

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 growth²⁰ developed by Infometrics Ltd for Venture Southland in August 2008²¹.

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.

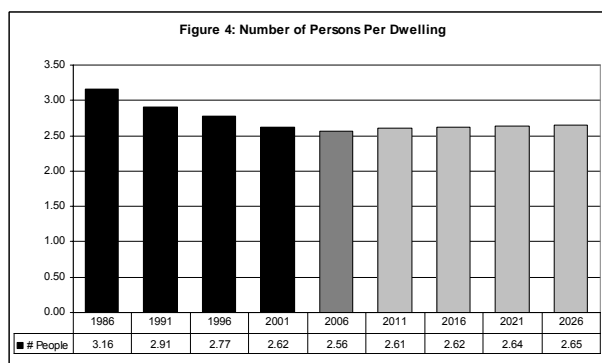
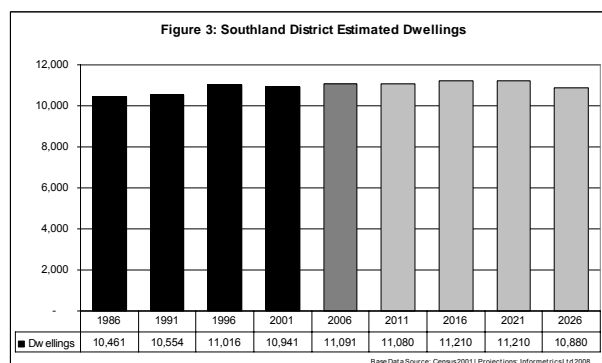
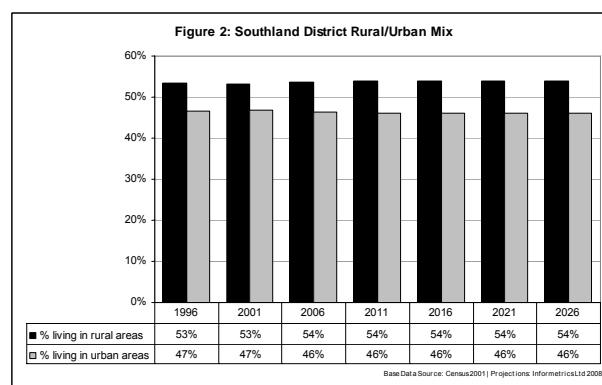
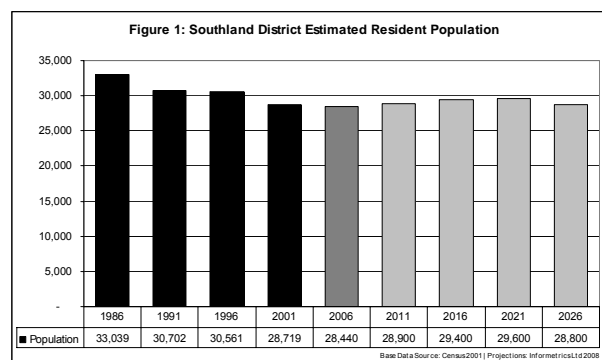
3.1.1 THE DISTRICT OVERALL

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 in 2006 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



²⁰ As outlined in the Southland Market Demand Assessment 2008

²¹ Projections of population, employment, dwellings and visitor numbers for Southland Region August 2008– Infometrics Ltd

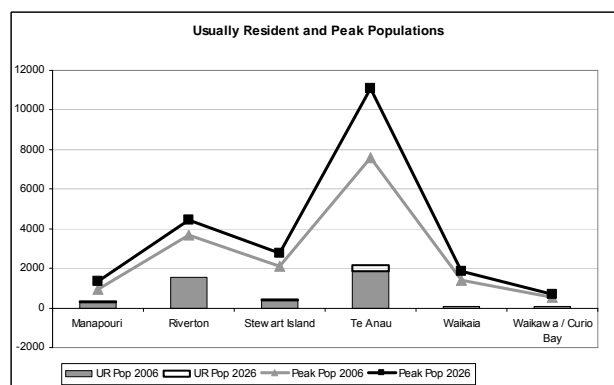
expected to continue to live in rural areas through until 2026, and 46% living in urban areas. Southland has a number of communities (Stewart Island, Te Anau, Riverton, Manapouri, Waikaia and Waikawa/Curio Bay) which have higher peak populations at certain times of the year. Estimates of the peak population for these are shown in Figure 5 and in the table on the following page.

Table 15 - 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

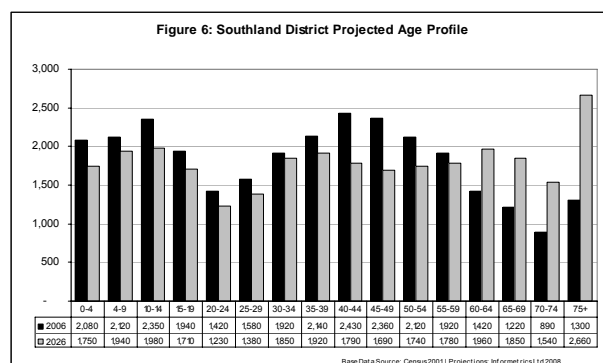
The proportion of the population that are aged 65 years and above is expected to increase over the next twenty years from 12% in 2006 to 21% in 2026 (see figures 6 and 7).

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 Asian²² descent.

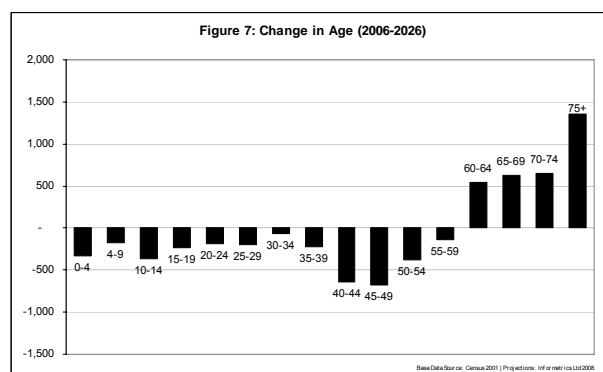


3.1.2 ECONOMY

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.



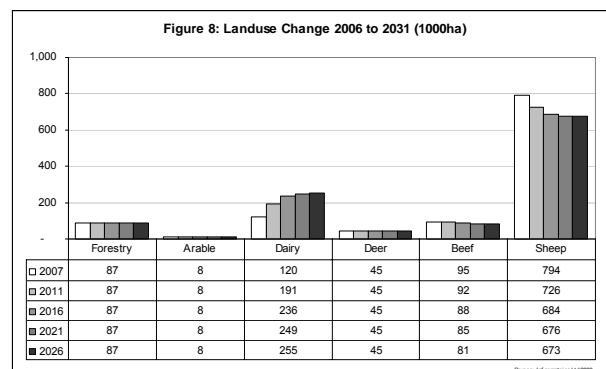
The amount of land used for forestry is projected to decrease slightly in line with estimates from the 2007 Deforestation Survey. While most high country and marginal lands are likely to stay under forest, some areas of flat land and Eucalypt forest are expected to be converted to dairy following harvesting.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

²² '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 16- 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	15,303	15,291	15,596	15,866	15,974	15,542	1.6%
	<i>53.5%</i>	<i>53.3%</i>	<i>53.8%</i>	<i>54.0%</i>	<i>54.0%</i>	<i>54.0%</i>	<i>54.0%</i>	
Total Urban	14,223	13,416	13,149	13,304	13,534	13,626	13,258	0.8%
	<i>46.5%</i>	<i>46.7%</i>	<i>46.2%</i>	<i>46.0%</i>	<i>46.0%</i>	<i>46.0%</i>	<i>46.0%</i>	
Total District	30,561	28,719	28,440	28,900	29,400	29,600	28,800	1.3%

Table 17- 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 water used in each household.

Growth in population is expected to necessitate an increase in the extraction of water for water supply purposes. This will need to be managed in a way that maintains the health of watercourses from which water is extracted. There are restrictions in the availability of raw water sources to meet future demands in some areas, particularly in the Mataura River catchment and now in the Lumsden aquifer.

Urban growth and peak growth will also require extensions to the water supply reticulation to service new residential subdivisions and, in some cases, upgrading the capacity of existing pipes.

In particular growth in Te Anau and Winton will require substantial focus on capacity upgrades for intakes, treatment plants, storage, and the reticulation.

Care will need to be taken to ensure the quality of raw water is not adversely affected by increased soil-nitrification caused by increased dairying.

3.3 Changes in Technology

Two trends which reduce the demand for water from the reticulated water supply system are;

- Dual water supply systems, where the use of water from the reticulated water supply for potable (drinking water) purposes is supplemented by the use of rainwater collected from impervious surfaces such as roofs for purposes such as garden irrigation, and toilet flushing.
- The use of “grey water” (water from washing machines, showers etc) for garden watering.

3.4 Demand Management

3.4.1 Existing Demand management Practices

3.4.1.1 Water loss management

The quantity of unaccounted for water use from SDC’s water supply networks is currently in the range of 12% to 20% of the total water consumption. This represents the quantity of water lost through leakage from the water supply system and unauthorised water use (such as the illegal use of fire hydrants). This loss rate is typical of urban water supply systems.

SDC carry out leak detection surveys when appropriate and will continue to implement programmes intended to minimise losses from the water supply systems. These include the programmes for the progressive replacement of pipelines as they reach the ends of their useful lives and to identify and repair sources of leakage from the water supply systems.

3.4.1.2 Public Education

Although there is no formal education programme, W&WS publish articles on a regular basis in the “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 Pressure Management

In some townships pressure management should be considered to reduce wastage caused by higher pressures.

3.4.2.2 Water Metering

To date water metering has only been applied to extraordinary users and they are rated accordingly. Metering (despite charging) could be considered as a demand management technique in townships conscious of water efficiency.

Households and other users not classed as extraordinary currently pay a locally targeted rate. Volumetric charging has never been seriously considered by the council due to the cost of implementation.

3.4.2.3 Restricted Water Supplies

Rural supplies have flows restricted to provide the purchased volume of water to be delivered evenly over a 24-hr period.

3.5 Sustainable Development

3.5.1 Changing climatic patterns²³

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 report²⁴ 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 18 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.

Table 18- Projected mean temperature changes in Southland (in °C)

	<i>Summer</i>	<i>Autumn</i>	<i>Winter</i>	<i>Spring</i>	<i>Annual</i>
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.

²³ Ridgen 2002 and Mullen et al. 2008

²⁴ Climate Change Effects and Impacts Assessment (MfE 2008)

Table 19 - Projected mean precipitation changes in Southland (in %)

	<i>Summer</i>	<i>Autumn</i>	<i>Winter</i>	<i>Spring</i>	<i>Annual</i>
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 20 - Potential impacts of climate change for the Southland District ^{1 2}

<i>Climate Influence</i>	<i>Water resource functions</i>			<i>Management measures</i>
	<i>Groundwater</i>	<i>Water Quality</i>	<i>Water Quantity</i>	
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 	<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

Climate Influence	Water resource functions			Management measures
	Groundwater	Water Quality	Water Quantity	
		water treatment processes & ecosystems		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 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		
Look long term. Consider the needs of future generations. Have good (cost effective) information about where we've been, where we are	Asset Planning – - 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	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.

We will	We are already	We may look further at
<p>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 ecosystems and manage natural resources.</p>	<p>cost of the asset over its life (and therefore determine best option).</p> <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>Considering the long-term implications of rates and funding requirements.</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> <p>Consider identifying an agreed community priority around community outcomes to further inform planning processes and decisions.</p>
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</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</p>

We will	We are already	We may look further at
	<p>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 heritage, WasteNet.</p> <p>Solid Waste Management – Waste minimisation education and provision of recycling drop-off centres to reduce waste to landfill.</p> <p>Work with National bodies to better define Councils and our communities sustainable footprint and develop strategies to reduce its impact.</p>	<p>which affect wellbeing (asset design; policies) and allow appropriate time to reduce the need for re-work.</p>

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 water supply 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.
- Water loss reduction programmes will limit losses to current levels.
- SDC's water conservation programme aimed at reducing water wastage and promoting the more efficient use of water will offset the trend for higher household consumption.
- Following the currently planned upgrades all Council water treatment plants will comply with the DWS.
- The use of supplementary water supplies will not become widespread, and the increased use of water consuming devices will be balanced by increased water conservation.
- Commercial and industrial water usage will remain at current levels.

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 outlined below in general terms. Scheme specific issues and solutions are detailed in Section 5.0.

3.6.2 Key issues

3.6.2.1 Population Growth

Although some extensions to the water supply reticulation will be necessary to service new subdivisions future water volumes required 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 facilitates upgrading of water supply infrastructure to ensure that the infrastructure is capable of facilitating population growth, while balancing community expectations with affordability.

3.6.2.2 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 Changing Land Use

Some areas are suffering from growth pressures due to changing land uses especially rural supply areas. This is causing pressure on rural water supplies.

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 21 – Summary of Key Issues

Key Issue	Scheme	Description	Status
Lack of capacity	EBOF RWS Kakapo RWS Lum-Balf RWS Manapouri Riverton Te Anau	Intake, treatment, storage and reticulation upgrades.	Programmed, see Section 5.0