

BEFORE THE CANTERBURY REGIONAL COUNCIL

IN THE MATTER OF: the Resource Management Act
1991

AND

IN THE MATTER OF: a submission on the Proposed
Canterbury Land and Water
Regional Plan

**EVIDENCE OF HERBERT ROSS FAMILTON
FOR DIRECTOR-GENERAL OF CONSERVATION**

Dated 4 February 2013

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STATEMENT OF EVIDENCE OF HERBERT ROSS FAMILTON

INTRODUCTION

Qualifications and Experience

- 1 My name is Herbert Ross Familton. I have been employed by the Department of Conservation (“DOC”) in the position of Resource Management Planner in its Canterbury Conservancy Office since 21 May 2012. I am appearing here today to present planning evidence in support of the DOC submission on the proposed Canterbury Land and Water Regional Plan (“pCLWRP”).
- 2 In my current role I am responsible for providing information, advice and analysis on resource management issues for plan and consent hearings and appeals at a national level.
- 3 I hold a Bachelors of Arts Degree with Honours in Geography (1983) and a Masters in Regional and Resource Planning (1985) from the University of Otago. I have twenty six years’ experience in natural resources planning area. I was admitted as a full member of the New Zealand Planning Institute (NZPI) in 1993.
- 4 Prior to my current employment with DOC, I was employed by the Auckland Council as Senior then Principal Specialist (Air) from 2011 to 2012. I was employed by Environment Canterbury as a Senior Resource Management Planner in the Policy Planning team from 2010 to 2011 in the Air Quality area. And, from 2006 to 2009, in the environmental flow areas, focusing on the Waipara, Hurunui and Waiau catchments. As part of this work, I prepared the paper to Council to make chapters 1-3 of the NRRP operative.

- 5 Prior to the 2006 period, I was employed by DOC and the Department of Lands and Survey in a number of planning roles. I was the lead DOC official for the whole of Government submission that advised the Attorney-General for the Waitaki Catchment Water Allocation plan in 2005/2006. I processed restricted coastal activity coastal consents for the Minister of Conservation from 1997-2006 in the Southern Regional Office of DOC.

- 6 I produced a standard operating procedure (SOP) for the development of Conservation Management Strategies (CMS) nationally for DOC. The CMSs are equivalent to an RPS in the DOC Management Planning system under Part III of the Conservation Act. In Canterbury, I lead the development of a number of DOC management plans, reviews, and amendments. This includes the Canterbury Conservation Management Strategy, the Mt Cook/*Aoraki* National Park Management Plan, and the Arthur's Pass National Park Management Plans.

- 7 The data, facts, information and assumptions I have considered in forming my opinions are set out in the part of the evidence in which I express my opinions. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

- 8 I have read the Environment Court's Code of Conduct for expert witnesses and I agree to comply with it. My qualifications as an expert are set out above. I confirm that the issues in the brief of evidence above are within my area of expertise.

- 9 The literature or other material which I have used or relied upon in support of my opinions are as follows:
 - (i) The Resource Management Act 1991
 - (ii) the National Policy Statement on Freshwater
 - (iii) the National Policy Statement on Renewable Energy Generation

- (iv) The New Zealand Coastal Policy Statement
- (v) The second and third report of the Land and Water forum April and October 2012
- (vi) Proposed National Environmental Standard on Ecological Flows and Water Levels (2008) Ministry for the Environment, Wellington
- (vii) The Parliamentary Commissioners report "Growing for Good" (2006)
- (viii) The National Biodiversity Strategy
- (ix) The Canterbury Regional Policy Statement (2013)
- (x) The Canterbury Conservation Management Strategy
- (xi) Flow Guidelines for In-stream values volumes A and B (MfE 1998)
- (xii) Protecting New Zealand's Rivers. (2011) New Zealand Conservation Authority, Wellington
- (xiii) The expert witness evidence from Dr David West, Nicholas Head, Dr Nicholas Dunn, Dr Phillippe Gerbeaux, Keith Briden, David Stewart, Dr Jeff Dalley and Tony Teeling from the Department of Conservation
- (xiv) The ECan section 42A report, dated January 2013.

SCOPE OF EVIDENCE

- 10 My evidence will give a planning perspective of the relief sought by the Director-General's (DG) submissions and further submissions and commenting on the Officers' section 42A report recommendation on that relief.
- 11 I note that some of the Department's submissions and further submissions were not accurately recorded in the section 42A report. This was not helped by the section 42A report not explicitly and comprehensively listing the submitters and further submitters in each section/ decision point.
- 12 In at least one case that I am aware of, the Departments relief sought had already been incorporated into the discussion of the draft provisions and into

the Officers' recommendations. Despite that the relief sought by the Department was recommended to be declined in the Report. This example pertains to Rule 5.96 (2) on page 278 of the Officer recommendations.

- 13 I have enclosed, for the Hearing Commissioners', information:
 - (a) A revised set of recommendations for the objectives as **Appendix A**.
 - (b) Further planning evidence on issues raised in the DG's submission and/or further submissions which have not been addressed in detail in the main body of this evidence. This is contained in **Appendix B**.
 - (c) Excerpts from the report: *North Canterbury Storage Options*, Riley Consultants Ltd (2010) regarding water efficiency gains as **Appendix C**.
 - (d) Excerpts from the Fish Passage Regulations 1983 as **Appendix D**

- 14 Please note that references to sections and page numbers throughout this evidence are to the sections and page numbers contained in section 42A report unless indicated otherwise.

- 15 Because of time delays caused by our family's automatic transmission breaking in the week 21-25 January, and being unable to use the DOC computer network, I have focused my evidence on areas where I disagree with staff recommendations in the section 42A report.

- 16 The technical witnesses for the DG will address technical matters raised by the DG's submission on the pCLWRP.

- 17 On matters which I consider warrant detailed discussion in the main body of this evidence I have utilised the following format:

Topic or section heading:

(a) DOC submission: I briefly reiterate the Department’s submissions and/or further submission.

(b) Officer Comment and Recommendation: I briefly note the aspects of the Officers’ section 42A response that are relevant.

(c) Comment: I provide commentary of DOC’s position in light of the section 42A report.

(d) Recommendation: in most instances I will insert a recommendation enlightened by the foregoing points (a) to (c). However, it is my intention to encapsulate all my recommended changes in a single document which I will present prior to the hearing. In this way I hope to pool all changes into a one place for ease of reference.

18 In other cases I have adopted a more simplified approach to the evidence. In these cases I have incorporated a synopsis of the matter in contention (be it a policy, rule, definition or schedule) and provided brief, planning-related comment or argument on the point raised. The matters which I have approached in this manner appear in Appendix B.

19 Where I have not directly addressed a point in this evidence, either in the main body or in Appendix B, the Commissioners may rely on the planning rationale and justifications offered in the DG’s submission and/or further submission.

Explanation of terms used in this evidence:

20	CMS	Conservation Management Strategy
21	CWMS	Canterbury Water Management Strategy
22	ECan	Canterbury Regional Council
23	DG	Director-General of Conservation
24	DOC	Department of Conservation

25	DA	Discretionary Activity
26	HNWB	High Naturalness Water Body
27	HWRRP	Proposed Hurunui Waiau River Regional Plan
28	NRRP	Natural Resources Regional Plan
29	NPS FW	National Policy Statement Freshwater Management 2011
30	NPS RG	National Policy Statement Renewable Electricity Generation 2011
31	PA	Permitted Activity
32	pCLWRP	Proposed Land and Water Plan (ECan 2012)
33	L/s ⁻¹	Litres per second
34	M ³ /s	Cubic Metres per second
35	MALF7D	Mean annual seven day low flow
36	NCA	Non Complying Activity
37	NZCPS	New Zealand Coastal Policy Statement
38	PCE	Parliamentary Commissioner for the Environment
39	RDA	Restricted Discretionary Activity
40	RMA	Resource Management Act
41	RPMS	Regional Pest Management Strategy
42	RPS	Canterbury Regional Policy Statement (2013)
43	TLA	Territorial Local Authority
44	TP	Total Phosphorus
45	WCO	Water Conservation Order
46	WUA	Weighted usable area
47	ZIP	Zone Implementation plan

EXECUTIVE SUMMARY

Regarding the Section 32 Analysis

- 48 The pCLWRP states that it relies on the section 32 analysis of the NRRP. The notified plan however, includes objectives, policies, and methods which are quite different to the NRRP. This means that the appropriateness of the objectives and the effectiveness and efficiency of the policies and methods may be quite different for the pCLWRP. The only section 32 assessment work done specifically for this pCLWRP has been the farming discharge provisions. On that basis, I question if this section 32 duty has been adequately discharged for the pCLWRP non farming discharge provisions.

Size, Format, and Objectives

- 49 Overall the pCLWRP has enabled ECan to reduce the volume of regional plans down by a considerable amount which is an impressive achievement.
- 50 The risk with new format is that the entire plan needs to be known for effective consent administration compared to a thematic approach of NRRP, where a smaller section for each subject was needed for complete understanding of a topic area. This will create its own consent enforcement issues as the whole plan will need to be well understood by ECan consent investigating officers and all others who use the plan.
- 51 The objectives developed in this plan have not come from clearly identified and articulated issues, making the linkages between from issue, to objective, to policy and, finally, to method difficult to grasp. Lack of detail means that some issues, such as long-term groundwater decline, are not addressed in objectives (despite being addressed in RPS (Policy 7.3.4 (1)(d) for instance). That is undesirable.

52 While the section 42A report states that all the objectives are “outcome based”, some objectives, such as best practise objective 3.23, is actually a method to achieve an objective, therefore in my mind a policy matter.

53 I have worked on the objectives with fellow planners Ms McIntyre from Ngai Tahu and Mr Percy from Fish and Game and have recommended a set of objectives that I think will improve the plan, will better give effect to the NPS FW and to the RPS. I think there is a large measure of agreement in our views but lack of time has precluded us from complete agreement.

Policies

54 The Policies in my view were better drafted than the objectives and with some improvements should serve the plan well as they are largely restricted to substantive methods and do not repeat the act and use the “avoid, remedy, and mitigate” language as outlined in the section 42A report.

55 Where possible, I attempted to use language in my recommendations in the policy that reflects the activity status, e.g. “enable” for permitted, “restrict/control” for discretionary, and “prohibit” for prohibited status rules.

The PA rules

56 In various PA discharge rules it is not clear if the section 70 test will be achieved. I would recommend the addition of the Act’s section 70 (1)(g) qualification in all discharge rules.

Remaining Issues with the pCLWRP

- 57 So while overall the plan size and format is an improvement the section 32 issues and following key issues remain unresolved in my view:
- 58 **Derogation by Sub-Regional Chapters** - The ability for sub-regional chapters to weaken pan-regional standards. This will likely lead to re-litigation when sub-regional chapters are released. Relitigation of the same issues in a series of plan changes are, in my view, a highly inefficient resource management practise, and inconsistent with section 32 of the Act.
- 59 **Lack of a rigorous scientific basis** for the establishment of areas of high natural character, leading to ad hoc decisions about waterbodies that receive added protection and those that do not. This can be addressed, at least in part, by the use of tools, such as FENZ, which can locate waterbodies of high ecosystem value in an objective and systematic manner.
- 60 **A Lack of provision for native fish and invertebrate species**, despite having a schedule (Schedule 17) to address their management. The lists of species and locations where indigenous fauna exist is very poor: there are only four locations where indigenous fish are identified in Schedule 17. The proposed Schedule is in stark contrast to the expanded one submitted by DOC and talked to by Dr Dunn. It is notable that DOC's expanded Schedule confined itself to locations where threatened or at risk indigenous species are known to be located. It is therefore relatively modest in its scope.
- 61 **Poor default provisions for minimum flows and water allocations**. The draft NPS provides a guide for the establishment of these limits and these provisions are discussed by Dr Dunn and Mr Stewart. There are strong management advantages in setting these limits conservatively, and very strong management disadvantages in setting them too low to sustain in-stream values. This is

supported by RPS provisions on precautionary approaches to default allocations.

62 The **wetland provisions are lacking an appropriate objective and policy framework** on a number of fronts and will fail to sustain or manage the very depleted collection of wetlands that do remain in Canterbury.

63 An unhelpful focus of the current rules, in my view, has been on defining wetlands in such a way that if they happen to be contiguous to a lake or river or in the bed of the lake or river they are deemed to not be wetlands at all. That simply does not tally with the science nor with the RPS. Such an approach in my view will only lead to a continued deterioration in their quality and number, due to the more enabling rules for activities in rivers and lakes.

64 The desire to enable wetland reduction for the sake of infrastructure has meant that the bigger picture of what is required to sustain wetlands in Canterbury is not well articulated in the Plan's objectives nor in the resulting policies and rules. The previous NRRP wetland provisions have been assessed as being effective at a national scale as discussed by Dr Gerbeaux. ECan ecologists have a very clear technical understanding the status of wetlands and their management needs in Canterbury as outlined by Dr Gerbeaux. So the major problem in my mind is clearly with the planning provisions rather than the technical understanding of wetland management and their status.

65 Lack of effective methods for addressing the **cumulative effects of discharges**, particularly the need to establish limits as required by the NPS FW and the Canterbury RPS. pCLWRP water quality limits need to be established in the overall objectives and policy sections and given effect to in subsequent rules in my view. Without this, cumulative impacts cannot be managed by individual consents alone. Effective discharge management policies like the NRRP Chapter 3 (Air Quality) air plan provisions needs to be supplemented by an

integrated policy approach of rules, incentives, and education for best effect. The Air Plan was very controversial initially but focused management on the achievement of national air quality standards. Air quality is one area where ECan have successfully managed the cumulative effects of discharges with some success in the past, and I would expect similar components to work well for discharges into the future.

- 66 The **failure to take an enabling approach to matters with minor environmental effects** for activities like greywater discharges, weeds, pests and fire management (all of which DOC is affected by). The benefits of permitting these activities are self-evident in terms of biosecurity and biodiversity management and making it easier and cheaper to accomplish them accords with the Canterbury RPS, RPMS (Regional Pest Management Strategy), and CMS to name but a few.
- 67 As I indicated in my opening paragraphs, it is my intention prior to the Hearing to table a document that will draw together all the recommended alterations to the plan proposed by the DG into one place. I trust the Commissioners will find that a useful aide to their assessment of the Plan and the DG's submissions. I regret that I have been unable to furnish that summary with this evidence but time constraints have simply made that impossible.

SPECIFIC SUBMISSIONS ON THE pCLWRP PROVISIONS

TOPIC AREA 1 – “BACKGROUND AND CONTEXT”

SECTION 1

“DOC’s Role”: Section 1.3.1, p 68-69

68 This part of the Plan refers to the role of Department of Conservation.

DOC Submission

69 The DG submission sought a more detailed outline of the DOC role in its submission.

Officer Comment and Recommendation

70 The Officers’ report agrees that the DG’s submission provides a better description of the role of the Department and recommends that the DG relief sought be accepted.

Comment

71 The amendments proposed by the officer address the relief sought by the DG. I therefore support the changes because the rewording addresses the statutory roles of the Department in a more comprehensive manner.

Recommendation

72 I recommend the Commissioners adopt the officer report recommendations and amend the last few paragraphs of section 1.3.1 accordingly.

Freshwater Fish Passage:

(Rule 1.115, p343)

73 This section had commentary on freshwater fish passage under the Freshwater Fisheries Regulations 1983.

DOC Submission

74 The DG's submission sought a more detailed outline of the DOC role in of its submission.

Officer comment and Recommendation

75 The Officers report comments that an advice note may be useful .

Comment

76 The amendments proposed addresses the relief sought by the DG's submission. I support them for the reason that they address the statutory roles of the Department in a more comprehensive manner. I enclose the relevant sections of the Fish Passage Regulations 1983 in Appendix D. Please note that the Department can consider dispensation from the regulations, for example, where a barrier is installed to protect native fish from sports fish.

Recommendation

77 I recommend the Commissioners adopt the Officers' report recommendations and consider adding add an advice note as outlined below to any relevant rules:

78 *"In addition to ECan's Resource Management requirements, authorisation from the Department of Conservation under the Fish Passage Regulations (1983) may be required when structures are built in riverbeds that could impede the passage of freshwater fish. Culverts and fords may not be built in such a way as to impede fish passage without an approval and a fish passage facility may be required on structures."*

SECTION 2

“How the Plan Works”: (section 2, p 73-76)

79 This section contains reference to the sub-regional limits and Regional Coastal Plan.

DOC Submission

80 The DG’s submission sought changes:

- (a) First, a clarification about the inter-relationship and potential overlap between the pCLWRP and the Regional Coastal Plan; and
- (b) A requirement that the sub-regional limits be set so that they are within (or at least not below) the regional plan standards.

Officer Comment and Recommendation - Regarding the overlap between the pCLWRP and the Regional Coastal Plan

81 The Officers’ report recommends changes to this section to better delineate between the two documents and to make it clear that there is not intended to be any overlap between the two. The proposed changes are consistent with the relief sought by the DG.

Comment - Regarding the overlap between the pCLWRP and the RCP

82 The amendments proposed in the section 42A report address the concerns raised in the DG’s submission. I support those changes because they better clarify distinction between this plan and the RCP thus removing the confusion that previously existed.

Recommendation - Regarding the overlap between the pCLWRP and the RCP

83 I recommend the Commissioners adopt the Officers’ report recommendations with regard to the coastal plan on page 77 and 78.

Officer Comment and Recommendation – Regarding section 2.4 “Regional and Sub-regional Section”, Section 2.6 “Limits” and 2.8 “Development and review of Sub-Regional Sections”

84 The Officers’ Report does not recommend any significant alteration to these parts of the pCLWRP. In fact, only half a page is devoted to this issue which is surprising given that it is fundamental to the matters before this Hearing. I note that the summary refers to there being only a “small number” of submitters who supported the dynamics of the Plan being altered in a way that would ensure that sub-regional chapters could not derogate from the objectives, policies, rules and minimum standards set in the pCLWRP. In fact, submitters, such as Fish and Game, were simply not referred to at all in the Officers’ commentary. DOC further submitted in support of Fish and Game and was not mentioned here either.

Comment - Regarding the section 2.4 “Regional and Sub-regional Section”, Section 2.6 “Limits” and 2.8 “Development and review of Sub-Regional Sections”

85 Section 2.4 of the pCLWRP explains the intended interplay between the pan-regional and sub-regional sections. However, this explanation lacks clarity. It simply states:

“The policies and rules in the sub-regional sections apply instead of, or in addition to, policies or rules in the region-wide section. They implement the region-wide objectives in the Plan in the most appropriate way for the specific catchment or catchments covered by that section.”

86 What this explanation fails to address is whether lower environmental thresholds (policies and/or methods), compared to the regional plan, can be set in the sub-regional chapters. It does, admittedly, oblige the sub-regions to find a way of implementing the “Objectives”. However, that is problematic in itself since the objectives in the pCLWRP are drafted so broadly as to offer little

in the way of specific direction. The objectives, as notified, offer “everything to everyone”.

87 It is seems that both levels of the Plan (i.e. pan-regional and sub-regional) will contain policies and rules. The only thing linking the two is the requirement that the sub-regions must “implement” the pan-regional objectives. There is no obligation for them to also implement the pan-regional policies nor to echo the pan-regional rules.

88 DOC submitted¹ that the sub-regional plans and the outcomes contained within them must achieve the objectives set out in Section 3 and, in particular, the water quality limits provided for in Table 1. Furthermore, that sub-regional catchments may also include additional objectives or set more stringent limits, but these must not be inconsistent with the pan-regional sections.

89 As noted above, there is no direction or requirement in this pCLWRP to require sub-regions to adopt the minimum standards established in the policies and rules. Consequently, the sub-regional sections could undermine or run in opposition to the policy and rule framework that has been established for the region wide scale.

90 Although I support the development of sub-regional sections to address specific catchment issues I believe these sections must be complementary to the pan-regional approach which; firstly; establishes the bottom lines through its rules and policies; and secondly, addresses Canterbury wide issues with an integrated approach.

91 My work in North Canterbury catchments, such as the Waipara, Hurunui, and Waiau, demonstrated to me the benefits of a general regulatory framework. Issues such as the creation and operation of water allocation blocks, minimum

¹ Further submission – supporting F&G (para. 33.13)

flow sites, stream depleting groundwater, partial restrictions. These were all dealt with by referencing back to the NRRP policy framework.

92 The section 42A report fails to address a fundamental principle of regional planning: the benefit of a consistent regional approach to regulation. Although it is not addressed in any meaningful way in the Officers' report, it is actually clearly provided for in the CWMS which I shall return to shortly.

93 In a general commentary on the Plan, the s42A report states that the sub-regional sections:

“will be subject to plan changes to (1) give effect to the ZIPs (Zone Implementation Programmes), (2) absorb the existing catchment management plans as they come up for the review; and (3) respond to specific resource management issues occurring in particular parts of the region².

94 This commentary serves to underline the issues that are raised by DOC and others with respect to the inter-relationship between the sub-regional chapters and the Plan in general. Although I do not have an issue with points (2) and (3) above point (1) warrants further discussion.

95 ZIPs are **not** statutory instruments. In contrast regional plans are legally binding and, as such, must meet the RMA tests. They must also undergo statutory consultation and hearing processes and their notification must be preceded by a section 32 analysis. ZIPs do not. Although ZIPs may, arguably, be a matter that Council can have regard to under section 66(2)(c) RMA they need not be as a matter of law. I would recommend that the wording be changed to reflect the statutory relationship of the ZIP as a matter which Council **may** have regard to in the preparation of a plan change.

² s42A report pg. 18

- 96 As I indicated above, ZIPs are not the subject of transparent and public consultation or approval processes. This is in contrast to other comparable documents like Coastal Management Strategies for instance, which are prepared under Part III (17F) of the Conservation Act 1987. In the hierarchy of documents I would say that ZIPs have considerably less weight than, say, a CMS. If there is a conflict between these two then the CMS ought to take primacy.
- 97 The ECan Act 2010 (s63) states that ECan “*must have particular regard*” to the vision and principles of the CWMS. The ECan Act does not however state that regional plans are to *give effect* to the Zone Implementation Programmes³ or the CWMS Zone Committee outcomes as the s42A report suggests.⁴
- 98 Consequently, when developing the sub-regional sections, the ZIPs and the Zone Committee outcomes are a less relevant consideration. The real test is whether the plan (including any sub-regional section) has *particular regard* to the vision and principles of the CWMS not the subsidiary documents that are developed at the community level under the CWMS.
- 99 It is also important to note that the principles of the CWMS are actually broken down into first and second order considerations.
- 100 The first order considerations are: the **environment**, customary uses, community supplies and stock water. All other considerations (including irrigation, renewable electricity, recreation) are subservient to these and are referred to as ‘second order considerations’.
- 101 The s42A authors recommend that no changes are made to the general framework with regard to relationship between the regional wide policies and rules in Sections 4 and 5 and the sub-regional Sections 6 to 15. The reason

³ (pg 18 s42A report)

⁴ (pg 73 s42A report).

offered in the s42A for this “no change” approach is not made clear. However, it seems that one of the justifications is that any changes would provide for ongoing debate as to how the CWMS Zone Committee outcomes would be achieved through the sub-regional sections. The section 42A report puts it like this:

102 *“to redevelop the pLWRP in line with either of the alternatives promoted by the submitters above would entail a significantly different concept in terms of plan drafting, and the ensuing debate as to how or whether the CWMS Zone Committee outcomes could be achieved through the sub-regional sections.”*

103 For reasons discussed above this overplays the importance of those zone committee outcomes (embodied by the ZIPs) and affords them a statutory status they simply are not entitled to.

104 It is clear from the s42A report that the region wide sections of the pCLWRP are to act as temporary place holders or default provisions until the sub-regional sections are developed⁵. I can identify many problems with this approach:

Time and re-litigation of Issues

105 Issues that prove to be contentious in this process will likely be contentious when dealt with at the sub-regional level. Although these problems will have been the subject of the submissions, hearings, and potential appeals there is a real prospect that they will be re-litigated for each of the ten sub-regional sections. I do not consider that this is either an effective or efficient approach to resource management. I note that the section 32 discussion does not touch on this rather obvious problem.

⁵ s42A report pg. 18

Potential to undermine a Regional Approach

- 106 As stated above, because the regional section fails to stipulate that sub-regional chapters cannot derogate from the basic standards (policies/rules) it is possible that the sub-regional sections will undermine policies in Section 4 and contradict the rules in Section 5.

Lack of Integration

- 107 The sub-regional sections have the potential to operate as isolated plans resulting in Canterbury being managed as ten individual areas thereby failing to deal with Canterbury issues in an integrated manner. The region-wide plan will be superseded by the sub-regional sections and will largely become a redundant document – except for the objectives. Some of the policies may be relied upon (or not) and some of the schedules may continue to be used/referenced in the sub-regional sections. This contrasts with other planning documents which I have been involved with, such as the Canterbury CMS where the functional sections provided the policy basis for the location-specific sections.
- 108 This lack of integration and continuity also offends the approach advocated in the CWMS and the integrated approach which is sought in the Regional Policy Statement.

General Inconsistency with RMA Plan Hierarchy

- 109 Tackling the regional plan in this way is inconsistent with the general requirement in the RMA for subordinate documents, such as regional plans, to give effect to superior documents such as RPS, National Policy statements, and National Environment Standards. This is to ensure the maintenance of adequate minimum standards for environmental regulation throughout New Zealand.

110 It seems clear to me that the general requirements of NPS's, NES, and the RPS will have been built into the pCLWRP framework. The concern is that standalone sub-regional sections have a greater potential to be inconsistent with the superior documents if developed in isolation, especially if drafted on the basis of implementing a ZIP.

Consistent Regional Approach

111 A fundamental principle of the CWMS is that a **consistent** regulatory approach is applied throughout the Canterbury region (primary principle 2) recognising the regional approach and other principles of the CWMS. In my view, a consistent regulatory approach as an RMA Plan must contain at least some elements of all the following three components; objectives, policies and methods (including any rules).

112 A sub-regional section, uninformed by, or with the ability to ignore, earlier objectives and/or policies clearly fails this test of a consistent regulatory framework. I am of the view that only a pCLWRP with objectives and policies given effect to by sub-regional chapters will meet the "*particular regard*" test of a consistent regulatory approach as outlined in the fundamental principles of the CWMS. This is the relief sought by DOC and others and in my view clearly meets the requirements of the Act and the CWMS vision and principles.

113 The authors of the s42A report do not endorse the amendment / clarification sought by DOC (and others) that the provisions of the sub-regional sections must not be set at a lower threshold nor be inconsistent with the pan-regional provisions. It is apparent that the primary reason for this position is to ensure that the regional section does not frustrate the facilitation of the CWMS outcomes (i.e. the ZIPs). In fact, the whole thrust of the s42A report indicates that the piece-meal approach to the structure of the pCLWRP is to facilitate the CWMS outcomes. I do not support that. CWMS outcomes need to be tested by section 32 and proceed through the usual tests under the RMA before they can be given effect to. What is more, this plan is intended to deal with all manner

of regional planning issues of which water-related ones are simply a sub-set. Whereas, the CWMS outcomes (embodied in the ZIPs) are largely concerned with water-related matters.

114 As discussed above, in my view the s42A report inappropriately characterises the linkages between the RMA, the ECan Act, and the CWMS. The development of the sub-regional sections must “*have particular regard*” to the **vision** and **principles** (my emphasis) of the CWMS (ECan Act s63) and shall have regard to the CWMS as a strategy that is prepared under another Act (RMA s66(2)(c)(i)). I note that the “*particular regard*” test is a more onerous test.

115 Moreover, the CWMS (as a whole, or the vision and principles alone) is also subservient to the Regional Council meeting is statutory responsibilities in order to achieve the purpose of the RMA (RMA s63(1)). Primary principle 1 of the CWMS stipulates that it must be managed in accordance with sustainability principles and be consistent with the RMA and Local Government Act.

116 As such, I regard the pCLWRP sub-regional approaches as poor planning practise and inconsistent with the fundamental principle of a consistent Canterbury regulatory approach as described by the CWMS.

117 I also do not support the officers’ recommended additions to section 2.8.:

118 *“The intention of the region-wide limits is not to introduce any preconception of what limits should be determined at the catchment level. It is vital that communities in those catchments openly consider analyses of social, bio-physical, economic and cultural costs and benefits under a range of limits specific to that catchment before deciding on a desired end point. In this way communities can determine the best solutions for their communities.”*

119 The reason why I do not support them is that it is Council's role to set the plan standards to achieve the purposes of the RMA, the NPS, and the vision and principles of the CWMS.

120 This was touched on in the recent Hurunui-Waiiau regional plan hearing when the Hearing Commissioners discussed the role of the ZIP, the Zone Committee, and the role of Council. Accountability, as a Landcorp Farming submission on policy 4.2 notes, correctly lies with Council.

121 Mr Hawker from Fish and Game outlined the sorts of issues that arise in the zone committees in his recent evidence to the HWRRP. I would commend that evidence to the Hearing Commissioners.

Recommendation - Regarding Section 2.4 "Regional and Sub-regional Section", Section 2.6 "Limits" and Section 2.8 "Development and review of Sub-Regional Sections"

122 Alter the second sentence of paragraph two of section 2.4 as follows:

123 *"The sub-regional sections contain policies and rules which are specific to the catchments covered by that section. The policies and rules in each sub-regional section implement the region-wide objectives and policies in the plan in the most appropriate way for the specific catchment or catchments covered by that section."*

124 Delete the second to last paragraph of section 2.8 and replace it with:

“The intention of regional limits is to establish a consistent Canterbury wide regulatory approach to enable efficient resource use and establish allocation regimes and limits that can sustain the life-supporting capacity of ecosystems and species, cultural and amenity values in Canterbury. Within these allocation regimes and limits, catchment specific approaches can be developed which must not be less stringent than the regional limits. It is vital that all stakeholders in these catchments collaboratively consider analyses of bio-physical, social, economic, and cultural values under a range of limits for the catchment. The use of such collaborative approaches is mandated by Policy 7.3.13 of the RPS. Council can then develop targeted regional plan changes that best meet the Act and CWMS vision and principles specific to each catchment.”

OBJECTIVES

(Section 3.1 p79-99)

125 This section outlined the proposed plan’s objectives and also considered the so-called “strategic” policies numbered 4.1 to 4.8.

DOC Submissions and Further submissions

126 The DG submission and further submissions sought that the objectives be rewritten and/or amended. DOC’s further submission supported many of the submissions outlined by Ngai Tahu and Fish and Game.

Officer comment and Recommendation

127 The Officers’ report provides for amended objectives in recommendation 3.0 page 97-99, noting that they were primarily altered by submissions from Ngai Tahu, Fish and Game, Federated Farmers and EDS.

128 **Comment**

129 The amendments to the objectives proposed do address, in part, the relief sought by the DG's submissions and further submissions. I do support the writers' goals of shorter objectives that avoid duplicating parts of the short title of the RMA. One of the defects of the NRRP was, in my view, that the objectives were too long. This plan has made a deliberate effort to reduce them to smaller, outcome focused, objectives.

130 One of the over-arching problems however with the objectives in the pCLWRP is that they do not arise from clearly articulated resource management issues. The Issues section in 1.2 of the plan is general. Thus, the objectives in the pCLWRP are also reasonably general. As discussed in the following section, they consequently miss important details such as groundwater decline and salt water intrusion that are covered in the RPS Policy 7.3.4 (1) (d) for instance.

131 I note that many of these detailed issues have been picked up in the Officers' recommendations in the section 42 report. This illustrates, in my view, the need for specific and clear issues and coherent links between them and the objectives.

132 I have discussed and compared objectives with my planning colleagues, Ms Sandra McIntyre and Mr Phillip Percy from Ngai Tahu and Fish and Game respectively, and broadly concur with the sorts of changes they seek over and above the section 42 report recommendations.

133 My specific comments are as follows:

- 134 Introduction - I support the introductory clarification that the relevance of each objective depends on the case in hand. However, I do support some sort of reference to the first and second and order priorities of the CWMS in this section. This is a matter that Council must give particular regard to under section 63 of the ECan Act. I would recommend a reference to the principles of the CWMS. I believe the submission of Mr and Mrs Hamblett gives Council scope to include this relief.
- 135 Objective 3.1 - My view is that this objective is a truism and does not add much value to the plan for consenting purposes and could be deleted.
- 136 Objectives 3.2 and 3.4 - I believe that Ngai Tahu's amended objective is an improvement and should replace current objectives 3.2 and 3.4.
- 137 Objective 3.3 - I believe this should be retained as per the officers' recommendation.
- 138 Objective 3.5 and 3.20 - I believe these should be altered in accordance with Ngai Tahu's submission.
- 139 Objectives 3.6-3.11, 3.15-16, 3-18-3.19, and 3.22 - I believe this should be altered in accordance with Fish and Games submission.
- 140 Objective 3.8- I do wish to make some specific comments on this issue. Water efficiency is important and this objective is supported as increased efficiency means that there is not an increase in abstraction pressure on in- stream ecosystems. A very good recent case study is outlined in an ECan commissioned report Canterbury Water Management Strategy – North Canterbury Storage Options Riley Consultants Ltd (2010). Efficiency is discussed in the Waiau-Hurunui area and the gains are significant in my view. (See

Appendix C). Similar sort of gains could be expected in older irrigation schemes across Canterbury.

- 141 This work offers a remarkable insight into the potential of water efficiency for enabling more irrigation. The potential of water efficiency outlined by the Riley study in my view, seriously debunks the view of the current Hurunui-Waiiau Zone Committee that a “more water” approach to water allocation blocks, i.e. that providing for a B and C block in the zone is the only solution for increased irrigation. This experience suggests to me that the overall tendency for local ZIPs will be to seek more water allocation blocks rather than to address water efficiency issues and their potential in water allocation issues. Addressing water efficiencies is generally more problematic as it must deal with existing consented allocations. In that regard I note the general reluctance of the plan to explore the 68(7) RMA tools it has available to meet over-allocation issues.
- 142 Interestingly enough from a water quality perspective, the area potentially enabled by the efficiency gains mentioned by the Riley study (27,000 ha, or a 34% increase) is very close to the maximum amount Council’s own water quality expert, Mr Ned Norton from NIWA said in evidence on the proposed Hurunui Waiiau Plan was possible to achieve within acceptable water quality limits (25,000 ha). This irrigable area could be even further increased if a lower system capacity was deemed acceptable to irrigators as noted by Riley. Clearly there is large scope for water efficiency gains in the irrigation schemes within the current A allocation block in the Hurunui-Waiiau Zone.
- 143 Please also note the discussion in Appendix C of the average rate of take and maximum rate of take issue. Maximum rate take blocks offer considerable potential for water efficiencies which will be discussed later in my evidence on schedule 13 of the Plan.

- 144 Objective 3.12 - My view is that this objective needs to address long term decline in groundwater levels. I find it unusual that the pCLWRP would not have any reference to groundwater levels or salt water intrusion when it is addressed as a policy matter in the RPS, and was covered so comprehensively in section 5 (Water Quantity) of the NRRP. This issue is outlined in RPS Policy 7.3.4 (b), and in my view is certainly worth adding as an objective matter for this plan. Avoiding long term declines in groundwater yields which in my view is an environmental outcome that is desirable given the wording of Part II of the Act. I would have thought that over the long term, unless groundwater is managed within sustainable limits, long term declines can occur where the groundwater resource is over allocated.
- 145 Objective 3.13 – My view is that the objective should contemplate some water quality improvement for contact recreation, in the same way that improvements are contemplated by objective 3.5.
- 146 Objective 3.14 – I note the relief sought by the DG submissions, but my comment is that the integrated supply and demand issue should be incorporated into a later policy as it is a method to achieve the objective. I certainly would support the integrated approach and the use of supply and demand tools for community drinking supplies. Looking at the Health Act, I do agree with the DG submission that “high quality” is less descriptive with regard to water quality. However, rather than the “potable” referred to in the DG submission suggest that the “safe and wholesome”, the short title wording in a section of the Health Act, and I recommend this wording. I also note there is no community drinking water objective recommended in the officers 42 a report and I can find no discussion on why it should be removed.
- 147 Objective 3.17. This was not submitted on by the DG and I therefore have no comment on it.

- 148 Objectives 3.21, 3.22 and 3.23. I do not believe that these are suitable RMA plan objectives for the following reasons:
- 149 3.21 is a truism about landuse changes and seeks to be consistent with CWMS targets. ECan is only required to have “particular regard” to the vision and principles of the CWMS, not CWMS targets under section 63 of the ECan Act. CWMS targets are not statutory RMA plan matters and need to be tested by a regional plan and section 32 analyses to assess their RMA suitability. I am of the view that one cannot necessarily assume CWMS targets are appropriate in RMA terms.
- 150 Objective 3.22 discusses how water quality and quantity is to be managed which is policy issue similar to my comments on objectives 3.14. Council has the accountability to set the water quality and quantity limits in regional plans as informed by collaborative processes informed by all stakeholders in accordance with RPS Policy 7.3.13. The objective is therefore not required.
- 151 Objective 3.23 is about best practise, which similar to in my comments on Objective 3.14, is a method, and should therefore be included in the policies section. I would certainly endorse the use of best practise for water quality and quantity. Best practise is an important component of the Land and Water forum recommendations. I would certainly endorse the use of best practise in policy to meet water quality and quantity limits **as part** (my emphasis) of an integrated regulatory package under the pCLWRP.
- 152 New Objective 3.24 Wetlands. DOC sought a specific wetland objective on avoiding loss and reduction of wetland in Canterbury. The RPS has a specific Policy 7.3.3 “ To promote the protection, restoration and improvement of ... wetlands and their surroundings and associated Ngai Tahu values, by implementing programmes to 1) To indentify and protect...wetlands”. My view is that a specific objective to reflect this policy would be desirable.

153 The reader of the NRRP's Wetland Objective WTL 1 (page 7-13 Chapter 7 Wetland NRRP) will be struck by the key words in the objective requiring there be "**no overall reduction**". This phrase appears in all elements of 1 (a)-(d) and 2 (a) and (b) of the NRRP objective. I do not believe the basis for this key element of the objective has changed in the interim. In fact, recent work by Myers et. al. (2013) as discussed by Dr Gerbeaux shows that the NRRP provisions were assessed as relatively effective at a national level. When further assessed by Pompeii and Grove's work in this area, as discussed by Dr Gerbeaux, it is clear that the need for such an objective is even more pressing than when this variation to NRRP was released.

154 Accordingly, I believe that **no overall** reduction should be a key component of a Canterbury wetland objective, as well as a discussion on the sorts of values that they exhibit. It is important, I believe, to consider the ability to enhance wetlands as well as protect those that are degraded. Wetlands also provide significant ecosystem services such as flood attenuation which have direct value to humans as well as the value they provide for species and ecosystems. I therefore recommend that the notion of role wetlands play in sustaining ecosystem services should be part of the Objective.

Recommendations

155 I recommend the Commissioners adopt the revised objectives proposed in **Appendix A** to this evidence:

STRATEGIC POLICIES

Policies 4.1, 4.2 and 4.3 Water Quality States

(sections 3.2 and 3.3, p 100-102, and 112)

156 These sections contains commentary on the strategic policies for water quality outcomes.

DOC Submission

157 The DG submission sought a clarification about the setting of the Table 1 a-c water quality outcomes as minimum bottom line standards to be met or exceeded.

Officer Comment and Recommendation

158 The Officers' report has recommended no changes to the Tables 1 (a)-(c) and has recommended the inclusion of a default date of 2023 for the water quality outcomes to be achieved if catchment specific rules were not introduced in Policy 4.1. No changes to Policy 4.2 were recommended.

Comment

159 There are two issues which arise in relation to these strategic policies and the tables to which they refer. First, there is a planning problem as the tables appear on the one hand to tell the reader that certain standards ought to be achieved but on the other hand fail to give the Tables any real force within the Plan's matrix of rules. The second problem is with the actual content of the tables and whether the specific parameters are set appropriately or not. Those preliminary points made I will move on to discuss the implications below.

160 Table 1 outcomes for Canterbury rivers, lakes and aquifers are introduced in the Strategic Policies –

- 161 *Policy 4.1: Lake, rivers, wetlands and aquifers will meet the fresh water outcomes set in Sections 6-1. If outcomes have not been established for a catchment, then each type of lake, river or aquifer will meet the outcomes set out in Table 1.*
- 162 *Policy 4.2 is also relevant: The management of lakes, rivers, wetlands and aquifers will take account of the cumulative effects of land uses, discharges and abstractions in order to meet the fresh water outcomes in accordance with Policy 4.1.*
- 163 Policy 4.13 also references Table 1 however for the purpose of this discussion it is not considered necessary to discuss it further.
- 164 There is however no direct reference to the Tables in the rules. Consequently, the Tables will only have an effect once a resource consent requirement is triggered **and** the activity status allows the consideration of the policies. Admittedly, the Tables are referenced in the sub-regional sections but only as a default position / place holder until specific freshwater outcomes have been established for the sub-catchments. Furthermore, there is no requirement that the tables achieve anything in particular in relation to those sub-regional chapters.
- 165 The Tables have very limited effect in the pCLWRP and this is surprising given that the outcomes sought in the Tables are formalised through the Strategic Policies. Policy 4.1 states that water bodies will 'meet' the outcomes defined in the Tables. Furthermore Section 2 of the pCLWRP states that the 'specific freshwater in-stream outcomes to achieve the Plan's objectives are set out in Table 1 to Policy 4.1' (pg 2-2)⁶. I interpret this statement as meaning that the objectives of the Plan can only be achieved if the Tables are implemented. Therefore, when reading across the Plan, the Tables are the mechanism by which the objectives and the policies, including the strategic policies, are to be achieved. Starting at this position, it is unclear why the Tables are not referenced in the Rules.

⁶ The author of the s42A report does not argue this statement and confirms the use of Table 1 as described in Section 2.5 of the pCLWRP – pg.2-2 (s42A pg. 73)

166 That contrasts with Objective WQL1 from Chapter 4 (Water Quality) of the NRRP which was clearly linked to associated tables WQL 5 for rivers and WQL6 for lakes. It was made clear that these were the standards to manage water quality to, or to progressively achieve where water quality was degraded.

167 Attached to the s42A Report as Appendix 1 is a memorandum from Mr Meredith, ECan's principal water quality scientist. This memorandum states that the submitters failed to understand the purpose or context of the Tables and that they are not intended as output tables, but rather they identify outcomes for Canterbury rivers and lakes, which may be 'aspirational' at times. I do not understand how you can give effect to objectives and policies that are reliant on 'aspirational' outcomes.

168 The Tables have the **potential** to give effect to Policy 1A of the Freshwater NPS:

“By every regional council making or changing regional plans to the extent needed to ensure the plans:

- *establish freshwater objectives and set **freshwater quality limits for all bodies of fresh water in their regions to give effect to the objectives in this national policy statement**, having regard to at least the following:*
- *the reasonably foreseeable impacts of climate change*
- *the connection between water bodies*
- *establish methods (including rules) to avoid over-allocation.”*

169 It is therefore regrettable that Table 1 is not referenced in the rules and does not appear to have informed the creation of the rules. The comments in the s42A report, particularly Mr Meredith's memorandum, means that this Policy 1A of the NPS FW will not be given effect.

170 The DG submitted that the outcomes in the Tables should represent minimum standards and not maxima. This submission was not discussed in the s42A report. The report states that the DG's submission relating directly to Tables 1a, 1b and 1c are

dealt with in “Section 1.9” of the s42 A report (s42A pg. 100). There is no “Section 1.9” in the section 42A report. However, my explorations of the section 42A document lead me to believe it is addressed in section 3.3 (page 112) of the report.

171 I think it is important to see the outcomes in these Tables’ (i.e. the parameters and standards) as minimum rather than maximum standards for the following reasons:

- the section 5 RMA requirement to safeguard life supporting capacity, and
- the need to set limits under Policy 1A of the NPS, and
- the maintaining and improving water quality components of Policy 7.2.2 of the RPS, and
- The need to manage the cumulative effects of discharges.

172 Achieving the water quality outcomes from these tables will meet the fundamental section 5 need for freshwater ecosystems and species and their associated cultural and amenity values to be sustained. It will also be consistent with RPS Policy 7.3.13, which is to adopt a precautionary approach to allocation were a specific planning framework has yet to be developed.

173 I am aware of a 2009 upgrade to these standards or parameters. This was proposed by Hayward et. al. On the basis that the Hayward work is the best and most recent upgrade of those parameters I suggest that they would be the most appropriate place to start from in terms of good science. Dr Gerbeaux also discusses water quality standards for wetlands and I would recommend that the Hearing Commissioners consider a later plan change to address wetland water quality standards in particular to give effect to water quality standards for wetlands since the ones in Tables 1 (a)-(c) are not appropriate for wetlands.

174 I do not have any information on the achievability of these targets but I note that ECan’s water quality staff are of the view that they are desirable as discussed in report section 3.3, page 112 and expanded upon in Mr Meredith’s memorandum.

175 I understand that Mr Percy from Fish and Game will develop this line of argument further and will propose amending the content of the tables to more accurately reflect

the Hayward work. Although DOC does not intend to adduce evidence about the specific parameters (e.g. particular levels of dissolved oxygen and so forth) I would support the general approach taken by Fish and Game in seeking to ensure that the standards within the table, and the manner in which the Table is applied throughout the plan, is (a) based on the best science; and (b) results in tangible efforts to ensure that the Tables have some effect by influencing the rules.

176 I also note the recommendation of the Officers that if sub-regional catchment outcomes have not been set then the default achievement date is 2023. In other words, these Tables would not apply in any event until 2023 – an entire decade in the future. I have three issues with such an approach:

- Firstly, as discussed elsewhere in my evidence, this would mean that sub-regional chapters can set water quality standards that are lower even than those in the Tables. Whereas, in my view, the Tables ought to represent minimum bottom lines or limits irrespective of the catchment.
- Secondly, the delay until 2023 could result in ECan simply not doing any sub-regional catchment plan changes until just prior to 2023.
- Thirdly, the final end date of 2023 is not consistent with maintaining and improving water quality as required by the NPS FW and the RPS.

177 I therefore favour wording (or to like effect) to incentivise a programme of catchment based- regional planning work for ECan prior to the 2023 date. This planning work is already underway and provided for in ECan’s LTCCP. An additional benefit of such an approach is that ECan’s section 35 (2) (a) RMA monitoring of the efficiency and effectiveness of its policies and rules will be able to pick up progress on the achievement of water quality improvements. As various sub-regional plan changes are prepared, the best and most cost effective ways of achieving water quality improvements will be made available to Council and the public. This should mean ECan becomes increasingly more efficient and effective at water quality management as time progresses.

Recommendations

- 178 Replace the Officers' recommended Policy 4.1 with the following:
"Lakes, rivers, wetlands and aquifers will meet the freshwater outcomes established in Policy 1 Tables 1 (a)-(c) by the implementation of a programme of Canterbury wide plan changes to cover all sub-regional catchments in sections 6-15 prior to 2023." And

"Consequential amendments to the relevant water quality/discharge rules to ensure that the tables are given statutory force".
- 179 Consider amending Table 1 (a)-(c) to reflect any upgrading produced as a result of applying the Hayward (2009) standards.
- 180 Consider recommending a plan change to establish wetland water quality standards as recommended by Dr Gerbeaux.

TOPIC 2 – “DISCHARGES”

[Please note: In Appendix B I address additional issues which arise under this topic heading]

Rule 5.13 - Grey Water Discharges: Section 5.6 p 68-69

181 This section established a permitted activity rule on greywater discharge.

DOC Submission

182 The DG’s submission sought to clarify that this rule applied to its network of recreational huts and shelters. Similar provisions were requested by Ngai Tahu.

Officer comment and Recommendation

183 The Officers’ report comments that it was inappropriate to have a PA rule for all DOC huts/shelters as they operate with discharge volumes substantially more than a residential dwelling and that the potential effects could be greater than those anticipated by the rule.

Comment

184 I find it perplexing that ECan would seek to impose consenting requirements on outdoor recreation huts and shelters for grey water discharges. ECan has provided no clear evidence of adverse environmental effects of discharges of greywater from outdoor huts and facilities while at the same time proposing PA rules for discharges of nitrogen with clear evidence of Canterbury wide cumulative adverse environmental effects. The planning logic does not appear to be compelling in my view, and the contrast in activity status disproportionate to the adverse effect.

- 185 I have read the section 32 for NRRP chapter 4 (Water Quality) pages 51 through to 86 and can find no reference to DOC or outdoor huts/shelters and greywater discharges. No evidence is provided in the section 42A report on any adverse effects of outdoor hut greywater discharges and no evidence is supplied that the volumes of wastewater from huts and shelters are substantially more than domestic dwellings. My assessment is that the Officers' comments on the second last paragraph of page 162 regarding volume and environmental effect are supposition. There are no facts supplied to justify these comments.
- 186 While some huts and shelters do receive a lot of use in summer, many of the more remote huts/shelters receive very little use, particularly in winter. Also the rule picks winners, in that it applies to "dwelling houses" only that may or may not discharge large amounts of wastewater. My colleague, Dr Jeff Dalley, will outline the situation for the Department with regard to huts and shelters and greywater management by the Department.
- 187 Surely a better strategy would be to have an effects-based approach, and set a limit based on the effects of the wastewater that may be discharged and/or rely on the Building Act for suitable solutions that are compliant. Such a rule could set an upper threshold on the volume of wastewater discharged so that only those that may have an adverse effect are caught by the rule, or as the rule currently states, is discharged from an authorised system.
- 188 I agree that compliance with Building Act is completely appropriate and this should be central to any new PA rule, but I do note this needs to be "fit for purpose" in a mountaine, hill or alpine situation, rather than a standard urban situation. For example, the wind loadings for huts to in alpine areas far exceed those in Christchurch residential areas.
- 189 I find it difficult to accept that greywater discharges from most outdoor huts and shelters cannot be met by a simple PA rule as the most efficient and effective approach to the management of greywater. This situation is

contrasted with the permissive approach taken in this plan to other PA discharges causing demonstrated Canterbury-wide adverse effects on the environment.

Recommendation

190 I recommend the Commissioners amend the officer report recommendations as follows or to like effect:

Delete:

“Is only from a dwelling house” in condition 1, and any consequential relief deemed necessary to give effect to this submission.

[Pease note: In Appendix B I address additional issues which arise under this topic heading]

RULES

Rule 5.96

DOC Submission

191 The DG submission sought to add additional matters of discretion and clarify condition 7.

Officer Cmment and Recommendation

192 As noted in the introduction to my evidence, the relief sought by DOC in terms of the default flow and allocation provisions was included in the description of the status quo on page 278 and carried over into the recommendation on page 281.

Comment

193 I do not support all the officers’ recommendations.

194 I do support the default minimum flow and allocation block sizes for the reasons outlined by David Stewart and Dr Dunn, in addition, I note they accord with the proposed National Environmental Standard - Minimum Flows.

195 I believe that the rate and timing of take are absolutely fundamental matters that Council needs to consider in water take consents for reasons outlined by Mr Stewart in his evidence. This rule, as recommended by staff, gives no discretion to council to control these matters which, in my view, is an essential component of a flow management regime.

196 The inability to control the rate could potentially undermine any limits set in the chapters 6 to 15. The timing of the take is also important as it may be appropriate to provide for an allocation for water harvest in the winter, whereas this harvest may not be appropriate in the summer for in-stream reasons. Also, fresh flows in the range 1.5 to 3 times the median can be targeted for retention in consent conditions to reduce periphyton accrual as discussed in Mr Stewart's and Mr Dunn's evidence. I am therefore of a view that either seasonal or river flow timing limit triggers are useful in terms of managing flow regimes and should be included as matters for council discretion. Such a provision, does give effect to RPS matter 7.3.4 (c).

197 Mr Head, in his evidence, explains the importance of dryland habitats and the impacts irrigation is having on dryland fauna. Accordingly I support having some matter of discretion over this issue. Having looked at the relief sought, I am of the view that the matters sought by DOC could be combined into the following:

“Avoiding adverse effects on significant indigenous biodiversity, and adjacent dryland habitats”

198 Having a matter of discretion to manage in-stream values, with their ecological, cultural and amenity components, would appear to be prudent matters that a water take consent application should consider. In the absence of such a matter for discretion this rule would fail to give proper treatment to in-stream values as required under sections 5 (2) (a-c) and 6 of the RMA.

Recommendation

199 I recommend the Commissioners add the following matters to rule 5.96:

1. *“timing and rate of take*
2. *Avoiding adverse effects on significant indigenous biodiversity, and adjacent dryland habitats”*

Rules 5.99 and 5.100

DOC Submission

200 The DG submission sought to add a additional matter of discretion to rule 5.99.

Officer comment and Recommendation

201 The Officers’ report has clarified the non consumptive nature of these two rules and recommended the addition of impacts on dryland habitats as a matter of discretion to rule 5.99

Comment

202 I support the Officers’ recommendations on these rules for the reasons identified in the section 42A report.

Recommendation

203 I recommend the Commissioners accept the Officers’ recommendations on rules 5.99 and 5.100

SCHEDULES

Schedule 9

DOC Submission

204 The DG's submission sought that maximum daily volume be used as the basis for groundwater block establishment in table 9.1.

Officer Comment and Recommendation

205 The Officers' have not recommended changing the schedule from average daily rate of take to maximum daily volume for consumptive takes.

Comment

206 Provided the wording makes it clear that the groundwater component is maximum daily volume and 100% of the annual volume is included in this definition I am satisfied with the Officers' report. However, the "average daily rate of take" in table 9.1 is not the same, in my view, as "maximum daily volume and 100% of the annual volume", which it sits beside.

207 I would not be happy with any average rate for groundwater components for block inclusion for the same reasons outlined in my comments on schedule 13, below.

208 Please also note that this matter is more fully explored in David Stewart's evidence regarding Schedule 9 where he discusses the Dunedin City Council's borefield provisions and their effects on the Taieri River.

Recommendation

209 I recommend the Commissioners' clarify the Officers' recommendation on schedule 9 for direct stream depletion effects for groundwater consents, ensuring they refer to maximum daily volume and 100% of the annual volume.

Schedule 10

DOC Submission

210 The DG's submission supported the reasonable use test and sought that any savings were reallocated in stream and further submitted on Irrigation NZ's method 2 for calculating a reasonable use test.

Officer Comment and Recommendation

211 The Officers' have recommended that the rules in the plan make the DG submission clear.

Comment

212 The Officers' comments have clarified the relief sought by the DG's submission.

Recommendation

213 I recommend the Commissioners' accept the Officers' recommendation on schedule 10.

Schedule 13

DOC Submission

214 The DG's submission sought that the maximum rate of abstraction be used as the basis for surface water block establishment rather than average provided for in the pCLWRP.

Officer Comment and Recommendation

215 The Officer recommended changing the schedule from average rate to maximum rate for consumptive takes.

Comment

216 The use of the maximum rate is strongly supported as the only robust approach to water block establishment. My evidence on the sub-regional chapters will also address this matter more fully, and seek that the composition of these water allocation blocks, is transparent and provided for in the sub-regional chapters of the Plan so that all parties can ascertain how they are comprised. I shall outline this further at Hearing 3 later in the year.

217 There are numerous difficulties with average rate take blocks that make them in my view totally unsuitable for the establishment of water allocation blocks. They are certain to change over time and by season. Any use of average rate could derogate from other consented take allocations, as all consent holders are legally entitled to take at their maximum rate when they are complying with their consent conditions. Additionally, if there was more than one allocation block and if partial restrictions were not applied to all relevant blocks, this would create further issues with reliability of supply and with maintaining the minimum flow.

218 The most robust approach for surface water block establishment in my view is to add the sum of the maximum instantaneous rate of surface takes with the calculated rate for stream depleting ground water consents. This is because it consistently is focused on the maximum abstraction rate, or effectively the worst case that may be exercised by the consents in the relevant allocation block.

219 A maximum rate block approach results in a large block and may be conservative, in that all water takes may not choose to exercise their take at the same time. However, it is far better approach compared to an average rate

take block which will undoubtedly change season by season, due to differences in rainfall, evaporation, crop type grown and a number of other variables.

220 The excerpt from the Riley study in Appendix C discusses the average rate take and maximum rate take issue. It identifies another advantage of maximum rate blocks (apart from the legal issue of an average block approach potentially derogating other takes). The other advantage that maximum rate take blocks offer is considerable potential for water efficiencies, thus potentially enabling the water efficiencies sought by Objective 3.8 (page 98).

Recommendation

221 I recommend the Commissioners adopt the Officers' recommendation on schedule 13.

Schedule 16: Regional Concept plan

DOC Submission

222 The DG submitted on this schedule and further submitted in opposition to Irrigation NZ's submission.

Officer Comment and Recommendation

223 The officer recommended no changes to the schedule.

Comment

224 I support the Officers' recommendation and note the blue arrows indicating water movement across zones does not include movement of water from the Upper Waitaki into South Canterbury, only the Lower Waitaki to South Canterbury. I note Meridian Energy have sought policy that would give effect to this outcome and would support such provisions. This assists with giving effect to the NPS RG.

225 I am of the view that the only way this schedule can be amended is by a plan variation or change as it is now part of the plan. However, the Officers' report notes, in the last paragraph, that an amendment can be achieved by an amendment to the Regional Implementation Programme. Some clarification on this point may be desirable.

Recommendation

226 I recommend the Commissioners adopt the Officers' recommendation on schedule 16.

TOPIC 4 – “BEDS OF LAKES AND RIVERS”

[Please note: In Appendix B I address issues which arise under this topic heading.]

RULES

New rule: DOC proposed new rule 79A, Emergency Use for Rural Fire Fighting (p358 and 370)

DOC Submission

227 The DG submission sought a new permitted activity rule 79A to enable bed excavation for the purposes of creating a temporary water infiltration gallery for emergency rural fire fighting on pages 32 and 33 of its submission. I note that this has been further submitted on in support by the Ministry of Defence.

Officer comment and Recommendation

228 The Officers’ report on page 358 comments that as the taking of water is permitted activity under section 30 Fire Service Act that such a rule is unnecessary. The officers report refers to section 14 (3) (e) of the RMA in the discussion on policy 4.44 on page 370.

Comment

229 With respect, this additional rule was proposed by the Department to enable the **disturbance** of lakebeds and riverbeds not to enable the **taking** of water.

230 I have looked at section 30 of the Fire Service Act and this section concerns the use of water in mains. I do not believe that section 30 of that Act is relevant. I am aware, and Mr Teeling is certainly aware of the RMA section 14 3(e) concerning the taking of water for rural firefighting.

- 231 I think in this situation that the reporting officer has not properly grasped the relief sought by DOC. As outlined by Mr Teeling, DOC may be in a situation where there is no flowing water in a riverbed and that a temporary water infiltration gallery may need to be dug in a riverbed down to groundwater to access water for rural fire fighting. So the rule sought is for the **temporary disturbance of the bed** to enable the water to be extracted for fire fighting. The water extraction itself may be a permitted activity under section 14 (3) (e), but in some circumstances a bed consent for a water infiltration gallery may be needed for rural fire fighting.
- 232 The restrictions on river bed and lakebed use under section 13 of the RMA do not have the same exemption for rural fire fighting as section 14 (3) (e) so, technically, DOC or any other Rural Fire Authority would need a bed consent for this work, and require a section 330A emergency work resource consent after the gallery has been dug and the fire suppressed.
- 233 The relief DOC is seeking is, in my mind, sensible and the environmental effect will be limited as the use of this tool will be limited, and it will be highly restricted in terms of size. The size was recommended as an area large enough to accommodate a helicopter monsoon bucket. The 20 working days also aligns with the section 330A (2) notification period for applying for resource consents.
- 234 A consequential amendment to Policy 4.44 is required to give effect to this relief, which in my view would have less environmental effect than any of the matters addressed in Policy 4.44 matters a-c.

Recommendation

- 235 I recommend the Commissioners add a new rule “79A” and amend Policy 4.44 as sought by DOC and supported by the Ministry of Defence as follows or to like effect:

New Rule 79A

“From 1 July 2013, the use of land, including the excavating the bed of a lake or river for the use of a water infiltration gallery for emergency rural fire fighting is a permitted activity provided the following conditions are met:

The gallery is less than 5 meters square in area;

The gallery is decommissioned once the fire is declared formally out;

The gallery of rehabilitated by filling with clean material; and

CRC is advised within 20 days of excavating the gallery.”

Consequential amendment to Policy 4.44

Add: “(d) emergency rural fire fighting purposes”

TOPIC 5 “INFRASTRUCTURE – DAMMING AND DIVERSION OF WATER”

[Please note: In Appendix B I address issues which arise under this topic heading.]

[Please note: In Appendix B I address additional issues which arise under this topic heading]

POLICIES 4.79 and 4.80

DOC Submission

236 The DG submitted on Policy 4.79 and further submitted in support of Ngai Tahu’s submission in 4.80.

Officer Comment and Recommendation

237 The Officers’ report recommended that the policies be retained with some small changes regarding operation, upgrading and maintenance of infrastructure.

Comment

238 I do not support the Officers’ recommendations. My reasons are as follows:

239 The policies focus too much on wetland reduction and not giving effect to the broader regional objectives for wetland management as a resource management issue. Dr Gerbaux has outlined the significance of wetlands in his evidence. In my view the policies need a greater focus at a regional level about how wetlands shall be managed, rather than focusing on infrastructure and wetland reduction provisions.

240 The specific NPS FW guidance in Objective B4 on this matter states : “To protect the significant values of wetlands”. In Appendix A of my evidence I propose a new objective to specifically address this NPS requirement to protect wetland values and address the “no further loss” approach of the NRRP wetlands objective WTL1.

241 The framework currently establishes a policy and rule disconnect between the Policy 4.79 to provide for Hapua openings and the associated rules. This highlights the issues created by the plan Rule 5.138 which defines wetlands contiguous with or within the bed of a lake a lake, as rivers or lakes, and not wetlands. I have not addressed this matter further in my evidence but this will I understand will be addressed by Ms McIntyre in her evidence. My overall view on this matter is that there should be some sort of discretionary activity rule for hapua openings for cultural/conservation purposes and for managing land inundation.

242 I is my opinion that the current policies do not provide, a clear direction on how wetlands in the region shall be managed. For instance, the inclusion of infrastructure matters in with lake openings confuses the policy intent where these matters ought to be separated.

243 The following proposed recommended policies set out below establish the significance of wetlands and enable their enhancement and management and expansion. They also set clear criteria around the sorts of effects of infrastructure on wetlands are acceptable. It also provides for a policy framework to consider when artificial openings of hapua, coastal lakes and lagoons may be acceptable.

Recommendation

244 I recommend the Commissioners delete these two policies 4.79 and 4.80 and replace them with the following

245 ***Policy 4.79***

“All remaining natural wetlands in Canterbury are recognised as areas of significant indigenous vegetation, significant habitats of indigenous fauna and high natural character and that they are protected from inappropriate use and development.”

246 **Policy 4.79A**

Restrict the operation, maintenance, and upgrade of existing infrastructure where the character, size and scale of the activity on the wetland will not increase and that any significant effects are offset on the same wetland, hapua, coastal lake or lagoon.

247 **Policy 80**

Enabling the establishment, enhancement, management and expansion of wetlands and their associated ecosystem services

248 **Policy 80A**

Restricting the temporary artificial opening of hapua, coastal lakes, and lagoons to cultural and conservation purposes and for avoiding the adverse effects of land inundation .”

RULES

Rule 5.138

DOC Submission

249 The DG submission opposed rule 5.138 and further submitted in opposition to Ngai Tahu’s submission on rule 5.138 and sought that it be deleted and replaced with an amended definition of wetland.

Officer comment and Recommendation

250 The Officers’ report recommended that the rule be retained without amendment.

Comment

251 I do not support the Officers’ recommendations. My reasons are as follows:

252 What is or is not a wetland has been discussed by Dr Gerbaux and he has provided a clear definition that has been developed in the One Plan that can be applied in the pCLWRP. Whereas a restricted wetland definition proposed by this rule is not supported by a relevant plan Objective or Policy and, in my view, is inconsistent with section 68(1)(b) and (3) of the RMA.

253 It also is inconsistent with the NPS FW policy with regards to wetlands which does not differentiate between wetland types.

254 This definition is inconsistent with the RPS definition which again does not differentiate between wetland type.

Recommendation

255 I recommend the Commissioners delete this rule 5.138 and replace it with a definition of wetland as outlined by Dr Gerbeaux, with consequential amendments to relevant Policies. Another consequential change would require the insertion of a “One Plan” style definition according with the descriptions in tables E2 (a) and E2 (b) of that Plan.

Rule 5.139

DOC Submission

256 The DG sought that changes to this permitted activity rule. Essentially it enables (as a PA) activities which are intended to enhance, restore or create a wetland.

Officer Comment and Recommendation

257 The Officers report recommended that the maximum daily volume stay at 100 L/s⁻¹ but did recommend that the fish passage condition be removed.

Comment

258 I support the Officers' recommendations.

259 I agree that the 100m³ threshold is consistent with other permitted activity volumes. The removal of condition 2 is due to the fact that native and sports fish may need to be excluded from each other as outlined in the evidence of Dr Dunn. Providing for fish passage, especially for sports fish which predate on native fish, in all situations may not be desirable from a native fish management perspective. Failure to protect indigenous fish species would be inconsistent with the NPS and the RPS Policy 7.3.3.

Recommendation

260 I recommend the Commissioners adopt the officer report recommendations and amend rule 1.39 accordingly.

Rule 5.140

DOC Submission

261 The DG submission sought that rule 5.140 be a restricted discretionary activity, as opposed to discretionary activity and offered 7 matters of discretion that would apply to the revised rule.

Officer Comment and Recommendation

262 The Officers' report recommended that this rule stay as a discretionary activity.

Comment

263 I do not support the Officers' recommendations for three basic reasons:

264 Enhancement of nationally threatened ecosystems outlined in section 6 RMA, such as wetlands, should be provided for where adverse effects can be addressed. These effects are well known and outlined in the proposed matters of discretion as set out in the DG's submission.

265 The NRRP default rule for permitted activities (WTL 2 and 3) was to a restricted discretionary activity not a discretionary one and, notably, it provided for similar matters of discretion as those proposed by the DG. I have seen not reason in the Officers' report for this new, more stringent activity status, compared to the NRRP default rule. This is inconsistent with the NRRP (Wetlands) Chapter 7 section 32 assessment.

266 This rule would create the situation where the creation of a larger area of wetland has a more demanding activity status test than that required to reduce it for infrastructure purposes. It therefore is inconsistent with the wetland enhancement objective.

267 This in my mind would create a perverse situation. It would not give effect to the enabling provisions for wetland protection and enhancement of the Objectives or Policies of the plan as required under section 68 1 (b) and (3) of the RMA. Nor would it accord with the RPS (Objective 9.2.2 – Restoration or enhancement of ecosystems and indigenous biodiversity).

Recommendation

268 I recommend the Commissioners alter the status of this rule to restricted discretionary and add the matters of control as sought by the DG as follows, or to like effect.

“The enhancing, restoring, or creating a wetland that does not comply with one or more of the conditions in rule 5.139 is a restricted discretionary activity.

The Canterbury Regional Council will restrict its discretion to the following matters:

- *Effects on habitats and species*
- *Amenity values*
- *Heritage sites*
- *Sites of significance to Ngai Tahu*
- *Extent of wetland boundaries*
- *Effects on water quality*
- *Effects on neighbouring landowners”*

Rule 1.41

DOC Submission

269 The DG's submission supported rule 5.141

Officer Comment and Recommendation

270 The Officers' report regarding vegetation clearance and earthworks within this rule added two matters of discretion.

Comment

271 The amendments proposed to be added in the discretionary matters are an improvement. My view is that because of the situation with wetlands in Canterbury, their rarity and small size, as outlined by Dr Gerbeaux, that any new infrastructure should avoid wetlands where possible.

272 Elsewhere in the DG's submission the point was made that clear advice ought to be given as to what will qualify as "off setting". Since the issue of off-setting is raised in the matters of discretion it would be prudent to ensure that good off-setting practice is described elsewhere in the plan – for instance in the policies or by way of a definition. The DG's submission did offer a definition of "biodiversity off-setting" which could be tailored for this purpose. I am also aware that Dr Gerbeaux's evidence will reiterate the importance of ensuring that off-setting is done in an ecologically sound manner. The RPS, in Policy 9.3.6 does explain what off-setting ought to look like and it espouses the "no net loss" approach. It also refers to the hierarchical process of avoiding, remedying and then mitigating (possibly with off-sets). It notes that like-for-like and *in situ* off-sets will usually only be permissible.

Recommendation

273 I recommend the Commissioners consider the following amendments to this rule (or to like effect):

274 Delete: “associated with the provision of” and replace with: “ for the maintenance, operation and repair of existing infrastructure” to rule 5.141. I also recommend that the issue of off-setting (using ecologically sound practices) be confronted by this rule.

275 insert an associated policy and/or definition which defines when biodiversity off-setting may be considered appropriate to reflect the RPS.

Rule 1.42

DOC Submission

The DG submission supported rule 5.142.

Officer comment and Recommendation

276 The Officers’ report added “cultivation” to this rule.

Comment

277 The amendments proposed enhance the relief sought by the DG’s submission. I support them for the reason that they protect wetlands in a more comprehensive manner. As discussed in Mr Head’s evidence, cultivation can have significant effects on threatened native vegetation communities (including those in wetlands) such as red tussock grasslands in the inter-montaine basins of Canterbury.

Recommendation

278 I recommend the Commissioners adopt the officer report recommendations and add cultivation to rule 5.142 accordingly.

TOPIC 7 - "HAZARDOUS SUBSTANCES"

[Please note: In Appendix B I address issues which arise under this topic heading.]

TOPIC 8 – “MISCELLANEOUS”

RDA Matters and Section 70 Test: page 445

279 The DG submission sought that RDA matters specifically provide for, or list those matters where Council has restricted its discretion in each rule.

280 I have re-read the plan and it would appear to me that those matters of discretion are clear. This issue is largely a stylistic preference and an approach to minimise rule matter for criteria duplication. My reading of the RDA rules indicates that they will essentially cross-refer to PA conditions in a PA rule. The PA conditions will then become the matters of discretion. On that basis, I accept the Officers’ recommendations on this matter.

281 I note the staff comment on sections 70 and 107 of the RMA, however, based on the evidence presented by Dr Dunn, Dr Gerbeaux, and Mr Stewart on the PA rules this does not give me that confidence that the test of section 70 (1) has been met. The staff report states that ECan considers that it has met its obligations under section 70. Section 70 states that test is: *“Council shall be satisfied that none of the following effects are likely to arise in the receiving waters, after reasonable mixing, as a result of the discharge of the contaminant.”* The report does not state that Council is “satisfied” that the section 70 test has been met, only that it “considers” that it has met the test. The DG’s submission was very clear on this point and I believe there needs to be clarification of this matter. Accordingly, I would recommend the inclusion of section 70 (1) (g) or to like effect to any PA discharge rule.

I am happy to answer any questions the Hearing Commissioners may have.

A handwritten signature in black ink, appearing to read "Herb Familton". The signature is written in a cursive style with a long horizontal stroke at the end.

Herb R Familton
Resource Management Planner

4th February 2013

APPENDIX A

Consolidated Proposed Objectives

[This revised set of objective reflects a sustained and intense period of collaborative discussions between planners, Sandra McIntyre and Phillip Percy from Ngai Tahu and Fish and Game, discussed in the Objective section of this evidence]

“The Objectives of this Plan must be read in their entirety and considered together. No single Objective has more importance than any other, but in any particular case some Objectives may be more relevant than others, as a consequence of, but not limited to, CWMS priorities. CWMS priorities give primary priority to the environment, customary uses, community supplies, and stock water and secondary priority considerations to irrigation, renewable electricity generation, recreation, tourism and amenity:

Objective 3.1

Delete

Objective 3.2 and 3.4

Replace with:

“Land and water are managed as integrated natural resources, reflecting:

The ethic of kiutaki tai – management of whole catchments from the mountains to the sea; and

The connectivity between surface water and groundwater, and between fresh water, land and the coast”.

Objective 3.3

Retain as per section 42A officers recommendations

Objective 3.5

Replace with:

“Outstanding fresh water bodies, hapua, and their margins are protected to maintain their values or, if degraded, are enhanced so that the attributes that make those water bodies outstanding are restored.”

New objective 3.5A

- (a) “Specific freshwater objectives and environmental outcomes for water bodies and their beds and margins :
- a. Ensure diverse and abundant aquatic ecosystems of indigenous flora and fauna
 - b. protect habitat of salmonids (trout and salmon)
 - c. maintain amenity values
 - d. ensure water quality is safe for contact recreation
 - e. ensure water is suitable for secondary contact recreation
 - f. safe guard ngai tahu cultural values including mauri, mahniga kai, wahi tapu and wahi taonga
 - g. ensure water is suitable for stock drinking water supply
 - h. support the functioning and health of estuaries and coastal lagoons.
- (b) In water bodies where the freshwater objectives and environmental outcomes in (a) are being achieved, the quality and quantity(including environmental flows) of the water, and the bed, are managed to at least maintain those values; and
- (c) In water bodies where one or more of the freshwater objectives and environmental outcomes in (a) are not being achieved, further degradation of the water bodies is prevented and the quality and quantity(including environmental flows) of the water, and the bed, are progressively enhanced so that the freshwater objectives and environmental outcomes are restored and safeguarded within a defined timeframe”.

Objective 3.6

Insert amended Objective:

“The significant indigenous biodiversity values of rivers, lakes, natural wetlands, hāpua and their margins are protected and, where they are degraded, are enhanced.”

Objective 3.7

Retain objective as follows:

“The mauri of lakes, rivers, hāpua and natural wetlands is maintained or restored and they are suitable for use by Ngāi Tahu and the community”.

Objective 3.8

This also replaces Objective 1.

“Water is recognised as essential to all life and the life-supporting capacity, intrinsic values, ecosystem processes and ecosystem services of water bodies and their margins are safeguarded, and enhanced where they have been degraded.”

Objective 3.9

Replace with

“The natural character values and natural processes (including hydrological and geomorphic processes such as flushing and opening hāpua and river mouths, flushing algal and weed growth, and transporting sediment) of wetlands, lakes, rivers, hapua, and their margins, are:

- i) preserved where there is a state of high natural character,
- ii) maintained where there is a modified state of natural character that is valued in its current state, and
- iii) enhanced where it has been unacceptably degraded”.

Objective 3.10

Amend to:

“The significant mahinga kai values of rivers, lakes and wetlands are protected”.

Objective 3.11

Amend to:

“Within limits to protect the environmental outcomes for water bodies (including aquifers), water is available to support a variety of economic and social activities for social and economic benefit”.

Objective 3.12

Amend to

Groundwater resources remain a sustainable source of high quality water which is available for abstraction while supporting base flows or levels in surface water bodies, springs and wetlands and avoiding salt-water intrusion and long term declines in groundwater level”

Objective 3.13

Amend to

“Those parts of lakes and rivers that are valued by the community for recreation are suitable for contact recreation and improvements are made to improve water quality in areas currently not suitable for contact recreation.”

Objective 3.14

Amend to

“Safe and wholesome fresh water is available to meet actual and reasonably foreseeable needs for community drinking water supplies”.

Objective 3.14

Retain as per Officers recommendation

Objective 3.15

Deleted as replaced by objective 3.11

Objective 3.16

Amend to:

“Infrastructure of national or regional significance is resilient and is able to positively contribute to economic, cultural and social wellbeing through its efficient and effective operation, ongoing maintenance, repair, development and upgrading.”

Objective 3.17

No comment

Objective 3.18

Alter to:

“The risk of flooding or erosion of land or damage to structures is not exacerbated by the diversion of water, erection, placement or failure of structures, the removal of gravel or other alteration of the bed of a lake or river, removal of vegetation, or the re-contouring of adjacent land”.

Objective 3.19

Alter to:

“The risk and effects of natural hazards, including those arising from seismic activity, flooding, erosion of land and climate change, are avoided or mitigated”

Objective 3.20

Alter to:

“Gravel is able to be extracted from riverbeds to maintain flood carrying capacity and to provide resources for building and construction, and extraction takes place in a way that:

- A) safeguards the natural character of braided rivers, water quality, ecosystems and habitats and access to and quality of mahinga kai; and
- B) does not cause or exacerbate erosion”.

Objective 3.21

Delete as not an objective

Objective 3.22

Delete as this matter can be addressed in strategic policies as per Fish and Games’s submission.

Objective 3.23

Delete as not an objective

New Objective 3.24 Wetlands:

Add a new wetland as follows:

“There is no further loss or reduction of wetlands in Canterbury, and their life-supporting capacity, ecosystem processes, indigenous biodiversity, natural character, cultural and recreational values are protected or, where they are degraded, enhanced and their ecosystem servicing properties sustained”.

APPENDIX B

Streamlined Planning Evidence on Matters Not Specifically Dealt With in the Main Body of My Evidence

TOPIC 2 – DISCHARGES

Land drainage water (5.55-5.58)

1. These rules apply to any discharge to a naturally or artificially occurring drain which leads to an artificial waterway, wetland or to land. The discharge could, for instance, include effluent in water which is ponding on a property, and then the contaminated water is “drained” and piped into an artificial watercourse.

Rules 5.55 and 5.56:

2. Deal with moving water (i.e. discharging) from drains into artificial waterbodies, constructed wetlands or onto land.

Drain: “includes any **artificial** watercourse that has been constructed for the purposes of land drainage of surface or sub-surface water and can be a farm drainage channel, an open race, or subsurface pipe, tile or mole drain.” However, this does not preclude the drain being a naturally occurring one thanks to the use of the word “includes” at the start of the definition

3. The PA rule allows these discharges to contain “contaminants” so long as those are not “hazardous substances” or “hazardous waste”. These two phrases are defined in the Plan. If the discharge does contain a hazardous substances or or hazardous waste then it is dealt with as a DA.
4. As I see it there are various problems with these rules:

5. Although this is intended to allow for disposal of water to land (and to artificial waterbodies) there is no control to ensure that the water does not run off into a nearby, natural waterbody rather than simply seeping into the ground where it is discharged. In the absence of a set-back requirement unlimited amounts of land drainage water containing fertiliser/urine/faeces could be discharged onto land immediately alongside a freshwater body if one assumes that none of these contaminants is actually caught by the “hazardous substance” or “hazardous waste” definitions. The result could be concentrated discharge of drainage water containing N. Noting also the potential for effluent to be applied via irrigators and then collected in drains and subsequently discharged next to a waterway the scope for contamination hot-spots is possible.
6. The same argument could apply to sediment contained in the drainage water except that sediment-containing water which is discharged to land should meet the mixing zone requirements in Schedule 5 so that no conspicuous colour change, alterations to visual clarity or films, scums, etc are created.
7. There is a problem with the way the rule is drafted however, because Schedule 5 only refers to point source discharges and assumes the discharge is directly to the waterbody. The way this Rule is drafted means that it may not necessarily cover a discharge to land which then flows across the surface and ends up in the natural waterbody.
8. There is no volumetric limit of these discharges so large volumes of water could be discharged to land a short distance from vulnerable sites (eg Schedule 17 locations/wetlands). Those volumes could (even in the absence of contaminants) cause environmental damage. It is not clear if Nitrogen/faeces/urine are dealt with in these rules and/or the farming rules.

9. The DG submission sought that Rule 5.55 is amended to include an additional condition: the discharge to land is not within 100m of a Schedule 17 site – noting that the list of Schedule 17 sites will be expanded upon in the submission. I am concerned that that water discharged to land might have adverse effects on Schedule 17 sites

Rules 5.57 and 5.58:

10. These rules deal with moving water (i.e. discharging) from drains into natural waterbodies. It is a PA but only in relation to drainage systems which existed before July 2004. All post-2004 drainage is a DA.
11. For completeness sake though, Rule 5.57 has a set of conditions which allow the discharges from pre-July 2004 drainage systems into natural waterbodies as a PA so long as:
 - i. that the discharge does not contain haz substances/haz waste,
 - ii. total suspended solids are less than 50g/m³
 - iii. un-ionised hydrogen sulphide in the discharge does not exceed 0.005g/m³
 - iv. will not result in conspicuous film, suspended materials, foam, change in colour, clarity, odour etc.
12. If we assume that the conditions do limit discharges which contain unacceptable contaminants to enter water that still leaves the problem that unlimited volumes can be discharged from point sources without the need to consider whether that might interfere with significant indigenous freshwater flora or fauna.
13. In the absence of a limit on the quantity of water being released into a Schedule 17 site or into a wetland, for instance, the simple volumes of water may pose a threat. It is notable that in the stormwater rules all discharges from community and network utilities are RDA and the Council

must consider the impact that the rate and volume might have on the receiving waters.

14. In the case of other stormwater discharges there is a similar requirement that the discharge does not result in an increased flow in the receiving body greater than 1% of its 5 year flood range. The rules also preclude discharges into natural wetlands and Natural State water bodies.
15. The s32 report (pgs 75 and 76) justifies the continued operation of these pre-July 2004 drainage systems on the basis that “many were established more than 50 years ago and have long established maintenance regimes. The July 2004 carve out reflects the same carve out that was offered under the NRRP. Ecan says the rule recognises that “the effects of existing schemes are a long standing part of the existing environment”. They also say that since July 2011, when the NRRP became operative, “...there have been no material changes in the causes of the issues, the nature of the contaminants, the receiving environments, or the type of plan provisions required to best address those issues.”
16. The DG’s further submission on Rules 5.55 and 5.57 supported Fish and Game. They say more conditions are needed to ensure these PA rules meets s70 (no significant adverse effects on aquatic life) OR amend status of activity from PA.
17. A DG Further submission also sought clarification of the relationship between these rules and the ‘farming’ rules to ensure total nutrient loss is considered under an appropriate rule.

Other minor contaminant discharges (5.76-5.77)

18. Note contaminant is defined in the RMA as :

*“includes any substance (including gases, odorous compounds, liquids, solids, and micro-organisms) or energy (excluding noise) or heat, that either by itself or in combination with the same, similar or other substances, energy or heat –
when discharged into water, changes or is likely to change the physical, chemical or biological condition of the water; or
When discharged onto or into land or into air, changes or is likely to change the physical, chemical or biological condition of the land or air onto or into which it is discharged.”*

19. The intention of these rules is to catch any other contaminants that may enter water that are not caught by one of the previous discharge rules. Rule 5.76 allows discharges to land (where the discharge may enter water) as a PA so long as it does not contain hazardous substances or waste. Also, there is a requirement that it does not run-off or overflow into a surface waterbody. Rule 5.77 deals with discharges to waterbodies. Again it is a PA to discharge but not to Natural State waterbodies and the water quality standards after Mixing (Schedule 5) will apply.
20. I find these rules unusual in so far as they simply say that any discharges “not classified by the above rules” is a PA without (subject to conditions) without specifying exactly which rules are being referred to.
21. It seems that virtually all discharges are already covered so this is a catch all. Notably the farming rules deal with nutrient discharges associated with farming land use and also with the application of fertiliser so these minor contaminant discharge rules would not apply. So long as the changes proposed elsewhere to ensure that indirect discharges and animal effluent not just from storage facilities are captured elsewhere then these rules are unlikely to cause significant issues.

22. The DG did not submit on these rules however a further submission was submitted in support of Ngai Tahu. They sought the following decisions from ECan:
23. Regarding Rule 5.76 – contaminants onto or into land:
- Include a condition which specifies a separation distance from the point of discharge and the highest groundwater level in the area to ensure there is sufficient treatment of the contaminants in the soils before they are discharged to water.
 - Include a condition which states that the discharge is not to occur within 50 metres of a surface water body or the coast.
 - Amend condition 7 to include contaminated land and potentially contaminated land. Condition 7 as notified reads ‘The discharge is not from potentially contaminated land’.
24. Regarding Rule 5.77 – contaminants into water
Amend status of rule from PA to DA.
25. I am of the view that the Ngai Tahu relief sought will assist with addressing these issues.

Policies – Discharge of Contaminants to Land or to Water (4.9 – 4.11)

26. These policies have a major cross-over with the farming nutrient discharge policies. My view is that it would be best to separate out the farming related discharges and deal with those discharges solely in the farming discharge policies.

Policy 4.9

27. This Policy has identified what is considered to be the types of discharges that would pose the most risk to water quality, and therefore this Policy

states that there will be no direct discharge of these contaminants to water. Specifically:

- i. untreated sewage, wastewater, biosolids.
- ii. Solid or hazardous waste or solid animal waste.
- iii. Animal effluent from an effluent storage facility or stock holding area
- iv. Organic waste or leachate from storage of organic materials; and
- v. Untreated industrial or trade waste.

28. The DG's further submission supported Fish and Game who sought that both indirect discharges and stock effluent (not just that from a storage facility) are included in this Policy. I support this change.

29. Policy 4.10

30. This Policy identifies that there are other contaminants that are considered to be less of a risk than those identified in Policy 4.9, and those contaminants are subject to management measures to reduce their risk to the environment.

31. The DG supported the notified version of this Policy and then supported the relief sought by Fish and Game. Fish and Game sought the following (addition shown as underline):

For other discharges of contaminants to surface waterbodies or groundwater or into or onto land where may then enter surface water bodies or groundwater, the effects of any discharge are minimised by the use of measures that:

32. I support this change.

Policy 4.11

33. This Policy deals with any discharges that may indirectly enter groundwater (as opposed to Policy 4.9 – 4.10 where the contaminant may indirectly enter a waterbody). It is not totally clear in my view if this Policy deals with both agricultural and non-agricultural contaminated discharges. This complicates the policies because 4.28-4.38 deals with nitrogen discharges from agricultural activities.
34. Fish and Game sought an amendment to this Policy, that the DG supported, that made this Policy only deal with farming related discharges.
35. It is my view that the Fish and Game approach is a good approach but poorly located in the Plan. Fish and Game's amended Policy should sit with the farming discharge policies and there should remain a policy here that deals with 'other' contaminants (i.e. non-nutrients) that are discharged for Policy clarity.

TOPIC 3 – WATER TAKE AND USE

Rule 5.96 Default Minimum Flow for Water Takes

36. This rule currently provides for a default minimum flow. The DG's submission sought an alternative default rule.
37. I concur with Mr Stewart's views on an appropriate minimum flow. Dr Dunn will also be able to comment on this as to what would be an appropriate minimum flow for native fish. Certainly a default minimum flow on the order or 50% of the 7DMALF (as proposed in the pCLWRP) is a poor minimum flow for in-stream ecosystems: the optimum for trout is

approximately 100% of the 7DMALF. No doubt Fish and Game will be able to expand on this at the hearing.

38. The other advantage of being conservative in minimum flow setting, as Mr Stewart, points out is that it is far easier to lower the minimum flow than to raise it. I know this from my experiences in the Waipara River. So a conservative default minimum flow is a good practical reason to apply as a stopgap, until such time as detailed in-stream studies can identify an alternative suitable flow.
39. The default allocation (as opposed to flow) provided by this rule should also be conservative and again this is appropriate, as other catchments in Canterbury are heavily allocated with consented abstractions of far greater than 100% of the 7DMALF. The Waipara and the Waitohi rivers are good examples of such heavily allocated rivers in North Canterbury.
40. The key significance of such large allocation blocks means that the reliability of supply for all users in these blocks is very low. It also means that for the latter part of summer, the potential to “flat line” flows is considerable, especially if no partial restriction conditions exist to reduce takes as the river approaches its minimum flow. My experience in the Waiau and Hurunui, especially for the larger rivers, lead me to a rule of thumb of an allocation block of 50% of the 7DMALF as a very good default for such larger water bodies with greater flows, and I am very comfortable with such a default allocation. Again, as with the minimum flow conservative allocation limit is a good practical reason to apply as a stopgap, and this can be confirmed by more detailed studies, and debated in a subsequent plan change.
41. A precautionary approach as outlined in paragraphs 4 and 5 above are also consistent with RPS Policy 7.3.13, which is to adopt a precautionary approach to allocation without a planning framework.

42. I have previously commented in the HWRRP about partial restrictions as a matter of discretion and in my view all water take rules in the PCLWRP does not go far enough to ensure partial restrictions are applied to all future water take consents to protect reliability of supply and minimum flows.
43. My view is that partial restrictions should be a mandatory requirement for all future water take consents. This is because, as a matter of discretion, they can be considered and discarded because out of stream users know they potentially reduce their reliability (exacerbated if they are not in a water user group) and find them difficult to manage.
44. Partial restrictions should be applied for the reason that consumptive water take consents need to manage the finite characteristics of the river. The effect on reduced flows without partial restrictions means the full allocation block limit can be taken one litre above the minimum flow. This means that without partial restrictions, the minimum flows set in the plan will not be sustained, and therefore the in-stream values will be adversely affected

TOPIC 4 - BEDS OF LAKES AND RIVERS

RULES

Rule 5.113 – pipes, ducts, cables as PA

45. I support the evidence of Dr Nicholas Dunn in requesting that the PA rule not operate if the site concerned is a Schedule 17 site as these are sites of freshwater value as outlined by Dr Dunn.

46. Note that for all these rules referenced to Schedule 17 sites refers to the expanded list presented by Dr Dunn

Rule 5.114 – drilling, tunnelling, disturbing bed as a PA

47. I support the evidence of Dr Nicholas Dunn in requesting that the PA rule not operate if the site concerned is a Schedule 17 site as these are sites of freshwater value as outlined by Dr Dunn.

48. Note that for all these rules referenced to Schedule 17 sites refers to the expanded list presented by Dr Dunn

Rule 5.115 – installing etc bridges and culverts as a PA

49. Schedule 17 is referred to in the rule but the reference will need to take account of the fact that the title and content of that Schedule 17 will change if the DOC expanded version is accepted.

50. In support of Fish and Game the DG's further submission argued that the PA rule should contain conditions sufficient to ensure that section 70 standards are met. As Fish and Game explained, the rule anticipates that discharges associated with those works will also be PAs. Currently the rule only requires that the works not occur in flowing water but since this permits diversions it is inevitable that some water will be "flowing" through the diversion. Consequently, a discharge standard should be inserted to ensure the PA rule meets s70.

Rule 5.116 – flood protection works as PA

51. I support the evidence of Dr Nicholas Dunn in requesting that the PA rule not operate if the site concerned is a Schedule 17 site as these are sites of freshwater value as outlined by Dr Dunn.

52. Note that for all these rules referenced to Schedule 17 sites refers to the expanded list presented by Dr Dunn

Rule 5.118 – temporary structures and diversions as PA

53. Schedule 17 is referred to in the rule but the reference will need to take account of the fact that the title and content of that Schedule 17 will change if the DOC expanded version is accepted by ECan.

54. Note that for all these rules referenced to Schedule 17 sites refers to the expanded list presented by Dr Dunn

Rule 5.119 – temporary discharges of sediment and water associated with other PAs

55. Schedule 17 is referred to in the rule but the reference will need to take account of the fact that the title and content of that Schedule 17 will change if the DOC expanded version is accepted by ECan.

Rule 5.122 – refuelling in riverbeds as a PA

56. I support the PA rule to only apply to stationary vehicles on the basis that non-stationary vehicles should move out of the bed and refuel in a less sensitive location.

Rule 5.125 Extraction within the volumetric limits as a PA

57. This rule enables the extraction of gravel from lakebeds and riverbeds but on the proviso that abstraction of gravel is not to be from an areas which is listed as a Schedule 17 site nor from a waterbody classified in a sub-regional chapter as being a High Naturalness Waterbody.

58. I support Drs Nicholas Dunn and Dave West who demonstrate that the categories of waterbodies that warrant special protection in this rule (and others) should be expanded to include: sites which are valuable from an ecological perspective and classified in the top 20% of FENZ; sites which are deemed to be Areas of Significant Conservation Value (ASCVs); and those which are covered by the expanded list of Schedule 17 locations proposed by the DG.

POLICIES

Policies 4.90 and 4.91 - Activities in Beds of Rivers and Lakes and Gravel Extraction

59. I largely support these Policies as drafted except were the amendments are proposed by Fish and Game which in my view give better effect to Part II of the RMA and the NPS FW.

SCHEDULES

Schedule 17

60. DOC has specific statutory roles with regard to freshwater as follows:
- a. Section 6 (ab) of the Conservation Act 1987 to preserve, as far as possible, freshwater fisheries and freshwater habitats;
 - b. Fish Passage under the Fish Passage Regulations (1983);
 - c. Wildlife Act role to protect native birds and some invertebrates;
 - d. Coastal management role under the RMA and NZCPS.
61. All of which give DOC a role in the management of freshwater and necessitate a close involvement in the development of regional plan provisions for freshwater to safeguard the above values.

62. DOC's submission sought a revised Schedule 17 which is intended to upgrade the current one. Dr Nicholas Dunn will introduce the revised Schedule 17 and will set out its content, how it was created and the assumptions and data used in populating the schedule. These schedules are analogous to schedules of significant vegetation in a district plan, which are common in most second generation district plans.
63. The revised Schedule 17 more accurately meets ECan's obligations to protect significant indigenous biodiversity and the significant habitats of indigenous fauna under section 30 (1) (ga) of the RMA. Councils has developed its own Canterbury Biodiversity Strategy to give effect to that obligation. The New Zealand Government's own NZ Biodiversity Strategy, was written to assist with implementing New Zealand's international obligations under the Convention on Biological Diversity.
64. Furthermore, Objective A1 of the NPS FW requires Councils to "safeguard ecosystem process and indigenous species including their associated ecosystems of freshwater". This objective assists with giving effect to the general requirement to recognise and provide for significant habitats of indigenous fauna under section 6 (c) of the RMA. This section 6 requirement includes freshwater ecosystems and species as outlined by the NPS FW. So it is important to stress that the significant habitat requirements of the NPS and Act apply to the management of freshwater as well as land.
65. Please note that the information on whitebait spawning sites included in the expanded Schedule 17 was supplied to DOC by ECan as part of a Golder & Associates report commissioned by ECan. The report was not available in time for ECan staff to insert it in the schedule in the plan as notified. The intention was however always that the whitebait information should be inserted in the schedule. The officers' report does not recommend including the whitebait sites. These sites were introduced by a submission

and all parties had the ability to further submit in opposition or support for their inclusion. They currently, for example, have only four sites for whitebait/ inanga which is totally incomplete, and all submitters on this subject sought a more complete list.

66. The Officers' report on page 360 recommends that the sites sought by DOC not be included on the basis that people could be affected by this inclusion. This is not supported by any submitter and the only discussion I can find in this area is that Kaikoura District Council, Ngai Tahu and Jane Demeter who all support an expanded list of known whitebait/inanga sites. I do not understand the rationale of this recommendation as any submitter could have opposed it in a further submission and none chose to. What we have is a group of submitters on this topic that wish to actively expand schedule 17 and have supported DOC in that regard. I do not understand how the officer arrived at his recommendation based on the submissions received and the overriding need to consider submissions and give effect to them. As discussed in the objectives section, the DOC (and all other relief sought) on the whitebait/*inanga* sites is entirely consistent with RPS Policy 7.3.3, which discusses identifying and protecting indigenous fauna species. It is my view that the DG submission is entirely consistent with RPS Policy 7.3.3. The officer recommendations do not discuss the implications of RPS Policy 7.3.3.
67. I recommend that the Hearing Commissioners accept the DG submission with regard to the inclusion of the additional locations and species referred to in the DG's proposed Schedule 17 for the reasons outlined in Dr Dunns evidence and the DG submission.

High Naturalness Waterbodies and the Interaction with Schedule 17

68. There is no particular definition for “High Naturalness Waterbodies” in this plan. Rather there are simply lists in the sub-regional chapters which contain waterbodies mentioned under that heading.
69. This is an opportune point in my evidence however to introduce the topic which will be revisited in Hearing 3. It is also important that I give some context to the evidence of my colleague, Dr David West and it is relevant to the matter of Schedule 17.
70. It is the DG’s submission that special treatment is afforded throughout this plan to waterbodies which are listed in the sub-regional chapters as High Naturalness Waterbodies (“HNWB”). However, it is the DG’s concern that those lists are not supported by the robust data and rigorous scientific assessment. The RPS has Policy 7.3.3 which seeks to identifying and protecting indigenous flora and fauna species, as well as to promote the enhancement of indigeous biodiversity (which includes freshwater as much as terrestrial). It also has Policy 7.3.1 preserve natural character where there is a high state of natural character. The DG’s response was therefore to propose an alternative approach to selecting candidates for the lists in the sub-regional chapters. The proposal is to populate those lists with the following: the existing HNWB sites; plus waterbodies which qualify as Areas of Significant Conservation Value; plus the top 20% of sites which are captured using the FENZ modelling tool.
71. My colleague, Dr David West will explain FENZ in more detail in his own evidence. From a planning perspective however, The FENZ approach would offer improvements over the existing lists and would also give effect to RPS Policy 7.3.3.
72. The criteria and data that support the FENZ tool can be replicated, interrogated and objectively critiqued. Whereas, there is no clear criteria for the HNWB lists that currently exist in the plan.

73. One of the key issues in the establishment of schedules of significant indigenous biodiversity in district plan is the criteria established to select them. This was outlined in the Western Bay of Plenty DC v Minister of Conservation case. In this case for freshwater, the use of FENZ as a guiding approach will provide more scientific robustness.
74. Council has an obligation to protect significant habitats of indigenous fauna and this clearly includes freshwater fauna habitat under RPS Policy 7.3.3. However, even when/if the list of HNWB is expanded to include FENZ top 20% and ASCVs there will still be areas which do not (as outlined by Dr West) qualify but which are captured by Dr Dunn's expanded Schedule 17. Accordingly, even with the benefit of FENZ all significant habitats may not be caught largely because of difficulties with defining and/or capturing very small ones, such as kettle holes on glacial outwash surfaces. So these limitations are acknowledged, but in my view offer a substantial improvement on the current pCLWRP.
75. If the Hearing Commissioners do not accept the revised top 20% naturalness FENZ list of High Naturalness Waterbodies (HNWBs) then the Schedule 17 sites as sought to be expanded by DOC will be **especially** penalised unless the list is expanded by a later variation or plan change, and significant habitat of indigenous fauna will not have been recognised and provided for. If the Commissioners are of a mind to not accept the DOC submission on FENZ being substituted for the existing lists of HNWBs, then I believe they should give due consideration to recommending a plan change to address HNWBs across all sub regional sections of the plan to address this issue in an integrated manner and to include the expanded Schedule 17 sites in the meantime.

TOPIC 5 – DAMS AND DAMMING RULES

Rule 5.128 - Permitted Activity Rule for Damming (page 372)

76. Mr Stewart outlines many of the potentially adverse effects of damming in his evidence, including:
- a. dam and pond size
 - b. flat-lining of flows;
 - c. reducing environmental flows;
 - d. increasing days between significant freshes and floods;
 - e. potentially raising flood water levels especially if the structure is permanent; and
 - f. the potential for periods of sediment laden water occurring in the waterbody if excavation of the riverbed for this dam is required.
77. Consequently, I do not support rules that make even small dams a permitted activity as there are:
78. **Potential effects on in-stream and riparian values to be considered.** The effects on in stream ecosystem of damming are not well addressed the pCLWRP provisions on either significant freshwater habitat or habitats of threatened native fish, or the associated riparian habitat for flora and fauna as outlined by Mr Head. I have low confidence at all that under this rule that it will not adversely effect the habitat of threatened native fish, such as the Canterbury mudfish for example.
79. Also, most in-stream dams will be on Crown Land. Applicants will also require owners' consent in that situation.
80. The reduction of wetlands, as provided by rule 5.142, precludes reduction by damming or diversion: However, as I have previously explained, only

wetlands which are contiguous with and outside the lakebed or riverbed benefit from the protection in rule 5.142. All other wetlands (i.e. lacustrine and riverine) are ignored. Therefore protection is only offered to wetlands which are part of the river or lakebed is if they happen to be included as a HNWB in one of the sub-regional chapters. As explained previously, few are. As a result of this, and the PA rule 5.128, there are no effective plan provisions to control the effects of so-called “small” dams on wetlands. The potential effects on public access, flora and fauna and wetlands within the river bed are such that it does not appear to be appropriate to allow in-stream damming as a PA.

81. **Potential cumulative effects on Hydrology.** The rule as drafted could allow a series of dams built to the volumetric threshold of the PA rule downstream from each other, so that cumulative effects cannot be addressed by such a rule, and the flow capture of water yield in the catchment becomes potentially significant. The rule as drafted allows for 99% of the flow to be impounded where it is within the bed of a river. Therefore I do not believe such a rule can provide for the sustainable management of water. I understand that in parts Australia dams are limited by a percentage of the runoff from a property, and I believe such an approach would actually manage cumulative effects rather than allowing an unlimited number of dams as a PA in the pCLWRP.

82. As Mr Stewart points out, the potential environmental impacts of dams are such that they all should be consented. I agree with his view. Because not all sites may be suitable I do not favour controlled activity status and would recommend a restricted discretionary activity for dams of the size intended by rule 5.128, with Council’s discretion restricted to the range of matters addressed in Mr Stewart’s and Mr Head’s evidence, such as:

- a. size and location,

- b. provision for minimum and/or environmental bypass flows,
- c. effects on fish and fish passage,
- d. effects of excavation,
- e. public access
- f. riparian native vegetation
- g. not be in any high naturalness river or river mainstem,
- h. not derogating any downstream consented takes, and
- i. impacts on flood levels

83. I also think that an advisory note would be useful concerning the bed landowners approval would improve this rule from in riverbed dams as it cannot necessarily be assumed that the “in river” dam is on land managed by the adjacent landholder and this would need to be assessed on each case.

Rule 5.129 – Discretionary Activity for Dams

84. I concur with Mr Stewart’s view regarding the default minimum flow and that setting limits on these is just as important as those in Sections 6-15.

85. I concur with his view that the wording of this rule would be improved words by adding after condition 1 “...and the default limits for rivers and streams not included in Sections 6-15 as detailed in Rule 5:96(2).”

TOPIC 6 WETLANDS, VEGETATION AND SOIL

86. Permitted activity Rules 5.147 and 5.148, Vegetation Clearance and Earthworks. Drs Dunn and Gerbeaux and Mr Head have commented on the effects, or potential effects of these activities on in-stream values and on indigenous biodiversity. Drs Dunn and Gerbeaux have also discussed the benefits of a healthy vegetated riparian margin for in-stream values.

87. These rules are highly enabling of clearance or earthworks in sensitive riparian margins because of their location with 20 meters of any water body. They do not discriminate between management to enhance biodiversity (which should be supported) and general clearance (which may have potentially significant adverse effects on in-stream ecosystems). I do however, support the need to maintain infrastructure, fencing and essential roading, and flood and erosion control vegetation.
88. I note that the recommended setback for flood control structures is 5 metres in rule 5.148, and I contrast this with the requirement for a 1 metre setback for a schedule 17 site. My view is that the setback distance and area of bare ground on condition 1 in rule 5.147 is entirely unclear and would be difficult to enforce.
89. The discharge of sediment condition 2 of Rule 5.148 in my view would not meet the section 70 test for a PA rule because of the effects of the sediment on in-stream values could well be lethal to freshwater fish. It is also noted that it is an offence under sections 39(4) and (7) of the Conservation Act to disturb the spawning ground of any (my emphasis) freshwater fish.
90. Based on my comments on the paragraphs above, I do not believe the these rules will be either enforceable in the case of condition 1 of rule 5.147 or even meet the section 70 test for permitted activities in the case of condition 2 of rule 5.148. As currently structured, it is my view that the rules are too permissive and are likely to have significant adverse effects on aquatic life and riparian indigenous biodiversity.

TOPIC 7 – HAZARDOUS SUBSTANCES

91. The DG supported the retention of Policies 4.21 and 4.22. The evidence presented by Mr Keith Briden outlines that these policies are relevant to other topic areas not covered under this heading. These are particularly important for cost effective biodiversity and biosecurity management.

92. I support the retention of PA rules for removal of vegetation in erosion – prone areas and riparian margins enabling pest work to occur and also that the rules under the topic heading of Pest Control and Agrichemical Discharges (which include rules that would deal with use herbicides and vertebrate pest controls) be retained to enable pest management work to continue. Such provisions will give effect to Objectives 9.2.1 to 9.2.3 of the RPS.

APPENDIX C

WATER EFFICIENCY

Riley North Canterbury Storage Options (2010):

“6.0 Efficiency Gains from Existing Water Use

6.1 Introduction

The potential for improving the efficiency of irrigation systems and distribution networks within the study area was investigated. Potential efficiency gains include:

- *Converting existing border-dyke irrigation systems to well-managed spray irrigation*
- *Reducing bywash and seepage losses in distribution networks.*

Reductions in the instantaneous rate of take as a result of improved efficiency would free up some water for re-allocation to dry land areas.

Existing spray and trickle irrigation supplied from surface water sources in the study area may or may not be using water efficiently. Operating a spray irrigation system more efficiently may result in lower seasonal water use. This is desirable for a number of reasons, but does not free up water for re-allocation because surface water resources are allocated on an instantaneous basis. For the purposes of this study it has therefore been assumed that existing spray irrigation is efficient.

Currently only a relatively small percentage of the potential irrigable area in North Canterbury is receiving irrigation water which limits the water savings to be gained through improvements in efficiency.

6.3 Re-allocation Potential

6.3.1 Conversions to Spray

The Amuri Irrigation Company schemes were originally designed to be 100% border-dyke with average system capacities in the range of 0.7 – 1.0 l/s/ha. Conversions to spray irrigation have occurred predominantly over the last ten years as irrigators have realised the benefits of spray (predominantly centre-pivot) irrigation, both in terms of increased production and reduced labour requirements. At present 64% of the Balmoral Scheme and 59% of the Waiau Scheme are spray irrigated. The rate of conversions to spray is slow presently due to the uncertain economic climate.

Irrigators who convert to spray have their allocation reduced to 0.6 l/s/ha (5.2 mm/day) to reflect their lower water requirements (N Williamson pers comm, 2009). This is generally adequate to meet irrigation demands at the peak of the season. The difference between the original and revised allocation theoretically becomes available for re-allocation to other users. However, this re-allocation is not straightforward due to distribution constraints in open channel systems. This is discussed further in Section 6.3.2 below.

6.3.2 Distribution Systems

The Waiau Plains scheme races were generally constructed with a mixed-earth lining to control leakage. In localised sections of the scheme, however, the lining did not achieve the required specifications or the races were not lined for various reasons, resulting in higher leakage. The overall leakage loss was assessed as 7% of the intake flow (W Lewthwaite pers comm, 2006). This equates to a seepage loss of 770 l/s for the Waiau Plains scheme.

Equivalent numbers are not available for the Balmoral Scheme, but similar construction methods are likely to have been used.

Because the schemes' open channel distribution systems were designed to supply water for border-dyke irrigation on a rostered basis rather than on-demand for spray irrigation it is challenging to supply water to the current mix of irrigation types. Certain flows are required to operate races, which means that the majority of the water "freed up" by conversions to spray is bywashed back to the rivers. The scheme operators believe that as the proportion of spray irrigation increases it will become easier to re-allocate surplus water.

To minimise distribution losses and ensure that water can be supplied on-demand with no wastage the ideal situation would be a fully piped distribution system. Re-engineering existing schemes to this extent is likely to be prohibitively expensive, however. A more cost effective option may be to line sections of the main races that have been identified as having high leakage losses, and pipe the secondary and tertiary distribution races. In this configuration the main race would act as a head-pond for the downstream pipe infrastructure. Private surface water takes are generally close to the water source, and are therefore unlikely to have significant distribution system losses.

6.3.3 Overall Potential

If the three existing Amuri schemes are fully converted to spray (at 0.6 l/s/ha) and reengineered to whatever extent required to minimise seepage losses and distribute water on demand with no by-wash, the area irrigated by the existing allocations could increase by 34% to 27,000 ha. If a lower system capacity was acceptable to irrigators this area could be increased further.

The potential for re-allocating water by improving efficiency of private surface water takes depends on how they are treated when calculating the size of allocation blocks. As discussed above, there seems to be some inconsistency in the approach taken. If the average rate is counted in the allocation block then the potential is limited, but if the maximum rate is counted there is considerable potential for re-allocation. For example, if the average rate for CRC972572 (as discussed above in Section 6.2.2) is counted in the allocation, converting to spray irrigation with a system capacity of 0.6 l/s/ha potentially enables 72 ha of new irrigation (110% increase). If the maximum rate is counted in the allocation then converting to spray would enable 518 ha of new irrigation (790% increase)."

APPENDIX D

Excerpts from Fish Passage Regulations 1983

41 Scope

- (1) This Part shall apply to every dam or diversion structure in any natural river, stream, or water.
- (2) For the purposes of these regulations **dam or diversion structure** shall not include—
- (a) any net, trap, or structure erected and used solely for the purpose of taking or holding fish in accordance with the provisions of the Act, or of these regulations:
 - (b) any dam constructed on dry or swampy land or ephemeral water courses for the express purpose of watering domestic stock or providing habitat for water birds:
 - (c) any water diversion not being incorporated into or with a dam, that is solely and reasonably required for domestic needs or for the purposes of watering domestic stock and that empties, without dead ends, into any viable fish habitat:
 - (d) any structure authorised by a Regional Water Board not requiring a water right that in no way impedes the passage of fish.
- (3) For the purposes of this Part, the term **occupier** includes the owner of any land when there is no apparent occupier; and also includes any person doing any work by contract for the occupier.

42 Culverts and fords

- (1) Notwithstanding regulation 41(2)(d) of these regulations, no person shall construct any culvert or ford in any natural river, stream, or water in such a way that the passage of fish would be impeded, without the written approval of the Director-General incorporating such conditions as the Director-General thinks appropriate.
- (2) The occupier of any land shall maintain any culvert or ford in any natural river, stream, or water (including the bed of any such natural river, stream, or water in the vicinity of the culvert or ford) in such a way as to allow the free passage of fish: Provided that this requirement shall cease if the culvert or ford is completely removed or a written exemption has been given by the Director-General.]

43 Dams and diversion structures

- (1) The Director-General may require that any dam or diversion structure proposed to be built include a fish facility:
Provided that this requirement shall not apply to any dam or diversion structure subject to a water right issued under the provisions of the Water and Soil Conservation Act 1967 prior to the 1st day of January 1984.
- (2) Any person proposing to build such a dam or diversion structure shall notify the Director-General and forward a submission seeking the Director-General's approval or dispensation from the requirements of these regulations, shall supply to the Director-General such information as is reasonably required by the Director-General to assist him in deciding his requirements (including plans and specifications of the proposed structure and any proposed fish facility).

(3) Should the Director-General consider that the information supplied is inadequate, he shall, within 28 days, advise the applicant as to what further information is required.]

44 Requirement for a fish facility

(1) If, in the opinion of the Director-General, a fish facility is required or dispensation from such a requirement is acceptable, the Director-General shall as soon as practical but in no case longer than 6 months if a fish facility is required from the date of receiving all information required, or 3 months where a fish facility is not required from the date of receiving all information required, forward his written requirement or dispensation to whomsoever made the submission.

(2) Where in the opinion of the Director-General a fish facility is required he shall specify what is required to enable fish to pass or stop the passage of fish, and while not limiting this general requirement may specify—

(a) the type, general dimensions, and general design of any fish pass to be utilised:

(b) the type, general dimensions, general design, and placement of any fish screen utilised.

(3) Subject to the [Resource Management Act 1991](#) and any determination under that Act, the Director-General may specify—

(a) the type and placement of any water intake to be utilised where fish screens are not required:

(b) the flow of water through any fish pass and the periods of the day and year when the pass must be operational:

(c) the volume, velocity, and placement of additional water to attract migrating fish to any fish pass:

(d) the type and scope of any remedial works in connection with any fish screen or fish pass to enable fish to approach the structure or to be returned to the normal course of the water channel:

(e) the volume or relative proportion of water that shall remain downstream of any dam or diversion structure and the period of day or year that such water flows shall be provided.

(4) Every approval given by the Director-General shall expire 3 years from the date of issue if the construction of the dam or diversion structure is not completed, or such longer time as he may allow.

(5) The manager of every dam or diversion structure in connection with which a fish facility is provided shall at all times keep such fish facility in good and satisfactory repair and order, so that fish may freely pass and return at all times or are prevented from passing as specified under these regulations.

45 Adequate water

The manager of every dam or diversion structure in connection with which a fish facility is provided shall, subject to the [Resource Management Act 1991](#) and any relevant determination under that Act, maintain a flow of water through or past such fish facility sufficient in quantity to allow the facility to function as specified at all times or periods specified; but no person shall be liable for a breach of this regulation due to drought, flood, or other sources beyond his control if the default is made good as soon as reasonably possible.

46 Required maintenance or repair

The Director-General may serve notice in writing to the manager of any fish facility notifying him of any defects or want of repair in such fish facility and requiring him within a reasonable time to be therein prescribed to remove any defect or make such repairs as may be required:

provided that nothing in this regulation shall affect the liability of a manager under [regulation 44](#).

47 Damage

No person shall wilfully injure or damage any fish facility.

48 Alterations

No person shall, without the written consent of the Director-General, make a structural alteration in any fish facility.

49 Inspection of fish facilities

Any officer may at all reasonable times enter upon any fish facility and upon any remedial works or upon the land bordering such fish facility or remedial works for the purpose of their inspection.

50 Protection of fish

No person, other than an officer acting in his official capacity, shall take or attempt to take any fish on its passage through a fish facility, or place any obstruction therein or within a radius of 50 m of any point of a fish facility, or shall within a radius of 50 m of any point of a fish facility use any contrivance whereby fish may be impeded in any way in freely entering or passing through or passing by a fish facility except as may be provided by the Director-General in writing to the manager of the fish facility.

Also:

21 Restriction on taking fish from or near fish traps

No person shall—

(a) take any fish from; or

(b) interfere with or damage; or

(c) take any sports fish in or from any water that is within 100 m of—

any net, trap, pound net, electrical device, or other contrivance erected or placed for the purpose of preventing or controlling the movement of sports fish and used by any person for the purposes of acclimatisation, propagation, or management, or for scientific or other purposes authorised by a Fish and Game Council within the meaning of the [Conservation Act 1987](#).