

**Before the Hearing Panel appointed by Canterbury
Regional Council**

IN THE MATTER OF The Resource Management Act
1991

AND

IN THE MATTER OF 42 applications for water permits,
10 applications for land use
permits, and 3 applications for
discharge permits in the Lower
Waitaki catchment

Introductory Section 42A Officer's Report

Date of Hearing: August 11th 2008

Report of Claire Penman

1. I have been employed by MWH NZ Ltd as an Environmental Consultant since December 2005. I have 2 ½ years relevant experience in resource management particularly focused on water resources. I hold a Bachelor of Applied Science (with Honours) in Environment Management from the University of Otago. I have been engaged by Canterbury Regional Council (CRC) to act as Investigating Officer for this application.
2. This report is prepared under the provisions of Section 42A of the Resource Management Act 1991 (RMA). This section allows a Council officer to provide a report to the decision-maker on a resource consent made to the Council, and allows the decision-maker to consider the report at the hearing. Section 41(4) of the RMA allows the decision-maker to request and receive from any person who makes a report under Section 42A "*any information or advice that is relevant and reasonably necessary to determine the application*".
3. This report, and all accompanying reports (included as appendices and under additional report tabs), will provide the decision-maker with information and advice related to:
 - (a) The background to the applications;
 - (b) Details of the notification of the applications and any submissions received;
 - (c) An outline of the relevant legal and planning provisions;
 - (d) Comments on the assessment of environmental effects provided;
 - (e) Details of Council policy relevant to the application; and
 - (f) Comments in relation to the matters specified in Part II of the RMA; and

- (g) Comments on the decision to be made by the decision-maker including comments on whether the application can be granted or should be declined; if the application is to be granted what measures are required to avoid, remedy or mitigate any adverse effects; what monitoring should be undertaken and the duration of consent.
4. It should be emphasised that any conclusions reached or recommendations made in these reports are not binding on the decision-maker. It should not be assumed that the decision-maker will reach the same conclusion or decision having considered all the evidence to be brought before it by the applicant and submitters.
 5. This introductory s42A report introduces the applications to be heard at this hearing and includes details of notification, submissions, an overview of the consent requirements for applications, presentation of the effects that have been considered for each activity type, including what that effect may be and establishing the relevant planning provisions to be considered. Appendices to this introductory report include:
 - (a) Appendix 1: Flow chart showing all applications
 - (b) Appendix 2: Overview maps of the Lower Waitaki catchment showing the location of each application
 - (c) Appendix 3: Instantaneous (Rule 2) and annual (Rule 6) allocation and priority tables (existing consents and applications)
 - (d) Appendix 4: Notification details (dates of public notification and wording)
 - (e) Appendix 5: Summary of submissions received on all applications
 - (f) Appendix 6: List of conditions commonly used for each activity type.
 6. There are several key issues that are common to groups of applications. Where this is the case and it is appropriate, a s42A report dealing with a common topic has been prepared. There are two reports which cover the following:
 - (a) Flow and level regimes for applications to take, divert and use water from the Waitaki River (Report 2).
 - (b) Flow and level regimes for applications to take, divert, dam and use water from tributary water bodies, including the Hakataramea River and tributaries, Maerewhenua River and tributaries, Otekaieke River and tributaries, Kurow River and other tributary water bodies (Report 3).
 7. In addition to the above, a s42A report(s) has been prepared for each application. Where possible, one s42A report has been prepared per applicant which may include multiple applications for a proposal. Where this is not possible (the different activities may be too complex for this to occur), a s42A report has been prepared for each application. The individual s42A reports cover the following:
 - (a) Description of the proposal, background and detail of each application
 - (b) Consent requirements
 - (c) Description of the affected environment

- (d) A review of the assessment of actual and potential effects, including mitigation
 - (e) Discussion of the activities in the context of the relevant statutory documents
 - (f) A recommendation for each application, including comments on duration and conditions
8. The s42A reports have been prepared by the following:
- (a) Ms Claire Penman – MWH NZ Limited (Consultant)
 - (b) Mr Tim Ensor – Canterbury Regional Council (Consents Investigating Officer)
 - (c) Mr David Just – Canterbury Regional Council (Consents Investigating Officer)
 - (d) Mr Warwick Pascoe – ADAM Environmental Limited (Director)

INTRODUCTION

9. Appendix 1 is a flow chart which shows all applicants and applications at this hearing. The water permit applications are grouped firstly by surface water annual allocation zone and activity type which is determined in Table 5 of the Waitaki Catchment Water Allocation Regional Plan. These are **Group 1** (downstream of Waitaki Dam but upstream of Black Point, agricultural and horticultural activities), **Group 2** (Downstream of Black Point, agricultural and horticultural activities), **Group 3** (Downstream of Waitaki Dam, hydro-electricity generation) and **Group 4** (Downstream of Waitaki Dam but upstream of Black Point, town and community supply). Group 1 is separated into three subgroups which have been determined by geographic area or surface water body. These include **Group 1A** (Hakataramea River Valley, including tributaries), **Group 1B** (Waitaki River mainstem), and **Group 1C** (other tributary water bodies not contained in Group 1A). Where there is a land use and/or discharge permit application associated with a water permit application, this is included in the group with the water permit application.
10. This hearing is to hear and decide 42 water permit applications, ten associated land use and three associated discharge permit applications in the Lower Waitaki catchment. The applications were lodged at varying times, the earliest being 1998.

Background

11. Appendix 2 contains two maps of the Lower Waitaki catchment which show the location of each application. The first map (Appendix 2a) shows the location of all applications in the Waitaki River valley (excluding the Hakataramea River valley). The second map (Appendix 2b) shows the location of all applications in the Hakataramea River valley.
12. A detailed description of each application is provided in the individual section 42A report for each application.
13. Appendix 3 sets out the existing water permits and water permit applications at this hearing grouped by instantaneous (Rule 2) and annual (Rule 6) allocations.
14. For Rule 2, the instantaneous allocations are presented for each waterbody where there is an application. Figure 1 summarises the instantaneous allocations for each water body that has an allocation limit. It does not summarise the allocations for water bodies where there is not an allocation limit (tributaries that fall within Table 3 xxii)), however details of how much water is allocated to existing consents and applications for those waterbodies is provided in Appendix 3.

Rule 2, Table 3			Calculated cumulative rate of take or divert authorised by existing resource consents
Water bodies	Allocation limit specified in the environmental flow regimes		
xvii.	Lower Waitaki River	90 m ³ /s not counting any flows abstracted from the Lower Waitaki River above Black Point that are returned to the Lower Waitaki River above Black Point	E = 54.968 m ³ /s A = 22.588 m ³ /s T = 77.556 m³/s
xix.	Hakataramea River	0.5 m ³ /s from September to March. There is no allocation limit from April to August	E = 0.291 m ³ /s A = 0.116 m ³ /s T = 0.407 m³/s
xx.	Maerewhenua River	0.4 m ³ /s	E = 0.685 m ³ /s A = 0.022 m ³ /s T = 0.707 m³/s

Figure 1: Summary of instantaneous allocations for water bodies where there is an allocation limit

Key

E = existing consents

A = consent applications

T = Total (existing plus applications)

15. For Rule 6, the annual allocations are presented for the zones where there is an application, as identified in Appendix 1. Figure 2 summarises the annual allocations for these zones.

		Town & community	Industrial & commercial	Tourism & recreational facilities	Agricultural & horticultural activities	Any other activities	Hydro-generation activities
v	Downstream of Waitaki Dam but upstream of Black Point	3 E=2.2 A=0.1 T=2.3	1 E=32.6 A=0 T=31.7	2 E=0 A=0 T=0	150 E=146.3 A=38.8 T=185.1	16 E=0 A=0 T=0	N/A
vi	Downstream of Waitaki Dam but downstream of Black Point	19 E=0 A=0 T=0	8.5 E=16.9 A=0 T=16.9	4.3 E=0 A=0 T=0	1100 E= 827.3 A=252.2 T=1079.5	144 E=0 A=0 T=0	N/A

Figure 2: Summary of annual allocations

Key

E = existing consents

A = consent applications

T = Total (existing plus applications)

16. The annual allocation for existing water permits is either the annual volume stated as a condition of consent, or if there is no condition stating an annual volume, the annual volume has been calculated as per the method outlined in a report prepared for Canterbury Regional Council in 2006¹.
17. For Tables 3 and 5, the applications are set out in priority order as determined by Commissioner Skelton in his priority decision of 8 April 2008.
18. For replacement applications, Policy 28 of the WCWARP states that the consent authority will include a replacement application, if granted, in any allocation limit and priority band on the water body of concern. Applications which are seeking to replace an existing consent are identified in the tables in Appendix 3. There is a column entitled 'state' which identifies an application as 'Application Replacement'. It should be noted that this does not identify whether an application is for a straight replacement (i.e. the same allocation of water) or whether it is a replacement with an increase or decrease in allocation. These details are contained in the s42A report for those applications.
19. Appendix 6 sets out a list of standard conditions that are commonly used for each activity type.

Notification

20. Pursuant to section 93 of the RMA, most applications were publicly notified on 4 August 2007 in the Christchurch Press, Otago Daily Times and Timaru Herald.
21. Applications CRC081291 and CRC082321 by Waitaki Vineyard Estates Limited were publicly notified on 3rd May 2008 in Otago Daily Times and Timaru Herald.

¹ Sullivan, P., Sullivan B., and Page J., 16 March 2007. Implementation of Waitaki Catchment Water Allocation Regional Plan: current annual allocation. Report to Commissioner.

22. Application CRC084057 by R H Robertson and CRC951776.5 by Star Holdings Limited were publicly notified in May 2008 in Otago Daily Times and Timaru Herald.
23. A complete list of the applications as they were notified (including the date(s) that an application was notified) is provided in Appendix 4.
24. Due to the large number of applications that were notified at the same time in August 2007, the time limit for serving a submission on the consent authority was doubled to forty working days. For all other public notifications, the time limit was twenty working days.
25. Some of the applications at this hearing have previously been publicly notified, either individually and/or as part of the Minister for the Environment's call-in of all consent applications in the Waitaki catchment in 2003. Details of any previous notifications are identified in Appendix 4 and in the individual s42A report.

Submissions

26. Applications received a number of submissions. A summary of the key issues identified in submissions lodged in support and in opposition to all applications is provided in Appendix 5. This includes submissions received as part of the 2003 notification. Submissions that were lodged on an individual application or lodged on all applications but with issues specific to an individual application are summarised in the s42A report for that application.
27. The Commissioners will be provided with full copies of all submissions.

LEGAL AND PLANNING MATTERS

The Resource Management Act 1991 (RMA)

28. Part III of the RMA sets out duties and restrictions. Relevant provisions are those relating to sections 13, 14 and 15. In relation to sections 13, 14, and 15, consent is required, with minor exceptions, unless the activity is authorised as a permitted activity in the relevant regional plan and any relevant proposed regional plan.

Regional Plans

29. The Transitional Regional Plan (TRP), proposed Natural Resources Regional Plan (PNRRP), and Waitaki Catchment Water Allocation Regional Plan (WCWARP) all contain rules relevant to the applications. The RPS, PNRRP and WCWARP contain objectives and policies that are relevant to the proposed activities. The relevant objectives and policies are presented later in this introductory s42A report and are discussed for each application in the individual s42A reports.
30. An overview of the consent requirements for each activity type (water, land use and discharge permit) in the context of the relevant regional plan(s) is presented in the following paragraphs. Detail regarding the consent requirements for each individual application is provided in the s42A report for that application.

Transitional Regional Plan (TRP)

31. The Canterbury Regional Council adopted the General Authorisations (GA) notified under Section 22 of the Water and Soil Conservation Act 1967 as part of the Transitional Regional Plan under s368 of the RMA.

32. For water permit applications, none of the proposed activities are permitted under the relevant GA which authorises the abstraction of natural water and the diversion and discharge of natural water. Resource consent is therefore required as a discretionary activity.
33. For discharge permit applications, there is no GA for the discharge of water into water as described in the proposed activities. Resource consent is therefore required as a discretionary activity.
34. For land use permit applications, the TRP is silent on matters relating to works in the bed and banks of rivers and lakes in the Waitaki catchment. These activities are in-nominate and resource consent is required as a discretionary activity.

Proposed Natural Resources Regional Plan (PNRRP)

Water permits

35. Chapter 5 of the PNRRP deals with water quantity and allocation issues and was notified on 3 July 2004.
36. Section 14 of the Resource Management (Waitaki Catchment) Amendment Act 2004, states:

“The regional plan developed and approved under this Part, when it is operative in accordance with section 27, -

(a) Is the Canterbury Regional Plan for the allocation of water in that part of the Waitaki catchment that is within the Canterbury region; and ...”
37. Therefore for water permit applications, Chapter 5 of the PNRRP is prevented from dealing with the allocation of water within the Waitaki catchment and the taking and use of water does not require resource consent under this plan.

Discharge permits

38. For discharge permit applications, Chapter 4 of the PNRRP deals with water quality and discharges and was notified on 3 July 2004. None of the discharge applications are permitted under the rules of this plan.

Land use permits

39. For land use permit applications, Chapter 6 of the PNRRP deals with beds and margins of lakes and rivers and was notified on 3 July 2004. None of the proposed land use activities are permitted under the rules of this plan.

Waitaki Catchment Water Allocation Regional Plan (WCWARP)

40. The WCWARP deals with the allocation of water within the Waitaki catchment and became operative in July 2006. The following rules apply to applications to divert, take, use and dam water.
41. Rule 2 deals with environmental flow and level regimes for specific water bodies and states:

“(1) Except as provided in (2) and (3), no person shall take, use, dam or divert surface water or groundwater unless:

(a) *the flow in the relevant river or stream, or the level in the relevant lake, is above the minimum flow or level in Table 3; and*

(b) *the amount taken or diverted from the relevant river or stream is for a replacement consent² or in combination with the amount of water authorised to be taken or diverted by existing resource consents, does not exceed the allocation limits in Table 3; and*

(c) *the take or diversion complies with a flow-sharing regime such that no more than half of the water above or between the thresholds in Table 3 can be taken or diverted; and*

(d) *the consent holder provides the flushing flows in Table 3 xvii(b) where applicable.”*

42. Rule 6 deals with annual allocation limits and states:

“(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.”

43. The consent requirements for each application are discussed in the individual s42A reports prepared for each application. However, below follows an overall summary which gives an overview of the requirements for water permit applications:

- (a) Generally, all applications in Group 1 for agricultural and horticultural activities, downstream of Waitaki Dam but upstream of Black Point, are seeking water over the allocation limit set by Rule 6, Table 5. There are several exceptions to this. See the allocation and priority tables in Appendix 3 for details of allocation limits. Therefore most applications in Group 1 are non-complying activities.
- (b) Group 2 – the application lodged by Chalmers (CRC042124) is a discretionary activity under Rule 15. The application lodged by Waihao Irrigation Limited (CRC040428) seeks a minimum flow lower than that stated in Table 3 for the Waitaki River and is therefore a non complying activity under Rule 16.
- (c) Group 3 – the application lodged by Clarkesfield Holdings (1996) Limited for hydroelectricity generation seeks a minimum flow that is lower than that set by Table 3 for the Waitaki River, therefore is a non-complying activity.
- (d) Group 4 – applications for town and community supply are discretionary activities.

DESCRIPTION OF THE AFFECTED ENVIRONMENT

44. This section deals with the nature and values of the environment affected by the proposed activities, and its sensitivity to adverse effects resulting from the activities.

45. Each applicant has described in their application, the environment affected by the proposed activities.

46. The applicants’ description of the affected environment is generally comprehensive and mostly consistent with information held by Environment Canterbury. Any exceptions to this are provided in the s42A reports for individual applications.

² With the same or lesser amounts of water to be taken or diverted.

47. A summary of the generic features of the affected environment are contained in the following paragraphs. These are separated into three sections, firstly dealing with the affected environment of the Waitaki River Valley, secondly, the Hakataramea Valley environment, and thirdly the environment of other tributary waterbodies (including the Maerewhenua River, Kurow River etc).
48. More detailed and specific features of the affected environment that are relevant to an individual application and not common to all applications, are provided in the section 42A report prepared for each application.

The Waitaki River valley

49. The Waitaki Catchment Water Allocation Regional Plan includes an overview description of the Waitaki River system below the Waitaki Dam, which covers: climatic conditions; geology and land cover; surface water flows and groundwater connection; ecological values; community supply, irrigation and hydroelectricity infrastructure; and social, cultural and economic values.
50. The Waitaki River is a central element of the tribal identity and mana of Ngāi Tahu. There are sites of significance along the Waitaki River valley, wāhi tapu and wāhi taonga, and valued mahinga kai sources. The Waitaki River is a statutory acknowledgement area. Two Papatipu Rūnanga exercise kaitiakitanga over the lower Waitaki River valley, Te Rūnanga o Waihao to the north and Te Rūnanga o Moeraki to the south.
51. Low rainfall and high winds are typical of the lower reach of the Waitaki River, the surrounds of which are subject to periodic drought and flooding. Main stem flow in the Waitaki River is controlled through the Waitaki Dam, with an average historical flow of 359 cubic metres per second. It is characterised as a large braided river, with surrounding wetland areas, particularly below Black Point where springs and aquifers interact with the main stem flow, and the river feeds Wainono lagoon at its mouth. Flood flows, gravel and sediment transport, riparian flood protection works and vegetation encroachment influence the form and character of the braids and river margins.
52. The river terrace and riparian wetlands are valuable habitat for indigenous plant species, aquatic invertebrates, as well as indigenous fish, trout, braided river birds and game birds. Chinook salmon are found in the catchment below the Waitaki Dam, contributing to a thriving sports fishery, which is purported to be the most intensely fished in New Zealand. The main stem also supports a long fin eel population sufficient for commercial operation, and a commercially viable whitebait fishery.
53. Besides game bird hunting and angling, the lower Waitaki River attracts jet boaters, and provides recreational opportunities associated with the 'big river' experience.
54. Existing irrigation schemes taking from the lower Waitaki River include the Lower Waitaki Irrigation Company, Morven Glenavy Ikawai Irrigation Limited, North Otago Irrigation Limited and Maerewhenua District Water Resource Company schemes. Individual properties farmed along the river margins rely on irrigation supply from the river and connected groundwater. Community supplies are also dependent upon the main stem flow and connected shallow groundwater, including Oamaru, Kurow, Duntroon, and parts of Waimate District.

The Hakataramea Valley

55. The Hakataramea River is the biggest tributary of the lower Waitaki River, with the confluence occurring below the State Highway bridge at Kurow (north bank), contributing a mean flow of 5.8 cubic metres per second to the main stem. However, loss to gravels affects surface flows over the river course, so that mean flow varies along its length.
56. The Hakataramea River is part of the lower Waitaki statutory acknowledgement area relevant to the Ngai Tahu Claims Settlement Act.
57. Populations of the nationally endangered lowland long-jawed galaxias occur in the Hakataramea catchment, and the river is a significant spawning ground for trout and salmon.
58. The Hakataramea valley is recognised in the Waitaki Catchment Water Allocation Regional Plan as an area of high producing pastureland and irrigation demand in the valley is high, with existing abstractions on the tributaries and main stem, including connected shallow groundwater.

Other tributary water bodies

59. Tributaries of the Waitaki River contribute two percent of flow to the main stem, (including flow from the Hakataramea River) and include: the Awakino River, Kurow River, Otiake River, Otekaieke River, Maerewhenua River, Awamoko Stream and Welcome Creek on the south side; and Penticotico Stream, Waituna Stream, Elephant Hill Stream and Waikakahi Stream on the north side. Peak flows of the tributaries occur in winter, and flows in the lower streams of the valley are affected by shallow groundwater interaction.
60. Of the main tributaries, the Maerewhenua River supports populations of trout and salmon, and provides angling opportunities, and the Otekaieke River also provides habitat for trout and salmon, but is not a recreational fishing river. Department of Conservation staff have found endangered galaxias in the upper reaches of the Kurow River, which typically has no surface flow connection with the Waitaki River.
61. The Maerewhenua River supplies Tokarahi through connected groundwater, and the Otekaieke River and tributaries support the Otekaieke Rural Water Supply. Irrigation abstractions occur from many of the tributaries and connected shallow groundwater.

ASSESSMENT OF ACTUAL AND POTENTIAL EFFECTS

62. In order to avoid duplication in each individual section 42A report, the effects that are considered relevant to each activity type are identified in this introductory report. This includes an outline of the key concerns of that effect and a presentation of that effect in the context of the relevant planning provisions (RPS and relevant regional plan). The relevant planning provisions for each effect are not repeated in each individual s42A report. The individual s42A reports present an assessment of effects and discuss each activity where there is conflict with the relevant planning provisions, but the relevant planning provisions are identified here.
63. The following list of effects have been identified by the applicants, submitters, investigating officers, and the values and issues identified in the WCWARP, PNRRP, Waitaki District Plan, Waimate District Plan, and other relevant planning documents.

64. For activities to take, divert and dam water (surface and ground water), the following effects are considered relevant:
- (a) All activities:
 - (i) Adverse effect on ecosystems
 - (ii) Adverse effect on other water users
 - (iii) Adverse effect on people, communities and amenity values
 - (iv) Adverse effect on water quality
 - (v) Adverse effect of inefficient take and use on other users
 - (vi) Adverse effect on Tangata Whenua values
 - (b) Additional effects to be considered for applications to take groundwater include:
 - (i) Adverse effects on surrounding groundwater users
 - (ii) Cumulative effect of take on other groundwater users
 - (iii) Adverse effects on surface water flows
 - (iv) Adverse effects from cross-connection on groundwater quality
 - (v) Adverse effects on aquifer stability
 - (vi) Adverse effect of take on other users from sea water intrusion
 - (c) Additional effects to be considered for applications to dam water include:
 - (i) Adverse effect of dam failure (damming of water)
65. For activities to disturb the bed and banks of a river, the following effects are considered relevant:
- (a) Adverse effect on water quality and ecosystems
 - (b) Adverse effect on bed erosion and flooding
 - (c) Adverse effect on artificial structures
 - (d) Adverse effect on amenity values
 - (e) Adverse effect on Tangata Whenua values.
66. For activities to discharge water into water, the following effects are considered relevant:
- (a) Adverse effect on flood carrying capacity and erosion
 - (b) Adverse effect on water quality and ecosystems

- (c) Adverse effect on downstream water users and amenity values
- (d) Adverse effect on safety of river users
- (e) Adverse effect on Tangata Whenua values.

Water permit activities (all)

Adverse effect on ecosystems

67. When water is removed from a surface water body, there is the possibility that the taking, diverting or damming of water may have a significant adverse effect on the terrestrial and aquatic species present in the water body and margins. These effects could include higher water temperatures, lower oxygen levels, less access to riparian margins for breeding, and reduced fish habitat.
68. These issues are recognised in the following objective and policy of Chapter 9 of the RPS:
- (a) Objective 1 – refers to safeguarding aquatic ecosystems (b) and protecting significant habitat of trout and salmon in the region’s waterbodies (g)
 - (b) Policy 1 – refers to having regard to habitat requirements when setting water flow, level and allocation regimes.
69. The relevant objectives and policies of the WCWARP which apply to all applications are:
- (a) Objective 1 – refers to safeguarding the life supporting capacity of the river and its ecosystems
 - (b) Objective 3 – requires recognition of beneficial and adverse effects on the environment, and other matters when allocating water
 - (c) Policy 1 – recognises the importance of the connectedness between all parts of the catchment and all parts of the freshwater systems
 - (d) Policy 4 – setting environmental flow and level regimes requires consideration of such matters as vegetation including those of invertebrates, bird and fish (e), fish passage (f) and effects on water quality (h)
70. For applications in the Hakataramea catchment, the key policy of the WCWARP is:
- (a) Policy 43 – refers to setting an environmental flow regime in the Hakataramea River that recognises the need to provide healthy ecosystems of indigenous species, and the need to sustain the availability of trout and salmon spawning habitat, the need to provide for fish passage.
71. For applications in the tributaries of the Lower Waitaki River, the key policy is:
- (a) Policy 44 – refers to setting an environmental flow regime in the tributaries of the Lower Waitaki River that recognises the natural values of the tributaries.
72. For applications in the Lower Waitaki River, the key policy is:

- (a) Policy 45 – refers to setting an environmental flow regime that maintains habitats for aquatic plants, invertebrates, birds and fish.

Adverse effect on other water users

73. When water is abstracted from a water body, there is the potential to directly impact both permitted and consented surface water and hydraulically connected groundwater users downstream and in the immediate vicinity of the intake, by lowering water levels and altering the current flow regime. This may result in changes to reliability of supply, availability of supply, quality of supply and cost of supply.
74. These issues are recognised in the following policies of Chapter 9 of the RPS:
- (a) Policy 2(a) – refers to people and communities maximising their wellbeing obtained from Canterbury’s water resources
 - (b) Policy 5 – states that granting a new permit to take shouldn’t preclude the “reasonable exercise” of an existing consent to take, use, dam or divert water except without the agreement of that consent holder
 - (c) Policy 6 – requires consideration of the need to provide for existing water permit holders to have priority for the term of their permits, to specify the priority to be given to the permit in the event of restrictions being imposed, and to provide mechanisms to reduce or suspend abstractions during periods of low water flows or levels.
75. The relevant objectives and policies of the WCWARP which apply to all applications are:
- (a) Objective 2 – refers to enabling people and communities to provide for their social, economic and cultural wellbeing by providing for a variety of uses
 - (b) Objective 5 – refers to practical and fair sharing of allocated water during times of low water availability
 - (c) Policy 3 – refers to setting flow and level regimes that enable access to water for activities identified in Objective 2, to the extent consistent with Objective 1
 - (d) Policy 4 – requires consideration of [amongst others] the maintenance of groundwater flows (i), and the amount and reliability of water that can be taken, used, dammed or diverted (q)
 - (e) Policy 14 – requires regard to be had to the extent to which granting a resource consent will reduce the availability of water to current and reasonably foreseeable in-catchment needs
 - (f) Policies 23 – 27 – refer to restrictions during times of low water availability when there is not enough water for all resource consent holders to take, divert or use water at the peak rates specified in their consents (for all water bodies, except Waitaki River mainstem)
76. For applications in the Hakataramea catchment, the key policy is:
- (a) Policy 43 – refers to setting an environmental flow regime in the Hakataramea River that enables appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.

77. For applications in the tributaries of the Lower Waitaki River, the key policy is:
- (a) Policy 44 – refers to setting an environmental flow regime in the tributaries of the Lower Waitaki River that enables appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.
78. For applications in the Lower Waitaki River, the key policy is:
- (a) Policy 45 – refers to setting an environmental flow regime that enables appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1 (1, ii), and granting consent for an application to take, use, dam or divert water from the Lower Waitaki river upstream of Black Point that would result in a cumulative peak rate of abstraction greater than 90 cubic metres per second

Adverse effect on people, communities and amenity values

79. When water is abstracted from a water body, there is the potential for adverse effects on recreational values, landscape, visual amenity and natural character
80. These issues are recognised in the following objectives and policy of Chapters 8 and 9 of the RPS:
- (a) Chapter 9, Objective 1 – refers to preserving the natural character of lakes and rivers (e), protecting outstanding natural features and landscapes (f) and maintaining, and where appropriate, enhancing amenity values in the region's waterbodies (h)
 - (b) Chapter 9, Policy 1 – refers to setting and managing water flow, levels and allocation regimes to achieve (a) to (g) of Objective 1, or where these do not achieve (e) to (h) in the event of adverse effects being remedied or mitigated
 - (c) Chapter 8, Objective 2 – refers to protecting or enhancing natural features and landscapes that contribute to Canterbury's distinctive character and sense of identity, including their associated ecological, cultural and recreational and amenity values.
81. The relevant objective and policy of the WCWARP which apply to all applications are:
- (a) Objective 1 – refers to managing water bodies in a way that maintains natural landscape and amenity characteristics and qualities that people appreciate and enjoy (c)
 - (b) Policy 4 – requires to the need to consider natural character, landscape and visual amenity (c), recreation opportunities (o) when setting flow and level regimes
82. For applications in the Hakataramea catchment, the key policy is:
- (a) Policy 43 – refers to setting an environmental flow regime in the Hakataramea River that enables appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1 (see above).
83. For applications in the tributaries of the Lower Waitaki River, the key policy is:

- (a) Policy 44 – refers to setting an environmental flow regime in the tributaries of the Lower Waitaki River that enables appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1 (see above).

Adverse effect on water quality

- 84. The taking and use of water has the potential to affect surface water and groundwater quality within and down-gradient abstraction and use areas. This could result in an increase in water temperature, daily variations in dissolved oxygen, and clarity or contaminants in the surface water source. There could also be an increase in the amount of nitrate and other contaminants that are leached into the groundwater from the soil.
- 85. These issues are recognised in the following objective and policy of Chapter 9 of the RPS:
 - (a) Objective 1 – refers to achieving sufficient quantities of water in the region’s waterbodies while safeguarding their existing value for efficiently providing sources of drinking water for people (a), and safeguarding the life-supporting capacity of water (b)
 - (b) Policy 1 – that in the setting of water flow, level and allocation regimes, particular regard should be had to, amongst other matters, “water quality”
- 86. The relevant objective and policies of the WCWARP which apply to all applications are:
 - (a) Objective 1 – refers to managing water bodies in a way that maintains life supporting capacity of the river and its ecosystems
 - (b) Policy 4 – by considering effects on water quality (h) when setting environmental flow and level regimes
 - (c) Policy 13 – having regard to the extent to which the exercise of the consent could result in the water quality objectives in the Natural Resource Regional Plan not being achieved.
- 87. The relevant objectives of the NRRP (as incorporated by reference in Policy 13 of the WCWARP) are:
 - (a) Objective WQL1.1 – includes provision for the maintenance and improvement of water quality in rivers
 - (b) Objective WQL1.2 - includes provision for the maintenance and improvement of water quality in natural and artificial lakes
 - (c) Objective WQL2 – sets water quality outcomes for groundwater and contaminated land
 - (d) Objective WQL3 – sets water quality outcomes for community drinking water sources

Adverse effect of inefficient take and use on other users

88. The inefficient use of water can cause adverse effects on other water users. For example, allocating water for a use that is inefficient could exclude potential future users from having access to that water.
89. This issue is dealt with in Chapter 9 of the RPS:
- (a) Objective 1 – refers to achieving sufficient quantities of water in the region’s waterbodies while providing for the matter set out in (a) to (h).
 - (b) Policy 1 – refers to setting and managing water flow, levels and allocation regimes with the aim of: “(b) where appropriate, enhancing the availability of water for present and future generations through increased efficiency of use...”
 - (c) Policy 3 – refers to promoting efficiency in the use of water
 - (d) Policy 6 – refers to considering the need for a permit to take water to be based on actual and reasonable water needs.
90. The relevant objective and policies of the WCWARP are:
- (a) Objective 4 – refers to promoting the achievement of a high level of technical efficiency in the use of allocated water
 - (b) Policy 12 – refers to establishing an allocation to each of the activities listed in Objective 2 by ‘*assuming a high level of efficacy and technical efficiency*’
 - (c) Policy 14 – refers to having regard to the extent to which granting a consent will reduce the availability of water to current and reasonably foreseeable in-catchment needs
 - (d) Policy 15 – refers to ensuring that the rate of abstraction and the annual volume of consents to take and use water are reasonable for the intended end use to avoid significant wastage of water
 - (e) Policy 16 – refers to the requirement for applications for irrigation to meet a reasonable use test in relation to the abstraction rate and annual volume
 - (f) Policy 19 – refers to encouraging the piping or otherwise sealing of water distribution systems to minimise water losses
 - (g) Policy 21 – refers to requiring the installation and use of water measuring and recording devices

Adverse effect on Tangata Whenua values

91. The Waitaki River is the ancestral river of Ngai Tahu, flowing from Aoraki and the entire catchment is of importance to Ngai Tahu. This is recognised in the fact that the Waitaki River and the Hakataramea Rivers are Statutory Acknowledgements. The proposed abstractions could have an adverse effect on cultural values of the catchment.
92. This issue is explicitly recognised in the following objective and policies of Chapter 9 of the RPS:

- (a) Objective 1 – refers to safeguarding the existing value of the region’s waterbodies for providing mahinga kai (c), and protecting wahi tapu and other wahi taonga of value to Tangata Whenua (d)
- (b) Policy 1 – refers to setting and managing water flow, level and allocation regimes to achieve (a) to (g) of Objective 1, or where these do not achieve (e) to (h) in the event of adverse effects being remedied or mitigated
- (c) Policy 2(a) – refers to setting and managing water flow, level and allocation regimes with the aim of enabling people and communities to maximise the wellbeing obtained from Canterbury’s water resources through taking account of its value both instream and out of stream
- (d) Policy 14 – refers to the provision of information on the effects on the cultural values of Tangata Whenua from an activity that involves the mixing of water from different water bodies

93. The relevant provisions of the WCWARP are:

- (a) Objective 1 – refers to recognising the importance of maintaining the integrity of the mauri in meeting the specific spiritual and cultural needs of Tangata Whenua, and by recognising the interconnected natural of the river (a)
- (b) Policy 4 - refers to the need to consider mauri and healthy ecosystems of indigenous species, including mahinga kai species (a.) and wahi tapu sites or areas, and wahi taonga (b.) when setting flow and level regimes
- (c) Policy 9 - refers to discouraging further taking, use or diverting of water so that it mixes with water of another catchment or sub-catchment (1), and mitigating the adverse effects of any mixing of water (2)
- (d) Policy 11 - refers to considering effects when allocating water to activities on Tangata Whenua values held by Ngai Tahu³ (a.)
- (e) Policy 45 - refer to setting a flow regime in the Lower Waitaki River that maintains [amongst others] support for cultural relationships, including those of Ngai Tahu, with the river (e.)

94. Te Whakatau Kaupapa: The Ngai Tahu Resource Management Strategy for Canterbury, and Te Runanga o Ngai Tahu Freshwater Policy are considered to be relevant to this application, as acknowledged in sections 8.5 and 8.6 of the AEE by the applicant.

Water permit activities (additional effects to consider for groundwater applications)

Adverse effect on surrounding groundwater users

95. The abstraction of groundwater creates a drawdown cone that extends laterally from the pumping bore, which may result in a lowering of groundwater levels in neighbouring bores. Such lowering may have serious consequences for existing users by preventing them from taking their authorised or permitted amount, and may

³ Section 10 of the Waitaki Regional Plan gives a specific definition of Ngai Tahu (or Kai Tahu)

also result in increased costs for such users through having to lower their pump, changing from a surface to submersible pump or by using more electricity to abstract water.

96. This issue is identified in Policy 5 of Chapter 9 of the RPS which ensures that the granting of a water permit does not preclude the reasonable exercise of an existing consent except with the agreement of the holder of that existing consent.
97. The WCWARP does not identify this issue.

Cumulative adverse effect of take on other groundwater users

98. In addition to localised depression in groundwater level, the taking of groundwater can, over time or in combination with other takes, cause a long-term continuing decline in groundwater level.
99. This issue is identified in Policy 5 of Chapter 9 of the RPS which ensures that the granting of a water permit does not preclude the reasonable exercise of an existing consent except with the agreement of the holder of that existing consent.
100. Policy 5(b) of the WCWARP directs the consent authority to consider the long-term water level and/or artesian pressure in each aquifer when setting groundwater flow and level regimes.

Adverse effect on surface water flows

101. Abstracting hydraulically linked groundwater can deplete surface flow as effectively as a direct surface water take, depending on distance and degree of connection. This can effect both instream values and other surface water users, by reducing their reliability and availability of supply
102. This issue is identified in Policy 1 of Chapter 9 of the RPS which ensures that all water flow and level and allocation regimes be set and managed by taking account of instream and out of stream values.
103. This issue is identified in the following policies of the WCWARP:
 - (a) Policy 5 – requires consideration of any surface water body into which the groundwater flows (a)
 - (b) Policy 6 – recognises the connection between groundwater and surface water in some locations, and requires that the taking, use or diversion of groundwater comply with environmental flow and level regimes for the relevant surface water body

Adverse effects of cross-connection on groundwater quality

104. This occurs when water is abstracted from more than one source and water from a contaminated source is able to flow into a less contaminated source. It can result in groundwater becoming unsuitable as a source of potable supply.
105. Policy 5(d) of the WCWARP requires consideration of the potential for deterioration in water quality through water loss from one aquifer to another as a result of cross-connection and/or reversed pressure gradients between aquifers

Adverse effect on aquifer stability

106. Land subsidence has been documented to occur in thick unconsolidated sequences of aquifers and aquitards. This has occurred when over pumping of aquifers results in a lowering of water pressures and drainage of water from the overlying aquitards. Aquitards with a high proportion of silt or clay are particularly susceptible to compression, which leads to subsidence. Aquifer drainage can also result in subsidence but to a much lesser amount than the aquitard because of the nature of the aquifer materials.
107. This issue is identified in Policy 5 of the WCWARP which ensures consideration of the long-term water level and/or artesian pressure in each aquifer (b), and the potential for land subsidence (e).

Adverse effect of take on other users from sea water intrusion

108. Contamination of saltwater can occur if potentiometric levels in coastal aquifers fall below that of sea level, reversing the hydraulic gradient and resulting in movement of saltwater into the aquifer. This contamination may arise due to excessive pumping of groundwater, but it can also occur because of seasonal decline in water levels relative to sea level. A lowering of aquifer pressures in the coastal confined zone would have the potential to cause a shift in the saltwater-freshwater interface.
109. Policy 5 of the WCWARP recognises this issue and ensures that the location of the salt-water interface (c) is considered when setting groundwater flow and level regimes.

Water permit activities (additional effects to consider for applications to dam water)

Adverse effect of dam failure

110. The dangerous dams provisions of the Building Act 2004, give Regional Council's the power to act in the interests of public safety in the event that a dam has been found to fall below minimum safety criteria, and the owner has not taken appropriate action. For this reason, it is important to consider when reviewing an application to dam water, any adverse effect of dam failure.
111. This issue is identified in section 161 of the Building Act 2004 which requires that all regional authorities adopt a policy on dangerous dams by 30 September 2006 and consideration of the effects of dam failure. Canterbury Regional Council report R06/33 outlines CRC's dangerous dams' policy.

Activities to disturb the bed and banks of a river

Adverse effect on water quality and ecosystems

112. Possible effects of undertaking works in the bed and banks of a river include adverse effects on aquatic ecology, (related to the discharge of any sediment, or loss of habitat) and also terrestrial ecology (related to the disturbance of the bed and banks, removal and planting of vegetation).
113. These issues are recognised in Chapters 8 and 10 of the RPS:
 - (a) Chapter 8, Objective 3 – protection or enhancement of indigenous biodiversity, ecosystem functioning and vegetation and habitats which contribute to the region's natural character

- (b) Chapter 10, Objective 1 – refers to protecting and where appropriate enhancing significant habitats of indigenous flora and fauna (b), the habitat values of braided river beds (e), significant habitats of trout and salmon (h), and the life supporting capacity (health) of aquatic and riparian ecosystems (i).

114. These issues are recognised with in Chapter 6 of the PNRRP as follows:

- (a) Objective BLR1 - ensures that activities in the bed and margins are undertaken while minimising the spreading or colonising by pest or undesirable plants (c), protecting areas of significant indigenous vegetation and significant habitat of indigenous fauna (f), protecting significant habitat of trout and salmon

Adverse effect on bed erosion and flooding

115. When works are carried out in the bed of a river or adjacent to a waterway, these works may result in adverse effects on the flood-carrying capacity of the river or erosion of the bed or banks of the river. This may occur when flood protection works are compromised or the flow characteristics of the waterway are changed. Conversely, positive effects may occur when any works carried out decrease the potential for flooding and erosion to occur.

116. These issues are recognised in Chapter 10 of the RPS as follows:

- (a) Objective 2 – deals with protecting the flood-carrying capacity of rivers from the adverse effects of land use within the beds and margins of rivers, or the obstruction of water ways
- (b) Policy 4 – refers to avoiding or mitigating the adverse effects on the passage of floodwaters and vegetation or structures that control flood flows and erosion

117. These issues are recognised in Chapter 6 of the PNRRP:

- (a) Objective BLR1 – ensures that activities in the bed and margins are undertaken while protecting flood carrying capacity to avoid increased risk of flooding of the surrounding lands (a)

Adverse effect on artificial structures

118. When works are carried out in the bed or a river or adjacent to a waterway, the works may result in an adverse effect on any artificial structures, such as bridges and roads, within the immediate vicinity of the works or downstream of the works.

119. This issue is recognised in Chapter 10 of the RPS:

- (a) Objective 3 – deals with protecting the stability and performance of essential structures from adverse effects of land use within the beds and margins of rivers.
- (b) Policy 6 ensures that land use activities within the bed and margins of rivers is undertaken in such a way that any adverse effects on essential structures are avoided.

120. This issue is identified in Objective BLR1 of Chapter 6 of the PNRRP which aims to protect the stability of lawfully established structures.

Adverse effect on amenity values

121. This effect is recognised in Chapter 10 of the RPS:
- (a) Objective 1 – deals with protection and where appropriate, enhancement of significant amenity and recreation values (f)
 - (b) Policy 1 recognises that land use activities should be undertaken at times or in such ways that there adverse effects on amenity and recreation values are avoided or mitigated
122. This effect is covered in Objective BLR1 of Chapter 6 of the PNRRP which ensures that amenity values are maintained and enhanced.

Activities to discharge water to water

Adverse effects on flood carrying capacity and erosion

123. When water is discharged from one waterbody into another, the flow and potentially the velocity of the receiving waterbody is increased. When this occurs there is the potential for increased erosion of the bed and banks of the receiving waterbody. There is also the potential for the discharge to adversely affect the flood carrying capacity of the receiving waterbody. When a discharge is occurring there may be more water than normal passing down the receiving waterbody. This may result in the waterbody being unable to pass its designed flood because of the discharge. Increased flows in the river, particularly when they occur suddenly and without warning can put others at risk.
124. This issue is recognised in Chapters 9 of the RPS:
- (a) Objective 3 – deals with discharges of contaminants into water and ensures the preservation of natural character (e) and the protection of outstanding natural features and landscapes (f)
 - (b) Policy 9 – enables the management of point source discharges to achieve the outcomes set by objective 3 above
125. Chapter 4 of the PNRRP deals with discharges of water into water and recognises this issue in the following policies:
- (a) Policy WQL1 ensures that the capacity of the receiving water body is taken into account when considering a discharge activity (2)(a)(ii) and that the discharge will not significantly alter the characteristics of the bed substrate of the receiving water body (1)(b)(iv)
 - (b) Policy WQL5 deals with the management of riparian margins and ensuring that a discharge activity will not increase the rate of erosion of the bed or banks of the water body (1)(a), and will not reduce the flood carrying capacity of a river causing adverse effects on the stability or performance of essential structures (2)(d)

Adverse effects on water quality and ecosystems

126. When water is discharged into a waterbody, there can be an increase the amount of contaminants (including sediment) present in the receiving environment due to contaminants being present in the discharge and from the disturbance caused to the

bed of the receiving environment. Turbidity can affect aquatic biota by reducing light penetration and visual clarity, increasing sedimentation of substrate, reducing the food value to browsers of periphyton and reducing the permeability of the substrate.

127. This issue is recognised in Chapter 9 of the RPS:

- (a) Objective 3 – ensures the safeguarding of the life-supporting capacity of water (b) and the protection of significant habitat of trout and salmon (g)
- (b) Policy 9 – enables the management of point source discharges to achieve the outcomes set in objective 3 above

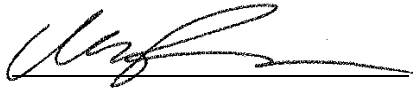
128. This issue is recognised in Objective WQL1 of Chapter 4 of the PNRRP which contains particular water quality outcomes for rivers. Policy WQL1 deals with point source discharges into surface water.

Adverse effects on downstream water users and amenity values

129. When water is discharged into a waterbody, there is the potential to cause adverse effects on recreational users of a stream due to contamination of the water. Contaminants such as suspended sediments affect recreational users because turbid water is aesthetically unappealing and unsuitable for bathing and other contact recreation.

130. This issue is recognised in Chapter 9 of the RPS which ensures that amenity values should be maintained and where appropriate, enhanced (objective 3(h)).

Signed:



Date: 18 July 2008

Claire Penman
Consultant Investigating Officer

Signed:



Date: 18 July 2008

Reviewed by Gillian Ensor
Consents Project Leader - Waitaki

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