs overlooking the Ashley River/Rakahuri. Despite this there are some larger holdings and a few dairy farms in the District’s central rural area.

The District’s **south west** includes the area surrounding Oxford and much of the command area for the Waimakariri irrigation scheme. This is the area within the District where many of its larger farms are located, and where most of the recent dairy conversions have occurred. The former Eyrewell State Forest land now being converted to dairy farms or grazing properties by Ngai Ngāi Farming is also included in this area. Despite this, much of the increase in the number of dwellings between 2001 and 2013 has occurred because of the development of small-holdings with a few larger farms being subdivided, as well as new houses being built on smaller lots close to the Oxford urban area.

3.2 Age distribution of Waimakariri’s population

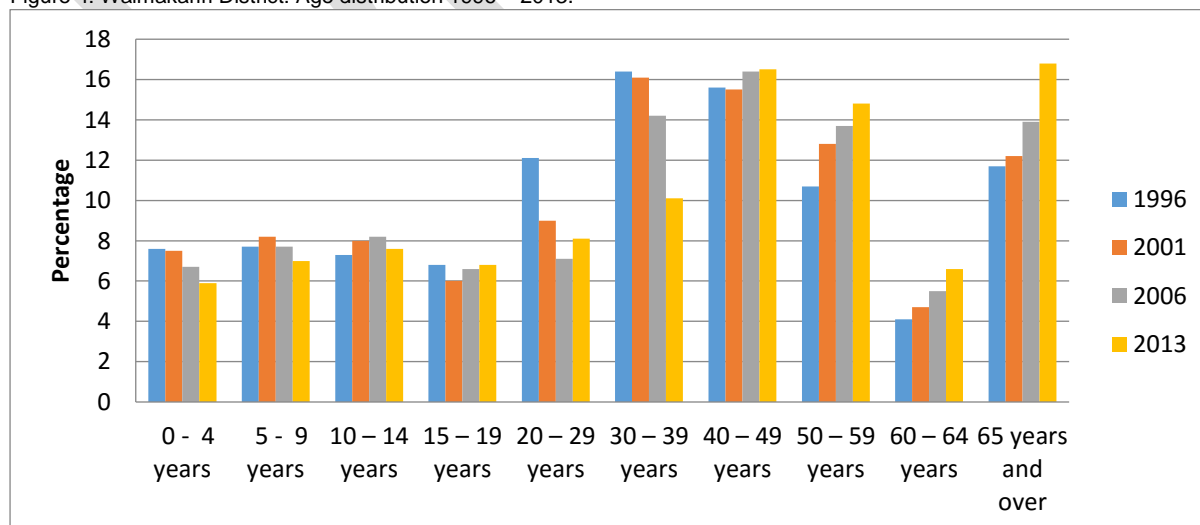
The age distribution of a population is an important factor when considering its economic and social characteristics of an area. Figure 3 shows the age distribution pyramids for the Waimakariri District and New Zealand as a whole at the 2013 Census.

Figure 3 New Zealand and Waimakariri District: Age and sex of people 2013



These pyramids show that the Waimakariri District has a population distribution that differs significantly from that for New Zealand as a whole. The main differences are the relative lack of younger adults, and higher percentages of adults in their middle and older years. The age distributions for children show that while New Zealand had approximately the same percentages for the age groups between 0 – 4 years and 15 – 19 years the Waimakariri population in 2013 had lower percentages of 0 – 4 year olds and 15 – 19 year olds. Figure 4 sets out the changes in the age distribution for the District's population since 1996, which illustrates how the age structure of the population has changes as the population has aged.

Figure 4: Waimakariri District: Age distribution 1996 – 2013.



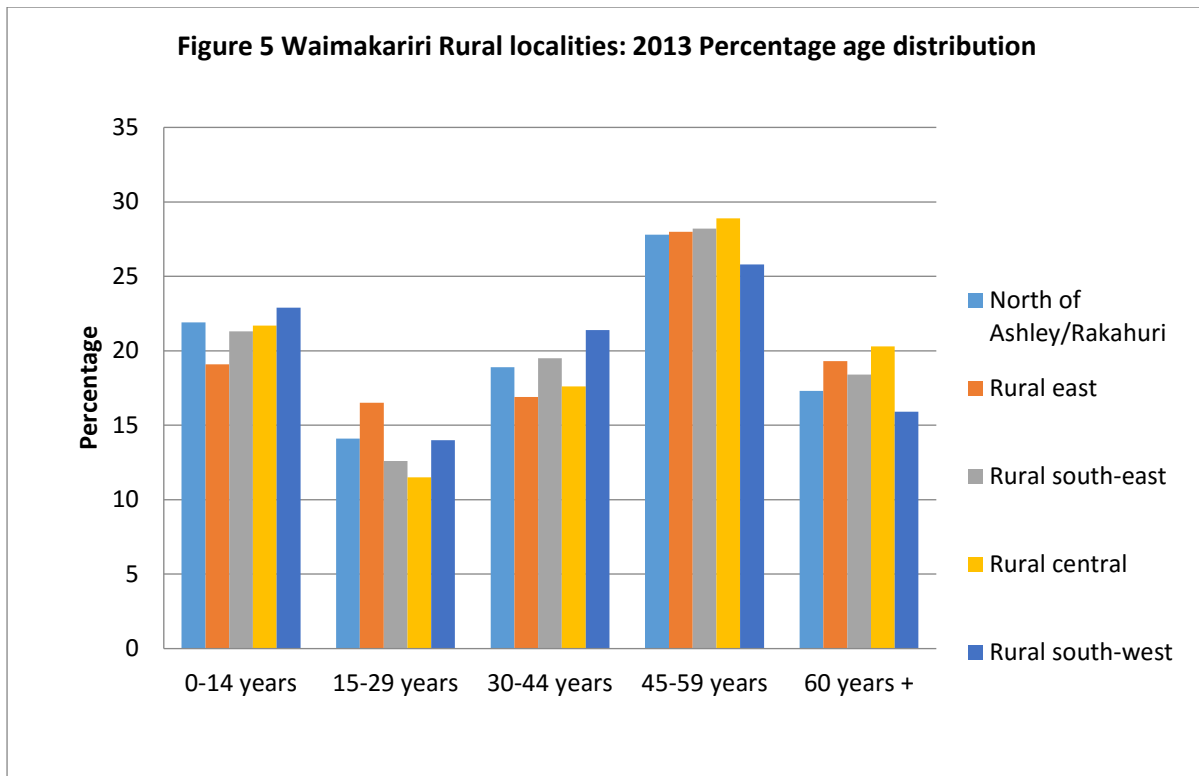
Source: Statistics New Zealand – 1996 - 2013 Censuses of population and dwellings

Figure 4 shows that as a percentage of the population 0 – 4 year olds have declined steadily since 1996, while the percentage of 5 – 9 year olds declined between 2001 and 2006 and again between 2006 and 2013. Between 1996 and 2001 there was a sharp drop in the percentage of people in their 20s living in the District, and between 2006 and 2013 there was an even greater percentage decline in the number of people in their 30s living in the District. This is attributable to the fact that many of the District's young people move away after completing their school, either for further education and/or employment opportunities. Significant numbers of people move into the District with young children, and the ages of the adults in these households has increased in line with the trend towards later household formation.

In part, this can be attributed to the trend towards later family formation in recent years as one of the main features of the District's inward migration is of families with young children. In many instances these households bring one or two children into the District and may have further children after they arrive. The steady increase in the percentages of people in the 50 years and over age groups is clear evidence of the ageing of the District's population. When seen alongside rapid increase in the area's population, means that the number of older people living in the District has increased very rapidly over the last 15 – 20 years.

Within the District there are also important differences in the age distribution of residents. Generally, the urban areas have higher percentages of older people and on average fewer people per household. This is attributable to the tendency for people from the surrounding rural areas, and including the Hurunui District when retiring to move into urban areas. In rural areas, in contrast, there is an average of approximately three people per household and significantly higher percentages of children. In 2013 notable exceptions to this rural/urban pattern of settlement were Pegasus and the recently developed subdivisions to the west of Rangiora. In these areas the average number of people per household and the percentage of younger children were similar to those for the District's rural areas.

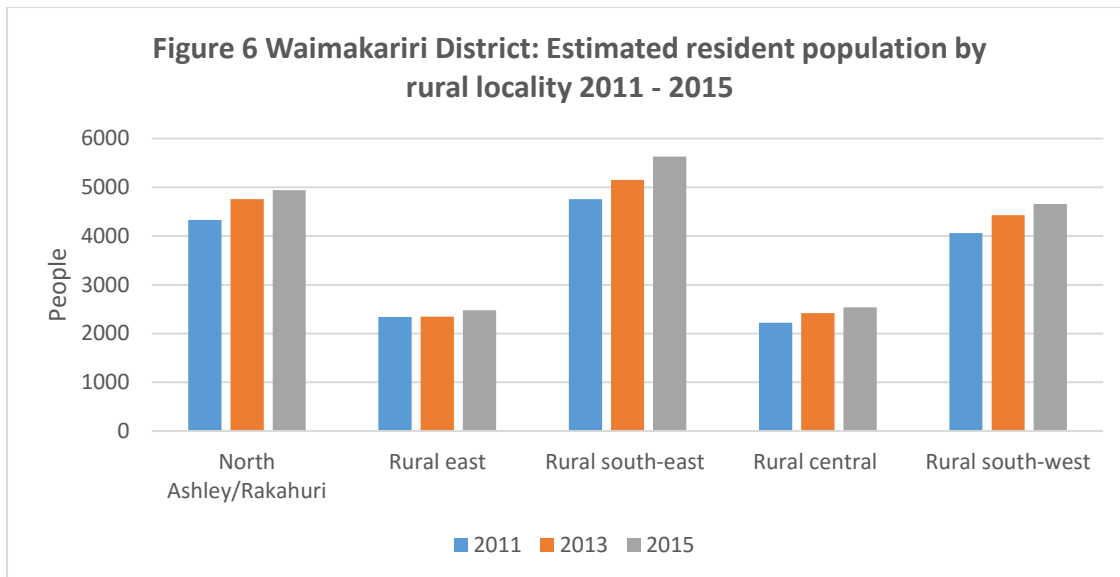
By 2013 there were 18,231 people or about 30% of the District's total population usually resident count living in the rural area units including small settlements such as Ohoka and Ashley, and Residential 4 (rural residential) zones such as Mandeville and Fernside. Figure 5 sets out an abbreviated age distribution for the various areas within rural Waimakariri.



Source: Statistics New Zealand – 2013 Census of population and dwellings

Figure 5 shows that the rural east has the lowest percentage of children, but had a relatively high percentage of people 15 – 29 years compared with the other rural localities. Of the other rural localities central rural has the highest percentages 45 – 59 and 60 years and over. Compared with the other localities within the rural Waimakariri the south-west clearly has the highest percentages of children and younger adults and lower percentages of older people, particularly those 60 years and over.

Some of the rural localities in the Waimakariri District have experienced quite rapid population increases over the last five years, partly as the result of resettlement after the 2010/11 earthquakes and partly as the result of the dairy conversions and the building of employee accommodation. Figure 6 sets out the increases in the numbers of people living in the various rural locations since 2011.



Source: Statistics New Zealand population estimates

Statistics New Zealand's estimated resident population is calculated as at 30 June each year, and the basis for this calculation differs from that for the usually resident population recorded at each Census. The calculation of the estimated resident population is based on a range of institutional data such as new dwelling consents and school rolls, and also takes into account people who are away from New Zealand on short-term visits. Figure 6 shows that there has been significant growth in the number of people estimated to be living in the District's rural area to the north of the Ashley River/Rakahuri, the south-east and south-west, with very limited increased in the east and central areas.

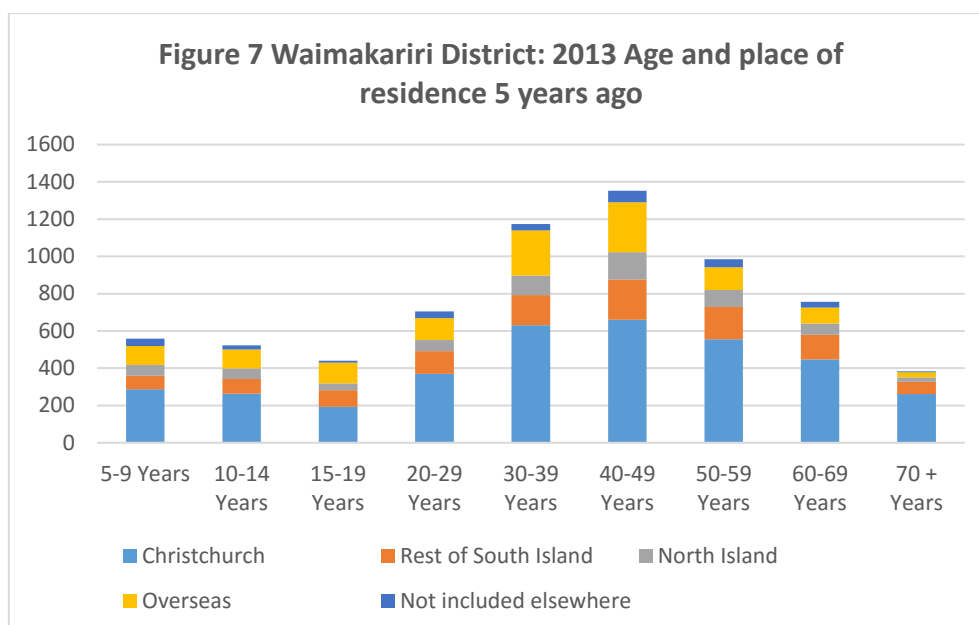
3.3 Place of residence five years ago and place of birth

In 2013 45.5% (21,387) of the people five years and over at Census time living in the Waimakariri District were living at the same "place of residence" as they had been five years earlier. Of the remainder:

- 20.1% (9,468) had moved within the District;
- 13.8% (6,510) had moved from Christchurch;
- 16.0% (7,506) had moved from elsewhere in New Zealand; and
- 4.6% (2,190) had moved from overseas.

The movement of people between the District and Christchurch has been a feature of the District's migration flows for many years, and this increased after the 2010/11 earthquakes as people moved away from the more seriously damaged area of the city. There were 2,190 people living in the District in 2013 who had been living overseas five years earlier. This was lower than the 2,616 people who were overseas in 2001 and living in the District in 2006.

The people who move into the District make a significant contribution to age profile of the District as they are often households with young families. The age distribution by place of previous place of residence for those 5 years and over in 2013 who were living elsewhere in 2008 is set out in figure 7.



Source: Statistics New Zealand – 2013 Census of population and dwellings

It should also be recognised that some of the household that moved into the District during the five years prior to the 2013 Census will also have had children in the 0 – 4 years age group at Census time, and they are not included in this graph.

3.4 Ethnic identification in the Waimakariri District

In 2013 90.7% (45,321) people identified themselves as having European ethnicity, 7.1% (3,570) people identified as having Maori ethnicity, 4.7% (2,325) were classified as having “other ethnicities” and 3.4% did not indicate their ethnicity. The percentages with respect to ethnicity total more than 100 because people who identified themselves as having two or more ethnicities were included in each group.

People who identified themselves as having N.Z. Maori ethnic origins in 2013 again represented 7.1% of the district’s population a small increase from 6.7% in 2006. Between 2006 and 2013, the number of people identifying themselves as N.Z. Maori living in the Waimakariri District increased by 714 people (25%). This is greater than the increases between 2001 and 2006 of 426 people (17.5%) and between 1996 and 2001 of 285 people (13.3%).

The Kaiapoi Ward had 9.7% of people with N.Z. Maori ethnicity in 2013, which is similar to the percentage with N.Z. Maori ethnicity in this Ward in 2001 and 2006.

Of the people who identified themselves as having N.Z. Maori ethnicity who lived in the district in 2013:

- 31.6% lived in the Kaiapoi Ward;
- 28.9% lived in the Rangiora Ward;
- 25.2% lived in the Woodend/Ashley Ward; and
- 14.3% lived in the Oxford/Eyre Ward.

The Census includes two questions, a general question relating to ethnicity, and one for Maori relating to ancestry which provides information about whether a person is of Maori

descent. In 2013, 4,479 people living in the Waimakariri District identified themselves as being of Maori descent, or 909 (20.2%) more than the number of people who identified themselves as having Maori ethnicity.

3.5 People born overseas

People born overseas represented 16.4% of the District's usually resident population in 2013, compared with 13.9% in 2006.

| Table 1: Waimakariri District: People born overseas and years in New Zealand for 2006 and 2013 | | | | |
|---|---------------|----------------|---------------|----------------|
| Years in New Zealand | 2006 | | 2013 | |
| | Number | Percent | Number | Percent |
| 0 – 4 years | 1809 | 30.4 | 1488 | 18.1 |
| 5 – 9 years | 681 | 11.4 | 2058 | 25.1 |
| 10 – 19 years | 744 | 12.5 | 1431 | 17.5 |
| 20 years or more | 2562 | 43.1 | 3021 | 36.9 |
| Not stated | 159 | 2.6 | 207 | 2.4 |
| Total | 5955 | 100.0 | 8205 | 100 |

Source: Statistics New Zealand – 2006 - 2013 Census of population and dwellings

Of these people a significantly higher percentage had lived in New Zealand for fewer than five years in 2006 than in 2013, while there was a significantly higher number of people living in the District in 2013 who had been in New Zealand between 5 and 9 years.

In terms of the overall distribution for country of birth for people living in the District in 2006 and 2013 set out in table 2 there was little difference.

| Table 2: Waimakariri District: People born overseas by country of birth for 2006 and 2013 | | | | |
|--|---------------|----------------|---------------|----------------|
| Country of birth | 2006 | | 2013 | |
| | Number | Percent | Number | Percent |
| United Kingdom and Ireland | 3618 | 61.0 | 4926 | 60.1 |
| Other European countries | 705 | 11.7 | 837 | 10.2 |
| Australia | 666 | 11.1 | 825 | 10.1 |
| Asia | 366 | 6.1 | 612 | 7.4 |
| Middle-east and Africa | 273 | 4.5 | 489 | 6.0 |
| North America | 213 | 3.7 | 306 | 3.7 |
| Pacific | 87 | 1.5 | 153 | 1.9 |
| Other | 27 | 0.4 | 57 | 0.6 |
| Total | 5955 | 100.0 | 8205 | 100.0 |

Source: Statistics New Zealand – 2006 - 2013 Census of population and dwellings

Table 2 shows declines in the percentages of people born in other European countries and Australia living in the District in 2013 compared with 2006, but in numerical terms there were still more of people in the area in 2013 born in these countries than in 2006. In percentage terms, people born in Asia and the Middle-East and Africa increased by 2.8%, and together totalled 1,101 people in 2013 compared with 639 people in 2006.

3.6 Usually resident and daytime workforce

In 2013 there were 25,872 people identified as members of the workforce living in the District, and these people represented 65.0% of all those 15 years and over living in the area. Of these people:

| | |
|----------------|------------------------------|
| 76.5% (19,554) | were wage and salary earners |
| 12.8% (3,321) | were self-employed |
| 5.7% (1,944) | were employers |
| 2.6% (669) | were unpaid family workers |
| 1.5% (384) | were not specified |

In terms of labour force status:

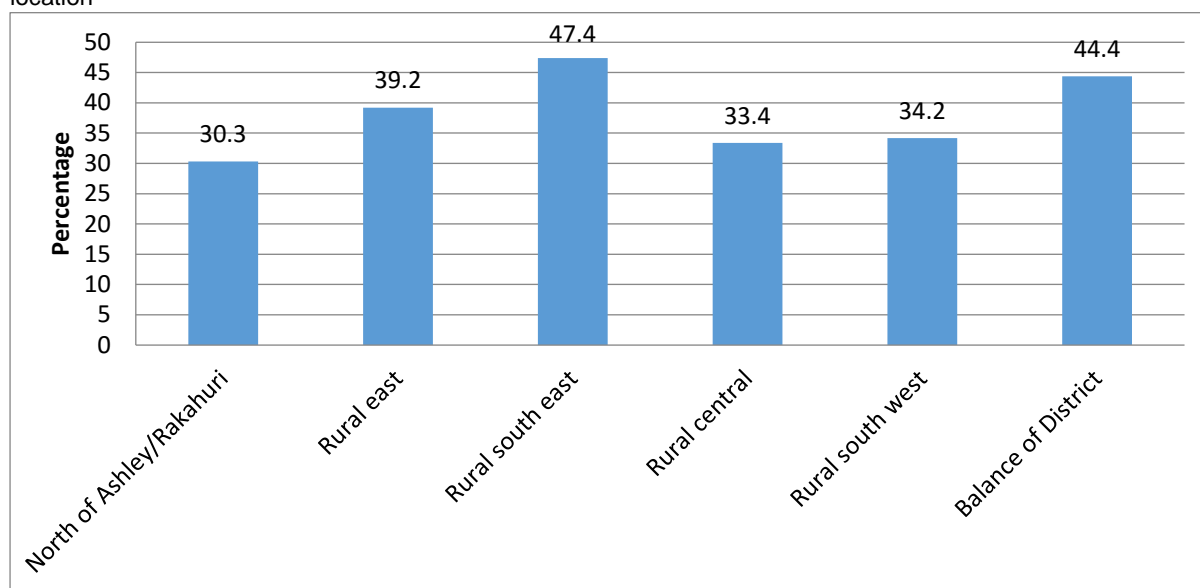
| | |
|----------------|------------------------|
| 75.7% (19,560) | were working full-time |
| 24.3% (6,312) | were working part-time |

In addition, there were 1,005 people or 2.5% of the people living in the District aged 15 years and over who were unemployed. The percentage unemployed recorded for New Zealand as a whole at the 2013 Census was 4.5%.

At the time of the 2013 Census there were 14,307 recorded as working in the Waimakariri District on Census day, and of these 80% (11,439 people) lived in the District and 20% (2,868 people) came into the District to work. At the same time, 40.5% (10,725) of the people living in the District who were in the workforce worked in Christchurch, and 18.5% (3,711) people worked elsewhere. Although the numbers of people working in the District compared with elsewhere increased at each Census since 2001, the percentages were very similar for 2001, 2006 and 2013.

Figure 8 sets out the percentages for members of the workforce working in Christchurch by locality for the rural areas and the balance of the District.

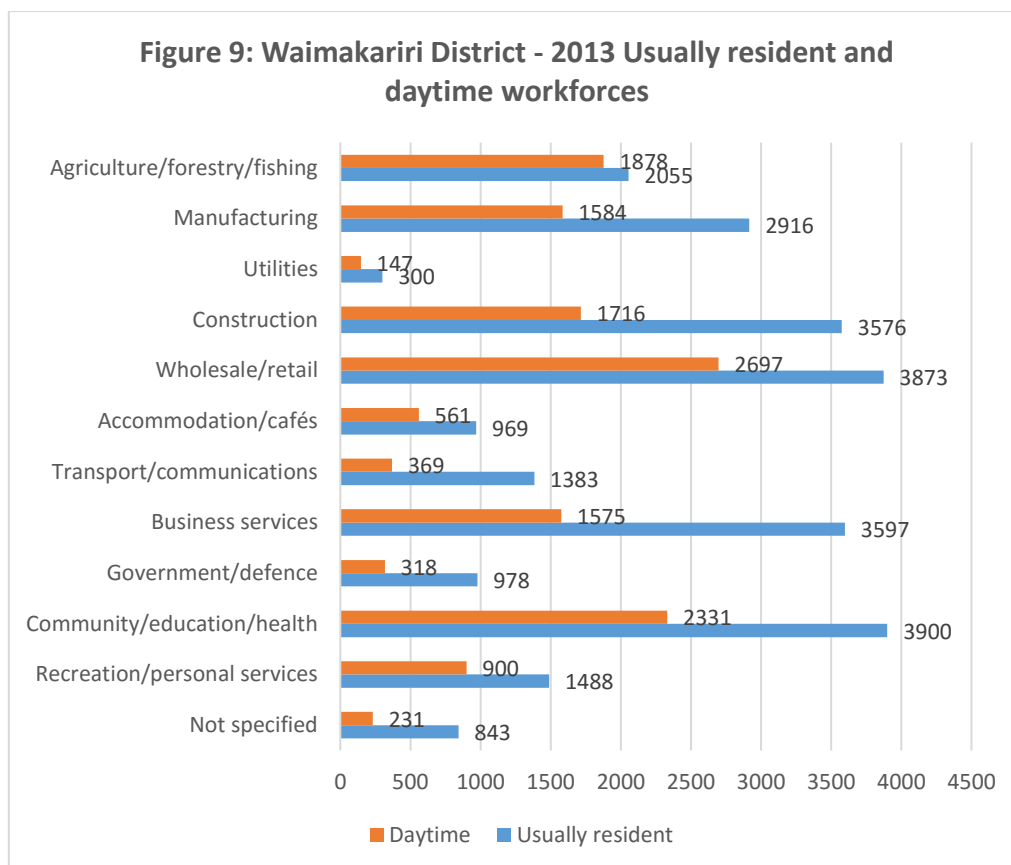
Figure 8 Waimakariri District: 2013 Percentage of people living in the District and working in Christchurch and location



Source: Statistics New Zealand – 2013 Census of population and dwellings

Figure 8 shows that of the rural areas in 2013, people living in the rural south-east which is the area closest to Christchurch had the highest percentage of the workforce working in Christchurch, followed by the “balance of the District” which includes the people living in the urban areas. The percentage of the workforce for people working in Christchurch was lower for those living further from Christchurch, particularly those living north of the Ashley River/Rakahuri.

Figure 9 provides a comparison between the industries in which the District’s usually resident population work in irrespective of where they are working, and the industries in which people who working in the District on Census day were involved with irrespective of where they live.



Source: Statistics New Zealand – 2013 Census of population and dwellings

While recognising that 20% of the District's "daytime" workforce involves people who live outside of the District, figure 8 suggests that high numbers of people in manufacturing, construction, business services, and community/education/health sectors are leaving the District for employment. Also, the number of people living in the District involved with agriculture/forestry/fishing exceeds the number of people working in the District at the time of the 2013 Census because some of the District's residence are working in these industries in other territorial authority areas.

4 Waimakariri's agricultural workforce

4.1 Usually resident agricultural workforce

In terms of the information from the 2006 and 2013 Census, the percentage of people involved with the agricultural sector is declining as a proportion of the Waimakariri workforce irrespective of whether the situation is viewed in terms of the occupational or industrial classification. That the agricultural sector is combined with the fishing and forestry sectors is not a major concern in this context, as both represent relatively small numbers compared with those involved with the various branches of agriculture including horticulture.

The Census collects information from people in the workforce about their occupation and the industry with which they are involved. People involved with the agricultural sector if involved in administration may give their occupation as "clerical" and their industry as "agriculture". As a result the number of people involved in an industry is likely to be higher than those with farming as their occupation.

In terms of the 2006 District usually resident workforce (people living in the District) those involved with agriculture and forestry were:

8.8% (1,992) for occupation
9.3% (2,055) for industry

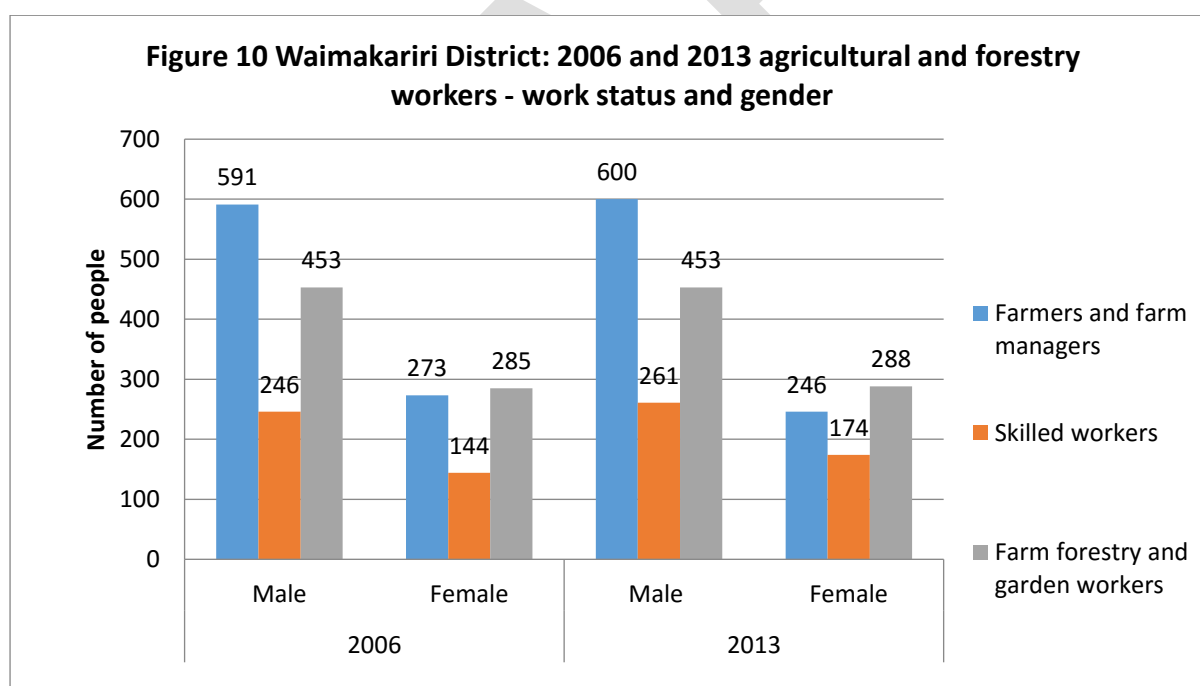
For the District's usually resident workforce in 2013 those involved with agriculture and forestry were:

7.7% (1,986) for occupation
7.9% (2,055) for industry

Of the people working in the agriculture and forestry Industries in 2006 64.8% were male and 35.2% female, and in 2013 65.0% were male and 35.0% were female.

In terms of occupational status, in 2006 43.5% of those in agriculture and forestry were farmers or farm managers compared with 41.8% in 2013. In 2006 19.5% of these people were skilled animal and horticultural workers compared with 21.5% in 2013. In 2006 farm forest and garden workers represented 37.0% of this workforce compared with 36.7% in 2013.

Figure 10 compares the distribution for the agricultural and forestry workforces for 2006 and 2013 in terms of gender and work status.



Source: Statistics New Zealand – 2006 - 2013 Census of population and dwellings

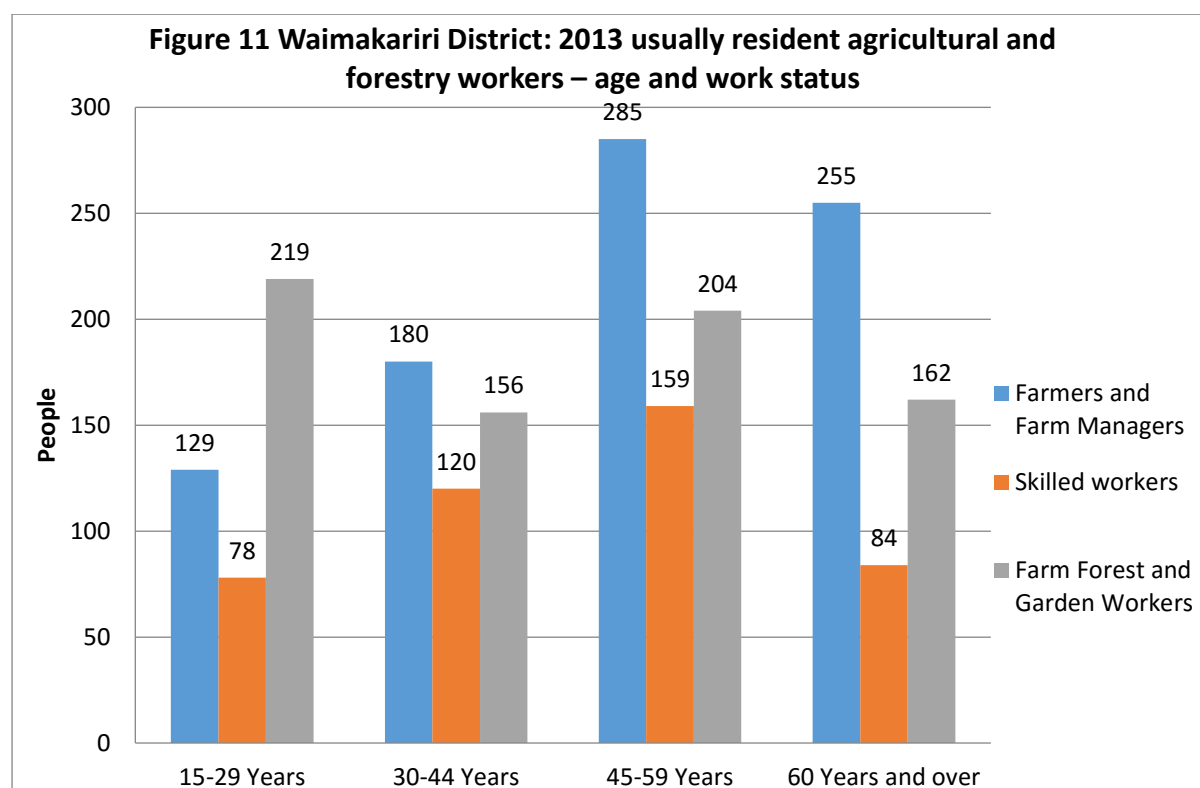
Figure 10 shows that the numbers of people involved in each category varied little between 2006 and 2013. Most notable was a decline in the number of female farmers and farm managers and an increase in the number of female skilled workers.

In 2013 the age distribution for the agriculture and forestry workforce was:

21.0% (426) 15 – 29 years of age
22.5% (456) 30 – 44 years of age
31.0% (648) 45 – 59 years of age

24.5% (501) 60 years of age and over

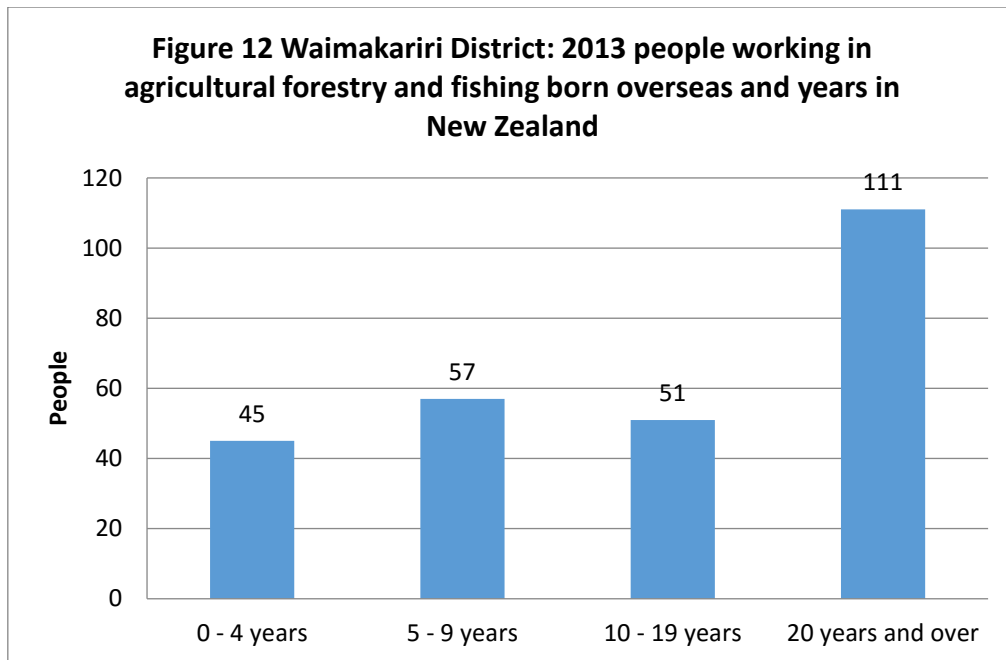
Figure 11 shows the distribution for usually resident agricultural and forestry workers in terms of age and work status for 2013.



Source: Statistics New Zealand – 2013 Census of population and dwellings

Figure 11 shows that 36% (309) of the farmers and farm managers were 44 years of age or less in 2013, and that a substantial number of the farm, forest and garden workers were in the 15 – 29 years age group. Most of those classified as “skilled” were in the 30 – 59 years age group. Farmers and farm managers 60 years and over comprised 30% (255) of the people in this status category.

When compared with other districts in Canterbury the Waimakariri District’s agricultural forestry and fishing work force included relatively few people born overseas and recently arrived in New Zealand. Figure 12 sets out the distribution for years in New Zealand for those born overseas and working in these industries in the District.



Source: Statistics New Zealand – 2013 Census of population and dwellings

Figure 12 shows that of these 264 people 42% have been in living in New Zealand for 20 years or more and that 17% (45) had been in the country for fewer than five years. Of these people the greatest number were born in the United Kingdom and Ireland (120), followed by north-west Europe (39), Netherlands (27), north and south-east Asia (39), Australia (27) and Pacific Islands (6).

4.2 “Daytime” agricultural workforce

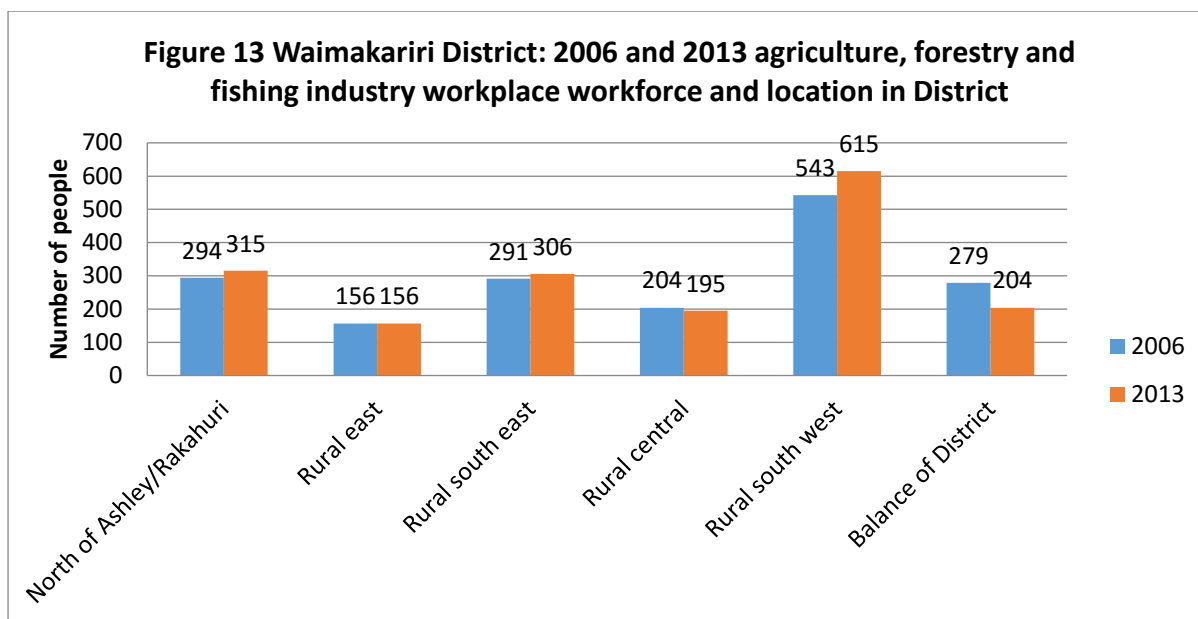
When considering the impact of any controls likely to be introduced under the Waimakariri Sub-Regional section of the Canterbury Land and Water Regional Plan, the number of people and the percentage of the people working in the District is the more relevant information. In terms of those working in the District in 2006 in agricultural forestry and fishing were:

| | |
|---------------|----------------|
| 14.7% (1,611) | for occupation |
| 16.3% (1,767) | for industry |

For those in the District’s daytime workforce in 2013, those in agriculture forestry and fishing were:

| | |
|---------------|----------------|
| 11.6% (1,653) | for occupation |
| 12.7% (1,791) | for industry |

Figure 13 sets out the numbers of people working in the District in the agriculture forestry and fishing industries in terms of location within the area in 2006 and 2013.



Source: Statistics New Zealand – 2006 - 2013 Census of population and dwellings

Figure 13 shows that the only area in which there has been a significant change in the number of people working in the District in these industries is in the south-west. This area includes the West Eyreton, Eyrewell and rural portion of the old Oxford County, and is the area that has seen many of the diary conversions since the commencement of the Waimakariri irrigation scheme.

Across all of the rural areas in the District the people working in agriculture forestry and fishing in the District as a percentage of the total workforce for each area has declined between 2006 and 2013. For example, in the area to the north of the Ashley River/Rakahuri this percentage has declined from 17.8% in 2006 to 14.5% in 2013, and in the south-west where there has been an increase in the number of people involved the percentage has declined from 30.8% in 2006 to 26.2% in 2013.

5 Businesses in Waimakariri

5.1 Businesses across the District

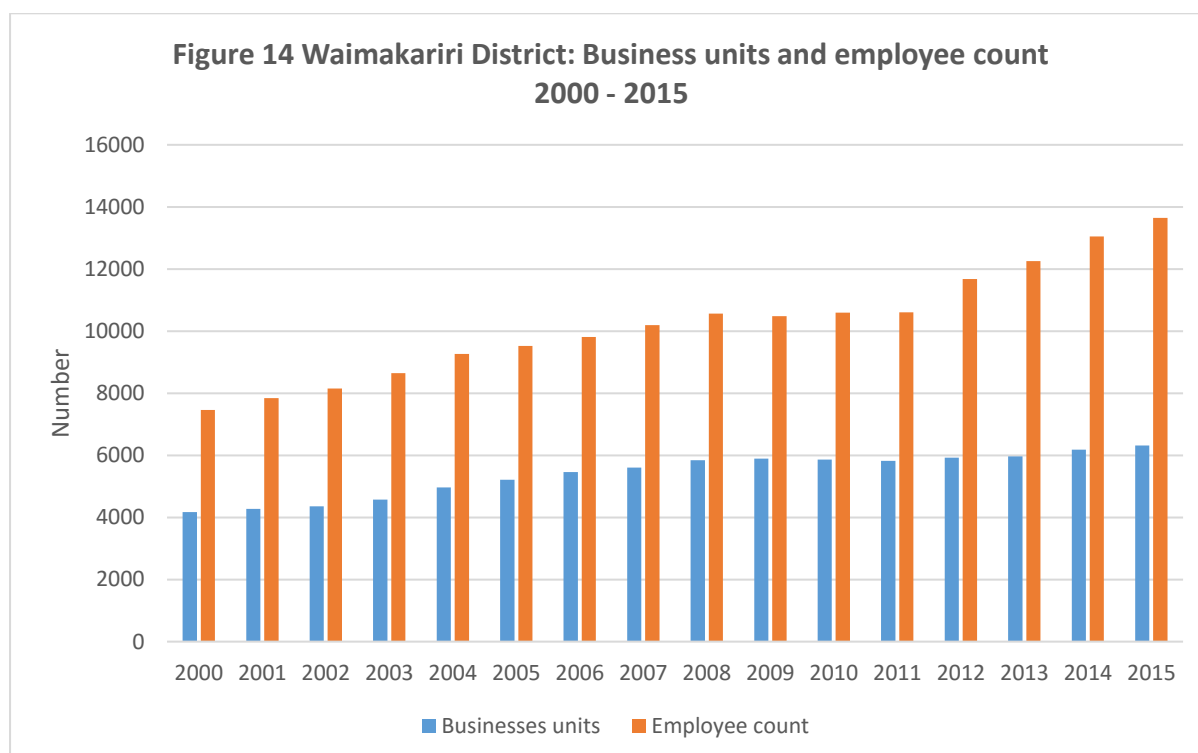
Statistics New Zealand collects information about businesses that are registered for GST and people who are paying tax via the PAYE (pay as you earn) method in February each year. The advantage of this data set as opposed to Census data is that the results are available in October each year and therefore provides a more immediate dataset for monitoring purposes.

The Business Demographic Series reports the number of businesses by industrial classification, employee count and the number of businesses by number of employees including businesses without employees. When compared with the Census data which distinguishes between people working full-time and part-time the business series does not.

The business statistics report all jobs while the Census only collects information about a person's main job, and asks about whether they have a second job but gathers no further information. Also, because this series is linked with the Inland Revenue Department's PAYE database the employee count does not include people who pay their tax via the provisional

system. The number of businesses without employees helps to provide some information about this group of people working in agriculture if they are not employing anyone in February

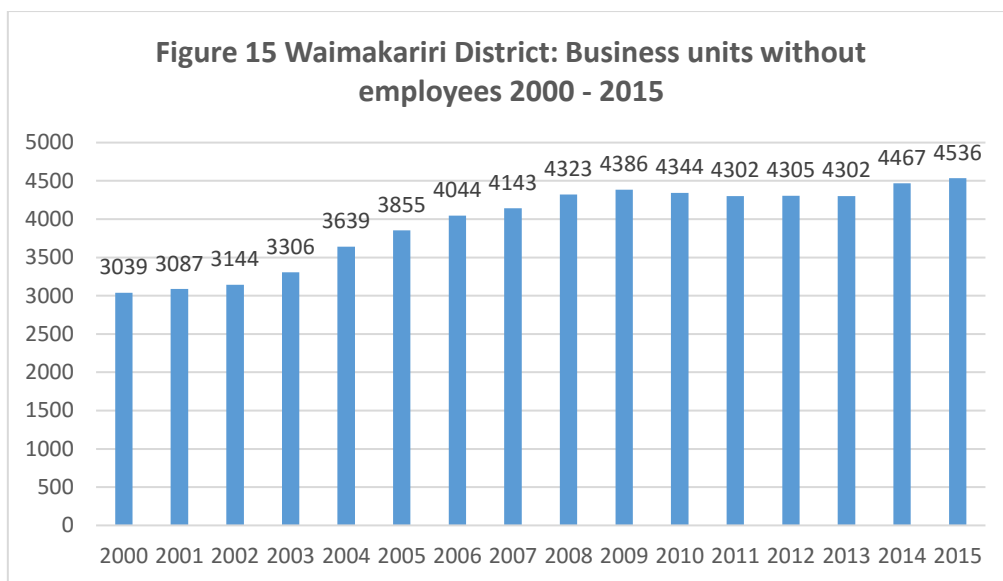
Figure 14 sets out the number of business units and the employee count for the District from 2000 to 2015.



Source: Statistics New Zealand – 2000 – 2015 Business Demographic Series

Figure 14 shows that the number of businesses increased over the period from 4,170 to 6,315 or by 2,145 (51.6%) and that the employee count increased from 7,460 to 13,650 or by 6,190 (82.6%). Also, since 2011 there has been a significantly greater increase in the employee count relative to the increase in the business count. During this period the employee count increased from 10,610 to 13,650 or 3040 (28.7%), while the number of business units increased from 5817 to 6315 or 498 (8.6%).

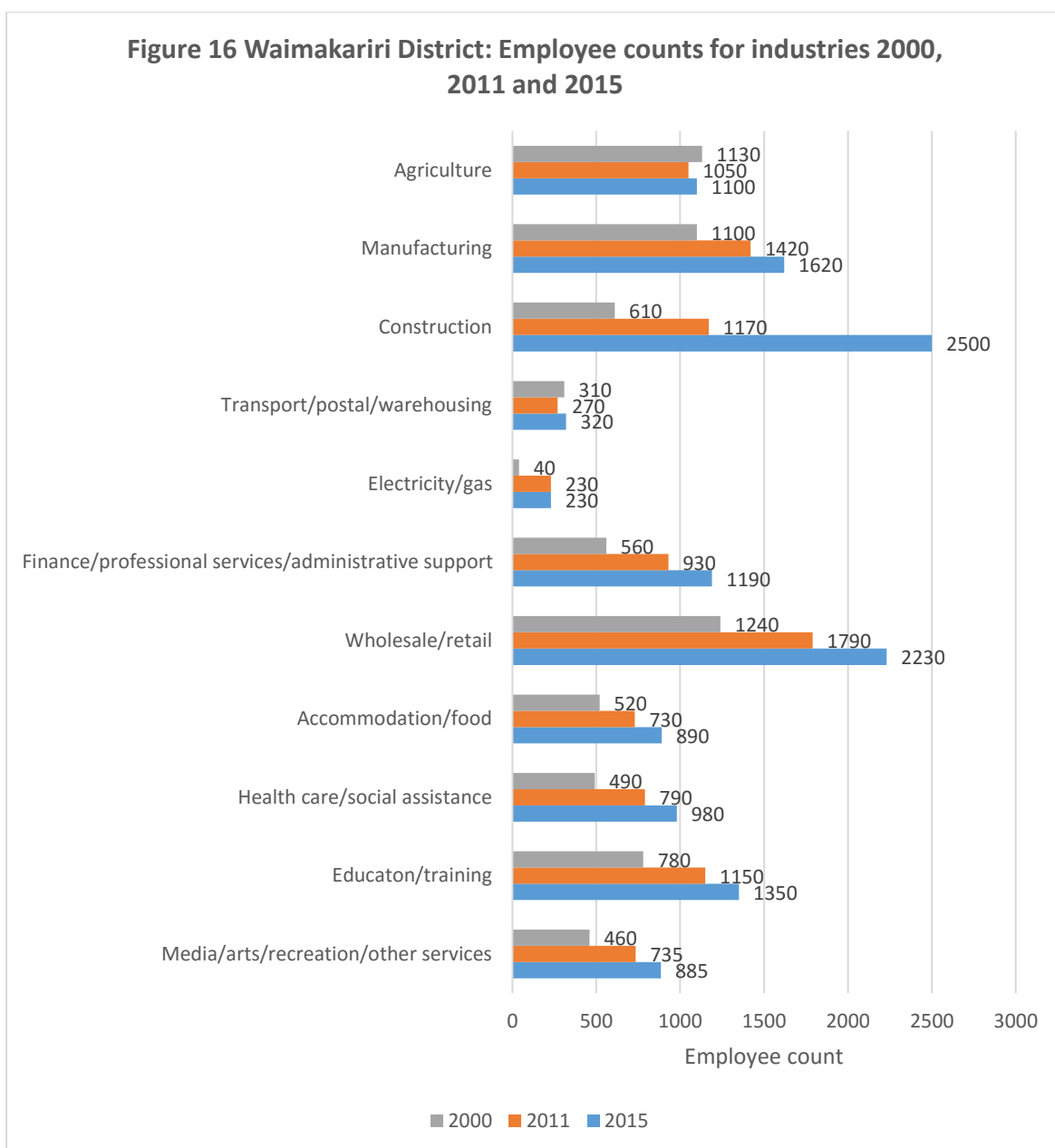
Figure 15 sets out the numbers of businesses without employees from the Business Demographic data series from 2000 to 2015.



Source: Statistics New Zealand – 2000 – 2015 Business Demographic Series

Figure 15 shows that there was a sharp increase in the number of these business during the initial years of the period under review, but relatively little change since about 2009. Overall there has been an increase of 1,497 (49%) and some of these will involve a self-employed person while others could be partnerships.

Figure 16 sets out the employee counts for the Waimakariri District for 2000, 2011 and 2015 to provide an indication of the extent of growth of businesses in the various sectors during the period. The data for 2011 is used as the mid-point for comparison, as its collection coincided with the Christchurch earthquake of 22 February 2011 and provides a baseline for assessing business growth since the 2010/11 earthquakes. The 4 September earthquake however impacted severely on business activity in Kaiapoi, while business activity and particularly retail activity in Rangiora was not adversely affected until the demolition of buildings began in the Rangiora town centre in late 2011 and 2012.

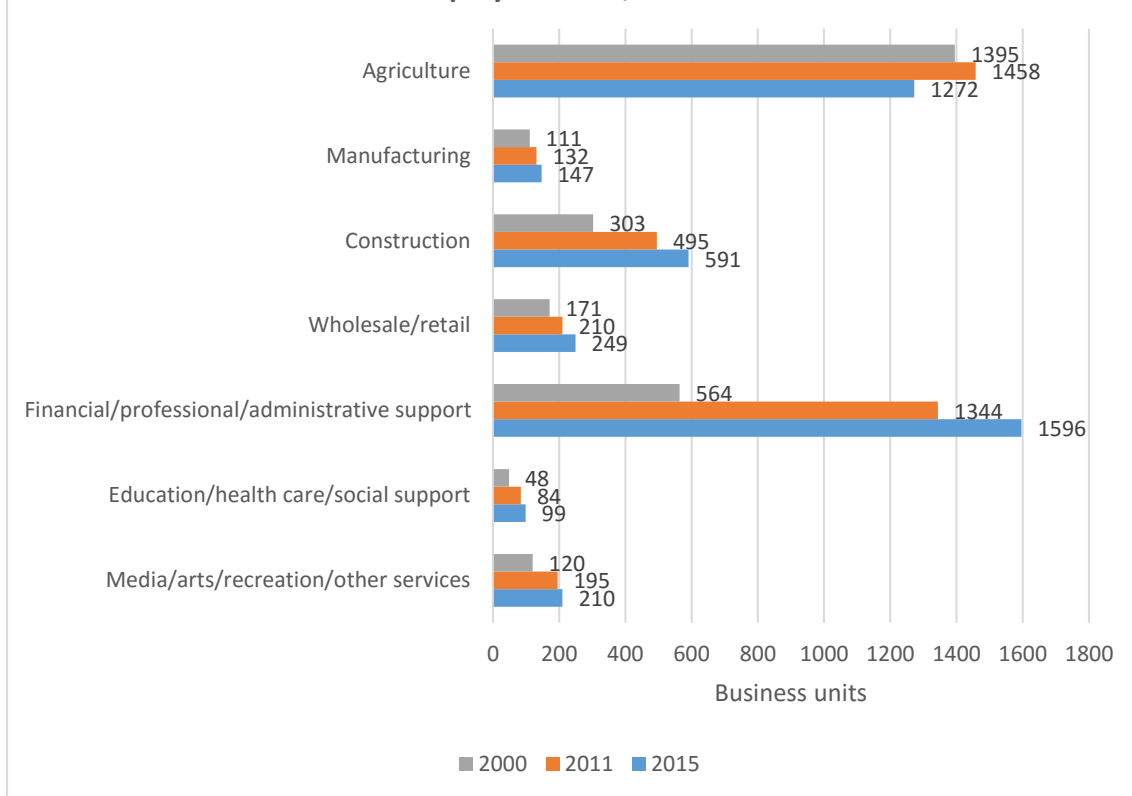


Source: Statistics New Zealand – 2000 – 2015 Business Demographic Series

While figure 16 shows that the greatest growth in employee count overall all and particularly since 2011 was recorded by the construction sector, the service sector including wholesale/retail, business services, accommodation and food, health care and social assistance, education and training, and media/arts/recreation and other services recorded considerable increases over the period.

Figure 17 sets out the changes in the numbers of businesses without employees for the sectors where these play an important part in contributing to the work force, as these are the business vehicle for people who are self-employed individually or involved with partnerships without employees.

Figure 17 Waimakariri District: Sectors with businesses without employees 2000, 2011 and 2015



Source: Statistics New Zealand – 2000 – 2015 Business Demographic Series

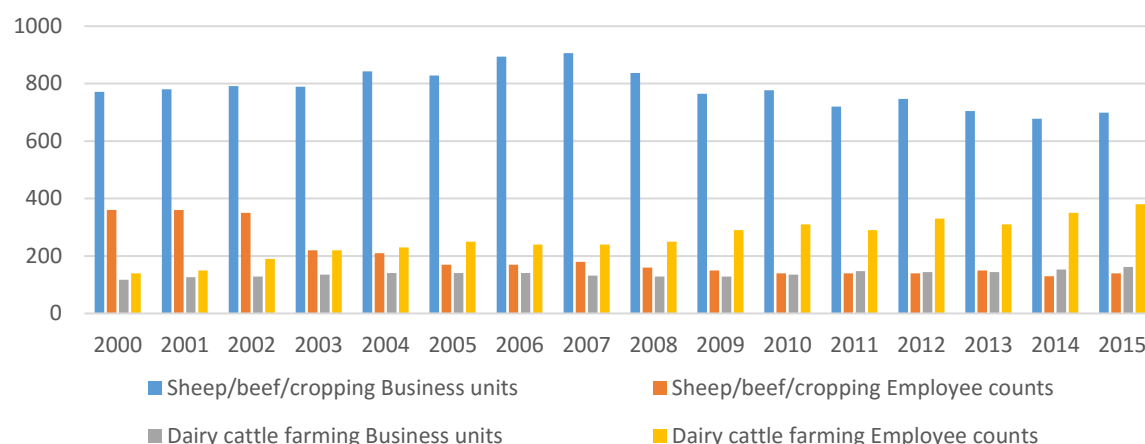
Figure 17 shows a major increase in the number of businesses without employees for the financial/professional/administrative support services sector, followed by the construction sector, wholesale/retail and media/arts/recreation/other services sectors. Figure 17 also indicates that throughout the period there have been manufacturing enterprises without employees operating in the District, and that the number of these has increased slightly. Agriculture represents the only sector with a decline in the number of businesses without employees between 2011 and 2015, and this accompanies a relatively static employee count for this sector since 2000.

5.2 Farming businesses in the District

The Business Demographic Series indicates that in terms of the number of people involved in the agricultural sector in the Waimakariri District there has been no growth, but this is not adequately reflect the extent of change in this sector in the District since 2000. The 1999/2000 season saw the commencement of the Waimakariri Irrigation scheme which brought water from the Waimakariri River to a command area of approximately 40,000 hectares of the upper Waimakariri/Ashley plain, and an initial area under irrigation of about 16,000 and which has increased somewhat since the start of the scheme.

The introduction of irrigation to the upper Waimakariri/Ashley plain created opportunities for dairy farming on land that without irrigation had been used for various combinations of sheep, beef and cropping farming. The impact of this change on both these major farming sectors is set out in Figure 18.

Figure 18: Waimakariri District - Business units and employee counts for sheep/beef/cropping and dairy cattle farming 2000 - 2015

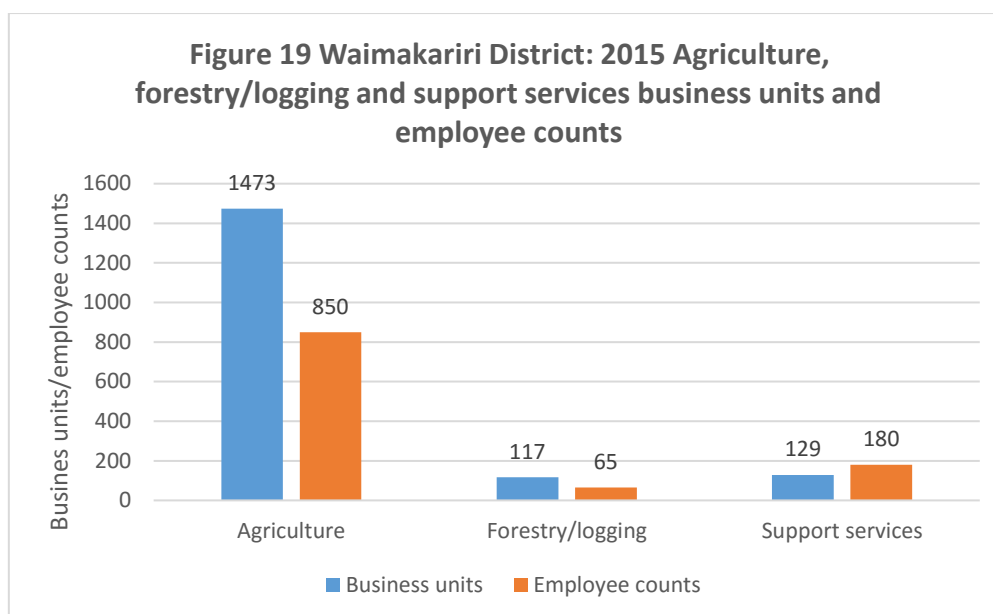


Source: Statistics New Zealand – 2000 – 2015 Business Demographic Series

Figure 18 shows that the number of sheep/beef/cropping business units has fluctuated, peaking in 2007 and then declining toward the end of the period. This peak coincides with the peak for the creation of small holdings following the extensive number of applications for rural subdivision that occurred in the 2003/04 financial year, ahead of the Council's introduction of development contributions on 1 July 2004. It is likely that some of the people who established new small holdings at that time attempted to run these properties as business enterprises involving sheep/beef and/or cropping, and have subsequently chose to de-register these for GST with the Inland Revenue Department or change classification.

Dairy cattle farming increased from 111 to 162 business units during the period, and the number without employees increased from 60 to 78. The employee count for dairy farming has increased from 140 to 380. To a certain extent the implications of the introduction of irrigation to the upper Waimakariri/Ashley plain which allowed the introduction of larger scale dairying to the District is masked in official statistics, as it was accompanied by the closing down of a number of smaller dairy farms in the east of the District. These farms were established in the days when town supply dairy farms milked all year round, and some were too small to remain viable economically as the dairy industry changed and in an era when there was significant demand for small holdings.

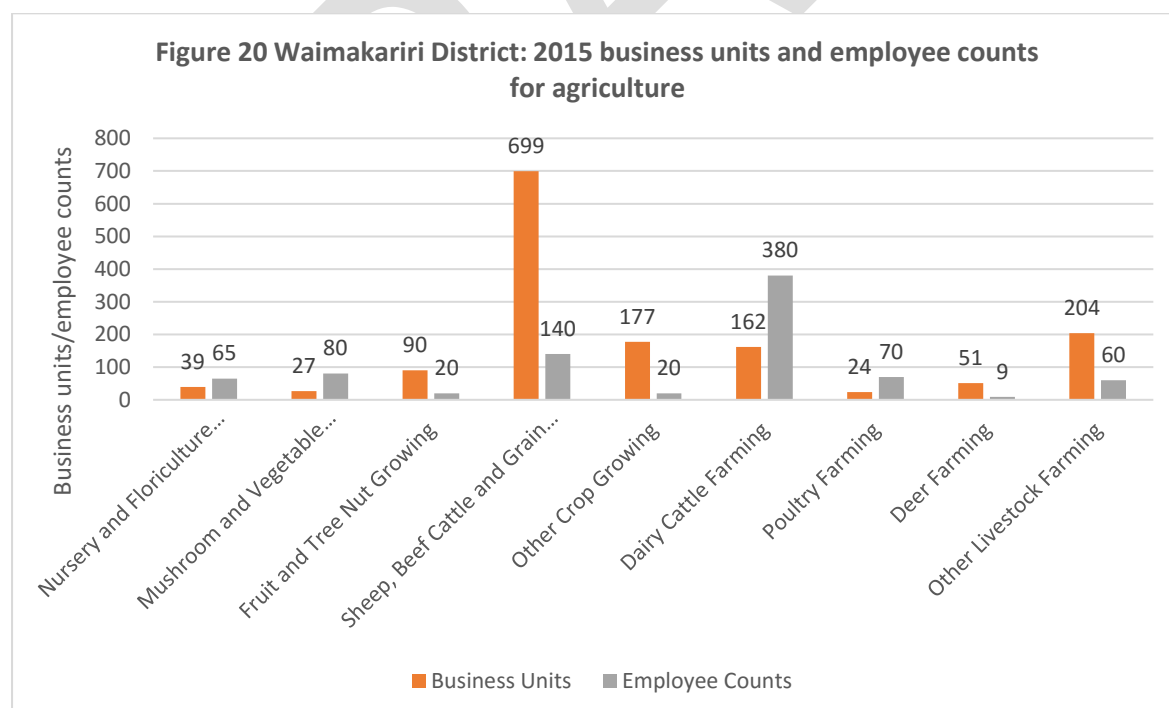
Figure 19 separates out the business units and employee counts for agriculture from those for forestry and logging and support services for 2015.



Source: Statistics New Zealand – 2015 Business Demographic Series

Figure 19 shows that there are significantly more business units involved with agriculture than employees, and that the number of business units involved in forestry and logging also exceeds the employee count. For support services for the sector, however, the employee count exceeds the number of business units.

Figure 20 sets out the number of business units and employee counts for various farming activities, including horticulture as well as livestock and arable farming.



Source: Statistics New Zealand – 2015 Business Demographic Series

As the employee counts are based on February PAYE returns some seasonal employment may not be included. Despite this, collectively horticulture (nursery and floriculture, mushroom and vegetable growing) were employing a similar number of people as sheep,

beef cattle and cropping farms in 2015. Poultry farming which is relatively prominent in the District had 24 business units with an employee count of 70. It should be noted that pig production which is prominent in the Waimakariri District, with pig numbers reported in the 2012 Agricultural Survey for the District only exceeded across New Zealand at territorial authority level by the Selwyn District, is not identified separately. It is likely to be included in the “other livestock farming” category.

Dairying is the farming category that warrants further attention, as it is an extensive employer of labour which is likely to be affected by changes in the overall profitability of dairy farming, irrespective of whether this is attributable to market conditions or constraints that may be imposed on land use in order to improve water quality.

Figure 21 provides an indication of the number and scale of dairy cattle farms with employees across the Waimakariri District

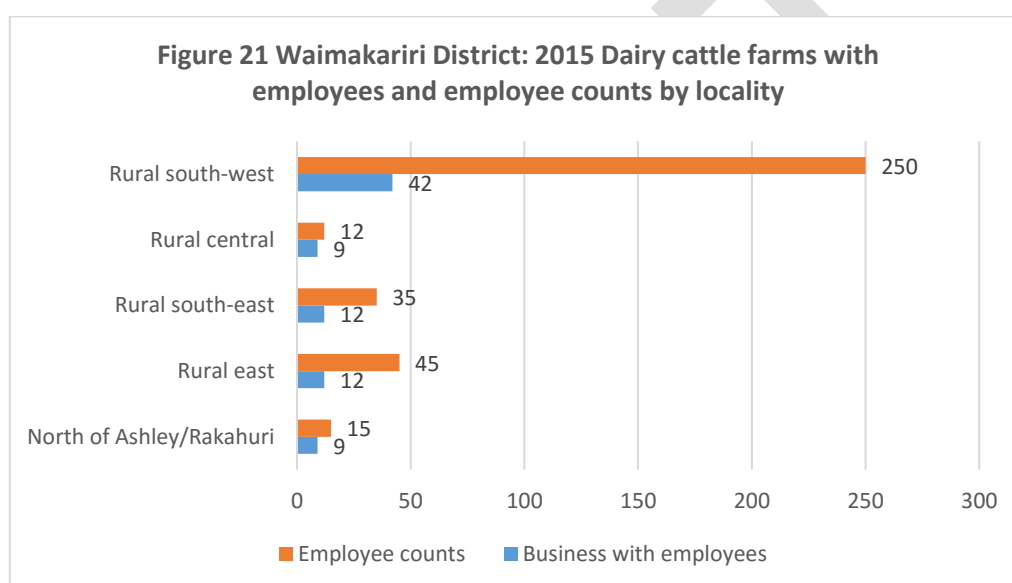


Figure 21 shows that the south-west of the District has the most dairy farms and that employment on dairy farms is concentrated in that area as well. The numbers in this figure do not match the numbers in Figure 20 because Statistics NZ does not provide information for areas where there are very few cases and the publication of this information would breach the Department’s confidentiality standard. Such numbers are included when totals are aggregated.

The rural south-east of the District, which includes the West Eyreton, Eyrewell and Oxford areas also included approximately 130 people employed with other farming enterprises in addition to self-employed farmers. This suggests that any controls on farm management to manage water quality or quantity likely to impact on farm management and/or profitability will not only impact on dairy farming.

6 Rural communities

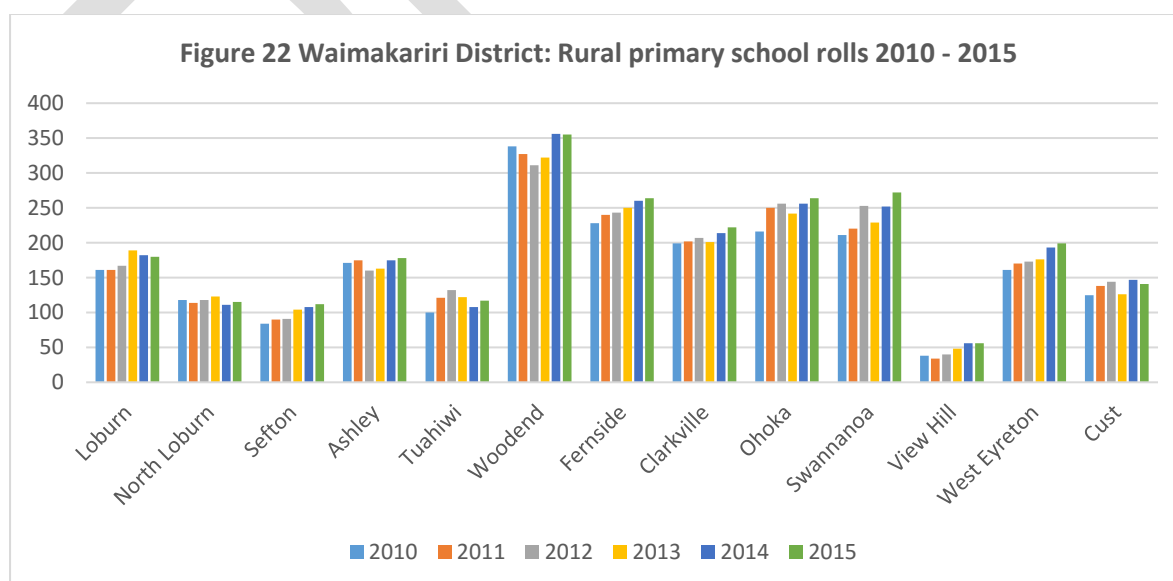
6.1 Focal points

The Waimakariri District can be seen as having a series of overlapping and interlocking communities. Much of the District is relatively flat and well served by sealed roads so movement around the area for most people is easy, and there is a tendency for people to become involved with groups where they have friends or ones that cater for their specific interests irrespective of location. For this reason, and because they have significant concentrations of people, the District's two main urban areas host many of the District social/recreational and social support and service organisations. Sports organisations also cluster in these area and also in key rural locations with major sports grounds such as Mandeville, Woodend at Gladstone Park, the Loburn Domain and Oxford at Pearson Park.

The foothills and Lees Valley are relatively sparsely settled, but nevertheless provide many recreation opportunities which are discussed extensively in the Recreation Profile, also prepared to assist the CWMS Waimakariri Water Zone Committee with its contribution to the Zone's sub-regional chapter of the LWRP. The Ashley River/Rakahuri rises in Lees Valley, which is an area with a limited number of large farms traditionally grazing sheep and beef cattle. The first attempt to promote significant settlement in Lees Valley occurred after World War I when the government provided farms for returning servicemen. Unfortunately the farming conditions in the Valley were not conducive to successful settlement of this kind and many of these farms failed. More recently a few farming families have become firmly established in the Valley, while other properties have changed hands quite frequently with some of these being absentee owners. People living in Lees Valley look to Oxford as their service centre.

6.2 Rural primary schools

In the rural areas, the rural primary schools play an important role in providing a focal point for the people living in each area. Figure 22 sets out the official 1 July rolls for the District's rural or predominantly rural schools for the years 2010 – 2015.



Source: Ministry of Education website

Figure 22 shows that during the period 2010 – 2015 some schools have seen greater roll growth than others, and some have seen sustained growth while have seen significant growth but the numbers year on year for others have fluctuated.

The four primary schools to the north of the Ashley River/Rakahuri saw an increase of 51 (9.6%) in their rolls between 2010 and 2015. The Ashley School has a decile of 10, the Loburn and North Loburn Schools are decile 9 and the Sefton School is a decile 7 school.

Schools in the rural east of the District shown in figure 22 are Woodend and Tuahiwi and together they had an increase of 34 (7.7%) in their school rolls during the period. The situation with defining the rural primary schools in this area is difficult as the Woodend School includes a substantial rural area in its school zone. Also at the beginning of the period the Waikuku School had a roll of 101 children with many of them drawn from the Waikuku community and the surrounding rural area. In 2015 a new school was opened at Pegasus, and the children from Waikuku were transferred and the roll had climbed to 333. The Tuahiwi School has a decile of 6 and Woodend a decile of 8. Pegasus is a decile 10 school.

The Fernside School is in the central rural area and it has seen sustained growth of 36 (15.8%) in the number of students between 2010 and 2015. This school is understood to have a limited number of children who live in Rangiora, but generally it is the Ministry of Education's policy for rural children to attend rural schools and urban children to attend school located in urban areas. Fernside is a decile 10 school.

In the south-east there is some overlap in the school zones, with the Swannanoa School zone including some of the West Eyreton and Eyrewell Area Units, defined as rural south-west for the purposes of this paper. Despite this, the Clarkville, Ohoka and Swannanoa Schools collectively recorded the greatest increase in numerical and percentage terms with 132 (21.2%) additional students. Each of these schools is a decile 10 school.

There has also been a substantial increase in the number of primary school children at schools in the District's south-west. Together the West Eyreton, Cust and View Hill Schools have had an increase of 72 (22.2%) children in the period 2010 – 2015, and with the years 1 – 8 students at the Oxford Area School added the overall increase has been 107 (17.1%) children. The Cust and West Eyreton Schools are decile 10 schools while View Hill has a decile of 7.

6.3 Oxford Area School

The Oxford Area School is one of the largest area schools in New Zealand catering for years 1 – 13, and draws aged children from across the western area of the District. In 2010 this school had 467 students, 302 of whom were in years 1 – 8 and 165 were in years 9 – 13. By 2015 it had a total of 531 students with 337 in years 1 – 8 and 194 in years 9 – 13. This means that the Oxford Area School recorded an 11.6% (35) increase in the number of primary level students and 17.6% (29) in the number of secondary level students during the period. The Oxford Area School has a decile of 7.

Despite the increase in the number of people working on dairy farms in the west of the District since 2000, the recent ethnic mix of the students at the Oxford Area School has not change to the extent that it has changes at the Amuri Area School, which also service an area with significant numbers of recently established dairy farms. In 2015 the Oxford Area

School indicated that the ethnicities of its students included 40 with Maori ethnicity, 7 with Asian ethnicity and 6 with other ethnicities not European. Between 2010 and 2015 the number with Asian ethnicity at the Oxford Area School fluctuated between 7 and 14. In contrast, in 2015 the Amuri Area School had 37 with Maori ethnicity, 29 with Asian ethnicity, 10 with Pacifica ethnicity and a further 8 with other ethnicities not European in a school of 306 students.

Overall, the increase in the rolls at the rural primary schools in the Waimakariri District and at the Oxford Area School can be attributed to the continued growth in the number of small rural holdings, the exodus from Christchurch after the 2010/11 earthquakes and the conversion of farms to dairying. The change of land use, particularly the removal of trees from the Eyrewell Forest and by 2016 the establishment of seven dairy farms and eight grazing farms. In mid-2016 number of people living on these farms approaching 150. There have been other recent dairy conversions in the Eyrewell area, and these have been accompanied by the construction of a significant number of new dwellings to accommodate farm staff. Recent building consent data from the Waimakariri District Council shows that in 2015 consents were granted for 56 new dwellings in the rural area to the west of Two Chain Road and south of the Ashley River/Rakahuri.

6.4 Rural preschool services

As the number of people living in the District's rural areas has increased as has the provision of pre-school services. In mid-2016 there were two preschools or play centres based north of the Ashley River/Rakahuri and between them these organisations are licenced for 83 children and 18 of these can be under two years old. There is also a play group at Sefton which is not listed with the Ministry of Education

Woodend and Pegasus have a number of preschool or early child care organisations which collectively have 270 places and 82 places for children under two years of age. The Tuahiwi Community Preschool has 50 places but is not registered to look after under two year olds.

In the central rural area the Fernside Preschool is licenced for 60 children and 10 children under two year olds.

The rural south-east of the District has a play centre at Clarkville and a preschool at Swannanoa. Together these centres have 125 places and provision for 30 under two year olds. Immediately after the 2010/11 earthquakes the Swannanoa Preschool was the only early childhood centre in the District with a substantial waiting list, and in anticipation of further Residential 4 (rural residential) development at Mandeville the Ministry of Education made funds available to increase the capacity of the Swannanoa Preschool from 50 to 100 children.

The south-west of the District has two early childhood centres at Cust and three at Oxford, and these centres are able to cater for 170 children with places for 30 children under two years of age. Of these centres only the Cust Preschool does not have places for young children.

6.5 Community relationships

The Waimakariri District has a wide range of social support services which provide services to those who need assistance. Some of these are mainly volunteer organisations such as Cancer Support and Riding for the Disabled, while there are two major community based trusts supported by the Waimakariri District Council, Wellbeing North Canterbury and the Oxford Community Trust. These organisations receive a mix of funding including grants from charitable trusts, contracts from government agencies for the delivery of specific social services and donations from other sources.

While Wellbeing North Canterbury provides services across the District and the Hurunui District, the Oxford Community Trust activities are focused in Oxford areas. The services Oxford Community Trust provides include counselling and advocacy, food assistance, budget advice, family support, youth activities, OSCAR and holiday programmes. Prominent among this trust's initiatives is the work it does with teenagers to achieve their driving licences, which helps to overcome the relatively isolation for young people living at Oxford. Volunteers also run a "budget boutique" selling second-hand clothes under the auspices of the Trust.

The Churches are active in the Oxford community as they are across the District as a whole. In particular, the Oxford Baptist Church has established the Oxford Children's Trust, which runs the Oxford Early Learning Centre, and also hosts other activities such as Oxford Music and Movement for young children, Oxford Mums which provides opportunities for mothers to meet, share friendship, discuss common concerns and/or learn a craft while their children are looked after. This church also has youth workers and gives away clothes donated to it.

Primary health services at Oxford are provided by the Oxford Community Health Centre which is managed by the Oxford Health Charitable Trust established in 2005. This arrangement for primary health services in a rural area was ground-breaking as a means of overcoming the reluctance of general practitioners to work in rural areas. Operating as a charitable trust it also means that any profits made are returned to the community in the form of enhanced medical services.

The strength of the networks in the Oxford community also means that people from various organisations have the capacity to come together to further enhance community relationships and reach out to newcomers. For example, in July 2016 a Migrants Night was held in the recently refurbished Oxford Town Hall. This initiative was staged by the Oxford Trust, the Oxford Community Committee, the Oxford Promotion Association and the Waimakariri District Council. It was initially seen as an opportunity to reach out to the Filipino community in the area, particularly those working on dairy farms, but the focus of the evening evolved to include other migrant communities living in the Oxford area. This evening was seen as not only an opportunity to reach out to the area's migrant communities but to encourage leadership within these communities.

Ngāi Tahu is also moving to support its people living on the recently established farms replacing the Eyrewell Forest, and develop community relationships. In 2015 the people living on the Ngāi Tahu farms (Te Whenua Hou) were surveyed to find out what they wanted and how they thought that the farm management could help them. From this came a number of initiatives including the idea that the end of the dairy season should be celebrated, which it was in June 2016 in a "Glits and Gumboots Ball" held at the West Eyreton Hall. Other moves to enhance the emerging community based on Te Whenua Hou

are the provision of health checks, staff kappa haka evenings, Karaoke nights, the development of a children's playground, a community vegetable garden, and regular news letters.

The Oxford Observer, the monthly community bulletin published at Oxford also plays an important part in linking people who live in the rural areas to the south and west of the District as it is delivered widely to homes outside of the immediate Oxford area. It provides a range of local news, information about upcoming events, accounts of people helping people in the Oxford area, recipes, a community directory and trade advertisements. The list of clubs based in Oxford which include a branch of the Women's Institute, craft groups, walking groups, a men's shed, a branch of senior citizens, a community garden, and a toy library. The groups listed in the Oxford Observer Community Directory also indicate the willingness of the Oxford community to reach out to new people and provide support. The June 2016 edition included an invitation to people new to the area to call in to Café 51 at 10.00 am on the 1st and 3rd Monday of the month for a cup of tea/coffee and a chat. There is also a group of volunteers at Oxford who provide families with new babies with meals and baking, and this group indicates "*volunteers always appreciated*".

6.6 Community connectedness

The quality of community life is one of the reasons given by households surveyed by the Waimakariri District Council over the years for choosing to live in the District. It is also a feature of life in the District "liked" by people living in the District. Recent surveys conducted by the Council have also sought information about participation in community groups.

For example, the 2013 Oxford Survey recorded 67.1% of 329 respondent households with members participating in one or more community organisation. The 2011 Waimakariri District Community Survey found 55.1% of respondent households across the District had this level of participation. The 2006 Small Holding Owners Survey found 65.0% of 437 households and the 2005 New Residents Survey recorded 57.8% of respondent households had members participating in one or more community organisation.

Generally households with children were involved with school based groups or sports clubs. The households that appear less likely to have someone involved with at least one community group based in the District are those without children and both partners working in Christchurch. In some instances, these households may have members involved with community organisations based in Christchurch.

The social science literature is increasingly focusing on the issue of social isolation and its implications for a person's overall health and wellbeing. There are a number of perspectives being used in this context, and the work of Robert Putnam on social capital analysed the factors contributing to reduced social connectedness in his publication *Bowling Alone: the collapse and revival of American community* (2000). One of the factors that Putnam suggests reduced the level of participation in community organisations is the amount of time spent travelling to and from work and going to malls distant from places of residence to shop.

When tracing the increasing length of commuting, and the time spent commuting by car often alone over the years Putnam notes that people are spending more and more time in cars often travelling alone. He adds that some see this as valuable time being alone gives time to think. He goes on to state: *The car and the commute, however, are demonstrably*

bad for community life. In round numbers the evidence states that 'each additional ten minutes in the daily commuting time cuts involvement in community affairs by 10 percent' (emphasis added) – fewer public meetings are attended, fewer committees chaired, fewer petitions signed, fewer church services attended, less volunteering, and so no."

It is no surprise that the highest level of participation in volunteering in terms of percentage involvement by age and gender recorded for the District at the 2013 Census was by women in the 70 – 79 years age group, given the extent to which people in the younger age groups are involved with travelling to Christchurch to work. The difficulties some people report in finding people ready to become involved in running community organisations would appear to be explained at least in part by Putnam's assessment of the impact of the time spent commuting on community connectedness.

Overall this approach to the issue of the quality of community life suggests that there may be stronger influences undermining social connectedness and/or creating levels of loneliness likely to undermine general health and wellbeing than changes that might be introduced into land use designed to achieve improved water quality and/or quantity. The adverse social effect from any constraints on land use introduced in an effort to improve the District's water quality and/or quantity is, therefore, most likely to impact on those working in agriculture, and on the farm family. For example, if there is a fall in profitability and employees dismissed it is probable that it is the younger workings who will lose their jobs and ultimately may be lost to the industry. This would be a particularly serious outcome given the overall ageing of the New Zealand population and on-going concerns about the increasing average age of people involved with farming, especially farm owners, across the country as a whole.

7. Acknowledgements

This document has been reviewed by Matt Dodson (Environment Canterbury) and Geoff Meadows and Veronica Spittal (Waimakariri District Council).

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