Managing trade waste in a tourist hot spot

QUEENSTOWN LAKES DISTRICT COUNCIL

A CASE STUDY OF QUEENSTOWN, NEW ZEALAND

Overview of the Queenstown Lakes District

CURRENT RESIDENT POPULATION

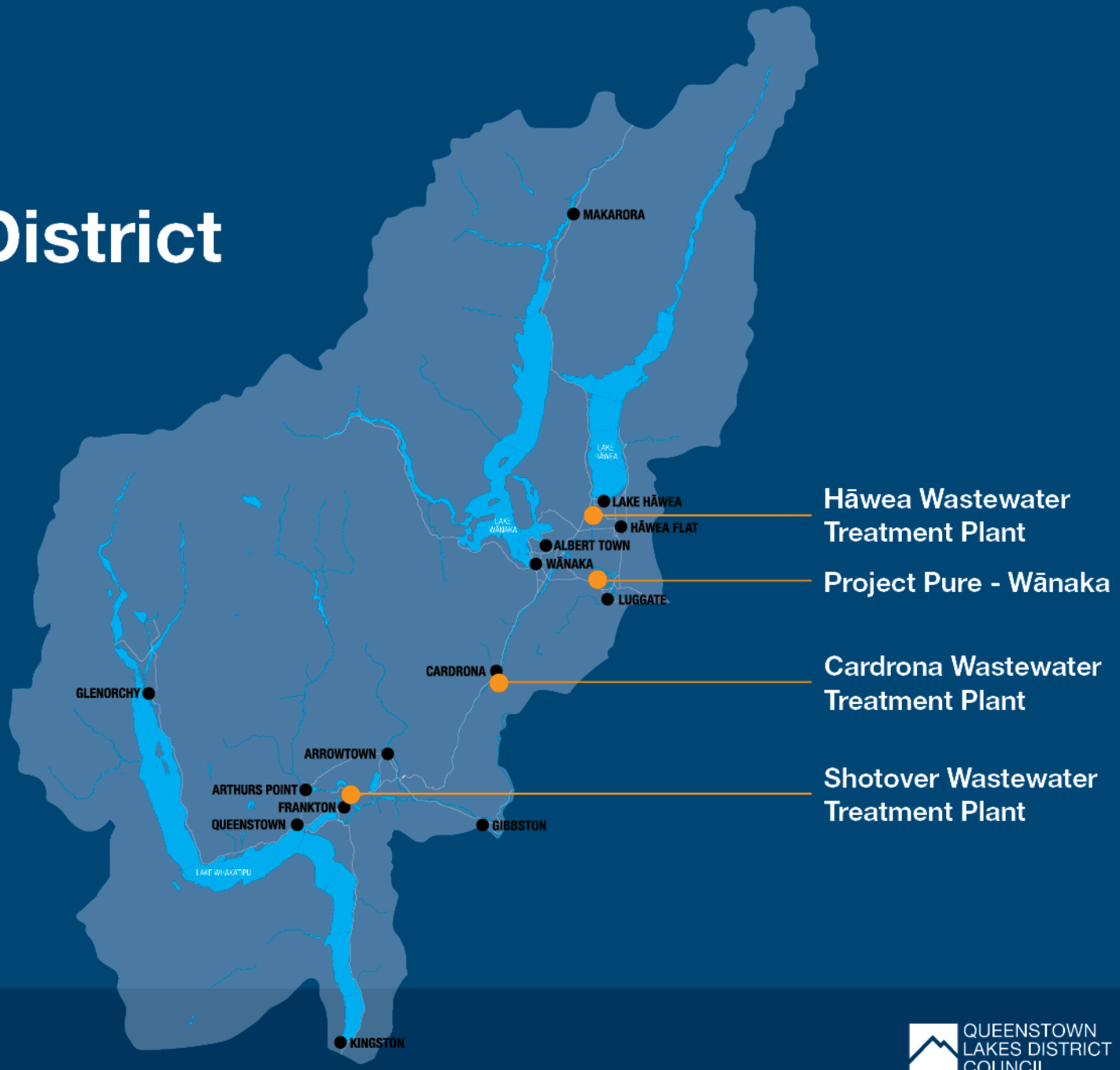
48,300

TOTAL VISITOR POPULATION

OVER 1,000,000 EACH YEAR

TOTAL WASTEWATER TREATMENT PLANTS

4



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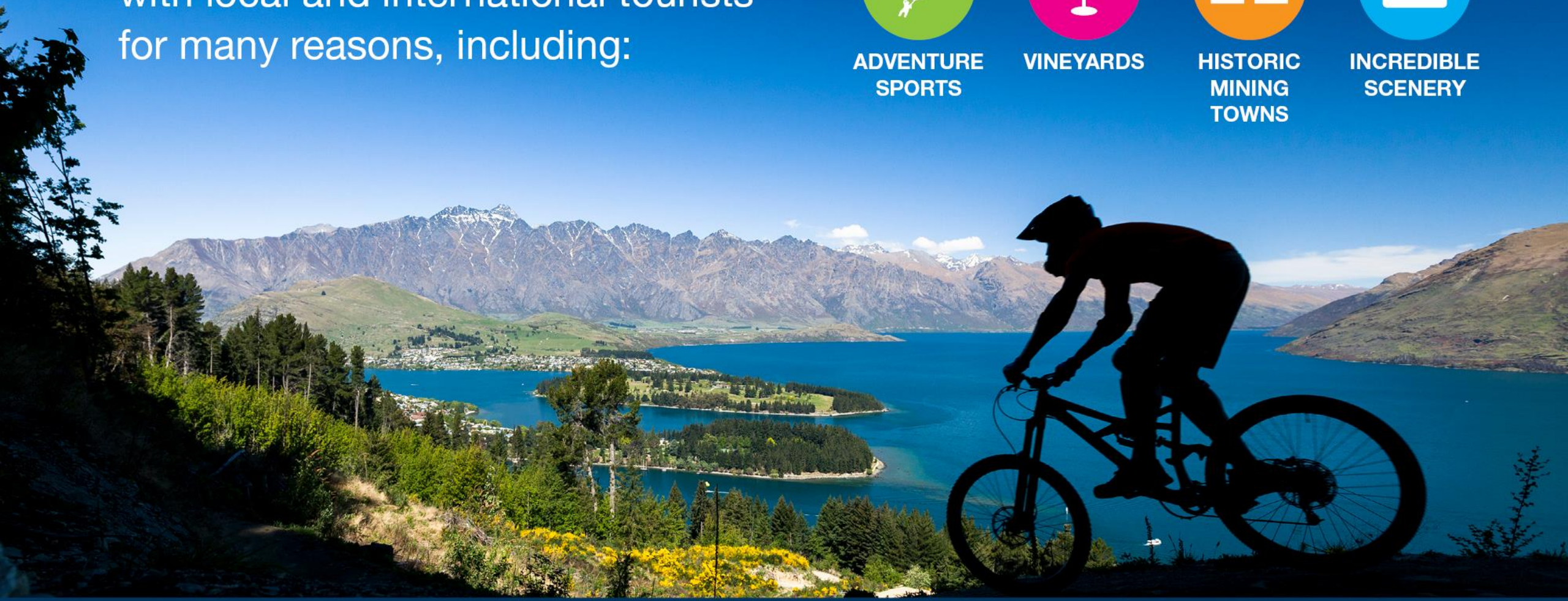
Queenstown Lakes District is popular with local and international tourists for many reasons, including:

- ADVENTURE SPORTS
- VINEYARDS
- HISTORIC MINING TOWNS
- INCREDIBLE SCENERY



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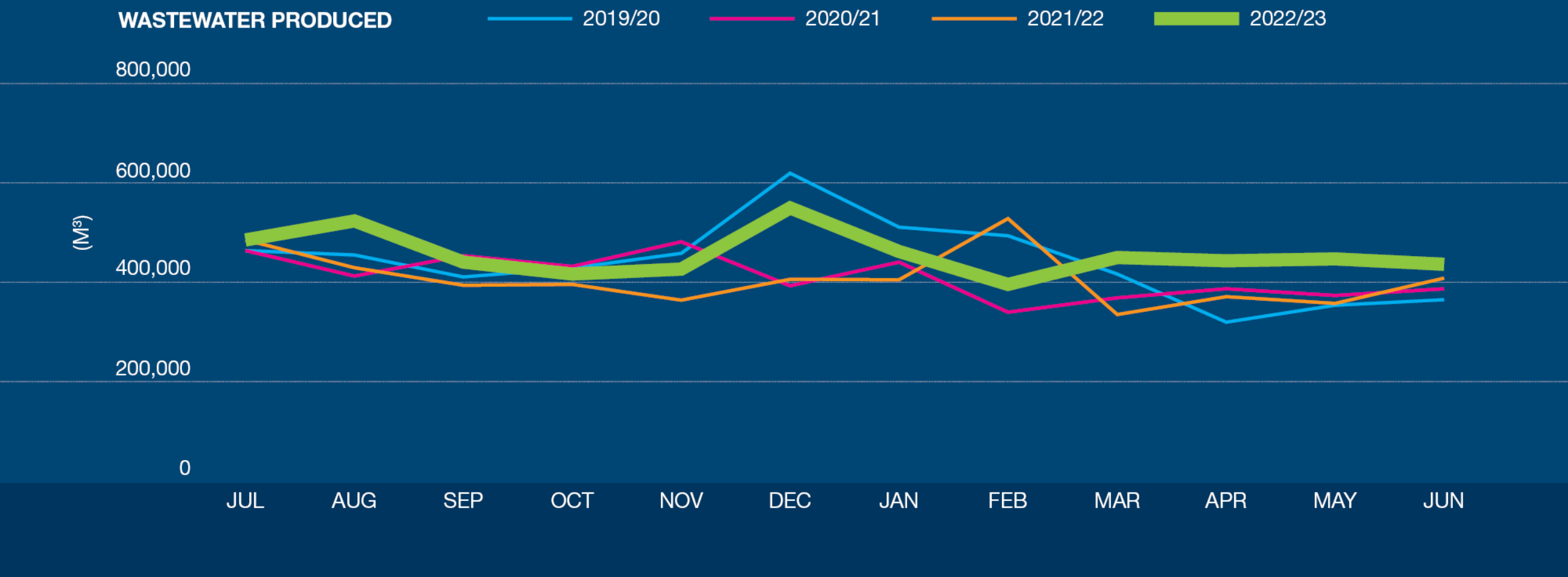
But with one of the fastest growing populations in Aotearoa New Zealand and such high visitor numbers, the district produces a significant amount of wastewater.



Shotover Wastewater Treatment Plant

The Shotover Wastewater Treatment Plant is located near the delta of the Kimi-Akau Shotover River.

Upgraded in 2015 due to population growth and non-compliant effluent discharge.

The upgraded plant is designed to treat an average daily flow of 9,960 m3/day.

The typical flow is split with 63% sent to the new activated sludge plant and 37% through the existing pond system.

Further upgrades are underway and include construction of another replica activated sludge plant and clarifier, and the ponds are being decommissioned.

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Common contaminants

The most common contaminants received by the Shotover Wastewater Treatment Plant include:

FATS, OILS AND GREASE

SAND AND GRAVEL

PAINT

SEPTIC TANK WASTE

Hospitality industry

Hospitality is a core industry in the Queenstown Lakes District, but poses a significant risk to our wastewater system.

800 businesses discharge into our wastewater network, made up of:

300+ RESTAURANTS

20 LAUNDRY RELATED BUSINESSES

8 BREWERIES

22 RENTAL CAR BUSINESSES

70+ ACCOMMODATION PROVIDERS

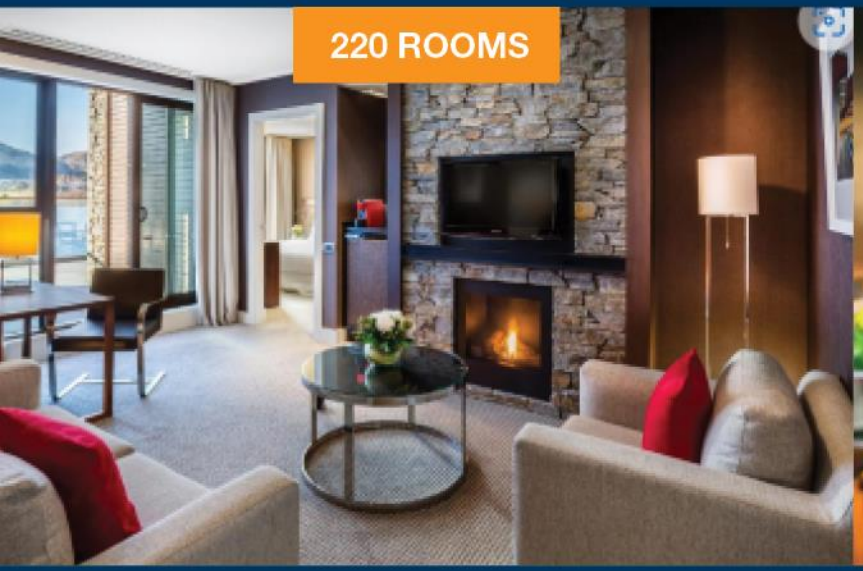
AND PLENTY MORE!

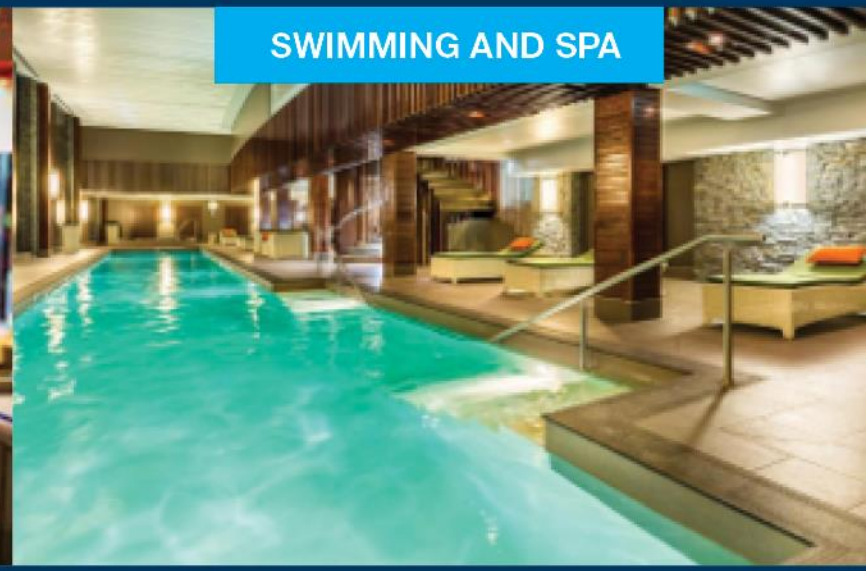
To date, Queenstown Lakes District Council's Trade Waste Team has inspected and worked with over 300 of these businesses to bring their discharge up to standard.

5-star hotel case study

We're currently running a case study focusing on one of the biggest and most popular hotels in our district.

- 7 grease traps are in use by the restaurants (4 Big Dippers and 3 Converters)
- A daily cleaning schedule is undertaken.
- However, hotel staff responsible for cleaning the traps haven't done so properly, resulting in very fatty traps.





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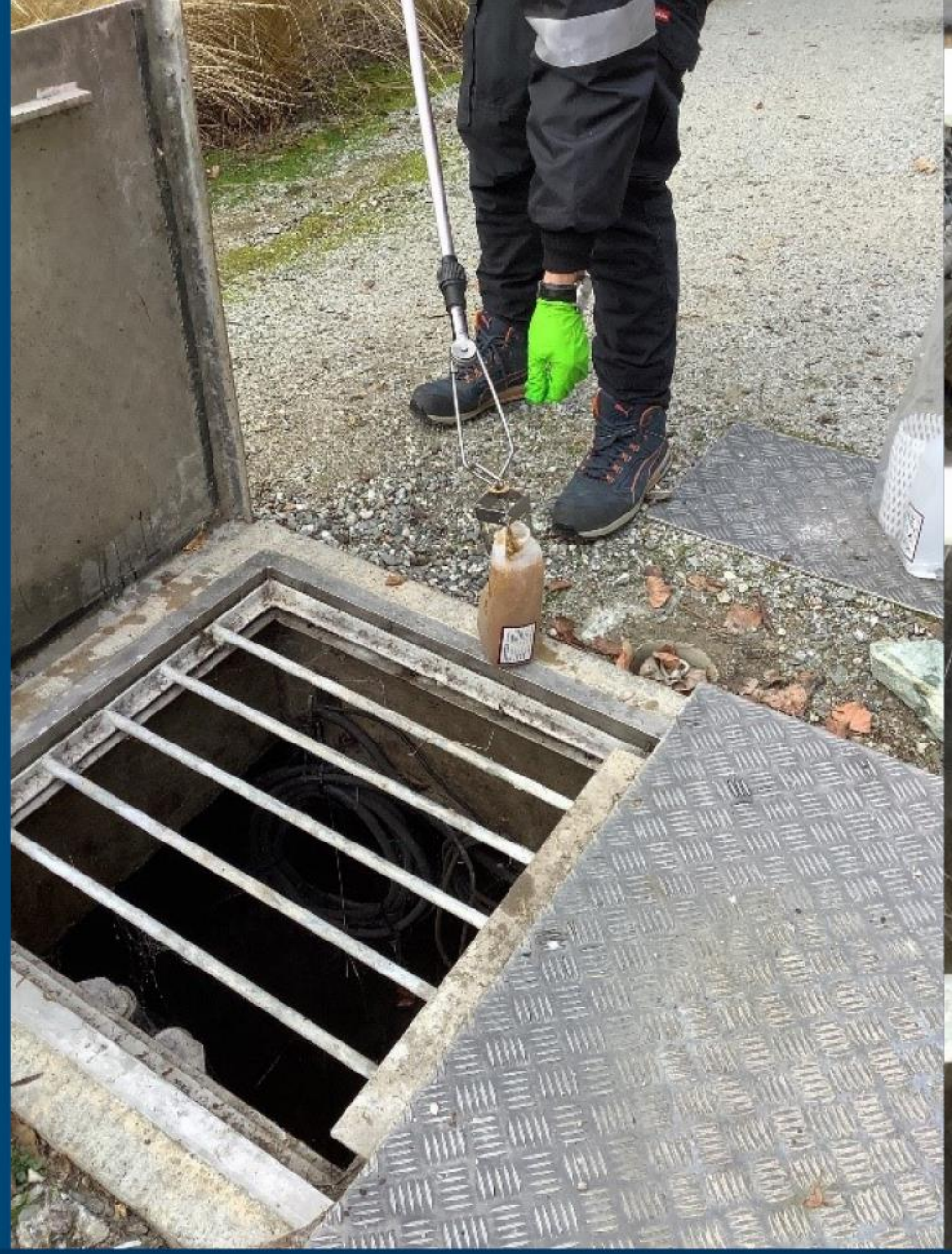
All wastewater from this hotel is sent to an interceptor tank close to Lake Whakatipu

- The tank is sampled every three months to monitor quality
- The wastewater pipe downstream of the hotel was recently re-lined.
- QLDC is required to reduce FOG going through the pipe as part of the warranty of the re-line.



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Results

Unfortunately, current testing shows significantly higher oil and grease results than permitted by QLDC's 3 Waters Bylaw.

QLDC 3 Waters Bylaw

Oil and grease (A.1.4)
Fat, oil or grease must not exceed 100g/m³.

Sample details

GENERAL TESTING		
CBOD5 (as O2)	mg/L	2,700
Oil and grease	mg/L	18,000
pH (at room temp c. 20 °C)	pH unit	5.55

The outcome

QLDC's Trade Waste team continues to work with this hotel and grease trap specialists in the district to improve the hotel's wastewater quality. Suggestions to improve wastewater quality on site include:

1. Building a new passive trap
2. Replacing all grease traps that may not be working properly
3. Adding a requirement for a professional company to clean the grease traps

Questions?

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