

Ned Norton
NIWA

13 October 2009

I have read the supplementary evidence of Dr Burrell dated 12 October 2009. I have not prepared detailed technical comments but I have prepared three bullet points that I believe summarise the situation at a high level with regard to the effects of nitrogen (including nitrate) and phosphorus on lowland streams and Te Waihora.

1. The evidence now describes a transparent picture of the current environmental state of lowland streams and Te Waihora, and relates this state to the objectives of the PNRRP. The evidence also provides a coarse quantitative estimate of the size of the added effects of CPW¹.
2. It is clear that lowland streams and Te Waihora do not currently meet the proposed PNRRP objectives or revised objectives proposed at recent NRRP hearings by Hayward and Meredith (2009). A significant reduction in current nutrient loads, combined with other restoration initiatives, would be needed to get anywhere near achieving these objectives. These objectives are a part of ECan's currently proposed planning mechanism for managing cumulative effects.
3. Adding the effects of CPW will make things worse by making the restoration job more difficult and future attainment of these objectives less likely. However the Commissioners have heard evidence that CPW will bring significant positive benefits to the community and so there is a weighing of negative and positive effects to be made. *For example positive effects for ecology are:*

- (i) Increased habitat area for trout in lowland streams (Burrell Sept 09)
- (ii) Proposed (Burrell 12/10/09) environmental fund for ecological enhancement
- (iii) Advantages with 'Scheme-driven' BMPs instead of multiple individual

¹ Note that the estimate of the size of effects on Te Waihora remains particularly uncertain - the evidence makes helpful use of existing water quality monitoring data but is not a quantitative assessment of the type referred to in the Bidwell & Norton (2009) S41C report