Water Supply

"I think ecologically our water is precious stuff. I still save water, I got into the habit with the water restrictions last year.

I'd be happy to see watering every second day stay in place for the good of the city and I'm a big gardener. I save rainwater as an emergency supply and I use it for the garden too."

Marcia Clarke
Sockburn

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What activities are included in water supply?

Water Supply:

- Supplying potable water to properties, through the provision of infrastructure to treat (where appropriate), store, pipe and monitor the supply.

Water Conservation:

- Educate the community to minimise water use and encourage better utilisation
- Detect water leaks

Why is the Council involved in water supply?

To meet the public expectation that water is safe to drink, will be supplied to properties, will be available for fire-fighting purposes

How does the water supply service contribute to our community outcomes?

The Council's water supplies meet the public's reasonable needs

- The Council provides and maintains infrastructure to abstract, store, treat when needed, deliver and monitor a reliable supply of water to properties that is safe to drink and is available for fire-fighting purposes.
- The Council manages the abstraction of water, at levels that will preserve water resources and ensure its availability now and in the future, by
  - encouraging the community to use water efficiently
  - detecting and repairing network leaks
  - operating a maintenance, renewals and replacement programme

Christchurch has clean, safe drinking water

- Laboratory services monitor the quality of the public drinking water supplies to enable the Council to ensure that agreed standards are consistently met.

Injuries and risks to public health are minimised

- Risks to the quality of public water supplies are monitored and managed to ensure agreed standards are consistently met.

Water is used efficiently and sustainably

- The Council monitors the public drinking water supply network to detect and repair leaks and operates a maintenance, renewals and replacement programme to ensure water loss is minimised.

Stream and river flows are maintained

- The Council's water conservation education and promotion programmes can increase awareness of the need for efficient and sustainable water use, encourage water conservation and enhance the value that the community places on water resources.

What changes are planned for water supply?

Targets have been adjusted to reflect on-going recovery from the earthquakes. Improvements are planned over time to repair faults and minimise loss through leakage. Improvements to water quality grading will continue.

What negative effects or risks can occur in relation to water supply?

Negative Effects	Mitigation Options
Over abstraction of water from underground aquifers can result in lower river levels and the contamination of the aquifer with sea water and other less pure water in the ground.	Management of water use and abstraction, through water conservation and monitoring of the aquifer. Publicity and restrictions, when necessary.
Water pipes can burst causing damage to land and property, and wasting water.	Maintenance and renewal of water pipelines and a quick response to reported leaks.
Decline in water quality	Continue backflow prevention initiatives. Monitor water quality through testing.

Council Activities and Services

Water Supply

Activity	What is the Council trying to achieve?	What services will the Council offer to make this happen?	How would we know these services were successful? Measure	Target
Water Supply	The Council's water supplies meet the public's reasonable needs Christchurch has clean, safe drinking water Injuries and risks to public health are minimised	Supply continuous potable water to all customers	Supply continuous potable water to all customers	Ensure unplanned interruptions per 1000 properties served per year do not exceed a specified amount
				Ensure unplanned interruptions of greater than four hrs, on average per week each year do not exceed a specified amount
				Ensure major leaks have a Council representative on site to assess and confirm repair options within two hours of being reported to Council for rural areas:
				Ensure medium leaks repaired within one working day of being reported to Council for urban and rural areas:
				Ensure minor leaks repaired within three working days of being reported to Council for urban and rural areas:
			Manage risk to potable water supply	Maintain highest Ministry of Health water supply grade possible without treatment for all city supplies, excluding the Northwest supply zone
				Move 'Da' to 'Ba' grading for the Northwest supply zone
				Undertake improvements to risk grading from the Ministry of Health for all rural area water supplies

Council Activities and Services

Water Supply

Current Performance	Planned Performance		
	2013/14	2014/15	2015/16
2009/10: 11.8 2010/11: 41 2011/12: 17.6 Current level of service pre-earthquakes performance: 12 unplanned interruptions per 1000 properties served per annum	No more that 40	No more that 30	No more than 20
2009/10: 0.74 2010/11: 1.2 2011/12: NA Current level of service: less than one unplanned shutdown of no more than four hours on average per week	No more than 1.75	No more that 1.5	No more that 1.25
2009/10: 98.6% 2010/11: 83.2% 2011/12: 44%	At least 70%	At least 80%	
2009/10: 96.5% 2010/11: 75% 2011/12: 75.5%	At least 70%	At least 80%	
2009/10: 98.3% 2010/11: 93.6% 2011/12: 54.7%	At least 70%	At least 80%	
2009/10: 97.2% 2010/11: 92.4% 2011/12: 56.0%	At least 70%	At least 80%	
'Ba' for all supply zones within the City 'Bb' for Lyttelton Harbour Basin supply.	'Ba' grading for all City supplies, excluding the Northwest supply zone	Maintain	Maintain
'Da' for the Northwest supply zone.	Move 'Da' to 'Ba' grading for the Northwest supply zone by December 2015	Move 'Da' to 'Ba' grading for the Northwest supply zone by December 2015	Move 'Da' to 'Ba' grading for the Northwest supply zone by December 2015
All Council rural water supplies have a Uu grading (ungraded). Upgrading works have been completed on Pigeon Bay, Birdlings Flat and Duvauchelle treatment plants. These plants will be re-graded.	Undertake improvements to achieve 'Cc', or better, risk grading from the Ministry of Health for all rural area water supplies by December 2014	Undertake improvements to achieve 'Cc', or better, risk grading from the Ministry of Health for all rural area water supplies by December 2014	

Council Activities and Services

Water Supply

Activity	What is the Council trying to achieve?	What services will the Council offer to make this happen?	How would we know these services were successful? Measure	Target
Water supply (continued)				Install backflow prevention devices (at owners cost) for highest risk premises each year
				Microbiological and health significant chemical water quality meets current NZ Drinking Water Standards within the City
				Microbiological and health significant chemical water quality meets current NZ Drinking Water Standards for rural supplies
				Customers are satisfied with the water supply service
Water conservation	The Council's water supplies meet the public's reasonable needs Water is used efficiently and sustainably Stream and river flows are maintained	Educate the community to minimise water use and encourage better utilisation	Manage the supply of potable water for Christchurch	Manage the supply of water to maintain the total abstraction of potable water within specified limits
				Manage the supply of water to maintain the extraction of potable water per property within specified limits
			Increase/maintain public awareness of water conservation	Maintain public awareness of sustainable water use
		Detect water leaks	Detect leaks	Return leakage rates to no more than average of 155 litres / connection / day* by 2020 (based on city pressure zones) * Returning to 2009/10 performance standard

Council Activities and Services

Water Supply

Current Performance	Planned Performance		
	2013/14	2014/15	2015/16
2009/10: 268 installed 2010/11: 90 installed 2011/12: 112 installed	At least 100 backflow prevention devices installed (at owners cost) for highest risk premises each year	At least 100 backflow prevention devices installed (at owners cost) for highest risk premises each year	
2009/10: 100% compliant within the City. 2010/11: Testing is done in accordance with the Drinking Water Standards for New Zealand. All City supply zones fully comply with E. coli requirements. 2011/12: 100% compliant within the City.	Microbiological and health significant chemical water quality meets current NZ Drinking Water Standards within the City each year as assessed by Community and Public Health	Maintain	
2009/10: 67% of rural water supplies compliant. 2010/11: 81% of rural water supplies compliant. 2011/12: 57% of rural water supplies compliant.	Microbiological and health significant chemical water quality meets current NZ Drinking Water Standards for rural supplies each year as assessed by Community and Public Health	Maintain	Maintain
Customers satisfied with the water supply service; 2009/10: 92% 2010/11: No Survey 2011/12: 85%	At least 90% customers satisfied with the water supply service	Maintain	Maintain
54.3M m3 total water abstracted for the City and Banks Peninsula for the public water supply	Manage the supply of water, so no more than 55 million cubic metres of potable water abstracted per year	Manage the supply of water, so no more than 55 million cubic metres of potable water abstracted per year	Manage the supply of water, so no more than 55 million cubic metres of potable water abstracted per year
2009/10: 364 m3 2010/11: 355 m3 2011/12: 301 m3	No more than 342 m3 +10% water abstracted per property served per year	No more than 339 m3 +10% water abstracted per property served per year	No more than 335 m3 +10% water abstracted per property served per year
2009/10: 61% 2010/11: No survey 2011/12: 91%* *Campaign incorporated management of city-wide water restrictions for the first time since 1991	At least 70% public awareness of sustainable water use	Maintain	
2009/10: 155 litres/connection/day 2010/11: 165 litres/connection/day 2011/12: 250 litres/connection/day (post-EQ)	By detecting leaks, aim to return leakage rates to no more than average of 155 litres / connection / day* by 2020 (based on city pressure zones) * Returning to 2009/10 performance standard	By detecting leaks, aim to return leakage rates to no more than average of 155 litres / connection / day* by 2020 (based on city pressure zones) * Returning to 2009/10 performance standard	By detecting leaks, aim to return leakage rates to no more than average of 155 litres / connection / day* by 2020 (based on city pressure zones) * Returning to 2009/10 performance standard

Council Activities and Services

Water Supply

Annual Plan 2012/13		Three Year Plan 2013 - 2016 2013/14	2014/15	2015/16
	$000			
	Cost of proposed services			
124	Water Conservation	126	128	132
31,456	Water Supply	31,144	31,471	32,175
31,580		**31,270**	**31,599**	**32,307**
	Revenue from proposed services			
-	Water Conservation	-	-	-
4,714	Water Supply	5,498	4,920	4,301
53,196	Capital revenues	6,766	7,246	7,098
57,910		12,264	12,166	11,399
(26,330)	**Net operational cost (funded by rates)**	**19,006**	**19,433**	**20,908**
200	Vested assets	200	209	217
(26,530)	**Net cost of services**	**18,806**	**19,224**	**20,691**

Annual Plan 2012/13		Three Year Plan 2013 - 2016 2013/14	2014/15	2015/16
	$000			
	Cost of capital expenditure			
2,611	Renewals and replacements	3,230	3,617	3,403
85,900	Earthquake rebuild	7,777	7,066	7,020
6,110	Improved service levels	12,192	9,362	565
10,752	Increased demand	6,572	6,105	7,732
105,373		**29,771**	**26,150**	**18,720**
	This capital expenditure is funded by			
2,611	Rates	3,230	3,617	3,403
51,540	Earthquake rebuild recoveries	4,230	4,240	4,212
15,206	Borrowing	19,775	15,287	8,219
34,360	Transfers from Reserves	-	-	-
880	Development Contributions	1,758	2,208	2,065
776	Grants, Subsidies and other	778	798	821
105,373		**29,771**	**26,150**	**18,720**

Rationale for activity funding (see also the Revenue and Financing Policy)

User charges (technically classified as a rate) are made for excess water supplied at the average cost of water. The balance of the net operating cost is funded by a targeted rate on serviced properties based on capital value.

Development contributions are applied towards appropriate capital expenditure. The balance of capital expenditure is funded corporately in accordance with the Revenue and Financing Policy.

Council Activities and Services

Water Supply Funding Impact Statement

Annual Plan 2012/13		Three Year Plan 2013 - 2016 2013/14	2014/15	2015/16
	$000			
	Sources of operating funding			
(8,489)	General rates, uniform annual general charges, rates penalties	(7,092)	(7,424)	(8,288)
25,949	Targeted rates	24,099	25,482	27,268
-	Subsidies and grants for operating purposes	-	-	-
2,339	Fees, charges and targeted rates for water supply	2,989	3,071	3,159
-	Internal charges and overheads recovered	-	-	-
2,375	Earthquake recoveries	2,509	1,849	1,142
-	Local authorities fuel tax, fines, infringement fees, and other receipts	-	-	-
22,174	**Total operating funding**	**22,505**	**22,978**	**23,281**
	Applications of operating funding			
17,829	Payments to staff and suppliers	18,018	17,101	16,423
1,585	Finance costs	1,140	1,666	2,309
1,325	Internal charges and overheads applied	1,789	1,791	1,884
-	Other operating funding applications	-	-	-
20,739	**Total applications of operating funding**	**20,947**	**20,558**	**20,616**
1,435	**Surplus (deficit) of operating funding**	**1,558**	**2,420**	**2,665**
	Sources of capital funding			
776	Subsidies and grants for capital expenditure	777	798	821
880	Development and financial contributions	1,758	2,208	2,065
51,540	Earthquake recoveries	4,230	4,240	4,212
16,382	Increase (decrease) in debt	21,448	16,484	8,957
-	Gross proceeds from sale of assets	-	-	-
-	Lump sum contributions	-	-	-
69,578	**Total sources of capital funding**	**28,213**	**23,730**	**16,055**

Annual Plan 2012/13		Three Year Plan 2013 - 2016 2013/14	2014/15	2015/16
	$000			
	Applications of capital funding			
	Capital expenditure			
2,611	- to replace existing assets	3,230	3,617	3,403
85,900	- earthquake rebuild	7,777	7,066	7,020
6,110	- to improve the level of service	12,192	9,362	565
10,752	- to meet additional demand	6,572	6,105	7,732
(34,360)	Increase (decrease) in reserves	-	-	-
-	Increase (decrease) of investments	-	-	-
71,013	**Total applications of capital funding**	**29,771**	**26,150**	**18,720**
(1,435)	**Surplus (deficit) of capital funding**	**(1,558)**	**(2,420)**	**(2,665)**
-	**Funding balance**	**-**	**-**	**-**
	Reconciliation to net cost of services			
1,435	Surplus (deficit) of operating funding from funding impact statement	1,558	2,420	2,665
(17,460)	Remove rates funding	(17,007)	(18,058)	(18,980)
(10,841)	Deduct depreciation expense	(10,322)	(11,041)	(11,691)
53,196	Add capital revenues	6,765	7,246	7,098
200	Add vested assets / non cash revenue	200	209	217
26,530	**Net cost of services per activity statement surplus/(deficit)**	**(18,806)**	**(19,224)**	**(20,691)**