

BEFORE THE OTAGO REGIONAL COUNCIL

IN THE MATTER

of the Resource Management Act  
1991

AND

IN THE MATTER OF

Discharge Permit Application  
RM15.364

Clutha District Council

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SUMMARY OF EVIDENCE OF MICHAEL JOHN CRAWSHAW GREER

ON BEHALF OF OTAGO REGIONAL COUNCIL

21/01/2022

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## SUMMARY OF EVIDENCE IN CHIEF

1. My name is Michael John Crashaw Greer. I work for Aquanet Consulting Ltd as a Senior Freshwater Scientist. I have over 10 years of experience in the field of freshwater science and hold a PhD in Ecology and a Bachelor of Science in Zoology from the University of Otago.
2. I was engaged in September 2018 by the Otago Regional Council (ORC) to provide a technical review of the resource consent application by Clutha District Council (CDC) for the discharge of treated wastewater from the Waihola Sewage Treatment Plant (STP) to the Lake Waihola outflow channel and the wider Waipori/Waihola Lake-Wetland complex (LWC).
3. In my Evidence in Chief, I assess the water quality and ecological effects of the Waihola STP discharge as it is described in the original application; it is my understanding that CDC have not formally agreed to change the main components of activity.
4. The current effects of the Waihola STP discharge on water quality and ecology are unlikely to be more than minor as it only contributes a very small proportion of the total nutrient load to the LWC. However, the cumulative adverse effects of all nutrient discharges to Lake Waihola, including the STP discharge, are substantial.
5. The discharge volumes proposed by the applicant have the potential to cause more than minor effects on water quality and ecology in the future, as they are substantially higher than the volumes currently being discharged from the STP and allow for a significant increase in nutrient loads to the LWC. As Lake Waihola is approaching the NPS-FM 2020 national bottom line for total phosphorus any increase in discharge volume from the STP also increases the risk of this threshold being breached.
6. The applicants proposed effluent quality limits are generally appropriate as they represent an improvement from what is currently discharged from the Waihola STP. However, setting limits for median and 95th percentile concentrations in a manner consistent with the *New Zealand Municipal Wastewater Monitoring Guidelines* would be beneficial from an effects management perspective.
7. To ensure that the effects on the LWC are not increased from current, the proposed discharge volumes would need to be decreased to better reflect the current operation of the plant. Alternatively, consent conditions could set load based compliance standards rather than concentration and volume limits. This

would allow the applicant to discharge at whatever volume they need to, so long as they implement adequate treatment to ensure the effects on the LWC are not increased from current.

8. If additional time is needed to define a condition framework that will adequately provide for future growth without further degrading water quality in the LWC, the available information suggests that there would be a low risk of more than minor adverse effects occurring if CDC were to be granted a short-term consent to allow for the required technical work to be completed.