

**BEFORE INDEPENDENT HEARING COMMISSIONERS APPOINTED BY  
THE CANTERBURY REGIONAL COUNCIL**

**IN THE MATTER OF**      The Resource Management Act 1991

**AND**

**IN THE MATTER OF**      Submissions and further submissions by Opuha  
Water Limited on Proposed Plan Change 5 to the  
Canterbury Land and Water Regional Plan

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**REBUTTAL EVIDENCE OF JULIA MARGARET CROSSMAN**

**5 AUGUST 2016**

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## REBUTTAL EVIDENCE OF JULIA CROSSMAN

### Introduction

- 1 My name is Julia Margaret Crossman. I am the Environmental Manager of Opuha Water Limited (**OWL**).
- 2 My experience and qualifications are set out in paragraphs 2 to 4 of my evidence of 22 July 2016.
- 3 My rebuttal evidence relates to the evidence of North Canterbury Fish and Central South Island Fish and Game Council (**Fish and Game**)<sup>1</sup> on Part A of Plan Change 5 to the Land and Water Regional Plan (**PC5**).
- 4 My rebuttal evidence relates to the amendments sought to the permitted activity rules (5.44A and 5.54A) for the Red and Orange Zones. Specifically, the conditions restricting winter grazing and irrigation areas.
- 5 I am authorised to give this rebuttal evidence on behalf of OWL.

### Correction of Typographical Error in Primary Evidence

- 6 At paragraph 12 of my primary evidence dated 22 July, the final sentence should read:

*The remaining ~~440~~ 210 shareholders, who abstract 80% of the water, farm in the Orange Zone.*

### Scope of Evidence

- 7 In my rebuttal evidence I:-
  - 7.1 Discuss how irrigable area might be increased in the Orange Zoned part of OWL's scheme area and the potential impact of Fish and Game's amendment;

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<sup>1</sup> Evidence of North Canterbury and Central South Island Fish and Game Councils (21 July 2016)

Discuss the proposed winter grazing thresholds and their potential impact.

### Summary of Rebuttal Evidence

8 In summary, I consider:

8.1 Allowing Orange Zone irrigators to irrigate up to 50ha as of right is unlikely, in and of itself, to result in material increases in N-loss across the OWL scheme. Therefore OWL is concerned the Fish and Game restriction is unwarranted and would see shareholders having to go through the cost of a consenting process unnecessarily; and

8.2 The amendments sought to the allowable winter grazing area in both the Orange and Red Zones would be overly restrictive. There would be an economic cost associated with having winter grazing potential restricted beyond the 20ha limit already proposed.

### Fish and Game Submission and Evidence

9 Fish and Game's original submission on Part A of PC5 requested amendments to the permitted activity rules in the Red and Orange Zones, namely:

9.1 Condition 4 of Rule 5.44A and Condition 3 of Rule 5.54A in respect of winter grazing in the Red and Orange Zones<sup>2</sup>; and

9.2 Condition 2 of Rule 5.54A in respect of allowable irrigation area in the Orange Zone<sup>3</sup>.

<sup>2</sup> Submission of North Canterbury and Central South Island Fish and Game Council (11 March 2016), at pages 9-11:

*Amend Clause 4 to include:*

*The area of the property used for winter grazing within the period 1 May to 1 September does not exceed a total area of 20 hectares, any increase in the area of winter grazing is limited to 10 hectares above that which was winter grazed at 13 February 2016*

*Amend (3) to state:*

*The area of the property used for winter grazing is less than 20 hectares, any increase is limited to 10 hectares above that which was winter grazed at 13 February 2016*

<sup>3</sup> Submission of North Canterbury and Central South Island Fish and Game Council (11 March 2016), at pages 10-11:

*Insert a new clause 2(a) to state:*

*For any property where, as at 13 February 2016, the area of land authorised to be irrigated with water is less than 50 hectares, any increase in the area of irrigated land is limited to 10 hectares above that which was irrigated at 13 February*

- 10 OWL opposed the Fish and Game request on Condition 2 of Rule 5.54A in its further submission<sup>4</sup>.

Winter grazing

- 11 The Fish and Game evidence at paragraph 52 amends its requested relief to Condition 4 of Rule 5.44A and Condition 3 of Rule 5.54A:

*that winter grazing is limited to 10 hectares above that which was winter grazed at 13 February 2016, up to a maximum of 20 ha in the red zone and 50 ha in the orange zone (as corrected from the original submission); ...*

- 12 This amends the notified version of Condition 3 of Rule 5.54A from 20ha to 50ha.

- 13 The Fish and Game evidence repeats this amendment at paragraph 53 and footnote 4. For the purposes of my rebuttal evidence I presume this requested change is deliberate.

- 14 The Fish and Game evidence also introduces (at paragraph 53) a possible further amendment to its relief requested for Condition 4 of Rule 5.44A and Condition 3 of Rule 5.54A:

*In assessing the winter grazing scenario comparisons, Fish and Game would consider amending its requested relief so that Rule 5.44A and 5.54A permitted winter grazing as the lessor of 10% of the property area up to 20ha or 50ha respectively. However an increase beyond 10ha of existing winter grazing in either a red or orange zone is not considered acceptable as a permitted activity, and Fish and Game would therefore continue to seek ... any increase in the area of winter grazing is limited to 10 hectares above that which was winter grazed at 13 February 2016. (footnotes omitted)*

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<sup>4</sup> Further Submission of OWL (13 May 2015) at paragraphs 9 and 15

15 I therefore understand Fish and Game seeks to restrict winter grazing in Red and Orange Zones to:

15.1 The lesser of either 10% of the property or 20ha (Red Zone) / 50ha (Orange Zone); and

15.2 No more than 10ha above what was winter grazed at February 2016.

#### Irrigated area

16 The Fish and Game evidence discusses (at paragraph 51) its requested relief for Condition 2 of Rule 5.54A. Namely, Fish and Game seeks a 10ha restriction on increasing irrigation in the Orange Zone, up to the proposed 50ha. This would make the Orange Zone rule equivalent to the Red Zone rule on irrigated area.

#### **Irrigation Increases in the Orange Zone**

17 From our shareholder database we know:

17.1 There are currently approximately 143 shareholders who irrigate less than 50ha in the Orange Zone.

17.2 Of these approximately 126 irrigate 40ha or less.

18 Not all shareholders who currently irrigate less than 40ha would be able to irrigate up to 50ha due to property size. We do not have complete information on property sizes available but there will be at least some who would be permitted to go up to 50ha under the recommended provisions, but would not be able to under the Fish and Game amendment. Because the Orange Zone occupies a substantial part of the OWL scheme, and because there will be a reasonable number of shareholders affected, OWL opposes this change.

19 OWL water is fully allocated to shareholders. As a consequence, to increase the amount of land irrigated within the scheme, shareholders must buy/lease shares from other shareholders and/or change to more efficient systems.

- 20 In the former case, the water is effectively being transferred from one place to another and so there would be no material increase in irrigable area *across the scheme*.
- 21 In the latter case, shareholders can make changes to irrigation systems to make the water go further through either system changes or better management. The result is that OWL can only expand as a scheme where water efficiencies occur.
- 22 As outlined by Wheeler and Bright (undated)<sup>5</sup>, high irrigation inputs lead to high drainage and therefore high N leaching, and that irrigation management practices can be altered to reduce both of these. This is now more explicitly recognised in OVERSEER as a result of recent upgrades.
- 23 Therefore, because nitrogen leaching is influenced by the amount of drainage, all things being equal, more efficient irrigation systems and management should lead to reductions in N loss.
- 24 As a consequence, I would consider that allowing Orange Zone farmers in the OWL scheme to increase irrigation up to 50ha would not increase the N loss across the scheme as significantly as Fish and Game representatives anticipate in their evidence<sup>6</sup>.

### **Winter Grazing Thresholds and Increases in the Red and Orange Zones**

- 25 In the time available to prepare this rebuttal evidence OWL was not able to form a clear picture on how the requested “lesser of 50ha or 10%” or “lesser of 20ha or 10%” restrictions (when compared to the notified 20ha for both zones), would affect OWL’s shareholders. From the numbers I have looked at, I consider there will be unders and overs, although more restriction than enablement overall.
- 26 Many of OWL’s shareholders are in the Orange Zone so some will be able to increase their winter grazing activities beyond 20ha. Some shareholders would be restricted to 10% of their property so would not get up to 20ha. Others would be able to expand winter grazing

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<sup>5</sup> Wheeler, D., and Bright J. (undated) Irrigation in Overseer. Agresearch, Hamilton and Aqualinc, Christchurch,

<sup>6</sup> Evidence of Fish and Game (22 July 2016), final sentence of paragraph 51

activities to between 20-50ha, where they could not under the recommended provisions.

- 27 However, there is the additional restriction proposed of no increase beyond 10ha above the area winter grazed at 13 February 2016. Knowing the scheme area and how shareholders use their land, OWL believes this will be problematic and overly restrictive for OWL shareholders. There are two main reasons for this.
- 28 Firstly, winter grazing can fluctuate year to year, or occur sporadically across many years. For example, the low milk pay out over recent years has forced many dairy farmers to 'winter on' as they have been unable to afford the expense of grazing off farm. As a consequence, a number of sheep and beef farmers who would usually graze dairy cows as part of their overall business operation have been unable to. Restricting winter grazing activities to 10ha above that grazed at 13 February 2016 would mean that such winter graziers would be restricted according to just one year's operation rather than the business 'norm' for the farm.
- 29 Secondly, there are shareholders who have not, to date, winter grazed as part of their normal operations, but may look to incorporate this land use in the future – principally to obtain revenue from their land and often in response to economic losses elsewhere. Grazing dairy stock in particular can benefit sheep and beef and cropping farmers by improving cash flow. This can be particularly important during times of economic downturn in the meat and wool industry. Retaining the ability to winter graze, and not restricting this to 10ha above that grazed at 13 February 2016 will be important to provide for diversification and flexibility in such downturns.

**Julia Crossman**

5 August 2016