Before the Hearing Panel appointed by Canterbury Regional Council

IN THE MATTER OF The Resource Management Act 1991

AND

IN THE MATTER OF Applications to divert, dam, take and use water in the Upper Waitaki catchment upstream of Waitaki Dam

Section 42A Officer's Report of Maria Bartlett

Date of Hearing: 21 September 2009

INTRODUCTION

1. This report should be read together with the introductory s42A report which gives an overview of all applications presented at this hearing (Report 1), and the individual s42A reports prepared for each application.

Scope of report

2. The purpose of this report is to:

   (a) Identify the provisions of the Waitaki Catchment Water Allocation Regional Plan (WCWARP) relevant to establishing annual allocation to activities;

   (b) Identification of the existing annual allocations and annual allocations that would result if all applications are granted, for each zone identified in Rule 6, Table 5 of the WCWARP; and

   (c) Discuss priority of applications at this hearing with regards to annual allocation.

3. It is emphasised that the views expressed in this report are not binding on the decision-maker(s). It cannot be assumed that the decision-makers will reach the same views having considered all the evidence to be brought before them at the hearing by the applicants and submitters.

RELEVANT WCWARP PROVISIONS

4. In this section, the provisions in the WCWARP relevant to the establishment of annual allocation to activities in the Upper Waitaki catchment are discussed.

Objectives

5. Objective 2 is the key objective with regards to allocation to activities. It is to enable people and communities to provide for their social, economic and cultural wellbeing

and their health and safety, by providing water for six activity types, to the extent that the provision of water is consistent with Objective 1. Objective 1 is concerned with sustaining the qualities of the environment of the Waitaki River, its margins and associated waterbodies, and providing water for essential activities.

Policies

6. The relevant policies that deal with the annual allocation to activities are Policies 10 to 14. Policies 15 to 20, 21 and 29 are also pertinent to annual allocation.

7. Policy 10 is to enable small amounts of water to be taken outside of the high natural character water bodies identified in Policy 2. This policy is primarily implemented by a permitted activity, and therefore, the water taken for this purpose is not counted as part of the allocation to activities. The explanatory note to Policy 10 specifically excludes the taking of water for an individual's reasonable domestic needs and the reasonable needs of an individual's animals for stock drinking water, which is permitted under section 14(3)(b) of the RMA from consideration under rules associated with Policy 10.

8. Policy 11 sets out the meaning of terms used in the WCWARP, which affect the consideration of applications in relation to allocating to activities. This policy identifies Ngai Tahu as tangata whenua, New Zealand as the nation represented, and Mackenzie District, Waimate District and Waitaki District as being local to the Waitaki catchment.

9. Policy 12 outlines criteria to be used when establishing allocation to the activities listed in Objective 2. The explanatory note to this policy says that the policy describes the approach used to make allocations among the activities. The WCWARP sets allocation limits, with regards to this policy, in Rule 6. In order to apply this policy, and associated Rule 6, the explanatory note points out that all consents will be required to specify an annual volume. The explanatory note also highlights the fact that applications requesting an amount above the Rule 6 allocation limits for a particular activity type must be considered non-complying activities, and the effect of granting consents on the entitlements to other activities must be taken into account during decision-making.

10. The inference that can be drawn from the explanatory note to Policy 12 is that there are overall limits set in each of the four sub-catchments of the Upper Waitaki Catchment, and that allowing any one of the activity types to be granted in excess of the Rule 6 limits may affect the availability of water to other activities in the same sub-catchment. This becomes particularly important when considering the sub-catchments within the Agricultural and Horticultural activity limits, where exceedance of the limits set upstream of Lake Tekapo outlet, upstream of Lake Pukaki outlet and upstream of Lake Ohau outlet will not only affect the available allocation to Agricultural and Horticultural activities upstream of Waitaki Dam, but also the available allocation to other activities within the same sub-catchment.

11. Policy 13 addresses the allocation to Agricultural and Horticultural activities and directs that, during decision-making, regard shall be given to the extent to which exercise of consent would result in water quality objectives in the Natural Resources Regional Plan not being achieved. The implication of this policy is that, while the WCWARP has provided for a total allocation above the Waitaki Dam of 275 million cubic metres for Agricultural and Horticultural activities, assumption cannot be made that this full allocation may be exercised, given that a qualifier has been established with respect to water quality. Discussion of the objectives in the Natural Resources

Regional Plan and assessment of the cumulative effects on water quality that may result from granting the allocation requested by the total of applications at this hearing is included in Report 4.

12. Policy 14 directs that the consent authority have regard to the extent to which water will be available for current and reasonably foreseeable in-catchment needs during decision-making. The explanatory note to this policy indicates that there are parts of the Waitaki catchment where there is insufficient water to reliably meet all current and future demands, and that needs within a catchment should be given primacy over proposals to take water out of catchment.

13. The policies related to efficient and effective use of water, Policy 15 to 20, and Policy 21 related to water metering, are relevant to discussion regarding annual allocation. Achieving efficiency gains in water use reduces the allocation per consent and enables a greater number of people and communities to benefit from the available water allocated to activities. Water metering is also relevant to discussion of annual allocation because compliance with consented annual allocation limits, and therefore adherence to the allocation limits set in the Plan, will be dependant on knowledge of what water is actually being taken, and hence, accurate metering of abstraction. These policies are discussed in individual Section 42a reports for each application.

14. Policy 29 applies to high natural character water bodies listed in Policy 2 and restricts cumulative allocation to activities from them, acknowledging their largely unmodified state or contribution to habitat of important species or habitat assemblages. This matter is discussed in individual Section 42a reports where high natural character water bodies are affected.

Rule 6

15. Rule 6 governs annual allocation to activities, specifying in Rule 6(1) that no person shall take, use, dam or divert water when, by itself or in combination with any other take, use, dam or diversions, the sum of annual volumes authorised by resource consent, exceeds the annual allocations to that activity in Table 5. No distinction is made between applications for replacement consents and applications for new activities.

16. The exceptions to Rule 6(1), as outlined in Rule 6(2), are activities that take or divert water and return it to the same water body in the vicinity of the take or diversion point, in the same condition and quality as taken, for micro hydro-electricity generation (defined as generation of hydroelectricity not exceeding a capacity of 50 kilowatts continuous output) or for fisheries and wildlife purposes.

17. Table 5 of Rule 6 sets out the annual allocation to activity types in the Upper Waitaki catchment. A copy of Table 5 is included in Attachment One. Aside from the application to divert water for micro-hydroelectricity generation, all other applications at this hearing are for agricultural and horticultural activities. There are four sub-catchments, identified in Rows (i) to (iv) of Table 5, which set limits for agricultural and horticultural activities upstream of Lake Tekapo outlet, upstream of Lake Pukaki outlet, upstream of Lake Ohau outlet and upstream of Waitaki Dam.

18. Overall, a limit of 275 million cubic metres of water is allocated for agricultural activities upstream of Waitaki Dam. While allocations upstream of the glacial lake outlets are included as part of the overall allocation limit of 275 million cubic metres upstream of Waitaki Dam, individual limits are also set upstream of each glacial lake outlet. Applications to take, use, dam or divert water upstream of the glacial lakes are

therefore required to comply with two annual allocation limits. Exceedance of the individual limits set upstream of the glacial lake outlets, therefore, affects availability of allocation downstream of the lake outlets and upstream of Waitaki Dam.

19. There are two footnotes to Rule 6, footnote 23 and footnote 23A, which provide further explanation of the Table 5 annual allocation limits. Footnote 23 indicates that canals leading from the glacial lake outlets are to be included in the allocation upstream of Waitaki Dam, rather than upstream of the glacial lake outlets. While the Tekapo – Pukaki Canal and the Pukaki – Ohau Canal contribute inflows to Lake Pukaki and Lake Ohau respectively, the WCWARP creates a distinction between these artificial inflows, and inflows from natural watercourses.

20. Footnote 23A advises that while the consents to operate the Waitaki power scheme remain in force, the Upper Catchment is fully allocated to a holder of those consents and other existing consent holders. This matter is discussed in Report 1.

21. Rule 6 annual allocation tables for agricultural and horticultural activities upstream of Waitaki Dam, upstream of Lake Tekapo outlet, upstream of Lake Pukaki outlet, and upstream of Lake Ohau outlet are included in Attachment Two, including existing consented allocation and proposed allocation for applications in process. As stated above, the allocations upstream of the glacial lake outlets are included in the annual allocation table for agricultural and horticultural activities upstream of Waitaki Dam. The tables include applications not proceeding to the hearing, which are identified where they occur in the tables. Data in the tables is sourced directly from the Canterbury Regional Council consents database, which records details of existing water permits and water permit applications.

EXISTING AND PROPOSED ANNUAL ALLOCATIONS

Proposed Annual Allocations

22. The Canterbury Regional Council consents database records the proposed annual allocation of each application, based on what the applicant requested. All applications specify a requested annual volume.

23. Through the processing of applications, some applicants have amended their requested annual volume. Where this has occurred, the amendment always reduces the annual allocation, rather than increases it. Any increase would likely require further notification of the application concerned. As requests to amended application annual volumes were received, the consents database record has been altered to reflect the newly requested annual volume.

24. Applications to replace consents that have expired but continue to be exercised, in accordance with Section 124, are included in the requested allocation, as opposed to the existing allocation, because resource consent has expired and presumption cannot be made that application for replacement will be granted. There are no applications to replace expired consents that were lodged after 10 August 2008. These applications for are identified in the allocation tables included in Attachment Two.

Existing Annual Allocations

25. The method used by Canterbury Regional Council to identify allocation to existing activities consists of a tiered approach, as identified in the Report to Commissioner entitled Implementation of *Waitaki Catchment Water Allocation Regional Plan: current annual allocation*. This report has been publicly available since March 2007.

26. The tiered approach identified in the Report to Commissioner is as follows:

    i. where a resource consent is subject to an explicit instantaneous rate and/or annual volume, these are used in the calculation;
    ii. if the above does not apply, where an instantaneous rate and/or annual volume can be implied for a resource consent from the material lodged by an applicant in support of the resource consent application, these are used in the calculation; and
    iii. if neither of the above applies, an estimate of 'effective' instantaneous rate and/or annual volume is made of the actual take, use, divert or dam of water. These estimates are then used in the calculation.

27. With regards to (iii) above, which applies to the majority of existing consents in the CRC resource consents database, the following estimation method is used, as outlined in Appendix 6 of the Report to Commissioner:

    i. Spray irrigation is assumed to require 0.59 L/s/ha for 118 days/year above the Waitaki Dam, unless a volume is given on the face of the consent.

    ii. Borderdyke irrigation is assumed over 155 days/year at consented rate above the Waitaki Dam if the rate is consistent with the area irrigated, otherwise the allocation was taken as area times 1.5 m water depth (i.e. 15 applications of 100 mm).

28. The above methods of estimation originate from work undertaken by Rob Potts as background to his evidence presented on the draft WCWARP, subsequently peer reviewed in 2006 by Canterbury Regional Council, then adopted and recommended for use by Commissioner Peter Skelton on 22 June 2007.

29. As a consultant working on behalf of Meridian Energy Limited, Rob Potts has been further involved in examination of the resource consents database, which occurred in April and May of this year, to audit the estimation method used for each existing consent recorded in the database (a total of 59 existing consents are included in the allocation). Through that process, Mr Potts revised his assumptions regarding the average seasonal application depth for borderdyke systems in the upper Waitaki Catchment, from 1500mm to 1300mm. His reason for the revision is the assumption that while gross application depths range between 2500mm and 937mm, based on net efficiency calculations (incorporating conveyance, management and application of water), consent holders in the Waitaki have undertaken efficiency improvements in relation to operation of borderdyke systems, recognising the value of water in the catchment and regulatory moves to encourage more efficient use of water.

30. In general, estimates in the database for borderdyke systems (for which there are 20 existing consents) have been based on consented volumes per return period (which were commonly applied to borderdyke consents), over a 155 day period of irrigation, or established with reference to other conditions applied to the consent, as well as reference to original application material. For that reason, a change in the estimate of average seasonable application depth has not been a critical factor in determining the existing allocation. It is recognised that any estimation method is a best guess, given the absence of specific annual volumes on existing resource consents, and as such, some values may overestimate allocation and others may underestimate.

31. I note also that consented stockwater allocations have been calculated based on the rate specified to be diverted or taken for use in a stockwater race, converted to a daily volume and multiplied by 365 days.

32. Victor Mthamo of CPG Global, working with Rob Potts for Meridian Energy Limited, undertook a line by line audit of the resource consents database with myself. The result was agreement between Meridian Energy Limited, represented by Rob Potts and Victor Mthamo, and Canterbury Regional Council that the database record is accurate and estimation methods have been appropriately applied. Ian McIndoe, representing the Mackenzie Irrigation Company Limited, on behalf of new applicants, has also indicated acceptance of the existing database record as an appropriate reflection of estimated existing allocation.

Total Annual Allocation to Agricultural and Horticultural Activities

33. Attachment Two contains a table of all existing and proposed annual allocations, organised by catchment area. A summary of that table is contained in the table below. All numerical figures in the table are references in million cubic metres (Mm^3).

		Agricultural & horticultural activities	
i	Upstream of Lake Tekapo outlet	Overall allocation limit is 275 except that: a. no more than 8 can be taken upstream of Lake Tekapo outlet. b. no more than 8 Mm^3 can be taken upstream of Lake Pukaki outlet. c. no more than 12 can be taken upstream of Lake Ohau outlet.	**Overall allocation Limit = 275** E = 128.00 A = 144.15 **T = 272.15** **Lake Tekapo limit = 8** E = 0.87 A = 5.25 **T = 6.12** **Lake Pukaki limit = 8** E = 0.17 A = 30.00 **T = 30.17** **Lake Ohau limit = 12** E = 0 A = 23.76 **T = 23.76**
ii	Upstream of Lake Pukaki outlet		
iii	Upstream of Lake Ohau outlet		
iv	Upstream Waitaki Dam		

Table1: Summary of existing and proposed annual allocations for the Upper Waitaki Catchment.

Key

E = Existing consents
A = Consent applications
T = Total (existing plus applications)

PRIORITY OF APPLICATIONS

34. Relative priority of applications affects decision-making where there is competition for available water in a catchment, an allocation limit has been set for the catchment, and the total of existing and proposed abstractions exceeds the available allocation. In recognition of that fact, a hearing to discuss Priority Order of decision-making was held on 25 October 2007, which included consideration of applications to take, use, dam and divert water throughout the Waitaki Catchment, upper and lower.

35. For applications in process in the Waitaki Catchment lodged prior to the WCWARP becoming operative (dating as far back as 1998), letters had been sent from Canterbury Regional Council stating that the application had reached a notifiable state and specifying the date upon which the application was deemed to be notifiable. Commissioner Skelton upheld the priority order established prior to the WCWARP becoming operative in his revised decision regarding priority, issued on 8 April 2008, acknowledging that the notifiable date communicated to applicants had established a priority order for decision-making purposes, despite further information exchanges

following the WCWARP becoming operative. The tables included in Attachment Two reference the notifiable date established prior to the WCWARP becoming operative, in light of that decision.

36. Table 1 above indicates that annual allocation is exceeded upstream of Lake Pukaki outlet (Table 5, row ii) and upstream of Lake Ohau outlet (Table 5, row iii). In these locations, priority order for decision-making becomes an issue, which is discussed in individual section 42A reports for affected applications.

Signed:  Date: 28 August 2009

Maria Bartlett
Consents Investigating Officer

REFERENCES

Implementation Waitaki Catchment Water Allocation Regional Plan: current annual allocation Report to Commissioner (16 March 2007), prepared by Dr Paul Sullivan, Bianca Sullivan and Jeff Page for Canterbury Regional Council

The Resource Management Act 1991. Consolidated version including the Resource Management Amendment Act 1995. August 2005.

Waitaki Catchment Water Allocation Board 2006. Waitaki Catchment Water Allocation Regional Plan. ISBN: 0-9582620-7-1.

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Waitaki Catchment Water Allocation Board 2006. Waitaki Catchment Water Allocation Regional Plan, Section 32 Report. ISBN: 0-9582620-5-5.

ATTACHMENT ONE – WCWARP RULE 6, TABLE 5

Rule on the annual allocation to activities

Rule 6

Cross-ref: Policies 1, 10 – 14, and 31

(1) Except as provided in (2), no person shall take, use, dam or divert water when, by itself or in combination with any other take, use, dam, or diversions, the sum of the annual volumes authorised by resource consent, exceeds the annual allocation to that activity in Table 5.

(2) Water taken or diverted and returned to the same water body in the vicinity of the take or diversion point, in the same condition and quality as taken, for micro hydro-electricity generation or fisheries and wildlife, does not need to be accounted for in the annual allocation to activities in Table 5.

Table 5: Annual allocations to activities

Note: units = millions of m^3 per year.

		Town and Community water supplies	Industrial and commercial activities (outside municipal or town supply areas)	Tourism and recreational facilities	Agricultural and horticultural activities	Any other activities	Hydro-electricity generation
i.	Upstream of Lake Tekapo outlet	1.6	NIL	0.6	275 [23A] except that: a. no more than 8 can be taken upstream of Lake Tekapo outlet. b. no more than 8 can be taken upstream of Lake Pūkaki outlet. c. no more than 12 can be taken upstream of Lake Ōhau outlet.	NIL	All other inflows
ii.	Upstream of Lake Pūkaki outlet	2.2	0.1	0.6		NIL	All other inflows
iii.	Upstream of Lake Ōhau outlet	1.6	NIL	0.6		NIL	All other inflows except the flows that must be provided into the Ōhau River pursuant to the environmental flow regime
iv.	Upstream of Waitaki Dam but not upstream of the outlets of the glacial lakes[23]	16	6.3	9.5		6.3	All other inflows
v.	Downstream of Waitaki Dam but upstream of Black Point	3	1	2	150	16	All other flows except the flows that must remain in the rivers, pursuant to the environmental flow regimes
vi	Downstream of Waitaki dam but downstream of Black Point	19	8.5	4.3	1100	144	

[23] For the purposes of Rule 6, the annual volumes for taking, using or diverting water from the canals leading from the glacial lakes, and those from the Ahuriri catchment, are considered downstream of the lake outlets and are covered in row iv of Table 5.

[23A] While the consents to operate the Waitaki power scheme remain in force, the Upper Catchment is already fully allocated to a holder of those consents and other existing consent holders (see discussion at p14 of the s32 report).