



Research First

Invercargill City Council

2013 Service Level Survey: Water Supply Report

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Research First: No-one Knows Communities Like We Do

Research First . 0508 4 Research . info@researchfirst.co.nz . www.researchfirst.co.nz



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1 Introduction

1.1 Research Context

In 2013 Invercargill City Council (ICC) contracted Research First to conduct a survey of Invercargill residents. The purpose of this survey is to provide ICC with a measure of how satisfied residents are with seven key areas:

1. Roading;
2. Parks and reserves;
3. Cemeteries and crematorium;
4. Stormwater;
5. Water supply;
6. Sewerage; and
7. Solid waste.

1.2 Research Design

The 2013 research involved a mixed-method multi-phase design, which combined qualitative and quantitative research.

1.2.1 The Qualitative Phase

The qualitative part of this research comprised:

1. Interviews with key members of the ICC staff; and
2. Seven focus groups, held among people identified as being informed and relevant to each of the service areas.

The focus groups involved between five and seven participants who were recruited by ICC to reflect the range of views held in the community regarding each issue. The discussion groups were held at ICC's Council Chambers, during August 2013.

1.2.2 The Quantitative Phase

The survey of residents was completed between late August and mid October 2013. The data collection period was an extended one because the survey used a mixed-method design. In other words the 'survey' was actually two surveys - one completed online and one completed by conventional mail return. The process used was:

- A randomised sample was generated from the electoral roll, including both Māori and general rolls;
- A letter was sent to all those randomised into the sample, asking them to participate. The letter was sent out on ICC letterhead and invited participation by accessing the survey website (i.e., an online survey);



**This report
presents the
water supply
service results
from the 2013
survey of
Invercargill
residents**

- A follow-up postcard was sent two weeks later, reminding people that they were still welcome to participate, and could do so by the online survey or by telephone if necessary; and
- Two weeks after the postcard was sent, a further follow-up was sent to all non-respondents which included a hard copy of the survey and a reply paid envelope (i.e., a mail survey).

Of the 2,500 invitations sent out, 354 residents responded to the mail survey and 315 residents replied to the online questionnaire*. This means the results reported here are based on 669 responses.

This document combines the qualitative insights from the focus groups and the results from the survey in regard to **water supply** in Invercargill.

* Note that due to the self-completion nature of the on-line survey, there are some questions that were answered by smaller numbers of respondents. Where there were less than 15 responses to a question these results have not been included.

2 Water Supply Service Levels: The Focus Group Insights

2.1 Supply

Participants in this focus group believed that the quantity of water available to residents was generally not an issue. During the summer water restrictions were sometimes put in place for household use. This was not seen as a significant problem. Most participants felt that most residents had other sources available to obtain water if and when restrictions were put in place.

Within the city there were a few pockets that had poor or run-down water mains, but all systems were currently being upgraded so this was a short-term issue.

Participants felt that moving forwards, there could be problems with the quantity of water available. Houses were being fitted out with more devices that use greater volumes of water, and this in turn would add pressure on water pipes. Many residents were currently on a low pressure system. While there was the ability to change or increase the size of the pipes, there was an expense involved in doing so.

2.2 Quality

Participants believed that Invercargill had safe drinking water, and that it was available to all residents. They thought that having safe drinking water was a fundamental requirement for public health. Generally, the water was perceived as being of an acceptable quality.

Participants noted that taste was an issue at present and on a seasonal basis, but the Council was actively trying to fix it. During the summer months, algae blooms in the source (the Oreti River) could enter the water supply. The water is treated, so the algae bloom itself is not an issue. Participants indicated that at times after treatment, the water could have an 'off' taste from the treatment and they could smell chlorine (although this was not a big concern for participants).

Changes in river levels during the summer were identified as having an impact on the quality of the water. Participants understood that many houses have a filter system installed, so the quality of water as it currently stood was acceptable. The water was sometimes cloudy, but this cleared quickly and was not thought of as an issue with quality.

Some participants thought that in industrial areas the water quality may struggle to meet the national codes.

2.3 Fluoridation

Participants had mixed views about the fluoridation of Invercargill's water supply. A number of participants provided perspectives for and against fluoridation, with some participants holding very strong views. Participants felt that it would be useful to have a referendum among the residents to understand how the community at large felt toward fluoridation, before making a decision either way.

If a referendum was held, participants thought it would be necessary to ensure that residents were well informed, as there was a perception that people held views without understanding the factors involved in their choice. Residents would need to be provided with accurate, reliable information both for and against the fluoridation of water to allow an informed decision to be made.

2.4 Environmental Concerns

Participants indicated that they were not necessarily concerned with the amount of water being removed from the Oreti River. They were more concerned about discharge, and what went into the river. If contaminants got into the water, the quality of water in the river would alter, and as a result there could be a greater need for treatment at discharge sites. Concerns were mainly with nitrates and *E. coli* being introduced into the water supply.

Participants said that they would not swim in the Oreti River because of the quality of the water. While some said they would fish in it, they would not eat the fish they caught in it. The water was perceived as being acceptable to drink as it had been treated.

Concerns about gravel extraction in the river were also voiced by participants. Participants believed that there was a limit on the number of aqua filters that can be in the river, and a consent was needed. The impacts to the environment from aqua filters should be minimised given such controls are in place. It was thought that 3-5% of water was taken out of the Oreti River for irrigation. Again, there were no environmental concerns aligned with this removal.

Participants expressed concern about possible accidental chemical contamination of waterways. A suggestion was provided to put backflow regulators in place. This would protect waterways from any chemicals that may seep into the water supply. Those 'at risk' commercial and industrial operations such as hairdressers, mortuaries, butcheries and farms should be focussed on ensuring the clean water supply is maintained. Participants felt that sanctions could be needed to ensure farm discharge was within acceptable limits.

Participants understood that the water quality, and monitoring of discharge was set by Environment Southland, and that the Council needed to obtain consent to take water from the river. Given this, the

Council had limited ability to influence any environmental concerns residents could have about the Oreti River. Communication needed to be improved around the areas of water quality and impacts on the river.

2.5 Reliability

Participants felt that the reliability of the water supply in Invercargill was fairly good. It was noted that there were pockets within the city that had poor reticulation, but overall a positive view was given about water supply.

One participant of the group noted some specific concerns from the Fire Service. He noted that it was not until the service had to attend a fire that they came across issues about the supply of water or other reticulation problems (e.g., difficulty turning old valves on). He did acknowledge that the Council was very good at responding to issues when they were raised and they were generally fixed in a timely manner. Water supply issues were often identified when the fire service was in rural areas and needed sufficient volumes to fight a fire.

Participants praised the Council and contractors for the level of communication provided when it was necessary to turn water off temporarily. For local businesses, contractors worked to ensure the interruption was in place for the shortest possible time, and if necessary, ensured they had access to a water supply to enable them to continue to trade. For residential areas, contractors would drive around the streets prior to the water being turned off and tell residents via a loud speaker when the water was going to be turned off and when it was coming back on. Although it was felt this was acceptable, participants did note that this was really only an effective means of communication if residents were at home at the time.

2.6 System Efficiency

Participants were happy with the upgrades to the reticulation service that was being undertaken by the Council. Some minor inconvenience was noted while roads were being dug up, but it was not seen as a significant concern among participants. The old pipes that were being replaced had in many instances been causing potholes in the streets, so participants were happy that something was being done to remedy the ongoing damage issues.

Two minor concerns were noted by participants. One was a lack of planning when work was required under roads. Instances were identified when a stretch of road had been constructed and re-opened more than once for separate projects. Participants felt this was pointless and that the Council could coordinate actions in-house to ensure this did not occur. The other issue was the impact of gravel

getting into the pipes and causing blockages. The Council was responsible for fixing this problem, and fixed such issues in a timely fashion when notified. Participants did not think this was a major concern.

2.7 Cost

Participants recognised that to have high quality water, there was a cost for the residents. The current charge to residents through their rates was seen as appropriate.

When asked about adopting water meters, participants did not feel that meters would add value. Participants thought it would be a challenge for residents who currently have apparently limitless water supplies to be asked to change their habits. It was agreed that there was no real issue with the quantity of supply, and apart from rare occasions in summer months, water supply was in excess of demand. The only benefit identified with installing meters would be the ability to help fund potential upgrades to treatment plants. Participants did not view this as being sufficient reason to warrant installing meters.

3 Water Supply Service Levels: The Survey Results

3.1 Usage of Water Supply

Respondents read the following preamble about water supply services:

ICC is responsible for providing a reliable supply of water to Invercargill, Bluff and properties adjoining the main water pipeline. The water supply network comprises over 400km of pipes. 80% - 90% of water supply costs are paid for by rates and 10% - 20% by fees and charges.



47% of residents used a water purifier or filter

Table 3.1 shows that 85% were on water supplied by Invercargill City Council and 47% used a water purifier or filter for their water.

Table 3.1: Usage of Water Supply

	Yes	No
Water supplied by Invercargill City Council	85%	15%
Use of Water Purifier or Filter	47%	53%

3.2 Importance of Water Supply Features

Respondents were asked to rate each of the following water service aspects in terms of their perception of importance by means of a five point scale (1 = very unimportant, 3 = neutral and 5 = very important). Table 3.2 shows that all aspects relating to water supply were deemed important to residents (90% - 95% MTI).

Table 3.2: Importance of Water Supply Features

Features	MTI	Very Important	Important	Neutral	Unimportant	Very Unimportant
Safe to drink	95%	83%	12%	1%	0%	3%
Taste	94%	70%	24%	2%	0%	3%
Smell	94%	58%	35%	3%	0%	3%
Clarity	92%	52%	41%	4%	0%	3%
Pressure	90%	41%	50%	7%	0%	3%

3.3 Water Supply Facilities

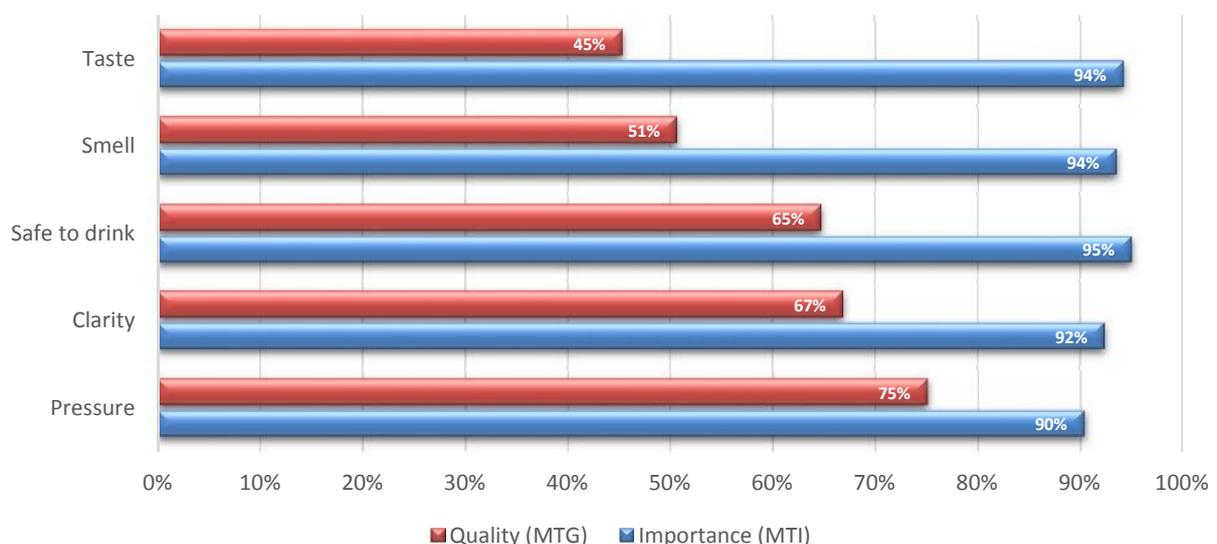
Respondents were asked to rate water supply features by means of a five point scale (1 = very poor, 3 = average, 5 = very good). The uninterrupted supply of water was rated best (89% MTG), followed by water pressure (75% MTG). The smell and taste of the water were rated lowest (45% to 51% MTG).

Table 3.3: Water Supply Facilities

Aspect of Water Supply Facilities	MTG	Very Good	Good	Average	Poor	Very Poor
Uninterrupted supply	89%	41%	48%	11%	0%	0%
Water pressure	75%	25%	50%	19%	4%	2%
Water clarity	67%	18%	49%	31%	2%	0%
Water that is safe to drink	65%	22%	43%	29%	5%	1%
Water smell	51%	12%	38%	36%	11%	3%
Water taste	45%	12%	34%	33%	16%	5%

The following graph shows the importance (MTI) of aspects of Invercargill’s water supply relative to its quality (MTG) rating. Figure 3.1 demonstrates that Invercargill’s water supply underperforms relative to its perceived importance across all areas. This suggests that ICC should make the quality of water supply an area for improvement.

Figure 3.1: Importance vs. Quality of Invercargill’s Water Supply



Respondents were asked to rate the quality of the water supply service performed in their area compared to other parts of the city. The number of respondents who rated the water supply either 'a little better' or 'much better' were combined to make a 'more than better' (MTB) score. Residents of Invercargill were more positive (26% MTB) than residents of Bluff (22% MTB).

Table 3.4: Water Supply in Area Compared with Water Supply Network in Other Parts of City

	Invercargill	Bluff	Otatara	Total
Much better	9%	11%	*	9%
A little better	17%	11%	*	17%
Same	70%	56%	*	69%
A little worse	4%	22%	*	5%
Much worse	0%	0%	*	1%

3.4 Fluoridation

Respondents were asked to rate their level of agreement with statements about fluoridation by means of a five point scale (1= strongly disagree, 3 = neutral, 5 = strongly agree). To make these results easier to interpret, a composite 'more than agree' (MTA) score has been calculated. This simply combines the number of respondents who 'agreed strongly' or 'agreed' with each statement.

Table 3.5 shows that over half (59% MTA) agreed they would prefer Invercargill's water was fluoridated, while 26% were neutral. Half agreed they had a strong opinion regarding whether fluoride should be added to Invercargill's water (50%) or that they had sufficient information regarding issues concerning fluoridation to make an informed choice (48%). Around 40% were neutral on these issues.

Table 3.5: Fluoridation

Issues	MTA	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Would prefer that Invercargill's water is fluoridated	59%	25%	34%	26%	7%	8%
Have a strong opinion regarding whether fluoride should be added to Invercargill's water	50%	22%	28%	40%	5%	4%
Have sufficient information regarding the issues concerning fluoridation of water to provide an informed decision	48%	18%	30%	39%	9%	3%

3.5 Invercargill City Council's Water Supply Service

Respondents were asked to rate Invercargill's water supply service by means of a five point scale (1 = very poor, 3 = average, 5 = very good). Table 3.6 shows that most respondents rated the ICC's water supply service 'good' or 'average'.

Table 3.6: Performance of ICC's Water Supply Service

ICC's Water Supply Service	MTG	Very Good	Good	Average	Poor	Very Poor
Responsiveness to complaints (answer only if complained in the last year)	59%	24%	35%	34%	1%	5%
Value for money for water supply service (average residential rate per year \$306)	59%	18%	41%	35%	5%	2%
Overall improvement of water service in last three years	40%	9%	31%	52%	5%	2%

Respondents were asked how often per year it would be fair to have planned interruptions in the water supply service for maintenance. Table 3.7 shows that most residents would tolerate up to two interruptions per year.

Table 3.7: Fair Occurrence of Planned Interruptions per Year

	Number of Respondents	Percentage of Respondents
None	56	10%
Once	199	34%
Twice	259	44%
Three or More	73	12%

Fifty-five respondents made other comments relating to the water supply service (Table 3.8). Comments were varied and ranged from issues with quality (27%), to positive and negative issues with chemicals or fluoride added (33%).

Table 3.8: Additional Comments Regarding the ICC Water Supply Service

	Number of Respondents	Percentage of Respondents
Occasional/ summer issues with quality	11	20%
Doing a good job	8	15%
Pleased with fluoride added to water	7	13%
Dislike fluoride in water/ Water is unpleasant since fluoride added	6	11%
Otatara should be included in the ICC water supply system	6	11%
Water has too many chemicals/ too much fluoride	5	9%
Poor quality water	4	7%
Need additional water storage facilities in case of severe event	3	5%
Improve communication with residents	2	4%
No need to charge more for water	1	2%
Cost to farmers and high users should be more	1	2%
Hope that future developments don't impact on quality	1	2%