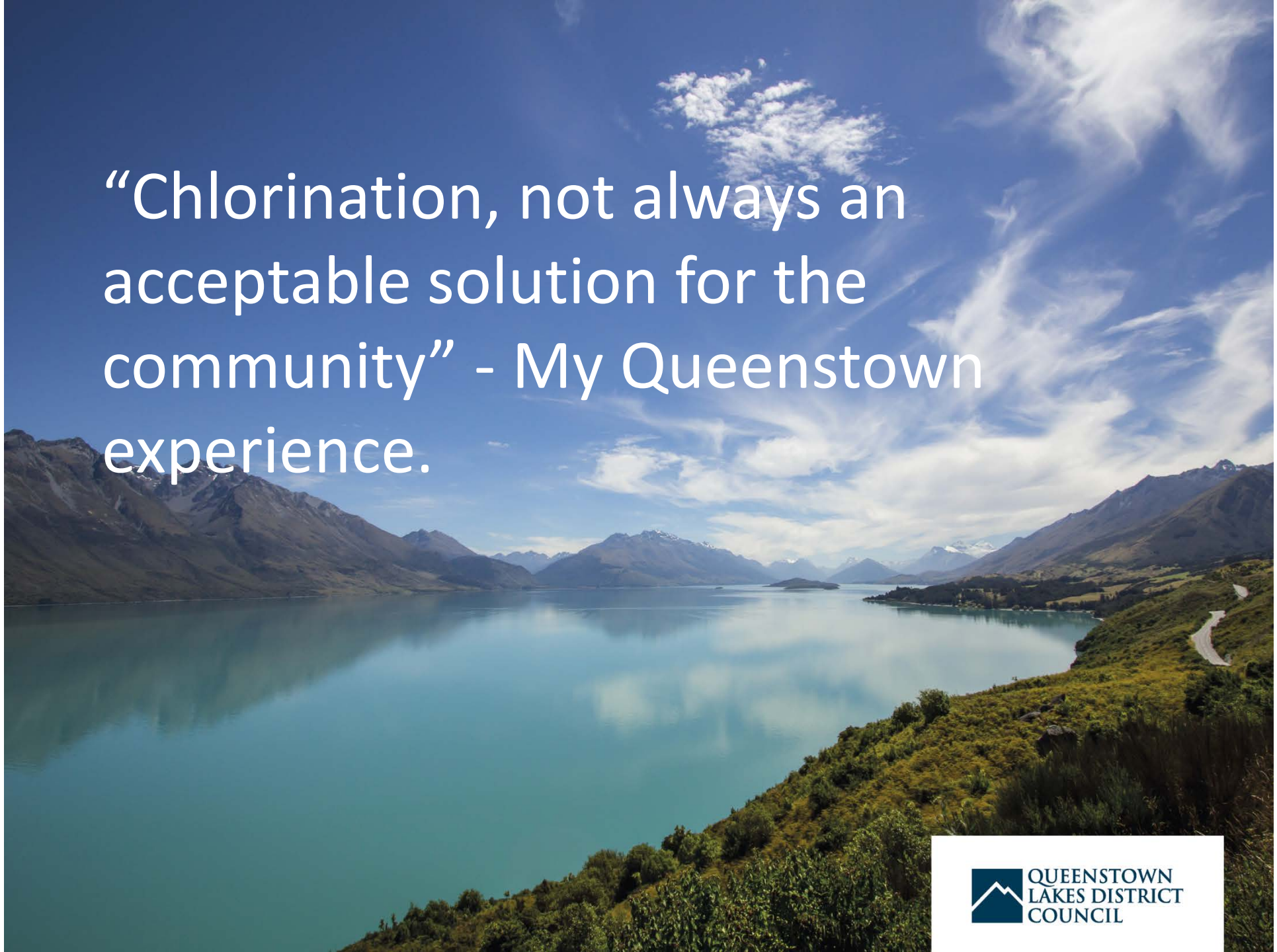

“Chlorination, not always an acceptable solution for the community” - My Queenstown experience.
QUEENSTOWN LAKES DISTRICT COUNCIL

Background

- Following Havelock North Inquiry, QLDC completed review of the legislation / risks
- All QLDC supplies required to comply with regulations since July 2014
- Objective: Discuss ideas, other work and options for moving to compliance, managing risks and taking the community on this journey

Legislative Framework

- Health Act
  - Sections 69S – 69JZ
- Drinking Water Standards
  - July 2012 / July 2014 phased obligations
- Local Government Act
- Havelock North Inquiry Findings & future outcomes/changes

Water Supplier Obligations

- Provide safe and wholesome water
  - Ensure barriers to protect from contamination
  1. Protect the water source
  2. Ensure treatment processes effective
  3. Don’t allow contamination post treatment
     - Network contamination events
- Reporting to MoH
  - Regularly and “on event”

Queenstown Lakes District

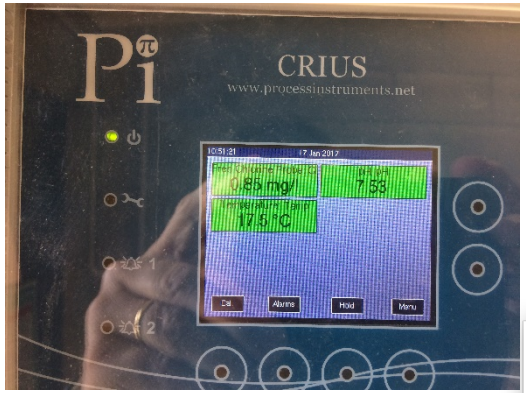
Status Quo Wakatipu region

- Queenstown: Chlorinated, UV treatment at Kelvin Heights
  - Two intakes Lake Wakatipu
- Arrowtown: UV treatment, set up for chlorination (currently chlorinated)
  - One bore, one well
- Arthurs Point: UV treatment
  - Two bores
- Lake Hayes: UV treatment, chlorination, lime dosing
  - Two bores
- Lake Hayes Estate/ Shotover Country: UV treatment, hypochlorite dosing, micron filter
  - One bore
- Glenorchy: no treatment
  - Two bores

QUEENSTOWN LAKES DISTRICT COUNCIL

Status Quo Upper Clutha region

- Wanaka: Chlorinated
  - Two intakes Lake Wanaka
- Hawea: UV treatment, set up for chlorination (currently chlorinated)
  - Four bores
- Luggate: no treatment, Soda ash for pH correction
  - Two bores
- Glendhu Bay: set up for chlorination (currently chlorinated)
  - Lake intake Lake Wanaka
- Wanaka Airport: no treatment
  - Groundwater intake



QUEENSTOWN LAKES DISTRICT COUNCIL

QLDC Compliance Status

- Started but not fulfilled obligations
  - Lake Hayes / Shotover County compliant

- Historically under specified, under resourced and under reported compliance
  - monitor drinking water; and
  - take all practicable steps to comply with the drinking-water standards; and
  - implement risk management plans.

QUEENSTOWN LAKES DISTRICT COUNCIL

2017/18

ANNUAL PLAN

QUEENSTOWN
LAKES DISTRICT
COUNCIL

Chlorination For Our Community Water Supplies

PLANNING RIGHT – THE DISTRICT PLAN

Last year we consulted on an increased cost for reviewing the District Plan. With Stage 1 well underway and Stage 2 yet to begin, we have reforecast our position and budgeted an additional $1.6m for this project. This is subject to the availability of staff so the timing may change.

LAKESIDE PLAYGROUND

An upgrade of the playground in the Queenstown Gardens beside the Bathhouse was anticipated in the 10-Year Plan and is included in this Annual Plan. The existing playground was built in 1994. This is an exciting project that will inject new life into a much loved and well-used play area. We have included $680,000 in the Annual Plan for a complete refresh including landscaping and state of the art play gear. The result will be akin to the hugely popular destination playground on the shores of Lake Wanaka.

CHLORINATION FOR OUR COMMUNITY WATER SUPPLIES

Supplying safe and clean drinking water is a core responsibility and legal obligation. Adding chlorine is one of the most common and effective treatments because it disinfects the water all the way from the source through to your taps. It kills small bugs such as bacteria that can get through filtration systems and viruses that cannot be physically removed from water. Most of our district is already serviced by a chlorinated supply.

Following the Havelock North water contamination crisis last year and after advice from Public Health South, we began chlorinating the Arrowtown, Hawea and Glendhu Bay water supplies on a temporary basis over summer. The Council's view is that we cannot afford to risk lives and health of vulnerable people, a community's economy or the district's reputation through an outbreak of waterborne disease linked to a contaminated public supply.

We have included $500,000 in the budget to enable the permanent chlorination of all QLDC community water supplies that don't already have this level of treatment. This includes Arrowtown, Glendhu Bay, Hawea, Arthur's Point, Luggate and Glenorchy. A significant programme of works will be considered as part of the 10-Year Plan to ensure all our drinking water supplies meet NZ Drinking Water Standards.

In direct response to community submissions on the matter the Council is seeking additional information before it is prepared to make a decision. In particular the Council is seeking to better understand:

- The risks associated with non-chlorination of supplies?
- The liability of staff and Councillors if Council's decision is non-chlorination of supplies. Including the implications of taking 'all practical steps' to mitigate risk?
- What if any options exist to alleviate the requirement to chlorinate with a particular focus on the risk of contamination through 'back flow'?
- What we are doing to mitigate the risk in terms of scheduled works for example bore head security?
- What future proofing of supplies are scheduled?

The Council has decided that the provisioning of the ability to chlorinate supplies is an important first step, and has decided to continue to fund $500k budget to enable the installation of the equipment on all its supplies that would allow chlorination to be easily and quickly implemented if the need arose, or where other management controls were considered to be inadequate. This decision must not be considered in any way prejudicial to the decision whether to proceed as outlined, amend the proposal or not proceed. Council has requested a paper on the matter and will determine the decision at a later date.

SPREADING THE COSTS

In our last 10-Year Plan we asked whether there was a fairer way of structuring water and wastewater rates across the district. We need to continue to put our small communities onto a more sustainable footing for wastewater, though we recognise that the cost of doing so can be significant. Everyone benefits from infrastructure that makes our environment safe. If we spread this cost differently between the beneficiaries and the wider community it might be more affordable for all. We want to pick this conversation up again over the coming year as we lead into the next 10-Year Plan.

Consultation with the Communities

Key QLDC Risks

- Behind in meeting legislated obligations
  - Proposed (new) plan to be completed by 2028
- Ground water sources need further protection
  - Restricting stock, improving pipework, improving bore head security
- Treatment processes need additional processes
  - Filtration
- Networks' highest risk of contamination

Distribution network risks

- illegal connections to water networks,
- inappropriate disinfection of new connections,
- third party damage to networks,
- animals and other contamination entering water storage reservoirs,
- contaminated backflow from customers into the supply network,
- depressurising the supply with extreme demand (i.e. firefighting),
- biofilms growing within aged pipes,
- septic tanks and wastewater pipe breaks near water sources and water pipes, and
- water pipeline deterioration and breakages.

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Possible Options

a) Status Quo – Town water supply distribution networks not disinfected.
b) Continuous disinfection (using chlorination) of:
    I. all supplies
    II. Only towns with history of contamination
c) Non-continuous (emergency) disinfection (using chlorination or other disinfectant) of:
    I. some supplies
    II. all supplies
d) Additional controls to protect bores & networks (testing, back-flow restrictors)
e) Other options as identified through internal workshop. .


Questions ?
QUEENSTOWN
LAKES DISTRICT
COUNCIL

Indicative Costs

Costs	Range	Average	
Disinfection	$6 - $20	$7.80	Per connection pa
Disinfection	$4 - $14	$4.70	Per dwelling pa
Disinfection Tests	$6 - $8	$7	per test site / test
Backflow Inhibitor	$2,500 - $7,500	$4,500	Per connection
Backflow Testing	-	$200	Per connection pa
Ecoli Testing	-	$46	per test site / test

Recent Events

- Havelock North contamination event
- Legal advice from Meredith Connell
- Letter from MoH
- Letter from Minister of LG
- Advice from Water NZ and LGNZ
- Water source protection report by Beca
- 2017 review of water safety plans
- Algae in lakes, reservoirs and network

QUEENSTOWN LAKES DISTRICT COUNCIL