

3.0 Planning for the Future

3.1 Population and Economy Projections

This information presents projections of employment, resident population, dwellings, visitor numbers and land use for the period 2006 to 2026. The projections draw on a baseline scenario of economic growth¹¹ developed by Infometrics Ltd for Venture Southland in August 2008¹².

While every effort has been made to ensure the forecasts are the Council's best estimates for the future, the actual results may differ and the differences may be material. This information has been prepared for the Council's budgeting and financial planning purposes. It may not be appropriate to be used for any other purpose. The assumptions detailed here have been applied across the Council.

3.1.1 THE DISTRICT OVERALL

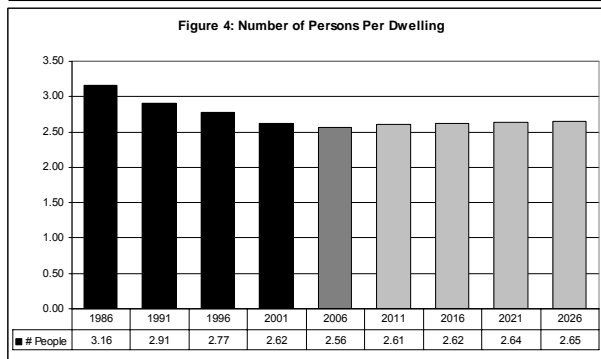
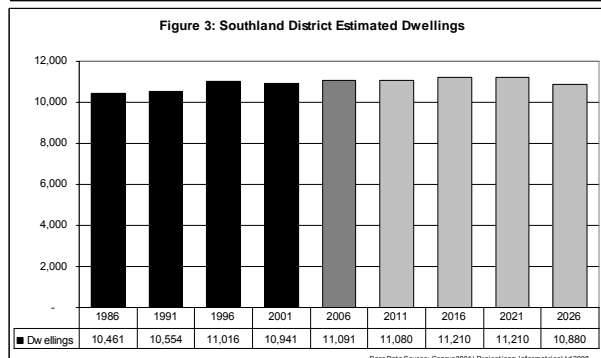
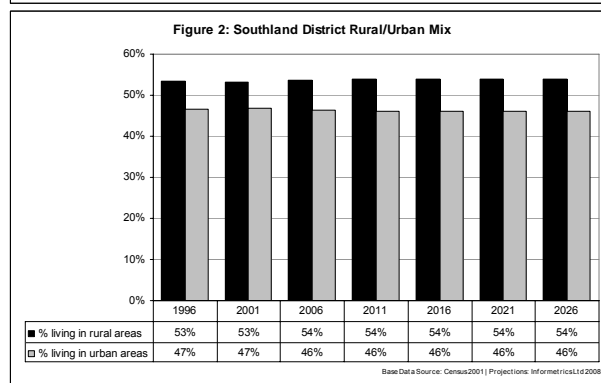
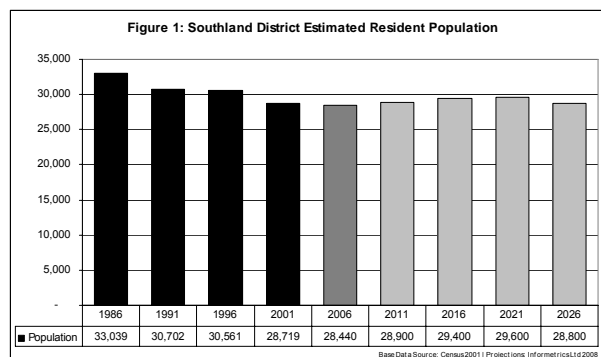
Infometrics Ltd have prepared a baseline scenario for forecasting. This is a business as usual scenario in which the Southland economy is expected to grow by 2.0% per annum between 2007 and 2031, compared with 2.3% per annum growth at the national level. The projections are strongly linked to Southland's ability to attract workers to the region and retain its own workers. Analysis of historical data shows that there is a close relationship between economic growth and population growth in Southland region.

In the baseline scenario employment growth is restricted by below national level economic growth and the absence of growth of the national labour force from 2021 onwards. In this scenario total employment is projected to increase from 15,580 in 2006 to 15,870 in 2026.

Using the baseline scenario, the District's population is expected to grow slightly (1.3%) from 28,440 in 2006 to 28,800 in 2026 with a slight decrease in the overall number of dwellings over the same period from 11,091 to 10,880.

Since 2006, development of coastal areas of Southland and areas close to Southland lakes and national park areas has slowed. Instead there has been an increase in the development of rural land, particularly for activities associated with dairy farming. As a result of the increase in dairy farming, population growth is

expected to be more evenly spread throughout communities and areas in the District. Previous predications that people would move from living in "rural" areas to "urban" settings are no longer expected with around 54% of the population expected to continue to live in rural areas through until 2026, and 46% living in urban areas.



¹¹ As outlined in the Southland Market Demand Assessment 2008

¹² Projections of population, employment, dwellings and visitor numbers for Southland Region August 2008– Infometrics Ltd
Wastewater Activity Management Plan
Planning for the Future

Southland has a number of communities (Stewart Island, Te Anau, Riverton, Manapouri, Waikaia and Waikawa/Curio Bay) which have higher peak populations at certain times of the year. Estimates of the peak population for these are shown in Figure 5 and in the table on the following page.

Table 14 - Estimated Peak Population of Selected communities

| Township | 2006 | 2011 | 2016 | 2021 | 2026 | 2031 |
|---------------------|-------|-------|-------|--------|--------|--------|
| Manapouri | 940 | 1,073 | 1,162 | 1,246 | 1,329 | 1,420 |
| Riverton | 3,664 | 4,122 | 4,232 | 4,350 | 4,443 | 4,542 |
| Stewart Island | 2,115 | 2,483 | 2,568 | 2,668 | 2,757 | 2,849 |
| Te Anau | 7,584 | 8,779 | 9,638 | 10,354 | 11,078 | 11,880 |
| Waikaia | 1,378 | 1,655 | 1,715 | 1,786 | 1,860 | 1,927 |
| Waikawa / Curio Bay | 523 | 618 | 643 | 667 | 682 | 707 |

The proportion of the population that are aged 65 years and above is expected to increase over the next twenty years from 12% in 2006 to 21% in 2026 (see figures 6 and 7).

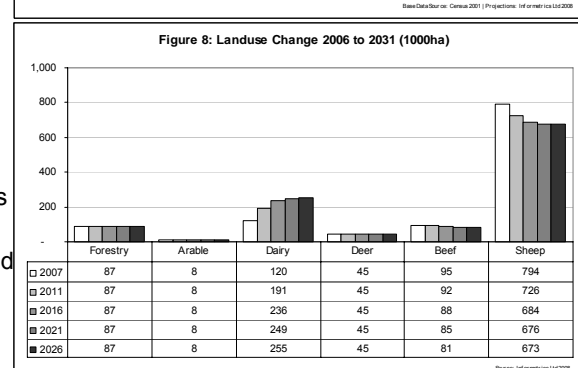
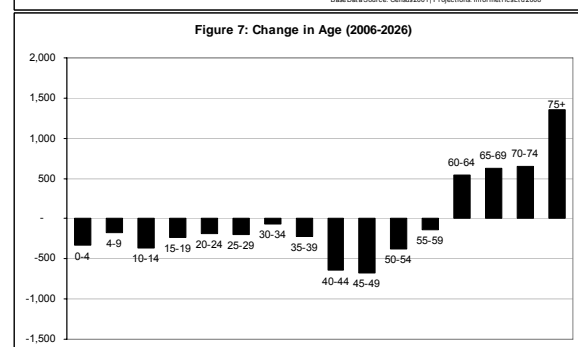
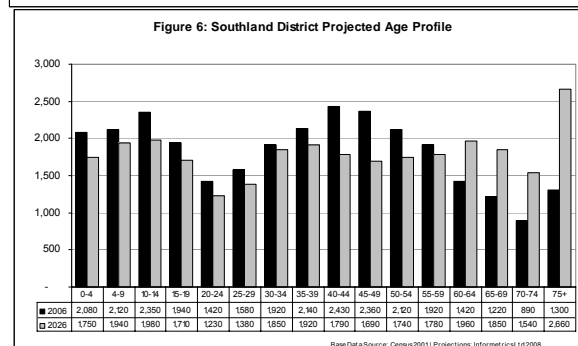
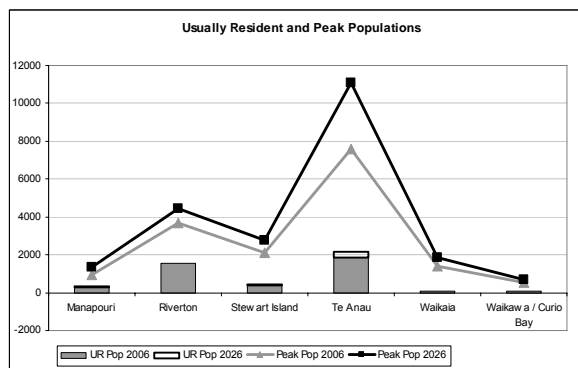
In 2006, 79.4% of the population of the Southland District identified themselves as being of European descent. 9.4% identified themselves as belonging to the Māori ethnic group with 1.1% as Asian, 0.6% as Pacific Peoples, 0.2% as Middle Eastern/Latin American/African and 17% as Other (New Zealander). With the baseline scenario including projections of attracting migrants to the region (particularly for dairying), it is expected that there will be a slight increase in the number of residents of Asian¹³ descent.

3.1.2 ECONOMY

The number of tourism visits to Southland is expected to increase from around 2.4 million in 2006, to 3.2 million in 2026. A significant portion of these visits are expected to be to Fiordland (with 950,000 visits in 2006 increasing to 1.5 million in 2026).

Projections of future land use in Southland are shown in Figure 8. The amount of land used for dairy farming is projected to rise from about 120,000 hectares in 2007 to 255,000 hectares in 2026 due to the ongoing conversion of sheep farms to dairy. The number of dairy conversions is estimated to be 100 per annum until 2013, 20 per annum until 2018, 10 per annum until 2023 and five per annum for the rest of the forecast period. Conversions are expected to average 175 hectares each with herds of between 500 and 600 cows.

The amount of land used for forestry is projected to decrease slightly in line with estimates from the 2007 Deforestation Survey. While most high country and marginal lands are likely to stay under forest, some areas of flat land and Eucalypt forest are expected to be converted to dairy following harvesting. Total land utilised for forestry is projected to remain relatively stable, with 87.4 hectares in 2007 to 86.5 hectares in 2026.



¹³ 'Asian' as defined by Statistics NZ includes: South East Asian (Filipino, Burmese, Vietnamese, Indonesian etc), Chinese, Indian, Other Asian (Sri Lankan, Tibetan, Afghani, Bangladeshi, Pakistani, etc)

The growth in dairy farm land will occur largely at the expense of sheep and beef farming land. Sheep farming land is projected to decrease from about 794,000 hectares to 673,000 hectares and beef farming land from 95,000 hectares to 81,000 hectares.

3.1.3 SOUTHLAND'S COMMUNITIES

In 2006, just over half (54%) of the population lived in a rural environment, while the balance lived in an urban setting in one of the District's 28 communities. The populations of these towns range from less than 60 in Fortrose to 2,310 in Winton.

The following tables show estimated population and dwellings for the various communities in the District until 2026. Townships where a significant level of population growth is projected include Te Anau, Winton, Manapouri, and Edendale (though the latter is forecast to tail off). Significant population decline is projected for Lumsden, Woodlands, Ohai and Nightcaps.

Other townships are likely to experience varying levels of growth over the period, with initial growth resulting from construction projects or other investments, with some tailing off in outyears.

Table 15- Estimated Population of Southland communities

| Township | Census Actuals | | | Forecast Period | | | | % change 2006-26 |
|-----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|---------------------|
| | 1996 | 2001 | 2006 | 2011 | 2016 | 2021 | 2026 | |
| Athol | 66 | 54 | 72 | 76 | 74 | 72 | 70 | -2.8% |
| Balfour | 138 | 135 | 138 | 138 | 130 | 125 | 125 | -9.4% |
| Browns | 96 | 108 | 99 | 98 | 98 | 95 | 90 | -9.1% |
| Colac Bay | 177 | 150 | 135 | 138 | 140 | 140 | 140 | 3.7% |
| Dipton | 156 | 156 | 147 | 143 | 135 | 130 | 125 | -15.0% |
| Edendale | 567 | 570 | 495 | 535 | 535 | 520 | 510 | 3.0% |
| Fortrose | 63 | 54 | 57 | 56 | 54 | 51 | 45 | -21.1% |
| Garston | 93 | 66 | 102 | 100 | 100 | 100 | 95 | -6.9% |
| Gorge Road | 195 | 159 | 168 | 168 | 168 | 168 | 160 | -4.8% |
| Limehills/Centre Bush | 204 | 225 | 258 | 265 | 270 | 275 | 275 | 6.6% |
| Lumsden | 564 | 516 | 474 | 450 | 430 | 410 | 370 | -21.9% |
| Manapouri | 213 | 243 | 306 | 320 | 330 | 340 | 340 | 11.1% |
| Mossburn | 273 | 246 | 237 | 235 | 235 | 235 | 210 | -11.4% |
| Nightcaps | 396 | 336 | 303 | 255 | 215 | 190 | 180 | -40.60% |
| Ohai | 504 | 399 | 351 | 295 | 245 | 200 | 170 | -51.60% |
| Orepuki | 102 | 81 | 78 | 78 | 75 | 70 | 70 | -10.3% |
| Otautau | 801 | 729 | 753 | 755 | 770 | 785 | 770 | 2.3% |
| Riversdale | 411 | 414 | 456 | 465 | 470 | 470 | 460 | 0.9% |
| Riverton | 1839 | 1659 | 1527 | 1530 | 1540 | 1530 | 1510 | -1.1% |
| Stewart Island | 417 | 387 | 405 | 410 | 415 | 420 | 410 | 1.2% |
| Te Anau | 1779 | 1851 | 1878 | 2005 | 2150 | 2,200 | 2,175 | 15.8% |
| Thornbury | 87 | 72 | 75 | 75 | 75 | 75 | 70 | -6.7% |
| Tokanui | 168 | 174 | 162 | 166 | 170 | 170 | 170 | 4.9% |
| Tuatapere | 741 | 681 | 582 | 580 | 595 | 610 | 595 | 2.2% |
| Waikawa/Curio Bay | 96 | 96 | 96 | 100 | 105 | 105 | 95 | -1.0% |
| Waikaia | 75 | 87 | 96 | 100 | 100 | 100 | 95 | -1.0% |
| Wallacetown | 708 | 660 | 636 | 638 | 640 | 640 | 620 | -2.5% |
| Winton | 2373 | 2271 | 2310 | 2370 | 2490 | 2630 | 2585 | 11.9% |
| Woodlands | 282 | 264 | 237 | 240 | 250 | 250 | 240 | 1.3% |
| Wyndham | 639 | 573 | 516 | 520 | 530 | 520 | 488 | -5.4% |
| Total Rural | 16,338 53.5% | 15,303 53.3% | 15,291 53.8% | 15,596 54.0% | 15,866 54.0% | 15,974 54.0% | 15,542 54.0% | 1.6% |
| Total Urban | 14,223 46.5% | 13,416 46.7% | 13,149 46.2% | 13,304 46.0% | 13,534 46.0% | 13,626 46.0% | 13,258 46.0% | 0.8% |
| Total District | 30,561 | 28,719 | 28,440 | 28,900 | 29,400 | 29,600 | 28,800 | 1.3% |

Table 16- Estimated Number of Dwellings for Southland communities

| Township | Census Actuals | | | Forecast Period | | | |
|-----------------------|----------------|---------------|---------------|-----------------|---------------|---------------|---------------|
| | 1996 | 2001 | 2006 | 2011 | 2016 | 2021 | 2026 |
| Athol | 33 | 36 | 51 | 51 | 51 | 51 | 49 |
| Balfour | 51 | 57 | 57 | 56 | 56 | 55 | 54 |
| Browns | 39 | 39 | 36 | 35 | 35 | 34 | 33 |
| Colac Bay | 66 | 57 | 54 | 54 | 54 | 54 | 54 |
| Dipton | 57 | 54 | 54 | 52 | 51 | 50 | 49 |
| Edendale | 237 | 222 | 222 | 232 | 232 | 228 | 225 |
| Fortrose | 30 | 24 | 24 | 23 | 23 | 22 | 20 |
| Garston | 30 | 27 | 33 | 33 | 33 | 33 | 32 |
| Gorge Road | 69 | 63 | 63 | 61 | 61 | 61 | 58 |
| Limehills/Centre Bush | 81 | 81 | 84 | 84 | 87 | 88 | 88 |
| Lumsden | 216 | 207 | 210 | 202 | 198 | 193 | 180 |
| Manapouri | 96 | 105 | 102 | 104 | 109 | 111 | 111 |
| Mossburn | 96 | 90 | 93 | 92 | 92 | 92 | 85 |
| Nightcaps | 171 | 144 | 135 | 122 | 112 | 105 | 98 |
| Ohai | 171 | 144 | 135 | 120 | 108 | 97 | 84 |
| Orepuki | 39 | 33 | 30 | 30 | 29 | 28 | 28 |
| Otautau | 309 | 288 | 294 | 294 | 298 | 301 | 293 |
| Riversdale | 162 | 162 | 180 | 185 | 186 | 186 | 182 |
| Riverton | 729 | 711 | 663 | 663 | 666 | 664 | 655 |
| Stewart Island | 234 | 234 | 258 | 258 | 259 | 259 | 253 |
| Te Anau | 717 | 750 | 795 | 822 | 858 | 871 | 860 |
| Thornbury | 27 | 27 | 27 | 27 | 27 | 27 | 24 |
| Tokanui | 63 | 60 | 60 | 60 | 61 | 61 | 61 |
| Tuatapere | 261 | 255 | 240 | 240 | 244 | 248 | 241 |
| Waikawa/Curio Bay | 45 | 51 | 54 | 54 | 55 | 55 | 53 |
| Waikaia | 42 | 45 | 57 | 57 | 57 | 57 | 54 |
| Wallacetown | 231 | 231 | 237 | 237 | 238 | 238 | 231 |
| Winton | 957 | 960 | 1011 | 1016 | 1046 | 1081 | 1063 |
| Woodlands | 105 | 102 | 108 | 107 | 108 | 107 | 102 |
| Wyndham | 243 | 237 | 225 | 225 | 228 | 226 | 218 |
| Total Rural | 5,409 49% | 5,445 50% | 5,499 50% | 5,484 49% | 5,548 49% | 5,527 49% | 5,342 49% |
| Total Urban | 5,607 51% | 5,496 50% | 5,592 50% | 5,596 51% | 5,662 51% | 5,683 51% | 5,538 51% |
| Total District | 11,016 | 10,941 | 11,091 | 11,080 | 11,210 | 11,210 | 10,880 |

3.2 Implications for the Activity

The implications of the above demand trends point to increases in both the number of households (in towns with growth) and the volume of wastewater produced in each household.

Growth in population is expected to necessitate an increase in system capacity to cater for the increased flows.

Urban growth and peak growth will also require upgrades to the wastewater pumping and storage infrastructure to service new residential subdivisions and, in some cases, upgrading the capacity of existing pipes.

3.2.1 Water consumption patterns

With the exception of water used for irrigation and unaccounted for water, most water supplied by the SDC water supply systems is subsequently discharged into the wastewater reticulation. Changes in water consumption patterns are therefore likely to be largely reflected in corresponding changes in discharges to the wastewater system.

3.2.2 Wastewater from other sources

Septic tankers and campervans are only permitted to discharge to the wastewater system at specified locations. Volumes discharged are low but discharges are more concentrated than domestic waste.

Environment Southland and NZ Transport Agency (formerly Transit) are currently looking at building stock truck effluent dump sites in Mossburn, Winton and possibly other townships. This could cause issues with overloading in both nutrient/pathogen levels and flow for local pump stations and treatment plants.

Trade waste volumes are predicted to remain static within this planning period. There are currently no projects planned for any schemes to address Tradewaste discharge volume increases.

3.2.3 Extent of Stormwater Entry to the Wastewater System (infiltration/inflow)

It is estimated from variations in flows through the treatment plant and pump stations that stormwater inflow and groundwater infiltration makes up a significant amount of total wastewater volumes in the following sewerage systems:

- Balfour
- Lumsden
- Manapouri
- Ohai
- Otautau
- Riversdale
- Winton

Schemes that also suffer from infiltration/inflow but not to the same extent are:

- Oban
- Te Anau
- Tokanui

3.2.4 Extension of the wastewater reticulation to service currently unserved areas

Extensions to the wastewater reticulation will generally service new residential subdivisions. The impact of new subdivisions on loadings on the wastewater system is included in the effect of population changes on water consumption.

3.3 Changes in Technology

Technology changes such as composting or waterless toilets may decrease water consumption and be reflected in a reduction in the loading on the wastewater system. The rate of adoption of alternative technologies such as composting toilets by the community has not been high. This is not expected to change. For the purposes of estimating the future demand for wastewater services it has been assumed that the impact of new technologies will not be significant over the next 20 years.

3.4 Demand Management

3.4.1 Existing Demand management Practices

3.4.1.1 Property Inspections

SDC have historically carried out inspections of properties where volume in the sewers increases dramatically during rain events. Owners of properties that are found to have downpipes connected to gully traps are sent letters instructing them to redirect stormwater out of the sewer.

3.4.1.2 Tradewaste

Septic Tank cleaning businesses have access to discharge into treatments plants located within the larger communities (i.e. Riverton, Te Anau). This is so that small treatment systems are not overwhelmed by the concentrated discharge.

3.4.1.3 Public Education

Although there is no formal education programme, W&WS publish articles on a regular basis in the Council's "First Edition" quarterly newsletter. The newsletter is distributed to all residents and ratepayers.

Important local issues are also advised through the respective community board, water supply committee, or community development area as appropriate.

3.4.2 Potential Demand Management Initiatives

3.4.2.1 Wastewater charging

Wastewater charging is carried out in Auckland by Metrowater Ltd and calculated as a percentage of water use. This has never been considered by SDC and is not possible unless water meters are installed first.

3.5 Sustainable Development

3.5.1 Changing climatic patterns¹⁴

The RMA 1991 states, in Section 7, that a local authority shall take account of the effects of climate change when developing and managing its resources. To assist local authorities the Ministry for the Environment (MfE) prepared a report¹⁵ to support councils' assessing expected effects of climate change, and to help them prepare appropriate responses when necessary. This section aims to explore the impacts of expected climate changes for the Southland region and will conclude with recommended management measures.

3.5.1.1 Temperature Change

Table 17 shows that the mean annual temperatures in Southland are expected to increase in the future. The daily temperature range is showing less variation in Southland than elsewhere in New Zealand.

¹⁴ Ridgen 2002 and Mullen et al. 2008

¹⁵ Climate Change Effects and Impacts Assessment (MfE 2008)

Table 17- Projected mean temperature changes in Southland (in °C)

| | Summer | Autumn | Winter | Spring | Annual |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Projected changes 1990-2030 | -0.2 to 1.2 | -0.1 to 1.1 | 0.2 to 1.8 | 0.0 to 1.1 | 0.1 to 1.3 |
| Projected changes 1990-2080 | -0.1 to 2.6 | 0.1 to 3.4 | 0.7 to 3.5 | 0.1 to 3.1 | 0.2 to 3.2 |

A warmer atmosphere can hold more moisture, increasing the likelihood of heavy rainfall events. Since water infrastructure is designed to respond to extreme events (not averages), an increased frequency and intensity of these events will require council action to assure the health, safety and wellbeing of the public.

3.5.1.2 Precipitation Change

The following table shows an expected increase in mean annual precipitation in Southland from 1990 to 2080.

Table 18 - Projected mean precipitation changes in Southland (in %)

| | Summer | Autumn | Winter | Spring | Annual |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Projected changes 1990-2030 | 9 to +10 | 2 to +18 | 12 to +28 | 9 to +18 | -2 to +15 |
| Projected changes 1990-2080 | +2 to +37 | 15 to +40 | 19 to +60 | 3 to +36 | +1 to +37 |

Due to a predicted increase in precipitation, Southland is not expected to face difficulties with irrigation, unlike other parts of the country. Other issues might arise in the region, such as increased incidences of water logging, erosion and lower soil temperatures.

3.5.1.3 Sea level Change

The historic sea level rise around New Zealand, since the 1800s, has been around 1.6mm per year. This value is in accordance with global sea level rises. Although no acceleration in the rise of sea level has been confirmed for New Zealand, on the global record such acceleration has been claimed (Church and White, 2006).

Where planning fails to respond appropriately, a possible acceleration of sea level rise could lead to coastal erosion (and deposition), flooding from the sea, inadequate drainage and increased risk of saltwater intrusion into groundwater (Tonkin & Taylor, 1999).

3.5.1.4 Summary

The potential climate change factors most likely to affect the Southland District, and possible management measures to respond, are summarised in the table below.

Table 19 - Potential impacts of climate change for the Southland District ^{1 2}

| Climate Influence | Water resource functions | | | Management measures |
|---|---|--|---|--|
| | Groundwater | Water Quality | Water Quantity | |
| Increased temperature, resulting in increased extreme rainfall events | <ul style="list-style-type: none"> Higher groundwater use (irrigation and residential) Increased frequency of groundwater level changes | <ul style="list-style-type: none"> Decreased dissolved oxygen levels (affecting plant & animal growing conditions) Increased incidences of sewer overflow Increased erosion from greater peak flows → contaminants reaching waterways, affecting water treatment processes & ecosystems | <ul style="list-style-type: none"> Increased evapo-transpiration Increased peak flows in streams Increased flooding Greater likelihood of damage to properties and infrastructure | <ul style="list-style-type: none"> Maintain existing protective structures and assess future capacity Asses, maintain and upgrade (where necessary) drainage capacity and sewer infrastructure Identify critical assets on riverbanks Maintain & enhance vegetation cover to prevent erosion Temperature rises in combination with increased rainfall are likely to have a positive influence on agricultural activities → take economic development into account |
| Increased precipitation | <ul style="list-style-type: none"> Increased groundwater recharge | <ul style="list-style-type: none"> Reduced nutrient concentrations in general, however, increased concentrations when overflow occurs | <ul style="list-style-type: none"> High groundwater table → water logging in some areas. Potential increase in river flows in some areas | <ul style="list-style-type: none"> Implement stormwater management practices & investigate localised flooding |
| Sea level rise | <ul style="list-style-type: none"> Increased risk of saltwater intrusion in groundwater | <ul style="list-style-type: none"> Increased salinity and localised coastal erosion | <ul style="list-style-type: none"> Increased possibility of flooding from the sea | <ul style="list-style-type: none"> Consider upgrading drainage networks from gravity to pumping in low lying areas Restrict new development in high risk areas Maintain vegetation cover to prevent erosion Maintain protective structures Identify critical assets within aggressive coastal areas |

3.5.2 Communities for Climate Protection - New Zealand (CCP-NZ)

SDC is participating in the voluntary programme whose aim is to empower local councils to reduce greenhouse gas emissions from their own operations and from their communities.

CCP-NZ is a New Zealand Government initiative and funded by the Ministry for the Environment. The CCP-NZ Programme provides a strategic framework for councils to use to reduce greenhouse gas emissions. The programme aims to reduce emissions from each councils' own operations, as well as influence reductions in their wider communities.

To date SDC has reached Milestone 1 where:

- Milestone 1 - Conduct a greenhouse gas emissions inventory, analysis and forecast
- Milestone 2 - Set emission reduction goals
- Milestone 3 - Develop a local action plan to achieve these goals
- Milestone 4 - Implement and quantify the benefits of policies and measures in the action plan
- Milestone 5 - Monitor progress towards the reduction goal

3.5.3 Te Anau & Manapouri Wastewater Strategy

A new treatment and disposal system for Te Anau and Manapouri has been undergoing feasibility and public consultation since 2006. The project originated due to factors such as projected population growth for both townships, uncertainty in the performance of the exiting Manapouri oxidation pond and the resource consent for Te Anau's discharge into the Upukeroroa River expiring in 2014.

A shared treatment facility for both townships is anticipated to be more economic. Land acquisition for the treatment site was completed in 2008. Further capital projects associated with this major project are included in section 5.8.6 and 5.16.6. the project is scheduled for completion in 2013/14

3.5.4 Future Generations

Despite being frequently linked, sustainable development does not focus solely on environmental issues. The United Nations 2005 World Summit Outcome Document refers to the "interdependent and mutually reinforcing pillars" of sustainable development as economic development, social development, and environmental protection. The Local Government Act also adds cultural which could be considered a subset of the social pillar.

Another often-quoted definition of sustainable development (taken from Brundtland Commission 1987 Report titled "Our Common Future") also takes a broader perspective. The report states that "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

This wider perception of sustainable development is also reflected in several parts of the Local Government Act.

The purposes of the Act provides for local authorities to play a broad role in promoting the social, economic, environmental, and cultural well-being of their communities, taking a sustainable development approach.

The purpose of local government is defined as enabling democratic local decision-making and action by, and on behalf of, communities; and promoting the social, economic, environmental, and cultural well-being of communities, in the present and for the future.

Looking at these two statements it can be concluded that a sustainable development approach generally refers to promoting overall wellbeing and considering the needs of both the present and the future community.

This concept is reconfirmed in two of the principles of the Act which guide the way Council should perform its role. These state:

“...when making a decision, a local authority should take account of..... the interests of future as well as current communities; and the likely impact of any decision on each aspect of well-being; and”

“...in taking a sustainable development approach, a local authority should take into account the social, economic, and cultural well-being of people and communities; and the need to maintain and enhance the quality of the environment; and the reasonably foreseeable needs of future generations”.

Overall, a sustainable development approach is more about the ways things are done rather than what is done. Council, by carrying out its functions and processes in line with the purposes and principles of the Act, is in effect taking a sustainable development approach, i.e. it is considering community well-being now and in the future.

Simply put, sustainable development to Council means **endeavouring to balance the social, cultural, economic and environmental objectives for both future and current generations in its planning processes, decision-making and operations.**

The table below provides a framework for sustainable development for Council’s planning processes, decision-making process and operations.

Framework Approach to Sustainable Development

| Our Aim: Developing thriving healthy communities whose economic, cultural and social wellbeing and opportunities are supported by excellent infrastructure, services and amenities within a high quality environment. | | |
|---|--|---|
| By: Endeavouring to balance the social, cultural, economic and environmental objectives for both future and current generations in Council’s planning processes, decision-making and operations. | | |
| We will | We are already | We may look further at |
| In our planning processes | | |
| <p>Look long term.</p> <p>Consider the needs of future generations.</p> <p>Have good (cost effective) information about where we’ve been, where we are at and where we are heading to, to inform planning.</p> <p>Identify issues for the future and possible effects that may arise.</p> <p>Actively consider the implications of any plans and strategies on social, cultural, environmental and cultural wellbeing and balance these where possible.</p> <p>Consider the effects on future wellbeing as well as current.</p> <p>Involve others in planning which affects them (central government, other council’s, iwi, communities, representative groups).</p> <p>Look to protect and improve eco-systems and manage natural resources.</p> | <p>Asset Planning –</p> <ul style="list-style-type: none"> - Considering the need for demand management to optimise resource use - Initial consideration of how climate change may affect asset performance and capacity. - Use of lifecycle costing to consider the true cost of the asset over its life (and therefore determine best option). <p>District Plan –</p> <ul style="list-style-type: none"> - Evaluating best ways to ensure the development of the District and use of its resources is carried out in a sustainable manner. - Ensuring that development is carried out in a manner that is compatible with the community’s values. <p>Long Term Plan –</p> <p>Looks long term at the Council’s activities and demonstrates Council’s contribution to community well-being. Begins to use risk management to identify issues for the future.</p> <p>Community outcomes monitoring – Provides information about whether progress is being made towards community outcomes over time (and therefore wellbeing). Provides information across the well-beings which helps to inform planning.</p> <p>Concept Plans – Provides a snapshot of an individual community’s wellbeing and what are the priorities for the future.</p> | <p>Investigate further the effects of climate change over time on Southland and what is needed to adapt in terms of asset location/capacity, availability of natural resources and mitigating hazards for where people live.</p> <p>Considering whether rates, the rating structure and funding requirements are equitable and achievable in the longer term and looking at priorities for spending (affordability may affect some choices).</p> <p>Improving information for decision making by further development of outcomes monitoring, investigating further data sources and working in partnership with central government and industry bodies.</p> <p>Consider carrying out coordinated planning processes with other key delivery agencies (Environment Southland, Department of Conservation) to identify cross boundary/agency issues and solutions.</p> <p>Consider use of sustainability measures to track Council performance in their activities.</p> |

| We will | We are already | We may look further at |
|--|---|---|
| | Considering the long-term implications of rates and funding requirements. | Consider identifying an agreed community priority around community outcomes to further inform planning processes and decisions. |
| In our decision-making (council, community boards, committees, staff) | | |
| <p>Look at the long term implications.</p> <p>Consider the interests of/impacts on the future community as well as the current (residents and ratepayers).</p> <p>Consider implications from a global, national and local perspective.</p> <p>Take a precautionary approach where decisions may cause serious or irreversible negative consequences.</p> <p>Obtain good, cost-effective information.</p> <p>Consider impacts on all four wellbeings.</p> | <p>Considering community views.</p> <p>Considering implications on rates and funding requirements.</p> <p>Devolving decisions to the community affected.</p> <p>Involvement in national bodies.</p> <p>Training for decision-makers.</p> <p>Actively reviewing and updating policies to ensure that they are relevant and support good decision-making.</p> <p>Considering alternative solutions for assets.</p> | <p>Providing ongoing training/support for decision-makers at all levels.</p> <p>Looks at ways of ensuring integrated decision-making works across all of Council.</p> <p>Look at ways of ensuring decision making considers issues from the whole community, not necessarily the interests of a certain sector.</p> <p>Increased use of optimised decision-making for asset management.</p> |
| In our operations / activities | | |
| <p>Work together to make efficient use of resources.</p> <p>Look at what the Council can do to reduce resource use.</p> | <p>Climate change mitigation – reducing Council's carbon footprint by improving efficiency of our energy use (economic and environmental wellbeing)</p> <p>Sustainable procurement guide provides guidance to staff on purchasing products and services that are less harmful to the environment</p> <p>Operation of Resource Efficiency Team which is a group of staff volunteers who promote a culture of sustainable management within Council operation through improving resource use and minimising waste.</p> <p>Asset operation and maintenance –</p> <ul style="list-style-type: none"> - Looking at the long-term operational costs of assets. - Reviewing/tracking use of energy - Responding to faults to minimise resource use/wastage. - Investigations into renewable energy on Stewart Island. - Use of demand management (water metres/restrictors). <p>Considering alternative solutions to building works put forward by building consent applicants.</p> <p>Development of sustainable business development strategy via Venture Southland which aims to improve business' ability to consider and support the four well-beings.</p> <p>Participation in shared services forum between the four Southland Council's which aims to share resources and reduce duplication. Other shared service arrangements include rural fire, regional</p> | <p>Investigation into the need for further demand management techniques.</p> <p>Investigations into kerbside recycling service (three bin) to remove recyclables and organic waste from landfill).</p> <p>Investigation into further shared service initiatives.</p> <p>Actively seek input from stakeholders early in processes which affect wellbeing (asset design; policies) and allow appropriate time to reduce the need for re-work.</p> |

| We will | We are already | We may look further at |
|---------|---|------------------------|
| | heritage, WasteNet. Solid Waste Management – Waste minimisation education and provision of recycling drop-off centres to reduce waste to landfill. Work with National bodies to better define Councils and our communities sustainable footprint and develop strategies to reduce its impact. | |

3.6 District-Wide Issues

3.6.1 Forecasting Assumptions

In projecting the future demand for wastewater services it has been assumed that:

- Extensions to the wastewater network to service new areas will be funded by developers, with new assets vested to the SDC on completion to a satisfactory standard.
- Upgrading works required to increase the capacity of existing pipes to meet growth demands will be funded from development or capital contributions.
- The discharge per head of population will reflect water usage patterns and will remain constant or decrease slightly.
- Stormwater entry to the wastewater system will reduce as aging reticulation is renewed.
- The proportion of major “wet” industries in the district in the city will not increase.

The following key issues have been identified in order to address the anticipated changes in demand for wastewater services. Solutions have been developed and are outline below in general terms. Scheme specific issues and solutions are detailed in Section 5.0.

3.6.2 Key Issues

3.6.2.1 Lack of Capacity due to Population Growth

Although some extensions to the wastewater reticulation will be necessary to service new subdivisions future wastewater volumes are expected to largely reflect changes in population in the towns. Investment is planned in Te Anau and Manapouri to meet forecast growth with extensions to existing distribution networks to be funded by developers.

The asset development programme supports upgrading of wastewater infrastructure to ensure that infrastructure is capable of supporting anticipated population changes while balancing community expectations with affordability.

3.6.2.2 Lack of Capacity due to Peak Population

Peak population in some areas will require a larger capacity than would otherwise be required for the usually resident population.

3.6.2.3 Lack of Capacity due to Groundwater infiltration

As the reticulation infrastructure ages and condition deteriorates a greater volume can enter the network from groundwater ingress though deteriorated pipe joints and cracked pipelines and manholes.

3.6.2.4 Lack of Capacity due to Stormwater inflow

Some areas suffer from stormwater infiltration which overloads the wastewater system during rain events. This is caused by direct connections from downpipes into gully-traps and inflow through submerged manhole lids.

3.6.3 Summary Table

The following table summarises the key issues outlined above. For projects required for each township to meet the agreed levels of service see the relevant chapter of Section 5.0.

Table 20 – Summary of Key Issues

| Key Issue | Scheme | Description | Status |
|------------------|---|---|-----------------------------|
| Lack of capacity | Manapouri Riversdale Riverton Stewart Island Te Anau Tokanui | Reticulation, pump station, storage, treatment upgrades | Programmed, see Section 5.0 |