

IN THE MATTER of the Resource Management Act
AND
IN THE MATTER of Applications for Resource Consents to
Take and Use Farm Irrigation Water in the
Upper Waitaki Catchment of Lake Benmore
AND
IN THE MATTER of Stage One: Mackenzie Water Research
Limited Submissions and Evidence on the
Cumulative Nutrient Effects (and Mitigation
thereof) of the Upper Waitaki Applications

Supplementary Rebuttal Evidence of Brian Thomas Coffey

1.00 Introduction

- 1.01 My name is Brian Thomas Coffey. My qualifications and experience are as stated in my Evidence in Chief.
- 1.02 I have read the Code of Conduct for Expert Witnesses (Rule 330A, High Court Rules and Environment Court Practice Note) and agree to comply with it. I have complied with the Code in the preparation of this statement of supplementary rebuttal evidence.
- 1.03 My supplementary evidence relates to specific aspects of the evidence presented by Ms Donna Sutherland and Richard Turner for Meridian Energy Limited.

2.00 *Lagarosiphon major*

- 2.01 The issue of *Lagarosiphon major* responding to nutrient concentration increases was raised in the evidence of Ms Sutherland (paragraphs 23, 31 and 47) and Richard Turner (paragraphs 31 to 34).
- 2.02 In my opinion and experience (Clayton et. al., 1983; Coffey [1970, 1974, 1975A, 1975B, 1980A, 1980B, 1980C, 1986, 1987A, 1987B, 1988A, 1988B]; Coffey and Chu, 1988; Coffey and Clayton, 1988; Howard-Williams et.al., 1987; Johnstone et. al., 1986 and Vant et. al; 1986), their concern is ill-founded as *Lagarosiphon major* is an oligotrophic taxa that has access to nutrients in the lake bed and requires high light levels (high water transparency). It does not thrive in mesotrophic conditions and is displaced by alternative taxa such as *Egeria densa* or *Ceratophyllum demersum* when they are also present in mesotrophic conditions.

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