

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, two new pump stations, 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. Closed circuit television surveys (CCTV) of the underground infrastructure have highlighted a number of areas requiring urgent replacement, and these pipelines are to be replaced over the next three years.

Stormwater

The stormwater system consists of approximately 17km of pipe network, plus 40km of unpipe ditches. Council obtained a global consent for its stormwater system in 2008, one of the first local authorities in New Zealand to do so. Two significant flood events, in July and August 2008, resulted in damage to a small number of properties in the urban area. This has prioritised work for 2009/2010 to protect those areas from future damage.

Effects on the Community

Economic		Funds secured from the Ministry of Tourism have enabled significant upgrading of sewerage infrastructure to be undertaken at no cost to ratepayers.
Environmental		The effective treatment and disposal of wastewater is there to protect not only people, but the environment as well. By upgrading the oxidation ponds, sewerage reticulation, pump stations, and installing bio-filters, Council has substantially improved the efficiency of the system.
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

Measuring our Contribution to Community Outcomes

KEY: The line in each graph indicates the Councils desired trend, and for 2009 the Actual Target

Outcome 1: Sustainable Development

Sewerage and stormwater contributes to this outcome by providing adequate water and wastewater infrastructure, appropriately funded to meet future development needs.

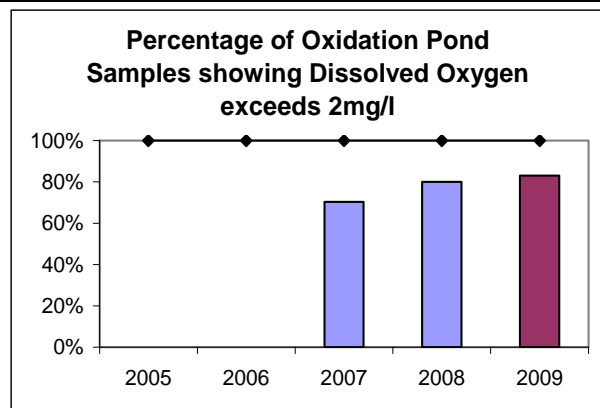
	Target 2008/2009:	Actual Result:
Complete the development of the oxidation ponds and mainline to support growth and residential expansion.	Install a second aerated lagoon at the oxidation ponds, construct a new pump station at Churchill St, and develop a new pipe-line from that pump station to Seaview.	The Churchill St pump station and pipeline to Seaview is complete, the second aerated lagoon will be completed in 2009/2010.

Outcome 2: Quality Water & Wastewater Services

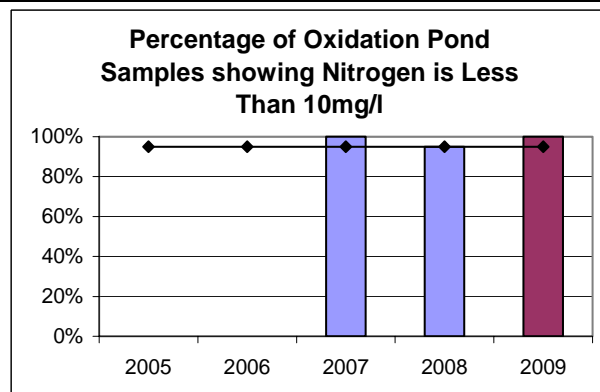
This activity contributes to this outcome by ensuring that sewage is disposed of efficiently.

The pond is designed to operate in an aerobic environment, meaning it needs oxygen for the bacterial activities to occur. If the concentration of oxygen falls below 2mg/litre it means the pond activity is not optimal and the efficiency of the pond is reduced.

The failure to meet the 100% target was due to an aerator malfunction in December 2008; the aerator was out of service while repairs were carried out.



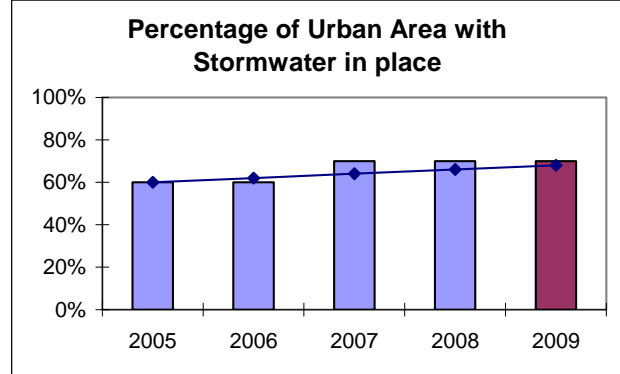
Levels of nitrogen in the oxidation pond need to be less than 10mg/litre to meet World Health Organisation standards. Excess nitrogen can mean the pond becomes overly rich in nutrients, enabling algae to grow rapidly and deplete the oxygen supply.



Outcome 2: Quality Water & Wastewater Services

Sewerage and stormwater contributes to this outcome by providing for further stormwater development throughout the urban area, with particular focus on Beach Road and South Bay.

Much of the new stormwater development in recent years has been as a result of new residential subdivisions, and has been undertaken by the developer in each instance. None of this increased stormwater relates to either Beach Rd or South Bay.

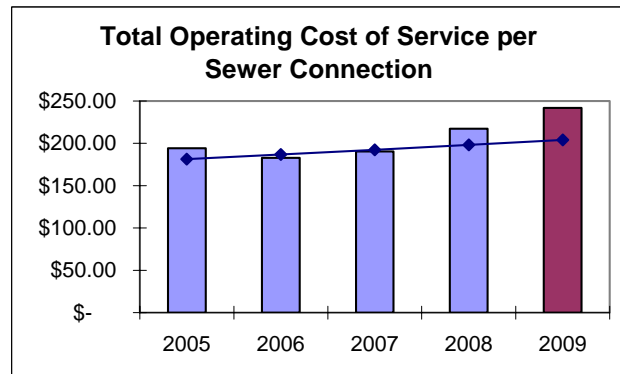


Outcome 5: A Quality Standard of Affordable Housing

This activity contributes to a quality standard of affordable housing by ensuring that all urban properties have access to a sewerage system that is efficient and affordable.

The total operating cost of service per sewer connection should increase at a rate that is less than 5% per annum.

This has not been achieved, and in 2009 the cost per connection had increased by 9.7%, partly due to increased costs in operating the two new pump stations, and partly due to the actual number of connections being less than expected (quantity of undeveloped land at various new residential subdivisions).

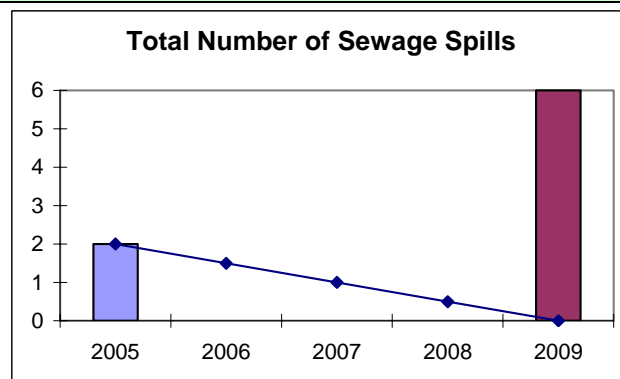


Outcome 6: Environmental Protection & Enhancement

Sewerage and stormwater contributes to environmental protection and enhancement by ensuring that sewage is disposed of with minimal environmental impact.

The floods of 2008/2009 resulted in several sewage spills from manholes.

One further (minor) spill occurred in November 2008 when a sewer pump was blocked as a result of rags in the system.



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. Levels of dissolved oxygen are increasing (this measures 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).

The operating cost of service per sewer connection has increased due to higher costs associated with operating the new pump stations, and fewer than expected properties connecting to the service.

A stormwater master plan has been prepared that provides for the further development of stormwater within the urban area, and substantial upgrading is proposed for 2009/2010 to address many of the issues that occurred in the July and August flooding events of 2008.

Service Delivery Standards

In addition to the performance measures used to assess our progress towards the achievement of community outcomes, we also measure our performance against our service delivery standards.

	Target	Currently Achieving
Emergency response/action	Action is taken within one hour of reporting or detection	Not measured
Alarms, overflows and breaches of consent conditions	Action is taken within one hour of reporting or detection	Not measured
Odour nuisances reported	Responded to within 24 hours of reporting or detection	Not measured
Written complaints	Responded to within 5 days	No written complaints

Operating Cost of Service Statement: Sewerage & Stormwater

FOR THE YEAR ENDED 30 JUNE 2009

	2008/2009 BUDGET	2008/2009 ACTUAL	2007/2008 ACTUAL
	\$	\$	\$
Operating Expenses			
<u>Sewerage</u>			
Operations	260,700	286,638	245,001
Loan Interest	20,268	17,519	21,174
Depreciation	195,510	212,567	180,458
	476,478	516,724	446,633
<u>Stormwater</u>			
Operations	66,313	43,903	39,252
Loan Interest	13,260	13,109	10,654
Depreciation	45,831	50,134	46,236
	125,404	107,146	96,142
Total Operating Expenses	601,882	623,870	542,775
Funded by:			
Targeted Rates & Charges	538,340	545,699	502,940
User Fees & Charges	25,581	20,785	5,369
Subsidies	484,510	410,783	28,953
Development Contributions	199,222	49,799	109,613
	1,247,653	1,027,066	646,875
Operating Surplus/(Deficit)	645,771	403,196	104,100

Capital Cost of Service Statement: Sewerage & Stormwater

FOR THE YEAR ENDED 30 JUNE 2009

	2008/2009 BUDGET \$	2008/2009 ACTUAL \$	2007/2008 ACTUAL \$
Capital Expenditure			
<u>Sewerage</u>			
New/Upgrade Assets	867,200	764,420	114,802
Renewals	140,000	7,315	2,511
Increasing Levels of Service	-	-	-
	1,007,200	771,735	117,313
<u>Stormwater</u>			
New/Upgrade Assets	5,000	2,850	42,595
Renewals	3,914	-	-
Increasing Levels of Service	-	-	-
	8,914	2,850	42,595
<u>Capital Debt Servicing</u>			
Loan Principal	31,000	36,817	14,825
Total Capital Expenditure	1,047,114	811,402	174,733
Funded by:			
Transfer from/(to) Reserves	160,002	145,505	(189,061)
Loans	-	-	33,000
Depreciation	241,341	262,701	226,694
Operating Surplus/(Deficit)	645,771	403,196	104,100
	1,047,114	811,402	174,733

Capital Expenditure: Acquisition of Assets

In addition to the significant upgrading that has been completed in recent years, another pump station has been developed on Churchill Street, the Mill Rd pump station has been significantly upgraded to cope with residential expansion in that area, and generators have been purchased to enable the system to continue to function in power outages. A closed circuit TV (CCTV) survey was undertaken, and this has highlighted a number of areas of underground pipe infrastructure in urgent need of replacement. The CCTV project was undertaken instead of the budgeted renewal work; this has been money well spent as future renewal expenditure will be prioritised according to the results of that survey.

In terms of stormwater, no capital work has yet been undertaken, however a new global consent for the system and the flood events of July and August 2008 have determined the priority works for the future, and substantial pipe infrastructure will be developed in 2009/2010.