Appendix 1: Background Information for Selwyn 2031

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planz CONSULTANTS PLANNING AND RESOURCE MANAGEMENT

Selwyn DISTRICT COUNCIL

Background Information for Selwyn 2031: District Development Strategy

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All images sourced from Opus unless stated

Contents

1. Introduction

INTRODUCTION

The purpose of this Background Information Report is to reflect on the past and present, and collate existing information on the Selwyn District (the District) to identify characteristics, trends and emerging issues which provides a summary of findings for the preparation of the District Development Strategy.

The Appendix is set out under the following section headings:

- Historical Background - outlines the cultural and historical influences of the Selwyn District.
- Characteristics of the Selwyn District - describes the characteristics of the natural environment. The natural environment of the District covers the principle of 'Ki Uta Ki Tai' as a holistic, catchment approach to resource management, and this concept is used throughout the report.
- Growth in the Selwyn District - outlines the demographic and economic characteristics of the District.
- Tourism - outlines the District Highlights, challenges and opportunities, tourism statistics and key future focuses.
- Infrastructure Factors - characterises the 5 waters infrastructure and the transportation network.
- Social Infrastructure - Characterises community facilities, services and networks, land use, open space, recreation and tourism.
- Existing Policy and Planning Framework - overviews and provides context for the planning and strategic documents that influence the District.

2. Historical Background

INTRODUCTION

This section covers the historical background of the Selwyn District which contributes to the 'cultural wellbeing' of the District as a whole. This includes the history and values of Te Taumutu Rūnanga (including wahi tapu and wahi taonga sites) and the early settlements of the District as well as the value of archaeological and heritage sites that exist in the District today.

This section is not intended to provide a detailed analysis of the cultural history in the Selwyn District. Rather the focus of this section is to review and summarise the general history of the Selwyn District.

A wide range of sources were utilised:

- Te Taumutu Rūnanga
- Mahaanui Iwi Management Plan 2013
- Arch Site – New Zealand Archaeological Association (NZAA) digital site record database.
- Historic Places Trust Register of historic places and areas.
- Department of Conservation records.
- Selwyn District Plan.
- Archaeological and historic reports for the Selwyn District region.
- Other literature relating to the history of the Selwyn District region.

The District encompasses a diverse range of environments; the cultural heritage in the district is equally as diverse and reflects the changing nature of the landscape. In particular, in the past the Canterbury Plains provided a fertile environment that was once heavily forested and which has been dramatically modified since people arrived in the region. However the impact of the change of the natural landscape has been a source of significant concern to Te Taumutu Rūnanga.

HISTORY OF THE DISTRICT

Tāngata Whenua of the Selwyn District

In Te Wai Pounamu (the South Island), one tribe, Ngāi Tahu occupies all but the most northern part of the island. The entire Selwyn District lies within the rohe (area) of Ngāi Tahu.

Ngāi Tahu Whanui is tangata whenua within the rohe of Ngāi Tahu. The iwi is made up of whanau and hapu (family groups) who hold traditional authority – manawhenua, over particular areas. Manawhenua is determined by whakapapa – genealogical ties, and confers traditional political authority over an area. Once acquired, manawhenua is secured by ahi ka – continued occupation and resource use. Selwyn District Council recognises manawhenua through its relationship and consultation with Papatipu Rūnanga and Te Rūnanga o Ngāi Tahu.

Through the Papatipu Rūnanga the tangata whenua who hold manawhenua over a particular area or resource are able to determine the characteristics of kaitiakitanga (guardianship) and how it should be given expression.

Te Rūnanga o Ngāi Tahu represents the tribal collective of Ngāi Tahu Whanui. It was established by the Te Rūnanga o Ngāi Tahu Act (1996) to give a legal identity to the tribe. This Act also establishes Te Rūnanga o Ngāi Tahu as the 'iwi authority' for the purposes of the Resource Management Act 1991.

Selwyn District Council in its liaison and consultation with Ngāi Tahu deals with both Te Rūnanga o Ngāi Tahu and Papatipu Rūnanga within the district.

Pre-European History of Selwyn District

First habitation to Te Wai Pounamu began over 1000 years ago with the arrival of the Waitaha people on the Uruao waka. The captain of this waka was Rakaihautu, who is credited with creating the alpine lakes of the South Island with his magic ko (digging stick) name Tuwhakaroria. Upon the completion of his deeds he returned to Banks Peninsula and in doing so discovered the flat plains of Canterbury, which he called Nga Pakihi Whakatekateka o Waitaha, and the coastal lagoon he described as "te waihora" or flat spread out water. Rakaihautu and his son Te Rakihouia claimed this resource as their mahinga kai and hence named the lake Te Kete Ika a Rakaihautu. Te Rakihouia set about building eel weirs in the lake and tributaries and thus named the spit that divided the lake from the sea Ka Poupou Te Rakihouia (The Eel Weirs of Te Rakihouia).

Generations later Ngāti Mamoe from the North Island came in search of resources and settled amongst the Waitaha people. A prominent yet mischievous man of this tribe was Tutekawa and in establishing his home at Waikakahi (Birdlings Flat) pronounced Te Waihora as his, hence the lakes second name Te Kete Ika a Tutekawa. Te Rakitamau, a son of Tutekawa, established his pa (village) at Taumutu and from this point set about securing access to the rich resources of the Canterbury and Westland areas.

Generations beforehand, Ngāti Mamoe and Ngāi Tahu had consistently battled for resource and mana. As a consequence of Tutekawa killing two senior Ngāi Tahu women, the Ngāi Tahu kinsmen came in pursuit of Tutekawa and his people, migrating across Cook Strait, down the Kaikoura Coast and into Canterbury. As the leading Rangatira (chiefs) took control of the area they established manawhenua by laying claim to various places and resources. Examples of these claims include Te Ruahikihiki claiming Te Waihora and establishing his pa at Orariki (site of the Hone Wetere Church), and Tanetiki, the eldest son of Tuahuriri, claiming Whatarama, the Torlesse Range as a kakapo reserve.

From their headquarters, the various Ngāi Tahu rangatira sent members of their hapū and whānau north, south and west to secure further resources via conquest and inter-marriage. Given the harsh southern environment, the most important resources were the rights to mahinga kai (food gathering sites).

These rights to waahi tapu and waahi taonga, including mahinga kai, have been passed down from generation to generation, enabling hapū and whānau to undertake cultural rituals and gather their food from the places at which it was abundant and healthy.

Since the signing of Te Tiriti o Waitangi, these rights have been maintained under Article 2 and are now commonly referred to as Customary Rights. From the time of the Treaty though, it appeared to European settlers that the traditional rights of tāngata whenua were extinguished.

However, during the ensuing years Ngāi Tahu have maintained their cultural identity within individual whānau (families).

Te Taumutu Rūnanga Takiwa

Te Taumutu Rūnanga is the administrative council of the hapu. In this role, the Rūnanga has responsibility to protect the natural resources, mahinga kai, and other values of the takiwa for the benefit of those people of Ngāi Tahu descent who have customary interests in the area." (Te Taumutu Rūnanga Natural Resource Regional Plan).

The area of interest for Ngāi Te Ruahikihiki ki Taumutu radiates north, south east, and west, to places that hold whakapap associated with the hapu of Ngāi Te Ruahikihiki, as well as important mahinga kai areas. In various places, these interests are shared with other hupu, including Ngāi Tuahuriri at Kaiapoi, Ngati Huirapa at Arowhenua, and the hapu of Horomaka / Banks Peninsula.

This area can be summarised as:

"Starting at Waikakahi (Pa site on Birdlings flat) follow the original lake shore to Ahururu. From here follow the Halswell River to it's source then on to Upper Riccarton, Christchurch. Thurning northwest to Yaldhurst and on to the south bank of the Waimakariri Rive travel up this side of the river to the Gorge. Crossing the river follow the ridge of the Puketeraki Range to the end of the Danmpier Range.

From this western point, follow a line to Browning's Pass and on to the mountain known as Te Ruahikihiki. From here a straight line is folowed to the source of the Rakaia River and then crossing over the Black Hill Range to the old tree at Alford Forest. From here follow the North Branch of the Ashburton River to the main Ashburton river and on to its mouth".

Selwyn District

The Selwyn District takes its name from George Augustus Selwyn of the first Anglican Bishop of New Zealand, who was appointed the role in 1841. Bishop Selwyn moved to New Zealand from England to establish Church Missionary Society missionaries across the country.

Following on from this, the Canterbury Association was set up in England in 1848 with the aim of settling the Canterbury region as an Anglican colony (Rogers, 2007). The Canterbury Province was named shortly after in 1853. Runs of land were already being sold off along the Rakaia River in the early 1850s ranging in size from 5,000 to 20,000 acres (Graham and Chapple, 1965). It was during this period that farming was quickly developing and shaping the Canterbury Plains and high country into a number of run holds (Figures 1 and 2).

The discovery of coal in the Selwyn District near the Rakaia and Selwyn Rivers in 1851 created an impetus to develop roads, railways and tramways across the Canterbury Plains (Dobbie and Perrin, 1998). Many of the towns in the Selwyn District developed as a result of the extensive railway network. Christchurch, Rolleston, Coalgate, Sheffield, Waddington and Springfield are some examples of these railway towns (Dobbie and Perrin, 1998).

The increasing ease of access into the Canterbury Plains also led to the development of other towns in the mid to late 1800s.

A notable feature of the Selwyn District as a result of early farming is the ‘2000 miles’ of water races developed throughout the Canterbury Plains to bring water to the farms scattered throughout the area. Work started in the 1870s on the elaborate water networks, which continued to develop well into the 1900s to provide adequate water supply to the rapidly growing number of farms in the area (Dobbie and Perrin, 1998).

Townships History

The following is a brief description of the settlement of each of the 21 townships within the Selwyn District.

Arthur’s Pass – The road to the West Coast for coach travel was completed in March 1866 and a very small settlement (changing place for horses, a store and roadmens’ huts) dates from this time. It then became a tunnel construction settlement from 1908 with the building of the Otira tunnel, completed in 1923. The original name for Arthur’s Pass was Bealey Flat and it didn’t become Arthur’s Pass officially until 1916. Arthur’s Pass National Park was gazetted in 1929 and official celebrations of the 75th anniversary of the park were held in 2004.

Coalgate - The name became official in 1876 when given to the post office. It was named in recognition of it being a gateway to the collieries. Before 1876 the official name given by the Railways Department was Selwyn Bluff or The Bluff. Sections were first advertised in 1875.

Darfield – The town had its origin in the railway which opened to Sheffield in 1874. From 1874, it was known as White Cliffs Junction, then Horndon Junction from 1876 to 1879, until it finally became Darfield to avoid confusion with Hornby Junction. Sections were advertised in 1878.

Doyleston – Originally known as Boggy Creek. The beginnings can be traced to 1865 when a general store was built on the north side of Boggy Creek. The locality had become known as Doyleston by 1869.

Dunsandel – Between 1862 and 1865, Robert Daly (who had the Dunsandel Run) freeholded the land on which the township was later developed (particularly from the time the railway arrived in 1872).

Glentunnel – As a locality this was known as Surveyors Gully in the early 1870s. The railway station, which opened in 1875, was renamed Glentunnel in 1876 by which time development was taking place.

Hororata – The development of the area followed on from a closer settlement of small holdings which seems to have taken place between 1860 and 1870. The beginnings of the township appear to date from the late 1860s, with the hotel built by 1867 and a blacksmith shop being established on the south side of the centre of the township.

Kirwee – Development began in 1871 at the intersection of the Coal Tramway Reserve (which ran from Rolleston to Springfield) and what is now called Courtenay Road (which followed the boundary of two early pastoral runs and was an important early travelling route). It was originally known as Brett’s Corner and by 1874 when the railway came through already had a store, bakery and blacksmith shop. With the railway arriving, an official name had to be given and Colonel James de Renzie Brett named it after his 1000 acre property ‘Kirwee’ which he had acquired in 1865.

Lake Coleridge - Construction of the power station began in 1911 and was completed in 1914, the same year that a school opened at the settlement.

Leeston – Leeston dates from 1864 when land was offered as a site for the office of the South Rakaia Road Board (by November renamed the Ellesmere Road Board). Sections were being advertised for the proposed new township of Leeston in May 1864.

Lincoln – Edward FitzGerald of ‘The Springs’ subdivided some of his land for a township in 1862.

Prebbleton – The township was established in 1862 by William Tosswill who surveyed 55 acres of his farm into quarter acre sections. The locality had already been known as Prebble Town since 1856 in recognition of the Prebble brothers with their small group of houses, employees and others.

Rolleston – The initial length of what was known

Figure 1: The early runs of Ellesmere County (now part of Selwyn District) in the 1850s. From Penney (1979)

Figure 2: Grassmere Station, 1872, near Cass in high country of the Selwyn District. From Alexander Turnbull Library (1/4-032235-G)

as the Great Southern Railway was opened to Rolleston in October 1866. It was William Rolleston who proposed the construction of a main railway line south through the centre of Canterbury to open up the districts as well as the building of a new town on this railway which would also be a terminus for branch lines towards Lake Ellesmere and the Malvern Hills.

Sheffield – The township dates from early 1873, sections being advertised in February of that year. The post office which was named Malvern (previously Malvern Hills) changed its name in May 1875.

Southbridge – The building of St James church in 1865 and establishment of a blacksmith shop in the same year can be seen as the beginnings of development at Southbridge. Sections were first advertised in January 1867 by which time a combined hotel/general store as well as wheelwright business were also operating in Southbridge.

Springfield – Springfield was originally known as Kowai Pass. Development began in the 1860s. There was an accommodation house there by 1864, a store by 1865 and a post office opened (at the hotel) in August 1866. The office moved to the new railway station in the second half of 1879 when the name of the township was officially changed to Springfield, to avoid confusion with Kowai in North Canterbury.

Springston - The Springs Road Board office opened here in 1864. When the Methodist church opened here in July 1866 it was called Springston. The infant settlement also adopted the name.

Tai Tapu – The Maori had given the name Tai Tapu to the area where the Halswell River runs through the present village. The first store was established in 1863 while the first hotel dates from 1865.

Waddington – The township dates from 1873, sections being advertised only a matter of months after Sheffield sections were first advertised.

West Melton – The name was given to the district by Henry Trickett who bought 100 acres in 1863. He named it after his home town in England. One of the earliest buildings at the settlement itself was the Wesleyan Chapel (1868).

Whitecliffs – Whitecliffs was officially 'White Cliffs' until 1934 and was originally two settlements side by side. South Malvern, the township, was laid out in 1872 (DP 10) while White Cliffs was the railway village at the railhead (opened in November 1875).

Cultural and Heritage Sites in the District

The New Zealand Archaeological Association (NZAA) holds information on over 60,000 recorded archaeological sites within New Zealand. Since their establishment in 1954, NZAA have collated the records of early archaeological research including the documentation of sites that have since been destroyed by farming, erosion or by some other means. As a result, a wealth of cultural heritage information is available on which to gain an understanding of past human occupation within New Zealand. However, the site recording system is dependent on archaeologists and land managers submitting site record forms to NZAA, and as such there may be a number of sites that have no formal records. Therefore, the site records for the District may provide an incomplete picture of what archaeological sites are present. This situation must be taken into consideration for the following discussion.

Within the Selwyn District, 108 archaeological sites have been recorded as of 4 November 2010 (Appendix 1). The majority of these sites consist of oven remains (N = 50) with some having associated midden (shell/bone refuse) deposits (Figure 3). It is assumed that the recorded oven sites are of pre-European origin, although most of these sites have not been investigated archaeologically beyond their initial recording.

The abundance of sites other than ovens and middens reduces dramatically with the next site type (pit/ditch and mound sites) represented by 12 examples throughout the District. Most records provide no indication of what these features may represent and are, therefore, of little value without additional research.

Site abundance is followed closely by caves and modified rock shelters with evidence of human occupation represented by 11 recorded sites. Most of the recorded rock shelters are clustered around the inland site of Castle Hill and also contain rock art of Maori origin.

Eleven historic buildings and structures have also been recorded throughout the Selwyn District and relate to historic European activity.

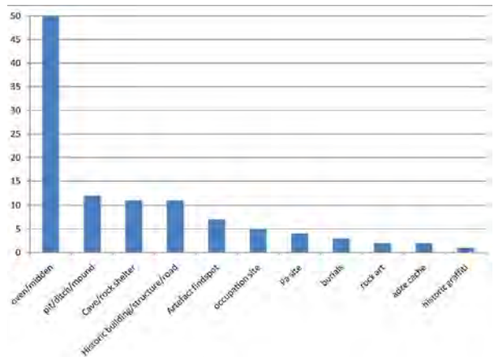

Figure 3: Archaeological site types in the Selwyn District listed with NZAA

The remaining site types are all represented by less than 10 occurrences throughout the district (Figure 3). Several of these are isolated artefact find spots and were not associated with any other archaeological deposits when they were found.

It is worth noting that although occupation and pa sites have low occurrences (five and four respectively) they are the most significant site types in terms of information yield and typically cover a larger land area than any other site type. However, there is perhaps a bias in the data resulting from a lack of systematic research as dense distribution of oven sites throughout the Selwyn District suggests they are also related with an occupation site.

The majority of archaeological sites in the Selwyn District were recorded after the NZAA was established in the 1950s, as illustrated in Figure 4.

There was a deliberate effort to record sites throughout the 1960s, many of which were

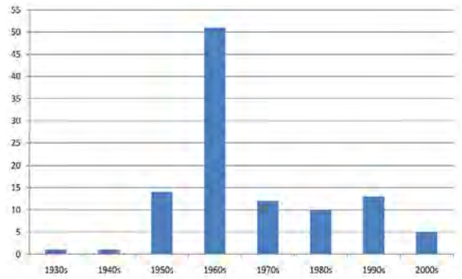

Figure 4: Date when archaeological sites were recorded within the Selwyn District

probably originally recorded but not entered into the database before this time. Earlier site records from only two sites are noted, recorded in the 1930s and 1940s respectively.

After the 1960s the number of sites recorded declined and was probably a result of continuing development in the region uncovering more sites that were previously unrecorded. Despite a recent nationwide re-survey of all recorded archaeological sites, a by-product of the early recording of archaeological sites in the Selwyn District is the low survival rate of these sites today. Challis (1992) completed a review of the site records for the Canterbury region and illustrated that although over 1000 sites had been recorded by this time, only about 20% of the sites were still at least partially intact. The remaining sites had been destroyed.

A more recent survey of the sites in the Selwyn District was undertaken in 2002 as part of the NZAA site recording scheme upgrade project (Watson). Only a small proportion of the sites were re-visited (N = 30) as it was already known

that a large proportion of oven sites within the plough zone in farmer paddocks had already been destroyed. Of the 30 sites re-visited, only 10 could be relocated. Of considerable importance was the observation that some of the site records contained inaccurate site details.

Two cases were noted, one being a European ditch and bank fence that had been recorded as a Pa site and the other was a spoil heap resulting from modern land clearance recorded as an archaeological feature. Also of note was that the archaeologists that undertook the survey in the Selwyn District only noted 98 sites, with an additional two sites identified during the 2002 survey. However, from 2009 the site record scheme has been upgraded to an online GIS system and previously unknown sites may have been recorded on this system resulting in the larger site number for the District.

An interesting comparison that can be made with the recorded archaeological sites in the Selwyn District is the environment where they were identified (Figure 5). For this purpose, coastal sites were described as any site within 8-10km from the

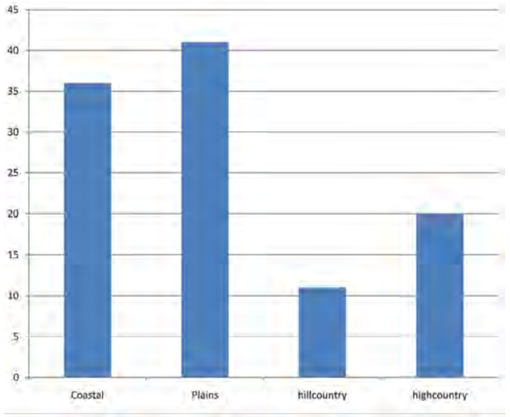

Figure 5: Archaeological site frequency and environment where they were identified

present coast or along the bank of Te Waihora/ Lake Ellesmere. The Plains encompasses all the land up to the Hill Country adjacent to Springfield, Waddington, Coalgate and South Malvern. The Hill Country encompasses the land near the towns listed above, and the High Country refers to the mountainous land from the Korowai Torlesse Tussocklands Park to the western boundary of the Selwyn District.

Figure 5 illustrates that the number of coastal and plains sites are relatively even. However, when the area of land representing these two environments in the Selwyn District is considered, the density of coastal sites becomes more apparent as the coast represents a very small proportion of the District. Furthermore, if the Hill and High Country site frequencies are combined, the overall site frequencies are fairly even across all the environmental divisions (Coastal = 36, Plains = 41, hill/High Country = 31).

The majority of archaeological sites recorded in the High Country are of European origin in the form of structural remains or evidence of early European farming such as ditch and bank fencing. The exception to this pattern is the cluster of rockshelters with Maori rock art in them around Castle Hill described in more detail in the next section. On the other hand, the majority of archaeological sites along the coast relate to prehistoric Maori occupation.

Cultural Sites Listed in the District Plan

Of the 108 archaeological sites recorded on the NZAA database, 77 are listed in the District Plan under 'Wahi Taonga Sites' (See Part E, Appendix 5 of the District Plan).

Description	Amount
Rock Shelter	4
Rock Drawings	2
Cache	1
Findspot	1
Ovens etc	41
Water ditches	1
Swamp Ditches	1
Occupation	4
Artefact Findspot	2
Midden	1
Cave	2
Pa	2
Pit	4
Artefacts	2
Burials	3
Adze Cache	1
Gravel Pits	1
Kumara Pits	1
Mounds	1
Pa with Pits	2

Table 1: Number of Wahi Taonga Sites identified within the Selwyn District Council

Although numbering less than those recorded in the NZAA database, the sites listed in the NZAA site database include those that had been destroyed well before the formation of the Selwyn District Council in 1989.

Nonetheless, even though an archaeological site has been destroyed by modern activity, the recorded presence of a site provides valuable information regarding the distribution of sites in the District. Therefore the NZAA site records provide a more accurate depiction of site distribution. The District Plan also lists five Wahi Taonga Management Areas, four Mahinga Kai Sites (typically referring to areas of traditional resources) and ten silent file areas. Silent files are areas of high cultural value and sensitivity to the local iwi where the details of the area have been requested not to be listed publicly.

In total, 157 heritage sites are listed in the District Plan (See Part E, Appendix 3 of the District Plan). These sites include all those listed in the Historic Places Trust register for the District. The range of buildings and structures listed cover every period of European history in the region and are protected by the rules laid out in the District Plan.

Rakaia Moa Hunter Site

The Rakaia Moa Hunter site (Site no. L37/4) is located on the eastern terraces of the Rakaia River mouth within and around the existing Rakaia Huts camp ground. The first archaeological investigation of this site occurred between 1869 and 1871 by Julius Von Haast. Several other excavations also took place at this site within the last 20 or so years (Jacomb, 2005; McFadgen, 1989; Watson and White, 2008; Witter, 2008a; Witter, 2008b; Witter, 2009). However, it was the work on the Rakaia Moa Hunter site by Von Haast where the term 'Moa hunter' was coined to describe early Maori settlement in New Zealand; an important and lasting contribution to New Zealand archaeology. The Rakaia Moa Hunter site is now only a handful of sites surviving that provide evidence for large scale hunting and processing of Moa, dating to between 1300 and 1400 AD.

The site extends some 450-500m north from Jollies Road and 450-500m west from the coast. A large amount of moa bone, stone tools and post holes (indicating structural remains) were identified suggesting that the Rakaia River Mouth was a large site, possibly used for seasonal occupation where the inhabitants exploited the inland resources, namely the moa. Although other Moa hunter sites are present in the wider Canterbury region (Redcliffs, Moa Bone Point Cave and Wakanui), the Rakaia site is the best known, best described and best preserved (Witter, 2008a).

Castle Hill

Castle Hill describes the land on and around Castle Hill Station which lies some 700 metres above sea level with a distinctive landscape of uplifted limestone outcrops. Castle Hill itself is one of many early European runs and provides a good example of high country adaptation to farming in the District. A number of caves and rock shelters have been identified and recorded in the area, many of which contain Maori rock art. The majority of rock art sites in the South Island are concentrated in South Canterbury so the examples at Castle Hill represent an unique example of early Maori art.

Despite the numerous sites with rock art, archaeological evidence for occupation is less obvious with only a small amount of material culture identified (Challis, Jacomb and Walton, 1994). Although Arthur's Pass was used by early Maori as a thoroughfare to the West Coast, Harpers Pass further to the north was a more favoured route (Brailsford, 1984; Challis, 1995). Nonetheless, a remarkable find was made in 1983 when a flax backpack was found in a shelter at Broken River, dating to around the 15th and 16th century AD (Trotter, 1987). The backpack is thought to come from a Maori individual, or group, crossing Arthur's Pass. It is also thought that the rock shelters on Castle Hill were refuge shelters for groups during these expeditions.

Sites Listed in the Historic Places Trust Register

The Historic Places Trust (HPT) maintains a register of historic places, areas and Wahi Tapu sites throughout New Zealand that are of regional

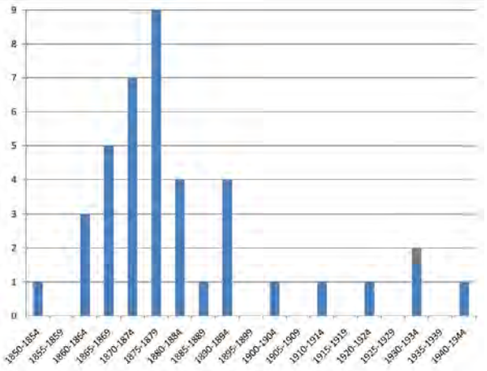

Figure 6: Period of original construction of the buildings listed in the HPT register

and/or national significance. Buildings, areas or sites listed in the register are recognised for their cultural and/or historical value and therefore do not have to be recognised as an archaeological site under the Historic Places Act 1993 (built prior to 1900). To rank the significance of the listed buildings, HPT uses a dual category system as follows:

- Category I: a place of special or outstanding historical or cultural significance or value.
- Category II: a place of historical or cultural significance or value.

The vast majority of these buildings are associated with the original establishment of the towns or properties where they are situated. The period of original construction of these buildings therefore provide a good indicator as to when the region began developing. Figure 6 illustrates the original dates of construction for the 40 individually listed buildings. It can be seen that there was an initial period of construction in the early 1850s, followed by a building 'boom' throughout the 1860s and 1870s.

Within the Selwyn District, 41 historic buildings and areas are listed. No Wahi Tapu sites have been registered. Once again, the listings in the HPT register can be misleading as although there are no Wahi Tapu sites listed for the District, this does not indicate an absence of significant Maori sites. At any given time, HPT has a number of buildings and sites throughout New Zealand under consideration to include in the register.

For the purpose of this report, the listing of Homebush Station was excluded as each of the individual buildings on the station is also registered. Of the registered buildings, 25% (10/40) are recognised as having outstanding or national significance. The remaining 75% (30/40) have historic significance relating to the early development of the Selwyn District.

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These early buildings consisted of farm homesteads, other residential dwellings, churches, schools, bridges, farm buildings and public buildings. This statement is in good agreement with the recorded establishment for many of the Selwyn District towns between the 1850s and the 1870s which developed shortly after the establishment of Christchurch city in the early 1850s (Graham and Chapple, 1965; Penney, 1979).

The registered buildings that post date 1900 are included due to the rare and/or outstanding example of building architecture. In many cases, these buildings had been re-built on the site of the original pre-1900 building. The most modern listing being the Bankside Fuel Depot built in 1942 during World War II, which is now only one of five surviving examples of this type of structure in New Zealand.

Notable Historic Sites

Homebush Station is a remarkable example of an early European farming complex, situated just out of Darfield. Homebush Station was established as a 33,000 acre run in 1851 by the Deans family, who first farmed the land around Christchurch in the 1840s prior to its establishment as a city. The Deans family still operate Homebush Station today. Not only does Homebush represent one of the earliest farms in the Selwyn District, but was also the first hill run allocated by the Canterbury Association.

In its early days, Homebush Station held a number of cattle but by the late 1860s Homebush was well known as a successful sheep station. In the early 1870s, Julius Von Haast (who also excavated the Rakaia Moa Hunter site) identified a coal seam in the Malvern Hills on the Homebush property.

Homebush Station, therefore, has evidence of the early coal mining in the region in association with evidence for early farming practice. As such, Homebush Station is an excellent representation of early Canterbury settlement and activity that is recognised as holding national historic significance.

A number of the farm buildings are listed in the Historic Places Trust register, including the apple house, the bridge, a sheep dip, the homestead, the pigsties, the stables, water tower, turbine and grain store, the whare (shearers quarters) and the woolshed. Unfortunately, the homestead was extensively damaged in the earthquake on the 4th of September 2010.

Summary

- The cultural history of the District is diverse and closely reflects the variation in the natural environment.
- Ngāi Tahu is the recognised tangata whenua of Selwyn District, with Te Taumutu being the administrative council of the hapu.
- There are a substantial number of cultural and heritage sites identified throughout Selwyn District, including significant wahi tapu and wahi taonga values to Te Taumutu Rūnanga.
- Area surrounding the Rakaia River and Kura Tawhiti (Castle Hill) have highly significant wahi tapu and wahi taonga values to Te Taumutu Rūnanga and Ngāi Tahu.
- The development of farms throughout the district moulded the alluvial plains into a network of roads, run holds and waterways, and has made an important contribution to the identity of Selwyn as a largely rural district.
- Many of the towns in the Selwyn District developed as a result of this early European activity throughout the 1860s and 1870s.
- The buildings from 1860s and 1870s are well represented in the Historic Places Register, a quarter of which hold national historic significance.

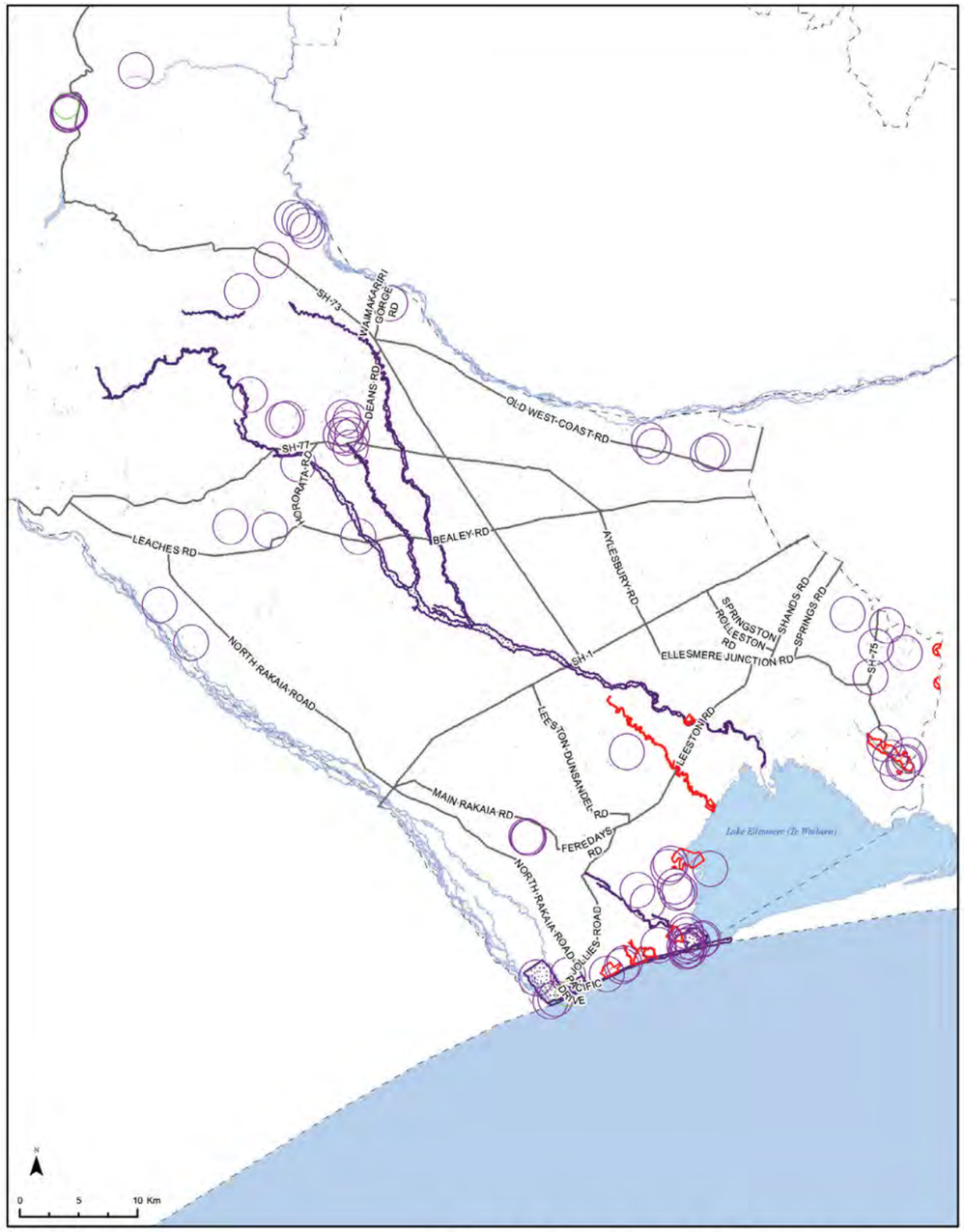


Figure 7: District level map of sites of significance to Tanagata Whenua

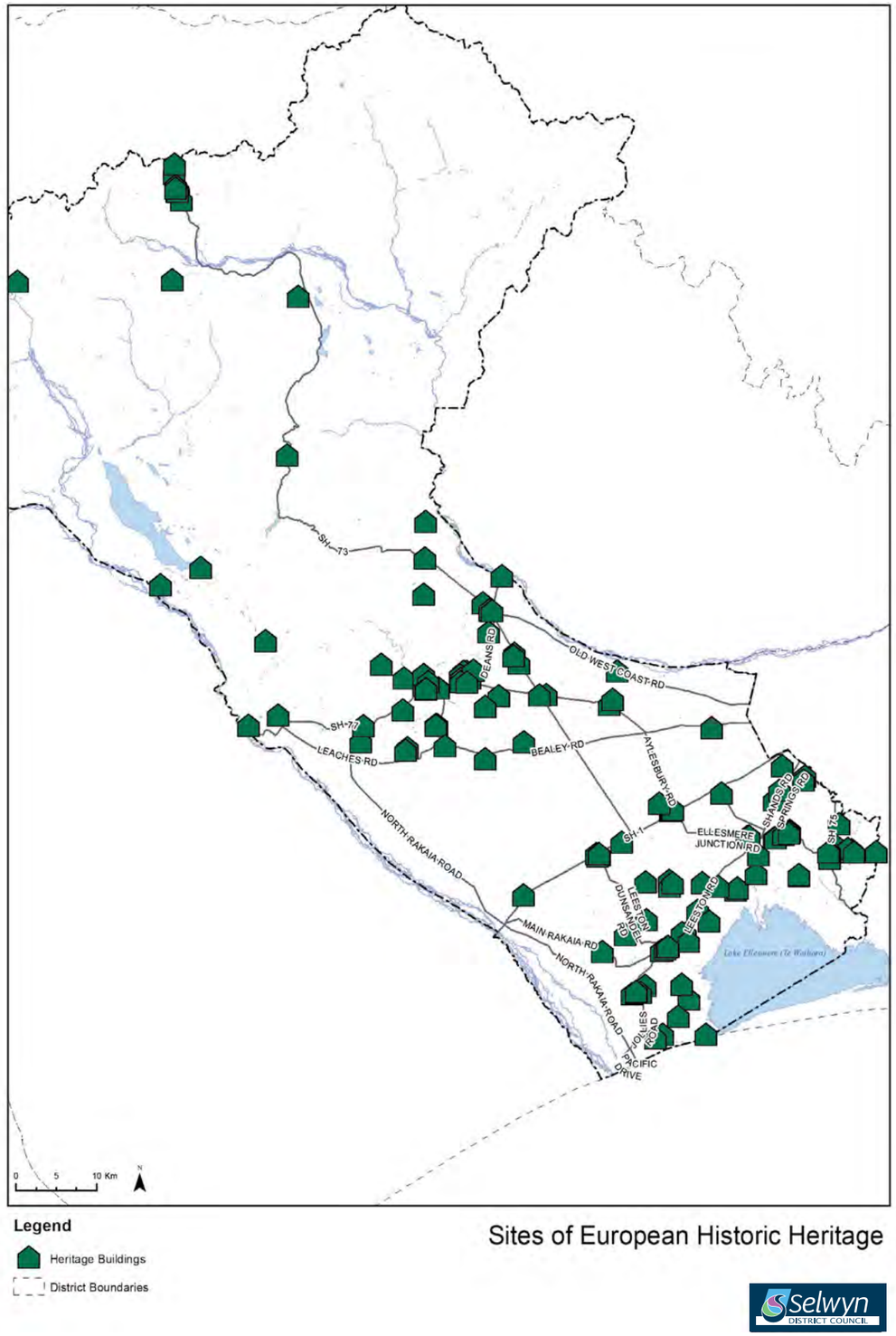


Figure 8: District level map of sites of European Historic Heritage

3. Characteristics of Selwyn

THE DISTRICT

The Selwyn District lies within the Canterbury region on the east coast of the South Island (Figure 9). The boundaries of the District are the Rakaia River to the south, the Waimakariri River to the north, the main divide of the Southern Alps to the west with Christchurch City, Banks Peninsula and the coast forming the eastern boundary. The land area of the Selwyn District is in excess of 6,000 km^2, and is comprised of coastal beach, alluvial plains (Canterbury Plains), river terraces, rolling hill country, steep high country and alpine areas.

The Selwyn District, therefore, encompasses a diverse range of environments, and includes several major river channels (Rakaia, Waimakariri and Selwyn) and two significant lakes (Te Waihora/Ellesmere and Coleridge).

The Selwyn District covers approximately 650,000 hectares of land. The Canterbury Plains and foothills cover 54% of that area. The remaining land is located in the high country and is dominated by land exceeding 15 degrees that is sparsely populated.

Figure 9: Location of Selwyn District in the South Island (inset) and location of towns and major roads within Selwyn District

This section draws on information from existing sources to provide an overview of the natural resources of the District. It provides an outline description of the Land and Water characteristics and physical constraints.

The Resources

The District's natural resources have important intrinsic values and are the 'canvas' on which development and social interaction occurs. Natural resources are the land and water resources.

Water use is covered in the physical infrastructure section and land use in the social infrastructure section.

Water and the abundance of water is essential to all forms of life and has been described as the 'gold of this century'. Ngāi Tahu perceives water as the source of all life and substances. It is held that water contains mauri (life essence) that joins physical and spiritual elements and links water to every other part of the natural world. Therefore water is viewed as a taonga by Te Taumutu Rūnanga

The water (hydrological) cycle is a continuous movement of water on, above and below the ground, and comprises:

- Rainfall.
- Surface water including rivers, streams, lakes, wetlands, and coastal margins.
- Groundwater.

The natural resources of the land is formed from the following:

- Soils to determine the types of land use appropriate for the District.
- Past land cover regarding what past indigenous vegetation cover would have been in the District.
- Landscape Character including land types, and present land cover.

This quote provides an overview of the natural resources.

"*Most swampland on the Plains were drained after European settlement, to create excellent soil for farmland. The most significant wetland in the region is Te Waihora (Lake Ellesmere), which is about 20,000 hectares in extent, near the coast south of Christchurch. It is protected by a Water Conservation Order, acknowledging its importance.*

Canterbury has an abundance of water, when the rivers carry mountain rainfall to the coast. There are also significant aquifers (underground gravels holding water) beneath the plains. The aquifers are recharged by rainfall and by river seepage. Both rivers and aquifers on the Canterbury Plains have been tapped to irrigate farmland and for drinking water supplies.

The Canterbury Rivers are also prime destinations for many recreationists, such as kayakers, jet boaters, rafters and anglers. The Rakaia river is one of the country's premier salmon fishing rivers".[3]

[3] Canterbury Regional Landscape Study Review, pg 34

WATER

Rainfall

Rainfall is generally higher in the hill country than on the Plains but drought is still common, as are severe frosts and snow. Rainfall on the plains comes from the south and east, when depressions off the east coast push southerly flows over Canterbury. Rainfall declines markedly eastward of the Southern Alps due to the rain shadow effect the Alps create. Western areas receive significantly more precipitation as much as 15 metres per year just west of the divide compared to 600mm in the eastern foothills. In winter, southerlies occasionally bring snowfall to the Plains.

Canterbury is subject to floods: from the north-west rain in the mountains making the Rakaia and Waimakariri Rivers flood; and southerly or easterly rain resulting in flooding of the smaller rivers.

Climate change is predicted to impact on rainfall for the Canterbury region by reducing rainfall on the Plains, which are predicted to be up to 20% drier[4].

The Canterbury foothills and the Southern Alps are predicted to become up to 25% wetter and have more snowfalls.

Surface Water

Within the District the 'Mountains to the Sea' captures the full range of surface water types. Key physical characteristics used to distinguish different types of surface waters in the District are:

- Alpine
- Hill Country
- Lake sourced
- Plains
- Lowland/Springs
- Lakes - regulated and non-regulated
- Wetlands

Figure 11 illustrates the key surface waters.

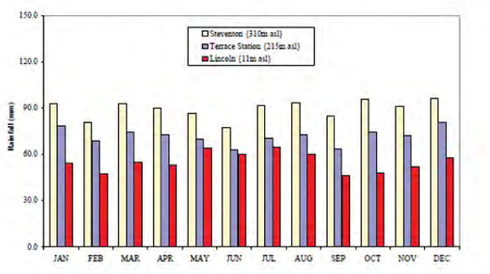


Figure 10: Average monthly rainfall 1928-2005 Source: NIWA & Selwyn Plantation Board

[4] Source: Ministry for the Environment (2008): How might climate change affect my region? Climate change in Canterbury

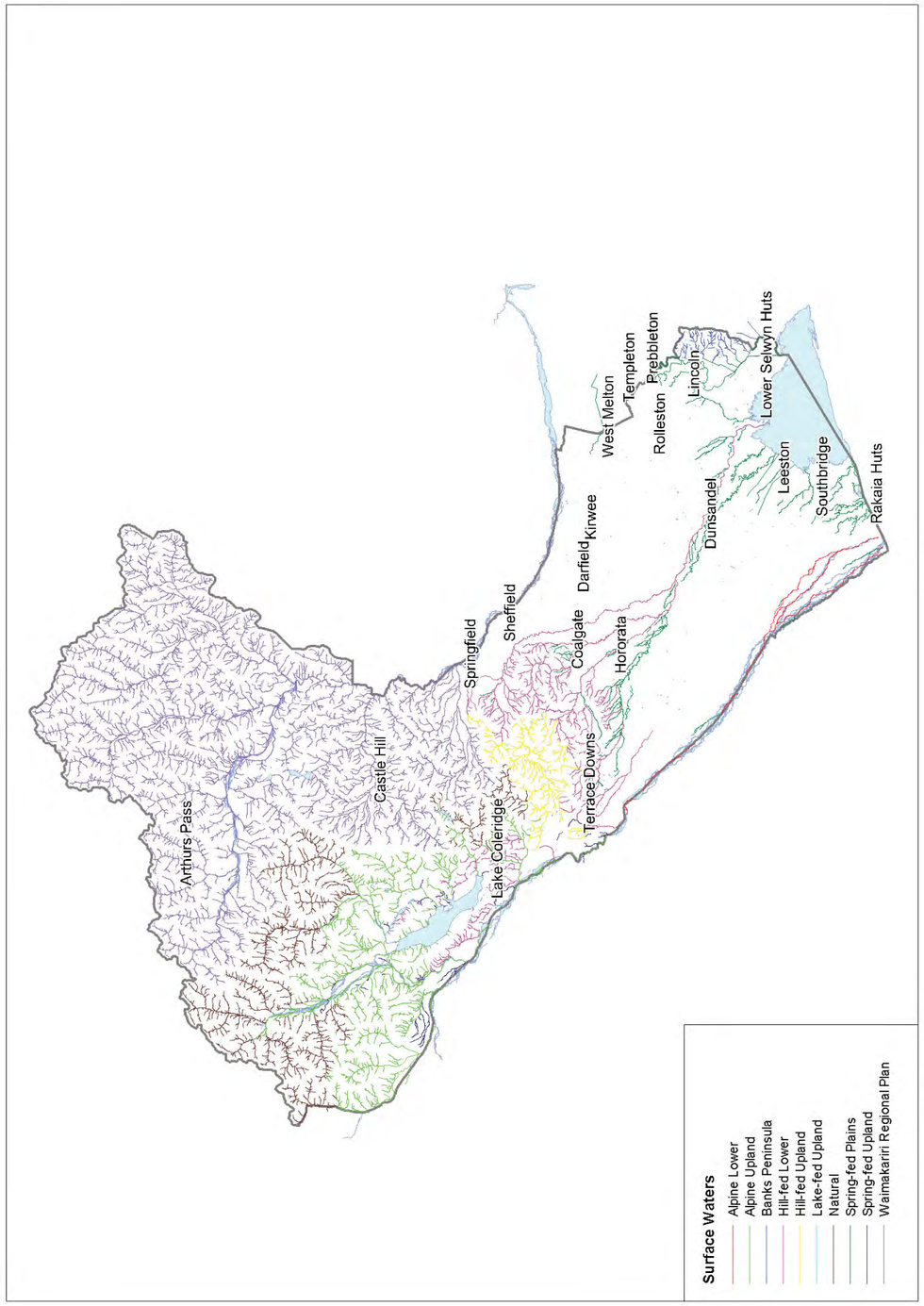


Figure 11: Key surface waters including lakes

Rivers and Streams Characteristics:

The three main rivers in the District are the Waimakariri River (northern boundary), Selwyn River (that feeds into Te Waihora / Lake Ellesmere) and the Rakaia River.

The rivers are fast flowing in the steep and narrow mountain streams, while the plains are traversed by wide, braided rivers with shingle river beds. The natural character of the braided rivers contribute to Selwyn's identity and landscape.

Alpine: (Waimakariri and Rakaia Rivers) - Their source of flow is rainfall and snow melt. They have large flows, the riverbed is often braided and water quality is generally high. The rivers have variable flow regimes with frequent floods that disturb ecosystems.

The rivers have a high sediment load and often have high natural values in the upper reaches. The rivers support large populations of wading birds and are important for biodiversity.

Rakaia River

Hill country: (Broken River) – Source of flow is rainfall, snowmelt and in lower reaches sometimes groundwater. They have seasonal flow patterns, sometimes braided sections, moderate water quality and high sediment load. They generally have a moderate level of naturalness in the upper reaches and are important for biodiversity.

Lake sourced: – Typically stable flow patterns, primarily from small lakes. Water quality is influenced by lake quality. They generally have moderate to high natural values and are important for recreation.

Plains: (Hororata River) – These are generally small stable groundwater fed rivers with variable water quality and are important to fisheries.

Waimakariri River

Lowland/springs: (Harts Creek) – The source of flow ranges from rainfall to solely spring fed from groundwater. Rainfall rivers have strong seasonal flow patterns and water quality is generally variable. These areas contain highly modified landscapes with low naturalness.

Values and Pressures

The Rakaia & Waimakairi Rivers are the largest braided rivers in New Zealand and have been recognised as having 'an outstanding natural characteristic in the form of a braided river'. The Rakaia River is subject to the Rakaia Water Conservation Order 1988. Both rivers are also culturally significant to Te Rūnanga o Ngāi Tahu for traditional food gathering.

The rivers and streams within the District have high instream fishery values, particularly the Waimaikariri and Rakaia Rivers. The Rakaia and Waimaikariri Rivers support a sea run salmon fishery which forms the basis of the majority of recreational river use. The Rakaia River is renowned as one of the world's best salmon fishing rivers and it also supports a vigorous trout fishery. Both rivers support a wide variety of birdlife, including rare riverbed species such as wrybill, black-fronted tern and banded dotterel.

The Rakaia and Waimakairi Rivers both have significant recreational values with trout and salmon angling, jetboating, walking and tramping, swimming, whitebaiting, kayaking and power boating.

There is a high demand for water for out-of-stream use, particularly irrigation with both river catchments. Water quality and quantity is a significant issue for the District as a result of changes in land use from mixed farming to intensive dairying and subdivision development pressures. Land use change can impact on the water quality of rivers, lowland waterways and groundwater resources.

Water allocation restrictions have been imposed on both river catchments and these restrictions tend to reduce river flows at times of highest water demand periods, reducing the viability of surface water use. There is increased pressure to use water efficiently and to avoid wastage in the District and wider Canterbury region. The increased pressure reflects a change in the philosophy of waterway management to that of restoration and protection which aims to support ecological, landscape, recreation, heritage and cultural values.

An example of this changing philosophy can be seen with management of the Canterbury mudfish fishery. It is a fishery with high values which are of national significance as it is one of the few native fish that can survive out of water in moist conditions for up to two months. It is the second most endangered native fish in New Zealand and is found in central Canterbury.

Its habitat is largely the slow flowing, overgrown, swampy streams of the Canterbury Plains and also the stockwater races. Mudfish are under threat due to destruction of wetland habitat and land development and agriculture.

Environment Canterbury's Regional Environment Report (2008) brings together a summary of surface water quality for major river types: alpine, basin, hill, lowland, urban and volcanic. The report summarises that:

- At a regional scale there is a pattern of increasing concentrations of dissolved nutrients in rivers.
- The main pattern of trends detected in nutrient concentrations was of increasing dissolved nitrogen concentrations in hill and lowland steams.
- Low gradient streams tend to be vulnerable to occasional or moderately frequent periods of lower than desirable oxygen levels.
- Most high country lakes maintain good water quality and there is limited scope for obvious short-term visible water quality problems (algal blooms, turbid episodes, etc).

Rakaia River

The Mahaanui Iwi Management Plan (2013) states that:

"Cultural heath assessments undertaken by Ngāi Tahu in the last ten years indicate that many waterways are in a poor state of cultural health and do not meet basic standards for cultural use. For much of the takiwa the story is the same: high water quality in upper catchments deteriorates significantly on the plains and in the coastal regions. Lowland streams are highly enriched, reflecting the pressure put on freshwater resources by rural and urban land use on the plains".

LAKES, LAKE MARGINS AND WETLANDS

Characteristics and Values

There are two large lakes within the District; the nationally significant lake/wetland Te Waihora/Lake Ellesmere and Whakamatau/Lake Coleridge. There are also a number of small to medium high country lakes that have high natural and recreational values.

Lakes within the District generally fall into three categories:

- Large - able to accommodate a variety of recreational uses and motorised craft. Examples include Te Waihora/Lake Ellesmere and Whakamatau/Lake Coleridge.
- Medium - able to accommodate active and passive recreational users. Examples include Moana Rua/Lake Pearson and Lake Lyndon.
- Small - less than 400m wide and generally have speed restrictions over the entire surface. Potential conflicts arise between recreational users and amenity values of the area. Examples include Lake Letitia and Lake Grasmere.

The lakes and springs within the Selwyn District hold significance for Te Taumutu Rūnanga and Ngāi Tahu, with the lakes and wetlands holding significant mahinga kai values.

The term wetland refers to a range of vastly different habitats including springs and lakes, which make up some of the most interesting and productive environments. Wetlands are among the world's most threatened habitats and in Canterbury only about 10 percent of wetlands remain making them important ecologically.

Te Waihora / Lake Ellesmere

Te Waihora/Lake Ellesmere is situated in the south-east of the District. The lake is 20,000ha in size and is subject to the National Water Conservation Order 1990 for its outstanding wildlife habitat. Te Waihora/Lake Ellesmere is a wetland of international significance and the largest brackish lake in Selwyn District. It is an area of immense cultural importance to Te Rūnanga o Ngāi Tahu and Papatipu Rūnanga. The boundary between Selwyn and Christchurch City Council traverses the lake.

[5] Source: Te Waihora Joint Management Plan

Te Waihora/Lake Ellesmere has a catchment of 276,000 ha, including hill and high country, downs and plains. The lake receives inflows from surface runoff, groundwater-fed tributaries, groundwater percolation, seawater inflows, and artesian springs. The connection between groundwater, spring flows and lake levels is complex and poorly understood.

Approximately 40 rivers, streams and artificial drains feed Te Waihora/Lake Ellesmere from the surrounding catchment. Major waterways are the Selwyn River/Waikirikiri, flowing directly from the foothills, the Irwell River/Waiwhio, LII/Ararira, Halswell River/Huritini and Harts Creek/Waitatari, all originating within 19 km of Te Waihora and the Kaituna River from Banks Peninsula/Horomaka. Maintaining natural flows in the rivers and springs that feed Te Waihora/Lake Ellesmere and the quantity and quality of these waters is important for maintaining and improving the mauri/health of Te Waihora/Lake Ellesmere.

Te Waihora/ Lake Ellesmere and Kaitorete Spit

Te Waihora/ Lake Ellesmere has no permanent outlet to the sea. Historically, the lake would naturally breach Kaitorete Spit at a lake level of about 4 m above mean sea level. At this level, the lake would stretch inland to Tai Tapu and into Kaituna and Gebbies Valleys. The lake is now mechanically opened to the sea at a lake level of about 1.1m above mean sea level.[5]

The lake, once capable of depths of up to five metres, is now kept at an average depth of two metres. The regular openings prevent flooding and also maintain fish stocks by allowing ocean-spawning fish (e.g. eels, mullet, flounder) to enter and leave the lake.

Land use activities have impacted on flora and fauna and the natural habitat around the edge of the lake and its wetlands. Lake control and land drainage can have impacts on diminishing the extent of the wetland fringe potentially resulting in adverse impacts on these natural habitats.

Te Waihora/Lake Ellesmere

Monthly water quality monitoring of the lake began in 1992 and is showing that:

- Phosphorus total has remained static but dissolved Phosphorus has increased substantially. Total Nitrogen and Nitrate nitrogen have decreased over time although the lake is supersaturated in both.
- Less frequent lake openings are leading to a reduction in lake salinity.
- The mid lake area is showing decreased clarity over time.

In addition, water quality, especially water colour and clarity, has affected the growth and productivity of aquatic plants and algae. The limited regeneration of the 'weed beds' in Te Waihora since the Wahine storm of 1968 is partly attributed to a decline in water quality (Te Waihora Joint Management Plan).

A few commercial fishers work the lake for eels, flounder and 'herrings' (yellow-eyed mullet) while recreational users find it ideal for sailing, kayaking, motor boats, wind-surfing, water-skiing, jet-skiing, duck shooting, picnicking, photography or bird-watching.

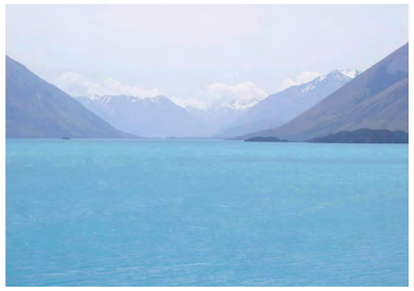
The bed of the Lake was returned to Ngāi Tahu by the Crown as part of the Ngāi Tahu Claims Settlement Act 1998.
Two Living Lakes Symposiums (2007 and 2009) brought together a range of interests and scientists with the outcome of a "Memorandum of Understanding," a holistic way forward for the lake's future.

In December 2005, Ngāi Tahu and DoC signed a joint management plan for the lake which aims to: "...restore Te Waihora as a tribal food resource, to protect the conservation values of the area, and to restore and protect Te Waihora for the use and enjoyment of all New Zealanders, now and in the future..." (Te Waihora Joint Management Plan).

Restoring and maintaining the natural ecological flows in the tributaries are critical to restoring the mauri of the Te Waihora/Lake Ellesmere.

Whakamatau/Lake Coleridge

Whakamatau/Lake Coleridge is situated to the north-west of the District and is 17km long and 3km wide. The lake supports a mixture of uses including hydroelectricity, farming, industry and tourism. Recreational activities, both passive and active are popular on the lake.



Lake Coleridge - Source: Selwyn District Council

Whakamatau/Lake Coleridge's landscape has been formed over millions of years. Massive glaciers gouged out the land and earthquakes, wind, rain, frost, and even volcanoes, have all been part of the process that helped form the landscape. Created by glacier moraine, there is a difference in height of 170 metres between Whakamatau/Lake Coleridge and the Rakaia River. This height difference meant it was an ideal site for the country's first state hydroelectric scheme.

GROUNDWATER
Characteristics

Underlying the Plains is a major groundwater resource which is used for irrigation supplies and domestic and industrial water supplies. Community supply use of the groundwater is further detailed in the physical infrastructure section.

Groundwater is classified as either unconfined/ semi-confined aquifers or the coastal confined aquifer. In most areas rainfall on the Plains is the main source of groundwater recharge. However, alpine and foothill rivers 'lose' some flow to adjacent aquifers such that in some cases river reaches run dry.

The groundwater resource within the District has come under increasing demand over recent years as a result of changing land uses, intensification of agriculture and due to surface water becoming less reliable.

The aquifers in the District have been divided into groundwater allocation zones. The Selwyn District contains the Selwyn-Waimakariri and Rakaia-Selwyn groundwater allocation zones. The groundwater resource within the District is considered to be fully allocated (ECan red zones – Rakaia-Selwyn and Selwyn-Waimakariri).

Groundwater levels and pressures are modified by:

- localised pumping effects from an abstraction well or wells causing a lowering of groundwater level or pressure;
- the cumulative effects of groundwater abstractions occurring over a longer term; or
- from abstractions from surface water bodies that are hydraulically connected to groundwater.

Groundwater flows from west to east in the unconfined aquifer and when it meets the confined aquifers a large portion emerges as spring flow. Groundwater depths vary distinctly within the District ranging from over 80m in depth at Darfield to near the surface at Leeston.

There is a general movement away from shallow bores to deeper bores to obtain higher quality water and to avoid draw down effects on other water users. This practice has evolved over the years as a result of improved drilling technology and higher economic returns from farming intensification making it economically viable.

Shallow groundwater in most of the alluvial aquifers of Canterbury is vulnerable to contamination from the land surface (e.g. phosphorus and nitrogen).

A common measure of the quality of groundwater is the drinking-water standards. For the most part, the quality of groundwater in Canterbury is very good. In the Selwyn-Rakaia area nitrogen is below the 50% level (5.7mg/l) of the maximum acceptable value in the Standard. However, recently drinking water in the District has shown the presence of E. coli in some deep wells.

The abstraction of groundwater resources has increased substantially over the past 20 years, driven by land use change and intensification.

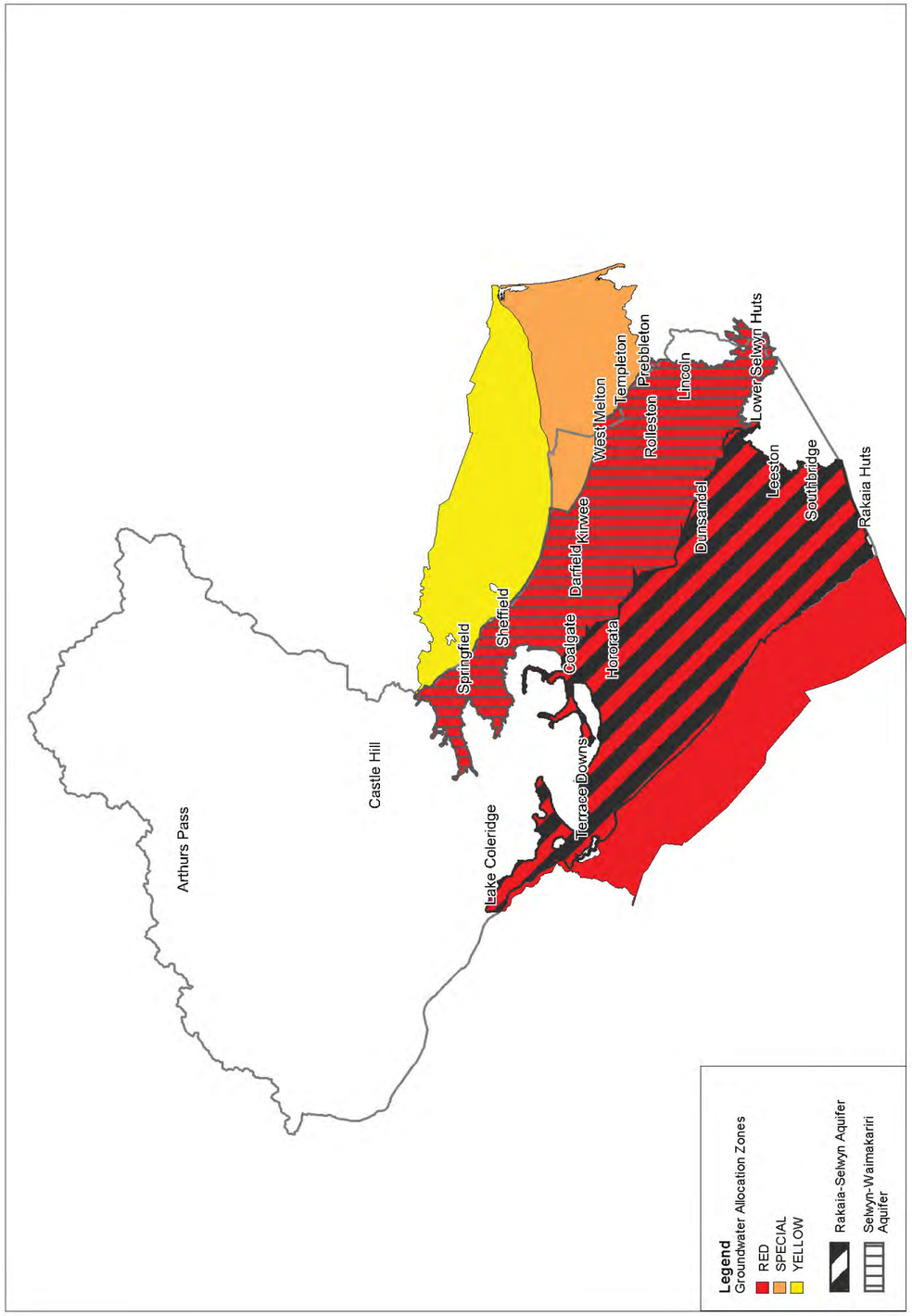


Figure 12: Groundwater allocation in the Selwyn District

COASTAL

Characteristics

The coast within the District is approximately 12 km long and makes up a small component of the District. Not included in the coastal length is Te Waihora/Lake Ellesmere as it is in both in Selwyn District and Christchurch City. Figure 8 is an extract from the District Plan Planning maps showing the District boundary at the coast. Although the lake borders Christchurch City, Kaitorete Spit resides in Christchurch City so is discussed briefly in this section as it impacts on Te Waihora/Lake Ellesmere.

The District's coastline is made up of the following features:

- Rakaia River mouth and Lagoon.
- Coopers Lagoon.
- Te Waihora/Lake Ellesmere and Kaitorete Spit.
- Other smaller river mouths including: Lee River, Cyers Creek, Jollies Creek, Jollies Brook and Youngs Creek.
- Beaches along the coastline.

Coastline

The coastline consists of coarse mixed sand and gravel and forms part of the Canterbury Bight. The gravels are eroded from the Southern Alps and carried by the local rivers to the coast. Long shore coastal drift deposits the material from the rivers along the coastline. The coastline will be impacted by climate change as sea level rise will gradually change the location and nature of the beaches.

Rakaia River and Lagoon

The Rakaia River flows into the Rakaia Lagoon which is separated from the Pacific Ocean by a shingle spit. The Rakaia Huts is the only settlement within the coastal area. Sometimes there are two openings in the spit as shown in Figure 13. When the Rakaia River floods it punches an opening in the shingle spit.

The river level decline combined with wave action can close openings in the spit. The Rakaia Huts community has raised concerns regarding lack of water flow in the Rakaia River to punch through the spit, due to increased water abstraction for land use. When there is only one opening of the spit and the opening is further north than the river mouth, the water from the Rakaia River tends to pond in residents' properties. When the opening of the lagoon is located north of the Rakaia River it also allows wave action to erode the coastline which is a risk to property, such as the boat ramp facility and archaeological deposits of a nationally significant moa hunter site. The Rakaia Huts area has significant historic value particularly for Te Taumutu Rūnanga.

Muriwai/Coopers Lagoon

Lagoon at Rakaia Huts

Muriwai/ Coopers Lagoon is a small coastal lagoon in the District about 5 km west of Te Waihora/Lake Ellesmere. Historically the lagoon was drained by a piped culvert that has been modified over time to a piped outfall as the sea has eroded the beachfront. Although it is occasionally opened manually, the pipe is generally blocked with gravel and is, therefore, non-functional in terms of controlling water level or allowing fish passage. The lagoon is important for customary fishing and had a release of approximately 2000 juvenile eels sourced from Te Waihora/Lake Ellesmere for the purpose of enhancing the lagoon as a site for customary fishing.[6]

[6] Beetjies M.P and Jellyman D.J. 2002. Evaluation of eel enhancement in Coopers Lagoon, South Canterbury. Ministry of Fisheries Wellington

Te Waihora/Lake Ellesmere and Kaitorete Spit

Te Waihora/Lake Ellesmere is a large surface water body that is situated on the east coast of the District. Te Waihora/Lake Ellesmere is discussed in more depth in the sections above, but is mentioned in this section as it is positioned on the coast.
The opening of the lake is to the Pacific Ocean through Kaitorete Spit. The spit forms a barrier 25 kilometres long as it runs from Banks Peninsula to Taumutu, It is of ecological significance as it is the home to a nationally endangered endemic plant the Shrubby tororaro (Muehlenbeckia astonii). The spit is also nationally significant for bird watching. The spit is replenished by gravels from rivers to the south. The material is carried and deposited by long shore drift.

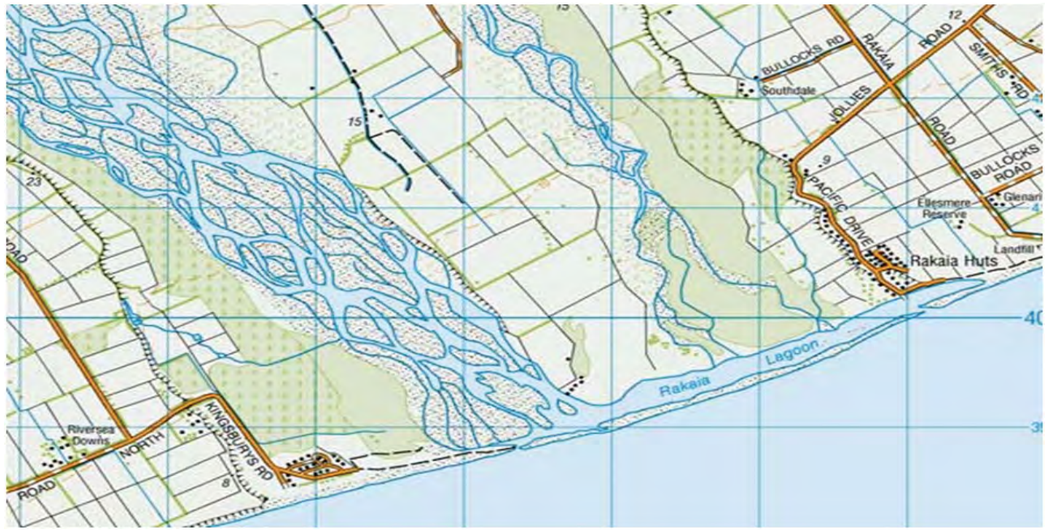


Figure 13: Rakaia River showing the sometimes two openings in the spit

Summary

Water

- Lack of rainwater on the plains is an issue for replenishment of groundwater and waterways.
- Land use on the Plains would be impacted by the predicted reduction in rainfall due to climate change.

Rivers

- The natural character of braided rivers contributes to the District's identity and landscape.
- Rivers within the District have high fisheries and recreational values.
- Water allocation restrictions reducing river flows tend to coincide with the highest water demand periods, reducing the viability of surface water use without provision of very large storage reservoirs.
- Land use impacts on the water quality of the District's rivers.

Lakes

- Land uses have affected water quality in Te Waihora/Lake Ellesmere and its tributaries.
- Maintaining wetland character and the rural landscape of the area is important.
- There is continued loss of wetlands due to land drainage.
- The high country lakes have high natural and recreational values.
- Te Waihora and its tributaries is a highly significant taonga to Te Taumutu Rūnanga and Ngāi Tahu
-

Groundwater

- The abstraction of groundwater resources has increased substantially over the past 20 years, driven by land use change and intensification.
- Groundwater zones in the District are considered to be fully allocated.
- There is increasing demand for groundwater as surface water becomes less reliable.
- There is a movement away from shallow bores to deeper bores.
- Generally the quality of groundwater is very good.

Coastal

- Reduced river flows impact the quantity of sediment that will be deposited on the coast.
- Increased water abstraction from the Rakaia River resulting in lagoon opening moving north creating erosion and ponding issues.
- The coastal lagoons have high high mahinga kai values particularly at Coopers Lagoon and Te Waihora/Lake Ellesmere.
- Coastal erosion will adversely impact on the wahi tapu and wahi taonga values and archeological sites and the settlement of Rakaia Huts.

LAND

The land network is the system of land, settlement patterns, land use, open space and recreational space. The land network is influenced by the water network. Water shapes the land through natural processes of erosion, flooding, carrying and depositing sediment and changing land patterns.

This section focuses on the land as a natural resource including soil, land cover, types, use and landscape character.

SOILS

Characteristics

The District consists principally of greyish brown soils which are predominantly formed on stony gravel and sandy gravel structures. Currently the threat of agricultural and horticultural soils being used for residential and industrial purposes is minimal however this concern may develop in the future as the District grows. The main soil types are the Lismore, Templeton, Eyre and Selwyn Series. The Templeton soils are best suited for farming, market gardening and fruit growing if irrigated, while the Eyre and Selwyn soils are best suited for extensive grazing of sheep and urban use where there is low flood risk.[7]

Soils Land Use Capacity

New Zealand's best soils are called 'versatile' or 'high-class'. Theses soils are suited to a variety of uses, including those that are demanding on soil structure, such as cultivation and cropping. The properties of versatile soils best enable plant roots to take up nutrients, water and oxygen, and get enough support for rapid growth. Fertility is highest in soils young enough not to have been leached and old enough to have built up organic matter.

Only about 5.5% of New Zealand soils are classed as of a versatile nature or 'high class'. Because high-class soils are rare in New Zealand, it has been argued that they should be reserved for horticulture and agriculture, and not used for towns.

Figure 14 shows high class soil areas in the Selwyn District, which in terms of area is inline with the 5.5% coverage of land area. Figure 15 shows classes 1 and 2 which has virtually no or just slight limitations for arable use and suitable for cultivated crops, pasture or forestry.

These two classes are predominantly located in the rural environment away from urban areas, or at lea tares of high growth and so are not overly threatened by urban growth. The exception to this is in and around Lincoln where there are reasonable portions of class 1 soils in the urban limits and on the fringe of the township.

[7] Cross, Dalziel and Saunders (2004). Selwyn District Council Research Report 271

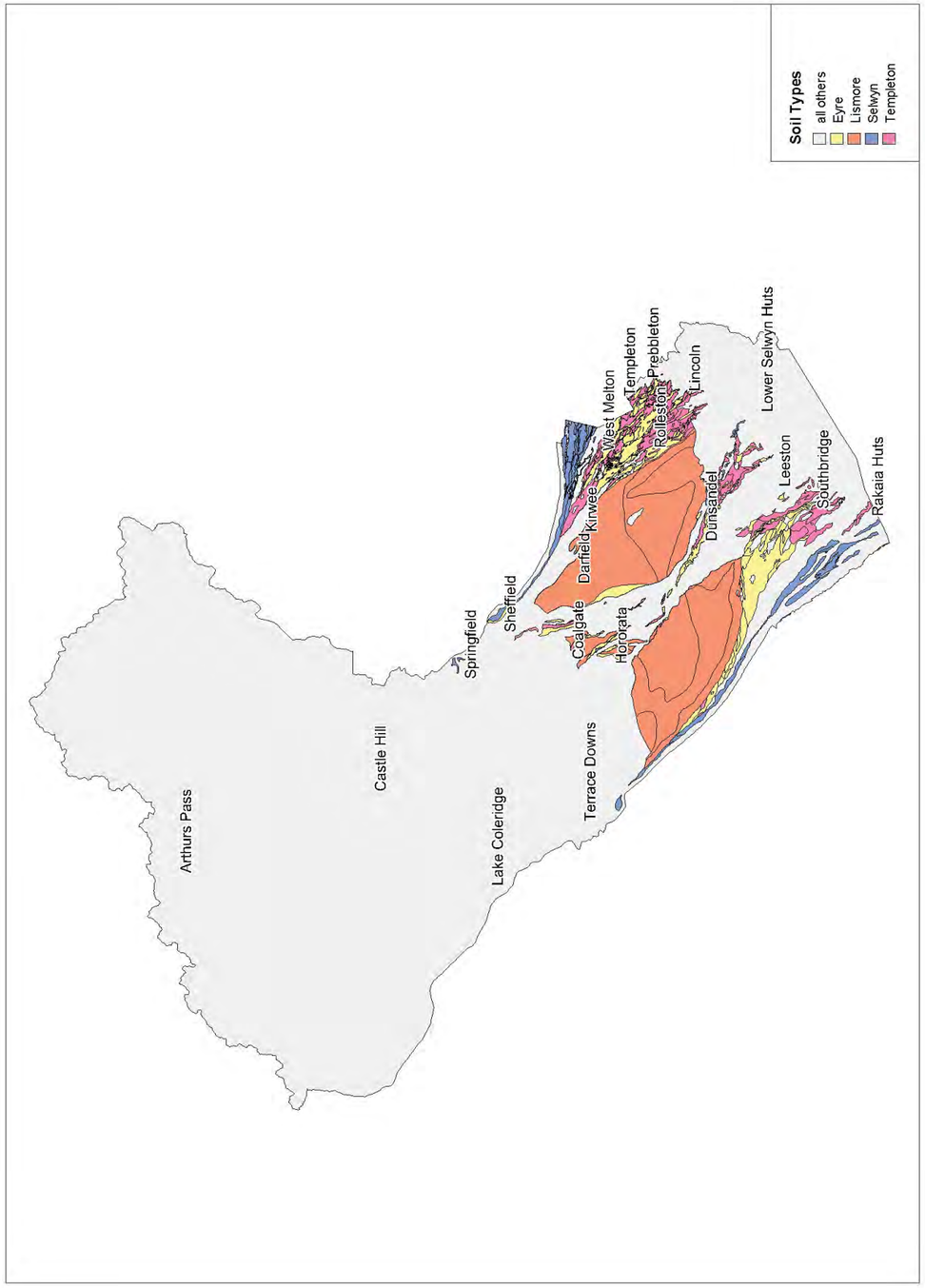


Figure 14: Soil types of the District

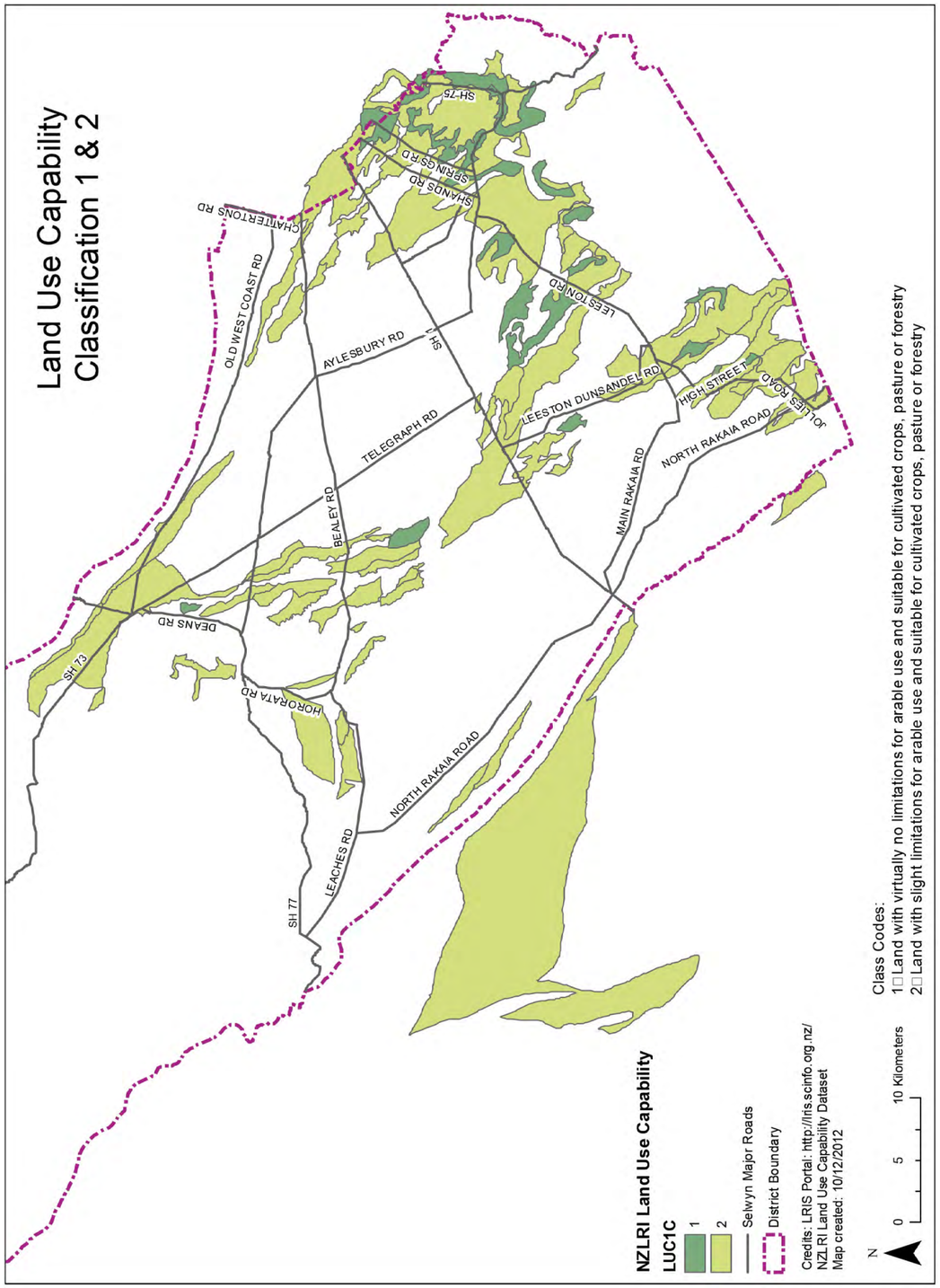


Figure 15: Soil Land Use Capability

INDIGENOUS BIODIVERSITY

Overview

Indigenous biodiversity includes all plants and animals that occur naturally in New Zealand and have evolved or arrived without any assistance from humans. Indigenous species include migratory species visiting New Zealand on a regular or irregular basis.

Tussock poa cita

Before people arrived, the District would have been entirely cloaked in forest, except for the mountaintops, frost-prone montane valley clears, active erosion surfaces, lakes, ponds, swamps and river floodplains. Above the bushline would have been lush tussock grasslands with a profusion of summer-flowering shrubs, speargrasses and herbs. The shore would have had a colourful fringe of sandbinders (pingao, spinifex, sand tussock and various wiry shrubs). Everywhere would have been birds: in the mountains, in the bush, in the wetlands and on the coast. The big ground birds (moa, adzebills, rails, kiwi, kakapo and geese) would have made well-beaten tracks and kept the margins of water bodies as turf. Native bats, lizards, fish and invertebrates (including giant insects and snails) would have been widespread and abundant. All that changed with the arrival of people.

Human Arrival & Settlement

People have lived in the District for at least 700 years. The first settlers hunted and gathered, roaming widely, probably in distinct seasonal patterns. They began burning the vegetation, and as a result large areas of forest became replaced with mosaics of tussock grasslands, shrublands, treelands and bush pockets. Their dogs (kuri) and rats (kiore) proliferated at the expense of the native fauna.

The arrival of Pakeha saw even more significant changes. In a very short time most of the remaining forest was felled for timber or cleared for farming. Enormous fires swept the land, burning tussocks, shrubs and trees in the quest for sheep grazing. Numerous exotic plants and animals were introduced, planted, sown or released. Straight lines were imposed on the land, and it was surveyed, divided up and settled in the European system of ownership. Waterways were channelled and straightened and wetlands were drained. The modern face of the District began to emerge, but at a heavy cost to indigenous character, flora and fauna. Sadly, few natural areas were set-aside for posterity; this is especially apparent in the more densely populated and intensively farmed areas of the District such as the Canterbury Plains.

Remaining Indigenous Biodiversity

As a result of human induced modifications, the extent of indigenous biodiversity now remaining in the District has been significantly reduced. Other than in the national parks and reserves of the High Country, very few of the remaining remnants are managed or formally protected for their ecological values. The exception is various isolated and small sites scattered throughout the rest of the District which may have protective QEII Trust conservation covenants or sites which are owned or managed by local authorities or other agencies.

The Canterbury Plains are the most intensively farmed and settled part of the rural area. Fires cleared the original forest cover several hundred years ago replacing it with a mosaic of tussock grasslands, shrublands, treelands and pockets of bush. European settlers replaced the tussock grasslands with improved pasture, crops, shelter belts and settlements. Now it is widely regarded that less than one percent of the original indigenous flora and fauna habitat remains on the Canterbury Plains area of the District. Any indigenous vegetation and habitats remaining in this area, including dryland kanuka and kowhai

savannah vegetation, native grasses, and freshwater and coastal wetlands, are fragmented and under continued threat from land use intensification, edge effects and pest invasion.

The Port Hills has a mix of indigenous tussock, exotic trees, modified pasture and regenerating indigenous bush. Most of the original indigenous timber which stood on the Port Hills was burned by Polynesian fires or cleared by early European settlers. Today there are areas of regenerated bush on the Port Hills. Approximately six percent of land on the Port Hills is under some form of protection status for its conservation values.

In the Malvern Hills, approximately four percent of land is under some form of protection status for its conservation value, including 13 Mile Bush, Lord's Bush and Kowai Bush Scenic Reserve along with several sites protected by QEII National Trust open space covenants. As with the few remnants remaining on the Plains, remaining indigenous vegetation on the Port Hills and Malvern Hills is fragmented and under continued threat from land use intensification, edge effects and pest invasion.

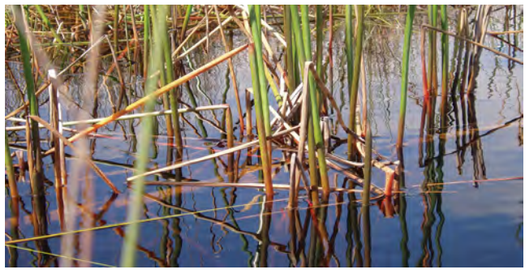
The remote high country is better represented with areas of remaining indigenous biodiversity and protection, with over 50% of the area under some form of protection for conservation purposes. These areas include Arthurs Pass National Park, Craigieburn Conservation Park, Broken River Conservation Area, Torlesse Conservation Area, Lochinvar Conservation Area, and Ben More Conservation Area. Further conservation areas in the high country include Castle Hill Conservation Area, Lance McCaskill Nature Reserve, Cave Stream Scenic Reserve and Lake Grasmere Scenic Reserve. A significant proportion of the remaining land is Crown Pastoral Lease which is subject to the Crown Pastoral Lease Act 1998. This Act provides for the management of the land with consideration for its conservation values.

Despite the biodiversity and ecosystem losses that have occurred over time, there remains a range of indigenous habitats, ecosystems, and species that contribute to the District's distinctive natural character. Much information about these remaining natural areas has been documented from a series of surveys conducted in the 1980's and 1990's. About a third of the inland hill and mountain land was surveyed under the New Zealand Protected Natural Areas Programme (PNAP) in the late 1980s. The whole of Banks Peninsula, including the portion within Selwyn District, was similarly surveyed in the early 1990s. In the mid 1990s the Canterbury Plains were surveyed in a rapid inventory manner. In 2003, Boffa Miskell carried out a desk top exercise to validate all the previous information with a view to including the top 120 sites into a District Plan schedule of SNA's for protection in accordance with section 6(c) of the Resource Management Act 1991 ('the Act').

As such, knowledge about natural habitats and special flora and fauna has been gathered over the years and is held by various agencies including the Selwyn District Council (see Table 1), ECan, Landcare Research and the Department of Conservation. However, those surveys and the information about the state of the ecological values of all the sites recorded are at least a decade old, and more recent information about the state of them, or whether they even still remain is not known.

	Potential SNA's Boffa Miskell's Final 115	Potential SNA's Other	Confirmed SNA's	QEII Trust Coventants
High Country	71	951	2	1
Malvern Hills	10	48	10	9
Port Hills	7	20		8
Canterbury Plains (Selwyn District)	39	229	17	4
Total	127	1348	29	22

Table 2: Distribution of Potential and Confirmed SNA's and QEII Trust Covenants within Selwyn District



In addition to the recorded potential and confirmed SNA's, there would appear to be a significant number of potential SNA's across the District that have yet to be 'discovered'. As Selwyn District Council carries out work related to indigenous biodiversity management (see below for details), more sites which meet the District Plan criteria for 'Significance' are being 'discovered' which have not been previously identified. As such, the numbers of potential SNA's in the District, as identified in the various data sets Council uses for it's baseline information is not a true or accurate representation.

Indigenous Biodiversity Management –Policy Framework

In 1993 New Zealand ratified the United Nations Convention on Biodiversity. The Convention requires governments to develop national biodiversity strategies and action plans. New Zealand produced the New Zealand Biodiversity Strategy: Our Chance to Turn the Tide/ Whakakohukihukitia Te Tai Roroku Ki Te Tai Oranga in 2000 (The New Zealand Biodiversity Strategy).

The New Zealand Biodiversity Strategy establishes a vision, goals and principles for biodiversity management in New Zealand. These provide guidance to central government agencies, regional and district councils and other organisations, but do not prescribe in detail how particular actions related to biodiversity management should be undertaken. Achievement of the national goals will depend heavily on action at the regional and local level, and on the action and assistance of communities and landowners, given that 70 percent of New Zealand's land is in private ownership.

The Resource Management Act 1991 ('the Act') sets out regional and district council's statutory responsibilities in terms of indigenous biodiversity management. Under section 6(c) of the Act, the Selwyn District Council has a specific responsibility to recognise and provide for the protection of areas of indigenous vegetation and significant habitats of indigenous fauna. These have become commonly known as significant natural areas (SNA's), significant ecological areas or significant ecological sites. In addition to this specific requirement for Council to protect SNA's, Council has general responsibilities to manage indigenous biodiversity through various sections of the Act, including:

- Section 6(a) - the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development;
- Section 6(e) – recognise and provide for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:
- Section 7(c) – Have particular regard to the maintenance and enhancement of amenity values;
- Section 7(d) – Have particular regard to the intrinsic values of ecosystems;
- Section 7(f) Have particular regard to the maintenance and enhancement of natural and physical resources;
- Section 30(1) Every regional council shall have the following functions for the purpose of giving effect to this Act in its region:
  - (b) The preparation of objectives and policies in relation to any actual or potential effects on the use, development, or protection of land which is of regional significance:

- (c) The control of the use of land for the purpose of –
  - (i) Soil conservation
  - (ii) The maintenance and enhancement of the quality of water in water bodies and coastal water
  - (iii) The maintenance of the quantity of water in water bodies and coastal water
  - (iiia) The maintenance and enhancement of ecosystems in water bodies and coastal water
  - (ga) The establishment, implementation, and review of objectives, policies, and methods for maintaining indigenous biological diversity.
- Section 31 (1) Every territorial authority shall have the following functions for the purpose of giving effect the this Act in its district:
  - (b) The control of any actual or potential effects of the use, development, or protection of land, including for the purpose of –
  - (iii) – The maintenance of indigenous biological diversity.

There are a number of other statutes that impact on biodiversity, and which impose related functions and responsibilities on a number of agencies. These include:

- Conservation Act 1987
- Fisheries Act 1996
- Reserves Act 1977
- Hazardous Substances and New Organisms Act 1996
- Biosecurity Act 1993
- Wildlife Act 1953
- Local Government Act 2002
- Crown Pastoral Land Act 1998
- Forests Act 1949
- Queen Elizabeth II National Trust Act 1977

At the regional and local Selwyn District level, related statutory and non-statutory policy documents, management plans, implementation strategies and work programmes give effect to the various higher level policy documents identified above. These include:

- Regional Policy Statement
- Biodiversity Strategy for the Canterbury Region
- Regional Pest Management Strategy
- Canterbury Water Management Strategy:
  - Regional Implementation Programme;
  - Selwyn Waihora and Christchurch West Melton Zone Implementation Programmes
- Various Regional Plans (e.g. Canterbury Regional Coastal Environment Plan 2005, Natural Resources Regional Plan
- Whakaora Te Waihora (non-statutory)
- Selwyn District Council Resource Management Plan
- Mahaanui Iwi Management Plan 2013
- Selwyn District Council Asset Management Plans
- Waihora Ellesmere Community Strategy
- Selwyn District Council Reserve Management Plans
- Various sources of funding to assist private landowners protect, restore and manage indigenous biodiversity and ecosystems (e.g. SDC Natural Environment Fund, ECan's Immediate Steps and Environment Enhancement Funds)

In addition to the Council's role in protecting and managing indigenous biodiversity in the District, a number of other organisations and businesses also have roles and responsibilities, both at a statutory level (Regional Council), monitoring and research (DoC, CRI's etc), and at the grass roots level, providing education and assistance to landowners and community groups implementing many of the higher level action plans and strategies identified above.

The Biodiversity Strategy for the Canterbury Region (Appendix C) provides a useful summary of the roles and responsibilities various agencies and organisations have in giving effect to the various policies and implementation programmes identified earlier.

Dry Woodland Forest

ORGANISATION/GROUP	ROLE & RESPONSIBILITY
Grass Roots Initiatives: • Banks Peninsula Conservation Trust; • Waihora Ellesmere Trust; • Te ara Kakariki Greenway Canterbury Trust; • Other Landcare Groups; • Individual Landowners; • Local Rūnanga	Generally focus is on action on the ground and some education, through their own action plans/initiatives and through partnerships with agencies and other groups
NGO's/Advocacy Groups: • Forest & Bird; • Fish & Game; • Federated Farmers	Generally focussed on advocacy, awareness building and involvement in on the ground initiatives
Agencies: • Selwyn District Council; • Regional Council; • DoC; • LINZ; • MfE	Provision of funding, technical and administrative support and information. Development of policies and measures to give effect to statutory responsibilities in accordance with RMA, LGA and Conservation Act. Undertake monitoring and research to improve existing knowledge and information. Public land management.
CRI's: • Landcare Research; • Universities; • NIWA	Provision of technical support and information. Undertake research and monitoring to improve existing knowledge and information.
Other NGO's: • QEII Trust; • NZ Landcare Trust; • Waihora Ellesmere Trust	Provision of funding, technical and administrative support and information. Undertake monitoring. Develop partnerships and relationship building.
Tangata Whenua: • TRoNT; • Local Rūnanga	Undertake research and monitoring. Involved in local on the ground initiatives. Advocacy, education and awareness building.

Indigenous Biodiversity Management – Selwyn District Council Context

Selwyn District Council has an active role in giving effect to its statutory responsibilities and the various non-statutory strategies and implementation programmes identified above. The Council's indigenous biodiversity management framework utilises a "belts & braces" approach, involving both regulatory and non-regulatory mechanisms to fulfil these obligations.

The basic framework, and many of Council's on the ground works (such as stormwater management and land drainage management) is closely aligned and consistent with the Goals, Targets and Actions set out in the Biodiversity Strategy for the Canterbury Region. It has not been formalised by Council developing and adopting a Council Biodiversity Strategy or Action Plan (Council has adopted the Biodiversity Strategy for the Canterbury Region).

Non-Regulatory Framework

The non-regulatory component consists of Council facilitating opportunities for individuals, and groups to manage land in a manner that is sympathetic to protecting and enhancing existing remnant indigenous flora and fauna and creating new sites.

Specific aspects of this work programme include:

- The contestable Selwyn Natural Environment Fund, providing financial assistance to private landowners or community groups who have projects that meet the Fund's relevant criteria. The primary focus of this Fund is to assist projects on sites which are confirmed SNA's, with the creation of new sites a lower priority (Council currently allocates approximately 25% to creating 'new' sites). Funding is also available for research and associated projects which align with the primary purpose of the fund;
- Bulk funding through the Annual Plan and Long Term Plan process to groups who carry out work which protects and enhances the natural environment. The most notable example annual funding to the Waihora Ellesmere Trust, who carry out works associated with the protection and management of Te Waihora/Lake Ellesmere;
- Annual funding to assist with education and promotion of indigenous flora, fauna and ecosystems on Council owned and managed land;
- Annual funding specifically targeted for protection and enhancement of indigenous flora, fauna and ecosystems;
- Establishment of an Environmental Liaison Officer position within Council. This purpose of this role includes:
  - Advocate for the protection and management of indigenous biodiversity throughout the Selwyn District, whether on public or private land;
  - Identifying opportunities for protection and restoration on private land and liaising with landowners to ensure projects are carried out in a suitable manner and have access to funding. The primary focus should be projects which protect and manage existing high quality remnants that have been confirmed as SNA's, or where there are willing landowners, are existing remnants that while not confirmed SNA's, would benefit from restoration and management. Projects which seek to establish 'new' sites should be a lower priority.
  - Providing advice to private landowners or groups interested in undertaking protection, management or restoration projects;
  - Networking with various stakeholders, community groups and relevant landowners to leverage the limited resources, and to achieve positive biodiversity outcomes;
  - Identifying opportunities on Council owned land where protection and restoration can occur;
  - Coordination of Council's SNA assessment programme.

Regulatory Framework

The regulatory mechanisms include a policy framework in the District Plan which includes vegetation clearance rules, criteria to be used when assessing whether a site is significant, restrictions on subdivisions affecting confirmed SNA's and a suite of processes to be used to identify possible sites for assessment, and policies and rules specific to the High Country to manage planting of exotic tree species which spread easily.

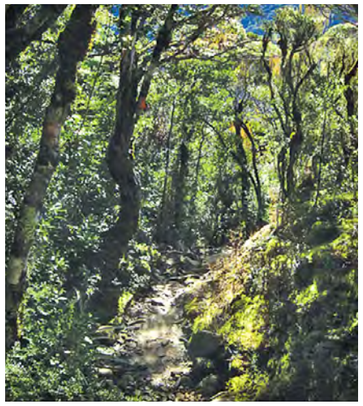
To facilitate the confirmation of potential SNA's, Central Government funding from the Biodiversity Advice Fund has been secured allowing for ecological assessments to be carried out on qualifying sites/properties at no cost to the landowner. Ecological reports on sites are developed, and include management recommendations on how confirmed sites should be managed to recognise and protect the ecological values. This project is coordinated by Council's environmental Liaison Officer.

Discussion

As noted above, Council's indigenous biodiversity management framework, is closely aligned with and consistent with the Goals, Targets and Actions set out in the Biodiversity Strategy for the Canterbury Region. Given the relative scarcity of resources, both time and financial, as well as the difficult challenges inherent in protecting and managing indigenous biodiversity, Council's current focus is to work with willing landowners in a voluntary, transparent and collaborative process. It is a strategic and pragmatic approach which focuses primarily on protecting what remains (at both statutory and non-statutory level) and working with landowners where easy gains can be made. To achieve "more bang for buck", Council also has a facilitation role, linking various stakeholders, community group and relevant landowners to leverage the limited resources, and to achieve positive biodiversity outcomes.

The current management framework does not prioritise the regulatory work stream over the non-regulatory, areas for priority should be where resources are most needed and where robust achievable outcomes, in the form of protection, management and enhancement of existing and new sites, can be achieved. For example, the Biodiversity Strategy for the Canterbury Region prioritises protection and management of existing remnants (SNA's and other), with other sites, such as creating new re-vegetation sites, a 2nd tier priority. In addition, the National Priorities for Protecting Rare and Threatened Native Biodiversity on Private Land applies to many of the remaining indigenous biodiversity in the Selwyn District, such as on the Canterbury Plains area of the District. As such, much of Council's focus is on these areas, rather than non critical ecosystems and areas.

The issues are so contentious and complex, with multiple parties involved, that adopting a singular and limited approach, such as reliance purely on a regulatory approach) will not result in any meaningful outcomes in terms of long term protection or enhancement. By the same token, relying solely on a non-regulatory framework is unlikely to be seen as giving effect to Council's statutory responsibilities to protect SNA's, at least as the situation is at present. As such, the present framework may be the most appropriate to use moving forward, albeit with amendments and revisions to ensure any future framework and use of limited resources is efficient and effective and achieves meaningful outcomes. The regulatory framework is scheduled to be reviewed to ensure it is giving effect to the relevant provisions of the recently adopted Regional Policy Statement. A review to determine the efficiency and effectiveness of the non-regulatory programme and where the focus of that programme should be, and how best to deliver on Council's responsibilities may also be prudent, including consideration of Council developing an Indigenous Biodiversity Strategy (or at the very least, adopting an Action Plan) that factors in all the various policy documents and non-statutory implementation programmes/action plans identified above.



Podocarp Forest

LAND TYPES, USE AND LANDSCAPE CHARACTER

RURAL LAND

Rural land has been divided into High Country and Foothills, Canterbury Plains and Port Hills.

RURAL

Farming is diversifying both in terms of livestock and crop types. The rural land uses includes:

- Pastorial farming
- Cropping
- Dairy farming
- Forestry
- Mining and quarrying (gravel, bentonite and limestone)
- Community facilities
- A variety of business activities
- Outdoor recreation activities
- Conservation and preservation of wildlife and natural features

The rural area is valuable not only for its land and soils for primary production but also for:

- Recreational and aesthetic values of mountains, lakes and rivers
- Wildlife and habitat values, particular in the less intensively settled parts of the Port Hills, hill and high country.
- Open space amenity values, which attract people to rural areas to live or for recreation.

High Country & Foothiills Characteristics

The high country and foothills of Selwyn District start at the Malvern Hills and extend west to the top of the Main Divide.

The geography of this area is characterised by:

- Mountains, lakes and river gorges.
- Severe weather: snow, heavy frosts, hot summers, nor-westerly gales.
- An area of known active faults.

The alpine areas below the permanent snowline (approximately. 2200 metres) support herbs, tussocks and scrubland. Below the timber line (approx. 1,300 meters) podocarp forests mainly consisting of beech species can be found in the

montane and subalpine areas. Large tracts of podocarp forest remain near the main divide, but much of the eastern mountains and hills have been cleared for grazing. These eastern slopes are now largely treeless, with extensive areas of scree and tussock.

The high country is the least settled and modified land in Selwyn District. The basins and rolling hills are often improved pasture for farming. Steeper mountain ranges are generally unmodified or are grazed much less intensively.

Land ownership is a mixture of crown, pastoral lease and freehold. A number of high country properties have been through or are undergoing the tenure review process.

The District Plan identifies a number of outstanding natural features and landscapes being:

Malvern Hills area:

- The skylines and upper slopes of the Russell Range and south of Flagpole.
- The ridge from Mt Misery to Windwhistle – Rockwood Range.
- The rocky outcrops at Glenroy.

High country area based on four land types:

- National Park and conservation areas.
- Unimproved or slightly improved run areas which are lightly grazed.
- More intensively farmed areas.
- Settlements and holidays homes including the three villages in the high country area: Arthur's Pass, Castle Hill and Lake Coleridge.

Activities that are most likely to affect landscape values are earthworks, structures and buildings protruding the skyline and large scale developments.

Uses

Pastoral farming is the dominant land use in the high country and foothill areas. Exotic forestry and outdoor recreation/tourism are land uses that are increasing in the High and Hill Country. A small amount of mining/quarrying occurs. Over 50% of the land area of the District's high country has some form of protected status for its ecological, landscape or recreational values, e.g. National Parks and reserves. Generally the area is much less intensively settled and farmed than the Canterbury Plains.

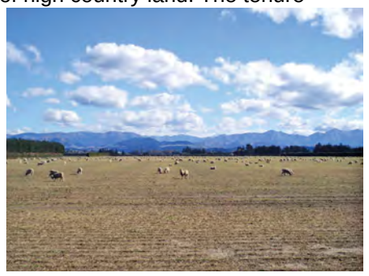
The high country is valuable for tourism and recreation. The landscapes and remnant indigenous flora and fauna are important features of this area. There are remnant areas of beech forest and shrub and tussock grasslands, of which few extensive unmodified areas remain.

The Korowai/Torlesse Tussocklands Park and Arthur's Pass National Park are examples of remnant areas which have important ecological, natural and recreation values. The Korowai/ Torlesse Tussocklands Park covers approximately 21,000 hectares and is a key site for the promotion and protection of eastern South Island high country landscapes and ecosystems and has high recreational values.

Arthur's Pass National Park covers an area of 98,293 hectares and was the first national park to be established in New Zealand. It is split by the main divide with the eastern side contained within the District typically drier consisting of beech forest and wide riverbeds while the western side contains dense rainforest. The park is popular for day walks, picnics, tramping, skiing and mountaineering. Extensive pastoral farming, based on fine wool merino sheep, has been the predominant land-use in the high country for many years.

The foothills are more intensively settled and farmed than the high country, with most of the land in the foothills being improved pasture or exotic forest.

The Government has recently undertaken a programme of reviewing high country tenure. This is an ongoing process which is changing the management of high country land. The tenure review process allows the freeholding of land while protecting significant inherent values and creating new opportunities for recreation and access to the high country.



The objectives of tenure review are spelled out in the Crown Pastoral Land Act, 1988, which seeks to ensure:

- Ecologically-sustainable management of all land entering tenure review.
- Freeholding of productive land.
- Protection of high conservation values of other land, preferably by a return to full Crown ownership.
- Promoting public access to new conservation lands.

Public concerns have mainly focused on three issues: loss of lower altitude ecosystems, impact on landscapes, and public access to the high country.[15]

The lower altitude ecosystem issue arises from only a small amount of this land being converted to conservation land and large amounts being placed in private ownership. The risk to the ecosystem with private ownership is intensified land use.

The high country landscape is impacted by privatization of land as there is a potential of the land to be subdivided for residential use including development of lifestyle blocks.

Another impact of the tenure review on the landscape is the visual effect of straight lines separating green pastoral land from fenced government owned land of the hill country.

Rural Landuse Changes

In 2011, there were 2,001 farms and orchards in the district, which accounts for 21 per cent of all farms in the Canterbury region. The majority of the agricultural farms and orchards are Sheep/Sheep & Beef farms (885), followed by 292 dairy farms and 251 per cent of other livestock farms (pig farming, horse farming, etc.).

Since 2005 Selwyn's number of farms has fallen by 9 per cent (188 farms/orchards), this is a slightly higher than the regional drop by 8 per cent (845 farms/orchards) but smaller than the national decrease by 11 per cent (8,652 farms/orchards). However, over the same period, the number of other crop growing orchards more than doubled in the district, and the number of dairy farms increased by almost 20 per cent. The largest loss of farms occurred in the mushroom and vegetable growing sector which dropped by 34 per cent since 2005, and the deer farming which has decreased by 33 per cent over the same period.

The number of farms may be down as often with the expansion of dairy farms multiple exiting farms are amalgamated.

Only crop and dairy farms have increased since 2011 in terms number of farms. This suggests a landuse change to more intensive use is occurring. These rural land uses are also more water consumptive, which will put pressure and in crease demand on aquifers and water takes generally over the district.

CANTERBURY PLAINS

Characteristics

The Canterbury Plains are broad outwash plains that extend from the foothills of the Alps in the west to the east coast and cover an area of approximately 750,000 ha (includes areas outside the District). They are the largest area of flat land in New Zealand. Within the District the Plains and foothills comprise 54% of the District (approximately 350,000 ha).

Uses

The Plains have been highly modified by an extensive range of land uses including lifestyle blocks (predominantly within a 30km range of Christchurch City), dryland sheep farming (on stony shallow soils), cropping (on free draining deeper soils), and dairy farming (in the higher water table areas).

The majority of the District's population live on the Plains. The braided rivers of the Waimakariri and the Rakaia are features of the Plains landscape.

PORT HILLS

Characteristics

The Port Hills are a rural and scenic backdrop to the District and are a major recreation area. Residential development is currently restricted to the lower slopes (under 60m) with scattered houses on larger tracts of land. The part of the Port Hills west of the Summit Road, from Motukarara to Kennedy's Bush is under Selwyn District Council administration. The rest of the Port Hills is administrated by Christchurch City Council.

Uses

The Port Hills are a mixture of pastoral farming, exotic forestry and some horticulture practices found at the base of the hills. The valleys are more intensively farmed and subdivided with gorse being a major weed control issue. Some areas are set aside as reserves.

There is an increasing demand for land for residential development on the Port Hills. So far small allotments for residential development have been restricted to the lower slopes and base of the Port Hills, though some people have purchased large allotments to enable them to build houses on higher slopes. The Port Hills is a major outdoor recreation area and provides a rural and scenic backdrop to Christchurch City. There is a lot of public interest in how land on the Port Hills is managed. National Parks and Crown Land

As part of the Green Network the District contains Arthur's Pass National Park and the Korowai/ Torlesse Tussocklands Park and large areas of crown land. There are numerous Department of Conservation campsites in the District such as Hawdon Shelter, Lake Pearson, Greyney's, Klondyke Corner. Both Parks are used extensively for active and passive public use for the likes of picnicking, camping, hunting, tramping, mountaineering, fishing, caving, climbing, rafting, kayaking and skiing.

There are numerous other crown owned scenic reserves within the District such as Cave Stream Scenic, Lord's Bush and Castle Hill scenic reserves. These areas also provide significant recreational opportunities.

FORESTS AND FOREST PARKS

Craigieburn Forest Park extends from the Waimakariri River to the Wilberforce River. It contains braided rivers, beech valleys, tussock grasslands, alpine screes and mountain peaks over 2,300m high. Craigieburn Forest Park contains a number of walking tracks and is popular for tramping, fishing and skiing with Craigieburn and Broken River skifields. Wilding pines tend to be a problem in these areas and also around Whakamatau/Lake Coleridge.

The Council has 59 forestry plantations distributed throughout the District. These plantations vary in size from 10 hectares down to less than 0.5 hectares. The total area of land utilised by the Council in afforestation is approximately 169.5 hectares. The majority of the sites are reserves being either disused gravel reserves, undeveloped parts of other recreation reserves or cemeteries. The ownership and management of these areas is largely based on historic inheritance. The Selwyn Plantation Board took on the management of the larger tracts of forest leaving smaller sites to be administered by the Council. The Board has a substantial area of land in forestry plantation within the District and these areas provide a secondary function of providing shelter belts and soil conservation.

The Council has recently made the decision to wind up the Board, and the Board has sold its main forest and land holdings. This included initiating two private Plan Changes (PC 8 & 9 to the Selwyn District Plan) to rezone 164 hectares of land in two different locations from Rural Outer Plains to a Living 3 zone on the outskirts of Rolleston. This Plan Change was made operative on 5 March 2012

Gravel Resources

The Council owns 200 lots for gravel extraction within the District, with 18 lots currently or recently operational. Only 7 have any significant resource remaining. There has been an increase in aggregate demand over recent years due to an increase in land development and construction

projects in the District. This has put pressure on existing gravel reserves. The Council is in the process of developed a gravel management strategy to provide direction for the management of the District's resource and to ensure continued supply meets projected demand. The Council are currently seeking new supplies for the District.

In addition, there are four operational private quarries with two additional quarries that have recently received resource consent. This includes a large quarry which will be located on appoximately 200 hectares of land between Wards, Kerrs and Sandy Knolls Road, Burnham.

URBAN SETTLEMENT PATTERN

Township Settlement Patterns

There are twenty three townships identified in the Selwyn District Plan, which contain residential zoning. The zonings for each township can be found in Appendix 2

Township settlements are predominantly based around transportation connections between Christchurch and the Southern Alps and north to south (SH73, SH77, SH1 and SH75).

Approximately 75% of the District's population are located in townships. Several settlement clusters are associated with and located around natural resources for example Te Waihora/Lake Ellesmere and Whakatamau/Lake Coleridge (for example Selwyn Huts, Greenpark Huts, Fishermans Point developed around Te Waihora).

There are three townships in the high country: Arthur's Pass, Castle Hill and Lake Coleridge villages. There are also smaller clusters of houses in the high country which may be remnants of past settlements associated with transport or industry e.g. the railway village at Cass; or popular recreational spots e.g. Bealey Spur.

There are also many other small clusters of houses throughout the District, often remnants of former townships, baches at popular recreational areas, or the start of townships or settlements, which never developed. These small settlements are recognised and provided for in the District Plan, as part of the Rural Zone.

Summary

Rural

- The threat of subdivision on good soils has not emerged and the District Plan states that versatile soils in the Rural zone will not be used for residential development but as development continues there may be pressure on soils that are suitable for agriculture and horticulture being used for other uses.
- Intensive agriculture is not suitable for all soil types due to soil structure.

Indigenous Biodiversity

- Continued loss of and/or damage to indigenous flora and fauna and habitats for indigenous flora fauna, including their associated cultural and amenity values throughout the whole district;
- Lack of robust and certain protection for much of the remaining indigenous biodiversity remnants outside of the public estate;
- Continued spread of plant pests;
- Indigenous vegetation patches in large parts of the District, are in narrow and/or small remnants resulting in increased threat from invasion of weeds and pests as well as wind damage;
- Increased community based protection and restoration/management projects, ranging from "greenways" big vision type initiatives to localised community and school groups restoring and managing indigenous vegetation on private and public land;
- Increased awareness and appreciation for the value of indigenous flora and fauna across all sectors of the community;
- Limited resources, including funding, to assist the wide range of indigenous flora and fauna protection, management and restoration initiatives;
- Complex matrix of policies documents, action plans and implementation strategies. No single best approach and need a flexible and responsive strategy;
- Large number of organisations often with multiple overlapping roles and responsibilities.

Land Type - Rural

- The high country is the least settled area in the District.
- A significant area of the high country and foothills has outstanding natural features and landscapes.
- Land Tenure Review is creating opportunities for protecting those parts of the high country with significant conservation value, while enabling diversification of land use on freeholded land.
- The Port Hills is a highly valued scenic and recreational resource that supports a range of farming activities, including lifestyle, pastoral and horticultural uses.

Land Type - Canterbury Plains

- The Canterbury Plains supports a range of intensive and extensive farming activities, with the rural area closest to Christchurch being predominantly utilised for lifestyle activities with sheep, crop and dairy farming being the dominant land use further afield
- A continued supply of aggregate will be required to meet gravel demands of the District and to support the rebuild of the Greater Christchurch area as a result of damage caused by recent earthquakes.

Land Type - Forests

- Forests and forest parks provide significant recreational opportunities in the District.
- Control of wilding pines within the District and particularly in the Whakamatau/Lake Coleridge area.
- Land development is changing the rural amenity of the Plains.

Land Type - Urban Settlement Pattern

- Approximately 75% of the population of the District are located in service towns and small townships.

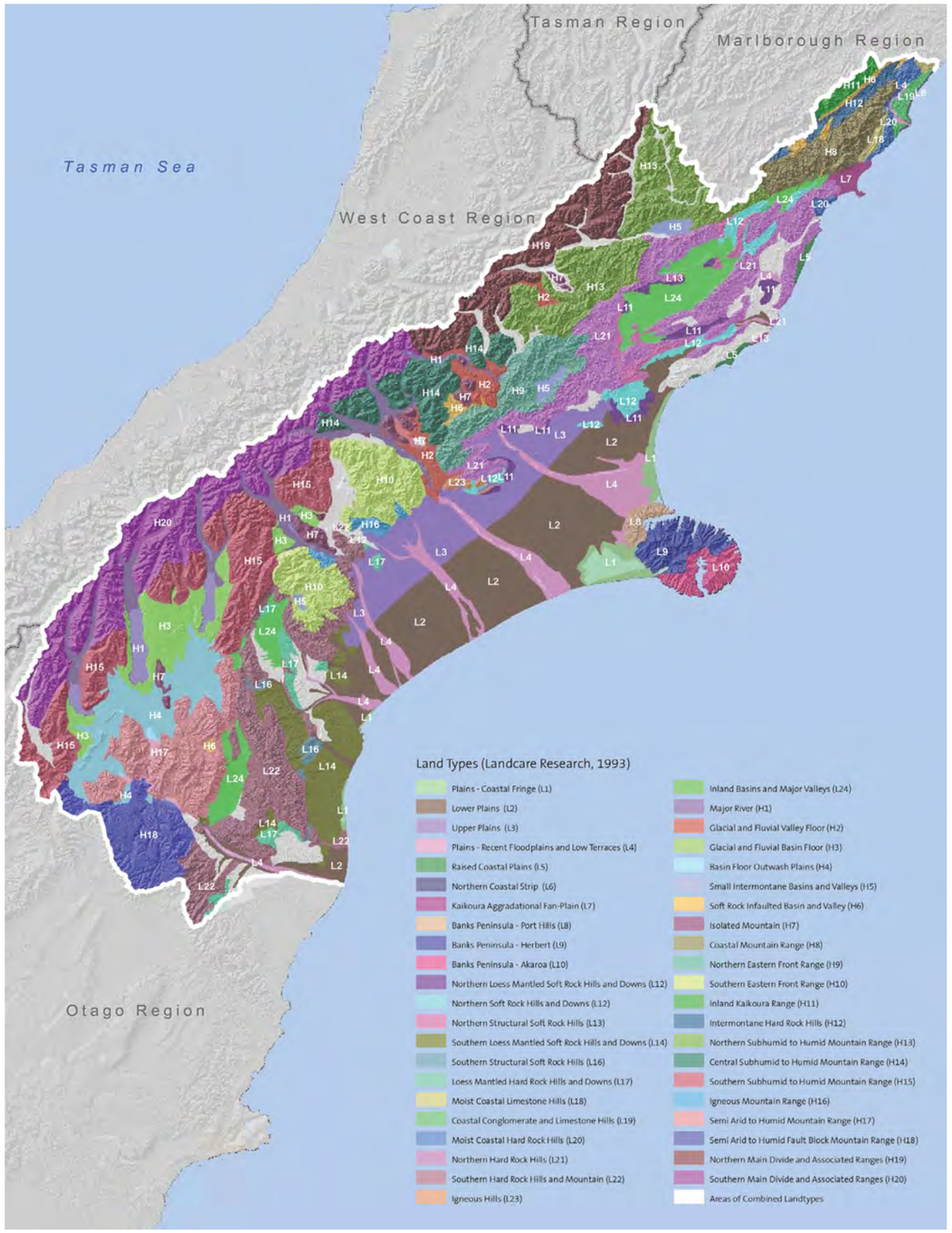


Figure 16: Landforms. Source: ECan Canterbury Regional Landscape Study Review Report

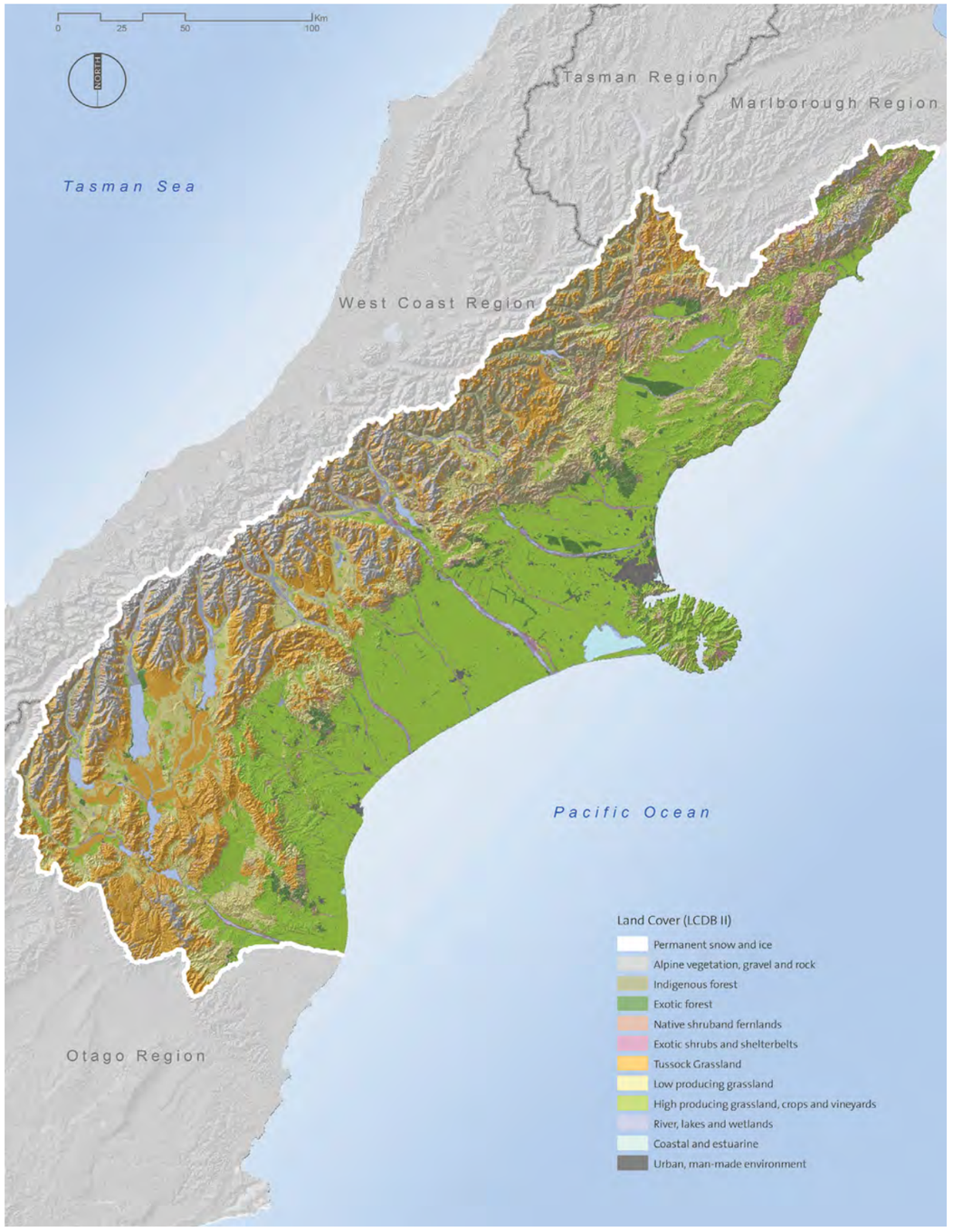


Figure 17: Existing Land Cover Map. Source: ECan Canterbury Regional landscape Study Review Report

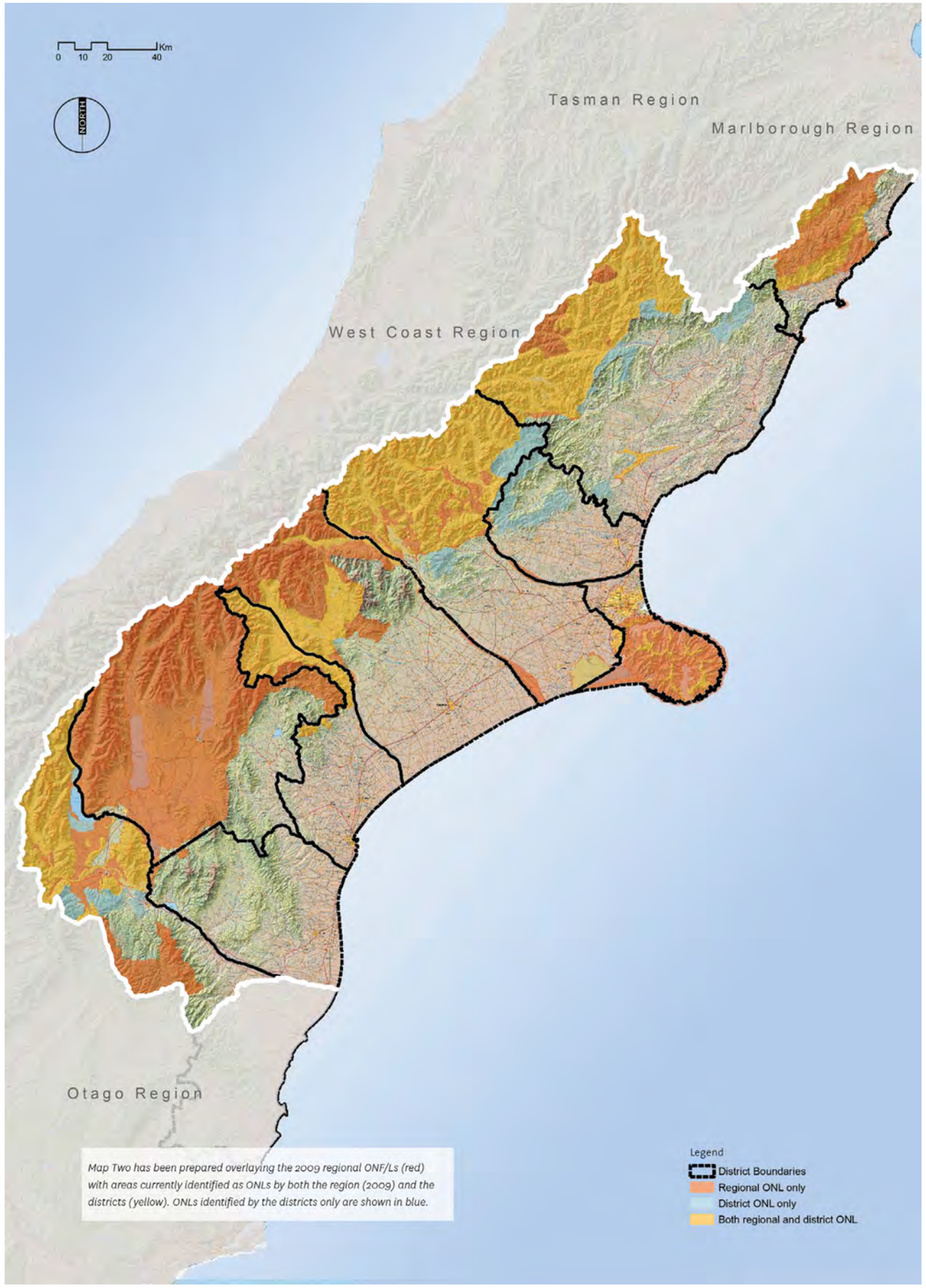


Figure 18: Outstanding Natural Features and Landscape Map.
Source: ECan Canterbury Regional landscape Study Review Report

PHYSICAL CONSTRAINTS

NATURAL HAZARDS

The RMA defines a 'natural hazard' as "any atmospheric or earth or water related occurrence … the action of which adversely affects or may adversely affect human life, property or other aspects of the environment."

Many natural hazards are interrelated, for example earthquakes can cause tsunamis and drought can lead directly to famine.

Due to a number of active faults that cross the western part of the Selwyn District, the District being bounded by two major rivers and Te Waihora/Lake Ellesmere. The District's topography and geographical location and weather all influence the type of natural hazards that have the potential to occur within the District.

This section provides an overview of the natural hazards that have the potential to occur within the District.

FLOODING

Flooding can be caused from rainfall runoff or rivers overflowing their normal channels in high rainfall events. Both the Waimakariri and Rakaia Rivers, as the two main braided rivers may break out of their channels in major floods.

Considerable modelling work looking at likely outbreak points and flood channels for the Waimakariri River has been undertaken. The likely outbreak point on the south side of the river is at Halkett. The Rakaia River has historically broken its banks at some point above the Main South Road. Flooding occurs mostly in rural areas, but localised flooding also affects the township at Rakaia Huts. The Waikirikiri/Selwyn River historically breaks out above Glentunnel and above Main South Road.

Floodwaters can affect other streams and may cause flooding in settlements such as Irwell Village from overflows in Irwell Creek. Upper and Lower Selwyn Huts are protected from flooding by stop banks. The Hawkins and Waianiwaniwa Rivers are known to break out flooding surrounding farmland.

Flooding from Te Waihora/Lake Ellesmere affects Greenpark and the Lower Selwyn Huts. Low lying areas in the south part of the District are prone to flooding from ponding of stormwater, including areas around Taumutu, Southbridge and Tai Tapu. Groundwater is close to the surface in these areas so stormwater does not drain away quickly.

TSUNAMI

Historically, tsunami which affects New Zealand's eastern coastline, are triggered by earthquakes off the coast of South America.

Selwyn District has only a very short coastline, however, the potential for a tsunami event to overtop the Kaitorete Spit and inundate Te Waihora/Lake Ellesmere cannot be discounted. Any tsunami wave would also have the potential to travel up the Rakaia River. The potential would place a number of small communities around the lake edges and the Rakaia River at risk.

EARTHQUAKES

Canterbury is located in a wide zone of active earth deformation associated with the oblique collision between the Australian and Pacific plates in the area east of the Alpine Fault.

There are a number of active faults that cross the western part of the Selwyn district. The main faults are:

- The Porters – Amberley Fault Zone;
- The Torlesse and Esk Faults; and
- The Cheeseman, Craigieburn.

The known active fault lines and epicentres for major earthquakes have been mapped. These areas are west of Darfield.

Source: Teara.govt.nz

Any major seismic activity along the Alpine Fault has the potential to cause damage and would impact on the district. However, an impact on the Porters – Amberley Fault will have more significant damage to lifelines and the community.

Damage can result from ground rupture or shaking; or from consequential effects such as landslips, avalanches, and ground subsidence. Liquefaction may be an issue in some parts of the District where there are peaty/sandy soils and a high water table.

On the 4th September 2010 a magnitude 7.1 earthquake struck Canterbury at 4.35am causing significant damage. The epicentre was contained within the Selwyn District at Greendale, at a depth of 10km. A magnitude 6.3 earthquake struck the Canterbury region at 12.51pm on 22 February 2011 causing further significant damage to Christchurch and surrounding areas. The second earthquake has been the most damaging earthquake in New Zealand since the Hawke's Bay earthquake in 1931 and also had loss of life.

The fault that caused the original earthquake in the Selwyn District has been named the Greendale Fault. It is a previously unknown fault under the Canterbury Plains. The rupture on the fault broke through to the ground surface from many kilometres below and created a 29 km long east-west running scarp in the land between the Hororata River and Railway Road near Rolleston.

DROUGHT, SNOW & WIND

Weather extremes of drought, snow and wind storms are the most frequently occurring natural hazards in Selwyn District. Historically, significant droughts affect the District once in every six or seven years; and heavy snowfalls once in every four years. Strong winds, particularly from the north-west, often do minor property damage and, occasionally, more significant damage.

FIRE

Wild fires are a serious hazard both in the Hill and High Country of the District as well as on the Plains. The Hill and High Country ranges from low foothills to sub-alpine and consists of farming land and tussock forests. The Plains area is extensively farmed, with the fire risk reducing in some areas due to dairy conversion. Large scale fires in the District are usually a combination of weather conditions (hot and dry) and human activities. These fires tend to affect rural areas.

COASTAL EROSION

The District has a small area of eroding coastline between Te Waihora/Lake Ellesmere and the Rakaia River. Coastal erosion is most likely to threaten the Rakaia Huts Settlement as this is the most residentially developed

Summary

- Earthquakes can cause major damage and loss of life as the recent earthquakes on 4th September 2010 and 22nd February 2011 have shown.
- Flooding is a threat in the District due to the surrounding waterbodies.
- Rakaia Huts Settlement area is at most risk from coastal erosion and inundation.

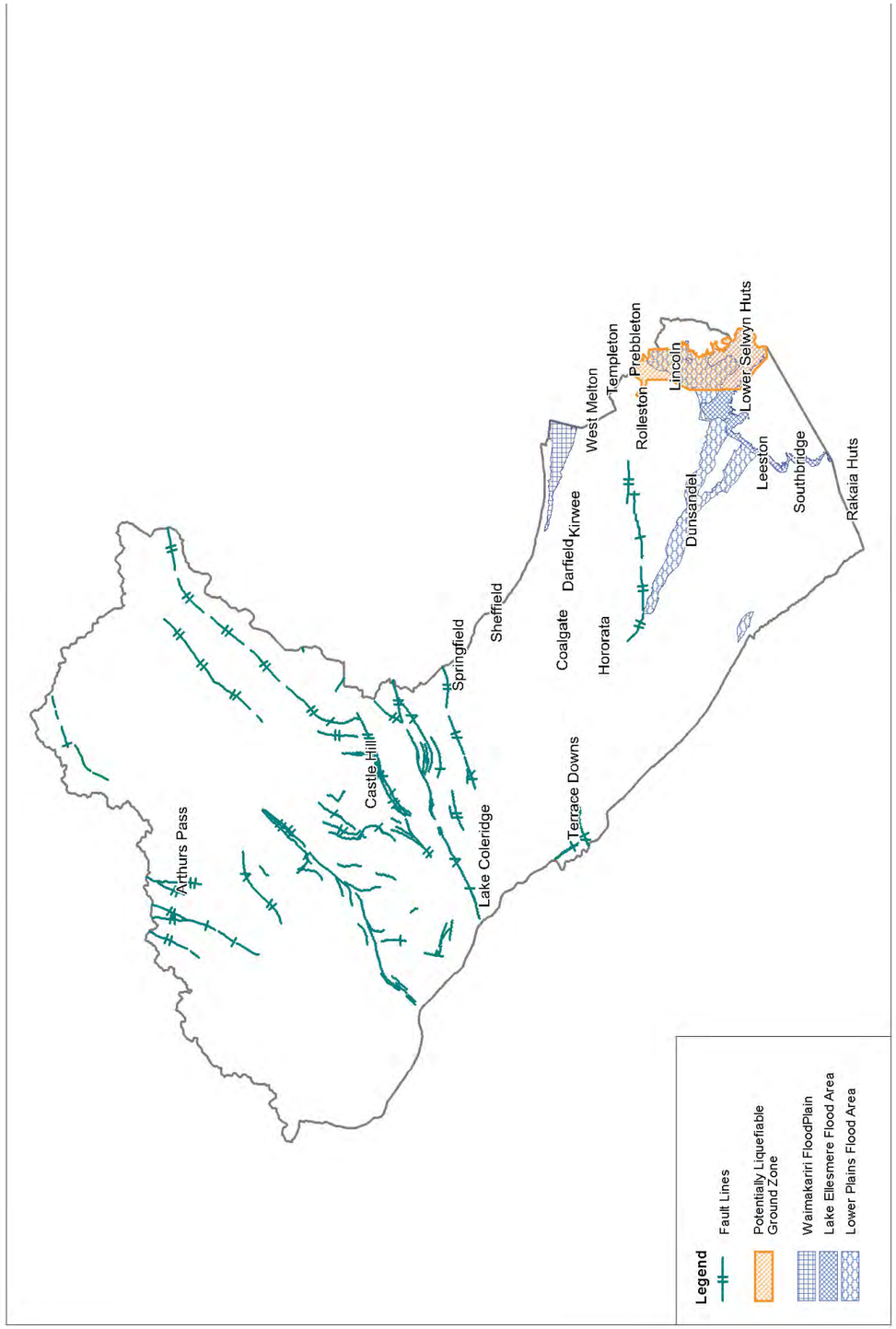


Figure 19: Known hazards in the District

4. Growth in Selwyn

INTRODUCTION

Introduction

This section focuses on the existing population of the Selwyn District and level of growth that is projected to occur over the next 15 to 20 years. It included the following information:

Existing Population
- 2006 Census - Selwyn District -
- Population growth between 2006 to 2010
- Impact of population growth as a result of the Earthquakes 2011 - 2012
- 2013 Census - Selwyn District

Population Projections
- Selwyn District Council Growth Model 2008 and 2011
- Statistics NZ - October 2012
- Amended Selwyn District Growth Model 2013

This section then looks at the impact of population growth on the District in regards to the following:

Residential Growth
- How much rural / urban zoned land does the District have?
- What is the demand for the land over the last five years?
- Do we need additional land to support the predicted growth?
- If so where?

Business Growth
Retail / Commercial / Industrial
- How much Retail / Commercial and Industrial zoned land does the District have?
- Do we need additional land to support the predicted growth?

2006 CENSUS - SELWYN DISTRICT

SELWYN DISTRICT POPULATION - Census 2006

The population of Selwyn District was 33,645 at the 2006 Census. The population of the District has been increasing rapidly in percentage terms, at 2.2% annually over the 1996-2001 period and more recently increasing to 4.7% annually over the 2001-2006 period.

SELWYN DISTRICT EXISTING DEMOGRAPHIC TRENDS

The summary below identifies the key demographic trends for the Selwyn District from analysis of the 2006 census data.

Age Distrubution:

- The Median age is 36.8 years for people in Selwyn District. For New Zealand as a whole, the median age is 35.9 years.
- 9% of people in Selwyn District are aged 65 years and over, compared with 12.3 % of the total New Zealand population.
- 23% if people are aged under 15 years in Selwyn District, compared with 21.5% for all of New Zealand.

Cultural diversity

- 79.2% of people in Selwyn District belong to the European ethnic group, compared with 67.6% for New Zealand as a whole.
- 6.1% of people in Selwyn District belong to the Maori ethnic group, compared with 14.6% percent for all of New Zealand

Average income

- For people aged 15 years and over, the median income in Selwyn District is $28,100. This compares with a median of $24,400 for all of New Zealand.
- 38% of people aged 15 years and over in Selwyn District have an annual income of $20,000 or less, compared with 43.2% of people for New Zealand as a whole.
- In Selwyn District, 20.6% of people aged 15 years and over have an annual income of more than $50,000, compared with 18% of people throughout New Zealand.

Households

- One-family households make up 80.8% of all households in Selwyn District. For New Zealand as a whole, one-family households make up 69.1% of all households.
- 1,653 (or 14.5%) live in one-person households in Selwyn District. Throughout New Zealand, one-person households make up 23% of all households.
- The average household size in Selwyn District is 2.8 people, compared with an average of 2.7 people for all of New Zealand.

Education

- 39.7% of people aged 15 years and over in Selwyn District have a post-school qualification, compared with 39.9% of people throughout New Zealand.
- In Selwyn District, 22.6 percent of people aged 15 years and over have no formal qualifications, compared with 25% for New Zealand as a whole.

Housing ownership

- In Selwyn District, 67.2% of households in private occupied dwellings own the dwelling, with or without a mortgage.
- For New Zealand as a whole, 54.5% of households in private occupied dwellings own the dwelling, with or without a mortgage.

2007/10 POPULATION GROWTH - SELWYN DISTRICT

The following information is sourced from Statistics New Zealand - Subnational Population Estimates for the Selwyn District (Between June 2006 to June 2010)

Year	Population	Growth Rate
June 2006 (Census)	33,645	
June 2007 (Estimate)	36,400	4.0% (2nd fastest district growth in New Zealand)
June 2008 (Estimate)	37,500	3.2% (2nd fastest district growth in New Zealand)
June 2009 (Estimate)	38,600	2.8% (Fastest district growth in New Zealand)
June 2010 (Estimate)	39,600	2.5% (Fastest district growth in New Zealand)

Table 3: Estimated Population and Growth rate for Selwyn District 2006 to 2010

2011 - 13 POPULATION GROWTH - POST EARTHQUAKE

Post the September 2010 and February 2011 Canterbury Earthquakes, the following Population estimates are from Statistics New Zealand - Subnational Population Estimates (between June 2011 to June 2013)

Includes information on Selwyn, Christchurch and Waimakariri

	Year	Population	Increase / Decrease from previous year	Growth Rate
Selwyn District	June 2011	41,100	+1,500	3.9% (Fastest district growth in New Zealand)
	June 2012	42,300	+1,200	2.9% (Fastest district growth in New Zealand)
	June 2013	44,200	+1,900	4.5% Fastest district growth in New Zealand)
Waimakariri District	June 2011	48,600	+940	2.0% (4th Fastest district growth in New Zealand)
	June 2012	49,200	+640	1.3% (7th Fastest district growth in New Zealand)
	June 2013	50,700	+1,500	3.1% (3rd Fastest district growth in New Zealand)
Christchurch City	June 2011	367,700	-8,900	-2.4%
	June 2012	363,200	-4,600	-1.2%
	June 2013	366,000	+2,900	+0.5%

Table 4: Estimated Population and Growth rate for Selwyn District, Waimakariri District and Christchurch City 2011 to 2013

2013 CENSUS - SELWYN DISTRICT

The following information has been released by Statistics New Zealand from the early results of the 2013 Census which was conducted in March 2013.

Please note that the data used in this table is by area units and not township boundaries. For further information on the location of the area units for the Selwyn District you can visit the following website:

www.stats.govt.nz/StatsMaps/Home/Maps/2013-census-population-dwelling-map.aspx

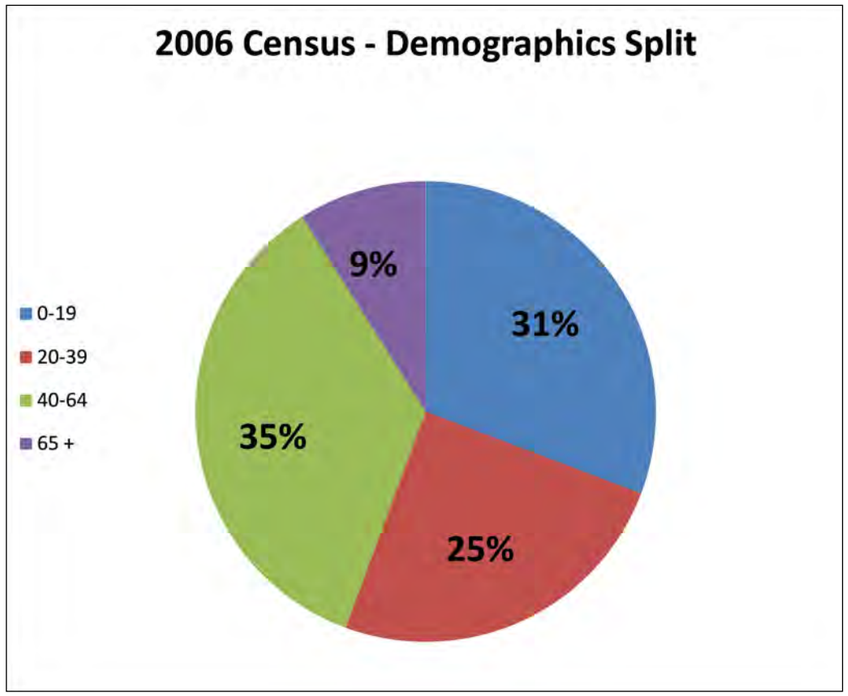
Area Unit	2006	2011
Darfield	1,671	1,935
Kirwee	2,844	3,486
Burnham Muilitary Camp	1,206	1,089
Malvern	2,745	3,117
Prebbleton	1,824	2,310
Trents-Ladbrooks	1,173	1,707
West Melton	5,508	7,059
Taitapu	411	624
Lincoln	2,835	3,924
Leeston	1,299	1,506
Southbridge	735	861
Dunsandel	432	474
Selwyn-Rakaia	3,462	3,921
Rolleston North West	579	1,797
Rolleston Central	2,316	2,976
Rolleston North East	1,101	2,196
Rolleston South West	447	1,974
Springston	2,550	3,030
Rolleston South East	516	612
TOTAL	33,645	44,598

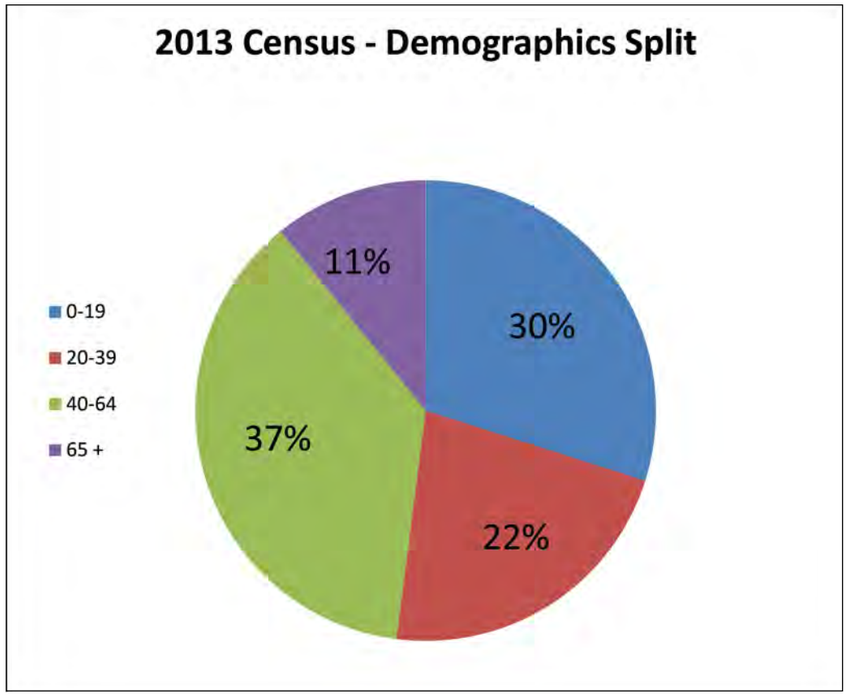
Table 5: Population of Selwyn District - Area Units - Census 2013

2013 CENSUS - DEMOGRAPHICS IN THE SELWYN DISTRICT

	2006 Census			2013 Census		
Year	Male	Female	Total People	Male	Female	Total People
0-4 Years	1,212	1,182	2,394	1,575	1,452	3,027
5-9 Years	1,299	1,263	2,559	1,812	1,767	3,579
10-14 Years	1,395	1,389	2,784	1,698	1,626	3,327
15-19 Years	1,452	1,170	2,622	1,827	1,587	3,414
20-24 Years	981	771	1,749	1,455	1,101	2,556
25-29 Years	750	744	1,491	1,044	960	2,004
30-34 Years	1,023	1,227	2,250	1,026	1,215	2,241
35-39 Years	1,404	1,467	2,871	1,449	1,605	3,054
40-44 Years	1,539	1,578	3,117	1,911	2,025	3,939
45-49 Years	1,449	1,338	2,787	1,896	1,899	3,795
50-54 Years	1,170	1,113	2,283	1,773	1,677	3,450
55-59 Years	1,140	1,068	2,205	1,494	1,392	2,886
60-64 Years	789	717	1,509	1,251	1,239	2,487
65-69 Years	627	564	1,191	1,023	909	1,932
70-74 Years	411	333	747	693	642	1,338
75-79 Years	297	258	558	387	369	759
80-84 Years	156	171	324	240	240	480
85 Years and Over	81	123	204	147	177	324
TOTAL	17,169	16,476	33,642	22,710	21,885	44,595

Table 6: Demographics of the Selwyn District - Census 2013





POPULATION PROJECTIONS FOR SELWYN - STATISTICS NZ AND SELWYN DISTRICT GROWTH MODEL

The need for robust projections for Council has expanded in recent years to include the following Council work programmes, in particular:

- strategic planning projects such as a District Development Strategy;
- planning for services and facilities (e.g. through updating asset management plans, activity plans and capital works programmes);
- preparation of the LTP, the source document for the funding of services and facilities;
- a robust basis for updating the Development Contributions Policy (DCP); and
- community development, such as engagement with central government for the provision of additional resources (e.g. schools, police numbers, hospital services).

In consideration of how best to review the projections, the value of an in-house model with clearly understood assumptions, from which regular projections could be derived was identified. The benefits of using a growth model to generate these projections include:

- common set of numbers to underpin zoning / infrastructure planning / funding;
- remove need for each project to generate their own projections;
- numbers engender confidence in Asset Management Plans;
- greater certainty for large scale infrastructure eg Eastern Selwyn Sewer;
- synergy – council programmes reinforce each other because they are based on common assumptions;
- contributes towards our goal of acting strategically;
- efficient use of resources, by having an agreed model; and
- retain future option flexibility by (a) common assumptions we can all live with, and (b) regular review (as discussed in more detail below).

In 2008, the Council asked the economic think-tank, BERL, to develop a growth model. BERL took into account the following factors that enable or limit growth: local water supply, sewerage and drainage capacity, and the environmental protection rules in the District Plan which confine urban development to certain zones.

The model was first adopted by Council at its Council meeting on 23 April 2008. The model was rebased (updating the starting figures for each township) on 9 July 2008.

When the growth model was adopted by Council, it was recommended that it should be updated on a regular basis. The first major revision took place during the aftermath of the second significant Canterbury earthquake (February 2011). Due to the uncertainty relating to the potential impact of the earthquake on Selwyn and the existing poor economic climate of the time, the revision reduced the amount of growth in the district by approximately 4,200 people (or 1,500 households). The revised model was adopted by Council on 14 July 2011.

During October 2012, Statistics New Zealand released its growth projections for the Selwyn District. This projection outlined that Selwyn was growing at a rate high than projected by the SDC Growth Model (the population figure for 2011 in the Statistics NZ projections was half way between the 2016 and 2021 projection identified in the SDC Growth Model).

Therefore the SDC Growth Model was now seen as being out of date to the level of growth associated with the Selwyn District which has been growing at a significantly rate (eg between 2012/13, Selwyn grew at 4.5% per annum). The main reasons for this growth was the rezoning of a large amounts of land in Rolleston, Lincoln and Prebbleton and the impact of the Canterbury earthquakes.

To determine whether this situation is likely to continue into the future, staff have reviewed Census data recently released by Statistics New Zealand and updated township growth projections based on the following information:

- 2013 Census information
- Trends in Building Consent Data (from 2007 to 2013)
- Previous Growth Projections (from Statistics New Zealand and SDC Growth Model)
- Previous Annual Growth rates for Selwyn.
- Impact of the Land Use Recovery Plan and Selwyn 2031: District Development Strategy

The latest amended projection forecasts a growth rate of 2.9% p.a. As a result the projections outlined the following for Selwyn:

- Selwyn would have an overall population of 75,000 by 2031 (an increase of 30,405 people over a 18 year period (2013-2031).
- Using an average of 2.8 persons per household – this would create an additional 10,860 households in the District.
- On average this would create 603 new dwellings each year for 18 years.

As a comparison, all of the growth projections have been included in the following table. They are

- SDC Growth Model (released in 2008)
- SDC Growth Model (released in 2011)
- Statistics NZ - Subnational Population Projections (released October 2012)
- Amended SDC Growth Projections (developed in December 2013)

	2011	2013	2016	2021	2026	2031	Population Change
Amended SDC Growth Projection (2013)		44,595 (Census 2013 Population Figure)	53,781	62,208	68,422	75,215	30,620
Stats NZ (High Growth Projection 2012)	42,100		49,800	56,600	63,700	71,000	28,900
SDC Growth Model (2011)	38,855		40,527	44,453	49,678	54,866	16,011
SDC Growth Model (2008)	39,170		42,653	47,639	53,235	59,356	20,186

Table 7: Growth Projections for the Selwyn District

RESIDENTIAL DEVELOPMENT IN EXISTING TOWNSHIPS/RURAL

Rural

The Selwyn District is approximately 686,000 ha in size. Of this approximately 99% (682,000ha) is zoned rural. There are approximately 9,120 rated properties within the Selwyn District Rural zone.

Over the past 6 years an additional 315 lots have been approved to the Districts Rural zone. This is an approximate 3.4% increase in lot numbers over the entire rural zone in 6 years.

Figure 20 shows that there has been a dramatic decrease in additional lots being approved by Council. When comparing the supply data and the demand data (dwelling consents issued) for the Rural Zone shown in Figure 21, the approval of additional lots does not appear to relate to the actual demand. This is not surprising given the ability to build more than one dwelling on a title and the lag in development from previous subdivision approvals.

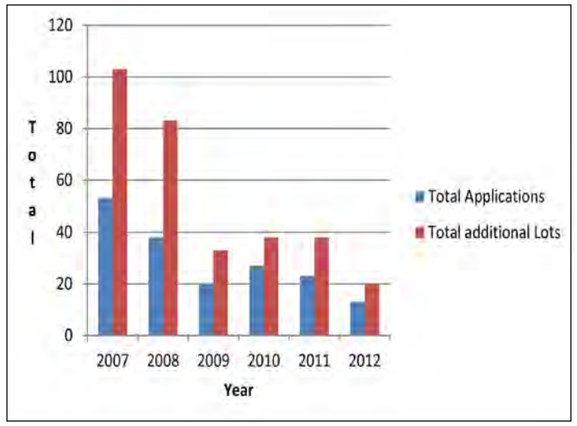


Figure 20: Total subdivisions and additional lots approved in the Rural Zone

Inner / Outer Plains - Subdivision

The Inner and Outer Plains areas are the two main areas for rural development in the District, with 92% of rural development (subdivision and new dwellings) occurring in these areas. The other rural areas have little additional lots created. Most growth in these other areas occurs in the Malvern Hills area where on average only 1 additional lot is created each year. Existing Development Areas (EDA's) like Terrace Downs have had some larger subdivisions occurring but these are of a special nature and very limited in potential future growth.

Given the lack of subdivisions and growth in these other rural areas the majority of data analysis has focused on the Inner and Outer Plains. The creation of new lots in the Inner and Outer Plains areas has also followed the decreasing trend in subdivision and new lot approvals.

The Inner Plains equates to 3.5% (23,390ha) of the overall Selwyn District area and the Outer Plains 26% (179,893ha). Over the last 6 years there has been a 6.6% increase in property numbers in Inner

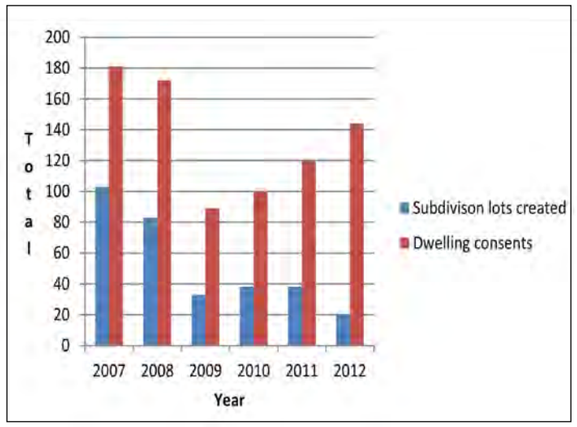


Figure 21: Comparison of dwelling consents to lots created (Demand vs New Supply)

Plains. This is a 1.1% average annual increase over the zone and a 0.39% increase over whole District.

For the Outer Plains there has been a 1.5% increase in property numbers. This is an average 0.25% annual increase over the zone and 0.13% over whole District in the Outer Plains.

Key findings and points in relation to the Inner and Outer Plains area

Inner Plains

- 83% of existing rated properties can't be subdivided any further as a controlled activity.
- 43% of the land area cannot be subject to a controlled subdivision.
- On average the Selwyn District Council received 18 applications per year for subdivision that approved additional lots.
- 214 additional lots were approved since 2007

Outer Plains

- 72 additional lots were approved since 2007.
- On average the Selwyn District Council received 12 applications per year for subdivision that approved additional lots.
- 506 rated properties are over 100ha, which equates to 60% or 108,442ha of the total Outer Plains land area.
- 80% of land area is held in properties of 40ha or more and so could be subdivided as a controlled activity.

Key Points relating to other Rural zones

- Malvern Hills. 4 applications for subdivision were received from 2007 – 2012 (inclusive) with 5 additional lots being approved
- Port Hills. 3 applications for subdivision were received from 2007 – 2012 with 4 additional lots being approved
- Inner Plains EDA's – 3 applications for subdivision were received from 2007 – 2012 with 3 additional lots being approved
- Outer Plains EDA's – 3 applications for subdivision were received from 2007 – 2012 with 17 (includes Terrace Downs) additional lots being approved

The analysis of the subdivision data for rural zone overall indicates that little subdivision occurs in terms of creating new allotments. Within the Inner and Outer Plains more subdivisions are undertaken and lots created however the data indicates there has been a decrease in subdivision and new property supply in recent times.

The Inner Plains only makes up a small portion of the overall Rural Zone and although it is the most intensively developed it still has over 50% of its land area available (within the anticipated density parameters of the District Plan) for further subdivision or new dwellings.

The Outer Plains is approximately a quarter of the Selwyn District and has the vast majority of its area available for future subdivision and new dwellings.

Overall the data analysis indicates that the supply of land for growth in the rural area is plentiful and the creation of new lots is not necessary required to provide for growth. The rural zone has a significant land area and a high capacity for subdivision and new dwellings.

Rural Zone - Demand for Growth

The information shown in Table 7 has been collected of 7 years from 2007 – 2013(inclusive). This data can be used to reflect the demand for growth in the Selwyn District over this time and help predict future growth patterns and figures.

For the Rural Zone a total of 954 dwelling consents were issued from 2007 – 2013 in the Rural Zone at an average of 136 per annum. For the Selwyn District there was an average of 632 dwellings per annum for the same period. There was a high volume of dwelling consents issued for the rural over 2007 - 2008, which has since dropped away but remained relatively constant at around 100 per year until 2012 where there has been another increase in demand.

Research into where the growth is occurring and at what rate provides for a picture of the growth dynamic of the District and the growth issues this may present and require addressing. This will help direct the Council strategies and policy moving forward.

The number of new dwellings issued to the Rural

Zone equates to 21.54% of the total dwellings issued for the District. Almost half (50.31%) of these rural dwellings are to the Inner Plains area with 40.98% to the Outer Plains. The amount of dwelling consents issued to the Rural Zone has remained relatively constant over the last seven years. This indicates the demand for living in the rural environment is consistent relative to the overall growth and demand for housing in the District.

Table 7 highlights the fact that the key growth areas for the Rural zone are the Inner and Outer Plains.

	2007	2008	2009	2010	2011	2012	2013	Total
High Country	2	1	0	0	0	0	0	3
Inner Plains	96	77	54	48	56	68	81	480
Malvern Hills	1	3	1	1	1	7	3	17
Outer Plains	59	84	31	38	58	59	62	391
Port Hills	0	0	0	4	0	2	1	7
Existing Development Areas	23	7	3	8	5	4	6	56
Total	181	172	89	99	120	140	153	954

Table 7: New Dwelling Consents in the Rural Zone

Urban

Land Supply for Growth

Less than 1% of the Selwyn Districts land area is zoned Living. Table 8 outlines that the two largest townships in terms of land area are Rolleston and Darfield. Although of a similar size the population of Rolleston is and will be higher as the existing and future densities of land within its boundaries will be provide for more growth. Townships such as Darfield, Leeston and Kirwee are relatively large with significant areas of land still available for development. However the majority of these townships zoning is Living 2 which covers a larger area but provides for much lower densities than Living 1 type zones, which dominate Rolleston and the other Townships zonings (subject to the Land Use Recovery Plan). As such the similar and smaller lot sizes of the LURP townships can provide for a greater population.

In any event supply of land for development and growth in Selwyn's Townships is readily available as there is either zoned or deferred land available in excess of what the growth models predict is necessary or structure plans are in place to provide for predicted future land supply requirements.

The only exceptions to this may be West Melton and Southbridge. West Melton has been fully zoned and except for an area of Living 2 has been developed or approved for development. As can be seen in Table 10 (dwelling data) demand to build in West Melton has increased significantly and as such its capacity to accommodate this growth is reducing rapidly. Should the growth in West Melton continue at is 2012/13 rate then land supply in the town, a least for the Living 1, 1B and LWM zones will be at capacity.

Southbridge has little capacity to supply for future growth however little growth is predicted for the town. As such its current land supply would appear sufficient. One major factor to this is the wastewater capacity is already exceed for the town. A private plan change has been lodged with Council to rezone rural land to Living 1. Should this plan change be successful then this would provide for an additional 50 allotments and easily cater for Southbridge's predicted growth. However the wastewater capacity issues for Southbridge need to be addressed if future growth and new land supply it's to occur.

Overall the majority of new land supply and development is occurring in the LURP towns, particularly Rolleston. Areas of land supply have been identified for Rolleston, Lincoln and Prebbleton to provide for predicted growth. Other than West Melton and to a degree Southbridge all other towns are already sufficiently zoned to provide for predicted growth. Although the amount of zoned land is appropriate consideration may need to be given to the type of densities and their location within these towns.

Township	Total Zoned Area (Hectares)	% undeveloped zoned land in Township
Rolleston	1379.87	29% (400.16 ha)
Darfield	1339.26	64% (857.12 ha)
Lincoln	698.78	62% (433.24 ha)
Prebbleton	321.79	27% (85.91 ha)
Kirwee	290.18	33% (95.75 ha)
Leeston	256.55	48% 123.14 ha)
West Melton	234.23	31% (72.61 ha)
Dunsandel	138.70	43% (59.6 ha)
Coalgate	86.05	31% (26.67 ha)
Southbridge	75.14	0%
Tai Tapu	39.00	17% (6.63 ha)
Castle Hill	37.44	61% (22.84 ha)
Sheffield	36.80	27% (9.93 ha)
Hororata	32.43	10% (3.19 ha)
Springston	28.58	1% (2.85 ha)
Springfield	26.82	18% (4.82 ha)
Doyleston	25.49	11% (2.8 ha)
Whitecliffs	24.19	16% (3.87 ha)
Glentunnel	21.65	3% (0.64 ha)
Waddington	18.51	5% (0.93 ha)
Lake Coleridge Village	15.11	3% (0.42 ha)
Rakaia Huts	11.78	0%
Arthurs Pass	8.51	0%
Total	5088.64	44% (2213.12 ha)

Table 8: Existing Zoned land within Townships in the Selwyn District

Urban - Demand for Growth

There are 22 towns (urban areas) in the Selwyn District from Prebbleton in the east to Arthurs Pass in the west. Only 1% of the Districts land area is located with township boundaries. Table 9 and 10 shows the number of building consents issued to each township from 2007-2013 (inclusive).

Of the 4,427 new dwellings issued in the Selwyn District over the last 7 years (78%) have been to the Districts Townships. Figures 22 and 23 show the building consents (3,473) issued to each township. Two separate graphs have been provided to also show a clear comparison between townships in the Urban Development Strategy Area (UDS) and those outside this area

Figure 22 shows that there are three key townships in terms of growth in the non-UDS area. Darfield and Leeston are the largest and fastest growing of these townships but only represent 3.9% respectively of the new dwellings issued since 2007. Overall the townships represented in figure 22 make up 13.89% of the total new dwellings issued over the last 7 years in the Selwyn district.

The UDS townships have generated 64.55% of all dwelling consents issued in the Selwyn District over the last 7 years. With regard to figure 23 (to be inserted above) it is clear that within the UDS area the majority of new dwelling consents (53.31%) are to Rolleston. Of particular note is the increase in dwelling consents issued to West Melton, which has gone from 32 in 2011 to 186 in 2012. All land in the town's urban limits has been zoned and mostly has approved subdivision in place. This has increased land availability hence the recent increase in development.

However as mentioned in the Land Supply section West Melton is relatively restricted in terms of growth the area land in the urban limit is entirely zoned. This is the same issue for Tai Tapu and Springston. Growth may continue in these towns but it will slow as land availability decreases. Rolleston, Lincoln and Prebbleton have and continue to grow steadily and with land being available should continue, particular Lincoln and Rolleston.

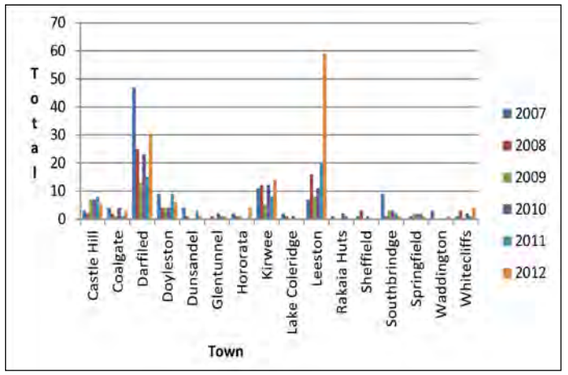


Figure 22: New Dwelling Consents in the Non-UDS Areas

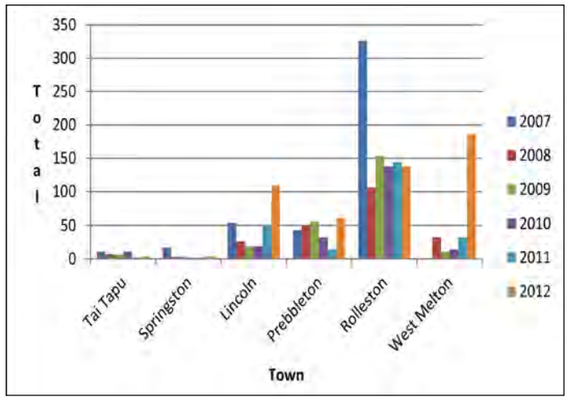


Figure 23: New Dwelling Consents in the UDS Area

	2007	2008	2009	2010	2011	2012	2013	Total
Castle Hill	3	2	7	7	8	5	3	35
Coalgate	4	2	1	4	1	3	5	20
Darfield	47	25	13	23	15	26	24	173
Doyleston	9	4	4	4	9	6	0	36
Dunsandel	4	1	0	0	3	1	0	9
Glentunnel	0	1	0	2	1	1	1	6
Hororata	2	1	1	0	0	3	4	11
Kirwee	11	12	5	12	8	13	22	83
Lake Coleridge	2	1	0	1	0	0	1	5
Leeston	7	16	8	11	20	51	61	174
Rakaia Huts	1	0	0	2	1	0	2	6
Sheffield	1	3	0	1	0	0	0	5
Southbridge	9	1	3	3	2	1	0	19
Springfield	0	1	2	2	2	1	7	15
Waddington	3	0	0	0	0	1	1	5
Whitecliffs	1	3	0	2	1	4	2	13
Total	104	72	45	74	71	116	133	615

Table 9: New Dwelling Consents in the Non-UDS Areas

	2007	2008	2009	2010	2011	2012	2013	Total
Springston	17	3	3	2	2	4	1	32
Tai Tapu	11	7	6	11	2	4	3	44
Lincoln	54	26	19	19	49	109	144	420
Prebbleton	43	50	56	32	14	61	161	417
Rolleston	326	106	153	138	144	138	487	1492
West Melton	0	32	11	14	32	186	178	453
Total	451	224	248	216	243	502	974	2858

Table 10: New Dwelling Consents in the UDS Area

Key issues and emerging trends

- In the UDS area only Rolleston and Lincoln have the required supply to continue growth at present rates.
- Rolleston, Lincoln, West Melton are key growth areas in the District.
- The Districts urban areas makes up less than 1% of the of land area for District but caters for approx. 75% of the growth

Comparisons between UDS area and Non-UDS area (including rural zone and townships)

There is no clear boundary in terms of the Districts zones that mark the UDS area, but it generally follows the Inner Plains and Outer Plains Zones interface. For the rural zone the UDS area can be said to be the Inner Plans, Port Hills and the Rockland's, Devin Acres and King Craft Drive EDAs. Using this logic and the township figures a general comparison can be made against overall growth between the UDS and Non-UDS areas.

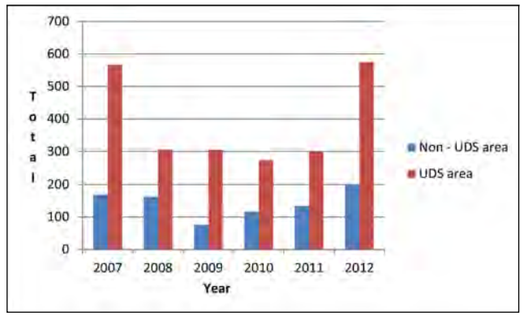


Figure 24: New Dwelling Consents in the UDS Area

Figure 24. Comparison of dwelling consents issued between the UDS area and Non-UDS area

There have been approximately 854 dwelling consents issued for the non-UDS area since 2007. Of this 41.92% were in the non-UDS rural zone and 58.08% to the non-UDS townships. This is almost a 50/50 split in terms of growth location (rural vs. townships) in the non-UDS area. In comparison the UDS area only has 19.17% of the growth (new dwellings) to the rural zone with the remainder (80.83%) to the UDS townships.
In terms of growth there is more of a focus on the rural environment in the non-UDS area than the UDS area where growth is concentrated to the townships.

Key issues and emerging trends
Location of new dwellings to the District –

- UDS rural area - 14.03%
- Non UDS rural area - 11.24%
- UDS townships - 59.17%
- Non-UDS townships - 15.56%

Overall there is a 75%/25% split between the UDS and non UDS areas.

Rural Residential

Rural residential lots are allotments that range in size from of 0.3 to 2ha in size. At these sizes the lots are best able to demonstrate the form, function and character expected in rural residential areas. In the Selwyn District most townships have a Living 2 zone that provides for such densities and although a living zone could be classed as rural residential.

However for the UDS area, Council has initiated plan changes to provide for new rural residential areas. Plan Change 17 (PC17) was a comprehensive and proactive planning framework that recommended the specific rezoning of rural land to accommodate approximately 170 rural residential households. However PC17 was withdrawn and replaced by Plan change 32 (PC32). PC 32 has been prepared in direct response to the changing legislative and planning environment that has taken place since the notification and close of submissions on PC 17.

Two private plan changes (PC8 and 9) for rural residential land have been approved by Council. These plan changes formalised a Living 3 Zone policy framework for managing rural residential activities and incorporated performance standards to manage the development of 148 rural residential households at two locations on the periphery of Rolleston.

A key reason for Councils development of PC17 and now 32 was to ensure the Selwyn District Plan (SDP) had regard to Proposed Change 1 (now Chapter 6) to the Canterbury Regional Policy Statement (CRPS), where rural residential activities were provided for but only where it didn't undermine the broader objectives of managing business and residential growth in a consolidated manner.

Demand for rural residential development is hard to gauge as there have been few recent developments or applications for such developments. The SDP does not facilitate easily such developments in the rural zone which may reduce the desire to apply for rural residential areas.

A Rural Residential Demand Assessment undertaken through PC17 was used to gauge the demand through sales and interest through real estate agents. This suggested there was a demand for Rural Residential development and this along with the planning context was the basis for PC32. There appears to be a demand for rural residential developments, which previously have been provided for in the Living 2 zones. However with the MUL's of townships in the UDS area these Living 2 zones will slowly be rezoned as towns expand to higher density living areas. As such new rural residential areas are required in the UDS areas to provide for the demand.

Through out the District, including the UDS area, Existing Development Areas exist which have similar qualities to the desired rural residential developments. These are mostly at capacity in the UDS area and where they are undeveloped there appears little desire to do so. They would also not meet the requirements of rural residential area as they are isolated from township peripheries and not serviced by reticulated service systems.

Within the non-UDS area the supply for rural residential land is abundant in the form of Living 2 zones in townships. The predicated growth is unlikely to warrant higher density expansion into these areas and as such there is not the same need to provide for new rural residential areas as there is in the UDS area.

Overall the demand for rural residential land is mostly anecdotal with some support in the form of the Rural Residential Demand Assessment. Supply of land for rural residential land is abundant in most areas of the District, particularly the Non-UDS area. However less is currently provided for in the UDS area and given the MUL's in place around townships in this area those areas that do exist will disappear as townships expand. In response to this and the existing planning context it is consideration should (and is) be given to providing or facilitating for rural residential land around the peripheries of townships in the UDS area.

Summary

Growth in the District - Projections / Supply of Land

- The Selwyn District has been the fastest growth District in New Zealand for the past five years
- Population of Selwyn is 44,495 (as at March 2013)
- Population of Selwyn is project to grow by just over 30,000 people of the next 18 years
- Darfield has the most undeveloped zoned land
- Southbridge has no land available for development

Demand - Rural Zone (Subdivision)

- Large area of land available for growth and development in Rural Zone.
- New lots are not required to be provide / approved for growth as multiple dwellings can be erected one title in the Rural zone.
- There has been continuous level additional lots being approved to the Rural zone but this is insignificant in the context of the total land rural land area.
- Although the number of new lots approved is low relative to land area the rural area is finite in its size and continued growth will still encroach into land supply.
- 55% of the total land area in Inner Plains could be subdivided
- 83% of properties in Inner Plains cant subdivide as of right
- 13% of properties in Inner Plains could be subdivided into 1 – 4 lots.
- 79% of land area in Outer Plains could be subdivided
- 77% of all existing properties cant subdivide by right in Outer Plains
- 12% of properties ion Outer Plains could be subdivided to create 1 – 3 lots
- 60% of land area in Outer Plains held in properties over 100ha in size.
- On average there has been an annual increase in property numbers of 0.25% in the Outer Plains and 1.10% in the Inner Plains
- The Inner Plains only equates to 3.5% (23,390ha) of the overall district area and the Outer Plains 26% (179,893ha)

Supply - Rural Zone (Building Consent)

- A significant amount of production land remains in the District
- There is the potential for 5847 Lots/dwellings in Inner Plains (currently 3262) if developed to full capacity as permitted in the District Plan
- There is the potential for 8994 Lots/dwellings in Outer Plains (currently 4733) if developed to full capacity as permitted in the District Plan

Demand - Building consents (New Dwellings)

- Rural Zone makes up 99% of land area for District but caters for only approximately 20 to 25% of growth.
- 90% of dwellings issued for the rural area to Inner and Outer Plains.
- There is consistent level of demand for living in rural area.
- Although there is continuous and consistent growth in rural areas it is very small in the context of the overall size of the Rural Zone.
- Split between urban and rural development in 2013 = 78% urban / 22% rural
- Rolleston, Lincoln and West Melton key growth areas. Both only Rolleston, Lincoln have the required supply to continue.

COMMERCIAL MARKET

This section outlines existing retail trends within the Selwyn District and outlines projected future retail demand for the District in order to achieve a sustainable retail network.

Information in this section has been developed by Property Economics. More information can be found in the following report “Selwyn District Commercial Centre Assessment - September 2012”

EXISTING RETAIL FLOORSPACE TRENDS

There is a total of 45,389m^2 of retail floorspace within the Selwyn District. The majority of retail provision (by Gross Floor Area) is located in Rolleston (30%), Leeston (21%), Lincoln (14%) and Darfield (12%). Large format retail tenants (500m^2 and larger) account for 51% of all retail floorspace in the District. Table 11 shows this retail distribution by type of store for the District (as at September 2012).

RETAIL STORE TYPE	STORES #				GFA (M^2)			
	0 - 500	500 - 999	1000+	TOTAL	0 - 500	500 - 999	1000+	TOTAL
SUPERMARKET RETAILING			4	4			10,359	10,359
FOOD RETAILING	26	1		27	2,721	684		3,406
CLOTHING, JEWELLERY & PERSONAL ACCESSORIES RETAILING	15			15	1,950			1,950
FOOTWEAR RETAILING								
FURNITURE, FLOOR COVERINGS, HOMEWARE AND TEXTILE GOODS RETAILING	5			5	687			687
ELECTRICAL AND ELECTRONIC GOODS RETAILING		1		1		647		647
HARDWARE, BUILDING AND GARDEN SUPPLIES RETAILING	6	3	1	10	2,036	2,233	2,651	6,920
PHARMACEUTICAL AND PERSONAL CARE GOODS RETAILING	7			7	1,226			1,226
DEPARTMENT STORES			1	1			2,749	2,749
RECREATIONAL GOODS RETAILING	6			6	921			921
OTHER GOODS RETAILING	22				2,196			2,196
PUBS, TAVERNS AND BARS	15	3		18	4,244	2,283		6,527
FOOD AND BEVERAGE SERVICES	46			46	5,120			5,120
VACANT	4	1	1	6	620	571	1,026	2,217
UNDER CONSTRUCTION	1			1	464			464
TOTAL	153	9	7	169	22,186	6,419	16,784	45,389
TOTAL %	91%	5%	4%	100%	49%	14%	37%	100%

Table 11: Existing Selwyn Market Retail Supply (as at September 2012)

RETAIL SHOPPING PATTERNS

The retention of retail expenditure is fundamental to achieving a sustainable retail centre network in the Selwyn District. Selwyn District is estimated to generate a total of $413 million in retail sales in 2012.

Selwyn's retail expenditure spending has been assessed at the District Level using retail transaction data from MarketView (a service provided by Bank of New Zealand). The retail transactional data sources were from the period of August 2011 - July 2012 to eliminate any seasonal variations that occur within identified catchment while reflected the most current shopping patterns.

Origin and Destination Shopping

Origin and destination spending is based on identifying where retail expenditure is spent against where the shopper resides.

Origin of Spending

- 79% - Selwyn District
- 13% - Christchurch City
- 3% - Other Areas (under 1%)
- 2% - Ashburton District
- 1% - Waimakariri District
- 1% - Other Canterbury Areas (under 1%)
- 1% - Otago Region

Destination of Spending

- 61% - Christchurch City
- 28% - Selwyn District
- 3% - Auckland Region
- 3% - Other Areas (under 1%)
- 2% - Ashburton District
- 1% - Waimakariri District
- 1% - Other Canterbury Areas (under 1%)
- 1% - Otago Region

In terms of 'Origin' of retail expenditure, 21% of retail spending within Selwyn is from residents living outside of the District. Comparatively, this figure however provides a misleading view of the inflow of expenditure within the district when assessed against the outflow nominally, as total spending in the district is relatively low.

In terms of 'Destination' of retail expenditure, overall there is a substantial 72% outflow of retail dollars leaving the Selwyn District, which this simply a direct result of a very limited local retail provision and very close proximity to Christchurch.

This means nearly $3 out of every $4 generated in Selwyn is currently being spent outside of the District, highlighting the significant potential within the District. As anticipated, the vast majority of retail leakage (85%) from the District flows into Christchurch City, highlighting just how reliant Selwyn District residents are on their larger territorial authority neighbour to meet their retail requirements.

Origin and Destination of Supermarket Spending

Following information provides a snapshot of the existing distribution of retail spending patterns within the supermarket store type.

Origin of Spending

- 83% - Selwyn District
- 11% Christchurch City
- 2% - Other Areas (under 1%)
- 2% - Ashburton District
- 1% - Waimakariri District
- 1% - Otago Region

Destination of Spending

- 50% - Selwyn District
- 43% - Christchurch City
- 2% - Other Areas (under 1%)
- 2% - Ashburton District
- 1% - Other Canterbury Areas (under 1%)
- 1% - Otago Region
- 1% - Auckland Region

[12] Note the figure is in net terms so accounts for both retail expenditure coming into the District and retail expenditure leaving Selwyn District.

83% of expenditure in Selwyn supermarkets are derived from Selwyn residents, however a high 50% of generated spend in the section is undertaken in supermarkets outside of the District. Of this leakage, 85% is being spent in supermarkets in Christchurch, with Pak 'N Save Hornby the main benefactor.

This is not unexpected in this instance as there are multiple factors that make the long trip (in supermarket terms) into Christchurch City for supermarket shopping appealing, i.e. shoppers are already going to Christchurch retail centres for other goods and their close proximity.

Another major influence is brand shopping, with Pak 'N Save the supermarket brand with the largest 'pulling power' having the ability to attract shoppers from more extensive catchment. Therefore Pak 'N Save Hornby, which in effect is right on Selwyn District's doorstep so to speak, is successful in attracted Selwyn residents (and therefore their supermarket expenditure), lowering the level of supermarket spend internalised in Selwyn on an annualised basis.

Origin and Destination of Department Store Spending

Origin of Spending

- 85% - Selwyn District
- 9% - Christchurch City
- 2% - Other Areas (under 1%)
- 1% - Ashburton District
- 1% - Waimakariri District
- 1% - Otago Region

Destination of Spending

- 73% - Christchurch City
- 18% - Selwyn District
- 3% - Ashburton District
- 2% - Other areas (under 1%)
- 1% - Other Canterbury Areas (under 1%)
- 1% - Otago Region
- 1% - Auckland Region

While not as significant as Supermarkets, Department Stores often play a crucial 'anchor' tenant role within commercial centres, and pull a significant number of consumers to centres they occupy. Selwyn residents spend more that $4 out of every $5 in this sector outside the district, despite having a national banner brand 'The Warehouse' located in the Rolleston Town Centre. With over 80% leakage there is potential within the District to expand this sector's offer in the future, albeit the timing of such will depend on specific retailer network strategies.

The Rolleston Town Centre 'The Warehouse' store is however less than half the size of its nearest counterpart, located in the Hub Hornby which covers approximately 5,700m^2 GFA (compared to The Warehouse, Rolleston Square around 2,300m^2 GFA). The low level of retention in this sector can partly be attributed to the smaller scale and limited range products offered within the Rolleston Square, The Warehouse. With larger and more comprehensive centres outside of the District which Selwyn (residents are already using) such as The Hub Hornby and Westfield Riccarton offering 'one-stop' shopping destination, many residents favour outside centres despite their distance, to fulfil their shopping requirements

Retail Leakage

Retail leakage can be generally termed as the level of retail expenditure generated by residents within a defined catchment (in this case Selwyn District) spent outside of it. This is helpful in assessing sectors of potential or 'gaps' in the current Selwyn District offer.

Main points

- 72% of total retail expenditure generated in Selwyn on an annual basis is spent outside the District (retail leakage), countering this is a minor 7% inflow
- However, removing the Supermarket sector (which has a higher proportion of internalised spend), the retail leakage percentage increases to a substantial 88%
- Accross 8 of the 11 defined sectors, over $4 out of every $5 is spent outside of the Selwyn

District

- The retail sector of Food and Beverage Services, which includes Cafe's Bars and Restaurants, Takeaways, Pubs and Bars, experiences the most proportionally significant level of retail spending inflow - equivalent to 15%
- Specialised Food retailing, which includes bakeries, butchers and fruit stores, sees an 80% (rounded) outflow of retail spending out of District. This is generally a convenience based sector which typically experiences higher levels of retention to that assessed. This shows that higher levels of local convenience spending is occurring outside of the District than anticipated weakening to core role and function of the centres in Selwyn.
- Overall, the MarketView data is considered to paint a fairly bleak picture on the level of performance of the centres in Selwyn with the potential for 'upside' and improved store productivity ($/m^2) within Selwyn centres considerably. This is demonstrated 'on the ground' in many centres in Selwyn with lower quality retail provision, amenity and vitality than the market can support.

FORECAST RETAIL FLOORSPACE IN SELWYN DISTRICT

The Selwyn District in retail terms has been split into two distinct markets, of namely Malvern Ward and the balance of the Selwyn District Wards ie Selwyn Central, Springs and Ellesmere (The Southern Sector)

As a whole the 'Southern Sector' catchment is forecast to experience an increase in the level of retail floorspace sustainable from 85,000m^2 to around 210,000m^2 by 2041. Sustainable retail GFA levels for speciality retailing currently equates to around 32,000m^2 and 54,000m^2 for Large Format Retailing. The proportional split in terms of GFA between these store types is assumed to remain relatively constant over the next 25 years, remaining at around 40% Speciality and 60 for LFR.

RETAIL CENTRE HIERARCHY CURRENT AND FUTURE POTENTIAL

The following outlines the position within the wider centre hierarchy each assessed centre fulfils within the Selwyn market based on their respective role and function, the analysis completed by Property Economics.

Hierarchy

- Town Centre - District Significance (eg Rolleston)
- Town Centre - Local and Rural Hinterland (eg Lincoln)
- Rural Service Centre (eg Darfield and Leeston)
- Localised Convenience Centre (eg Prebbleton, Southbridge etc)

Future Land Requirements

The bulk of any new retail provision in the District should be located in the Rolleston Town Centre. It is the principal commercial hub of the local economy, and from a retail perspective is the only centre with a palpable opportunity and ability to meaningfully reduce retail leakage out of Selwyn to Christchurch as the District grows.

When assessing sustainable growth in floorspace demand against existing supply, factoring in a reduced leakage rate of 50% (albeit high but significantly lower than the current 72%, and represents a realistic and achievable retention rate over time given the presence and proximity of Christchurch), and allocating 70% of additional retail floorspace requirement in the District to Rolleston Town Centre, by 2041 the Rolleston Town Centre would require an additional land provision in the order of 8-9 ha under the medium growth scenario, and a total land provision in the order of 15 ha. The existing Business 1 Zone provision in the Rolleston Town Centre (excluding the Council land and immediate surrounds) appears to be around 10 ha, and therefore would be less than the assessed requirement by 2041.

Rolleston's Town Centre should be the centre of focus for Council over the next 20-30 years so it can be 'built up' to the point where a critical mass is achieved and a material centre is developed that has the propensity to recapture current retail leakage. It is only at a point where a centre offering a wide variety of retail store types across the spectrum of retail sectors will Rolleston Town Centre ostensibly be able to compete with higher order comparison sector centres.

Given the above, the balance of the centres are likely to continue focusing on delivering more of the same in terms of convenience oriented retail and commercial activity. In this regard their role and function within either the Selwyn retail hierarchy, or the wider Christchurch network, is unlikely to change in the foreseeable future.

Other more internalised centres such as Leeston, Southbridge, Prebbleton and Lincoln would, at a high level, appear to have enough Business 1 zone land to meet convenience requirements out to 2041 in terms of quantum, however it is important in these smaller centres that stores trade to the main street or key roads to improve their economic wellbeing.

This may be restricted on some sites in these centres due to existing residential activity possibly removing the ability for some sites to be developed for retail / commercial activity. The merits of each would need to be assessed on a site by site basis, and will be dependent on the activity as some commercial activity could prefer converting a house instead of building a new store, i.e a doctor. But where residential activity is deemed to prevent commercial development (refurbishment or new) then some new Business 1 zone land may be required to offset the 'lost' business zone land, albeit this is considered to be minor in extent across the centres due to most convenience centres having more than enough business zone land to meet future requirements.

Many of these smaller centres have a retail provision that is not performing at a productivity level that provides a quality retail offer, environment, built form, public realm, nor enough vitality to attract shoppers. Therefore a portion of market growth (demand) should be channelled into the existing provision to enable the existing stores to become better quality space and improve the centre overall. As such, not all growth in the market equates to additional retail provision, rather better supporting the existing provision and in many instances 'looking after what you've got' so to speak.

INDUSTRIAL AND OFFICE MARKETS

This section reviews the existing trends and future demand for commercial development.

Table 13 converts the commercial employment growth above into floorspace and land area demand to 2041. This shows, once again, fluctuating growth requirements with approximately 0.35 hectares of commercial land, or equivalent (i.e.) intensified building platforms, per annum.

SELWYN EXCLUDING BURHAM MILITARY CAMP	2000	2010	2011	2016	2021	2026	2031	2036	2041
H Accommodation and Food Services	53	82	89	111	121	138	170	211	251
J Information Media and Telecommunications	21	18	30	37	39	43	51	62	71
K Financial and Insurance Services	21	39	39	48	54	63	79	100	121
L Rental, Hiring and Real Estate Services	89	84	87	108	107	110	121	133	138
M Professional, Scientific and Technical Services	906	1,006	938	1,140	1,141	1,158	1,262	1,367	1,417
N Administrative and Support Services	223	162	147	182	173	167	171	170	153
O Public Administration and Safety	111	246	125	155	157	165	187	213	230
P Education and Training	201	250	258	307	318	329	366	402	432
Q Health Care and Social Assistance	61	101	135	161	188	219	272	334	400
R Arts and Recretion Services	28	28	24	30	29	29	32	34	34
TOTAL COMMERCIAL ACTIVITY	1,713	2,015	1,873	2,279	2,328	2,420	2,720	3,027	3,247

Table 12: Selwyn District Commercial Employment Growth (2000- 2041 ECS)

Growth	2016	2021	2026	2031	2036	2041
Commercial ECs	406	49	92	290	317	220
Floorspace (sqm)	8,909	1,481	2,351	6,358	6,947	4,830
Land (ha)	3.1	0.5	0.8	2.2	2.4	1.7

Table 13: Selwyn District Commercial Floorspace and Potentiial Land demand

LAND DEMAND FORECASTS

Commercial Land Demand

It is important to assess the future of the commercial environment within the Selwyn area in light of its current development and operation. There exists in this area, two commercial locations - Rolleston and Darfield, with the former should account for the vast majority of commercial activity within the District. Although these locations display a degree of dependency with one another and have some level of symbiotic relationship, for the most part Rolleston Town Centre represents the most efficient and competitive location for commercial activity.

The identified area is expected to see continued growth over the next 30 years given the population growth anticipated and the District's position in the wider national economy. It is crucial however that this activity is utilised to produce the most efficient and competitive commercial environment possible for the District. Essentially this means that the expected 30,000m^2 of commercial floorspace should be consolidated into existing centres. Like for retail activity, the capacity within the Rolleston Town Centre to accommodate this growth is important, particularly given commercial space has a higher propensity, and greater degree of acceptability, to be multi-level.

It is expected that an equivalent of between 65% and 75% of commercial growth will be accommodated within the Rolleston Town Centre. An existing centre location affords the opportunity for future growth to be accommodated in a clustered or consolidated environment. This is vital so as to produce such benefits as:

- Economic agglomeration
- Efficient infrastructure provision
- Appropriate levels of amenity
- Market certainty
- Investment certainty
- Community facilities (efficiency)
- Competitive Business Environment
- Community Wellbeing through social values of centres
- Redevelopment potential

Although home commercial business will remain important to the District, it is fundamental that sufficient levels of commercial activity are accommodated within the District's 'flagship' centre.

SUMMARY

- Selwyn District is estimated to generate a total of $413 million in retail sales in 2012.
- In terms of 'Destination' of retail expenditure, overall there is a substantial 72% outflow of retail dollars leaving the Selwyn District
- Nearly $3 out of every $4 generated in Selwyn is currently being spent outside of the District, highlighting the significant potential within the District.
- The Selwyn District in retail terms has been split into two distinct markets, of namely Malvern Ward and the balance of the Selwyn District Wards ie Selwyn Central, Springs and Ellesmere (The Southern Sector)
- As a whole the 'Southern Sector' catchment is forecast to experience an increase in the level of retail floorspace sustainable from 85,000m^2 to around 210,000m^2 by 2041.
- That a Town Centre Hierarchy should be created.
- The bulk of any new retail provision in the District should be located in the Rolleston Town Centre.
- Other centres such as Leeston, Southbridge, Prebbleton and Lincoln would, at a high level, appear to have enough Business 1 zone land to meet convenience requirements out to 2041.
- An additional 30,000m^2 of commercial floorspace is required and should be consolidated into existing centres.
- Approximately 65-75% of commercial growth will be accommodated with the Rolleston Town Centre

AGRICULTURE

Agriculture and agriculture processing industries are responsible for most of the value of exports from the Canterbury region (62%). Nationally, the value of agricultural exports is $19,861 million (2009) and to the region approximately $286 million. This compares to a total value of exports of $41,408 million (Source: Statistics New Zealand).

In the District over the last 10 years those employed in the agriculture, forestry and fishing sector has grown by 2700 and is projected to increase by 50 additional jobs per annum making the sector a high growth area. The growth in employment is reflected in the area of land irrigated (see table 14 below).

	2002 (HA)	2007 (HA)
CANTERBURY	287,168 (63%)	385,450
SELWYNDISTRICT	60,000 (21%)	84,450

Table 14: Area of irrigated land (Source: Statistics New Zealand)

CENTRAL PLAINS WATER SCHEME

Resource consents were granted (currently subject to appeal as at February 2011) for an extensive irrigation scheme known as Central Plains Water across much of the inland portion of the District. The scheme will have wide ranging economic benefits at district, regional and national levels. The economic impacts of the proposed scheme are summarised as (from CPW hearing evidence):

- Over a 6 year period 2595 direct and indirect jobs will be generated from construction
- The regions annual direct and indirect regional output will increase by $592M (agricultural plus processing)
- Jobs will increase by almost 1130 at full-scheme production (416 agricultural and 714 processing)
- Construction and ongoing farm impact is estimated to directly and indirectly increase regional output by $19.9B, GDP by around $8.7B and to create around 39,000 job years (one job for one year) of work over 35 years.

5. Tourism

TOURISM

Introduction

Tourism has a significant role within Selwyn District, contributing to the local economy and creating local employment.

The geographical diversity, size and boundaries of Selwyn District have created an area which is not perceived as one tourist destination and which does not fit naturally within one brand, yet it has a robust offering for tourists. The eastern area of the District has a much closer association with Christchurch, while the more rugged western area has a distinctive alpine environment. These different environments and markets offer a wide range of leisure, recreation and tourism opportunities for residents and visitors.

District Highlights

TranzAlpine

- One of the world's greatest train journeys, and described as the trip of a lifetime, the trip begins in Christchurch, passes through the middle of Selwyn District, ends in Greymouth and then returns each day.

Six ski fields – Broken River, Craigieburn, Mt Cheeseman, Mt Olympus, Porters and Temple Basin.

- Closest ski field to Christchurch (Porters)
- The gateway to the Southern Alps
- Often the best snow and some of the longest ski seasons

Braided Rivers

- Waimakariri in the North and Rakaia in the South
- Provide an array of recreational activities such as jet boating, kayaking, fishing and swimming

Lakes

- Major lakes: Lake Ellesmere and Lake Coleridge
- Provide a recreational space for fishing, boating and swimming

Great Alpine Highway

- A stand-alone tourism brand that covers a well know New Zealand touring route
- The most direct route between the west and east coasts of the South Island
- A historic road, built originally for the gold mining trade, which now passes through historic townships, rivers, lakes, and a National Park.
- The route is one of the AA's 101 Must Do's for kiwis

Arthurs Pass National Park

- The South Islands' first National Park, known for its diverse landscape and rare flora and fauna
- The heart of the Park is Arthurs Pass village. Originally a workers village for those building the road, now a tourist hub for mountain climbers, walkers and skiers.
- The Tranz Alpine train journey passes through much of the Park
- Accommodation
- Boutique bed and breakfasts
- A golf resort
- Many lodges and motels
- Backpackers
- Scenic camping grounds

Activities

- Hot air ballooning
- Jet boating
- Kayaking
- Golf
- Hiking/walking
- Biking/ cycling
- Rail travel
- Fishing
- Art galleries
- Mountain climbing
- Caving
- Bouldering
- Horse trekking

- Bird watching
- Off road motorbiking and 4WD
- Farm visits
- Gardens tours
- Heritage sites

Challenges and Opportunities

Location

- Challenges

Selwyn's close proximity to Christchurch reduces the opportunity to attract overnight visitors (although numbers have increased post the 2011 earthquakes). Only Arthur's Pass, Lake Coleridge, Darfield and Springfield have really demonstrated potential as overnight destinations due to the recreational activities close by (Springfield and Darfield being seasonal and based around skiing).

- Tourism flow

Generally visitors travel through the District rather than to specific Selwyn destinations. There is a need to create destinations and iconic events which will encourage people to visit, stay and contribute to the local economy.

- Opportunities

Close proximity to Christchurch City and Christchurch International Airport means that Selwyn tourism experiences are easily accessible for Christchurch residents as well as domestic and international tourists.

Extensive damage to the eastern and hill suburbs of Christchurch means that more city residents are looking westwards for recreational half and full day experiences. Domestic visitors from the North Island are showing an interest in weekend outdoor activities in Canterbury which creates marketing opportunities for Selwyn as the District boasts more than 100 walking and biking tracks.

Activities

- Challenges

Many of the Selwyn District activity experiences are outdoor adventure based, which could deter older, or less able visitors. (There are however plenty of experiences available for this demographic; garden visits, wineries, cafes and art galleries)

- Opportunities

In its three year plan, Tourism New Zealand is focusing internationally on special interest tourist groups, in particular golf and walking/biking. This will present many opportunities for Selwyn in regards to tourism promotion.

Accommodation

- Challenges

The Selwyn District does not have any chain or individual hotels which are often a requirement of travel agents for their international clients.

- Opportunities

The district lends itself to specific markets that seek budget accommodation, boutique bed and breakfasts and camping, as all of these are plentiful throughout the district.

Destination Attractions

There are currently no unique visitor attractions which position the area as a destination (such as Hanmer Springs or Akaroa). Unique visitor attractions have the ability to attract large numbers of visitors, which means that packaging of products around key themes is the best way to attract visitors to Selwyn.

Key themes include:

- Food and wine
- Gardens
- Snow
- Outdoor adventure
- Accommodation

Food and wine

Selwyn has an abundance of wineries, cafes, restaurants and farmers markets spread across the district. Many of these operators come together to form the Selwyn Food and Wine trail to collectively promote their businesses throughout the district and into Christchurch.

Gardens

Having more than 30 gardens and nurseries in the district makes Selwyn a very popular place for group garden tours. Selwyn boasts three nationally significant gardens - Otahuna, Broadfield and Frensham - as well as seasonal interest, heritage, country and high country gardens. There are also an abundance of nurseries, many of which supply natives and locally grown plants.

Snow

Selwyn's unique strength is its alpine environment, with six ski fields located within one hour from a major international airport. Visitors can leave Australia and be in the mountains within five hours, which is an attractive proposition.

Outdoor Adventure

The Selwyn District landscape lends itself to a multitude of outdoor adventure activities. With over 100 walking and biking tracks, a National Park, eight golf courses, mountain climbing, bouldering, caving, skiing, jet boating, horse trekking, hot air ballooning and more, there are adrenalin rushes for families, through to the ultimate adventurers !

Accommodation

Boutique accommodation is Selwyn's speciality. The district has many B&B's, motels, camping grounds and lodges spread from east to west.

Terrace Downs, near Lake Coleridge, is a high country resort, the districts' largest accommodation provider, featuring a variety of apartments and villas. Otahuna in Tai Tapu is a luxurious Victorian mansion which is rated as one of the top 100 hotels in the world. One of the districts' bed and breakfasts is set in a wagon and many others are surrounded by lush gardens. There are also several heritage buildings that have been converted into accommodation.

Tourism statistics

Tourism plays a significant role in the New Zealand economy in terms of employment and income.

For the year ending March 2012, total tourism expenditure in New Zealand was $23.4 billion (15.4% of New Zealand's total export earnings). Tourism was responsible for 119,800 full time jobs (6.2% of the total workforce in New Zealand)

The total visitor arrivals for Selwyn for the year ending March 2012 was 36,364 (an increase of 2,129 from the previous year).

In reality, the visitor numbers to Selwyn are much larger. The above statistics are gathered from accommodation providers in the district. However, Selwyn is a district in which domestic and international visitors drive through or spend time in during the day, as opposed to spending a night or nights. Visitors spend money on food, petrol, activities, supermarket goods, etc. Therefore it is difficult to measure the exact number of visitors or their expenditure over the course of year.

Guest nights in the Selwyn district were up 3% for the year ending March 2012 (compared with y/e March 2011). Canterbury guest nights showed a decrease of 19% for the same period.

Types of tourists

Due to the facilities and experiences in Selwyn, the district attracts a variety of tourist types:

- Free and independent travellers (FIT)

Single, couple or family who plan their own trip without the assistance of a group. Often these people will have a hired car or campervan and they enjoy adventure activities, wineries and skiing.

- Special interest groups

Organised groups who are in the district for a specific purpose. Selwyn often hosts groups interested in golf, snow, gardens, walking/biking and wine tourism.

- Business tourism

With the loss of many conference facilities in Christchurch due to the 2010 and 2011 earthquakes, Selwyn has become a popular choice for the business tourist, both domestic and international. Facilities available include the Lincoln Event Centre (stadium, meeting rooms, sports fields, commercial kitchens and a hall), the Rolleston Community Centre (stadium, meeting rooms, lounge, gym, reserve and commercial kitchen), the Darfield Library (meeting rooms) as well as lodges and resorts with meeting rooms from boardroom to cocktail party size.

Key future focuses

Crystal Valley

- Will become Selwyn's seventh ski field, a venture by Porters.
- The first stage is due to open in 2015, with New Zealand's first ever ski gondola lift, hot pools, car parking and village accommodation.
- The resort will eventually boast 3,400 beds, year round outdoor activities and retail shops. Crystal Valley will employ approximately 500 full time and seasonal staff

Information Centre

- Due to the expansions at Porters/Crystal Valley, plans are in place for a small information centre to be situated in Darfield. Darfield will likely become the tourism hub for Selwyn district in future years. Tourists driving to the West Coast from Christchurch (and back), those visiting Arthurs Pass National Park, visitors taking the inland scenic route south, skiers and boarders heading to the Selwyn ski fields or Mt Hutt and those on the TranzAlpine will all pass through Darfield.
- The information centre will provide a central hub where visitors can make bookings and get advice on what to see and do in the area and feature brochure displays that highlight the tourism experiences Selwyn District has to offer.

Brand Development

- Sensational Selwyn is the overarching brand for visit Selwyn. This brand has been developed over the past two years and will continue to be further developed to become the recognisable brand of all tourism experiences in Selwyn District.

New Zealand 100% Pure Advertising Campaign

Online Presence

- Sensational Selwyn needs its own visitor website to fully depict the experiences that the district can provide. This would need to generate income though bookings and advertising and would assist in pushing the brand message while improving Selwyn's visibility to domestic and international tourists.

New Opportunities

Development of new opportunities that focus around:

- Growing the capacity of the tourism sector, especially small operators
- Identifying other areas as having tourism potential – e.g. Leeston and Lincoln
- The high country and natural features such as lakes and rivers
- Increasing accommodation styles and capacity
- Iconic events with potential to attract large visitor numbers to the District, particularly based around recreational opportunities and the Central Plains Water Scheme; outdoors and farming.

Summary

- Selwyn's close proximity to Christchurch reduces the opportunity to attract overnight visitors (although numbers have increased post the 2011 earthquakes).
- Generally visitors travel through the District rather than to specific Selwyn destinations.
- Close proximity to Christchurch City and Christchurch International Airport means that Selwyn tourism experiences are easily accessible for Christchurch residents as well as domestic and international tourists
- Many of the Selwyn District activity experiences are outdoor adventure based, which could deter older, or less able visitors.
- In its three year plan, Tourism New Zealand is focusing internationally on special interest tourist groups, in particular golf and walking/biking.
- The Selwyn District does not have any chain or individual hotels which are often a requirement of travel agents for their international clients.
- The district lends itself to specific markets that seek budget accommodation, boutique bed and breakfasts and camping, as all of these are plentiful throughout the district.
- There are currently no unique visitor attractions which position the area as a destination (such as Hanmer Springs or Akaroa). Unique visitor attractions have the ability to attract large numbers of visitors, which means that packaging of products around key themes is the best way to attract visitors to Selwyn.
- Key themes include:
  - Food and wine
  - Gardens
  - Snow
  - Outdoor adventure
  - Accommodation
- The total visitor arrivals for Selwyn for the year ending March 2012 was 36,364 (an increase of 2,129 from the previous year).
- Key future focuses for Tourism in Selwyn
  - Crystal Valley
  - Information Centre
  - Brand Development
  - Online Presence
  - New Opportunities (eg iconic events)

6. Infrastructural Factors

5 WATERS INFRASTRUCTURE

This section looks at the community use of the 5 waters with regard to infrastructure.

Selwyn District Council owns and operates an extensive infrastructure asset portfolio to deliver a range of water services to the Selwyn community. These include:

- Water supply (urban and rural);
- Wastewater disposal (including septic tank sludge disposal);
- Stormwater drainage;
- Land drainage; and
- Water races.

These services are collectively referred to as the “5 Waters Activity”, recognising the strong relationships and interdependencies between the services within the hydrological cycle.

The 5 Waters activity contributes to a range of Community Outcomes, in particular maintaining a healthy community (water and wastewater) and promoting community prosperity (land drainage and water races). The total asset base is valued at $177m (Community Plan 2009-19).

This section also gives consideration to irrigation even though Council is not active in the provision of this service (apart from operation of water races that supply a small quantity of water for irrigation).

Irrigation has become increasingly significant within the District, impacting on water resource availability, and a substantial irrigation scheme being planned (Central Plains Water) will have impacts on 5 Waters Infrastructure and the future demand for and provision of these services.

WATER SUPPLY

Overview

The Council own and operate 31 water supply networks supplying water to approximately 70% (approximately 26,600) of the District’s residents.[10] The scale and nature of these water supplies vary considerably, with the largest supply serving in excess of 6000 residents in Rolleston, and the smallest with only 20 household connections in a rural residential subdivision. There are two large rural water schemes supplying water over large areas for both domestic and stock use. Figure 26 shows the towns/areas supplied with water.

Community water supplies	30 schemes (drinking water and stock water)
Land drainage	20,700ha (making land farmable, habitat)
Urban stormwater	22 schemes (urban flood relief)
Water races rural and urban	110,000ha (stock water, amenity, habitat)
Community wastewater schemes	14 schemes
Total asset value	$441m (as of 2014)

Table 15: Council assets

[10] Selwyn Community Plan 2012-22

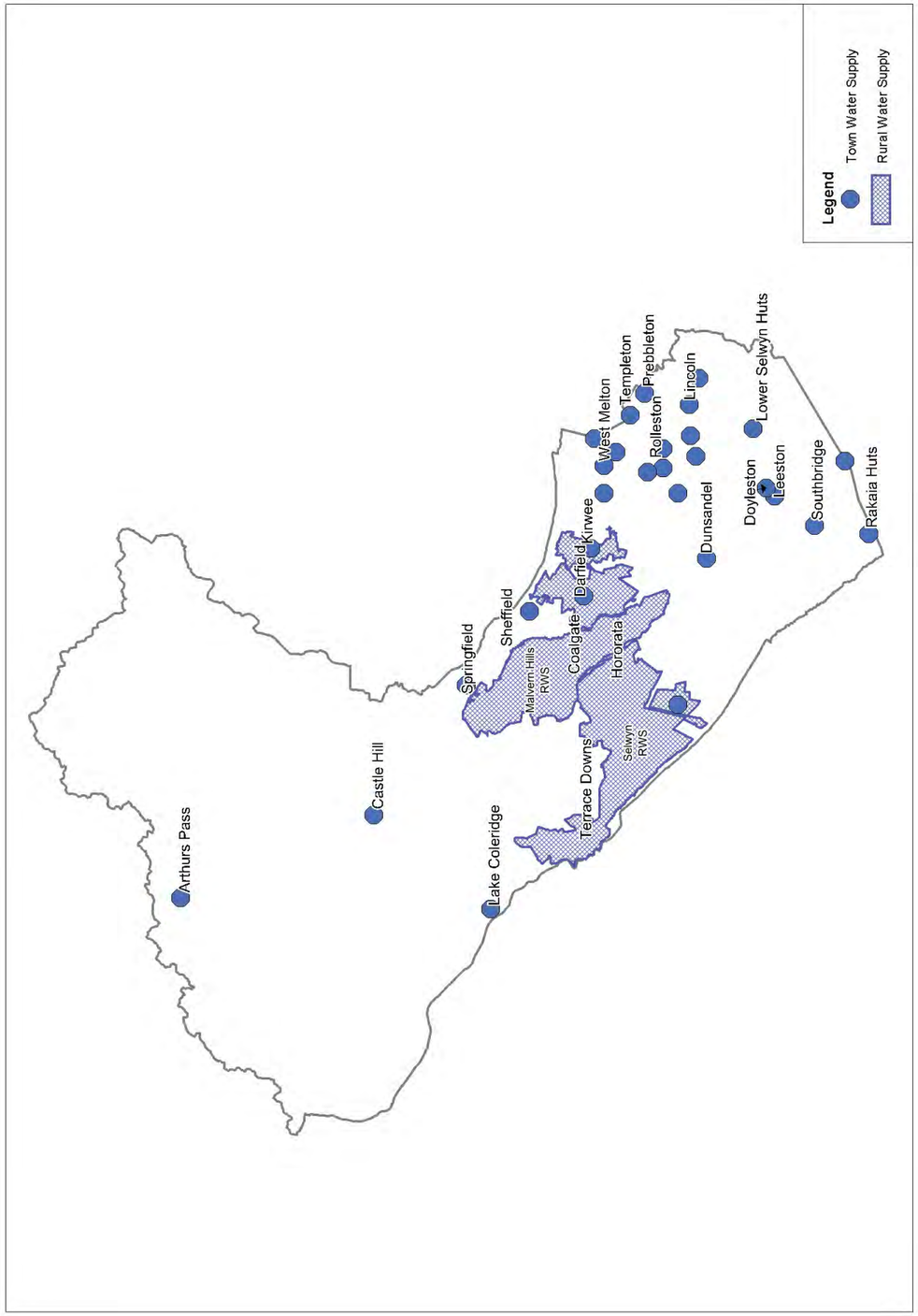


Figure 26: Selwyn District map showing urban and rural water supply areas

WATER SOURCES

Groundwater

Groundwater is readily available across much of the Plains and provides the water source for all supplies east of Darfield (Figure 26). Water supply bores range in depth from 30m to 200m. The groundwater resource within Selwyn District is considered to be fully allocated (ECan red zones – Rakaia-Selwyn and Selwyn-Waimakariri) but the proposed Natural Resources Regional Plan does make provision to grant consent for further community water supply takes.

There are concerns regarding the impact of intensifying land use and irrigation, in particular dairying, on groundwater. This has implications for community water supply sources. E.coli (used as an indicator of microbiological contamination) has been detected in community water supply bores, where such contamination had not previously been evident. The source of contamination is not clear, but these bores can no longer be used without disinfection treatment. There has been a trend to replace shallow bores with deeper bore sources that are not influenced by surface water and land use, as water from these deep sources can usually be used without disinfection treatment.

Surface Water

The accessible groundwater resource diminishes west of Darfield towards the foot hills and community water supplies in this area abstract water from shallow wells and infiltration galleries in the beds of the Waimakariri and Selwyn Rivers and their tributaries. Further west still, water is abstracted from alpine streams and at Lake Coleridge from the power station penstocks. Surface water is exposed to potential contaminants and disinfection treatment is required for these supplies (Figure 27).

Surface water resources are also subject to allocation restrictions, requiring a reduction in take at times of low river flow. These periods tend to coincide with the highest water demand periods, reducing the viability of surface water use without provision of very large storage reservoirs.

It is anticipated that recent success with deep groundwater bore drilling in the Darfield area will result in a shift from surface to groundwater for this supply.

Water Treatment

Council has duty under the Health (Drinking Water) Amendment Act to take all practicable steps to comply with drinking water standards. In short, this requires Council to demonstrate that deep groundwater sources are not, and are most unlikely to be contaminated, and to provide suitable treatment of all water supplied from shallow groundwater and surface water sources. Figure 28 identifies the water sources and their treatment requirements in the District.

Many of the groundwater sources in the District have been demonstrated to be ‘secure groundwater’ not requiring treatment. Those that do not meet the criteria will usually only require a simple disinfection process that will eliminate microbiological contaminants. Ultra violet light disinfection systems are generally favoured and can achieve the required standards.

Several types of treatment processes have been used for disinfection of shallow groundwater and surface water.

Chlorination, using chlorine gas (Cl2) is used at several sites. While considered satisfactory at the time of installation these systems do not meet the current standards as chlorination does not adequately eliminate protozoa (giardia and cryptosporidium) contaminants. Upgrading works will be necessary over coming years.

Ultra violet light disinfection systems are also used, and have been favoured by communities as they do not introduce a taste or odour to the water, unlike chlorination. Again, these systems were considered satisfactory at the time of installation, and will offer a reasonable level of protection under most circumstances, but do not meet the current standards. There are generally two issues; a) the

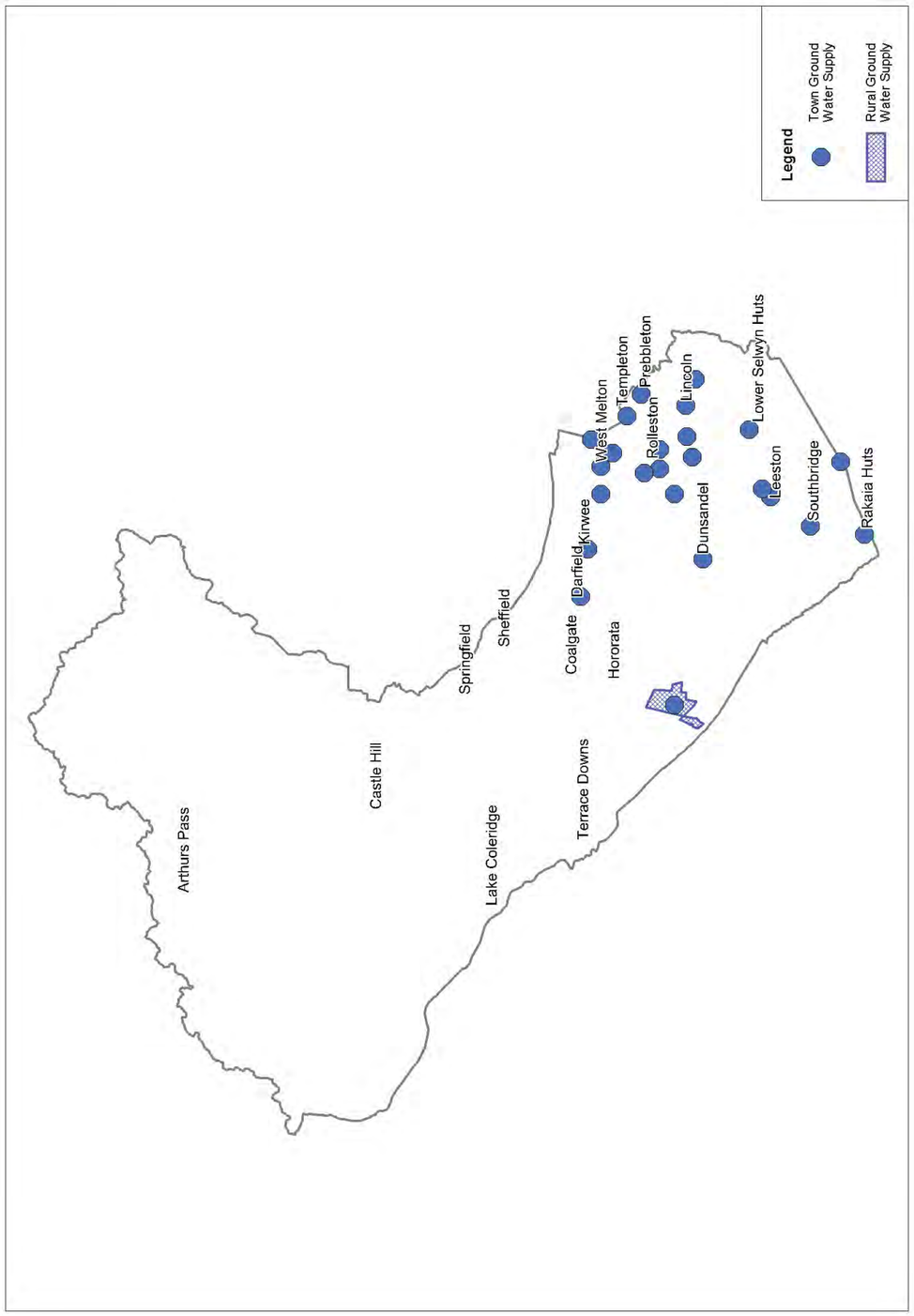


Figure 26: Groundwater availability and use for community drinking water supplies

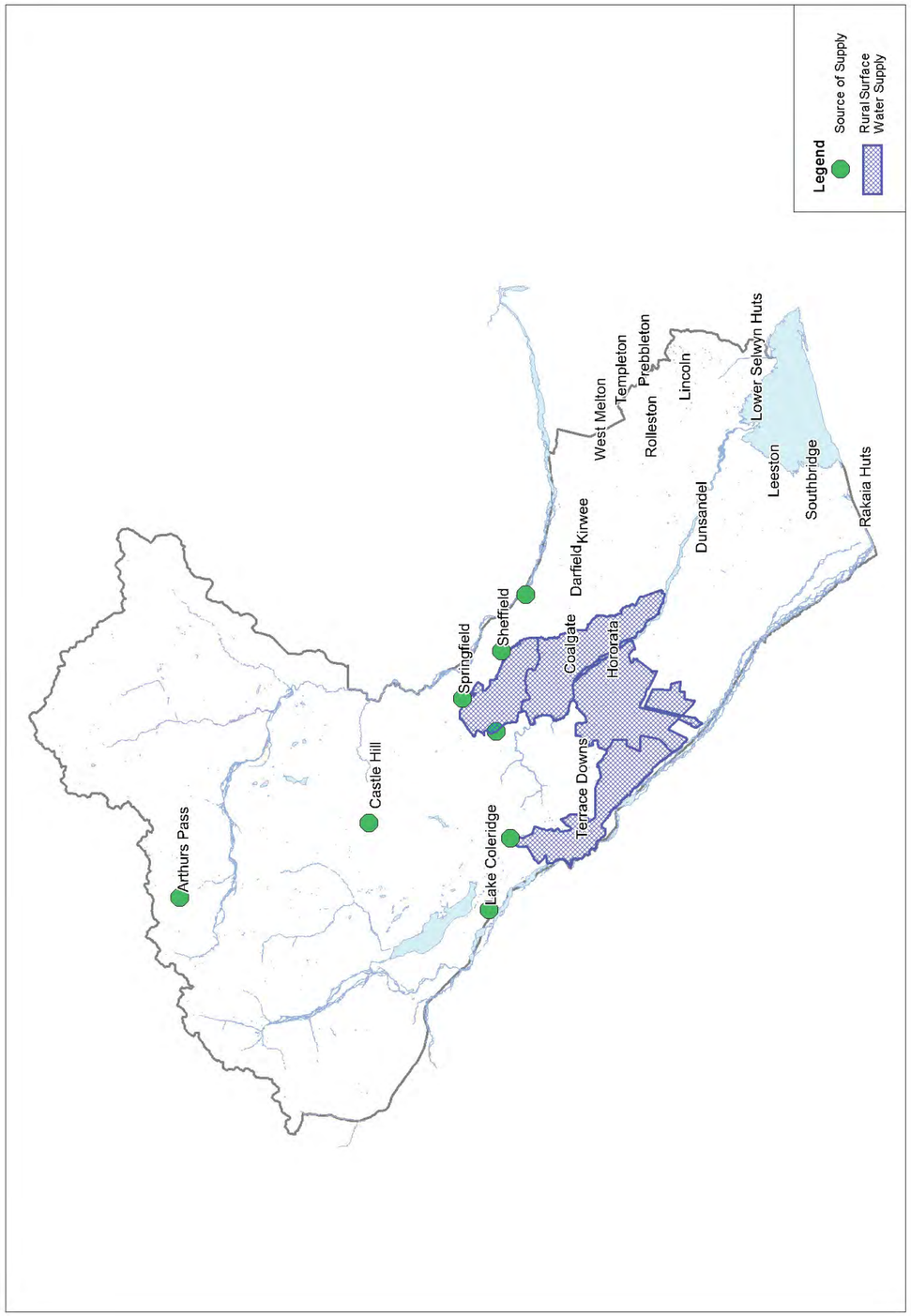


Figure 27: Surface water availability and use for community drinking water supplies

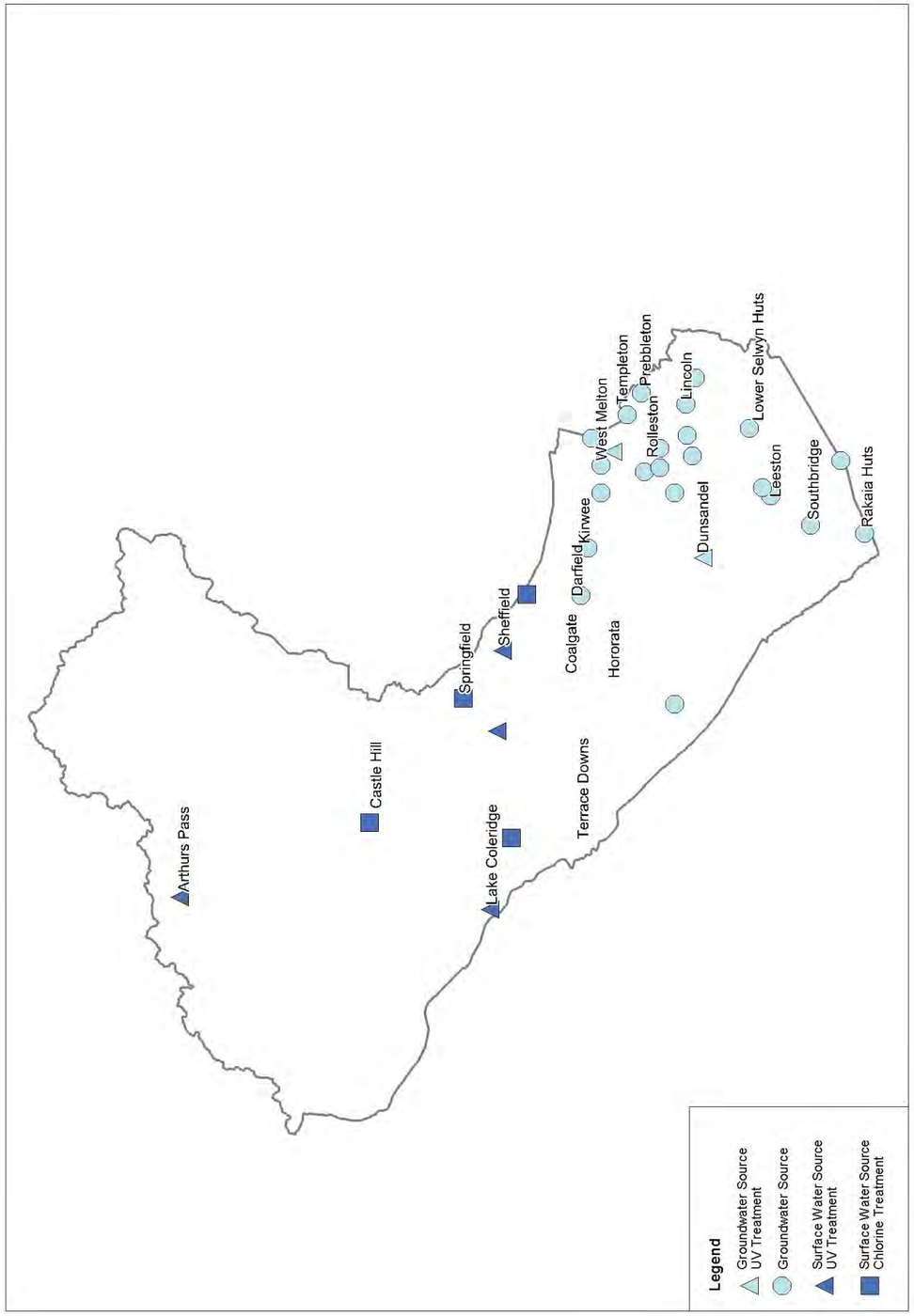


Figure 28: Water sources and treatment requirements

UV units are not validated models and b) the raw water quality periodically falls outside the range suitable for treatment. Upgrading works will be necessary over coming years.

Rural Water Schemes

Two extensive rural water schemes were developed in the 1970s and 80s (Figure 29). These distribute water for domestic and agricultural use in the foothills and across the upper plains where groundwater is not readily available. The landowners have played a significant role in the development of these schemes which play a vital role in enhancing the productivity of this land. Several of the town water supply schemes have also been extended to serve the surrounding rural areas.

Rural water schemes differ from conventional town water supplies in that water is delivered at low pressure to a tank on each connected property. From the supply point it is the land owner's responsibility to distribute the water to dwellings and stock. Several small towns are supplied from rural water schemes, with residents receiving low pressure water to tanks and providing their own pumped pressure systems.

The Health (Drinking Water) Amendment Act includes a category for Rural-Agricultural Water Supplies where over 75% of water supplied is used for commercial agriculture. Compliance requirements for such supplies have not been confirmed but are expected to place the onus for water treatment on the domestic consumers as opposed to the water supplier. This is intended to eliminate the need to provide costly treatment of large water volumes of which only a small proportion is used for domestic purposes. Some of the rural water scheme supply areas would qualify as Rural-Agricultural Water Supplies if the associated township zones were separated. Other areas may not qualify due to extensive rural residential subdivision changing the relative proportions of dwelling and agricultural water use.

Rural Residential Subdivision and Small Community Water Supplies

Subdivision of rural land that is not adjacent to existing towns into 'lifestyle blocks' has resulted in the development of many small community water supplies, serving as few as 20 households. These typically comprise a bore and simple pumping system and have been an economic way for land developers to provide a water supply where groundwater is readily available. Many such supplies have been adopted by Council upon completion of the subdivision. In some instances, these supplies have eventually been incorporated into a growing town's water supply. Others remain isolated and independent (Table 16). This presents a challenge as operation, maintenance and in particular compliance costs for these small schemes are disproportional to the size of the community served. Current Council policy (W210) is to adopt, subject to conditions, new community water supplies serving a minimum of 60 lots. Smaller schemes are considered on an individual basis.

Unserviced Areas

Approximately 30% of Selwyn District households, generally in rural areas, are not served by a community water supply. These properties predominantly obtain water from on-site shallow bores, with a minority using surface water and roof water sources.

Non-Residential Water Use

Water supply connections are provided for business premises, schools, hospitals and other activities within the town water supply service areas. There are relatively few large business zones in the district, with most activity concentrated in Rolleston, Lincoln and Darfield. A new fully serviced business park, 'Izone', is being developed at Rolleston. This has been designed to accommodate wet industry (i.e. intensive water use) but to date such activities have not yet been established. The Rolleston water supply has been planned to accommodate this.

Lincoln University and the adjacent Crown

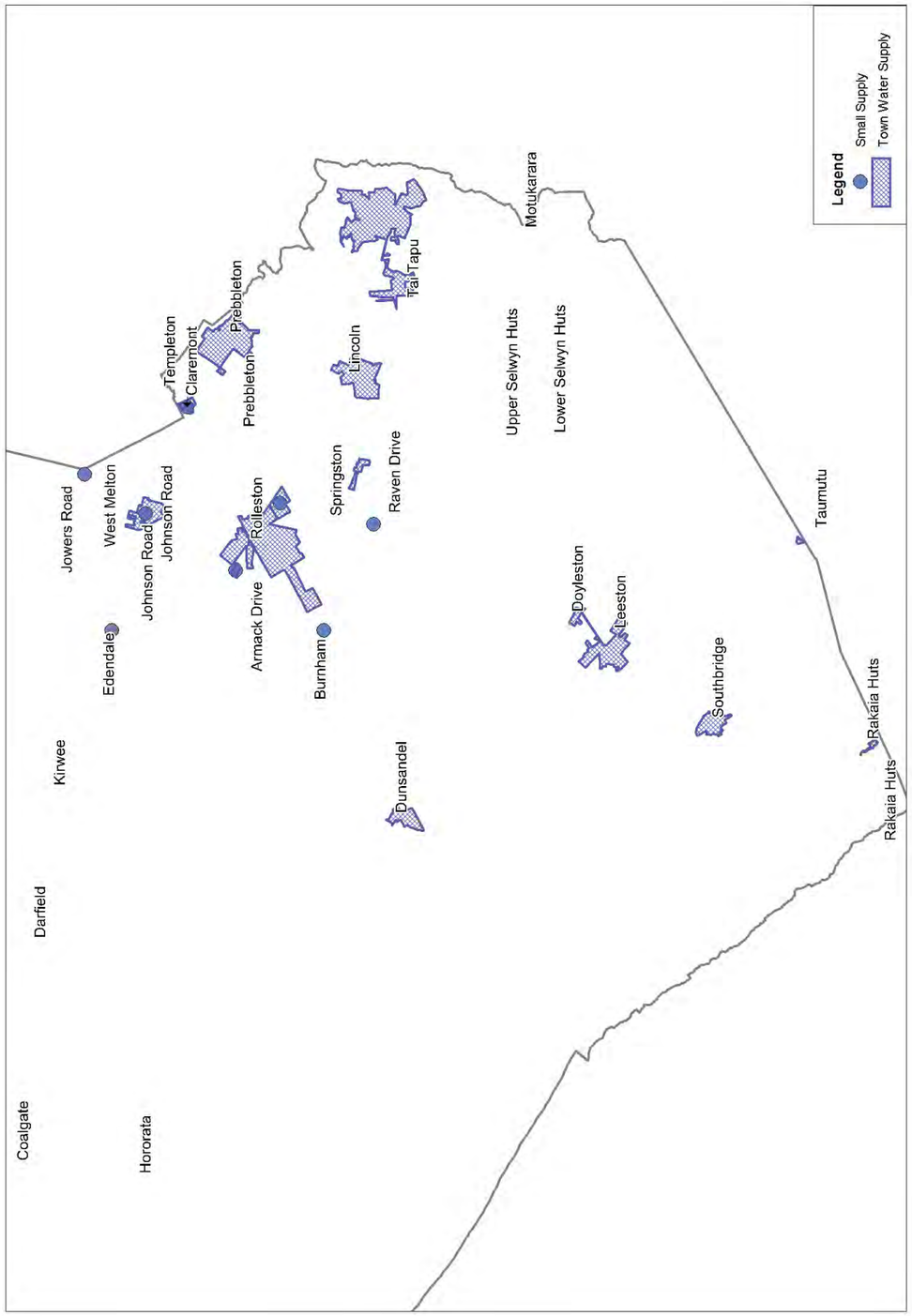


Figure 29: Small community water supplies adopted by the Council

	NO. OF CONNECTIONS	CONNECTED	NOT CONNECTED	POPULATION SERVED	% OF POPULATION	COMMENT
Arthurs Pass	126	126	11	341	1.31	Exceeds daily consented volume
Castle Hill	100	95	88	20	0.08	
L Coleridge	150	55		130	0.5	Agreement until 2017 for 500m³/d
Armack Drive	20	20	0	54	0.21	Some spare capacity
Branthwaite Drive	24	24	0	65	0.25	Plan Change 7 area
Burnham	29	23	0	54	0.21	No capacity
Claremont	50	45	13	108	0.42	Are future capacity constraints
Dunsandel	170	170	9	416	1.6	No capacity issues
Edendale	63	64	5	162	0.62	
Johnson Road	58	58	3	151	0.58	Demand management required
Jowers Road	18	18	0	49	0.19	Demand management required
Lincoln	1136	1128	85	3251	12.43	Projected demand to exceed consent in 2013
Prebbleton	862	860	55	2294	8.77	Infrastructure required to meet population projections
Raven Drive	13	13	0	36	0.14	No capacity issues
Rolleston	2904	2951	319	7197	27.52	New wells & demand management needed
Springston	175	188	144	463	1.77	No capacity issues
West Melton	68	59	1	671	2.57	Are capacity issues
Doyleston	79	75	46	243	0.93	Leeston source. Does not service Business land
Leeston	653	655	57	1473	5.64	No current capacity issues. Consent limits would be exceed from 2026
Rakaia Huts	112	112	3	306	1.17	Pumps can't supply peak demand
Southbridge	339	342	24	873	3.34	Can't take additional connections
Tai Tapu/Otahuna	201	186	42	473	1.81	Pumps can't supply peak demand
Taumutu	33	11	0	33	0.13	No capacity
Upper Selwyn Huts	97	97		32	0.13	No. permanent households is restricted
Malvern Hills RWS	551	551	22	1692	6.47	Likely to require demand mgmt
Selwyn RWS	260	304	19	1494	5.72	Note changing land use in this area
Te Pirita RWS	10	10	0	30	0.12	No capacity issues. Changing land use
Darfield	1116	1107	111	2176	8.32	2 new wells expected to provide water till 2025 (not sure what figures based on)
Kirwee	364	360		1056	4.04	Risk of contamination from septic tanks if pump at high rates
Sheffield/ Waddington	201	198	0	783	1.85	Need demand management. Renewals strategy required
Springfield	170	164	0	333	1.28	No capacity. Issues with consent

Table 16: Summary of Council Water Schemes

Research Institute complex operate their own water supplies, as do many other activities throughout the District where groundwater is readily available.

Fire Fighting

Community water supplies also serve an important role as a source of water for fire fighting. Urban Fire Districts have been gazetted in most towns and residential fire fighting needs can be met. The ability to provide sufficient fire fighting water for commercial properties premises is often constrained by the source capacity of the supply. The required fire flows can be in excess of double the typical domestic demand.

Water Demand and Efficiency of Use

Water demand varies significantly between the supplies reflecting the varying nature of communities and water use. Demand is relatively high in a national/international context, but not too dissimilar to water demand in other parts of Canterbury. With water readily available to support a relatively small population there has been little motivation to manage water demand in the past, although this is changing. High summer demands are related to climatic influences and free draining soils. Substantial quantities of water are used to maintain lawns and gardens.

A rapidly increasing population is requiring new water supplies be developed and existing supplies expanded. The regional water resource has come under significant pressure with demand for irrigation water increasing substantially in recent years. With the District's water resources close to fully allocated there is much scrutiny of any application to take additional water, even for community supply. Water conservation and demand management is taking on increased importance. Water meters are required to be installed on all new connections and several towns are now fully metered.

Demand management is also being used as a means of deferring capital expenditure on infrastructure upgrades and reducing operation costs, in particular energy consumption (for pumping).

Domestic water use is linked directly to wastewater production as most water used within a house will be discharged to the sewer. Reduction of in-house water use had an added benefit of reducing the load on wastewater infrastructure.

The Design Guide for Residential Subdivision identifies the opportunity to reduce potable demand through re-use by such means as stormwater retention and use for irrigation of public areas, 'third pipe' recycled water supplies, on-site rainwater capture and use, and use of wastewater for irrigation. There has been little uptake of such opportunities in the District to date.

Summary

- All of the established towns and settlements within the District are provided with community drinking water supplies, and rural areas without ready access to groundwater are served by rural water schemes. New supplies continue to be developed to serve rural subdivisions outside of the established towns but operation and administration of these small schemes places a significant burden on the Council.
- Revised drinking water standards, and associated legislation, are necessitating improvement to community water supplies and increasing compliance costs. This is driving a shift to deep groundwater sources for existing supplies and making adoption of new, small subdivision supplies unattractive to Council.
- Groundwater resources are fully allocated within the District. Further allocations will be available for community water supplies but with an expectation of improved management and efficiency of use. New business and industry may seek to connect to community supplies as a means of obtaining water, where in the past they would have developed independent supplies.
- Much of the water supplied at present does not require treatment as it is obtained from deep, high quality groundwater aquifers. No significant water treatment plants are required in the District. However, groundwater quality may be declining due to intensification of land use (especially in relation to irrigation and dairying). Bacterial contamination has been identified in some water supplies where this has not been a problem in the past. Water treatment may become more common in future.
- Continued subdivision of rural areas is changing the balance of water use from rural/agricultural to domestic as more dwellings are constructed. Consumers' level of service expectations will likely increase.

WASTEWATER DISPOSAL

Overview

The Council own and operate 13 wastewater schemes serving approximately 3500 properties in the District (Figure 29). The scale and nature of these schemes vary considerably, with the largest treating and disposing of wastewater from in excess of 6000 residents in Rolleston, and the smallest being little more than a communal septic tank for about 10 properties in Arthur's Pass. Wastewater from several towns is collected and pumped to the Christchurch City Council system for treatment and disposal.

Sewered Towns

Sewerage systems were developed in the main towns south east of State highway 1 (SH1) in the 1970s and 1980s and have been expanded and upgraded over time to accommodate growth and in response to increasing environmental expectations. High water tables in many of these towns make the traditional septic tank systems used elsewhere in the District less suitable. The high water table also impacts on the ability for land disposal of treated wastewater. Figure 30 shows the position of the 'spring' line, below which naturally occurring springs are present and the groundwater table is relatively high making wastewater disposal problematic.

Three main wastewater catchment areas have developed. A treatment plant in Leeston serves the adjacent towns of Doyleston and Southbridge. Disposal is via border dyked irrigation and infiltration basins. Elevated groundwater levels can be problematic for disposal and consent compliance.

The low lying towns of Lincoln, Springston, Prebbleton, and Tai Tapu pump wastewater to Christchurch City. Land disposal in the area is generally not viable on a large scale. Consent held for discharge of Lincoln wastewater to the LII pond (surface water) was not able to be renewed. The agreement with Christchurch City sets limits on the volume of wastewater than can be discharged to the City and anticipated growth cannot be accommodated.

Rolleston, at an elevation of about 50m above mean sea level is better suited for land disposal of treated wastewater. The original treatment plant (Helpet) had limited capacity and a second plant was constructed (Pines) to allow further expansion of the town. This plant, comprising a bioreactor and clarifier followed by UV disinfection prior to spray irrigation, has been designed as a modular plant so that additional capacity can be added in stages as required. The Eastern Selwyn Sewerage Scheme (ESSS – discussed below) will centralise treatment at this site for Lincoln, Springston and Prebbleton, eliminating dependence on disposal to Christchurch City. Wastewater is also pumped to Rolleston from the nearby Rolleston Prison (eliminating previous onsite treatment and disposal system), and from the Gainsborough development at West Melton.

Small Community Wastewater Schemes

Simple wastewater treatment and disposal systems have been developed in several small communities, typically as part of new subdivisions, or where environmental constraints limit the suitability of onsite septic tank systems. The Claremont subdivision, near Templeton, utilises a small 'package' treatment plant with land disposal. This type of system is unique in the District.

The Selwyn Huts Management Committee operate and maintain a community septic tank, oxidation pond and border dyke irrigation system, with overview from Council. High groundwater levels in relation to Te Waihora/Lake Ellesmere make land disposal difficult in this area and treated wastewater may sometimes be discharged to the Selwyn River.

An imhoff tank followed by subsurface wetland and UV disinfection treatment is used at Lake Coleridge, with disposal by soakage to ground, or overflow to a creek if ground conditions are saturated.

Wastewater at Castle Hill is conveyed to an oxidation pond. There is a land irrigation system but this is not used given the low pond inflow relative to evaporation and seepage.

There is a communal septic tank for a small group of houses at Arthur's Pass. Other properties in the village have onsite septic tanks. Small wastewater systems, remote from the main urban centres, can be costly to operate and maintain relative to the number of properties served.

Unsewered Towns

Where a community wastewater system is not provided wastewater is disposed of to ground via septic tanks on each property. These are privately owned and operated by individual property owners. Septic tank sludge removed from on-site systems is typically disposed of at one of two Council operated land disposal sites.

Two of the largest unsewered communities in New Zealand are located in Selwyn District, these being Darfield (870 households) and Kirwee (311 households). This is primarily due to the very high capacity of soils to receive wastewater and the substantial depth to groundwater – over 80m. These communities continue to grow, supported by the provision of reticulated water supplies. While the current and proposed NRRP provide for the continued practice of onsite disposal in all of Darfield and part of Kirwee, the Medical Officer of Health has clearly stated that they consider this is no longer acceptable and that Council should take the 'Precautionary Principle' approach. The issue of contamination of drinking water wells and aggregate unknown effects of this continued practice have been cited as their key concerns. Council monitor for any adverse environmental or health effects, but to date has not identified any issues. While no specific plans are in place to develop a community sewerage system for Darfield, Council have purchased a site suitable for treatment and disposal should this option be progressed in future.

Eastern Selwyn Sewerage Scheme

A centralised wastewater treatment and disposal system is being built to serve the rapidly growing towns of Lincoln, Prebbleton and Rolleston. This will eliminate the dependence on disposal to the Christchurch City system (except for Claremont). Wastewater will be pumped from Lincoln and Prebbleton to the Pines WWTP at Rolleston, which will be upgraded and expanded in stages to provide the capacity necessary for a population of 80,000. This scheme is referred to as the Eastern Selwyn Sewerage System (ESSS).

OTHER ISSUES

Infiltration and Inflow

In addition to presenting challenges for treated wastewater disposal to land, the elevated groundwater levels in the east of the District give rise to high rates of infiltration and inflow to the waste water reticulation networks in this area. This increases the volume of wastewater requiring treatment, compounds land disposal difficulties, and utilises limited capacity in the disposal system to Christchurch City.

Alternative Disposal Options

An ocean outfall for Selwyn District was considered in relation to development of the Eastern Selwyn Sewerage System (refer below). The high cost of an outfall and associated pipeline from Rolleston made this solution unattractive. Further, it was recognised that beneficial use could be made of the treated wastewater by irrigation to land.

Impact of Central Plains Water (CPW) Irrigation Scheme

Plans have been developed for an extensive irrigation scheme (CPW) across much of the inland portion of Selwyn District. This could potentially cause elevation of dry weather groundwater levels in the Leeston area, adversely affecting the ability to dispose of treated wastewater from the Leeston Wastewater Treatment Plant. system is not provided wastewater is disposed of to ground via septic tanks on each property. These are privately owned and operated by individual property owners.

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	NO. OF CONNECTIONS	CONNECTED	NOT CONNECTED	POPULATION SERVED	% OF POPULATION	SCHEME	COMMENT
Arthurs Pass	10			30	0.2		Capacity available
Castle Hill	94	96	87	20	0.1		Capacity available
Lake Coleridge	46	21	46	130	0.8		Capacity for present population (as mostly holiday homes)
Claremont	47	43	15	108	0.6		No allowance for expansion
Lincoln	1109	1095	91	3251	18.8	ESSS	Being connected to ESSS
Prebbleton	741	723	54	2294	13.3	ESSS	Being connected to ESSS
Rolleston	2644	2573	460	7197	41.7	ESSS	Part of ESSS - staged development
Springston	218	214	31	463	2.7	ESSS	Being connected to ESSS
West Melton	110	85	0	671	3.9	ESSS	Designed to serve 700 properties, additional work could cater for up to 1000
Doyleston	94	92	22	243	1.4	Leeston	Capacity available until approx 2035 (BERL data 2011)
Leeston	636	630	72	1473	8.5		Capacity available as will not serve Dunsandel
Rakaia Huts							
Southbridge	282	280	116	873	5.1	Leeston	Capacity available until approx 2035 (BERL data 2008)
Tai Tapu/ Otahuna	170	163	32	473	2.7		No capacity. To CCC
Taumutu							
Upper Selwyn Huts	**97**	**Unknown**	**Unknown**	**32**	**0.2**		

Table 17: Summary of Council Wastewater Schemes (Asset Management Plan 2012

Summary

- Historically, domestic wastewater was disposed of onsite using traditional septic tank and soakage methods. This continues to be the case across much of the District, including several large, inland towns (Darfield, Kirwee). However, septic tanks are not suited to the low lying portion of the District where the groundwater table is high. Community sewerage schemes have been developed for towns in this area.
- Historically wastewater from several towns (Lincoln, Springston, Prebbleton and Tai Tapu) was pumped to the Christchurch City sewerage network for treatment and disposal. These towns are situated in areas where disposal of treated wastewater to land is problematic due to high groundwater levels. The Urban Development Strategy (UDS) promotes growth in this area, but this cannot be accommodated within the existing flow and volume limits agreed with the City. Additional capacity is not available. A major programme of work is (ESSS) underway to route wastewater from this area to an enlarged treatment and disposal facility at Rolleston.
- A new wastewater treatment plant and disposal area has been developed to support the planned growth of Rolleston. This is designed such that additional capacity can be added as the town grows, and will also provide a centralised facility for wastewater from surrounding towns.
- There is some concern about long-term environmental and health impacts associated with continued use of septic tank systems in developing urban areas such as Darfield, as significant growth is predicted in Darfield. Although there is presently no evidence of adverse effects it may be that such effects will occur over a much longer timescale and, if so, could persist long after any steps are taken to eliminate the discharges. It is likely that this issue will require further attention in the medium term.
- Development of large scale irrigation schemes (e.g. CPW) may cause elevation of dry weather groundwater levels in the Leeston area, adversely affecting the ability to dispose of treated wastewater from the Leeston WTP, and limiting future wastewater disposal options in the wider area around the fringe of Te Waihora/ Lake Ellesmere.

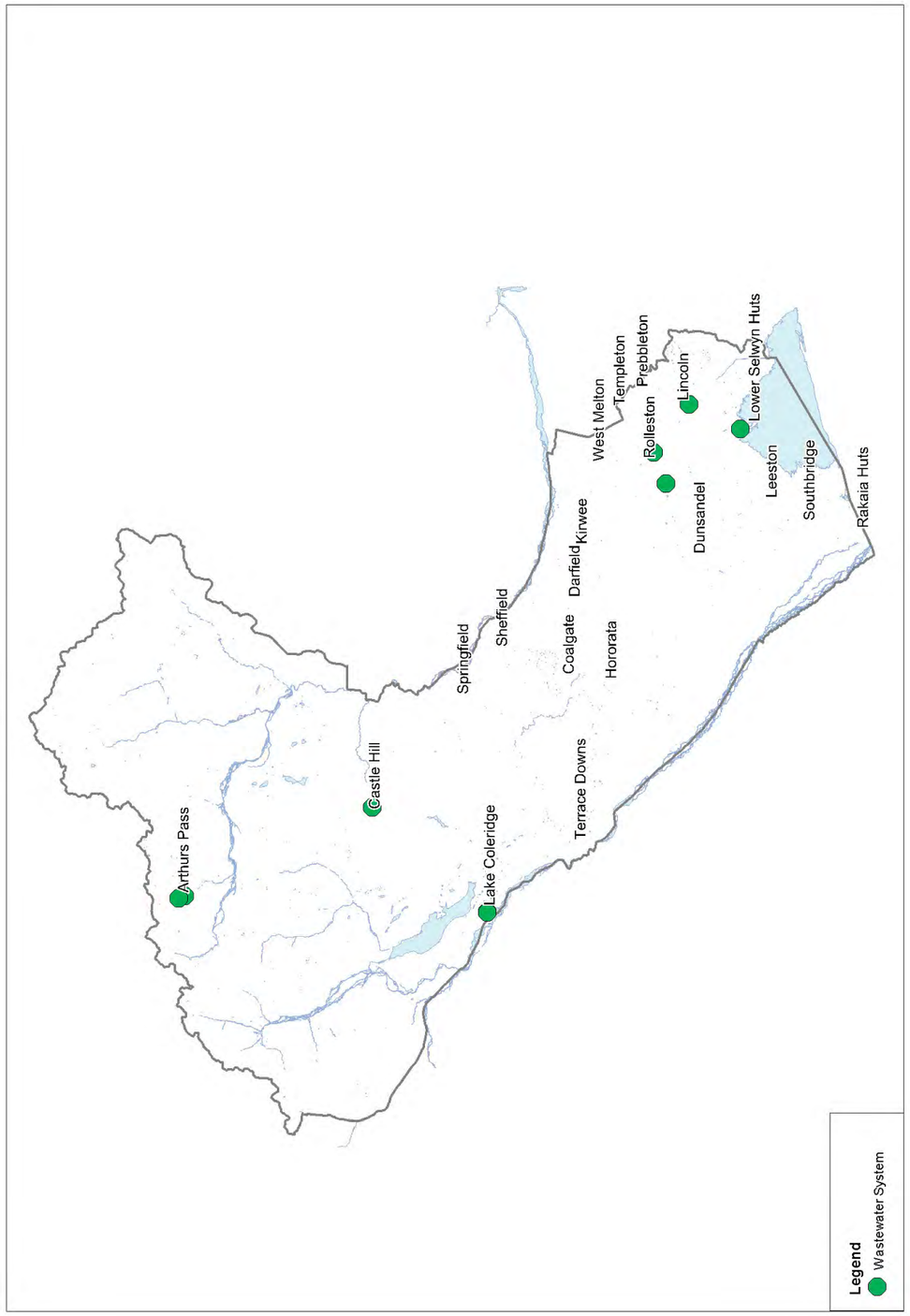

Figure 29: Wastewater system

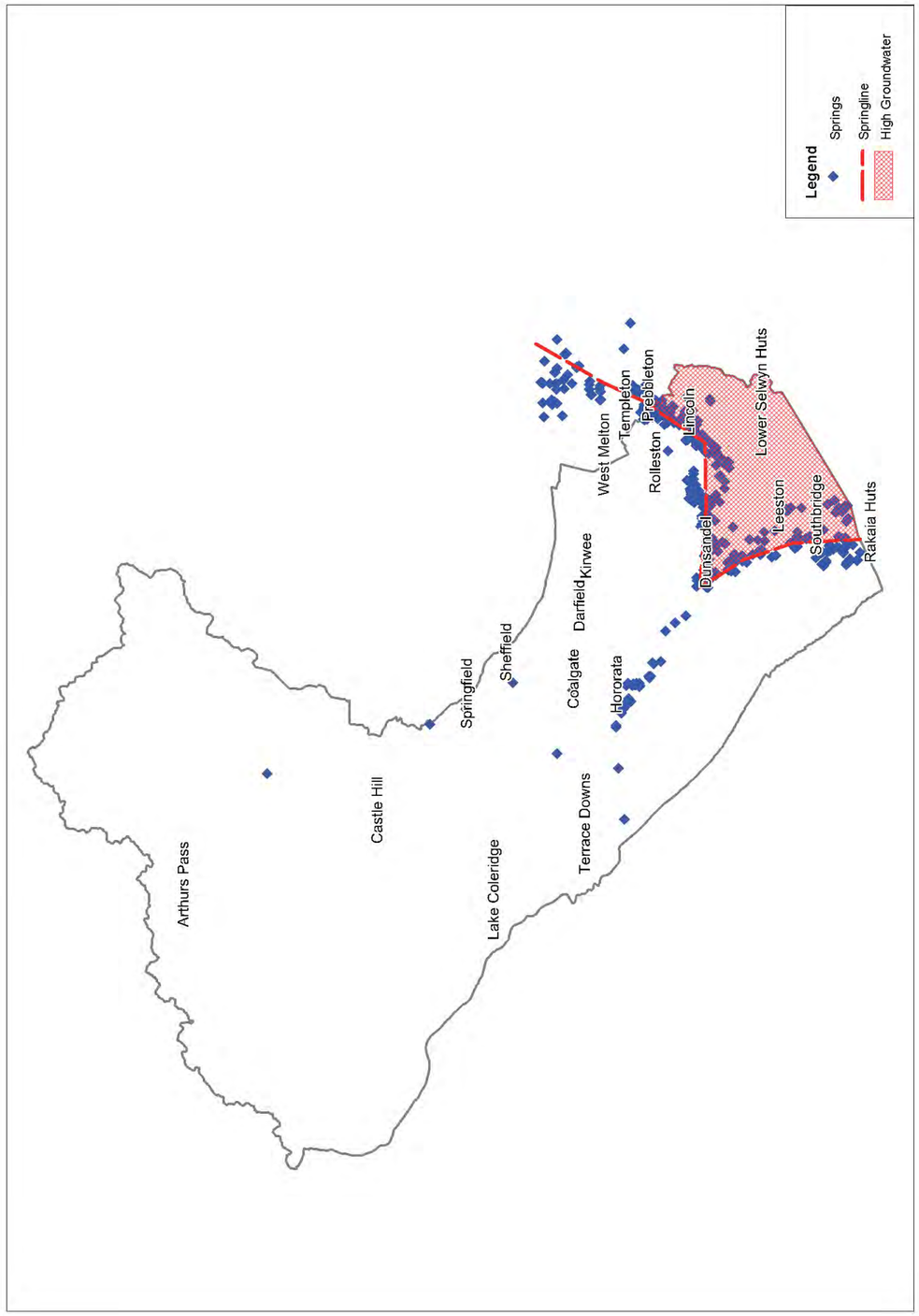

Figure 30: Springs and spring line

STORMWATER DRAINAGE

Overview

Stormwater drainage systems are provided in 18 towns and communities within the District. Extensive use of soakpits and infiltration basins is made where ground conditions permit, with surface water discharges more common in the lower lying areas. Extensive piped stormwater conveyance systems are uncommon, with roadside swales the norm in most areas.

Disposal to Ground

Ground conditions across a large portion of the District are suitable for disposal of stormwater to ground (Figure 31), the exception being the low lying fringe around Te Waihora/Lake Ellesmere, where groundwater levels are high and have to be controlled by the land drainage network.

In most towns and communities, stormwater is collected and conveyed in roadside swales, with limited use of pipe networks. Disposal to ground is achieved by soakage through the base of swales, infiltration basins or via rock filled soak pits. Proprietary treatment devices for removal of contaminants prior to ground discharge are utilised in some areas.

Disposal to Surface Water

Disposal to ground is not possible in the lower lying portion of the district so stormwater is discharged into natural and artificial waterways, including the land drainage networks, which ultimately discharge to Te Waihora/Lake Ellesmere in most cases.

Older parts of established towns such as Prebbleton utilise piped stormwater networks with surface water discharges with little or no treatment. More recent developments typically utilise stormwater basins/ponds for treatment, prior to discharge to ground.

A small piped stormwater collection system at Rakaia Huts discharges to the coastal environment.

Stormwater Detention

Some stormwater ponds/basins fulfil a dual treatment/detention role. Detention is required to hold back the peak runoff from large rainfall events and release this slowly as downstream drainage capacity permits.

Integrated Stormwater Management Planning

An Integrated Stormwater Management Plan (ISMP) has been prepared for Lincoln in conjunction with a Structure Plan outlining the urban design vision and expected staging for the future development of Lincoln Township. The ICMP describes how stormwater will be managed in the future for existing and future development in Lincoln.

In 2008, Council adopted a recommendation from staff that no ISMP be prepared. This was predominantly due to the localised nature of stormwater treatment, supported by inability to efficiently and effectively convey stormwater over long distances (flat gradient), and deep overlying gravels for treatment (over 5m depth to high groundwater table).

Subdivision Stormwater Management

Much attention has been given in recent years to the management of stormwater and the consideration of this early in the site planning process. On-site management of stormwater is promoted and this will usually influence the design of a subdivision. Significant areas of land may need to be set aside for stormwater management, and in some instances this may also have some recreation value. The Design Guide for residential subdivision in the urban living zones addresses stormwater management issues.

[11] http://www.selwyn.govt.nz/services/water-sewage/land-drainage

Summary

- Stormwater disposal methods vary across the district depending on the nature of the potential receiving environment. In the land drainage districts, below the spring line, stormwater runoff is generally discharged to the land drain network or contributing waterways. Elsewhere there are few discharges to surface water, with stormwater typically being collected in roadside swales and discharged to soak pits.
- There are no extensive piped stormwater networks or pumping stations. Piped networks tend to be fragmented and discharge to numerous local outlets or soakpits. There has been a general shift away from piped stormwater collection and conveyance networks, towards on-site management and disposal of stormwater.
- Historically there has been little consideration given to the quality of stormwater discharges. Stormwater basins and ponds with filtration and wetland elements are becoming more common. Proprietary treatment devices are being incorporated into stormwater system design where higher contaminant loadings are likely (e.g. commercial/industrial areas).
- Urban development is presenting new challenges for the management of stormwater. Design guides have been prepared and stormwater management is now a central consideration in any development, often influencing subdivision design, and requiring that significant areas of land are set aside for stormwater management purposes.
- Stormwater management in the land drainage districts will continue to be difficult due to the high water table. This may be further exacerbated by intensive irrigation on the plains (e.g. CPW) if groundwater levels are further elevated. Options for stormwater treatment are particularly limited due to flat gradients, unless pumped systems are utilised.

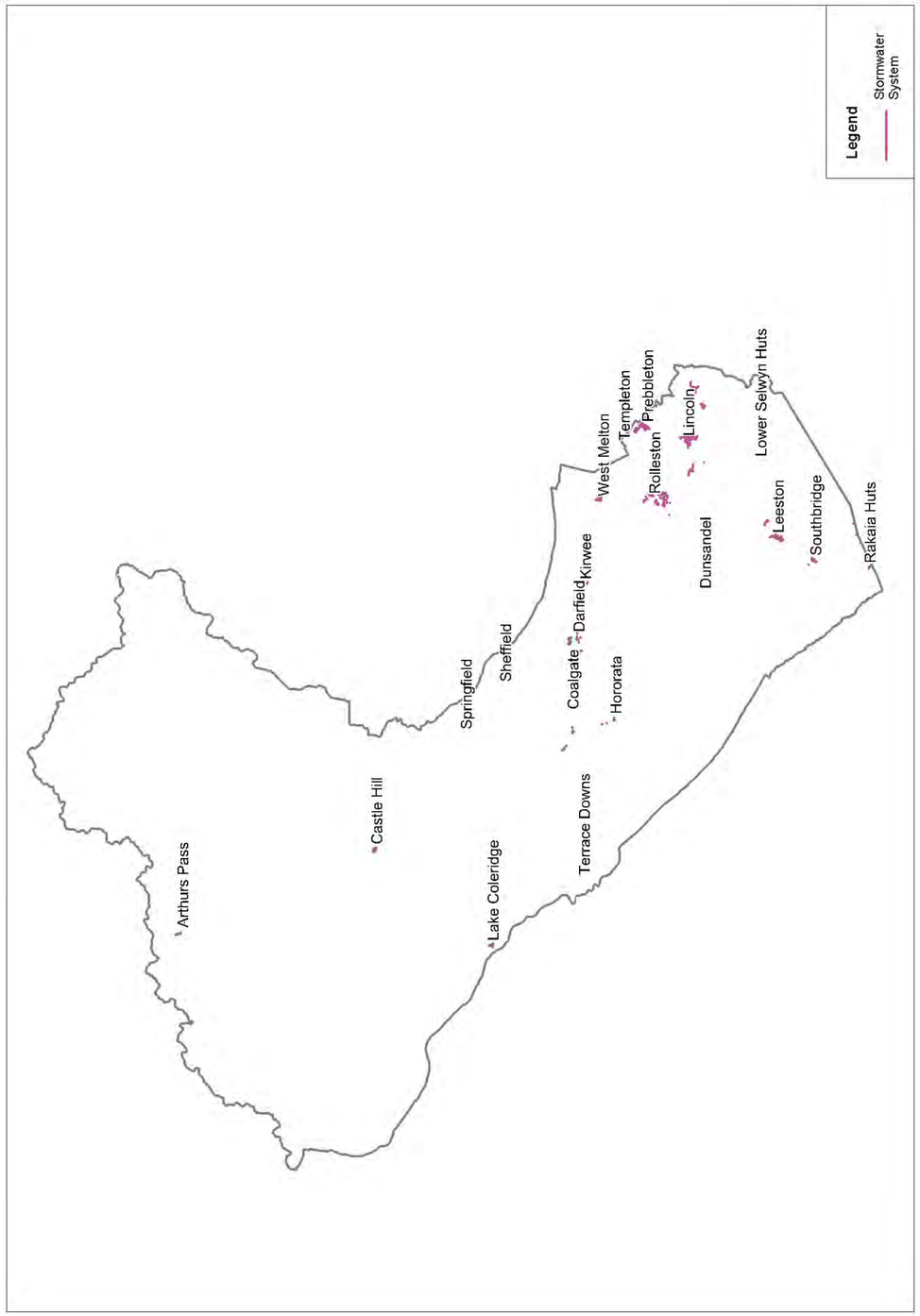

Figure 31: Towns/areas served by stormwater drainage systems

LAND DRAINAGE

Characteristics

Settlers from the 1850s onwards found that the District was mainly flax swamp with light tussock on the higher lands. In order to bring the swamps into production a system of drains was installed, some by the Ellesmere Road Board, but mostly by the settlers. The country became highly productive and up to about 1920 the drainage was reasonably adequate. With settlement the system became inadequate and flooding became frequent.

In the early 1940s the North Canterbury Catchment Board took over control of Te Waihora/Lake Ellesmere and determined a policy of opening the Lake in summer and winter. The then Works Department also constructed two ocean discharge culverts that were lower than existing culverts. This allowed the benefits of significant improvements to drains (which took place from late 1942) that discharged into the lake and sea to occur.

There are ten classified Land Drainage Districts of which the majority are located in the Lincoln/ Leeston area with the Hororata Drainage area being associated with a section of the Hororata River adjacent to the Hororata Township. The classified drains are either located within private land or on Council road reserve. Within each classified drain district are private drains which are the responsibility of the surrounding or adjacent landowners

While the primary function of a land drainage network is to drain land, the Council promotes, where appropriate, the enhancement of drains to increase biodiversity.

Ecological values of the naturalised drainage channels include habitat for plants and animals that are significant and rare elsewhere in Canterbury.

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Within each classified drain district are private drains which are the responsibility of the surrounding or adjacent landowners.[11]

Today the land drainage system serves approximately 25,000 hectares of land and also plays a key role in the drainage of stormwater runoff from developed areas including Leeston, Doyleston and Southbridge. The extent of the network is shown in Figure 32.

Drainage has been provided for all of the low lying areas and there is no need to extend the land drainage network. It must be maintained in perpetuity if the present land use and associated communities are to be sustained.

Te Waihora/Lake Ellesmere Level Control

Most of the land drainage network ultimately discharges to Te Waihora/Lake Ellesmere, along with the Selwyn River and spring fed streams. Kaitorete Spit divides the lake from the sea. The lake level fluctuates depending on inflow and outflow conditions.

Variations in lake level have been a concern to adjacent land users since early Maori occupation when the lake was first artificially opened to the sea to prevent the flooding of the adjacent pa at Taumutu and other lake edge settlements. This practice has continued to the present day and is essential to effective operation of the land drainage network.

Environment Canterbury is responsible for monitoring and control of Te Waihora/Lake Ellesmere lake levels, issuing and monitoring water and discharge permits and monitoring water quality and other aspects of the use of the bed of the lake and inflowing rivers. The National Water Conservation (Lake Ellesmere) Order 1990 (WCO) affects the management of Te Waihora/ Lake Ellesmere, allowing for the lake to be opened/ closed at certain times.

The lake is opened to the sea by cutting a pilot channel of 15 metres wide and 1.8 metres deep through the beach with bulldozers. The length of the channel can vary from 100 to 300 metres. Resource consent conditions set levels at which the lake will be opened. The sea will naturally close the artificial channel again. Levels at which the lake will be opened are:

- In winter (April to July) 1.13 metres above mean sea level.
- In summer (August to March) 1.05 metres above mean sea level.

Te Waihora/Lake Ellesmere

Stormwater Drainage and Flood Relief

The land drainage schemes were not designed as a flood relief system; although some drains do fulfil a duel role (e.g. Hanmer's Drain). The drainage network is however integral to stormwater drainage from several small towns including Leeston and Doyleston.

Water Quality

The drainage networks discharge into a sensitive receiving environment – Te Waihora/Lake Ellesmere, so it is essential that appropriate management practices are employed to minimise sediment, nutrients and bacteria transport, ensuring protection of ecological and cultural values. Riparian management, in particular the exclusion of stock from the waterways, is central to this objective.

It can be anticipated that land drainage management and maintenance practices will come under increasing scrutiny given their impact on environmental health.

Any intensification of land development for residential and business purposes in the land drainage districts will need to consider the implications in relation to water quality and the long-term operation of land drainage systems. Stormwater discharges for developed zones, in particular from commercial and industrial areas will require high levels of treatment to protect the water values of Te Waihora/Lake Ellesmere.

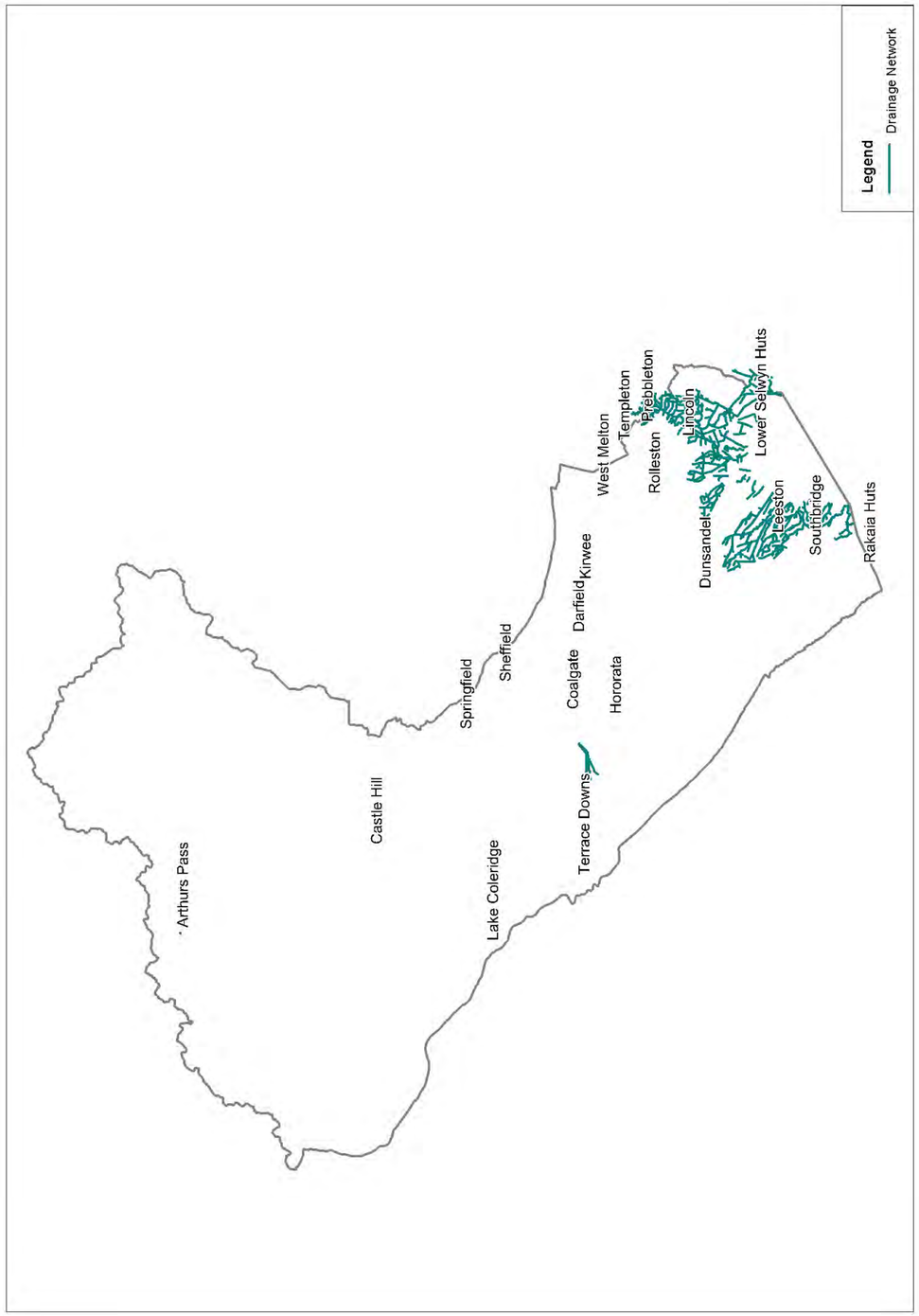


Figure 32: Land drainage network

Summary

- Drains are essential to enable land use development and settlement to occur in the drainage districts.
- There is the potential that the Central Plains Water Scheme will raise groundwater levels.
- The land drainage network was established to bring swamp areas into production and contributes to economic prosperity in the District. Several towns have developed in the drainage area and are also reliant on the drainage system.
- Effective drainage is dependent on artificially opening of Te Waihora/Lake Ellesmere to the sea on a regular basis to prevent high lake levels that would inhibit drainage. The requirement to maintain a low lake level conflicts with other management objectives for Te Waihora/Lake Ellesmere. A future shift in the balance of economic and environmental/ cultural values may require retirement of some productive land to accommodate change to the lake level management regime.
- Maintaining water quality and achieving the desired environmental and cultural outcomes for Te Waihora/Lake Ellesmere will likely require greater attention be given to land drainage management and maintenance practices.
- The drainage network may become increasingly important if groundwater levels are further elevated by intensive irrigation on the Plains (e.g. CPW).
- Sea level rise, as predicted by climate change forecasts, could have a significant impact on the ability to drain low lying land areas around Te Waihora/Lake Ellesmere.

WATER RACES

Characteristics

Extensive stockwater race systems, totalling some 2000 km in length, have been developed across the western portion of the Plains since the 1870s. These convey water from the District's major rivers across the dryland plains primarily to supply stockwater. A limited amount of water is available for irrigation use and in rare situations water is used for domestic supply.

The water race network was vital to early development of agricultural activity across the District but has become less relevant today. Improved accessibility of groundwater has seen a shift from dryland grazing to dairying and cropping dependent on significantly greater volumes of water than can be delivered via the traditional water race networks.

The extent of the network is shown in Figure 33. Land to the west of the water race network is typically supplied water for stock and drinking purposes via one of the rural water schemes. The water race network extends south east to the spring line, at which point the land drainage network commences.

The stockwater network provides a large area of surface water habitat on the Canterbury Plains. Although the races are generally lacking in diversity, aquatic habitats complement those of natural waterways. The races are used as a source of mahinga kai and provide attractive landscape features valued by local communities.

Selwyn stockwater network
Source: Selwyn District Council

The stockwater race network presently serves 85,000 hectares, following closure of portions of the network due to changing water demand patterns.

One water race network (the Paparua Scheme) extends beyond the District boundary, conveying water into the fringe of the Christchurch City area. The Selwyn District Council operate this portion of the network on behalf of the Christchurch City Council.

History and Values

Resource consents held by the Selwyn District Council permit the take of water from the Waimakariri, Selwyn, Kowai and Rakaia and Hororata Rivers for distribution via the race networks. High demand for increasingly scarce resources in the region led to close scrutiny of the water take, in particular the efficiency of water use. It was estimated that only 3% of the water taken from the rivers was actually used on-farm, with the balance lost by seepage to ground, evaporation, and over-spill. The race network was threatened with closure until the wider values of the network were considered.

The network of races has been conveying water across some areas of the Plains for over 100 years. Over this time the races have become semi-naturalised, providing aquatic habitat for many species, including the endangered Canterbury mudfish. Wholesale closure or piping of the network would have adverse ecological effects within the District. The significant loss of water from the unlined channels via ground seepage is recognised to contribute to groundwater recharge. Elimination of the network would alter the hydrological balance that has been established over the last century and may adversely impact on the ability of existing water take consent holders to draw water from the shallow aquifers.

The water races are also valued for their landscape

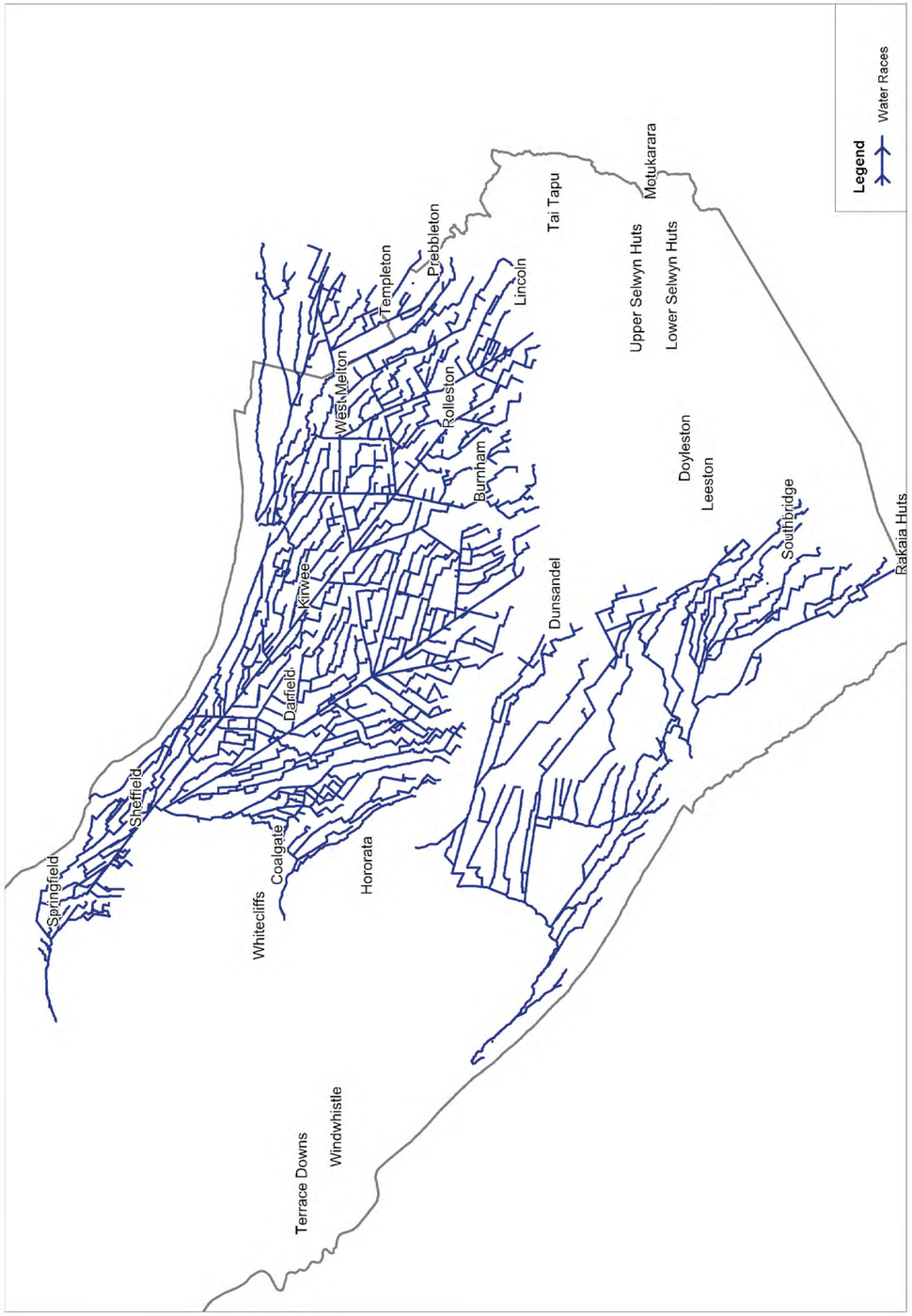


Figure 33: Water race network

amenity by many of the rural communities as they are often the only water feature in a generally arid landscape. Further, they are considered to be part of the District's rural heritage, having played such a vital role in the agricultural history of the area and the development of supporting rural service communities.

None-the-less, some race closures have occurred and this trend is expected to continue given the reducing demand for stockwater and that more land owners are developing on-farm groundwater supplies. Such closures will need to be appropriated in a considered manner, recognising the wider community values.

Water Quality

Maintaining water quality in the race network is essential to ensure that it is fit for stock drinking water and to sustain the naturalised eco-systems and instream values. Changing land use may present challenges and require greater attention to riparian management to prevent contaminant entry to the races from stormwater runoff.
Didymo, an invasive freshwater algae, has been found in the Rakaia and Waimakariri Rivers, both sources of water to the water race network. Protection of the race network and downstream water bodies from Didymo is an issue requiring attention.

Central Plains Water

The proposed Central Plains Water (CPW) Scheme will cause significant disruption to the water race network. The final form of the scheme is yet to be determined but it is probable that a large headrace canal will be constructed across the District from the Rakaia River to the Waimakariri River. This will feed an extensive canal and piped network conveying large flows of water to irrigate up to 60,000 ha. The existing small scale water race network may become redundant in areas that will in future be served by CPW. Also, substantial modification of the network will be necessary to accommodate the CPW infrastructure.

Summary

- Recognition of ecological values of the stockwater network system is becoming more topical.
- Landowner recognition of the value of stockwater due to a lack of alternative sources of water available for stock drinking water.
- Recognition of the value the stockwater network contributes to the landscape character and ecological diversity of the Canterbury plains.

CENTRAL PLAINS WATER

Overview

The Central Plains Water scheme is a proposal to irrigate 60,000 hectares of dry farmland using water from the Waimakariri and Rakaia Rivers (Figure 34). Two intakes would supply a headrace canal, from which water would be distributed for irrigation through an extensive distribution canal network.

The original scheme was revised in 2009 to exclude the proposed Waianianiwa Valley dam and reservoir on advice from the consent hearing Commissioners that these elements of the proposal would not be approved. Following the final hearing of submissions on the revised Scheme during 2010, a favourable decision on the revised Scheme was received on 1 June 2010. Several appeals have subsequently been lodged.

Impacts on Selwyn District Council's 5 Waters Activity

The proposed CPW irrigation scheme will have significant and lasting effects within the District, including physical impacts on existing infrastructure, modification of hydrological characteristics within the catchment, potential water quality degradation, and changing land use potentially affecting demand for existing services. It also provides a significant opportunity for the community.

Opportunities

Intensification of land use in the CPW area may create more local employment opportunities and drive growth in the existing towns, increasing demand for water and wastewater services in this area. The scheme will also provide improved economic wellbeing for the community.

Physical Impacts

The proposed network of CPW headrace and distribution canals extends across a significant portion of the District, including much of the area served by the water race network and a portion of the rural water scheme area.

It is probable that some reconfiguration of the water race network will be necessary to accommodate CPW, with portions of the smaller race network potentially having to be piped across the larger CPW canals, using siphons and other structures as necessary. This may result in increased operation and maintenance costs for the scheme.

The rural water supply network infrastructure will be affected to a lesser degree as these are piped systems, providing that access can be maintained to all infrastructure assets.

Hydrological Impacts

It is anticipated that increased groundwater recharge will result from intensive irrigation within the CPW scheme area. Effects will be most evident in the low lying, coastal part of the District where a land drainage network is already necessary to lower the water table.

Increased flows in the land drainage scheme and prolonged high groundwater levels are anticipated.

Elevated groundwater levels will increase the rate of infiltration into wastewater networks and place greater demands on wastewater treatment and disposal systems. Higher groundwater levels may also compromise the ability to dispose of treated wastewater to land.

Water Quality Impacts

There has been considerable debate as to the impact of intensive irrigation, in support of dairy farming, on downstream groundwater quality. Any degradation of groundwater quality will adversely affect community drinking water supplies, potentially requiring the introduction of treatment processes.

Surface water quality impacts may arise in relation to operation of the open water race system within an area that will be heavily irrigated and predominantly used for dairy farming. Also, the land drainage system intercepts and collects near surface groundwater flows, so any degradation in groundwater quality may be reflected in these surface water channels, and ultimately in Te Waihora/Lake Ellesmere.

The CPW irrigation scheme will facilitate a significant change in land use over a considerable portion of the District. The water race network, established to support dryland farming, is likely to become increasingly irrelevant within the CPW area as dryland farming operations are converted to dairying. However, the water race network extends down gradient of the CPW area and supply to this land will need to be maintained.

Likewise, the demand for stockwater from the rural water supply schemes may reduce if this can be sourced from CPW. However, it is probable that domestic water supply connections will still be required.

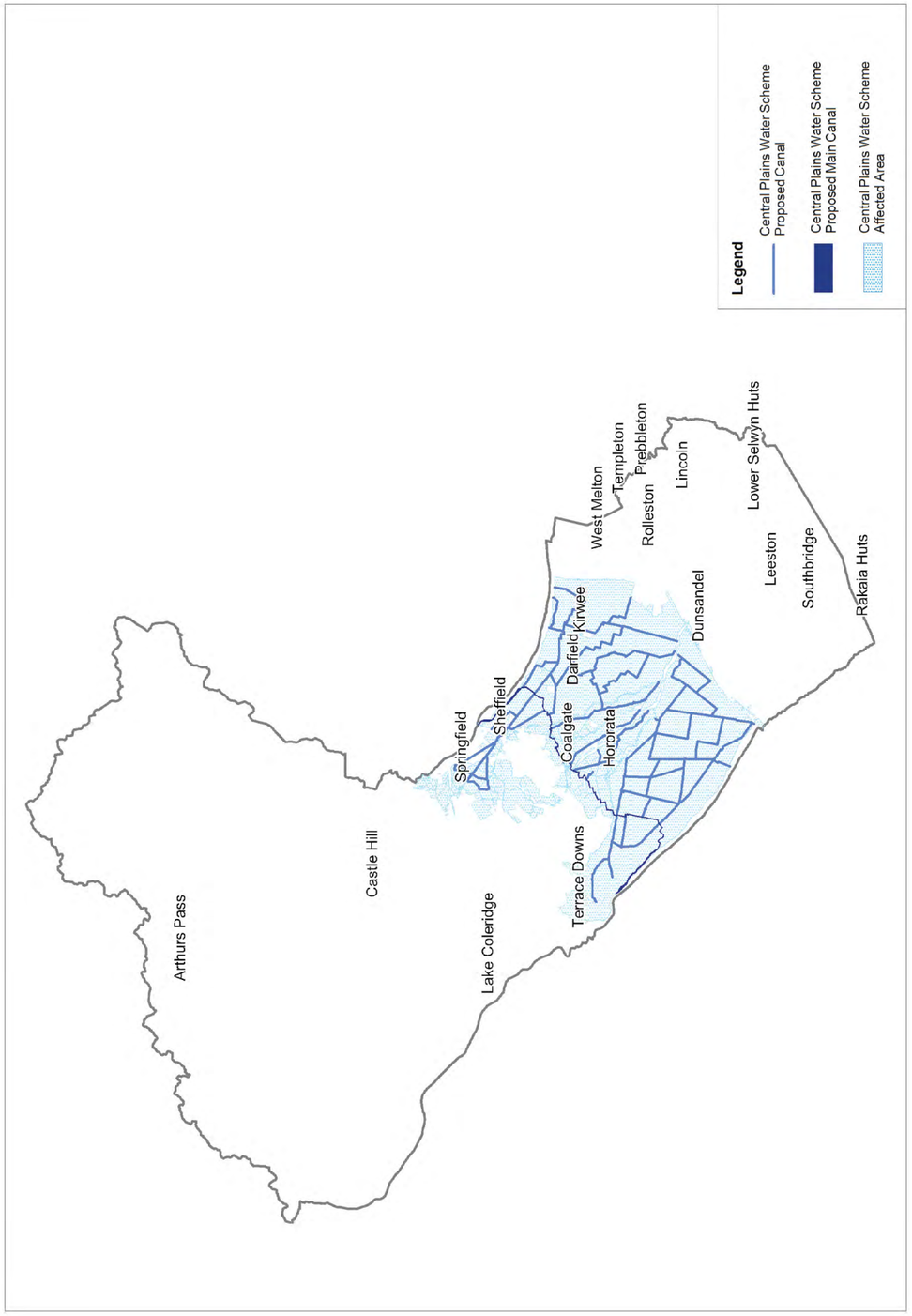


Figure 34: Central Plains Water irrigation scheme service area

MOVEMENT NETWORK TRANSPORT

The principal transportation network in the District is the roading network. Other current transport modes include rail, air, walking and cycling. Further information on each of the modes is given below.

The main form of transportation in the District is via the road network. Historically rail was a key transport feature of the District and many of the townships were established on the rail route. With the closure of passenger rail and the deregulation of freight on rail, road transport became the main mode of transportation.

The Selwyn District Council is a road controlling authority (RCA) and manages and controls activities associated with roads. In the Selwyn District, the Council is responsible for all local roads, excluding state highways — which are the responsibility of the New Zealand Transport Agency's (NZTA) state highway division. The Council's main legislative powers associated with roads are established through the Local Government Act 1974, the Public Works Act 1981 and the Local Government Act 2002.

Selwyn has one of the larger road networks in the country at 2,400km, of which under half of these roads are unsealed

Some Key Facts include:

- Transport related activities consist of 28% of the Councils annual operating expenditure
- The replacement value of Councils transport infrastructure is $580 million
- 8% of the network consists of busier urban roads, the remainder rural roads.
- Population has increased by 36% over the last 15 years
- Vehicle Kilometres Travelled has increased by 50% to 324 million trips over the last 10 years
- Councils total 2012-15 Transport Programme is around $12 million per annum, supported by $4 million per annum of Funding Assistance Rate related funding
- Councils base Funding Assistance Rate was reduced from 48% to 47% for 2012-2015 National Land Transport Programme

DESCRIPTION OF ROAD NETWORK

The Selwyn Council uses a road hierarchy to categorise the roads within the network. The purpose of the hierarchy is:

- To provide an aid to residents and road users that will assist them in determining the relative importance of a section of road and thus gain some understanding of the volume and type of traffic that can reasonably be expected to use it
- To manage the effects of land use on roads and of roads on land use, under the Resource Management Act 1991 and the District and Regional plans prepared under that Act.
- To aid the Council in managing its network, and in particular in establishing relevant standards, monitoring activities and in setting priorities

The roading hierarchy generally follows that identified in the current District Plan. An important change made in 2010 (Plan Change 12) to the classification system drops the category of "Strategic" roads and replaces this with "State Highway" as this is a more accurate description of those roads and routes that are the responsibility of the NZ Transport Agency (NZTA), and as such this is fixed for the purposes of this Plan Change. All other "local" roads are the responsibility of Council.

The road network includes the following roads:

- Four State Highways that pass through Selwyn District connecting townships within the District as well as:
  - State Highway 1 connects Templeton to Rakaia;
  - State Highway 73, The Great Alpine Highway, connects Yaldhurst to the Otira Gorge in the Southern Alps;
  - State Highway 75 connects Halswell to Little River; and
  - State Highway 77 connects Darfield to the Rakaia Gorge.
- Approximately 29 Arterial Roads;
- Approximately 15 Collector Roads; and
- Over 900 local roads.

The Council's network includes: 1359 kilometres of sealed roads, 1116 kilometres of unsealed roads, 128 bridges and 137 kilometres of footpaths.

Previous strategic projects have been undertaken to investigate particular areas within Selwyn District with an emphasis on connections through to Christchurch. Examples of these are the:

- Christchurch, Rolleston and Environs Transportation Study 2007 (CRETS), and
- Urban Development Strategy and Action Plan (UDS).

However, no study has been undertaken specifically investigating the interconnections within Selwyn District.

CRETS

The Christchurch, Rolleston & Environs Transportation Study (CRETS) began in early 2002 and was approved in September 2007.

The Study Partners are:

- Transit New Zealand (now NZTA) – Road Controlling Authority for State Highways,
- Selwyn District Council – Road Controlling Authority for roads in Selwyn District excluding State Highways,
- Christchurch City Council – Road Controlling Authority for roads in Christchurch City excluding State Highways,
- Environment Canterbury – Responsible for Public Transport and managing the Regional Land Transport Strategy,
- Christchurch International Airport Ltd – Responsible for Airport Operations and most roads on the Airport Campus.

The study focused on identifying shortcomings in the strategic transport network to the southwest and south of Christchurch and developing and assessing various options to find a strategy to counter the shortcomings identified. The area includes the Selwyn towns of Rolleston, Lincoln, Springston, West Melton, Tai Tapu, Templeton and Prebbleton; the south western suburbs of Christchurch generally including Hornby, Sockburn, Wigram and Halswell; and the Christchurch International Airport.

The Christchurch to Rolleston area is seen as a key component in the planning for the development of Canterbury's transport system and roading network to the southwest and south of Christchurch. The aim of the study was to produce a Transport Strategy that is robust and flexible to accommodate a number of future urban growth possibilities in the study area.

The key transport issues addressed in the study area are identified as:

- Land use development in Rolleston, Lincoln, Prebbleton, south-west Christchurch, and around Christchurch International Airport,
- Increasing traffic flows from beyond and within the study area,
- Road network capacity constraints especially through Sockburn and along parts of the State Highway network,
- Road safety concerns and access issues onto arterial roads, particularly at Christchurch International Airport and Rolleston,
- Social and environmental issues through townships on busy arterial roads, especially Templeton, Lincoln and Prebbleton,
- The lack of clear roading hierarchy, including supporting district planning controls,
- Accessibility for cyclists and pedestrians,
- Consideration of public transport options.

Key works will include:

- extending the Southern Motorway from Halswell Junction Road to south of Templeton;
- improving roading links between the growing townships of Rolleston, Lincoln and Prebbleton, and
- improving connections to Christchurch and between Rolleston and State Highway 1.

Greater Christchurch Transport Statement

The Greater Christchurch Transport Statement (GCTS) provides an overarching framework to enable a consistent, integrated approach to planning, prioritising, implementing and managing the transport network and services in the Greater Christchurch area.

The GCTS focuses on the strategic links between key places within the Greater Christchurch area. The agreed outcomes will be delivered through the transport activities of the various partners. Further and other localised activities for active transport and improvements will continue to be developed through the local area transport plans of the partners.

.An efficient and reliable transport network into, out of and across Greater Christchurch is vitally important to the social, economic and environmental future of the city and South Island. Similarly, transport links to the Christchurch airport and Lyttelton port are critical in supporting New Zealand trade and tourism.

The Statement is designed to help guide the development and management of Greater Christchurch transport programmes and partners' investment strategies towards a strong and resilient future. It responds to the CERA Recovery Strategy Built Environment goal of developing a transport system that meets the changed needs of people and businesses and enables accessible, sustainable, affordable and safe travel choices.
It also takes account of national and regional transport objectives and policies, and contributes to the visions for social, economic and environmental well-being set out in the Greater Christchurch Urban Development Strategy (UDS).

Funding

Funding for transport programme will be tight. Since 2009, subsidised funding for maintenance and renewal works has been less than what was requested. More recently the Funding Assistance Rate (FAR) dropping 1% to 48% from July 2012. The GPS (Government Policy Statement on Land Transport Funding) also shows funding levels for various transport activities for 2012-15 are at similar or lower levels than 2009-12. Changes to allocation of funding and approvals by NZTA will also tighten the funds available for minor projects (up to $250,000).

In the longer term there may be a reduction in government funding as revenue from fuel taxes reduces

Road Safety

The New Zealand Transport Agency (NZTA) provides briefing notes on road safety issues. The 2010 briefing notes provide the following summary of road safety in Selwyn District.

In 2009 there were:

- 5 fatalities;
- 29 serious casualties;
- 77 minor casualties; and
- 116 minor casualties.

The above crashes are identified by location being rural or urban:

	Rural	Urban
Fatalities	5	0
Serious Injuries	28	1
Minor Injuries	110	6
Total	143	7

Table 18: Casualties - Selwyn District (2009)

Crash type or contributory cause characteristics:

	Pedestrians	Cycling
% Fatal & Serious Crash	3	7
% All Injury Crashes	1	4
No of Injury Crashes	7	24

Table 19: Crash characteristics - Selwyn District (2005 to 2009)

The fatal and injury crashes for Selwyn District are spatially depicted in the image below (Figure 35) taken from the 2010 NZTA briefing notes, road safety issues.

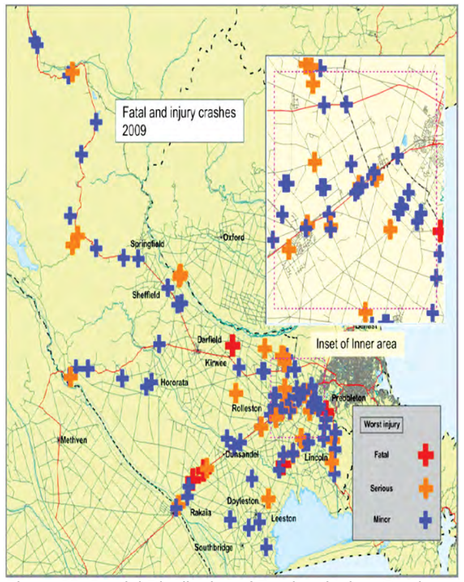


Figure 35: Spatial Distribution of Fatal and Injury Crashes – Selwyn District (2009)

WALKING AND CYCLING

There are 137 kilometres of footpaths, 6.4 km of on-road cycleways and 5.5 km of off-road cycleways in Selwyn District as identified in the Selwyn District Walking and Cycling Strategy (2009).

The Selwyn District Council website also notes that Little River Rail Trail includes a 7km stretch adjacent to Birch's Road, between Prebbleton and Lincoln suitable for either recreation or commuter cycling. There is also proposed pathways to link Glentunnel and Coalgate and Dolyleston and Leeston.

The Selwyn District Council Walking and Cycling Strategy sets the framework for the District's intent desire to work towards a more sustainable transportation system.

The Strategy is supported by the Selwyn District Council Implementation Plan which has the following goals:

- "Goal 1: Improved safety for pedestrians and cyclists.
- Goal 2: More people choosing to walk and cycle
- Goal 3: Convenient community environments and transport systems that encourage and support walking and cycling.
- Goal 4: A transport system that is more sustainable in the long term."

The Implementation Plan also contains a network of current and proposed cycling networks in the Selwyn District as shown below (Figure 36 & 37).

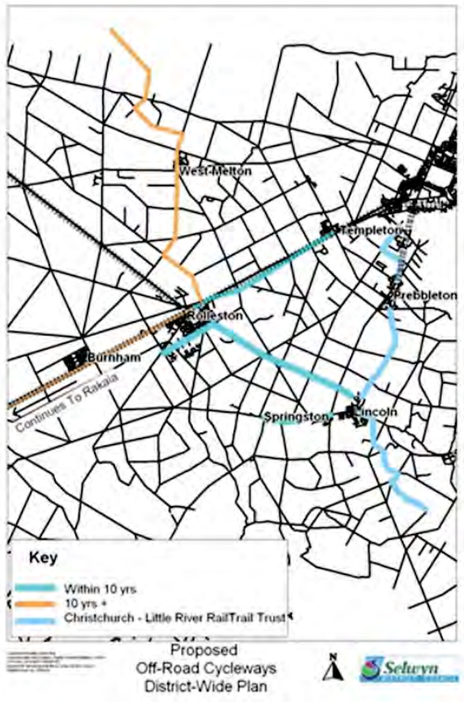


Figure 36: Current and proposed cycling networks

Figure 37: Current and proposed cycling networks.

AIRFIELDS

A number of rural properties within Selwyn District have private airstrips or helipads. In addition recreational gliding operates from the Hororata Domain and there is an airstrip at West Melton. The District Plan also notes that noise from the Christchurch International Airport negatively affects land in Selwyn District. There are no scheduled passenger services operating from the airfields in Selwyn District. Christchurch International Airport serves the wider Canterbury area and is located close to the Christchurch/Selwyn boundary.

PUBLIC TRANSPORT

Long Distance Bus Services

A number of long distance buses pass through the District transporting passengers to end destinations along the state highways.

Local and Commuter Bus Services

From November 1, 2010 a new service contracted out by Environment Canterbury "The Selwyn Star" has started operating within Selwyn District offering the following 3 routes:

81 Lincoln

This service runs every 20 minutes Monday to Friday, half-hourly on Saturdays and hourly on Sundays. Lincoln to City trips do not pick-up passengers after Church Corner (drop-offs only) and City to Lincoln trips do not drop-off any passengers before Church Corner (pick-ups only). Passengers can transfer onto the Metrostar for travel to Hornby.

88 Rolleston

This service runs every half-hour Monday to Saturday and hourly on Sundays. Rolleston to City trips do not pick-up passengers after Church Corner (drop-offs only) and City to Rolleston trips do not drop-off any passengers before Church Corner (pick-ups only).

820 Burnham – Lincoln via Rolleston

This service connects Burnham, Rolleston, Springston and Lincoln. The buses run hourly Monday to Saturday and two-hourly on Sundays. Burnham residents have a guaranteed connection with the 88 service at Rolleston.

Darfield Bus Service

Red Bus operates a weekday bus service from Darfield to Christchurch that departs Darfield Railway Station at 7.15am, with stops at the Kirwee Hotel, West Melton Hotel, Yaldhurst Hotel and Westfield Mall. The return service leaves 5.30pm.

Red Bus also operates a shopper service each Friday departing from Darfield at 10 am, with the return journey leaving at 3 pm.

RAIL

There are two railway lines that operate through the Selwyn District:

- Midland, and
- South Island Main Trunk railway lines.

The Midland line operates between Christchurch and Greymouth. Both freight and passenger services (the TranzAlpine) utilise this line. The railway lines bisect a number of local roads which can cause traffic conflicts.

The South Island Main Trunk railway line operates from Lyttelton to Invercargill along the east coast largely following SH1 through Selwyn District. This line is also used for freight and bisects a number of local roads which can cause traffic conflicts.

Figure 38 shows the transport infrastructure in the District and Figure 39 indicates the bus routes.

Summary

- Changes in land use: there has been a change in rural farm land use within the Selwyn District to include a higher percentage of dairying operations. This change in farming type and associated transport activities will have an impact on the level of heavy traffic within the District.
- Safety: The main road safety issues identified are straight road-loss of control or head-on crashes and crashes at intersections. The main road safety issues identified for the District differs to those identified at a national level of: speed; alcohol/drugs; young drivers; roads and roadsides and motorcyclists.
- Viability of commuter rail: The CRETS study determined that at present commuter rail transport between Rolleston and Christchurch would not be viable and bus based travel is more viable in the short to medium term. As travel demand for public transport increases, other modes need to be explored in the future, such as larger buses or bus rapid transit.
- Walking & cycling: The Selwyn District Council has signalled clear intentions and commitment to improve walking and cycling access within Selwyn District as part of their Travel Demand Management and Walking and Cycling strategies.
- Public transport: Selwyn District Council, Environment Canterbury and the NZ Transport Agency have taken steps to improve the frequency and range of services offered within Selwyn District as well as those linking through to Christchurch City.
- Development: there is need to consolidate growth around existing townships where transport options can be provided.

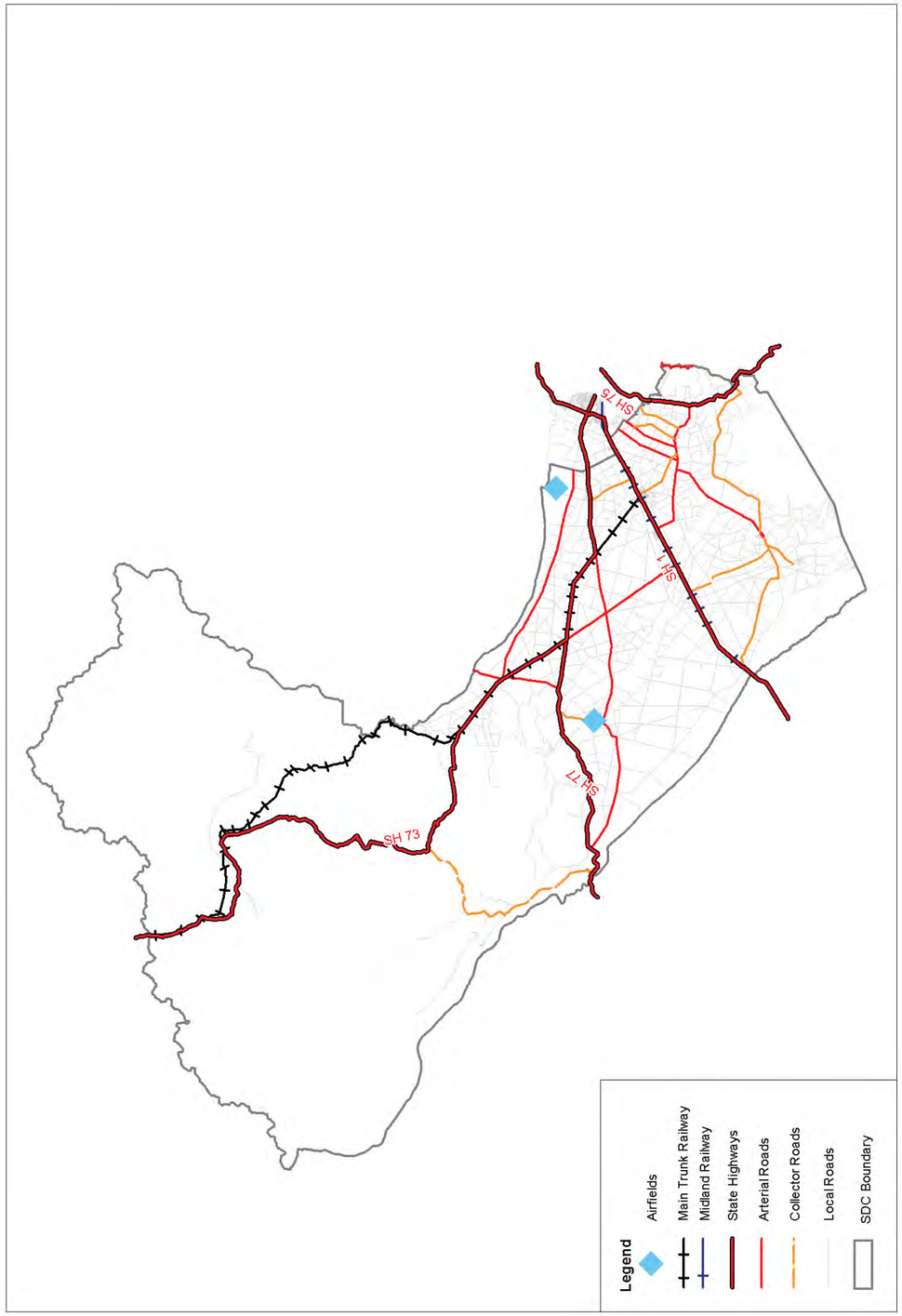


Figure 38: Transport infrastructure - roads

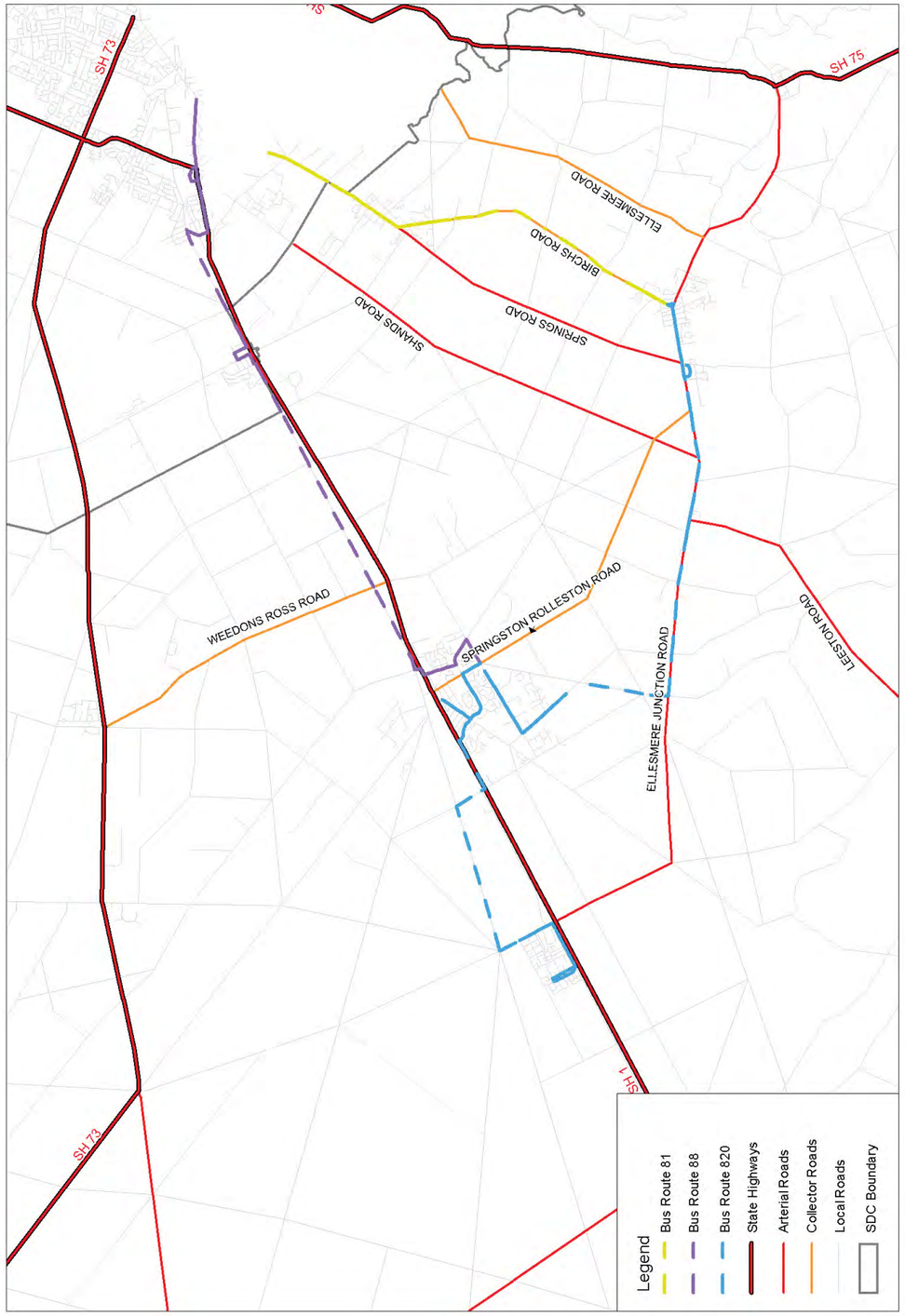


Figure 39: Transport infrastructure - buses

7. Social Infrastructure

INTRODUCTION

Social infrastructure is an essential feature of communities and contributes to overall community wellbeing.

Social infrastructure includes three broad, interrelated categories:

- Community facilities – education, health, welfare, social services, emergency services, religious, arts and cultural facilities and community meeting places; targeted facilities for specific segments of the population – for example, preschools, retirement villages

- Community development – the processes that assists communities to identify and address their needs and in turn strengthen communities – for example, taking part in democratic organisations, volunteering

- Services – services that provide support, advice, education and information to a wide range of groups within a community – for example, health and social services, education

This definition of social infrastructure recognises that while a strong physical foundation (facilities and other infrastructure) is critical, provision of facilities alone is not enough to promote positive community wellbeing. While design can provide a physical foundation for addressing social/ community issues, it cannot, in itself, enhance social resources and build a sense of community.

Community development practice recognises the need to stimulate and support ‘community building’ at neighbourhood level, by providing resources for human services, programmes and community development workers, in addition to providing facilities and public spaces for social interaction and community activity.

This section provides a brief overview of the social infrastructure both Council owned and non Council owned within the District.

SOCIAL TRENDS AND NEEDS IN SELWYN

Population Distribution

Selwyn has no large towns or cities. About 45% of the population lives in small towns and settlements, while the remainder live on farms and rural lifestyle blocks.

Because of the comparatively small but widely dispersed population, the cost of social and health service provision is higher in Selwyn than in large urban centres. The economies of scale that are possible in urban centres are not available in Selwyn, and there are the additional costs associated with travel. This means that there is insufficient population to sustain some specialist services, and that cost and distance creates difficulties for people in accessing services.

Age Structure

The number of children and young people in Selwyn District is expected to double in the next three decades. Such continuous and rapid growth provides a major challenge for service providers. The growing child and youth population will continue to put pressure on education facilities and associated activities, such as out of school programmes, holiday programmes, sports and recreation activities, libraries and community facilities. There will also be a growing demand for family-centred activities and services for parents.

The youth population (aged 15- 24 years) is also expected to increase over the next 50 years. The areas projected to have the greatest increase in the number of youth over the next two decades are Prebbleton, West Melton, Lincoln, Rolleston and Springston. The growing youth population will have implications for service delivery and facilities. There will be an increasing demand for youth orientated activities.

Young people in rural areas face particular barriers in relation to the provision of transport, access to health services, employment, training and education, as well as the opportunity to express their views and be directly involved in matters that affect them in their communities.

Taking part in activities is often more difficult for young people living in rural communities where local provision of activities and facilities can be limited. Travel into areas that do offer more activities can involve long and expensive journeys, with added concerns over the reliability of transport and safety. There will therefore be a need to facilitate or provide locally-based activities.

Population ageing has the potential to become a major economic and policy issue for the District and the country as a whole. In common with the New Zealand population overall, the Selwyn population is ageing. Planning for the ageing population will be a key challenge. Providing opportunities for older people to participate in economic and social life will be critical. The preference for 'ageing in place' means there is a need for social care services to assist those with ill-health, disability or frailty. These will include, for example, services such as relief, convalescent and community care, as well as home support, Meals on Wheels, and hospice services. Support for older people can also impact the community in terms of caregiver stress. There are a large number of people in the community who are providing unpaid care for a family member or friend. Their contributions need to be supported, through initiatives such as social support networks, recreational opportunities and respite care.

Socio-Economic Conditions

Selwyn is not disadvantaged in terms of income levels, unemployment rates, educational achievement, home and car ownership, or single parent families. Therefore, Selwyn does not have many residents whose health and wellbeing may be compromised because of their low socio-economic status. The small number of those in the most deprived categories may mean that providing adequate support and help for those facing disadvantage may be more manageable than in many other communities.

Social Capital and Community Cohesion

The social cohesion of Selwyn's communities underlies much of the District's historic success. The inclusive and supportive nature of its communities forms Selwyn's legacy as a liveable district. People have told the Council through Residents Surveys and consultation processes how important it is to them to belong to cohesive, active and safe communities. These are characteristics of life in Selwyn that are highly valued and that people want the Council to support.

Changing Demand

With the growth in population in the District, particularly within the "commuter belt" (i.e. within 20 km to Christchurch), the District is seeing a more "urban" community moving into the District, with many residents arriving from Christchurch City, and also overseas locations such as England or South Africa. This has also been exacerbated by the 2010/11 Canterbury earthquakes, which have resulted in many Christchurch residents relocating to Selwyn district.

Due to busy working lifestyles and experience of other local authority models, these residents have expectations of the provision of a range of recreational and social activities for themselves and their families by the Council and less tendency to be involved in voluntary activities.

Rapid growth threatens to erode what residents value most – strong social capital, family friendly communities and a rural lifestyle. It will be important to plan for the population growth, in terms of the social infrastructure as well as the physical infrastructure.

SOCIAL NETWORK

A key component of a social network is social infrastructure that provides the vehicle for a range of important functions for people and communities. These facilities provide people with a sense of identity, belonging and inclusion in a community, networking and community interaction, physical and mental health and provide for spiritual and cultural wellbeing as well as allowing for community expression though arts and cultural institutions.

Lincoln Library
Source: Selwyn District Council

Social infrastructure can be provided by the Council, through other government agencies or departments or through community organisations. Below is a brief summary of some types of social infrastructure available within the District.

COUNCIL SOCIAL INFRASTRUCTURE

Selwyn District Council is a key provider of social infrastructure within the community. This is with the likes of services such as libraries, swimming pools and other key social infrastructure such as cemeteries, halls and community centres.

Libraries

Library services in Selwyn District were provided by volunteers for decades prior to local government amalgamation in 1989. There are five libraries located within Selwyn District:

- Darfield
- Leeston
- Lincoln
- Rolleston
- Mobile library bus

There are also two part-time volunteer libraries which are not owned or run by the Council.

At the end of 2009 Selwyn District Council had over 95,000 physical items in its library collections. Over 21,500 people within the District hold library membership which equates to more than 50% of eligible citizens. The libraries issue approximately 29,500 items per month which means statistically that nearly the entire stock of Selwyn library will be checked in and out nearly three times per year. Library membership and visits to libraries are growing rapidly as the District's population increases.

The mobile library bus was introduced in 2001 as an effort to provide lending services to all ratepayers across the district. The bus was refurbished and refitted in March 2010.

In 2008 the Council adopted the "Libraries for Life Strategy", which recognised the continuing growth in demand for library services and their changing nature and which put into place plans for developing suitable facilities in Leeston, Darfield, Lincoln and Rolleston. With increasing pressure on current library services due to the rapidly growing population, the focus since 2008 has been on the refurbishment/building of physical library buildings, as well as developing physical and digital resources and programmes which meet community demand.

Darfield

A new library building was built and opened in Leeston in April 2009 and library issues and visitors increased 80%.

A new library opened in Darfield in February 2011. The Council's old service centre building in Darfield has been refurbished and extended to accommodate the new facilities, which have again seen an upsurge in use..

At Lincoln a new library has been constructed and is now open. In Rolleston, a future library/ community centre is being proposed as part of the Rolleston Town Centre Master Plan.

In 2013 Selwyn Libraries joined with a national consortium of libraries (Kotui) to purchase and use the same library management computer system. There are significant savings in working together as well as advantages for staff and customers, such as the ability to loan e-books, better search facilities for customers and savings in time/effort for library staff, who can share information such as cataloguing across the entire consortia group, instead of each replicating the same work.

Kids Bookclub, Rolleston
Source: Selwyn District Council

RECREATION RESERVES	35 main recreation reserves with a total area of over 785 ha	TOWNSHIP RESERVES AND STREETSCAPES	191 reserves and playgrounds covering over 71ha
CEMETERIES	19 cemeteries (2 closed)	RENTALHOUSING	21 houses
PUBLIC TOILETS	19 facilities	GRAVEL RESERVES	223 sites in total with 12 operational
COMMUNITY CENTRESAND HALLS	24 facilities	FORESTRY	57 sites with a total area of 162.7ha
SWIMMING POOLS	1 District aquatic centre, 8 community pools	PROPERTY AND BUILDINGS	District Headquarters, 21 strategic properties
LIBRARIES	Rolleston, Lincoln, Leeston, Darfield plus 2 volunteer libraries and a mobile library	TOTAL ASSET VALUE	$212 million

Table 20: Council services and assets

Halls and Community Centres

There are 14 community halls distributed throughout the District which are largely used for social events, recreational activities and meetings. In addition, there are a further 11 community centres within the District which generally contain a community hall and undertake additional services such as play groups, meetings, libraries (Arthur's Pass) and social events.

Rolleston Community Centre
Source: Selwyn District Council

These facilities are very important to communities as they provide a focal point for residents. In the larger centres such as Rolleston, these facilities are coming under increasing pressure due to rapid population growth. Many of the township hall buildings were built as memorial halls after the world wars. An issue with these buildings is the need for refurbishment to bring them up to modern standards and an increasing community expectation to do so.

Lincoln Event Centre

Selwyn District gained a state of the art community asset with the completion of the new Lincoln Event Centre, which opened in May 2011. The centre is in great demand from a wide variety of organisations, ranging from clubs to professional sport, conferences, gala events, weddings, church activities and public meetings.

The 3,105sqm floor area comprises a modern multi sports stadium capable of hosting international netball, basketball, 5 badminton courts, tennis and volleyball. There is an adjoining hall (divided from the stadium by sound-proof folding doors) complete with stage and a quality sound system. For smaller groups there are 2 meeting rooms and

3 lounges, with the main lounge being a purpose built function room.

Outside in the grounds, there are 5 senior rugby fields (cricket for summer) and clubrooms, netball/ tennis courts, bowls club with an artificial turf, a Scout Den, children's playground,adults fitness equipment and a Playcentre/Plunket rooms.

The quality of this facility and its co-location alongside an outdoor recreation area has created a busy, vibrant community "hub" and a model for other developments in the district.

Swimming Pools

The District contains seven outdoor community swimming pools located at:

- Southbridge
- Sheffield
- Prebbleton
- Leeston
- Darfield
- Courtenay
- Halkett

The Selwyn Aquatic Centre (opened June, 2013) is the district's first indoor facility located in Rolleston and has been constructed due to community demand for a year round facility for all ages and in particular access to learn to swim for children.

The Centre contains an 8 lane, 25 metre pool with ramp access, hydrotherapy pool, learn to swim pool and leisure pool.

The building has been designed to allow future expansion, both for additional pools or sports and fitness facilities; an important aspect when considering a community facility in a growing area.

Open Space, Parks and Reserves

The Council owns and operates 35 larger recreation reserves covering over 785 hectares of land. The majority of the recreational reserves are managed by community based Management Committees, supported by Council staff.

Larger recreational hubs for the District are located at Darfield, Lincoln and Prebbleton Recreational Reserves with a new major hub park planned for Rolleston. Lincoln and Rolleston Community Centres are also major community recreational attractions.

Sport plays an important social role of moving people around the District. Sports such as tennis, cricket, netball and rugby all organise District wide competitions centred on neighbouring domains and reserves.

There is a variety of reserve types servicing the district from the larger sports oriented recreation parks to more natural areas such as Chamberlains Ford and Coes Ford where people can carry out informal activities like walking, picnicking and camping.

The Council provides nearly 60 playgrounds, including 3 community parks with equipment designed for youth. There are many existing small passive reserves throughout the District and new ones will be incorporated as part of new subdivisions developments

Campgrounds

There are currently 2 Council owned or leased campgrounds (Rakaia Huts and Glentunnel). Council also allows camping in other reserves including Lakeside Domain, Coes Ford, Chamberlains Ford and Whitecliffs Domain. There are also several camping grounds administered by the Department of Conservation in the District.

Glentunnel Camping Ground
Source: Selwyn District Council

These include Avalanche Creek Shelter, Greyney's, Klondyke Corner, Hawden Shelter, Andrew's Shelter, Lake Pearson and Craigieburn. There are also a number of sites where informal camping occurs in the District such as Lake Grassmere and Lake Georgina & Sarah. Camping grounds have increased in their social value to the community in the current economic climate.

Cemeteries

The Council owns and maintains 19 cemeteries ranging in size from 2000m^2 to 10ha in area. The Anglican Church owns and maintains 10 cemeteries and the Catholic and Presbyterian churches administer 1 cemetery respectively. Another cemetery at Taumutu is controlled by the Ellesmere Co-operating Parish (Methodist/ Presbyterian)Most cemeteries were established before 1900 and have older style graves, as well as newer lawn beams which have been developed during the last few decades. There is provision for burials and the interment of ashes at all cemeteries, except at Ellesmere Catholic Cemetery which does not have ash plots. Cemeteries contribute to the communities open space network and are well distributed across the District.

Prebbleton Cemetery
Source: Selwyn District Council

The Selwyn District Cemeteries are:

- Bishops Corner
- Brookside
- Dunsandel
- Ellesmere Catholic
- Ellesmere
- Greendale
- Hororata
- Killinchy
- Kimberley
- Kirwee
- Kowhai Pass
- Lake Coleridge
- Lincoln
- Prebbleton
- Shands Road
- South Malvern
- Springston
- Waddington
- Weedons

Two cemeteries within the District are closed to any more plot sales and these are Killinchy, near Leeston and Bishops Corner near Ellesmere. Springston and Prebbleton cemeteries are reaching capacity; investigations are underway for extensions to the Springston cemetery. Given the projected aging population, demand for burial plots in the District may be set to double in the next 20 years. No new cemeteries are planned in the immediate future within the District.

The distribution of cemeteries is fairly uniform across the Plains area of the Selwyn District, with all townships within 20km of a cemetery and most with 10km. In the foothills of the Alps there are no cemeteries past the Kowhai Pass cemetery and Springfield. This means that the residents of Arthur's Pass and the surrounding farms and settlements, may have to travel up to 60km to reach the nearest cemetery.

Community Activities

The Council undertake a role in providing support and advice to local community organisations. They have a community development team which gives local organisations and motivated individuals knowledge, encouragement and access to resources that will enable them to 'make things happen' in their communities.

Little River Rail Trail

They also provide a number of social/recreational programmes for the community such as school holiday programmes and day clubs for older adults. Due to the rapid population growth in the Selwyn District, there has been increasing pressure on demand for community facilities, programmes and networks. For example, it is projected that by 2040 the number of people under 15 years old will double.

Summary

Council Social Infrastructure

- Pressure on building facilities due to rapidly increasing populations.
- Increased pressure to provide an increased level of services at libraries as community expectations increase.
- Increased pressure to upgrade hall facilities to modern standards and funding available for upgrades

Reserves and Open Space

- Continued population growth within townships will increase pressure on reserve usage.
- There is a need for strategic planning of land purchase, to future proof the long term needs for reserve provision in the District.
- As townships become more urbanised there is a corresponding increase in demand for improved services and facilities.
- Sports and recreation trends are changing where, although participation levels in organised sport is being maintained, there is a move to more informal activities. There is also a change in use patterns with more activities occurring during the week as well as new sports and recreation activities emerging.
- Changes in the age structure of the population are occurring, with the most important trend being the general ageing of the population which will have implications for the way reserves are developed and the types of facilities provided.
- There is a need to ensure that subdivision, open space and recreation proposals are matched to the overall recreation and open space vision for that township.
- Need to provide recreational opportunities for teenagers especially in the growth towns.
- There is increasing demand to preserve and enhance the district's biodiversity and reserves and open space provide opportunities to achieve this.

Campgrounds

- Resurgence in the social value of camping grounds and demand for freedom camping opportunities.
- Potential for connecting with the Motukara to Little River Rail Trail and opportunity to utilise the disused rail corridor and along stream margins.

Cemeteries

- Demand for burial plots is set to double in the next 20 years.
- Distribution of cemeteries across the Plains is uniform.
- Springston and Prebbleton cemeteries are reaching capacity.
- No new cemeteries are currently being planned for the District.
- Lack of cemetery near Arthur's Pass area.
- Need to plan for future cemetery growth due to changing demographics
- Demand has increased for community facilities, programmes and networks as a result of population growth in the District.
- Changing demographic profile of the District will place additional demands on community activities, programmes and networks.

NON-COUNCIL OWNED INFRASTRUCTURE

There are a number of non-Council agencies such as government departments, government agencies or community groups that provide the District with social infrastructure e.g. the education and health sectors, emergency services, social development, arts and justice.

Education

Educational facilities provide a central focal point and 'heart' to local communities. There are a number of educational facilities located within the District ranging from early childhood education centres, primary and secondary schools and tertiary education institutions.

Early Childhood Education

There are a number of private pre-school facilities located within the District. This includes the likes of day care facilities and early childhood education facilities. These are well distributed geographically throughout the townships, with the exception of the western part of the District. The vast majority are located in Rolleston, being the larger population base.

A key issue for early childhood education facilities is maintaining an affordable level of child care for parents and having readily accessible childcare in the District.

Primary Schools

There are 23 state primary schools within the Selwyn District. These are generally evenly geographically distributed throughout the District. A new school, Clearview Primary School opened in Rolleston in 2010. If the population of townships such as Rolleston continue to grow rapidly, there will be increased pressure on school facilities within the District.

Secondary Schools

There are three secondary schools within the Selwyn District. These include: Ellesmere College, Darfield and Lincoln High Schools.

Clearview School, Rolleston

There is a need for a further high school within the District located at Rolleston. The Ministry of Education and the Selwyn District Council have been working together to source a site that may be suitable for any future secondary school. The Ministry has purchase land from the Selwyn District Council next to the Selwyn Aquatic Centre for this purpose. A designation for this activity has been lodged with the Council. At present it is currently being assessed before it is notified publicly.

Lincoln High School
Source: Lincoln High School

Tertiary Education

Lincoln University is located within the Selwyn District. It is New Zealand's third oldest university, having been founded in 1878 as a School of Agriculture as part of Canterbury College. In 1990 Lincoln University formally separated from the University of Canterbury and became a self-governing national university that it is today.

The campus is 58 hectares and has approximately 3,500 students making it one of New Zealand's smallest universities. Lincoln University has national and international leadership in a range of areas. Specifically the campus is home to the Agribusiness and Economics Research Unit (AERU), the Centre for Advanced Computational

Solutions (CfACS), the Tourism, Recreation, Research and Education Centre (TRREC). It is also home to the National Centre for Advanced Bio-Protection Technologies.

The Centre is at the forefront of research in New Zealand on bio-protection in collaboration with AgResearch, Food and Plant Research and Massey University.

Health Services

There are a number of health services provided within the District. These include community hospital care, maternity care and private medical centres.

Community Hospitals

There are two community hospitals located within the District. These are at Darfield and Ellesmere (Leeston). Darfield provides medical, surgical rehabilitation, carer support and elderly care with eight beds. It also has two maternity beds. Ellesmere Hospital provides continuing care for the elderly (4 beds) and surgical rehabilitation and carer support (6 beds). Lincoln Maternity hospital is also located in the District to provide specialist postnatal care.

Medical Centres

The District contains a number of medical centres. These are generally in the larger townships of Rolleston, Darfield, Leeston and Lincoln. The Rolleston Medical Centre is the largest with 8 general practitioners, while the Darfield medical centre has 4 medical practitioners. Towards the west of the District there is a distinct lack of medical centres reflecting lower population bases in these areas.

Lincoln Maternity Hospital
Source: Selwyn District Council

Social Development

The District does not contain any Ministry of Social Development offices such as Work and Income, Family & Community Services, Ministry of Youth Development, Citizens Advice Bureau or Age Concern. These services are based in Christchurch. This is largely as a result of the speed of growth where these institutions, often based in Christchurch (education, health and voluntary organisations) may not have matched resources to these new areas of population.

Emergency Services

Emergency services within the District largely constitute the New Zealand Fire Service, New Zealand Police and ambulance service.

The most prevalent emergency service within the District is the volunteer fire brigade network. Volunteer fire brigade services exist at Coalgate, Darfield, Dunsandel, Horrorata, Kirwee, Leeston, Lincoln, Sheffield, Southbridge and Springfield. Fire brigade services are also available at Burnham Military Camp.

There are three rural fire units located within the District, at West Melton, Lake Coleridge and Arthur's Pass. They are run by Selwyn District Council and the focus of the units are to respond to rural fires and other emergencies such as structure fires and motor vehicle accidents and other incidents outside the rural district.

The New Zealand Police have small stations at Lincoln, Darfield, Leeston, Rolleston and Arthur's Pass. A new police station has been constructed at Rolleston. Police also supports the operation of numerous neighbourhood support groups in the District.

Ambulance stations are located at Leeston, Darfield and Rolleston within the District. These are all serviced by volunteers.

Arts and Culture

The District has a strong arts and cultural element. This is demonstrated through the 'Celebrating Selwyn' festival which provides an opportunity to recognise arts, culture, industry, crafts, education and heritage.

Rural Fire Unit
Source: Selwyn District Council

Celebration Selwyn is currently in its third year in 2011. There are numerous private art galleries, craft studios, genealogy groups and historical societies in the District. There is one volunteer managed art gallery in Darfield - Selwyn Gallery.

There are regular Saturday farmer's markets at Lincoln and Rolleston which bring together the arts and culture of the community.

In 2011 the Selwyn Arts Trust was established to encourage, promote and co-ordinate appreciation and awareness of all artistic opportunities within Selwyn.

There are small museums located at Glentunnel and Hororata. There are no museums located in the bigger population centres of Rolleston or Lincoln.

Justice

Selwyn District does not contain any working courthouses. Any court matters generally use services and facilities located in Christchurch.

Rolleston Prison is located in Selwyn District and accommodates 320 sentenced prisoners. At Rolleston Prison there is also a 32 bed youth justice facility.

Summary

Schools

- Maintaining access to affordable early childhood education facilities within the District.
- Primary schools are evenly distributed throughout the townships of the District and provide a focal point for local communities.
- The need for a secondary school at Rolleston.
- The need to plan for any future secondary school in Rolleston.
- Provision for adequate growth and physical expansion of the University.
- Lincoln University combined with the CRIs is pivotal in undertaking research and advancing technologies in food production. Given the global food crisis, this function is critical.

Health Services

- Retention of services for the local community.
- Pressure on elderly care facilities due to changing population demographics.
- Medical centres are concentrated around larger population centres of Rolleston, Darfield, Leeston and Lincoln.
- Lack of medical centres located to the west of the District due to lower population base in this area of the District.
- Rapid speed of population growth has led to social services not being matched to these areas of population growth in the District.

Emergency Services

- Extensive volunteer fire brigade network within the District.
- Police stations located at Lincoln, Darfield, Leeston, Rolleston and Arthur's Pass.
- Ambulance stations are located at Leeston, Darfield and Arthur's Pass and are serviced by volunteers.

Arts and Culture

- Strong arts and culture element in the District.
- Museums located at Glentunnel and Hororata.
- No museum located in the larger townships of the District.

Justice

- Rolleston Prison and Youth Justice Facility are located within the District.

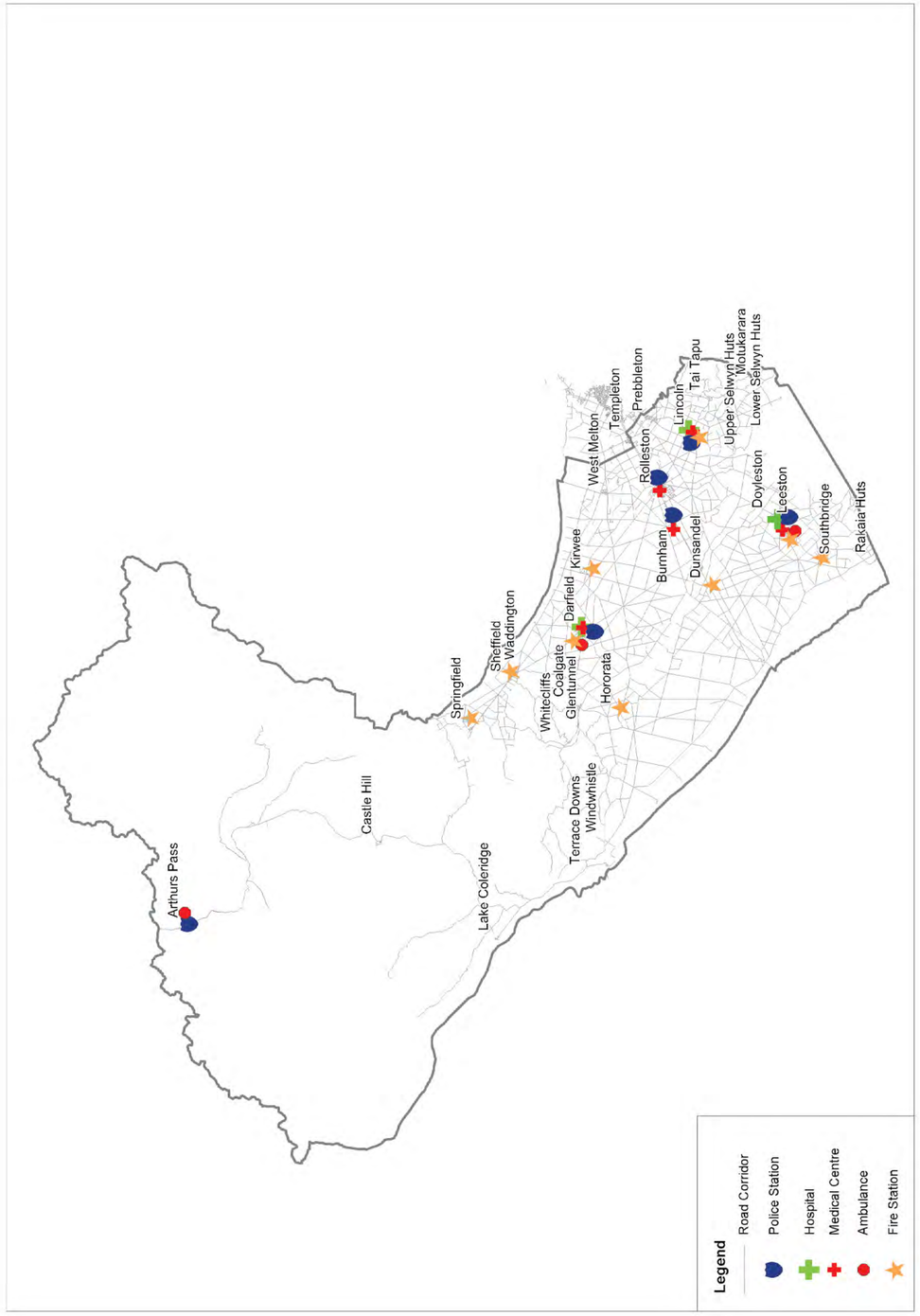


Figure 40: Social infrastructure map

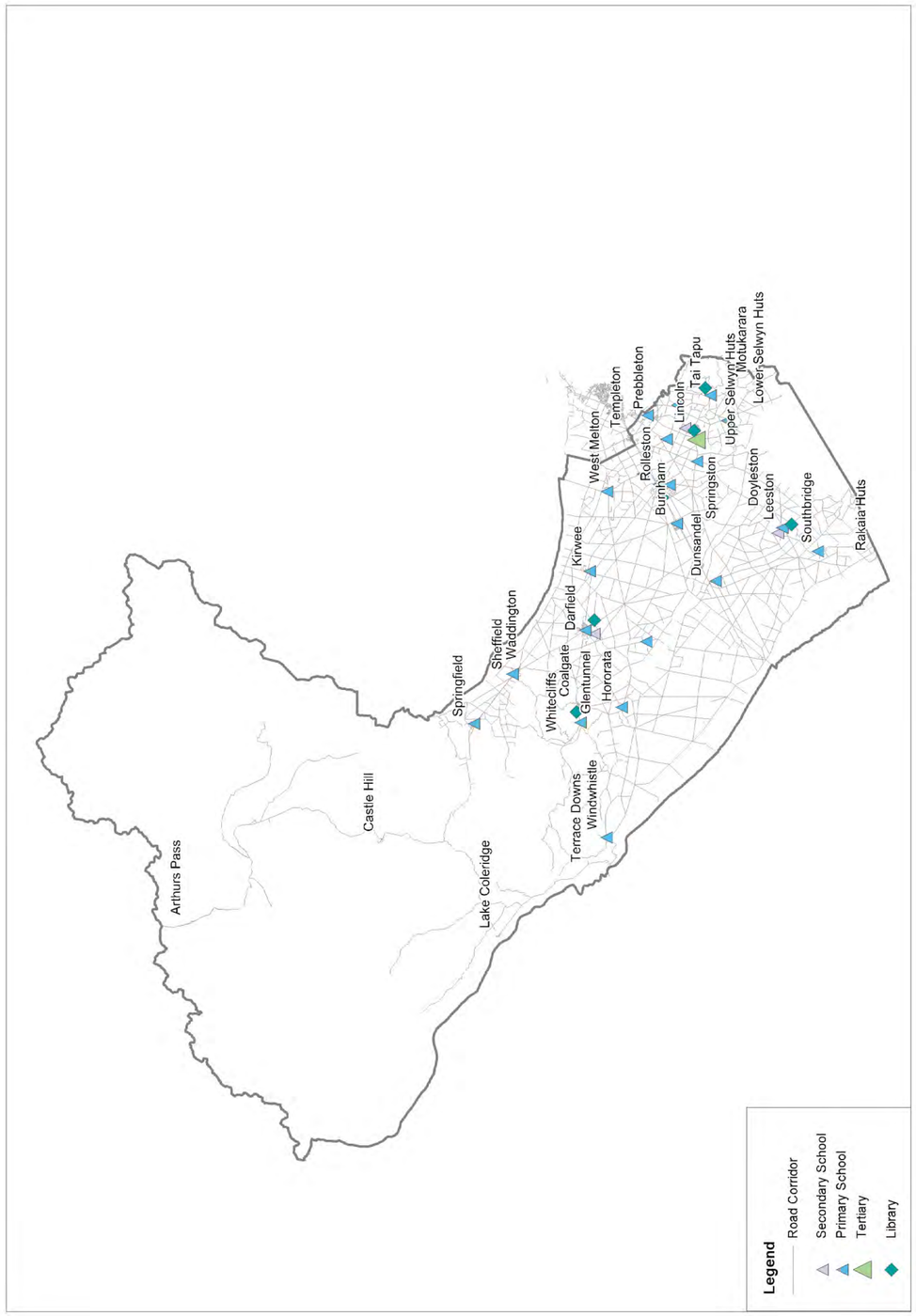


Figure 41: Social Infrastructure – Schools and Libraries

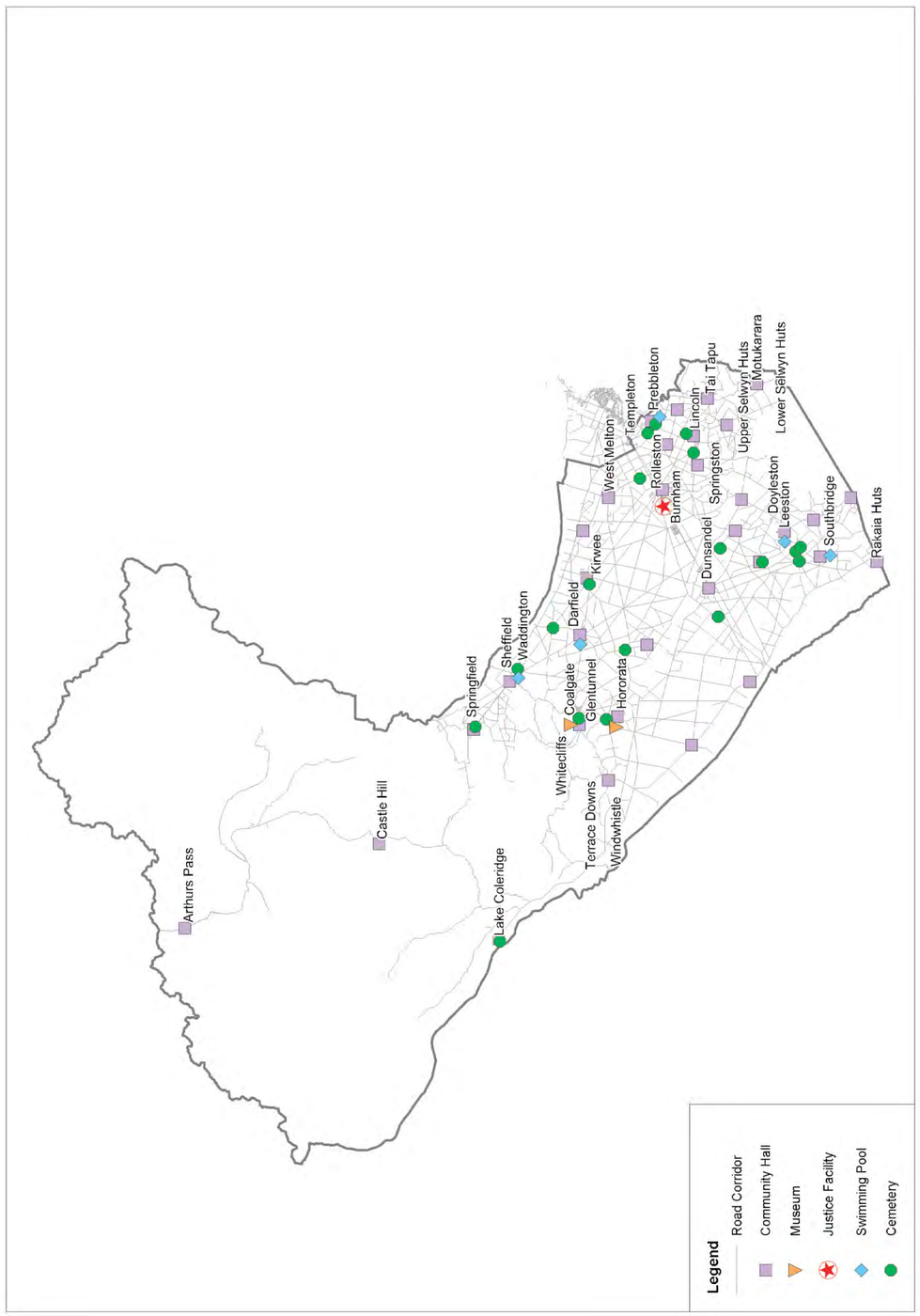


Figure 42: Social Infrastructure – Community Services and Facilities

8. Existing Policy And Planning Framework

INTRODUCTION

Selwyn District Council currently has a number of strategic documents that showcase the uniqueness, characteristics and trends of the Selwyn District.

The diagram (Figure 44) shows the strategic documentation and their relationships.

Selwyn 2031 is a high level growth strategy for the District, meaning it will guide other strategies and development within the district. The purpose of this chapter is to briefly outline the relevance and impact of each document currently on the Selwyn District.

The hierarchy of national, regional and district documentation is provided in this section to demonstrate the main influences on Selwyn District Council being able to provide strategically for its land and people.

NATIONAL

NATIONAL ENVIRONMENTAL STANDARDS

National Environmental Standards (NES) provide the opportunity for central government to promote the adoption of consistent standards at the regional and district levels.

NESs can address a range of environmental management issues including (section 43(1)):

- Use of Land
- Subdivision
- Use of the costal marine area
- Use of beds of lakes and rivers
- Water
- Discharges to air, land and water
- Noise
- Monitoring

NESs may contain (section 43(2)):

- Qualitative or quantitative standards
- Discharge standards
- Methods for classifying a resource
- Methods, processes or technologies to implement standards
- Exemptions from standards

Current operative NESs are:

- Electricity transmission
- Air Quality standards
- Sources of human drinking water standard
- Telecommunications facilities
- Assessing and managing contaminants in soil to protect human health

Under development are:

- Ecological flows and water levels
- Plantation forestry

NATIONAL POLICY STATEMENTS

National Policy Statements enable central government to establish objectives and policies on resource management matters of national significance. Such statements guide subsequent decision-making under the Resource Management Act at the national, regional and district levels. NPSs can therefore significantly affect resource management practices in New Zealand.

NPSs have broad scope. They can state objectives and policies for matters of national significance relevant to achieving the purpose of the Resource Management Act.

Current NPSs are:

- NZ coastal policy statement (led by the Department of Conservation)
- Electricity transmission
- Renewable electricity generation
- Freshwater management

Under development are:

- Scope of an NPS on Urban Design
- Biodiversity

The national policy documents are important to note within this section as they provide the context in which the Districts strategies are produced.

RESOURCE MANAGEMENT ACT 1991

The purpose of the Resource Management Act (RMA) is to:

"promote the sustainable management of natural and physical resources. Sustainable management is defined in the RMA as managing the use, development and protection of natural and physical resources in a way, or at a rate which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while:

- Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs for future generations
- Safeguarding the life-supporting capacity of air, water, soil and ecosystems;
- Avoiding remedying or mitigating any adverse

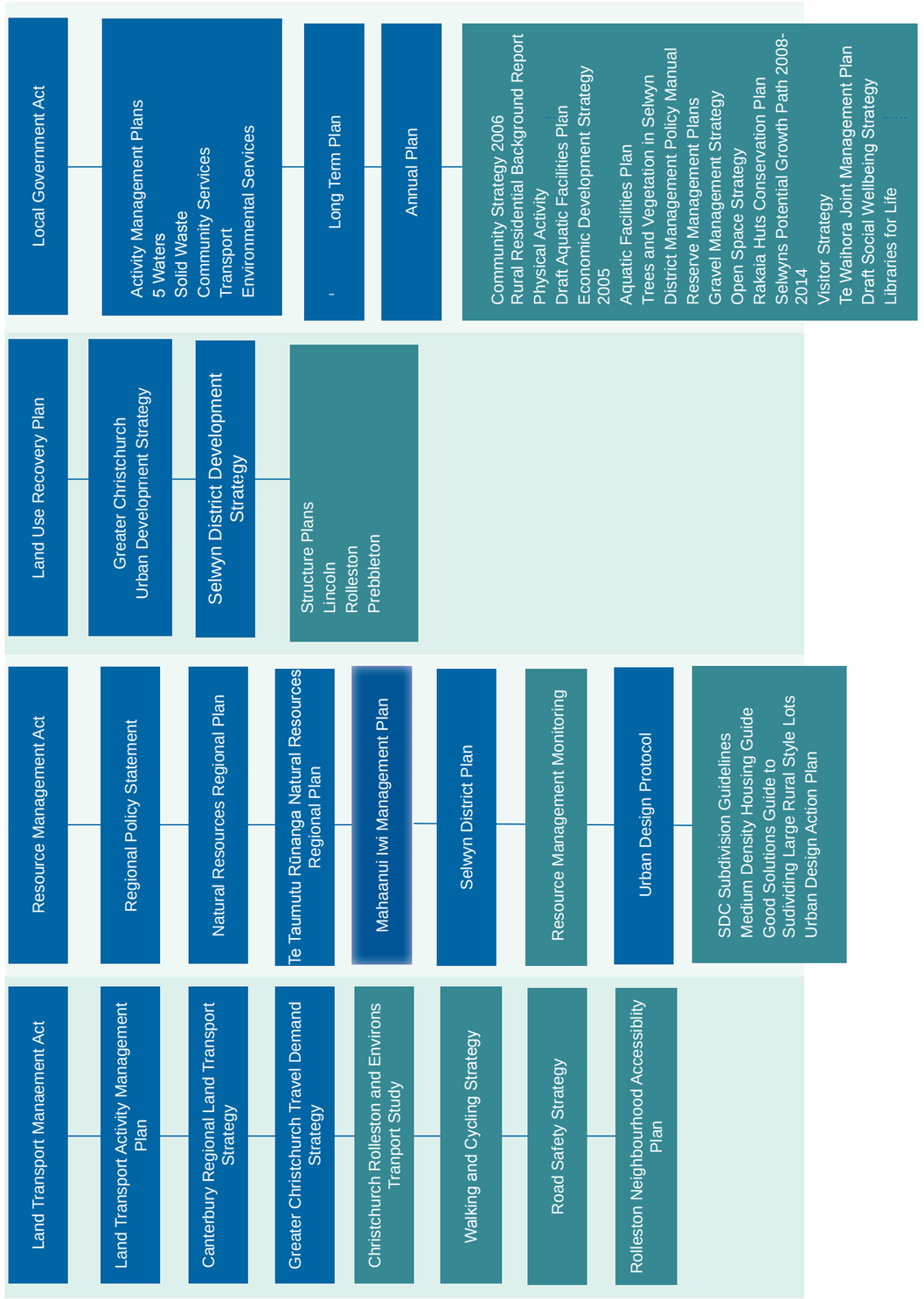


Figure 43: The District's strategic documentation and their relationships

effects of activities on the environment". (Part 2, Section 5)

- Recognise and provide for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga
- Have particular regard to kaitiakitanga
- take into account the principles of the Treaty of Waitangi

In achieving the purpose of the RMA, any persons exercising functions or powers under the Act must recognise 'Matters of National Importance' and 'Other Matters'.

Of particular relevance to Selwyn District is the framework for resource management documentation for New Zealand set out in the RMA including the development of Regional Policy Statements, Regional and District Plans and the assessment of environmental effects required for developments and changes in the district.

RESOURCE MANAGEMENT REFORM 2013

Reform of the Resource Management Act 1991 is being undertaken in two phases by the Government.

- 1st phase was completed in 2009 and included streamlining and simplifying the RMA, sharpening how councils process resource consents, and setting up a system that allows nationally significant consent applications to be dealt with more quickly
- 2nd phase is looking to further improve the RMA, and also resource management more broadly, including how fresh water is managed and used and an independent review of sections 6 and 7 of the RMA 1991.

As part of phase two of the resource management reforms, on 28 February 2013 the Government released a discussion document setting out its proposals on improving New Zealand's resource management system.

Consultation on the discussion document closed on 2 April 2013. More than 13,000 submissions were received on the discussion document. The Government has considered the submissions made on the discussion document and has recommended the following changes be made the RMA. They are:

- A requirement for councils to work together to develop a single, electronically accessible plan covering all the rules in their area.
- A new national planning template that sets out the structure and key content all councils must follow in the development of their resource management plans.
- Two new voluntary planning pathways – a collaborative process for freshwater-related matters, and a new joint planning process for all other issues.
- Improvements to bring about earlier and more effective iwi/hapū participation in planning.
- A revision of the principles of the Act, through the updating of sections 6 & 7
- Improvements to central government tools for providing national direction on resource management issues and decision-making. This includes legislative changes to enable the Freshwater National Policy Statement to support a broader programme of freshwater reform.
- A more balanced approach to planning and consent decision-making. This includes providing access to lower cost, faster objections and appeals.
- New consenting rules and processes to improve timeframes for simpler consents and to provide incentives to make decisions early in the planning process rather than leave them to litigation down the track on individual consents.
- Improved consideration of natural hazards in resource management decisions.
- A clearer performance monitoring framework for councils.
- A stronger Ministerial intervention tool for use as a last resort. This will ensure legislative requirements and national direction are reflected in council plans.
- The removal of duplication between the RMA and the Hazardous Substances and New Organisms (HSNO) Act.

RESOURCE MANAGEMENT REFORM BILL 2012

The Resource Management Reform Bill 2012 was introduced to Parliament on 5 December 2012 and is being considered by Select Committee.

The 2012 Bill includes:

- a streamlined process for Auckland's first unitary plan
- a six-month time limit for processing consents for medium-sized projects
- easier direct referral to the Environment Court for major regional projects
- stronger requirements for councils to base their planning decisions on robust and thorough cost-benefit analysis.

The submission period for the Bill closed on Thursday 28 February 2013. The bill was read for a second time in Parliament on 26 June 2013.

LOCAL GOVERNMENT ACT 2002

The purpose of the Local Government (LGA) is to:

"provide for democratic and effective local government that recognises the diversity of New Zealand communities; and, to that end, this Act—

- states the purpose of local government; and
- provides a framework and powers for local authorities to decide which activities they undertake and the manner in which they will undertake them; and
- promotes the accountability of local authorities to their communities; and
- provides for local authorities to play a broad role in meeting the current and future needs of their communities for good-quality local infrastructure, local public services, and performance of regulatory functions

The LGA requires local authorities to prepare a Long Term Plan (LTP) that provides a long-term focus for the decisions and activities of the local authority. The LTP provides the key mechanism for consulting with the community on the local authority's plans for the future and how it intends to fund its plans.

The LTP includes the community outcomes the local authority is seeking to achieve for its community through the provision of infrastructure, local services and regulatory functions.

Section 4 of the LGA includes a statement which establishes that the Crown, not local government, is the Treaty partner but that in recognition of the Crown's obligations it has imposed certain responsibilities on local government. These are largely Article Three responsibilities and involve measures to enhance Maori participation in decision-making processes.

The relevant provisions are:

- section 14 which sets out a number of principles including one principle that explicitly requires local authorities to provide opportunities for Māori to contribute to councils' decision-making processes
- section 77 which requires councils to take into account the relationship of Māori with their ancestral land, water, sites, waihi tapu, valued flora and fauna and other taonga when making significant decisions relating to land and bodies of water.
- section 81 which requires councils to facilitate contributions to decision-making processes by Māori.
- schedule 10 requires councils to set out in their long term plans what they intend to do to foster Māori capacity to contribute to decision-making processes and include in their annual reports a statement on what has been done to foster that capacity.

REGIONAL

GREATER CHRISTCHURCH RECOVERY STRATEGY

The Canterbury Earthquake Recovery Authority (CERA) is the agency leading and coordinating the ongoing recovery effort following the Canterbury earthquakes.

CERA has prepared a recovery strategy - Recovery Strategy for Greater Christchurch Mahere Haumanutanga o Waitaha. The strategy sets the overall direction for the rebuild and recovery of greater Christchurch. Greater Christchurch includes the whole of the Selwyn District.

The Recovery Strategy requires provisions necessary for the recovery to be included in specific planning documents and instruments (sections 15 and 26 of the CER Act). This means that the documents including:

- Regional policy statement, regional plans, and city and district plans (Resource Management Act).
- Annual plans, long-term plans, and triennial agreements (Local Government Act)

Any RMA documents must not be interpreted or applied in a way that is inconsistent with the Recovery Strategy (sections 15 and 26 (2) of the CER Act.

The Strategy vision is that:
"Greater Christchurch recovers and progresses as a place to be proud of - an attractive and vibrant place to live, work, visit and invest, mo tatou, a, mo ka uri a muri ake nei - for us and our children after us".

Supporting the Vision are a series of goals that relate to the six components of recovery:

- Leadership and integration - includes research and information, communication, funding and finance, and the governance, coordination and project management of recovery activities.
- Economic recovery - includes investment, businesses, labour and insurance liaison.
- Social recovery - includes education, health and community support services.
- Cultural recovery - includes the arts, culture, heritage buildings and places, and sports and recreation.
- Built environment - includes land use, housing, buildings, transport and infrastructure.
- Natural environment - includes air quality, biodiversity, the coast, land, groundwater and surface water quality, and natural hazards.

The Strategy also inserts provisions necessary for the recovery into specific planning documents and instruments.

LAND USE RECOVERY PLAN

Following consultation on the Preliminary Draft and Draft Land Use Recovery Plan, the Minister for Canterbury Earthquake Recovery, has prepared the Land Use Recovery Plan (LURP).

The LURP looks at the impacts of the earthquakes on residential and business land use, and provides a pathway for the transition from rebuild to longer term planning. The LURP sets a framework and provides delivery mechanisms necessary to address:

- the location an mix of residential and business land development
- priority areas for residential and business land development
- ways to provide for a range of housing types, including social and affordable housing
- ways to support recovery and rebuilding of central city, suburban and town centres
- ways to support delivery of infrastructure and transport networks to serve the priority areas.

The LURP identifies what needs to be done in the short and medium term to co-ordinate land use decision-making, identify who is responsible and the timelines for carrying out the actions identified in the plan.

It includes amendments to Environment Canterbury's Regional Policy Statement, the Christchurch City District Plan, the Selwyn District Plan and the Waimakariri District Plan.

In addition, the LURP identifies 50 specific actions that will enable recovery in the Greater Christchurch area. A number of these are specific to Selwyn and will be implemented in the timeframes identified in the LURP.

REGIONAL POLICY STATEMENT

The Canterbury Regional Policy Statement (CRPS) gives an overview of the significant resource management issues facing the region, including issues of resource management significance to Ngāi Tahu. The purpose of the CRPS is to set out objectives, policies and methods to resolve those resource management issues and to achieve the integrated management of the natural and physical resources of Canterbury.

Canterbury Plains
Source: Environment Canterbury RPS website

Issues addressed by the CRPS are as follows:

- Issues of resource management significance to Ngāi Tahu
- Resource management processes for local authorities
- Provision for Ngāi Tahu and their relationship with resources
- Land-use and infrastructure
- Development of Greater Christchurch
- Fresh water
- The coastal environment
- Ecosystems and indigenous biodiversity
- Beds of rivers and lakes and their riparian zones
- Natural hazards
- Landscape
- Historic heritage
- Air quality
- Soils
- Energy
- Contamined land
- Hazardous substances
- Waste minimisation and management

The CRPS became operative on 15 January 2013.

NATURAL RESOURCES REGIONAL PLAN

The Natural Resources Regional Plan (NRRP) sets out how Environment Canterbury will sustainably manage the region's natural and physical resources including:

- Water quality and quantity (surface water and groundwater)
- Discharges to water, air and land
- Impacts on watercourses and their margins
- Risk avoidance of natural hazards
- Soil conservation

The water quality and quantity sections of the NRRP are considered as the key areas of relevance to the District.

The NRRP identifies that the region's water resources are used for a wide range of recreational activities, as a source of food, for irrigation, industry, community and stock water supplies.

Managing the competition for water between these different needs and demands is the primary focus of the water quantity chapter. The chapter covers five major water management topics:

- The strategic protection of some highly valued natural water bodies
- Setting flow and/or level regimes for the management of rivers, lakes and groundwater to protect instream/intrinsic values
- The management of vegetation change to maintain surface flows and instream values
- The allocation of water above any set flow or level regime to out-of stream/consumptive uses,

and its efficient use
- Water storage, augmentation and/or transfer.

The water quality chapter establishes water quality outcomes for different types of surface and groundwater bodies. Water bodies within a type are generally subject to similar pressures from human activities and respond in a similar way, exhibit similar types of resource management issues, and for these reasons a common set of management provisions are applied.

The objectives, policies and methods are organised into the following three sections:

- The management of the water quality of Canterbury's rivers and lakes
- The management of the water quality of Canterbury's confined, semi-confined and unconfined aquifers
- Safeguarding the quality of community drinking water sources

The chapter identifies that water quality issues and aquatic ecosystems can be affected by:

- Point source discharges of contaminants
- Non-point source discharges of contaminants
- Changes to the flow regime of a river as a result of damming or diverting the flow, discharging water or taking water for out of stream uses.
- The removal of riparian vegetation, for example, as an increase in the range of daily water temperatures and increased runoff of fine sediment.

Surface waters are a valuable natural resource for the District. Allocation limits are currently not set for all waterways but will progressively be set through a series of variations to the NRRP. Those waterways with limits already set include the Waimakariri, Selwyn and Rakaia Rivers. The Rakaia allocation regime was established via the Rakaia Water Conservation Order 1988.

Groundwater is managed through allocation zones. The region has been divided into 30 groundwater allocation zones. The Selwyn District is within the Rakaia-Selwyn and Selwyn-Waimakariri groundwater allocation zones. Both of these zones are considered to be fully allocated and are 'red zones'. The NRRP does make provision to grant consent for further community water supply takes. However, water may be a restriction for growth and development of different land uses.

It is noted that the regional council is releasing a new regional plan in August 2012 – the Regional Land and Water Plan that is mainly focused on:
- Competing demands for water throughout Canterbury.
- The need to rethink management of existing and new activities.
- Personal responsibility for the adverse effects of abstraction, land uses and discharges.
- The overall decline in ecological/environmental

Christchurch
Source: Greater Christchurch Urban Development Strategy

natural capital.
- Management of natural hazards.

PROPOSED CANTERBURY LAND AND WATER PLAN

The purpose of the Canterbury Land and Water Regional Plan (LWRP) is to identify the resource management outcomes or goals for managing land and water resources in Canterbury to achieve the purpose of the (RMA). It identifies the policies and rules needed to achieve the objectives, and provides direction in terms of the processing of resource consent applications.

This proposed LWRP considers the following:
- describes Canterbury's land and water resources, interrelated issues that need to be managed, the key partnerships, relationships and processes already underway, including the Canterbury
Water Management Strategy (CWMS).
- describes how the plan works and contains the definitions used in the Plan.
- region-wide objectives, policies, and rules.
- sub-regional catchment specific policies and rules.
- Maps referred to in the rules.

The proposed LWRP was publicly notified on 11 August 2012. The hearing has now closed for this plan.

CANTERBURY WATER MANAGEMENT STRATEGY

The regional council have the primary responsibility for managing water through the regional plan that sets standards and practices which limit the effects on water quality and to provide the community with certainty regarding what is acceptable.

The regional council have been working with the community to develop the Canterbury Water Management Strategy (CWMS) to address the issues around water in Canterbury. The CWMS is considered as a turning point for water management in the region.

Development of the CWMS started eight years ago through the Mayoral Forum, a steering group, Environment Canterbury and the region's 10 territorial authorities.

These issues addressed include the declining health of both surface water and groundwater, an ongoing loss of cultural value and recreational opportunities, as well as the declining availability and reliability of water for agricultural and energy users.

The vision is "to gain the greatest cultural, economic, environmental, recreational and social benefits from our water resources within a sustainable framework both now and for future generations."

The strategy sets out targets for water management in Canterbury for the next 30 years. Targets have been developed for: ecosystem health/biodiversity, natural character of braided rivers, Kaitiakitanga, drinking water, recreational and amenity opportunities, water-use efficiency, Irrigated land area, energy security and efficiency, regional and national economies and environmental limit.
Ten zone committees are responsible for developing water management programmes that give effect to these targets for their respective areas. There is also a Regional Committee that considers regional issues of environmental restoration and repair; land use impacts on water quality; as well as water storage, distribution and efficiency options. Recommendations from the committees are presented to the appropriate regional and territorial councils to guide relevant water management policies.

The district falls within the Selwyn-Waihora and Waimakariri Zone Committees. Both committees have prepared a Zone Implementation Programme (ZIP). The programmes include strategies, tactics and activities to give effect to the CWMS's principles and targets.

MAHAANUI IWI MANAGAMENT PLAN 2013

The Mahaaanui Iwi Management Plan (IMP) provides a statement of Ngāi Tahu objectives, issues and policies for natural resource and environmental management in the takiwa. The IMP is a toll for tangata whenua to:

- Express kaitiakitanga, by effectively and proactively applying Ngāi Tahu values and policies to natural resource and environmental management; and
- Protect taonga and the relationship of tangata whenua to these, by ensuring that

the management of land and water resurces achieves meaningful cultural and environmental outcomes.

The IMP has been primarily developed to assist Papatipu Rūnanga to participate effectively in natural resource and environmental management in the takiwa, an important objective of the IMP is to enable external agencies to understand issues of significance to tangata whenua, and how those issues can be resolved in a manner consistent with cultural values and interests, including:

- Understanding what is important to tangata whenua and why;
- Meeting statutory obligations under the NTCSA 1998, RMA and other legislation, including recognising and providing for the relationship of Ngāi Tahu to ancestral land, water. wahi tapu and wahi taonga as a matter of national importance;
- Determining the natura and extenxt of consultation that may be required particular activities or places of importance; and
- Affording appropriate weight to Ngāi Tahu values in decision making processes.

GREATER CHRISTCHURCH URBAN DEVELOMENT STRATEGY

The Greater Christchurch Urban Development Dtrategy (UDS) was adopted by Christchurch City Council, Waimakariri District Council, Selwyn District Council, Environment Canterbury and NZTA in 2007 to set out a vision for how to manage growth within the greater Christchurch area through to 2041. The UDS gathered considerable information about:

- demographic trends,
- transport patterns,
- infrastructure requirements,
- community facilities and
- construction costs and timelines.

It also engaged widely with the communities of greater Christchurch.

After the Canterbury earthquakes, while the principles of the UDS provided sensible and desirable aspirations for greater Christchurch, the LURP became necessary to provide short to medium term direction for the recovery. Although the LURP does not make provision for long term growth and development beyond 2028, land use decisions made about the built environment to support recovery will have lasting impcats beyond the recovery period, and so these decisions need to also consider the period post 2028. The LURP has a focus on the short to medium term needs of recovery, however its implementation is likely to produce outcomes that align with the longer term vision contained in the UDS, as both reflect the views of greater Christchurch communities generally.

DISTRICT

The strategic documentation at a district level is driven by the Resource Management Act 1991 and the Local Government Act 2002.

This section begins with the strategy documents that fall beneath the Resource Management Act which include the District Plan and supporting documents which inform decisions for the district plan including:

- Rural Residential Background Report
- Selwyn District Council Subdivision Guidelines
- Urban Design Action Plan
- Medium Density Housing Guide
- Good solutions guide to subdividing large rural style lots
- Rakaia Huts Conservation Plan

Structure Plans have also been developed which will drive changes to the District Plan (Figure 18). The structure plans in the Selwyn District include:

- Lincoln
- Rolleston
- Prebbleton

The Local Government Act drives Activity Management Plans at a District Level. The Selwyn Activity Management Plans include:

- 5 Waters
- Solid Waste
- Community Services
- Land Transport

Other strategies have been developed to give effect to the Resource Management Act and the Local Government Act. The strategies relate to the Resource Management Act as the Council sustainably manage their resources.

DISTRICT PLAN

The Selwyn District Plan separates the 'townships' and the 'rural' areas into two volumes of the District Plan.

The townships volume includes 23 of the largest settlements of Selwyn and the District Plan terms these as the 'townships'. The four largest townships are identified as Leeston, Lincoln, Rolleston and Darfield. The Living and Business zones with a number of sub-zones are the two principal zones within the townships volume.

The Living zones have an average allotment size rather than a minimum section size. This results in smaller lots being balanced with larger allotments. As a result, each settlement has a housing density that is unique. For example, in Kirwee the Living 1 zone has an average allotment size of 800m^2 to allow for onsite sewage disposal also recognising early rural beginnings. Whereas, Darfield's Living 1 zone has an average allotment size of 650m^2, recognising a more urbanised beginning.
The rural zones also have different housing densities to retain the character of each rural area. The rural zones are divided by geographical area into the following zones, High Country, Malvern Hills, Inner Plains, Outer Plains and Port Hills.

The District Plan also has a section that outlines for each township a preferred growth option, providing a guide as to how each township is to grow. However this needs to be reviewed as it has led to some problematic outcomes at Darfield, Kirwee, Leeston and Dunsandel.

DISTRICT PLAN CHANGES

There have been a number of changes to the District Plan; not all are yet operative. Table 1 outlines the plan change numbers, the location of the plan change, what the change was and at what stage it is in the statutory process. Note plan changes 1 and 14 are not yet notified as of February 2014.

PLAN CHANGE N0.	SUBJECT	WHAT	STAGE IN PROCESS
Variation 26	Hazardous substances	• Amended the issues, objectives, policies, rules and appendices in the District Plan relating to the control of hazardous substances • Clarified that the provisions apply to the storage rather than the use of hazardous substances and amended the wording of the Plan to address inconsistencies between the Rural and Township Volumes • Correcting and clarifying references to the relevant sections of the Resource Management Act (1991), the Hazardous Substances and New Organisms (HSNO) Act (1996), and introducing recognition of the HSNO codes of practice in assessing resource consent applications • Established the classes of hazardous substances used in the Plan appendices and made the plan consistent with changes to the RMA and HSNO	Operative 13 Aug 2008
Variation 28	Industrial and business activities	• Inserted provisions that distinguish between "rural-based" and "other" industrial activities • Provided a hierarchy of control for small to medium-large scale rural-based industrial activities and a listed activity status for all other industrial activities • Incorporated additional rules to manage the adverse effects associated with the scale of other business activities in the rural area	Operative 13 Aug 2008
Variation 29	Non-rural activities	• Sought to manage the effects of industrial activities in all zones and other types of business and "non-rural" activities in the Rural zone • Introduced a new 'Rural Activity' definition • Inserted new rules to manage the effects associated with the size and scale of all activities, other than rural or residential activities	Operative 27 May 2009
Variation 30	Financial contributions	• Amendments to the objectives and policies of the District Plan to clarify the Council's decision to require development contributions for reserves, network infrastructure and community infrastructure under the LGA and introduced a new Environmental Compensation policy • Deleted all rules and references to rules in the District Plan that required financial contributions for reserves, network infrastructure and community infrastructure • Retained provisions relating to the taking of esplanade strips / esplanade reserves and amended provisions relating to environmental damage	Operative 08 Mar 2010

PLAN CHANGE N0.	SUBJECT	WHAT	STAGE IN PROCESS
PC 2	L1A6 zone, Prebbleton	• Rezoned 18ha of Rural Inner Plains land on the western boundary of Prebbleton to a Living 1A6 • Included an ODP to guide the development of the site • Facilitates the subdivision and development of approximately 200hh, including low (1,000m^2 minimum), medium (600m^2 to 900m^2) and high (400m^2 to 600m^2 average) density	Operative 06 Dec 2010
PC 3	LWM zone Preston Downs West Melton	• Rezoned 85ha of Living 1, Living 1 (Deferred) and Living 2 (Deferred) land on the western boundary of West Melton to a Living WM zone • Included an ODP to guide the development of the site • Facilitates the subdivision and development of approximately 292hh, including medium (500m^2 to 3,000m^2) and low (3,000m^2 to 5,000m^2) density	Operative 19 Feb 2011
PC 4	L1 zone Liffey Springs Lincoln	• Rezoned 28ha of Rural Outer Plains land on the eastern boundary of Lincoln to a Living 1 zone • Included an ODP to guide the development of the site • Facilitates the subdivision and development of approximately 234hh, at a minimum average lot size of 650m^2 density	Operative 8 Mar 2010
PC 5	I-Zone Rolleston	• Rezoned 53ha of Rural Inner Plains land on the western boundary of Rolleston to a Business 2 zone to add to the existing I-Zone Industrial Park • Included an ODP to guide the development of the site • Facilitates the subdivision and/or development of industrial land within the I-Zone Industrial Park	Operative 10 June 2009
PC 6	Lower Port Hills and Summit Road Protection Area	• Applied a Visual Amenity Landscape sub-zone to the lowest slopes of the Port Hills to help protect the Outstanding Natural Landscape from potential negative impacts of future development and other land use activities. • Incorporated development controls that apply to buildings, utility structures, utility buildings, signage and subdivision in the Visual Amenity Landscape	Operative 06 Dec 2010
PC 7	Growth of Township, urban development and rezoning of land in Lincoln and Rolleston	• Rezoned approximately 809ha of land in Lincoln and Rolleston for residential development (via the new Living Z zone) • Rezoned approximately 13ha of land in Lincoln for future industrial development • Inserted new District-wide and Township specific provisions within the subdivision section of the District Plan to implement the Subdivision Design Guide and the Medium Density Design Guide to support the consolidation of townships while achieving good urban design outcomes • Included ODP's with related criteria to support the implementation of the key aspects of both Structure Plans • Introduced staging requirements for residential development to meet Phase 1 (2007-2020) and Phase 2 (2021-2041) of PC1	Operative 05 Mar 2012
PC 8	L3 zone Holmes block Rolleston	• Rezoned 92ha of Rural Outer Plains land on the south-western boundary of Rolleston to a Living 3 zone • Included an ODP to guide the development of the site • Facilitates the subdivision and development of approximately 97hh, at an average density of 2hh/ha with lots between 0.4ha to 4ha in size	Operative 05 Mar 2012
PC 9	L3 zone Skellerup Block Rolleston	• Rezoned 72ha of Rural Outer Plains land on the south-western boundary of Rolleston to a Living 3 zone • Included an ODP to guide the development of the site • Facilitates the subdivision and development of approximately 51hh, at an average density of 2hh/ha with lots between 0.4ha to 4ha in size	Operative 05 Mar 2012
PC 10	Izone B2A zone Rolleston	• Rezoned an additional 49ha of Rural Inner Plains land on the western boundary of Rolleston to a Business 2 zone to add to the existing I-Zone Industrial Park • Included an ODP to guide the development of the site • Facilitates the subdivision and/or development of industrial land within the I-Zone Industrial Park	Operative 1 Sept 2010
PC 11	L1B zone Rolleston	• Inserted provisions to manage the progressive development of the Living 1B zone, where a deferral on development uplifted in January 2010 • Included an ODP to guide the development of the site • Rezoned the Living 1B land between Brookside Road and Lowes Road to Living 1, with an average section size of 750m^2 • Introduced a Living 1C zone (low density special character area) to Fairhurst Place and Waterbridge Way	Operative 8 Jul 2010

Table 1: District Plan Changes

PLAN CHANGE N0.	SUBJECT	WHAT	STAGE IN PROCESS
PC 12	Integrated transport	• Amended the objectives, policies, rules and appendices of the District Plan to support the integrated management of the transport and road network • Supported safe and efficient road network, including future networks • Incorporated performance standards to manage parking and prescribed a clear road hierarchy in the schedules of the Plan	22 Apr 2013
PC 13	Miscellaneous changes	• Made a number of separate and miscellaneous minor changes to the District Plan • Aimed to make both volumes consistent with each other and to provide greater certainty when assessing the need for resource consent	27 Oct 2009
PC 17	Rural Residential Activities		Withdrawn
PC 18	Protected trees	• Applied a tree evaluation process to the consideration of currently-protected and newly-nominated trees • Introduced new objectives and policies in the Culture and Heritage Section of the Plan and rules to protect registered trees • Inserted new definitions for “Tree” and “Protected tree” • Update the Schedule of Protected Trees and the related Planning Maps	16 Mar 2011
PC 21	Prebbleton Growth Management		Incorporated into Land Use Recovery Plan
PC 23	Chch Airport noise contour	• Replaced the existing 50 dBA and 55 dBA airport noise contours • Revised the location of the 50 dBA and 55 dBA airport noise contours	23 Apr 2011
PC 24	L2A and B2 zone Silverstream Estate, Darfield	• Rezoned 113ha of Living 2A (Deferred) and Living 2A land on the south-eastern boundary of Darfield to a Living 1, Living 2A and Business 2 zone • Included an ODP to guide the development of the site • Facilitates the subdivision and/or development of 13.3ha of Business 2 zoned land, 45.3ha of Living 1 zoned land at a minimum average lot size of 650m^2 and 45.8ha of Living 2A zoned land at a minimum average lot size of 1ha	24 Jun 2013

PLAN CHANGE N0.	SUBJECT	WHAT	STAGE IN PROCESS
PC 25	Porters Ski Area	• Inserted new planning maps, objectives, policies, rules and related provisions into the District Plan to facilitate ski field activities and an on mountain village • Rezoned 616ha of existing Rural (High Country) land to a Ski-area sub-zone • Removed the Outstanding Natural Landscape sub-zone • Facilitates the expansion of the Ski-Area into Crystal Valley, ski facilities, hotel and visitor accommodation buildings, chalets and dwellings, a village centre and an on mountain café/day lodge	19 Oct 2012
PC 26	Rakaia Huts Wahi Taonga Management Areas and Sites	• Implemented methods to implement the Rakaia Huts Conservation Management Plan • Amended the earthworks, Living zone buildings and Activities rules and subdivision performance standards as they apply to Sites of Significance to Tāngata Whenua (Wāhi Taonga Management Areas) • Inserted new definitions for “Historic heritage”, “Landscaping”, “Maintenance of gardens, lawns or public space”, “Silent File Area”, Wāhi Taonga Site and “Wāhi Taonga Management Area”	24 Apr 2012
PC 28	Denwood Trustees	• Rezoning 57.7 hectares of land from Rural Outer Plans to Living 3 in Lincoln - Rural Residential	Hearing date to be confirmed
PC 29	Design of B1 zones	• Amended the Business 1 zone provisions to achieve more sustainable urban design outcomes for town and commercial centres • Inserted objectives, policies and rules to assist in creating vibrant, functional and attractive Business 1 zones • Rules manage active shop frontages, public spaces, street scenes, landscaping, signage, car parking and the integration of towns centres and commercial nodes with surrounding environments	25 Jul 2012
PC30	West Melton B1 zone	• Rezoned an additional 8,330m^2 of Living 1 land on the western boundary of Rolleston to a Business 1 zone • Inserted rules to manage the scale of commercial development (3,000m^2 max), noise, buildings, dwellings, landscaping, access arrangements and subdivision • Facilitates the subdivision and/or development of the West Melton Business 1 zone	12 Dec 2012

PLAN CHANGE N0.	SUBJECT	WHAT	STAGE IN PROCESS
PC 31	Darfield Integration Plan	• Seeks to implement the Council adopted Darfield Integration Plan into the District Plan. This process includes the six Outline Development Plans in the District Plan which has been developed for each of the deferred developed areas.	On hold for Selwyn 2031 / Area Plan Development

PC 32	Rural Residential Activities	• PC 32 introduces a number of amendments to the Selwyn District Plan as it relates to the Greater Christchurch Urban Development Strategy (UDS) area of Selwyn District. These reflect the majority of provisions originally contained within PC 17 to strategically manage rural residential activities to build upon the rural residential provisions recently formalised through the Living 3 Zone.
		• PC 32 seeks to ensure the District Plan:
		  • 'gives effect' to the proposed Chapter 6 of the CPRS
		  • facilitates the development of rural residential living environments that achieve environmentally sustainable outcomes, avoid, remedy of mitigate adverse effects and meet the needs and expectations of future land owners living within these communities
			On hold for LURP

PC 36	Rural Residential Activities	• Rezoning 12.4 hectares of land from Rural Inner Plains to Living 3, to enable the future subdivision and development of approximately 17 sections that range in size from between 0.5 to 1 ha.	Submissions Closed
PC 41	Rural Residential Activities	• Rezoning 9.2 hectares of land from Rural Inner Plains to Living 3, to enable the future subdivision and development of approximately 14 sections that range in size from between 0.5 to 1ha.	Submissions Closed
PC 42	Temporary Activities	• PC 41 proposes to change the Selwyn District Plan (Rural and Township Maps and Plan Text) to incorporate additional provisions to appropriately manage the effects of Temporary Activities.	Submissions Closed
CERA s27 Notice	Workers Temp Accommodation	• Provide certainty for accommodation providers, councils and communities by inserting an RMA regulatory environment that facilitates suitable accommodation for workers supporting the rebuild of greater Christchurch • Inserted objectives, policies and rules that apply to temporary uses and temporary buildings for workers' accommodation and will override other district plan provisions for this activity	26 Sept 2012

Table 21 District Plan Changes

RURAL RESIDENTIAL BACKGROUND REPORT 2010

This report was prepared to inform a plan change (Plan Change 17 and 32) to the District Plan to incorporate rural residential provisions on the periphery of townships within the UDS area of the District. The report is driven by:

- Population growth.
- Demand for 4 ha. Rural allotments to protect the integrity and distinctiveness of rural and urban environments within the District.
- The need for a sustainable approach to rural residential development on the periphery of townships

SELWYN DISTRICT SUBDIVISION GUIDE 2009

The purpose of this guide is to guide developers, designers and landowners on the outcomes the Selwyn District Council is seeking for its new subdivisions in and around the townships of the district. It is an aid to interpreting the provisions (objectives, policies, rules and assessment matters) of the Selwyn District Plan.

The guideline provides a check sheet for developers and a guide for street design, stormwater management, layout considerations and elements such as road edging, paving, street names and identity.

The guide allows design flexibility for developers when formulating their plan change applications.

SELWYN DISTRICT COUNCIL URBAN DESIGN ACTION PLAN

On 22 September 2008, the Council became a signatory to the Urban Design Protocol. One of the commitments is to produce an Action Plan showing what actions will be taken to improve the urban areas of Selwyn.

This document sets out actions that are expected of Council and would fulfil commitments under the protocol. The District Development Strategy is noted in the document as an action to improve the urban areas of Selwyn District.

MEDIUM DENSITY HOUSING DESIGN GUIDE 2009

As the Selwyn District grows, the demand for choices in housing and lifestyles also grows. The Medium Density Housing Design Guide provides ways of better using land to provide small houses which are attractive, private and have good outdoor areas.

The guide states that 'Medium density housing in Selwyn will be designed to fit into its area as part of a comprehensive development'. The guide was developed with the District Plan and will be implemented through the District Plan.

COMMERCIAL DESIGN GUIDE 2011

The purpose of the guide is to illustrate how commercial development can contribute to an attractive, lively and viable town. It shows how shops and other commercial development should fit in with their surroundings and form part of the urban fabric of each township.

GOOD SOLUTIONS GUIDE SUBDIVIDING LARGE RURAL STYLE LOTS 2009

Selwyn District's growth has resulted in some of the rural residential areas surrounding existing townships being zoned for subdivision into 'urban sized lots'.

At the moment these rural residential zones provide a 'buffer' between the rural land and the townships. The guide provides good solutions for landowners wanting to transition their land from rural residential to urban.

RAKAIA HUTS CONSERVATION PLAN 2009

The Rakaia Huts Conservation Plan provides guidance on how this nationally significant archaeological site can be best managed.

Rakaia Huts Lagoon

The Plan identifies a number of regulatory and non-regulatory methods for managing the site as there is risk for damage to the nationally significant site through land development and ground excavations.

STRUCTURE PLANS

The three structure plans for the Selwyn District have been a response to the outcomes/ recommendations of the Urban Development Strategy and have been developed for Rolleston, Lincoln and Prebbleton.

The structure plans will be given effect to through the development of Outline Development Plans which will be then implemented through plan changes to the District Plan.

ROLLESTON STRUCTURE PLAN 2009

Rolleston, the largest town in the Selwyn District, is experiencing rapid growth with the population expected to increase from 7,000 to 20,000 in 35 years. By the year 2075 the population could be as large as 50,000.

In order to address this forecasted rapid growth the following major developments are proposed: a refocused town centre, new recreational precinct, new 100 ha regional/district park and a mix of housing options.

The Structure Plan has key themes which are

- Urban design principles, incorporating the Medium Density Housing Guide;
- sustainability; and
- ease of implementation.

Three place-specific sustainability principles have been considered to 'future proof' the Structure Plan.

These are:

- Self-Sufficient.
- Drought-Ready.
- Improved Community Wellbeing which includes a number of urban design principles including:
  - 'Carbon neutral' town (e.g. requires management of energy and transport demand and supply, using public space to store carbon).
  - Ecological corridors and increased biodiversity.
  - Water race enhancements.
  - Provision of ecological services in public space.
  - Location and type of community services.
  - Increased connectivity throughout the town and to the wider district.

LINCOLN STRUCTURE PLAN 2008

The Lincoln Structure Plan outlines the population projections for Lincoln. The 2001 Census indicated that there were 660 households in Lincoln. This is projected to increase to 3,125 households (excluding rural and residential development) by 2041.

Lincoln has a large portion of land owned by Crown Research Institutes and educational facilities, which accounts for approximately 500+ hectares of the township. This ownership pattern is a constraint on development.

Lincoln also has a high water table and areas prone to flooding in the lower flood plains associated with the Halswell River. Streams that flow through Lincoln include the Liffey/L2 River which is to be retained for ecological and recreational purposes to maintain water quality. Lincoln is part of the catchment to Te Waihora/Lake Ellesmere which is subject to a National Water Conservation (Lake Ellesmere) Order 1990 for outstanding wildlife habitat.

The Lincoln Structure Plan has an urban design framework that sets out the key assumptions, priorities, and goals of development for Lincoln. The purpose of this framework is to provide a rationale and focus for development. The use of a framework will ensure that a comprehensive view of Lincoln's potential is taken. The framework is based on the following considerations:

- An Integrated Approach
- Urban Design Principles
- Local Priorities
- Key Development Issues

PREBBLETON STRUCTURE PLAN 2010

Prebbleton is situated at the eastern edge of the Selwyn District, close to the boundary with Christchurch (less than 1 km) and 6 kilometres from the Christchurch city centre.

Older housing is located to the west and south of the commercial centre of Prebbleton, while newer subdivisions are situated on the north west and southern areas of the township.

Meadow Mushrooms factory is sited in the centre of Prebbleton. Just to the north of the township is a cold store. These and other small businesses provide about 400 jobs in and around Prebbleton.

Of the 1262 Prebbleton residents who were employed in 2008, around 20% worked in Prebbleton, with the remainder commuting to Christchurch or elsewhere to work. Figure 19 shows the Prebbleton population and household projection.

The Structure Plan states that the number of people living in Prebbleton will increase at the average rate of 2.6% per annum during the 33 years from 2008 until 2041. The rate of increase will be greater in the shorter term with the population predicted to double in the next 15 years. By 2026 the number of households is expected to be more than 2.5 times the 2008 level.

Source: Selwyn District Council

LOCAL GOVERNMENT ACT 2002

The Local Government Act (LGA) requires that each District Council to meet the needs for its local community for good quality local infrastructure, local public services and regulatory functions in a way that is cost-effective for households and businesses

The LGA requires local authorities to take into account the views of its communities and operate in a business like manner and take a sustainable development approach. The LGA has an emphasis on planning and balancing the needs of current and future communities and promotes prudent financial management. To meet the requirements of the Act and in accordance with practice, the Selwyn District Council prepares and maintains the following series of documents and plans

LONG TERM PLAN 2012-2022

The Selwyn Community Plan - Long Term Plan (LTP) is based on meeting the needs of the community as expressed through overall community outcomes:

- A safe place to live, work and play.
- A clean environment.
- A rural district.
- A healthy community.
- An educated community.
- A prosperous community.
- An accessible district.
- A community which values its culture and heritage.

The LTP draws on the Council's sustainability principles that aim to 'keep us real' by ensuring that Council decisions and operations will, among other things:

- Consider the overall social, economic, environmental and cultural wellbeing of the community.
- Manage population growth in the District in a way that benefits both new and existing residents.
- Provide a balanced approach to meeting costs.
- This broad, long-term, perspective commits the Council to seeking sustainable options and not necessarily the lowest cost ones.

The LTP includes a financial strategy that sets out how the Council intends to fund its plans for the period 2012-2022. The aim of the strategy is to balance the level of services it provides with the sources of funding in a way that is fair to current and future communities

The key priorities established for the period 2012-2022 includes:

- managing population growth
- recovery from the Canterbury earthquakes
- improving community facilities
- improving transportation links
- expanding wasteway capacity to cate for growth
- promoting economic development

5 WATERS ACTIVITY MANAGEMENT PLAN 2012

Selwyn District has high quality groundwater supplies, well-managed water races and sewerage schemes and the land drainage and stormwater systems prevent thousands of hectares from being inundated.

This plan brings together the long term management approach for the provision and maintenance of water, wastewater, water race and land drainage services and stormwater. The 5 waters Activity Management Plan adopted 7 sustainability principles:

- Make decision based on the four aspects of wellbeing.
- Observe the Precautionary Principle to provide contingency and or adaptability of our community.
- Seek "intra-generational and "inter-generational equity.
- Internalise environmental and social costs.
- Foster community welfare.
- Act to halt the decline of our indigenous biodiversity, and maintain restore remaining ecosystems.
- Consider and promote the sustainability of our neighbouring communities and work with governing bodies for sustainable outcomes.

The Council has adopted a sustainable approach to asset management planning through the application of Seven Principles of Sustainability through a Council report in February 2008.

In 2006 the community made it clear that their top four levels of service were to:

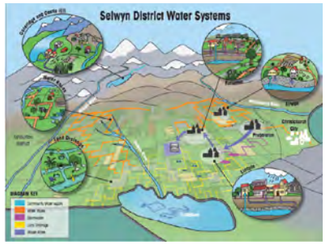
- Protect their health and property
- Be cost-effective
- Meet reasonable needs
- Be fairly priced.

In managing the 5Waters, it is necessary to provide services at a level which is sustainable in the long-term and with a high level of customer satisfaction.

WASTE MANAGEMENT AND MINIMISATION

With the District's population growing at 3.7% per annum, the council has had to be forward-thinking in its waste management policies and practices. To that end, the Council has a:

- Waste Management and Minimisation Plan.
- Weekly household waste collection service for organic and residual (landfill-bound) waste.
- Fortnightly household waste collection service for recyclable.
- Resource recovery park with a recycling depot, composting facilities and a transfer station.



In 2009/10, approximately 90 % of the District's households were serviced by the kerbside refuse and recycling collection. The Council provides the service to residential, rural residential households and some rural households. Off-route properties are also able to use the service by dropping off refuse and recyclables along the collection route in council-approved containers. The Council's kerbside collection service also covers organic waste. However, the service is optional and only available in the larger townships. For residents in high country villages the Council provides a refuse collection service at specific drop-off points.

The old style landfills of holes in the ground were replaced by a high-tech resource recovery park in Burnham School Road, near Rolleston. The facility features a recyclables drop-off centre, a HotRot composting unit which takes food and garden waste and a transfer depot where waste that cannot be composted or recycled is placed in containers that are then driven to the Kate Valley landfill.

The Vision in relation to waste management and minimisation, as outlined as a key community outcomes in the Long Term Plan, is:

"*To keep air, land, water and general environment in a healthy condition*"

In 2011 Council prepared a Waste Management and Minimisation Plan, as required by the Waste Minimisation Act 2008. The plan provides Council with a blueprint for achieving its waste management and minimisation aims in a structured

way for the next 20 years.

As part of preparing the Waste Management and Minimisation Plan, a waste assessment was undertaken. The emerging issues and demands that arose from this assessment were fed into the plan. Key findings included:

- Average waste quantity of 260 kg/person/ year for the district is significantly lower than the national average of 580 kg/person/year.
- Currently 35% of waste is diverted from landfill.
- Council may need the ability to cater for increased recycling and organic kerbside collections.
- Waste minimisation promotion and education is key to reducing waste to landfill.
- Inadequate allowance in road and subdivisional design for kerbside waste collections and on-property storage developments and recycling options for remote communities as emerging issues.

COMMUNITY FACILITIES ACTIVITY MANAGEMENT PLAN 2011

The Community Facilities Activity Management Plan includes management principles for a range of Council services aimed at providing recreation, leisure and community facilities as well as supporting the accommodation needs of other Council services. This activity also covers services that contribute to the amenity of both rural and urban environments. Overall, these services are aimed at making Selwyn District a great place in which to live, work and play.
The primary goal for community services is:

"To provide community, cultural and recreational facilities that enhance the health and wellbeing of the district's communities and improve the overall quality of life for residents and to effectively manage Council's property portfolio".
Primary factors that influence demand for community service assets and services are:

- Population growth.
- Population demographic changes.
- Increasing urbanisation of rural townships.
- Changes in recreation and leisure trends.
- Technology changes.
- Changing demand from tourism and visitor activities.
- Provision of services by other agencies.
- Increasing business activity.
- Desire to preserve and enhance natural environment.
- Impact on sport and recreation facilities from loss of facilities in Christchurch.

COMMUNITY DEVELOPMENT/ECONOMIC DEVELOPMENTACTIVITYMANAGEMENTPLAN 2012-2022

The Plan identifies that as the District's population has increased and will continue to increase, the demands on and the range of the Council's community services has increased and will need to grow to meet community demands.

The role of the Council in the community and economic development areas is to champion individual, group and community well-being by building and strengthening social and community services and activities and by encouraging economic growth and prosperity in the District, so that people and communities thrive and prosper.

The Plan covers the following services:

- Community development, facilitating activities and services for young people, promoting a safe community, advocating for appropriate health and social services for the District, encouraging volunteering in community activities, providing community information and facilitating or providing local community events
- Recreation, arts and physical activity programme facilitation, provision and promotion
- Economic Development and Tourism
- Libraries
- Communications
- Community research and social policy

SELWYN DISTRICT COMMUNITY DEVELOPMENT STRATEGY 2006

The Selwyn District Community Development Strategy has been prepared to implement the Selwyn Long Term Council Community Plan 2009.

The Vision of the strategy is to ensure that Selwyn is a great place to live, work and play. Implementation of the vision will happen with balanced growth, innovation and care for the people in Selwyn.

The Mission of the Strategy is:

- Developing existing local skills and attracting new talent to ensure Selwyn is an attractive place to live, work and play.
- Working locally and regionally to ensure that Selwyn's people are provided with good access to community support.
- Facilitating the collective empowerment of existing and new organisations to promote genuine participation and involvement.
- Utilising the resultant transfer of skills to promote a vibrant and creative community.

The Strategy outlines how to manage a community that is in transition due to growth.

In the next 20 years, the fastest growing sector of the community will be people over 65 years.

The Selwyn community can be grouped in three categories:

- Farming families on larger blocks of land [approx 20% of our community].
- People living on 'small blocks' [approx 30% of our community], who, research indicates, have high incomes and often work in Christchurch.
- People living in Selwyn townships [approx 50% of residents] including residents of Rolleston, Lincoln and Prebbleton, the fastest growing townships.

Other key points:

- People moving from urban Christchurch to Selwyn have different expectations and needs from the existing Selwyn community.
- More than half of the main salary earners in Selwyn work in Christchurch.
- The speed of growth in Selwyn means that institutions, often based in Christchurch, (education, health and voluntary organisations) may not have matched resources to these new areas of population.
- Selwyn District covers 6,492 sq kilometres, which means that there are still challenges created by the distance between communities. For example, travel for activities (e.g. sport) is expensive. It also means that small groups may be struggling with an issue and may be unaware that their neighbours in the next township are also finding the same issue.

The Strategy outlines that when progress is made the resident and community survey will show:

- An increasing proportion of residents enjoy living in Selwyn.
- An increasing proportion of residents who feel valued and supported by their community.
- Selwyn's people are fitter and healthier for their age than the national average.
- That Selwyn's people continue to feel safe.
- An increase in the number of people who are involved in 'community affairs'.
- Voluntary organisations report an increase in volunteer numbers.
- Selwyn volunteers have a sense of belonging and feel valued.

ECONOMIC

The following plans and strategies contribute to the economic wellbeing of the District.

ECONOMIC DEVELOPMENT STRATEGY 2005

The Economic Development Strategy outlines actions for the following economic drivers:

- Primary Production, Value Chain Management - Primary production is the key economic driver in Selwyn. Work that increases the sustainable, market-focused production from the district will ensure that the communities grow in wealth.
- Innovation and Technology - Over 1,000 of the 7,500 full-time employees in Selwyn work in the universities and Crown Research Institutes based at Lincoln. As well as being significant employers in this district, these institutions assist local businesses to transform our production to meet the needs of international markets.
- Tourism and Visitor Attraction - Tourism is one of New Zealand's fastest growing industries. The main tourism opportunities for Selwyn are encouraging overseas visitors and Christchurch residents to enjoy Selwyn's attractions rather than just passing through.
- Encourage District and Business Development - As Selwyn moves from a traditional rural economy careful thought needs to be given to developing a business sector that complements district growth.
- Work to capture the opportunities from Izone at Rolleston. The Izone location near Christchurch has good access to the hinterland, ports and airport.

SELWYN VISITOR STRATEGY DRAFT 2010

Tourism is seen as a major development opportunity in Selwyn District. One of the aims of the strategy is to encourage collaboration across the tourism sector and maximise the potential for visitor growth and the economic benefits that accrue.

The geographical diversity creates areas that do not fit one segment of tourism. The eastern area of the District has a much closer affiliation with Christchurch, and the western area has a more rugged alpine environment. Being close to Christchurch the main places with opportunities for overnight visitors is Arthur's Pass, Lake Coleridge and Springfield. Day trips are also generated from the Christchurch market. Many people travel through Selwyn rather than seeing it as a destination.

Porters ski area
Selwyn District NZ

ENVIRONMENTAL

The following plans and strategies contribute to the environmental wellbeing of the District.

TE WAIHORA JOINT MANAGEMENT PLAN 2005

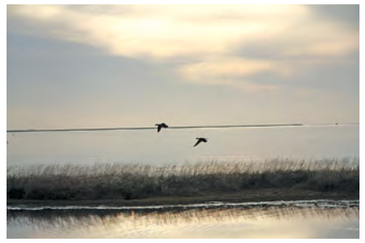
Te Waihora/Lake Ellesmere is an area of cultural, natural, historic, recreational and commercial importance to many people. To Ngāi Tahu, Te Waihora represents a major source of mahinga kai and an important source of mana. The loss of this precious tribal taonga was part of the grievance outlined in the Ngāi Tahu claim to the Waitangi Tribunal. The Tribunal strongly recommended the return of Te Waihora to Ngāi Tahu, and commented that this return needed to be accompanied by significant and committed Crown action to restore Te Waihora as a tribal food resource (Chapter 17, Waitangi Tribunal 1991).

The Te Waihora Joint Management Plan contains long-term objectives and detailed policies and methods for effective integrated management of the Joint Management Plan Area and the natural and historic resources within the area. The plan represents a coming together of the rangatiratanga of Ngāi Tahu and the Kawanatanga of the Crown for the enhancement and protection of this taonga.

The Selwyn District Council maintains an extensive network of drains and streams in the area. Selwyn District Council administers Lakeside Domain (Recreation Reserve) on the western shore of Te Waihora. This is a popular recreation area, especially as a base for water sports and for camping and picnicking. Approximately 40 rivers, streams and artificial drains feed Te Waihora from the surrounding catchment. Major waterways are the Selwyn River/Waikirikiri, flowing directly from the foothills, the Irwell River/Waiwhio, LII/Ararira, Halswell River/Huritini and Harts Creek/Waitatari, all originating within 19 km of Te Waihora and the Kaituna River from Banks Peninsula/Horomaka.

TREES AND VEGETATION IN SELWYN DISTRICT MANAGEMENT POLICY MANUAL

Development in the District is increasing the amount of urban plantings in new subdivisions which means that there needs to be provisions for managing and maintaining trees to ensure their continuing good health and safe condition from time of planting throughout their lives. Trees within the Selwyn District provide a sense of vertical scale and protective enclosure for the majority of townships on the flat Canterbury plains. Trees are dynamic features of the landscape which are often associated with people, the document sets out how to plan, develop and manage the tree resource in a publicly responsible, sustainable and cost effective way.



Te Waihora/Lake Ellesmere

SOCIAL

The following plans and strategies contribute to the social wellbeing of the District.

SELWYN DISTRICT SOCIAL WELLBEING STRATEGY 2009-2015

The purpose of the strategy is to:

- Respond to key social issues facing Selwyn District.
- To identify actions and opportunities that the Council, Government agencies, non-profit and community organisations with the aim to improve the social wellbeing.

The Strategy focuses on agencies working collaboratively to achieve the following outcomes:

- Positive Ageing.
- Strong Families and Children.
- Healthy Confident Young People.
- Strong Safe Communities.

SELWYN DISTRICT PHYSICAL ACTIVITY PLAN 2007

The vision of the Physical Activity Plan is that 'Selwyn is a great place to live, work and play. This will happen as all people in Selwyn participate regularly in physical recreation, and choose active transport options.

The District is rapidly growing and there is an increasing predominance of older adults. The majority of people live within 30 minutes drive of Christchurch. There are more isolated towns such as Springfield where Christchurch is around an hour's drive away. Many communities are isolated from regional delivery of services with poor public transport. Hubs exist in townships, around schools, medical centres, sports clubs and small-scale community facilities and open space.

The implications for the Physical Activity Plan are:

- Maximising the use of existing resources (e.g. schools, medical practices, clubs and groups).
- Take opportunities to work with people whose lives are in transition.
- Pull regional programmes into Selwyn and push existing opportunities to townships with lower levels of services.
- Prepare Long Term Strategies for physical infrastructure (open space, community facilities like swimming pools, cycle/walk ways and bridleways), incorporation of good urban design and crime prevention through environmental design.

SELWYN LIBRARY STRATEGIC PLAN 2008 TO 2018

The Council has a libraries strategy which sets out the general direction and emphasis for library services in the District for the next 10 years. It focuses on improving services at the District's existing libraries. One of the challenges faced is a rapid increase in demand for library services and school holiday programmes to cater for the growing population of the District.

AQUATIC FACILITIES PLAN 2008

The plan is an action plan for the next 10 years to enable residents and visitors to have reasonable access to aquatic facilities that are affordable for the District and have appropriate features and scale plus provide a good 'fit' with other aquatic facilities in Christchurch City and Ashburton. The majority of the 31 existing swimming pools in the District have limited heating and usage is restricted to 4 to 5 months per year.

Southbridge Swimming Pool
Source: Selwyn District Council

There is currently a lack of indoor aquatic facilities. The closest covered swimming pool is Pioneer Recreation and Sport Centre in Somerfield, Christchurch. Some of the school pools are closing due to increasing Board of Trustee liability.

The preferred strategy is the development of two indoor aquatic facilities in the District, one at Rolleston and one at Lincoln. The facilities would be representative of the demographics for example at Rolleston a family focused facility is planned and at Lincoln the focus is on fitness and sport for the larger adult population.

TRANSPORT PLANNING

OVERVIEW

The Transportation networks in the District have specific plans and strategies. This section outlines the transportation legislation, plans and strategies.

In recent years, extensive transportation development work undertaken to recognise regional growth issues has resulted in the creation of several documents relating to transportation.

The NZ Transport Agency (NZTA) provides a link between government policy making and the operation of the transport sector. The activities and responsibilities of the NZTA are set-out in the Land Transport Management Act 2003 and the Land Transport Act 1998. Their role includes working with local councils in planning their land transport needs. The NZTA also provides funding to undertake transport related projects and activities.

The following documents are based on national outcomes and have been implemented at a regional level through the Regional Land Transport Strategy and Canterbury Regional Implementation Plan. Selwyn District Council has responded to these initiatives with its own strategic transportation documents.

Land Transport Act 1998

This Act governs road user behaviour, the licensing of drivers and technical aspects of land transport. The Act promotes safe road user behaviour and vehicle safety, and regulates commercial transport services and the limits on driving hours.

Land Transport Management Act 2003

The purpose of this Act is to contribute to the aim of achieving an integrated, safe, responsive, and sustainable land transport system. To contribute to this purpose, the Act aims to:

a. Provide an integrated approach to land transport funding and management; and
b. Improve social and environmental responsibility in land transport funding, planning, and management; and
c. Provide the Agency with a broad land transport focus; and
d. Improve long-term planning and investment in land transport, including planning and investment in coastal shipping and rail; and
e. Ensure that land transport funding is allocated in an efficient and effective manner; and
f. Improve the flexibility of land transport funding by providing for alternative funding mechanisms.

Government Policy Statement Land Transport Funding 2009/10-2018/18 (GPS) as Amended November 2010

The GPS outlines the government's objectives and funding priorities for the land transport sector for a 10 year period with detail for the first 3 to 6 years. The GPS outlines how the government expects to achieve short to medium term impacts through:

- Setting funding ranges for activity classes; and
- Providing guidance about the factors the NZ Transport Agency (NZTA) should take into account when planning and evaluating strategies, programmes and packages and making funding decisions on specific activities.

The GPS sets the funding ranges that the NZTA can allocate to particular activity classes, such as maintenance of local roads and state highways, construction of local roads and state highways, passenger transport services and infrastructure, and road policing. The GPS provides a national picture.

Lincoln
Source: Selwyn District Council

The GPS was amended in 2009 to align investment in the land transport sector more closely with the new government's priorities for national economic growth and increased productivity. The main changes were investing in high quality infrastructure projects that support efficient movement of freight and people and a particular focus on the state highway network, which is critical to this function. There is a strong emphasis on value for money, and the economic efficiency of projects.

The GPS was further amended in November 2010 to better align it with the Safer Journeys Strategy. The Safer Journeys Strategy was developed to reduce the number of people killed and seriously injured on New Zealand roads. The main priorities for targeting action are:

- Young drivers.
- Alcohol and drug impaired drivers.
- Motorcycling.
- Roads and roadsides.
- Safer speeds.

National Land Transport Programme (NLTP)

The National Land Transport Programme is developed by the NZTA every three years to give effect to the GPS on land transport funding. The NLTP sets out the activities that address the transport priorities of the GPS using the funding provided in the GPS for different activities. For a project to be included in the NLTP they must be included in the Regional Land Transport Programme and proposed for funding from the National Land Transport Fund.

New Zealand Transport Strategy (2008)

This Strategy sets a national plan for the transport sector through to 2040. The objectives of the Strategy are:

- Ensuring environmental sustainability.
- Assisting economic development.
- Assisting safety and personal security.
- Improving access and mobility.
- Protecting and promoting public health.

Roads of National Significance (RoNS) Expectations

State highway 1 (SH1) is an important link in the Christchurch Southern Corridor and has been identified by the Government as a road of national significance within the Christchurch Motorways Projects (Figure 45). This acknowledges the role the SH1 can play in supporting economic growth, reducing congestion and improving safety in the region and sets a priority for the development of the projects that will implement those improvements.

Figure 45: Christchurch Motorway RoNS
Source: The NZ Transport Agency

Canterbury Regional Land Transport Strategy (RLTS)

The RLTS sets the strategic direction for land transport within the Canterbury region over a 30 year period (2012-2042) to contribute to central government's vision. The RLTS b identifies the region's transport needs and the roles of all land transport modes; and how planning, engineering, education, encouragement and enforcement methods are to be utilised to provide for the future land transport system of Canterbury. The RLTS balances economic, social and environmental considerations associated with the provision of transport for the sustainable movement of people and freight.

The RLTS vision is "Canterbury has an accessible, affordable, integrated, safe, resilient and sustainable transport system". This is supported by objectives to:

- Ensure a resilient environmentally sustainable and integrated transport system.
- Increase transport safety for all users.
- Protect and promote public health.
- Assist economic development.
- Improve levels of accessibility for all.

The RLTS identifies two critical strategic roading routes that run through Selwyn; State Highway 1 from the South and State Highway 73 from the West.

Greater Christchurch Urban Development Strategy (UDS)

The UDS seeks to consolidate land-use development and emphasises the importance of integrated land use and transport solutions, particularly around activity centres within Greater Christchurch including areas in Selwyn District. This focus includes the aim of providing more self contained settlements to reduce the need for commuter travel between Selwyn and Christchurch.

Greater Christchurch Travel Demand Management Strategy and Action Plan (GC TDMS)

A key approach for transport, adopted by UDS partners in May 2007, was for a GC TDMS to be developed. The GC TDMS sets a travel demand management (TDM) policy direction, with targets and actions to achieve a more sustainable transport system in the UDS area.

The strategy's vision is that by 2026, people will choose the most efficient and sustainable way to travel and move freight.
TDM contributes to the following outcomes:

- Greater community wellbeing through improved public health and road safety;
- Increased use of public transport, cycling, and walking modes of travel;
- Reduced transport-related greenhouse emissions and non-renewable energy use;
- Community connectedness;
- Improved access to key destinations via the transport network;
- Reduced expenditure by private and commercial vehicle owners on fuel and vehicle maintenance; and
- Improved cost-effectiveness, capacity and efficiency of the transport network.

The GC TDMS sets four goals:

- A reduction in the current number of motor vehicle trips made, particularly by private car;
- An increase in proportion of trips made using sustainable travel options;
- A reduction in the distance travelled for regular and local trips; and
- A change in the time of travel from peak periods to off-peak periods.

The GC TDMS notes that the Selwyn District Council already has in place a number of initiatives, including school travel plans and walking school bus programmes.

Christchurch Rolleston and Environs Transportation Study

A number of studies have examined urban growth requirements and access from Selwyn District to Christchurch. The Christchurch, Rolleston and Environs Transportation Study (CRETS) commenced in early 2002 and was completed in late 2007. This study included the Selwyn District towns of: Rolleston, Lincoln, Springston, West Melton, Tai Tapu, Templeton and Prebbleton.
The CRETS report identifies the following key transportation issues:

- Land use development in Rolleston, Lincoln, Prebbleton, south-west Christchurch and around Christchurch International Airport.
- Increasing traffic flows from beyond and within the study area.
- Road network capacity constraints especially through Sockburn and along parts of the State Highway network.
- Road safety concerns and access issues onto arterial roads, particularly at Christchurch International Airport and Rolleston.
- Social and environmental issues through townships on busy arterial roads, especially Templeton, Lincoln and Prebbleton.
- The lack of clear roading hierarchy, including supporting district planning controls.
- Accessibility for cyclists and pedestrians.
- Consideration of public transport options.

The report made a number of recommendations of which some have been or are being undertaken.

Selwyn District Council Transportation Activity Management Plan 2012

This plan sets out the Council's long-term management approach for the provision and maintenance of transportation throughout the District. The plan identifies factors that may require a change in the transport networks or the way they are managed including:

- An increase in population - resulting in an increase in traffic on the roads which will increase congestion and reduce the level of service provided by the road.
- A change in the way a road is used - new sub-divisions, or the development of new industry in one part of the district, may change how a road will be used. This may mean roads will need to be upgraded to accommodate the changing use.
- A change in the level of service demanded by the road users - over time, communities tend to expect improving service from their assets.
- A change in the strategic management of the assets - the Council's policies and management strategies are in continual evolution to keep pace with the changing needs of the community, statutory requirements, funding organisations and central government. The trend to more lifestyle blocks in the country-side has also changed the expectation of the travelling public in rural areas. These rural roads are no longer used only by local farmers, but now have a much wider range of people and vehicle types driving on them.

Selwyn District Council Walking and Cycling Strategy

Selwyn District Council is working towards a more sustainable transport system. The walking and cycling strategy is a way in which this can be achieved. When implementing the Walking and Cycling Action Plan, the Council will give specific consideration to:

- Improving the environment for children and young people travelling to and from schools and sports facilities.
- Meeting needs of older people, people with disabilities and young families who use footpaths in the district's urban areas.
- Educating the community about the benefits of walking and cycling.
- Working towards creating an environment for walking and cycling in the District.

SUMMARY

- The District Plan guidance for each township about where development should occur and how to deal with the issues townships are facing needs to be reviewed.
- Each township has different ‘average allotment’ densities, a reflection of the uniqueness of each township and its historic origins. Plan changes were historically developer led and are a reaction to the needs that the community/ developers identify.
- Plan Changes 7 was a plan change where Selwyn District took a pro-active role in the rapid growth of the District.
- Population growth is demanding alternative lifestyle opportunities. Selwyn District Council is responding to demands of the community but still has the desire to have a sustainable approach to development.
- Due to the growth demand in Selwyn more and more subdivisions are being developed. Selwyn District Council through its guidelines are aiming to direct quality developments in the District
- Selwyn District is committed to the Urban Design Protocol and implementing the protocol through the Action Plan.
- Rapid growth is creating demand for a range of lifestyle options, including higher density developments within townships.
- There is the potential that the current rural residential land could be developed into higher density housing.
- Rakaia Huts is a rich archaeological site. Further developments in this area need to ensure that they take into account the Conservation Plan.
- Selwyn has a growing population; growth is particularly focused on the existing townships of: Leeston, Prebbleton, Lincoln, Rolleston and West Melton.
- The Structure Plan has a focus on sustainability, urban design principles and on Rolleston’s connectivity within the township and to the wider district.
- Urban design principles are a key focus of the Lincoln Structure Plan.
- Lincoln has a strong ecological focus due to the waterways that pass through the township.
- An issue identified in the structure plan for the movement network is the traffic related impacts of inter-district traffic moving through Lincoln.
- Prebbleton is a township influenced by Christchurch City and is experiencing growth. It is the township on the edge of the District and many residents commute to Christchurch or elsewhere for employment.
- Sustainability is a key factor when making decisions for the District’s future.
- The community outcomes are general to many places. However, the outcome ‘a rural district and an accessible district’ is more specific to Selwyn.
- The sustainability principles in the 5 Waters Activity Management Plan are mentioned in the Long Term Council Community Plan, relevant principles have been used for the Rolleston Structure Plan. There is potential and it is important to continue the sustainability focus through into the District Development Strategy.
- Growth in population and/or household numbers will need to be a consideration in developing a sustainable waste service.
- Waste minimisation will be an increasing focus.
- Community facilities and programmes are an integral part of the District as they provide necessary services for recreation and leisure and are a focal point for townships and networks.
- Increasing demand and pressure on community facilities and services as community expectations rise.
- The types of community facilities and programmes being provided in the future will depend on the composition of households moving to Selwyn and what their demands are for in terms of social and leisure trends.
- Strong relationship with Christchurch for employment and social interactions.
- Selwyn District has a large rural area, which provides an identity of the Selwyn District. Townships within Selwyn have a rural feel.
- Townships have a large distance between them making them more isolated and stand alone than inter-connected.
- Growth in population is a key theme and management of a ‘changing’ community.
- Increased reliance on volunteering within the District.
- Primary production is the key economic driver in the District with other employment types emerging such as the innovation and technology sector.
- There is a desire to encourage visitors or tourists to stop in Selwyn as a tourism destination rather than have people passing through.
- Selwyn is not generally viewed as a tourism destination in its own right. There are opportunities to create a package of products to attract visitors.
- The relationship of Ngāi Tahu to Te Waihora is an integral part of land use for the District. Land use activities that impact water quality in Selwyn District will have an impact on the water quality and mahinga kai resources in Te Waihora.
- Trees are an important part of the landscape. Need to ensure that existing vegetation is looked after and that new vegetation is easily maintained and does not result in increased costs to the Council.
- Social wellbeing is an important part of the Selwyn District as it also contributes to the Community Development Strategy’s vision “Selwyn is a great place to live, work and play - with balanced growth, innovation and care for its people”.
- Key parts of social wellbeing that the District Council is working on is an ageing population, development of strong families and children, confident young people and fostering strong safe communities.
- Although there are existing facilities for physical activities; the distance for some recreation users to access facilities is an issue.
- Libraries are a key focal point for communities.
- Increased demand for library services due to population growth.
- Increased costs of running libraries to embrace new technologies
- As population increases and a demand for aquatic facilities have been created, Selwyn District Council is taking a proactive approach to planning for these facilities in the District..
- Planned improvements for Selwyn District include: Corridor capacity/functionality, intersection development, travel demand measures and progress on the bus, walking and cycling networks.
- Vital national routes run through Selwyn District linking Christchurch to the South (SH1) and West (SH73),
- Increasing traffic volumes is creating safety issues and adverse environmental impacts from local and through traffic.
- “The area contains growing urban settlements (e.g. Rolleston and Templeton) as well as a range of villages that create transport demands between these urban areas and Christchurch. Rolleston is identified in the UDS as a significant growth area over the next 35 years.”
- The East Selwyn small settlements and towns of Tai Tapu, Lincoln and Prebbleton create transport demands between these urban areas and Christchurch.
- A number of actions were identified as being undertaken that would improve travel demand in Selwyn, these include:
- Structure Plans for Lincoln, Rolleston and Prebbleton which plan to make it easier to walk, cycle or take public transport and access services locally.
- A park and ride site to be explored within Selwyn District.
- Neighbourhood Accessibility Plans (NAPS) being delivered or planned for Rolleston and Prebbleton.

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APPENDIX 1

List of recorded archaeological sites in the Selwyn District

NZAA SITE NUMBER		SITE DESCRIPTION	ENVIRONMENTAL ZONE
M35	1	Oven/artefacts	Plains
M35	2	Oven/artefacts	Plains
M35	3	Oven/s	Plains
M35	4	Oven/artefacts	Plains
M35	146	Oven/artefacts	Plains
M35	147	Oven/artefacts	Plains
M35	148	Oven/artefacts	Plains
M35	149	Oven/artefacts	Plains
M35	150	Oven/artefacts	Plains
M35	151	Oven/artefacts	Plains
M35	152	Ovens/midden	Plains
M35	153	Oven/artefacts	Plains
M36	1	Ovens/midden	Coastal
M36	8	Cave	Coastal
M36	9	Burials	Plains
M36	15	Oven/s	Plains
M36	16	Artefact findspot	Plains
M36	17	Pit/s	Coastal
M36	23	Pits/Pa	Coastal
M36	31	Cave	Coastal
M36	34	Oven/s	Plains
M36	39	Artefact findspot	Coastal
M36	56	Oven/s	Coastal
M36	59	Pit/s	Coastal
M36	70	Oven/s	Coastal
M36	71	Artefact findspot	Coastal
M36	72	Midden	Coastal
M36	73	Oven/s	Coastal
M36	74	Occupation	Coastal

NZAA SITE NUMBER		SITE DESCRIPTION	ENVIRONMENTAL ZONE
M36	87	Pit/s	Plains
M36	95	Oven/s	Coastal
M36	158	Railway	Coastal
M36	164	Historic House	Plains
M36	203	Railway	Plains
M37	1	Adze Cache	Coastal
M37	2	Pit/s	Coastal
M37	3	Oven/s	Coastal
M37	4	Pa	Coastal
M37	5	Pa	Coastal
M37	14	Oven/s	Coastal
M37	16	Ovens/midden	Coastal
M37	17	Oven/s	Coastal
M37	18	Ovens/midden	Coastal
M37	19	Occupation	Coastal
M37	20	Burial ground	Coastal
M37	21	Burials	Coastal
M37	49	Artefact findspot	Coastal
M37	50	Oven/s	Coastal
M37	111	Gravel pits	Coastal
M37	149	Flax mat	Coastal
L35	1	Ovens/pits	Plains
L35	2	Ditches in swamp	Plains
L35	3	Pit/s	Plains
L35	4	Oven/s	Plains
L35	5	Oven/s	Hillcountry
L35	6	Oven/s	Hillcountry

NZAA SITE NUMBER		SITE DESCRIPTION	ENVIRONMENTAL ZONE
L35	7	Ditch/bank fence	Hillcountry
L35	8	Ditch/bank fence	Hillcountry
L35	9	Ditch/bank	Hillcountry
L35	10	Oven/s	Plains
L35	11	Pa/pits	Plains
L35	12	Oven/s	Plains
L35	13	Oven/s	Plains
L35	14	Oven/s	Hillcountry
L35	15	Oven/s	Hillcountry
L35	16	Oven/s	Hillcountry
L35	17	Oven/s	Plains
L35	18	Oven/s	Plains
L35	19	Oven/s	Hillcountry
L35	20	Oven/s	Hillcountry
L35	21	Oven/s	Hillcountry
L35	22	Water ditches	Plains
L35	25	Artefact findspot	Plains
L35	26	Mounds?	Plains
L35	29	WW2 Magazine area	Plains
L36	1	Oven/s	Plains
L36	3	Oven/s	Plains
L36	4	Oven/s	Plains
L36	5	Oven/s	Plains
L36	6	Oven/s	Plains
L36	7	Oven/s	Plains
L36	8	Oven/s	Plains
L37	1	Occupation	Coastal
L37	2	Occupation	Coastal

NZAA SITE NUMBER		SITE DESCRIPTION	ENVIRONMENTAL ZONE
L37	3	Oven/s	Coastal
L37	4	Moa Hunter Site/Occupation	Coastal
L37	5	Artefact findspot	Coastal
K33	21	Road zig zag	High Country
K33	24	Milestone	High Country
K34	1	Rockshelter	High Country
K34	2	Cave/Rock art	High Country
K34	3	Rockshelter	High Country
K34	4	Cave/Rock art	High Country
K34	5	Rock art	High Country
K34	6	Rock art	High Country
K34	7	Cave/Rock art	High Country
K34	8	Cache	High Country
K34	9	Rockshelter	High Country
K34	10	Old stockyard	High Country
K34	11	Historic graffiti	High Country
K34	12	Rockshelter	High Country
K34	13	Modified rockshelter	High Country
K34	14	Rockshelter	High Country
K34	15	Staging post	High Country
K34	16	Ruin/dump	High Country
K34	17	Remains of building	High Country
K34	18	Stone hut	High Country
K35	2	Oven/s	Plains

Appendix 2
Land Use,Zoning and Existing Preferred Growth Options

TOWNSHIPS	LAND USE						
	LIVING ZONE/ RESIDENTIAL	AVERAGE ALLOTMENT SIZE	BUSINESS ZONES	SURROUNDED BY RURAL ZONE	PREFERRED GROWTH OPTION AS PER DISTRICT PLAN	ISSUES FOR GROWTH	OTHER
Arthurs Pass	L1	800m² to allow for onsite effluent disposal		High Country	Between SH & Bealey River	Land contamination & instability	Forestry Exclusion zone
Castle Hill	L1A	500m², and a min allotment size of 350m²	B1A	High Country	Developed as a 'whole village'. Use existing available L and B zoned land first. Encourage growth west of SH73.	Constrained by SH73	
Lake Coleridge	L1	800m²		High Country	More than one site or area	Encourage new residential and business development to have a landscape plan for tree planting, walkways, reserve areas similar to existing village.	Do not want reverse sensitivity issues with the Midland Railway Line
Springfield	L1	Size needed for on-site effluent disposal. Not less than 800m²		Outer Plains and Malvern Hills	Encourage growth north of SH73, on south side of railway and west of existing L Zone	Russell Range has special landscape values which confines growth north of SH73.	No business development on SH or near railway due to conflict of traffic movements
Sheffield	L1 and L1A	Size needed for on-site effluent disposal. Not less than 800m²		Outer Plains	North and south of existing Living Zone. But not onto Malvern Hills.	Development on one side of the SH. No development to the North east or west of Living Zone. Natural hazard at the terraced area south of Vogel St.	
Waddington	L1	Size needed for on-site effluent disposal. Not less than 800m²	N	Outer Plains	North of existing living zone	Discourage growth east of Living zone. Development one side of SH73 only.	
Darfield	L1, L2, L2A1, L2A Def, LX Def	L1- 650m², L2-5000m², L2 def-5000m², L2A Def-1ha, L2A1- 2 ha, LXA def-650m²	B1, B2	Outer Plains	Discourage properties directly accessing SH73 & 77. Consolidate business zones.	Water supply. Sewerage. Stormwater Disposal. Reverse Sensitivity to railway (noise and dust).	Surrounded by gravel reserves
Kirwee	L1, L2A, L2,	L1-800m², L2-1ha, L2A-1ha, 2ha for lots along northern and eastern boundaries of the zone that abut rural zone		Outer Plains	Development north of SH73. Compact pattern with higher densities towards the centre of the township.	Versatile soils to north. Protection zone for community water supply bores, railway, SH73.	
Whitecliffs	L1	Size needed for on-site effluent disposal. Not less than 800m²		Malvern Hills	Utilise existing zoned land for development.	Flooding from stormwater runoff from Malvern Hills. Erosion from the Selwyn River/ Waikirikiri. Landslip from Malvern Hills.	Conventional on-site effluent treatment and disposal systems may not work on some sites due to ground conditions
Glentunnel	L1	Size needed for on-site effluent disposal. Not less than 800m²		Malvern Hills	Northward expansion towards Malvern Hills, but not encroaching on the baseline of the hills.	Flooding from Waikirikiri/Selwyn River and Malvern Hills.	
Coalgate	L1 and L2	L1-Size needed for on-site effluent disposal. Not less than 800m². L2- 1 ha	B1 and B2	Malvern Hills and Outer Plains	Encourage development on the south side of Homebush Road.	Natural hazard south of Coaltrack Road for land erosion and flooding. Reverse sensitivity to Business zone.	

TOWNSHIPS	LAND USE						
	LIVING ZONE/ RESIDENTIAL	AVERAGE ALLOTMENT SIZE	BUSINESS ZONES	SURROUNDED BY RURAL ZONE	PREFERRED GROWTH OPTION AS PER DISTRICT PLAN	ISSUES FOR GROWTH	OTHER
Hororata	L1	Size needed for on-site effluent disposal. Not less than 800m^2		Outer Plains	Discourage development along Hororata Road north of Duncans Road.	Flooding. Additional Property access onto Hororata Road.	
Dunsandel	L1, L2, Living (Area A) def, Living (Area B) def	L1-Size needed for on-site effluent disposal. Not less than 800m^2, L2-1ha, Living (Area A) and (Area B) Def-final density to be determined	Y	Outer Plains	Discourage development along SH1, west of the existing business 1 zone or east of hotel site.	Close to Lower Plains Flood Area. Reticulated sewage needed for development. Reverse sensitivity for business zone and Main South Railway.	
Burnham	Outer Plains						Defence Purposes
West Melton	L1, L1 Def, L1B, L2, L2 Def, L2A	L1-1000m^2, L1def-800m^2, L1B-2,800m^2, L2-5,000m^2, L2 Def-5,000m^2, L2A Max number of allotments 10, and a minimum allotment size of 1 ha.		Inner Plains	North of the SH and south of Halkett Road. Allow only a limited extent of new low density residential development south of SH73.	Versatile soils, protection of groundwater. Confined growth due to SH. Upgraded water supply needed. Reticulated sewage treatment and disposal needed.	
Rolleston	L1, L1A-C, 2, 2A	L1-750m^2, L1A-300m^2, L1B-750m^2, L1C-1000m^2, L2-500m^2, L2A-1ha	B1, B2, B2A	Inner Plains	Has own Structure Plan	Provision of utilities and community facilities	
Prebbleton	L1, L1A1-5, L1-Def, L2, L2A, LX	L1-800m^2, L1A-2000m^2, L1A-Def-4ha, L1A1-5-800m^2	B1, B1-Def	Inner Plains	Has own Structure Plan	Sewage agreement with CCC	
Springston	L1 and LIA	800m^2		Inner Plains and Outer Plains	Developed around the intersections of 3 main roads. Use land behind existing L1 zones rather than extending along main roads.	Grow in one area behind the existing L1 zone not spread along main roads. Upgrade water supply, reticulated sewage.	Development should not increase the natural hazard of flooding from Springston drainage network. Gammack Estate prevents development
Lincoln	L1, L1A, L1A1-4, L2, LX	L1-650m^2, L1-Def-20ha, L1A-850m^2, L1A1-650m^2, L1A2-650m^2, L1A3-500m^2, L1A4-1500m^2, L2-3000m^2, LX-2000m^2	B1, B3	Inner Plains	Has own Structure Plan	Downstream flooding	

TOWNSHIPS	LAND USE						
	LIVING ZONE/ RESIDENTIAL	AVERAGE ALLOTMENT SIZE	BUSINESS ZONES	SURROUNDED BY RURAL ZONE	PREFERRED GROWTH OPTION AS PER DISTRICT PLAN	ISSUES FOR GROWTH	OTHER
Tai Tapu	L1A and L2A	L1A-800m^2 and Living 2A 5,000m^2		Inner Plains	Avoid development along both sides of SH75.	Surrounded by Lower Plains Flooding. Stormwater flooding during rainfall. Versatile soils, stormwater disposal impacts on Halswell River.	Consider any potential adverse effects of rezoning land for new residential or business development at Tai Tapu on the “ruarl-urban” landscape contrast of the area with Christchurch City.
Upper & Lower Selwyn Huts	No- Outer Plains					Lake Ellsemere and Lower Plains Flood Areas.	
Doyleston	L1	650m^2	B2	Outer Plains	Growth possible behind existing houses. Encourage development on north side of Drain Road. Flooding hazard from Doyleston Drain and Boggy Creek. Stormwater ponding.	Doyleston is created on a 5 point intersection. Avoid reverse sensitivity issues rising from the seed cleaning plant west of King St or activities in B2 zone. Reticulated sewage.	
Leeston	L1, L1 def, L2, L2 def, L2A, LXA	L1-650m^2, L1def-4ha until deferred lifted, then 650m^2. L2 - 5,000m^2, L2def-4ha until deferment lifted then 5,000m^2. LXA - not less than 650m^2	B1 and B2	Outer Plains	Encourage B2 to develop in southerly direction, adjoining B2 zone along Station Street. Avoid residential areas south of Station Street.	Reverse Sensitivity from B2. Reticulated Sewage, Heavy traffic bypass, Flooding Leeston Main Drain.	
Southbridge	L1	650m^2	B1 and B2	Outer Plains	Ensure development along Gordon or High St does not exacerbate flooding hazard. New businesses should join with existing businesses.	Flooding from drain. Reverse Sensitivity around B2 zone. Versatile soils. Reticulated sewage required.	
Rakaia Huts	L1	L1-Size needed for on-site effluent disposal. Not less than 800m2.		Outer Plains	Restricted development due to Archaeological Site		
Southern Alps/ High Country		1 dwelling per 120 ha					
Foothills Malvern Hills		1 dwelling per 20 ha					
Canterbury Inner Plains		1 dwelling per 4 ha					
Canterbury Outer Plains		1 dwelling per 20 ha					
Port Hills		1 dwelling per 40 ha					

TOWN SHIPS	GREEN NETWORK							BLUE NETWORK							
	RECREATION RESERVE (DOMAIN)	NATIONAL PARKS	AREAS OF HIGH ECOLOGICAL VALUES (WITHIN OR 2KM FROM TOWNSHIP)	FORESTS/ FOREST PARKS	CAMPING/ CAMP GROUNDS	HERITAGE TREES	OUTSTANDING NATURAL FEATURES AND LANDSCAPES	NEAREST WATERWAYS (RIVERS/ STREAM)	WATER RACES	LAKES & LAKE MARGINS	COASTAL MARGIN	WETLANDS	WATER SUPPLY	WASTE WATER DISPOSAL	LAND DRAINAGE
Arthurs Pass		National Park	Y	Y	Informal camping areas		Y	Bealy River & Rough Creek					Town	Y	
Castle Hill	2 recreation reserves, Trelissick Loop & SH73	Cave Stream Scenic Reserve		Forestry Exclusion Zone Craigieburn Forest Park Tussockland Park			Y	Thomas River		Close to Lakes Lyndon Pearson Sarah Grassmere & Hawdon			Town	Y	
Lake Coleridge						2	Lake Coleridge and Rakaia Gorge	Rakaia Wilberforce Acheron Rivers		Lakes Coleridge Self Evelyn & Georgina		Close Lake Pearson margins	Town	Y	
Springfield	Y			Tussockland Park			Russell Range	Kowai & Waimakariri Rivers	Malvern				Town		
Sheffield	Y							Waimakariri River	Malvern				Town		
Waddington								Waimakariri River	Malvern				Rural		
Darfield	Y					Y		Hawkins	Malvern				Town		
Kirwee	Y					Y		Waimakariri River					Town		
Whitecliffs	Y			Y	Y		Malvern Hills	Selwyn River							
Glentunnel	Y	Y			Y			Selwyn River	Malvern						
Coalgate	Y						Protect values of the Waikirikiri/ Selwyn River and Malvern Hills.	Selwyn River	Malvern						
Hororata	Y							Hororata River & Cordy's Stream	Ellesmere				Rural		
Dunsandel	Y							Irwell & Selwyn Rivers	Ellesmere	Lake Crichton			Town		
Burnham	Y				Military			Selwyn River	Paparua				Town	Military	

TOWN SHIPS	GREEN NETWORK							BLUE NETWORK							
	RECREATION RESERVE (DOMAIN)	NATIONAL PARKS	AREAS OF HIGH ECOLOGICAL VALUES (WITHIN OR 2KM FROM TOWNSHIP)	FORESTS/ FOREST PARKS	CAMPING/ CAMP GROUNDS	HERITAGE TREES	OUTSTANDING NATURAL FEATURES AND LANDSCAPES	NEAREST WATERWAYS (RIVERS/ STREAM)	WATER RACES	LAKES & LAKE MARGINS	COASTAL MARGIN	WETLANDS	WATER SUPPLY	WASTE WATER DISPOSAL	LAND DRAINAGE
West Melton	Y							Waimakariri River	Paparua				Town	At subdivision level	
Rolleston	Y								Paparua				Town	Y	
Prebbleton	Y							Dawson Creek	Paparua				Town	Y	
Springston	Y							Selwyn River	Ellesmere						Y
Lincoln	Y							L1 Creek					Town	Y	Y
Tai Tapu	Y					Y	Landscape contrast with Christchurch City.	Halswell River					Town	Y	Y
Upper & Lower Selwyn Huts	Y							Sewlyn & L11 Rivers					Town	Lower Huts	Y
Doyleston	Y					Y		Boggy Creek, Irwell Creek		Te Waihora		Te Waihora			Y
Leeston	Y					Y		Birdlings Brook		Te Waihora		Te Waihora	Town		Y
Southbridge	Y							Tent Burn	Ellesmere	Te Waihora		Te Waihora	Town		Y
Rakaia Huts								Rakaia River and Lagoon			Y		Town		
Southern Alps/High Country	Y							Bealey River, Waimakariri River		Y		Y	Y		
Foothills Malvern Hills								Selwyn River, Hawkins River	Y				Y		
Canterbury Inner Plains	Y							Selwyn River	Y				Y	Y	
Canterbury Outer Plains	Y							Hororata River	Y	Te Waihora	Y	Y	Y	Y	
Port Hills	Y							Halswell River catchment							

TOWNSHIP	MOVEMENT NETWORK				SOCIAL NETWORK								CULTURAL NETWORK		
	STATE HIGHWAY (WITHIN TOWNSHIP)	RAILWAY (WITHIN TOWNSHIP)	CYCLING AND WALKING	BIKE TRAILS	HALL	LIBRARY/ SERVICE CENTRE	SCHOOL	SWIMMING POOL	CHURCH	LOCAL PUB/ HOTEL	SERVICES	CEMETERY	ARCH SITES	HISTORIC BUILDINGS	NGĀI TAHU (SILENT FILES)
Arthurs Pass	SH 73	Historic designation no longer required	Y		Y		Closed		Y	Y	Police, Ambulance			Church, 2 Tunnelers Cottages, Otira Tunnel	
Castle Hill	SH 73				Y										
Lake Coleridge	SH 73		Y		Y							Low use			
Springfield	SH 73	Midland Railway Line on township edge			Y	Mobile library	Springfield Primary School		Y	Y	Fire	Y			
Sheffield	SH 73	Mindland Railway			Shared with Waddington	Mobile library	Sheffield Primary School	Y	Y	Y	Fire	Y		Sheffield War Memorial	
Waddington					Shared with Sheffield							Y		2 Labourers Cottages, Personage, Old School Building, Pine House	
Darfield	SH73 & 77	Midland Railway	Local walkway		Y	Y	Darfield High School & Primary School	Y	Y		Fire, Police, Ambulance, Medical			Darfield War Memorial. Police Lock-up	
Kirwee	SH73	Midland Railway			Y		Kirwee Model Primary School		Y	Y	Fire	Y		St George's, Brett Memorial	
Whitecliffs														South Malvern Old School Building	Waahi Toanga Area
Glentunnel	SH 77 (72)		Y		Y	Mobile library	Glentunnel Primary School		Y	Y		Y		Old Library and Gateposts, 4 Miners Cottages, Brick Stables	
Coalgate	SH 77 (72)								Y	Y				St Theresas Church	
Hororata					Y	Mobile library	Horarata Primary School		Y	Y	Fire	Y			

TOWNSHIP	MOVEMENT NETWORK				SOCIAL NETWORK								CULTURAL NETWORK		
	STATE HIGHWAY (WITHIN TOWNSHIP)	RAILWAY (WITHIN TOWNSHIP)	CYCLING AND WALKING	BIKE TRAILS	HALL	LIBRARY/ SERVICE CENTRE	SCHOOL	SWIMMING POOL	CHURCH	LOCAL PUB/ HOTEL	SERVICES	CEMETERY	ARCH SITES	HISTORIC BUILDINGS	NGĀI TAHU (SILENT FILES)
Dunsandel	SH1	Main South Railway			Y	Mobile library	Dunsandel Primary School		Y	Y	Fire	Y		Cottage-sod ruins, Methodist Church (Gift Shop), Dunsandel War Memorial, St Thomas' Anglican Church.	
Burnham	SH1	Main South Railway				Mobile library	Burnham Primary School								
West Melton	SH73				Y	Mobile library	West Melton Primary School		Y	Y					
Rolleston	SH1	Main South Railway	Urban links		Y	Y	Rolleston & Clearview Primary Schools		Y	Y	Fire, Police, Medical				
Prebbleton				Part of Little River Railtrail	Y		Prebbleton Primary School	Y	Y	Y		Y			
Springston					Y		Springston Primary School	part of school	Y	Y		Y		Methodist Parsonage, Original School House, Springston War Memorial.	
Lincoln					Y	Y	Lincoln Primary & Secondary Schools		Y	Y	Fire, Police, Medical	Y			
Tai Tapu	S75				Y	Mobile library	Tai Tapu Primary School		Y	Y				Public Library, St Pauls Anglican Church, Tai Tapu War Memorial	

TOWNSHIP	MOVEMENT NETWORK				SOCIAL NETWORK								CULTURAL NETWORK		
	STATE HIGHWAY (WITHIN TOWNSHIP)	RAILWAY (WITHIN TOWNSHIP)	CYCLING AND WALKING	BIKE TRAILS	HALL	LIBRARY/ SERVICE CENTRE	SCHOOL	SWIMMING POOL	CHURCH	LOCAL PUB/ HOTEL	SERVICES	CEMETERY	ARCH SITES	HISTORIC BUILDINGS	NGĀI TAHU (SILENT FILES)
Upper & Lower Selwyn Huts						Mobile library									
Doyleston					Y									Doyleston Library, Memorial Gates.	
Leeston					Y	Y	Ellesmere College, Leeston Primary School,	Y	Y	Y	Fire, Ambulance, Medical			Leeston War Memorial, Ellesmere Brass Band Hall, St John's Anglican Church, Old Court House/RSA.	
Southbridge					Y	Mobile library	Southbridge Primary School	Y	Y		Fire			Orange lodge, Thompson Memorial Hall, Town Hall, Scout den	Close to a Waahi Taonga Area
Rakaia Huts					Y	Mobile library									Y
Southern Alps/High Country	SH 73	Midland railway	Y		Y	Y Mobile library			Y	Y				Y	
Foothills Malvern Hills														Y	
Canterbury Inner Plains														Y	
Canterbury Outer Plains														Y	
Port Hills			Y												