

IN THE MATTER OF

The Resource Management Act
1991

AND

IN THE MATTER OF

Proposed Variation 2 to the
Proposed Canterbury Land and
Water Regional Plan

BETWEEN

Director-General of Conservation

AND

Canterbury Regional Council

STATEMENT OF EVIDENCE OF PAMELA ANNE GUEST
FOR THE DIRECTOR-GENERAL OF CONSERVATION
Dated 15 May 2015

Director-General of Conservation

C/- Herb Familton

Private Bag 4715,

Christchurch 8140

Tel: (03) 371 3700

Counsel: Pene Williams

INTRODUCTION

- 1 My full name is Pamela Anne Guest. I hold a Bachelor of Science, with First Class Honours in Geography from the University of Otago, with post-graduate papers from the University of Waikato in Planning Theory and Resource Management Law.
- 2 I work as a Resource Management Planning consultant and have worked in the area of resource management planning, at both national and regional levels, since the inception of the Resource Management Act. At a national level I have worked for the Water and Soil Conservation Directorate of the Ministry for Works and Development, with responsibilities for assessing national water conservation orders and developing national water and soil conservation policy. At a regional level I have worked for both the Waikato and Canterbury Regional Councils as project lead for the development of regional and catchment management plans.
- 3 From my work previously with Environment Canterbury, I have a good understanding of the environment of the Hinds/Hekeao area and the resource management issues pertaining to land and water use, water quality and indigenous biodiversity. I was part of a team that undertook a review of land use and water quality issues across the Canterbury Region and recommended the need for a new integrated planning framework to address the cumulative effects of land use across catchments. I am familiar with the policy framework provided by the Land and Water Regional Plan.
- 4 I have prepared planning evidence for the Director-General of Conservation with regard to the Proposed Hurunui River Regional Plan and the Proposed Canterbury Land and Water Regional Plan.
- 5 I have read the Environment Court's Code of Conduct for Expert Witnesses, and I agree to comply with it and have taken it into account in preparing this evidence. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

6 My evidence provides a planning perspective on the matters raised and relief sought in the Director-General’s submission on Variation 2 of the Proposed Canterbury Land and Water Regional Plan. I also comment on the Officer’s Section 42A Report.

Specifically, my evidence addresses the following matters:

- (a) The need for additional detail on the freshwater species and habitats of the Hinds/Hekeao Catchment to clearly set out the ecosystem characteristics that the plan provisions should provide for.**
- (b) Ensuring flow augmentation is managed in such a way as to safeguard freshwater ecosystem values.**
- (c) Ensuring the enhancement of trout spawning habitat (by enabling the removal of sediment) does not have adverse effects on indigenous freshwater ecosystem values.**
- (d) Consideration of the value of pursuing the inclusion of non-regulatory methods in Variation 2.**

NATURAL VALUES -Introductory Text “Section 13 – Ashburton”

7 The introductory text to “Section 13 – Ashburton” of the proposed Canterbury Land and Water Plan establishes the context for Variation 2. The text as notified, amongst other matters, outlines the geographic context for the catchment, but does not include information on ecological characteristics, such as the freshwater species, the habitats that support them, and the characteristics that need to be provided for in order to safeguard their life-supporting capacity.

8 The Director-General’s submission sought inclusion of additional text to describe the freshwater species and the habitats that remain in the Hinds/Hekeao Plains Area. The amendment sought briefly describes the changes to the waterway environment resulting from human settlement, lists the species present, and emphasises the

significance of the remnant habitat provided by the stock water races, drains and small spring-fed tributaries.

- 9 In response to submissions, the Officer's Report has recommended some amendments to Section 13 – Ashburton text, including details of the catchment's history, its cultural and economic values, and a small section of the text requested by the Director-General. However, details of the species (including threatened birds, freshwater fish, and macro-invertebrates) and their important habitats have not been recommended.
- 10 It is my opinion that the introductory sections of a Resource Management Plan should clearly establish the context for the policy framework to come. Thus it should include a clear description of the values and the critical characteristics that the plan aims to provide for, along with an outline of the key management issues to be addressed. In the case of life-supporting capacity a well presented plan should include an outline of species types or communities to be provided for, along with their key habitat requirements or at least those that are under stress and require management attention. In this way the plan establishes a decision-making hierarchy, providing sufficient information to ensure that the objectives, policies and methods are correctly targeted. In the case of Variation 2, I consider that additional details of the type requested by the Director-General would provide valuable guidance for both the development of appropriate policies and methods and their implementation.
- 11 As an example, concerns have been raised in the Director-General's submission with respect to Policy 13.4.14 regarding the need to ensure that flow augmentation does not enable exotic fish to access streams and drains that currently provide exclusive native fish habitat. Acknowledging the importance of these habitats for the continued survival of native fish within the introductory section to Chapter 13 would clearly establish the need to ensure that the objectives, policies and methods provide for these values and needs accordingly.
- 12 For these reasons I consider that further amendments to the Section 13 text, along the lines of those suggested by the Director-General, would benefit the internal integrity of Variation 2. I do not, however, recommend adopting the exact wording requested

in the Director-General's submission, particularly the listing of individual species, but recommend a combination of the amended text 'as requested' along with several amendments drawing on evidence presented to this hearing by Dr Dunn¹. Specifically, I recommend amendments to:

- emphasise the critical importance of the lowland network of drains and stock water races for sustaining freshwater ecology;
- acknowledge the presence of 'at risk' and 'threatened' species, particularly the Canterbury mudfish for which this catchment provides a significant portion of remaining habitat;
- recognise that birds and macro-invertebrates are important components of the freshwater ecosystem;
- highlight the key habitat components that require restoring and protecting; in particular the protection of existing areas of exclusive native fish habitat.

13 I have set out my recommended changes in Appendix 1: "Recommended Changes to Proposed Variation 2 to the Proposed Canterbury Land and Water Regional Plan".

FLOW AUGMENTATION

Policy 13.4.14

14 Policy 13.4.14 provides for the use of flow augmentation to improve flows and dilute nitrate nitrogen concentrations. The Director-General's submission supports the intent of this Policy, but sought two amendments to the policy clauses to ensure that the implementation of Managed Aquifer Recharge (MAR) and/or Targeted Stream Augmentation (TSA) do not have unintended adverse effects on indigenous freshwater habitat or species. The Officer's Report does not appear to have addressed the matters raised in the Director-General's submission.

¹ Refer Primary Evidence of Dr Dunn for the Director-General of Conservation, dated 15 May 2015, paras 8-23

15 The first amendment requested by the Director-General relates to clause (c):

(c) “adverse effects on inappropriate fish passage are avoided or mitigated”

I was unsure as to the meaning of this submission and I therefore discussed this requested rewording with staff at the Department of Conservation. They have advised that the intention of this proposed amendment is to ensure that the increase in flows resulting from flow augmentation does not enable exotic fish to access waterways that currently provide exclusive native fish habitat because of inadequate flows, and which consequently provide important native fish habitat. They have also advised that the wording of this proposed amendment should have referred to avoid adverse effects of flow augmentation on “appropriate” fish passage rather than “inappropriate” fish passage. Thus the amendment sought should read:

(c) “adverse effects on appropriate fish passage are avoided or mitigated”

16 As discussed in paras 11 and 12 above, and by Dr Dunns evidence², the lowland drains provide critical habitat for a range of native fish species. The protection of exclusive native fish habitat is a critical element to the survival of these species, especially those species whose populations are already ‘at risk’ or ‘threatened’. I note that this issue has also been recognised within the Ashburton Zone Implementation Programme (ZIP) Addendum³:

“Ensure that streams and sub-catchments with only native fish species are identified and protected.”

For these reasons I consider that this amendment is appropriate and should be accepted.

17 The second amendment to Policy 13.4.14 requested by the Director-General relates to clause (e):

² Refer Primary Evidence of Dr Dunn for the Director-General of Conservation, dated 15 May 2015, paras 11, 16, 19-20

³ Environment Canterbury, 2014a

(e) there is no net loss of significant indigenous biodiversity habitat ~~of indigenous biodiversity~~ and species.

18 This amendment extends the application of clause (e) to indigenous species, along with habitat, and also provides a grammatical improvement to an otherwise clumsy sentence structure. As stated in Dr Dunn's evidence⁴, while beneficial in a number of respects, increased flows have the potential to adversely affect species, irrespective of whether habitat has also been lost, due to the effect that changes in water velocities and habitat connectedness may have on interactions between members of the fish communities within the various waterbodies. That is, populations of native fish risk significant population decline if exotic fish have newly found access to their territory. Dr Dunn considers that habitat form needs to be considered on a waterway by waterway basis, with consideration of species present and the water velocity, depth and substrate requirements they need. For this reason I support the addition of 'species' to clause (d).

19 I also suggest an additional amendment to improve the sentence structure as, in my opinion, the term biodiversity is redundant when used in conjunction with "indigenous habitat". Thus I recommend that Policy 13.4.14 (e) be amended to read:

(e) there is no net loss of significant indigenous habitat and/or of populations of indigenous species.

⁴ Refer Primary Evidence of Dr Dunn for the Director-General of Conservation, dated 15 May 2015, paras 31-33

Proposed New Policy 13.4.21

20 The Director-General seeks a new policy to enable Targeted Stream Augmentation to improve the policy and rule coherence in Variation 2 with the New Policy 13.4.21 to read (or to like effect):

“Enable targeted stream augmentation east of SH1 in the Lower Hinds/Hekeao areas to sustain freshwater ecosystems while providing water reticulation services to supply existing irrigation schemes.”

21 The Officer’s Report responds that “Stream augmentation is covered under separate provisions in Variation 2” and recommends no amendments to the proposed Variation.

22 The new policy sought by the Director-General includes several elements:

- (a) an enabling aspect;
- (b) a locational aspect; and
- (c) clarification of the purpose of TSA.

23 In reviewing the policy framework already provided by Variation 2, I note Policy 13.4.14 that enables flow augmentation, subject to conditions to avoid adverse effects on a range of matters.

24 I understand that the reason that the new policy sought applies only to areas “east of SH1 in the Lower Hinds/Hekeao areas” was to reflect areas where TSA is already being carried out. Mr Dunns evidence⁵ is that flow augmentation is likely to be beneficial in sustaining the life supporting capacity of freshwater ecosystems in the wider Hinds/Hekeao Plain Area. Therefore I do not consider that any amendments proposed to the Variation to address the Director-General’s submission should be location restricted.

25 In my opinion, Policy 13.4.14 already provides an adequate policy framework to enable the use of flow augmentation across the Hinds/Hekeao Area. Therefore, I do

⁵ Refer Primary Evidence of Dr Dunn for the Director-General of Conservation, dated 15 May 2015, paras 25, 27, 28

not support inclusion of a new policy. However, I consider there is value in adding a purpose statement to Policy 13.4.14 clarifying that the purpose of flow augmentation is “to sustain freshwater ecosystems while providing water reticulation services to supply existing irrigation schemes.” Such an amendment may be helpful in evaluating the merit of consent applications required under the associated rules. Therefore, while I consider that a new policy would not provide any benefit to Variation 2, I do consider that making the following minor amendment to Policy 13.4.14 would be appropriate:

13.4.14 “Improve flows in the Lower Hinds/Hekeao Plain Area to sustain freshwater ecosystems while providing water reticulation services to supply existing irrigation schemes, by enabling managed aquifer recharge and targeted stream augmentation, where....

Rule 13.5.36

- 26 In respect of Rule 13.5.36 in proposed Variation 2, the Director General has noted the omission of both “rate” and “volume of discharge” as matters of discretion to this discharge rule. The Officer’s Report has not addressed this submission point.
- 27 Clearly, the amount of water that is discharged, and the rate at which it is discharged, are key factors in determining the effect that a discharge will have on the receiving environment. If these parameters are not matters of discretion then any volume of water is able to be discharged, and at any rate. These are critical omissions in any situation but, given that flow augmentation is a relatively new tool in New Zealand and very much in a trial phase, these are matters that Environment Canterbury must have the ability to control. Risks to the downstream receiving environment include changes to water velocities, habitat availability, and habitat connectedness, and the effect that these may have on members of the fish communities within the various waterbodies⁶, along with an increased risk of flooding and inundation. The increased

⁶ Refer Primary Evidence of Dr Dunn for the Director-General of Conservation, dated 15 May 2015, para 31

risk of downstream flooding as a result of augmentation was a point of concern for a large number of submitters to Variation 2.

- 28 In my opinion, these matters are a significant omission and the Director-General's amendment should be accepted. Doing so would also be consistent with the proposed Canterbury Land and Water Plan Rule 5.128 Take and Use Groundwater, condition 1.

SEDIMENT REMOVAL FROM RIVERS AND STREAMS – Rule 13.5.27

- 29 The Director-General's submission sought two amendments to Rule 13.5.27 directed at avoiding adverse effects of sediment removal on native fish. The first amendment seeks to confine sediment removal from streams and rivers to the summer period, so that spring and autumn spawning of various fish and freshwater species is not disturbed. Dr Dunn's evidence⁷ states that if sediment removal is restricted to the period between November to March it would minimise the risk to migratory native fish.
- 30 One of the conditions for Rule 13.5.27 (a restricted discretionary rule) is the preparation of a management plan to address a number of matters, such as preparation of an inventory of sensitive ecological habitats and species, and an assessment of environmental risks. In response to the Director-General's submission, the Officer's Report has recommended that "timeframe" (for sediment removal) be added as a matter to be included within a management plan. Thus, if consent was granted a management plan would need to specify what time of the year the activity would be carried out, amongst other matters.
- 31 While this is one way of addressing the Director-General's concerns, it is my opinion that a much simpler approach, and one that would provide much greater certainty and transparency that the adverse effects of sediment cleaning will be minimised, is to specify that sediment cleaning activities are to be restricted to the period November

⁷ Refer Primary Evidence of Dr Dunn for the Director-General of Conservation, dated 15 May 2015, para 12

– March as a condition to Rule 13.5.27. I therefore consider that there is much merit in including new condition 8 to Rule 13.5.27 as sought by the Director-General.

- 32 The second amendment sought in the Director-General’s submission is to restrict the application of Rule 13.5.27 to waterways where trout habitat already exists (i.e., drains that flow directly into the Hinds and Ashburton Rivers) so as to protect existing native fish habitat. Similar submissions were made by Federated Farmers and the Eiffelton Community Group Irrigation Scheme. It was also the consensus of the Hinds Drains Working Party that sediment removal from streams would be limited to tributaries of Hinds and Ashburton rivers to avoid enhancing and/or establishing trout habitat in drains that contain high ecological values for indigenous species.⁸
- 33 The Officer’s Report does not support such a restriction of this rule on the grounds that “should such an application be received, with a limitation in the geographic area, it would fall to LWRP provisions, which would likely set this activity as a discretionary activity in any event.”
- 34 I do not see the reason given by the Officer’s Report as providing any rationale for rejecting the collective wisdom of these parties. I have discussed this matter with Dr Dunn and, as stated in his evidence⁹, he is very clear that, for native fish populations to survive (and, desirably, recover) in the lower Hinds/Hekeao Plains area, they require protection from predatory species. In addition, the tributaries of the Hinds and Ashburton rivers are probably the only areas where sediment removal would assist fish spawning because of the physical characteristics of these waterways (e.g., they have suitable substrate and flows). It would therefore make sense to provide for sediment cleaning only in areas where there is a high likelihood of a successful outcome. I therefore consider that the amendment sought by the Director-General to Rule 13.5.27 is appropriate and recommend that it be accepted.

⁸ Refer Primary Evidence of Dr Dunn for the Director-General of Conservation, dated 15 May 2015, para 34

⁹ Refer Primary Evidence of Dr Dunn for the Director-General of Conservation, dated 15 May 2015, para 34

ADDITIONAL METHODS

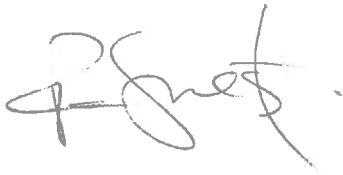
- 35 The Director General's submission requested a suite of new methods to Variation 2 to show that a range of non-statutory interventions are required to develop an integrated approach to managing water quality in the Hinds/Hekeao catchment.
- 36 The Officer's Report responds that "The non-regulatory interventions are listed in the ZIP, ZIP Addendum and section 32 Report. In addition, the non-regulatory interventions are likely to change over time. On this basis, and in line with the remainder of the LWRP, it is not recommended to include them in the text of Section 13 – Ashburton."
- 37 There is no contention by Environment Canterbury that a variety of methods are required to complement rules if there is to be any hope of achieving the desired outcomes for the Hinds/Hekeao Plains area (e.g., Environment Canterbury 2014a, 2014b, 2015). It is also clear that Environment Canterbury has made a high-level decision to produce minimalist regional plans, stripped down to the basic requirements of RMA s67(1)(a)-(c) (i.e., stating objectives, policies and rules (if any)), with non-regulatory methods being identified and implemented by sub-regional Zone Implementation Programmes (ZIPs).
- 38 In my opinion, good planning practice would see the regional plan framework used to establish a comprehensive and integrated package of methods targeted at achieving the plan's objectives and establishing a clear framework for implementation and outcome monitoring and establishing a "one stop shop" of accountability. I consider that having the full suite of methods included within a statutory plan would give greater confidence that action will be taken to implement, monitor and review them.
- 39 Having said this, Environment Canterbury has committed significant resources to the sub-regional ZIPs and it is clear that a wide range of projects are already underway in the Hinds/Hekeao Plains area. I have looked through the Ashburton ZIP Addendum Hinds Plains Area March 2014 and consider that the methods as set out are no less comprehensive than those that have traditionally been included in regional plans. Of prime importance is a commitment to their implementation, monitoring and review. I

note that the Canterbury Regional Council has formally adopted the ZIP as the basis for both the design and realignment of their work programmes and for the preparation of a draft Long Term Plan, and that they have committed significant resources to its implementation¹⁰.

40 For these reasons, while I concur with the principle of the Director-General's submission, I see little value in pursuing this amendment.

CONCLUSION

41 For the reasons set out in my evidence, I recommend adoption of the changes set out in Appendix 1 to this evidence.



Pamela Anne Guest

15 May 2015

¹⁰ Environment Canterbury, 2015 - section 3.12

REFERENCES

Environment Canterbury, 2014a: Ashburton ZIP Addendum Hinds Plains Area, March 2014.

Environment Canterbury Report No. R14/29

Environment Canterbury, 2014b: Proposed Variation 2 to the Proposed Canterbury Land and Water Regional Plan, Section 32 Evaluation Report. September 2014

Environment Canterbury, 2015: Variation 2 to the Proposed Canterbury Land and Water Regional Plan, Section 42A. Environment Canterbury Report No. R15/48

O'Brien, L.K.; Dunn, N.R. 2012: Canterbury mudfish sub-population assessment database. Ichthyo-niche and Department of Conservation, Dunsandel and Christchurch, New Zealand.

Primary Evidence of Dr Nicholas Rex Dunn for the Director-General of Conservation in the matter of Proposed Variation 2 to the Proposed Canterbury Land and Water Regional Plan

APPENDIX 1 – RECOMMENDED CHANGES TO PROPOSED VARIATION 2 TO THE PROPOSED CANTERBURY LAND AND WATER REGIONAL PLAN

The following is a marked up version of my recommended changes to the text to Variation 2

Section 13 – Ashburton *(this text incorporates the changes recommended by the Officer's Report)*

....A small hapua (lagoon) is present at the river mouth, although this is blocked to the sea most of the time. Many of the Artificial drains, stock water races and modified channels which replaced the wetlands and waterways, provide critical substitute habitats for a variety of fish and macro-invertebrate species, including rare and endangered species (such as the nationally critical Canterbury mudfish). The Hinds/Hekeao Plains area is of high importance for this species, containing 19 % of known Canterbury mudfish habitat fragments¹¹. Seven threatened bird species are also found in the catchment, including black silts (also ranked as nationally critical).

Since the mid 2000's there has been significant decline in the ecological health of the Hinds/Hekeao Plains lowland waterways. Restoring adequate base flows, and improving water quality and instream habitat to the drains are critical habitat requirements for all of these freshwater species. Also of significance is the need to protect areas where native fish, particularly the Canterbury mudfish, are able to avoid predation due to a lack of access for predator fish (such as salmonids) due to factors such as a lack of stream flow or the presence of physical barriers.

¹¹ O'Brien & Dunn 2012

Policy 3.4.14:

“Improve flows inthe Lower Hinds/Hekeao Plain Area to sustain freshwater ecosystems while providing water reticulation services to supply existing irrigation schemes, by enabling managed aquifer recharge and targeted stream augmentation, where....

(a) ...

(c) adverse effects on appropriate fish passage are avoided or mitigated;

(e) there is no net loss, including through inundation, of significant ~~biodiversity~~ indigenous habitat and/or of ~~indigenous biodiversity~~ populations of indigenous species;

Rule 13.5.27:the following conditions are met:

8. The activity occurs between the months of November and March.

9. The activity only occurs in the drains flowing into the Hinds and Ashburton Rivers.

Rule 13.5.36: add as a matter of discretion

1a “The rate and volume of the discharge”