

# WATER SUPPLY BYLAW 2015

## 2020 REVIEW



## FINDINGS REPORT

## **CONTENTS**

1. SUMMARY OF KEY FINDINGS.....	3
2. INTRODUCTION.....	4
2.1 Purpose of the Report.....	4
2.2 Scope.....	4
2.3 Background .....	4
3. THE BYLAW .....	4
4. LEGISLATIVE FRAMEWORK AND POLICY ALIGNMENT .....	5
5. METHOD.....	6
6. THE PERCEIVED PROBLEMS ASSOCIATED WITH WATER SUPPLY MANAGEMENT.....	7
6.1 Protection of the Council’s Water Supply Infrastructure .....	7
6.2 Development and On-going Maintenance of Water Supply Infrastructure .....	8
6.3 Are There Any Implications Under the New Zealand Bill of Rights Act 1990? .....	13
7. OPTIONS FOR ACHIEVING OBJECTIVES.....	13
8. RECOMMENDATIONS .....	13

## 1. SUMMARY OF KEY FINDINGS

The Queenstown Lakes District Council Water Supply Bylaw 2015 (**Bylaw**) has served the council well to date. In accordance with the Local Government Act 2002 (**LGA**) a review is required within 10 years (by 2025). However, for a number of reasons it is timely to review the Bylaw.

Consistent with council's proposal to implement an *Integrated Three Waters Bylaw*, it is appropriate that the Bylaw be reviewed at this time and not left until 2025.

The findings as included in this report are that a bylaw is still the most appropriate way to address perceived (and actual) problems and provide safe drinking water that maintains public health and is compliant with legislation as well as protecting the district's tourism-based economy. These are key matters included in the council's thirty year infrastructure strategy.

The review at this time is further supported by the outcome of council's recent consultation on three waters matters as highlighted in the information included in the cover report relating to the proposed *Integrated Three Waters Bylaw*.

Furthermore, the findings have also highlighted a number of areas where the Bylaw would benefit from upgrading and expansion. These include, but are not limited to:

- New water connections and disconnection
- Water meter issues, i.e. leaks and faults
- Water is off or low pressure issues
- Further address backflow prevention procedures
- Standardise the definitions to improve consistency across the *Three Waters* networks.

The need to update the Bylaw coupled with the proposal for council to implement an *Integrated Three Waters Bylaw* further confirms the appropriateness of updating the Bylaw now. The cover report outlines the advantages of implementing an *Integrated Three Waters Bylaw* and supporting this with an *Administrative Manual* as an efficient ongoing management approach.

## 2. INTRODUCTION

### 2.1 Purpose of the Report

This report presents findings on the effectiveness of the Bylaw. The council has a statutory responsibility under LGA to review bylaws no later than five years after they were made, and thereafter no later than 10 years after they were last reviewed.

It is proposed that the reviewed and updated Bylaw will be part of a new *Integrated Three Waters Bylaw*, supported by an *Administration Manual*, that also includes wastewater (which incorporates trade waste) and stormwater.

### 2.2 Scope

The context sets out the approach taken by the Bylaw and includes the legislative framework in which it operates.

### 2.3 Background

The council provides a reticulated water supply to approximately 23,617 residential and approximately 2,078 non-residential properties in the district.

Twelve water treatment plants in the district produce an average volume of 32,307 cubic metres of potable water in the district daily. The water supply network consists of approximately 640 km of pipes that require 33 pump stations to move the water through the network.

Resource consents for water take are required for the abstraction of natural water that is used for public supplies. These stipulate the volume of water that can be taken on a daily or weekly basis and a maximum rate of extraction (litres per second). Council currently has approximately 34 water take consents that are issued by the Otago Regional Council.

The Queenstown Lakes District Council Infrastructure Strategy 2015-2045 states *“Providing safe drinking water is important to maintaining public health and compliance with legislation, as well as protecting the district’s tourism-based economy.”*

## 3. The Bylaw

The Bylaw came into force on 1 December 2015 when the previous bylaw was revoked. It was adopted pursuant to section 146(b) of the LGA for managing, regulating against, or protecting from, damage, misuse, or loss, or for preventing the use of, the land, structures, or infrastructure associated with water supply.

The Bylaw is due for its next review in 2025, however, to incorporate the bylaw into the *Integrated Three Waters Bylaw*, the council has decided to review it before its required review date in 2025.

As recorded above, the council’s infrastructure strategy states “Providing safe drinking water is important to maintaining public health and compliance with legislation, as well as protecting the district’s tourism-based economy.”

The Bylaw is a tool used by the council to meet its infrastructure requirements and to regulate water supply in the district. The current Bylaw was adopted to effectively manage and regulate water supply

in the district and in doing so would support the delivery of the council's infrastructure strategy.

## 4. Legislative Framework and Policy Alignment

Key legislation and relevant policy considered in this review includes:

**Local Government Act 2002:** The LGA provides local authorities with flexible powers to set, assess, and collect rates to fund local government activities. This Act also sets out the requirements for managing water supply.

**Health Act 1956:** The Health Act 1956 seeks to improve and protect public health and ensure all proper steps are taken to secure the abatement of any nuisance or removal of any conditions likely to be injurious to health or offensive.

**Drinking-water Standards for New Zealand 2005 (revised 2018):** The Drinking-water Standards provide requirements for drinking-water safety. Under the Health Act, the council must take all practicable steps to ensure an adequate supply of drinking water and ensure that drinking water complies with the Drinking Water Standards.

**SNZ/PAS 4509:20083 Fire Fighting Water Supplies Code of Practice:** This code of practice sets out what constitutes a sufficient minimum supply of water pressure and volume for firefighting in structures in urban fire districts.

**WaterNZ Backflow Code of Practice:** The main purpose of the Backflow Prevention for Drinking Water Suppliers Code of Practice is to protect the public and common water mains from contamination from backflow. Clause G12 of the NZ Building Code covers internal protection to protect people inside the building, while the Code of Practice covers boundary protection to protect the potable supply, which is a public health issue.

**WaterNZ Water Meter Code of Practice:** The Water Meter Code of Practice is intended to prescribe good practice for the supply, use and operation of water meters. It refers specifically to the delivery of potable water to residential, commercial and industrial customers.

**2018 QLDC Land Development and Subdivision Code of Practice:** *The Code of Practice* ensures that land development and subdivision infrastructure is designed and constructed utilising best practice.

**The Ministry for the Environment's Essential Freshwater Programme:** As part of its Freshwater work programme the Government is proposing amendments to the Resource Management Act, an updated National Policy Statement for Freshwater Management, an updated National Environmental Standard for Sources of Human Drinking Water, and new National Environmental Standards for Freshwater and Wastewater. Final decisions on the National Policy Statement for Freshwater Management and National Environmental Standards for Freshwater are expected in early 2020.

**NZS 920/7: 2007 Model general bylaws – water supply:** The model bylaw provides a model for local authorities to use as the basis of a bylaw to regulate and control water supply.

A full list of the legislative and policy drivers that have informed this review are attached as Appendix C to the Cover Report.

## 5. METHOD

The following methodology was used to support the outcome of this findings report.

### Key stakeholders - Workshops and drop-in sessions:

- Key internal and external stakeholders were identified, being :
  - Internal Stakeholders: Councillors, QLDC Infrastructure Committee, Wanaka Community Board, QLDC Three Waters Integrated Governance Group and the following departments within QLDC – Property and Infrastructure, Regulator, RM Engineering, Building consents, Planning and Consenting.
  - External Stakeholders: Otago Regional Council, Iwi, Council Contractors (Downer, Veolia and Fulton Hogan), Local Septic Tank Services, public Health South, Environmental Groups, Community Associations, Wanaka and Queenstown Airport, Hospitality Associations, Motor Trade Associations as well as residents and ratepayers.
- Council contractors responsible for the district’s water supply network were consulted and asked to provide feedback.
- The community, Ngāi Tahu, the regional council and various NGO’s throughout the district were invited to attend drop-in sessions in both Wanaka and Queenstown.

Internal staff members who work closely with the Bylaw were asked to provide feedback.

Advice: Input from Meredith Connell, the council’s legal experts, and Stantec, the council’s technical review consultants was obtained.

Records of service requests and complaints received from the public were reviewed.

### **Key Questions**

The statutory review process is laid out in ss 155-157 and 160 of the LGA. This review addresses the following key questions.

1. Do the problems the bylaw sets out to address still exist?
2. Are there any new problems that need to be addressed in this review?

These key questions were used to frame activities with stakeholders and to analyse available evidence.

## 6. THE PERCEIVED PROBLEMS ASSOCIATED WITH WATER SUPPLY MANAGEMENT

### 6.1 Protection of the Council's Water Supply Infrastructure

The council received the following 2,200 service requests over the last 12 months for problems relating to water supply.

Issue	Number of requests in the past 12 months
Water meter issues, i.e. leaks and faults	274
Water is off or low pressure issues	360
Water leaks from the water supply network (includes water leaks on private property)	1566

One of the biggest problems with water leaks is the amount of water that is wasted. Not only is this an unnecessary waste, but represents a huge economic loss due to the energy required to extract and supply water. Water flowing from leaks within our water supply network is of drinking water quality. Every drop has been on a great journey from its water source through a treatment plant, reservoirs and pipes, making it a precious resource that must not be wasted.

Water leaks can also lead to serious damage of a property and even a neighbour's property.

In the current bylaw, it is an offence if:

- A water leak is not repaired or
- Water is wilfully allowed to run to waste

Council officers are able to use this legislation to force property owners to fix a leak on their property. However, in most instances, there is a significant delay in repairing the leak, allowing water to run to waste. The new integrated bylaw will give the council an opportunity to address this issue.

Common issues identified as causing these problems include:

- Water is off or low pressure issues are often caused by excessive water take, pipe damage and blockages.
- Inappropriate activities are being conducted in close proximity to infrastructure.

#### Backflow prevention

One of the biggest risks to the district's water supply is backflow. Backflow is caused when water pressure drops in the water distribution system causing water to flow in the opposite direction from residential or commercial premises back into the public water supply network. Backflow has been identified as a risk in the council water safety plans.

Backflow occurs as a result of:

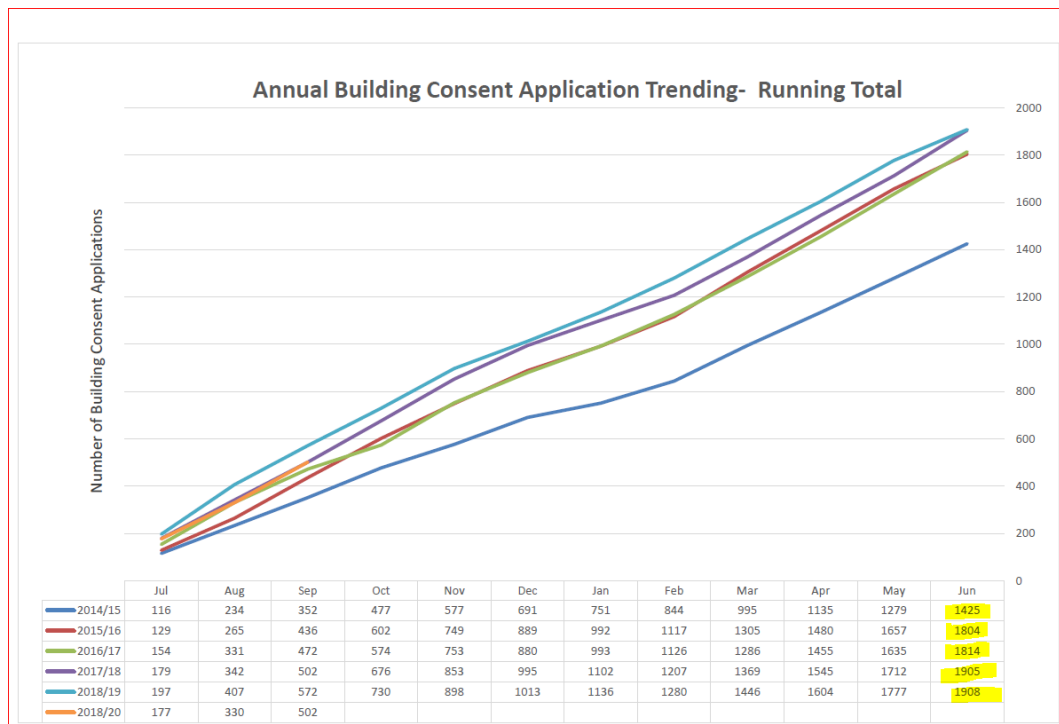
- Back-siphon - this can occur when the pressure drops in the town's mains and water flows from private property into the town's mains. A vacuum is created in the main and the water flows in the reverse direction. Large volumes of water being drawn for fire protection; during a water main or plumbing system break; or during a shut-down of a water main or plumbing system for repair are examples of ways this can happen.
- Back-pressure - this can occur when the water supply pressure from private premises exceeds the town's mains supply and water is forced into the town's mains. Examples of this include: when a tank is installed at a higher level than the current water supply; or a pump system is pumping at a pressure which is greater than that of the town's mains supply.

Discussions with stakeholders identified that any revision of the Bylaw should include provision for greater use of backflow prevention devices.

## 6.2 Development and On-going Maintenance of Water Supply Infrastructure

Figure 1 presents the cumulative volume of building consent applications received by the council. Approximately 60 per cent of these applications were for new builds and can be expected to include connections to council services (including water supply).

The growth in building consent applications further highlights the importance of having an effective water supply management approach to ensure the network grows in a sustainable way, consistent with the council's code of practice.



**Figure 1:** Annual Building Consents issued from 2014 to 2019



According to stakeholders, the key issues with the development and on-going maintenance of the water supply network include the following matters:

- The use of fire hydrants for water supply purposes by various subdivision contractors without written approval from the council and/or without approved backflow prevention.
- The need to standardise definitions consistent with the *Integrated Three Waters Bylaw* approach to reduce confusion and improve consistency.

The following table below outlines the results of an assessment of the perceived and actual problems facing water supply management. An analysis of the strategic context, including outcomes sought and relevant legislative and policy directives is also included where it supports the determination of which approach is the most appropriate.

The overall recommendation is to adopt Option C. The cover report outlining the approach of an *Integrated Three Waters Bylaw*, supported by an *Administrative Manual* further sets out the rationale for this proposal.

<i>Perceived Problem</i>	<i>Outcomes Sought</i>	<i>Legislative and Policy Alignment</i>	<i>Options analysis</i>	<i>Recommended option/s</i>	<i>Reason</i>	<i>Considerations about the form a bylaw should take</i>
1.How can the council ensure protection of the council's water supply infrastructure	<ul style="list-style-type: none"> <li>- Protect the water supply network from obstructions</li> <li>- Protect buried services from damage</li> <li>- Reduce the incidence of diminished levels of service for the district's water users</li> </ul>	<ul style="list-style-type: none"> <li>- <b>LGA</b> – protecting infrastructure from damage, misuse, or loss</li> <li>- <b>RMA/NPS-FM</b> - receiving environment and sustainable management</li> <li>- <b>The Otago Urban Water Quality Strategy</b> – deliver activities that will achieve the desired water quality outcomes</li> <li>- <b>Otago Regional Water Plan – Plan change 6A</b> – stormwater discharge management to protect streams and water bodies</li> <li>- <b>Urban Water Principles</b> - designed to mitigate the adverse effects of urban areas on water ecosystems and resources.</li> </ul>	<ul style="list-style-type: none"> <li>- Option A relies on continued use of regulatory tools with limited scope, for example the standard powers in the LGA 1974 and LGA 2002 and RMA enforcement provisions.</li> <li>- Option B would not provide for updates considered appropriate now. This option would also not achieve the integration outcomes sought from the proposed <i>Integrated Three Waters Bylaw</i>.</li> <li>- Option C allows the Council to develop bylaws that address the full range of inter-related activities and issues.</li> </ul>	Option C	<p>- Stakeholders (including council staff) support retaining with amendments a water supply bylaw. The other options create management issues for matters not regulated by other laws or the district plan, such as:</p> <ul style="list-style-type: none"> <li>• Activities in the water supply catchment that could compromise the water supply</li> <li>• Spillages and other adverse events</li> <li>• Changes of use that impact the network</li> <li>• Backflow prevention requirements</li> <li>• Below ground excavations near the water supply network</li> </ul>	<ul style="list-style-type: none"> <li>- Backflow prevention controls will need to be consistent with S.152 of the LGA</li> </ul>

					The cover report outlines the reasons and advantages of implementing an <i>Integrated Three Waters Bylaw</i> and supporting this by an <i>Administrative Manual</i> as an efficient ongoing management approach.	
2.How can the council ensure the effective and efficient development and on-going maintenance of water supply infrastructure	<ul style="list-style-type: none"> <li>- Sustainable growth and enhancement of the water supply network</li> <li>- Water conservation and sustainable management</li> </ul>	<ul style="list-style-type: none"> <li>- <b>LGA</b> – cost effective delivery of council services and infrastructure development</li> <li>- Queenstown Lakes District Council Infrastructure Strategy 2015-2045</li> </ul>	<ul style="list-style-type: none"> <li>- Option A relies on continued use of regulatory tools with limited scope, for example the standard powers in the LGA 1974 and LGA 2002 and RMA enforcement provisions.</li> <li>- Option B would not provide for updates considered appropriate now. This option would also not achieve the integration outcomes sought from the proposed <i>Integrated Three Waters Bylaw</i>.</li> <li>- Option C allows the Council to</li> </ul>	Option C	<ul style="list-style-type: none"> <li>- Stakeholders (including council staff) support retaining with amendments a water supply bylaw. The other options create management issues for matters not regulated by other laws or the district plan, such as: <ul style="list-style-type: none"> <li>• Rules about public connections</li> <li>• Water conservation and demand management requirements</li> <li>• Clarifying responsibility for maintenance</li> <li>• Access to the water supply via fire hydrants</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Any controls will need to be proportionate to the problem and where there is not strong evidence of a problem, some controls may be better introduced by enabling clauses in the bylaw once evidence is available.</li> </ul>

			develop bylaws that address the full range of inter-related activities and issues.		The cover report outlines the reasons and advantages of implementing an <i>Integrated Three Waters Bylaw</i> and supporting this by an <i>Administrative Manual</i> as an efficient ongoing management approach.	
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### 6.3 Are There Any Implications Under the New Zealand Bill of Rights Act 1990?

In broad terms there is nothing about having a water bylaw that raises concerns in this regard. However an evaluation of consistency can only be made properly once the specific provisions of the bylaw are proposed.

## 7. OPTIONS FOR ACHIEVING OBJECTIVES

This report identifies the following reasonably practicable options for achieving council's objectives and assesses the options in terms of their advantages and disadvantages as required by s 77 of the LGA:

### **A: Revoke the Bylaw and manage using existing legislation and education initiatives**

Increasing awareness to change behaviour using a programme of educational outreach, industry guidelines and targeted programmes to improve outcomes.

### **B: Status Quo**

This option would retain the Bylaw and review it again in 2025.

### **C: Updated and Integrated Bylaw**

The Bylaw would be amended to incorporate enhancements identified in this report and be incorporated as part of the *Integrated Three Waters Bylaw*.

### **D: Update the Bylaw in isolation now**

## 8. RECOMMENDATIONS

Staff recommend that the council's water supply network continue to be regulated by bylaw with the following objectives:

- i) To deliver the council's infrastructure strategy providing safe drinking water is important to maintaining public health and compliance with legislation, as well as protecting the district's tourism-based economy and
- ii) To effectively manage and regulate water supply in the district.

The form of the bylaw will be developed further in the next phase.

Staff recommend that the Bylaw be incorporated into the new *Integrated Three Waters Bylaw*, with the following amendments:

- New connections and disconnections
- Water meter issue management
- Managing issues that cause water pressure to reduce
- Improve backflow prevention procedures

- Ensure standard definitions across the three waters

The need for some updating of the Bylaw coupled with the proposal for council to implement an *Integrated Three Waters Bylaw* further confirms the appropriateness of updating the Bylaw now.