

Sewerage & Stormwater

Sub Activities:

Sewerage
Stormwater

Goal

To protect the health of the district's residents and environment by providing an efficient and effective means of collecting, treating and disposing of sewage effluent and stormwater.

Nature and Scope of Activity

Sewerage





Currently only those properties within the urban area (including Ocean Ridge) have access to a sewer reticulation system consisting of 54km of pipes and 10 pump stations. The sewage is treated in oxidation ponds before being discharged into the ground.

The Kaikoura district has been able to secure funding from the Ministry of Tourism of \$1.6 million to upgrade our sewerage infrastructure, and to date we have undertaken significant upgrading including a new main line, new pump station, infiltration beds and aerators at the oxidation ponds, increasing the capacity of this infrastructure to be able to cope with a population of 5,000. These upgrades will continue with further new main lines, another pump station and another aerated lagoon at the oxidation ponds, increasing total capacity to cope with a permanent population of 10,000 people.

Stormwater

The stormwater system consists of approximately 17km of pipe network, plus 40km of un piped ditches. Council has obtained a global consent for its stormwater system in 2008, one of the first local authorities in New Zealand to do so.

Effects on the Community

Economic		Safe and sanitary wastewater treatment and disposal systems are critical for any community to function, and Kaikoura relies on its clean green image for its tourism ventures
Environmental		The effective treatment and disposal of wastewater is there to protect not only people, but the environment as well. By upgrading the sewerage reticulation, pump stations, and installing bio-filters, Council has reduced the risk of overflow and excessive odours
Social		Safe and sanitary wastewater treatment and disposal is fundamental to the health and safety of the whole community
Cultural		The provision of sewerage systems protects the cultural wellbeing of the community by efficiently disposing of offensive matter

Community Outcomes

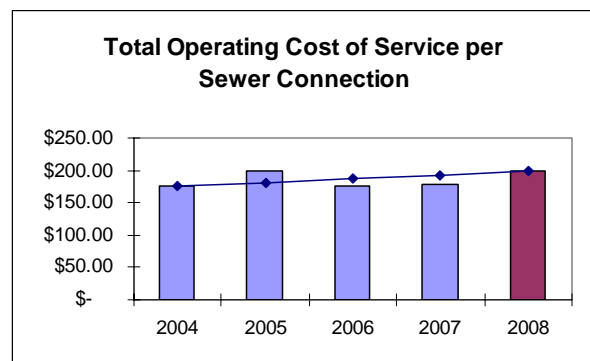
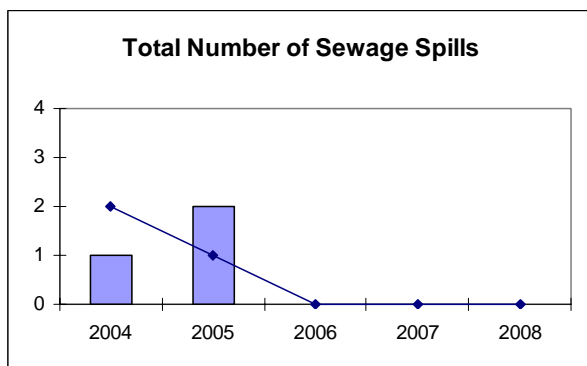
The following table highlights how Sewerage and Stormwater contributes to the achievement of our Community Outcomes.

Community Outcome	How the Sewerage & Stormwater Activity Contributes	Performance Measure
Sustainable Development	By providing adequate water and wastewater infrastructure, appropriately funded to meet future development needs.	Complete the development of the oxidation ponds and mainline to support growth and residential expansion
Quality Water and Wastewater Services	Ensure that sewage is disposed of efficiently.	Tests taken at the oxidation pond confirm that levels of dissolved oxygen exceed 2mg/l
	Provide for further stormwater development throughout the urban area, with particular focus on Beach Road and South Bay.	Oxidation pond effluent tests show the level of nitrogen is maintained within the World Health Organisation Standards (less than 10 milligrams per litre)
A Quality Standard of Affordable Housing	Ensure that all urban properties have access to a sewerage system that is efficient and affordable.	Percentage of the urban area with stormwater infrastructure in place.
Environmental Protection and Enhancement	Ensure that sewage is disposed of with minimum environmental impact.	Total operating cost of service per connection (Kaikoura township)
		No sewage spills from pump stations or manholes

Report on Performance

Performance Measure	Last Year	Target 2007/2008	Actual Result 2008
Complete the development of the oxidation ponds and mainline to support growth and residential expansion	The mainline from Fords to Hawthorne Rd is completed, and also the Ludstone Rd pump station. At the oxidation pond, inlet screens have been installed and the pond has been desludged.	Install aerator and partitions at the oxidation ponds	Aerator and partitions installed.
Tests taken at the oxidation pond confirm that levels of dissolved oxygen exceed 2mg/l	142 tests were done, of these 42 tests fell below 2mg/l. Almost all of the failure can be attributed to the desludging process.	100% of tests exceed 2 milligrams per litre (mg/l)	80% of tests exceeded 2 mg/l
Oxidation pond effluent tests show the level of nitrogen is maintained within the World Health Organisation Standards (less than 10 milligrams per litre)	100% of tests were well below 10mg/l	95% of tests do not exceed 10 mg/l	100% of tests did not exceed 10 mg/l
Percentage of urban area with stormwater infrastructure in place	70% of urban area has stormwater in place	Develop a master plan to prioritise further development	Master plan almost complete.

KEY: The line in each graph indicates the Councils desired trend, and for 2008 the Actual Target



Level of Achievement

The significant capital work undertaken on the sewerage infrastructure continues, and the capacity and efficiency of the system has improved as a result. There have been no sewer spills, levels of dissolved oxygen levels are increasing (these measure the effectiveness of treatment at the oxidation ponds), nitrogen levels are well within World Health Organisation guidelines, and the infrastructure now has the capacity to cope with a permanent population of 5,000 people (our urban population is currently less than 3,000).

Very pleasingly, this has been achieved with the operating cost of service per sewer connection remaining similar to 2005 levels, as while the system has been significantly expanded, it is also operating more efficiently.

A stormwater master plan is currently being prepared that will provide for, and prioritise, the further development of stormwater within the urban area.

Operating Cost of Service Statement: Sewerage & Stormwater

FOR THE YEAR ENDED 30 JUNE 2008

	2008 BUDGET \$	2008 ACTUAL \$	2007 ACTUAL \$
Operating Expenses			
<u>Sewerage</u>			
Operations	213,740	245,001	207,658
Loan Interest	22,090	21,174	22,064
Depreciation	182,186	180,458	147,603
	418,016	446,633	377,325
<u>Stormwater</u>			
Operations	49,685	39,252	40,893
Loan Interest	13,325	10,654	10,229
Depreciation	45,591	46,236	28,479
	108,601	96,142	79,601
Total Operating Expenses	526,617	542,775	456,926
Funded by:			
Targeted Rates & Charges	499,044	502,940	459,750
User Fees & Charges	11,000	5,369	20,926
Subsidies	162,600	28,953	484,510
Development Contributions	191,560	109,613	501,646
	864,204	646,875	1,466,832
Operating Surplus/(Deficit)	337,587	104,100	1,009,906

Capital Cost of Service Statement: Sewerage & Stormwater

FOR THE YEAR ENDED 30 JUNE 2008

	2008 BUDGET	2008 ACTUAL	2007 ACTUAL
	\$	\$	\$
Capital Expenditure			
<u>Sewerage</u>			
New/Upgrade Assets	325,200	114,802	1,031,704
Renewals	-	2,511	-
Increasing Levels of Service	-	-	-
	325,200	117,313	1,031,704
<u>Stormwater</u>			
New/Upgrade Assets	33,000	42,595	21,599
Renewals	3,587	-	-
Increasing Levels of Service	-	-	-
	36,587	42,595	21,599
<u>Capital Debt Servicing</u>			
Loan Principal	26,787	14,825	25,036
Total Capital Expenditure	388,574	174,733	1,078,339
Funded by:			
Transfer from/(to) Reserves	(209,790)	(189,061)	(107,109)
Loans	33,000	33,000	-
Depreciation	227,777	226,694	175,542
Operating Surplus/(Deficit)	337,587	104,100	1,009,906
	388,574	174,733	1,078,339

Capital Expenditure: Acquisition of Assets

In addition to the significant upgrading that has been completed between 2005 and 2007, in 2008 work has been ongoing at the oxidation ponds including installation of baffle curtains and aerators, to improve the efficiency of wastewater treatment.

While no physical upgrading has been made to the stormwater infrastructure, a global consent has been obtained and a stormwater master plan developed, which will direct improvement requirements in the system over the next 10 years. The cost of the consent and master plan has been capitalised.