

**BEFORE THE INDEPENDENT COMMISSIONERS  
AT CHRISTCHURCH**

**UNDER** the Resource Management Act 1991

**IN THE MATTER** of Plan Change 5 to the Canterbury Land and Water  
Regional Plan

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**REBUTTAL EVIDENCE OF SCOTT PEARSON AND ANGELA  
CHRISTENSEN ON BEHALF OF  
NORTH CANTERBURY AND CENTRAL SOUTH ISLAND FISH AND GAME  
COUNCILS**

**5 August 2016**

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Central South Island Fish and Game  
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Temuka  
South Canterbury

North Canterbury Fish and Game  
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North Canterbury

## **QUALIFICATIONS AND EXPERIENCE**

- 1 My name is Scott Pearson.
- 2 I provide environmental advisory services to the North Canterbury Fish and Game Council, and have done so since September 2012.
- 3 I hold a Master of Science degree (Hons) in natural resource management and tourism from Lincoln University and an undergraduate degree in Resource Studies, with majors in ecology and land and water management.
- 4 Over the last four years, I have coordinated North Canterbury Fish and Game's responses to the Hurunui Waiau Regional River Plan, the proposed Canterbury Land and Water Regional Plan, and Variations 1,4,5 (Nutrient Management) and 6; as well as major resource consent cases such as the Hurunui Water Project, Ngai Tahu Farming Limited, Grasmere Station (P&E Limited) and MainPower/Rooney Group. This work involved preparing and presenting submissions and expert evidence.
- 5 My role with Fish and Game has included acting as environmental spokesperson for the North Canterbury Region and the provision of national advice to the New Zealand Office of Fish and Game on RMA matters.
- 6 I am contracted by North Canterbury Fish and Game, a statutory body that works in the interests of Fish and Game New Zealand, in the management, maintenance and enhancement of sports fish and game and their habitats (section 26C Conservation Act 1987).
- 7 In preparing my evidence I have reviewed Plan Change 5 to the Canterbury Land and Water Regional Plan ("**PC5**"). I have reviewed the Section 32 report and the S42A officers report from Environment Canterbury.

## **QUALIFICATIONS AND EXPERIENCE**

- 8 My name is Angela Fay Christensen.
- 9 My qualifications and experience were set out in the Evidence in Chief dated 21 July 2016.
- 10 In preparing this rebuttal evidence, we have reviewed the reports and statements of evidence of other experts giving evidence relevant to Fish

and Game's submission including evidence prepared by Irricon, Federated Farmers, Opuha Water Ltd, and Ravensdown.

## **REBUTTAL POINTS**

### **Combined Irricon Submission – by Keri Johnston 12 May 2016**

- 11 The submitters object to the amendments proposed by Fish and Game to rules 5.44A and 5.54A in relation to the restrictions placed on winter grazing and irrigation against a 13 February 2016 baseline area.
- 12 Fish and Game does not believe that unimplemented irrigation consents will be affected because these are permitted activity rules setting a threshold for activities that do not require resource consent.
- 13 Fish and Game has supported conservative increases in winter grazing and irrigation in red and orange zones; however, there is still significant uncertainty as to the modelled nutrient reductions from GMP, how quickly its implementation will occur, and how nutrient reductions from GMP will affect water quality, meaning a conservative approach is warranted. The Plan must ensure that water quality is maintained in the catchment and it is vital these permitted activities do not indirectly create further over-allocation of nutrient losses, for which Canterbury has a very poor track record.
- 14 The amendments sought by Fish and Game do allow for small changes to farming practices at the individual farm level, particularly if the increased area will have irrigated fodder crops for winter grazing. Ian Brown's Appendix F of the S42a Officers Report, clearly shows substantial increases in nutrient discharge when winter grazing fodder crops are irrigated. Even without irrigation, the cumulative increase of winter grazing above 10ha for many farms in a red or orange zone could be significant in catchments like the Waimakariri. For example, 500 permitted activity farms multiplied by an additional 10ha of irrigation, fodder crops, or both, is an extra 5,000 intensively farmed hectares in the catchment, similar to a large scale irrigated operation. Therefore, the potential scale of catchment change warrants a higher degree of management and possibly more targeted nutrient allocation addressed at the sub-regional level.

### **Federated Farmers**

- 15 In their submission, Federated Farmers state that Fish and Game's requested amendments will reduce flexibility under Rule 5.44A for "probably minimal" and "unspecified environmental gain". The NPSFM 2014 provides strong guidance on the need to avoid over-allocation and where degraded, improve water quality. The NPSFM is designed to protect freshwater life supporting capacity and ecosystem processes; therefore, Fish and Game therefore strongly rebut the assertion that such objectives are of minimal environmental benefit. It is the very nature of incremental diffuse discharges across many different land uses that has led to water degradation throughout Canterbury, particularly in red zones where this rule applies.
- 16 Federated Farmers raise the concern that it will be difficult or "almost impossible" to determine the past winter grazing area. This challenge is not considered insurmountable. There are ways to check on the relative area of grazing through farm records of crop seed purchases, aerial photographs and ongoing farm changes logged into the portal. Fish and Game considers this task may be easier to achieve than determining nitrogen baseline information for those farms with limited historic records and is manageable under the Management Plan approach.
- 17 Federated Farmers note in relation to Policy 4.38E that they only want P risk zones identified in relation to Phosphorus loss from overland flow. Fish and Game believes it is important that land users are also aware of areas at risk from Phosphorus leaching or bypass flow to groundwater. A national meta-analysis by McDowell et al. (2015) examines the linkage between soil, surface and ground enrichment with Phosphorus<sup>1</sup> and clearly shows that alluvial Canterbury soils are particularly vulnerable to significant Phosphorus leaching and bypass flow to groundwater. Where this information is available, it should be included and available to land users to assist in achieving Good Management Practice outcomes, such as the higher risk areas shown in Webb et al. (2010)<sup>2</sup>.

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<sup>1</sup> McDowell R.W., Cox N., Daughney D., Wheeler D., Moreau M. 2015. A National Assessment of the Potential Linkage between Soil, and Surface and Groundwater Concentrations of Phosphorus

<sup>2</sup> Webb, T, Hewitt, A, Lilburne, L, McLeod, M and Murray Close. 2010. Mapping of vulnerability of nitrate and phosphorus leaching, microbial bypass flow, and soil runoff potential for two areas of Canterbury, Environment Canterbury Technical Report, R10/125.

**Opuha Water Ltd**

- 18 This submitter argues that Fish and Game's 5.54A requested amendment would "unnecessarily disadvantage orange zone farmers" and discourage them from converting to more efficient spray irrigation. As outlined above, Fish and Game is concerned about the cumulative impacts on catchment water quality should permitted activity rules be too permissive. The conversion to spray irrigation does have several advantages over border dyke systems, but it does not remove the onus to carefully manage the associated changes in land use intensification, such as increased stocking rates and associated nutrient leaching.
- 19 Fish and Game considers the economic incentives for land users to convert to spray irrigation would outweigh the disincentive associated with applying for resource consent, which we believe to be a normal part of this change process.

**Ravensdown**

- 20 This submitter suggests Fish and Game's amendment to rule 5.44A(4) is arbitrary and not in keeping with good resource management practice. Fish and Game considers the identification of existing winter grazing is reasonable, given the potential for many farms to go from no irrigation or winter grazing to the maximum amount, placing greater strain on catchment water quality. Fish and Game understands that Plan Change 5 is designed to implement Good Management Practices and set appropriate consenting pathway thresholds, as opposed to setting catchment nutrient allocations by default, a matter more appropriately addressed in sub-regional plans.
- 21 Ravensdown has not suggested an adequate means to manage the cumulative effects of potentially significant numbers of smaller farms intensifying their operations to take advantage of higher irrigated or winter grazing. On balance it is considered better to reference existing use than to reduce the total permitted limit across all farms, in order to maintain water quality.
- 22 The use of the GMP nitrogen baseline also relies on potentially arbitrary estimates of farm Nitrogen discharges, particularly when there are limited farm records over the baseline period. This approach could also be criticised for the same reasons as those stated by Ravensdown, yet Fish

and Game considers it is critical to incorporate these mechanisms in order to effectively manage nutrient losses at both a property and catchment scale.

Scott Pearson and Angela Christensen

A handwritten signature in blue ink that reads "Scott Pearson". The signature is written in a cursive style with a large, sweeping loop at the beginning.A handwritten signature in black ink that reads "Angela Christensen". The signature is written in a cursive style with a long, horizontal flourish at the end.

5 August 2016