

**Before the commissioners appointed by the
Canterbury Regional Council**

In the matter of The Resource Management Act
1991

and

In the matter of 60 water permit applications to
take and use water, 29 land use
consent applications and 21
discharge permit applications, for
agricultural and horticultural
activities in the upper Waitaki
catchment

Section 42A Report – Cumulative Water Quality Assessment

Date of hearing: September 2009 – February 2010

**Clarification of the Relationship between Original and Addendum s42A
Reports – Adrian Selwyn Meredith**

INTRODUCTION

1. The following table (Table 1) sets out the relationship between the matters considered in my original s42A report and those of which I make comment on in my Addendum report.
2. This information is provided to the commissioners to enable an improved understanding of the original audit issues that remain unresolved, are referred to in other reporting officer's evidence, or that have been addressed in Addendum evidence.
3. The issues highlighted in **bold** (in Table 1) indicate those which I consider remain unresolved.

Table 1 Relationship between Original and Addendum s42A Reports

Original s42A report paragraph number	Issue	Status
1 - 11	Background, Qualifications and Scope of Report	Same as s42A report
12	Evidence audited	Extended to subsequent evidence presented during the hearing and as arisen during caucusing.
13	Scope of river and stream water quality and habitat issues addressed.	Still largely unresolved, as applicant focus remains on nutrient effects and FEMP's. Further discussed in addendum paragraphs 49-51.
14-27	River and stream nutrient thresholds	Still largely unresolved, as the appropriate nutrient thresholds and whether nutrient concentrations themselves should be the management thresholds are disputed. Further discussed in addendum paragraphs 19 – 30.
28 - 30	Subcatchment nodes and reaches approach.	Theoretical node approach agreed, but confounding factors remain poorly clarified. Additional nodal issues and node positioning discussed in addendum paragraphs 41 – 48.
31 - 40	Measured stream and river water quality.	Some issues discussed in further evidence and caucusing, but still considerable uncertainty in data treatment, and inability to adequately audit analysis. Data not adequately (seasonally) representative. Further discussed in addendum paragraphs 7 – 18.

41 - 44	Estimated water quality	Some issues discussed in further evidence and caucusing, but still considerable uncertainty and inability to audit. Further discussed in addendum paragraphs 7 – 18.
45 - 58	Ecological condition.	Continued disagreement as to the interpretation of ecological community observations, particularly with reference to seasonal timing of sampling and interpretation of observations. Further issues discussed in addendum paragraphs 57 - 59 with reference to grazer control responses and effects on valued fish communities.
59 -69	Calculated periphyton biomass thresholds.	The appropriateness of calculated periphyton biomass thresholds remains disputed, and is considered to be inappropriate based upon available data set. Further discussed particularly in relation to nutrient limitation in paragraphs 31 – 40 in addendum evidence.
70 - 76	Calculated water quality outcomes	The issues raised remain unaddressed and so considerable uncertainty remains.
77	Thresholds and permitted nutrient loads	Continued to be disputed on the basis of unsupported previous analysis steps.
78 - 82	Monitoring	Shortfalls in monitoring approaches have been discussed but not resolved.

83	Avoidance, remediation and mitigation	I have not subsequently explicitly commented upon Farm Environmental Management plans (FEMP's) and these will be addressed by others.
Additional issues considered		In my addendum evidence I have additionally considered a number of generic consent management issues that have arisen in individual applications, and that I have provided advice to Investigating Officers.



Signed:

Adrian Selwyn Meredith
Principal Water Quality Scientist
Environment Canterbury

Date: 29 January 2010