

BEFORE THE CANTERBURY REGIONAL COUNCIL

IN THE MATTER OF

The Resource Management Act 1991

AND

IN THE MATTER OF

applications by **Killermont Station Ltd** to undertake works in the bed of the Ahuriri River for the purposes of maintaining an intake structure (**CRC041330**), to divert, take and use surface water from the Ahuriri River via the existing Tara Hills water race (**CRC041331**), and to discharge surplus irrigation water from a diversion race into the Ahuriri River (**CRC041332**) at Pebbly Block, Killermont Station, SH8 Omarama

**REPORT AND DECISION OF HEARING COMMISSIONERS PAUL ROGERS, MICHAEL BOWDEN, DR
JAMES COOKE AND EDWARD ELLISON**

PART B - SITE SPECIFIC DECISION

1 INTRODUCTION

- 1.1 This is a decision on three applications by **Killermont Station Limited** (the applicant). It is one of many decisions we have made on 104 applications by various applicants for water permits and associated consents in the Upper Waitaki Catchment.
- 1.2 The decision should be read in combination with our Part A decision, which sets out our findings and approach to various catchment wide issues that are common to multiple applications. References to our Part A decision are made throughout this decision as appropriate.

2 THE PROPOSAL

- 2.1 The applicant has applied for resource consent to divert, take and use water via the existing 'Tara Hills Water Race' intake for irrigation of 216 hectares on part of Killermont Station known as "Pebbly block" (CRC041331). Resource consents have also been sought to maintain the existing intake structure (CRC041330) and to discharge surplus irrigation water into the Ahuriri River at a maximum rate of 100 l/s (CRC041332).
- 2.2 Currently, Omarama Station Limited and Tara Hills Station Limited divert water from the Ahuriri River via an existing intake (the 'Tara Hills water race'). This diversion is authorised by consent CRC010728.1, which also authorises the abstraction of 1000 l/s for irrigation of up to 650 ha of land, 100 l/s of water for stock and domestic supply and 500 l/s to supplement flows in the Omarama Stream.
- 2.3 The existing diversion and discharge channel has sufficient capacity to contain the additional 100 l/s applied for by the applicant. The applicant states that they have an agreement (as of 1991) to share the use of the Tara Hills water race with Tara Hills Station and Omarama Station.
- 2.4 The location of the proposed point of take and the proposed irrigation area is shown in Figure 1 below.

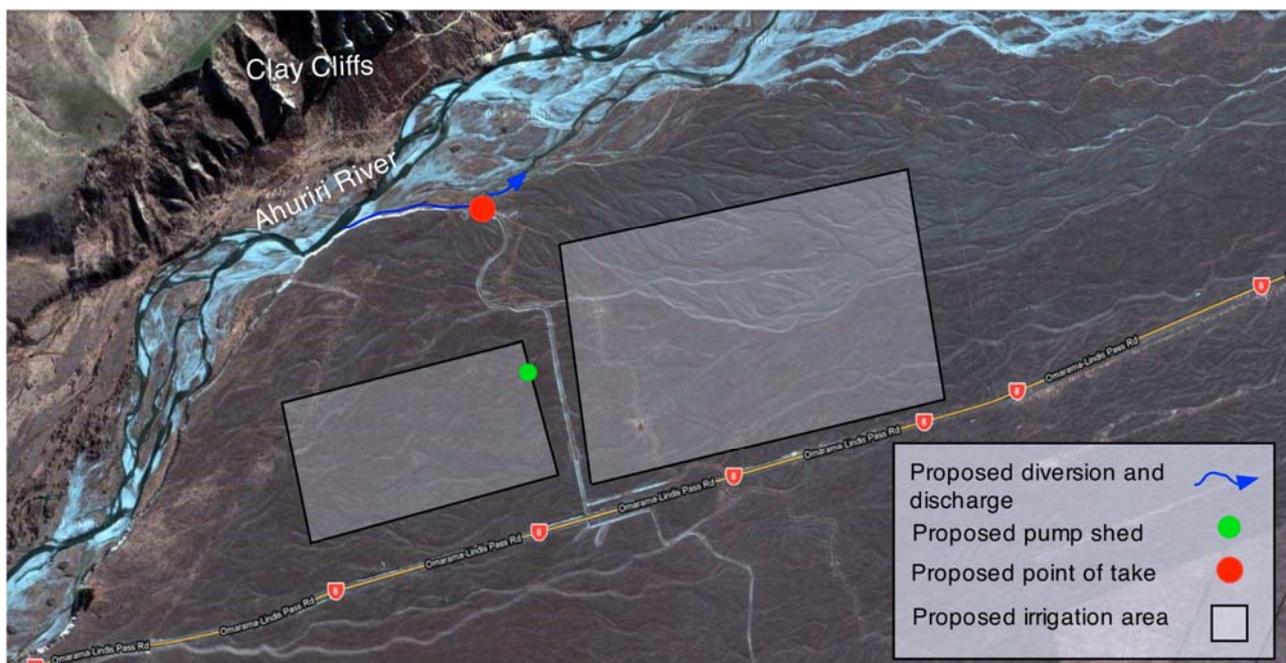


Figure 1. An aerial photo of the applicant's property showing point of take, location of pump shed, proposed irrigation area and proximity to the Ahuriri River. This figure is intended as a visual guide. The application and applicant's evidence was used to determine actual locations.

Description of the Take and Use – CRC041331

- 2.5 Water will be diverted and taken from the Ahuriri River at a maximum rate of 100 litres per second, with a volume not exceeding 8,640 cubic metres per day and 1,209,600 cubic metres per year. Water will be used for spray irrigation by K lines of up to 216 hectares of crops and pasture for grazing stock, excluding dairy cows, at Killermont Station, SH8, Omarama.

- 2.6 The applicant has proposed to adopt the minimum flow for the Ahuriri River as described in the Ahuriri Water Conservation Order and to meter the take with an appropriate water meter.

Description of the Land Use Activity – CRC041330

- 2.7 The applicant has applied to disturb the bed of the Ahuriri River to maintain an existing intake structure and sustain the abstraction for the diversion of water under consent CRC041331. The proposed works include repair or replacement of the intake structure should it be washed out or damaged following a flood or fresh in the river and works to divert water upstream of the intake to enable flow past the intake structure.

Existing Structure

- 2.8 It is proposed to place an intake in the existing Tara Hills & Omarama Station Race intake, below the main control gate. This approach means that the existing by-wash system of the diversion channel can be used, as both the Tara Hills and Omarama Station intakes are downstream of the proposed Pebbly take, those intakes can continue to operate as normal.

New Infrastructure

- 2.9 A self cleaning, revolving fish screen will be used on the intake, that will comply with NIWA best practice fish screening guidelines. A primary intake screen would be fitted to the intake pipe, consisting of a 15 millimetre slotted steel screen fitted to the front of a slide gate, designed to keep sticks and fish above fingerling size out of the pipeline. Velocity of flow into the intake pipe would be kept low to reduce the risk of blockage of the primary intake screen. Irrigation water will be gravity fed by pipe from the intake to a head well or a holding pond housing the irrigation and stockwater pumps, conveyance pipelines will consist of 375 mm PVC buried with a cover of 400 mm (we note the s42A report refers to a buried pipe of 600 mm to 900 mm diameter).

Pumping from pond or head well

- 2.10 The intake from this structure would be fitted with a 1 – 2 millimetre screen to avoid drawing small fish, and stones into the pump. The intake structure consists of a twin pipe intake structure. This system would deliver water under gravity to a holding pond. Electric pumps would deliver the water from the holding pond to the irrigation area.

Protective and maintenance work

- 2.11 A concrete deflector or a gabion basket would be placed on the upstream side of the intake pipe to protect the intake pipe from erosion and to deflect debris from the intake pipe. The downstream side of the intake pipe would also be protected in a similar manner.
- 2.12 The applicant has advised that works will be undertaken when flow within the river is low. Minor maintenance works would be required from time to time to remove any gravel or silt that may build up around the intake. Maintenance of the side channel may need to occur following a flood or pre- irrigation season.

Description of the Discharge – CRC041332

- 2.13 The applicant proposes to discharge water into the Ahuriri River at a maximum rate of 100 litres per second. There is no (physical) change proposed for the Ahuriri River diversion or discharge channel (although there will be an increase in the level of flow in these channels). The discharge shall only be unused irrigation water, diverted in accordance with CRC041331. The discharge will be via an existing structure and will not cause erosion to the bed or banks of the Ahuriri River.

The application

- 2.14 There are three separate applications pursuant to sections 13, 14 and 15 RMA respectively as follows:
- (a) CRC041330 - a land use consent to install and maintain an intake structure;
 - (b) CRC041331 – a water permit to take and use surface-water; and
 - (c) CRC041332 - a discharge permit to discharge surplus irrigation water.

- 2.15 All three applications were lodged with the Canterbury Regional Council (the Council) on 22 December 2003. The applications requested a term until 30 April 2025 (coincident with the expiry of Meridian Energy’s consents for the operation of the Waitaki Power Scheme) for CRC041331 (take and use) and a term of 35 years for the discharge (CRC041330) and land use (CRC041332) permits. All three applications were publicly notified and there were a number of submissions received, as discussed later in this decision.

Modifications after notification

- 2.16 The original application referred to the proposed take and use of water from the Ahuriri River for irrigation, water harvesting and stock water purposes. ECan was subsequently advised on 23 December 2008 that water harvesting was no longer proposed.
- 2.17 The general principle for modifications after notification is that amendments are allowed provided they do not increase the scale or intensity of the activity or significantly alter the character or effects of the proposal. The key consideration is prejudice to other parties by allowing the change. In this case, we are satisfied that the change does not significant alter the intensity or effects of the proposal and that no party would be adversely affected by allowing the change.

Additional consent applications

- 2.18 In addition to the proposed take from Manuka Creek, the applicant has also applied to take and use water from Frosty Gully and two locations on the Ahuriri River. Table 2 shows the various Water Permits the applicant has applied for including the associated land use consents for the intakes.

Table 1. Consent applications applied for by Killermont Station and their associated S42A Reports (those considered in this decision are shaded).

S42A Report	Consent Application	Location	Description
Report 23C	CRC041331	Manuka Creek	Take and use water @ 37 l/s
Report 23B	CRC040180	Frosty Gully	Take and use water @ 20 l/s
Report 23B	CRC040181	Frosty Gully	Dam water
Report 23D	CRC041331	Ahuriri River (A)	Take and use water @ 100 l/s
Report 23D	CRC041330	Ahuriri River (A)	Install and maintain intake structure
Report 23D	CRC041332	Ahuriri River (A)	Discharge irrigation water @ 100 l/s
Report 23E	CRC041777	Ahuriri River (B)	Take and use @ 175 l/s
Report 23F	CRC041776	Ahuriri River (B)	Install and maintain intake structure

3 DESCRIPTION OF THE ENVIRONMENT

Tara Hills Water Race

- 3.1 The land at the point of diversion into the Tara Hills race and at the lower end of the discharge channel back into the Ahuriri River is located on Crown Land as illustrated in Figure 1. The diversion has been in place at this location since the 1920s.
- 3.2 The diversion of 1,100 l/s from the Ahuriri River is authorised under CRC010728.1. CRC010729.1 also authorised the diversion of a further 500 l/s from the Ahuriri River for augmentation of flows in the Omarama Stream. The capacity of the Ahuriri side channel that conveys water to the race (blue line shown on Figure 1) has not been measured, but according to the S42A officer it appears to be able to carry up to 3,000 l/s. It also has a steady gradient and well-defined bed and banks with a stable riparian cover in the proximity of the intake structure.
- 3.3 A separate channel (blue arrow in Figure 1) was also constructed from the race to take water back to the Ahuriri River, downstream of the intake. The purpose of this channel was to provide for fish passage and the discharge of surplus irrigation water.

- 3.4 The Omarama Water race also runs through the applicant's proposed irrigation area. The applicant states that this race is now 'closed' however there is no information on whether it will be filled in.

Irrigation Area

- 3.5 The proposed irrigation area is between State Highway 8 (SH8) and the south bank of the Ahuriri River as illustrated in Figure 1. The area proposed for irrigation and abstraction was identified in the Partially Operative Waitaki District Plan as a Rural Scenic Zone. Further discussion on the ecological values of the proposed irrigation area is contained in the applicant's evidence.

Ahuriri River

- 3.6 The Ahuriri River rises in the Barrier Range and is primarily fed by snowmelt and rainfall runoff. Below the mountain catchment area, it becomes braided as it passes through the flatter areas between Birdwood and Omarama and down to Lake Benmore. The river is highly rated for its amenity values, in particular for trout fishing, picnicking, swimming, duck shooting, kayaking, canoeing and rafting. In addition to this a Black Fronted Tern Restoration Programme is situated on the Ahuriri River.
- 3.7 The Ahuriri River is a Wetland of Representative Importance (WERI), a Site of Special Wildlife Importance (SSWI), a Recommended Area for Protection, of National and Regional Importance in landscape terms.
- 3.8 The Ahuriri River is also recognised as native bird habitat, a native vegetation area, and trout and salmon-spawning habitat.
- 3.9 Fish & Game stated in their submission that the Ahuriri River is nationally and internationally renowned for the quality of trout and angling experience it offers and its outstanding natural wildlife habitat. The river and its tributaries also provide spawning and juvenile rearing habitat for resident populations of brown trout.

Other Users

- 3.10 Omarama Station and Tara Hills Station hold consent CRC010728.1 to take water from the Ahuriri River via the Tara Hills Water race. Otamatapaio Station, Omarama Station and Blackhead Quarries hold resource consents to take water from the Ahuriri River, at locations approximately 27, 13 and 21 kilometres respectively downstream of the proposed take.
- 3.11 Williamson Holdings Limited has applied to take and use water from the Ahuriri River under two consent applications. CRC041788 is an application to take water from allocation approximately two kilometres upstream of this application. CRC073115 is an application to take water from a location approximately 6.5 kilometres upstream of the Killermont application.

Site visit

- 3.12 We detailed our site visits in Part A and we do not repeat this information here. Although we visited Killermont Station we did not view the proposed take point in this particular application.

4 PLANNING INSTRUMENTS

- 4.1 As discussed in our Part A decision, there is a wide range of planning instruments that are relevant under the RMA. This includes national and regional policy documents, along with regional and district plans. The key planning instruments relevant to these applications are as follows:
- (a) Waitaki Catchment Water Allocation Plan (WCWARP);
 - (b) Natural Resources Regional Plan (NRRP);
 - (c) Proposed Canterbury Regional Policy Statement (PCRPS); and
 - (d) Canterbury Regional Policy Statement (CRPS)
 - (e) Waitaki District Plan (WDP)

- 4.2 The provisions of these planning instruments critically inform our overall assessment of the applications under s104(1)(b) of the RMA, as discussed in Section 14 of this decision. In addition, the rules within the relevant planning instruments determine the status of the activities, as set out below.

Status of the activity

- 4.3 In our Part A decision we provide a detailed discussion of our approach to determining the status of activities. We now apply that approach to the current applications.

CRC041330 – Disturb the bed (s13)

- 4.4 This application is listed in Schedule 2 of the Resource Management (Waitaki Catchment) Amendment Act 2004. Section 88A of the RMA therefore does not apply and the relevant plan for determining the status of this activity is the operative NRRP.
- 4.5 The key provisions of the NRRP that are relevant to this application are as follows:
- (a) Rule BLR2 - use and maintenance of structures that were lawfully erected or placed before 1 November 2010
 - (b) Rule BLR4 – erection or placement and use of structures; and
 - (c) Rule BLR5 - excavation, drilling, tunnelling, depositing, reclamation, drainage or disturbance in, on, under or over the bed.
- 4.6 While possible that these activities could be carried out to meet the permitted activity criteria, it appears that Condition 6(b) of Rule BLR2, Condition 10 of Rule BLR4 and Conditions 2 and 4 of Rule BLR5 are unlikely to be complied with.
- 4.7 Thus, in summary, the proposed activity of undertaking works in the bed of the Ahuriri River is a discretionary activity under, Rule BLR4 and requires consent pursuant to Section 13 RMA.

CRC041331 – Divert, take and use water (s14)

- 4.8 This application is listed in Schedule 2 of the Resource Management (Waitaki Catchment) Amendment Act 2004. Section 88A therefore does not apply and the relevant plan for this activity is the operative WCWARP.
- 4.9 The following rules from the WCWARP are applicable to this application:
- (a) Rule 2, clause (1a) – The applicant has proposed the minimum flow specified in the Ahuriri Water Conservation Order.
 - (b) Rule 6 – The activity is within the allocation limit of 275 million cubic metres for agricultural activities upstream of Waitaki Dam.
 - (c) Rule 15 – Classifying rule, discretionary activity.
- 4.10 In summary, the proposed take and use of water is a **discretionary** activity under Rule 15 of the WCWARP and requires consent pursuant to section 14 of the RMA.

CRC041332 – Discharge water (s15)

- 4.11 This application is listed in Schedule 2 of the Resource Management (Waitaki Catchment) Amendment Act 2004. Section 88A of the RMA therefore does not apply and the relevant plan for determining the status of this activity is the operative NRRP.
- 4.12 The relevant provisions of the NRRP are as follows:
- (a) Rule WQL1 – permits the discharge of water into a river, subject to compliance with a range of conditions

- (b) Rule WQL48 – provides for the status of a discharge to water where it fails to comply with any of the conditions in WQL1. Will be classified as either a discretionary or non-complying activity, depending on whether it complies with the listed conditions.
- 4.13 The activity is unlikely to meet Conditions 1 and 3 of Rule WQL1. Therefore the activity is falls to be assessed under Rule WQL48. The activity is likely to comply with conditions of Rule WQL48. Therefore, it is classified as a discretionary activity.
- 4.14 In summary, the proposed discharged is a **discretionary** activity under Rule WQL48 and requires consent pursuant to Section 14 RMA.

Overall status of the proposal

- 4.15 Based on the above, we have assessed the entire proposal as a **discretionary** activity.

5 PRELIMINARY MATTERS

Ahuriri Water Conservation Order (AWCO)

- 5.1 Given the location of this proposal, it is subject to the requirements of the AWCO, including ensuring that the minimum flow levels of the Ahuriri River are maintained. In accordance with section 217 of the RMA, we may not grant a consent that is inconsistent with the requirements of the AWCO.
- 5.2 All parties accepted the need to comply with the minimum flows in the AWCO. However an issue of contention was the most appropriate way to ensure these flows are achieved, specifically whether the use of maximum allocation limits was appropriate for this purpose. We set out our findings on this issue in Part A and concluded that setting a limit on total abstraction is the most pragmatic way of achieving the desired minimum flows.
- 5.3 If the take and use consent had been granted, this may have included limits on the total amount that could be abstracted at different times depending on the gorge flow. This issue was commented on by various parties during the course of the hearing. However given our overall finding on these applications, we have not commented on this issue further in this decision.
- 5.4 In addition to the take and use application, the AWCO is also relevant to the proposed discharge (CRC041332), which will in the “protected waters” of the Ahuriri Rver. Clause 8(2) of the AWCO states that a water right shall not be granted for any discharge into the protected waters if the effect of the activity would result in the discharge of contaminants such as suspended sediments, grease and oil; and after reasonable mixing make the water within the river unpalatable, destroy aquatic life or change the visual colour and clarity of the water.
- 5.5 For the reasons discussed in the balance of the decision, we are satisfied that the discharge activity would not result in the outcomes mentioned above and would be consistent with the requirements of the AWCO.

The Alternative “Home Block” Proposal

- 5.6 Mr Whata highlighted an alternative irrigation system for Killermont Station in response to landscape issues raised about the effects of irrigating Pebbly Block, while not the preferred method, the alternative block has been assessed by the experts and is located on the “Home Block” he said.
- 5.7 He submitted that if the panel were unable to grant consent for irrigation on Pebbly Block on landscape grounds, then it would be appropriate to grant consent in respect of the “Home Block”.
- 5.8 Mr Kyle in his October 2009 evidence refers to the alternative farm system where Pebbly Block remains in its current condition and use and all the proposed irrigation take place on the “Home Block”, in this system, effluent will be brought on to the “Home Block” and all blocks would be grazed and have supplements exported from the farm.
- 5.9 Dr Robson, in her updated Killermont Station FEMP (December 2009), refers (page 17) to an alternative farm system where all proposed irrigation will occur on the “Home Block” on what is dryland flats and easy country. An indicative layout of this scenario was provided in her Figure 6, which shows a command area extending from the top of the terrace facing SH8 south to include Frosty Gully and Manuka Creek.

- 5.10 Mr Brown in his evidence indicates the alternative to Pebbly Block as infilling the un-irrigated portions of Woolshed Block, that is, the gaps left between the pivots and linear irrigation proposals. In this alternative the area below the terrace and adjacent to SH8 is not included in the "Home Block" alternative.
- 5.11 While there is evidence that modelling of various versions of farming scenarios had been conducted for Killermont Station, which we understand may include the alternative "Home Block", the evidence to support the alternative site was never presented in any coherent manner that either we or submitters may have understood to be an alternative option that could seriously be considered. So we have not. However given our limited understanding of the alternative, based on our assessment of water quality issues relating to the Pebbly Block and other blocks within Killermont Station, we can signal that it is most unlikely that the "Home Block" alternative would not have significant water quality issues.

6 NOTIFICATION AND SUBMISSIONS

- 6.1 All three applications were notified on 4 August 2007 and a number of submissions were received. Many of the received submissions are equivalent to submissions made in response to all applications notified on 4 August 2007.
- 6.2 Table 2 is taken from the s42A report for the take and use application (CRC041331) and summarises those submissions that directly referenced that application. There were no submissions lodged relating to either of the applications to disturb the bed or the discharge to the Ahuriri River applications. In addition to those listed, there were other submitters that presented evidence at the hearing that was relevant to these applications. The relevant evidence from submitters is discussed in more detail later in this decision. Please note that all submissions hold equal importance, even if not specifically listed below.

Table 2. Summary of submissions on application CRC0041331

Submitter	Reasons	Position
Meridian Energy Ltd	Effects on water quality, metering, duration	Oppose
Fish and Game New Zealand	That the Ahuriri Water Conservation Order minimum flows apply and that these are addressed by way of conditions.	Oppose

- 6.3 Overall, the key effects of concern relating to applications within this catchment include those relating to adverse effects on ecosystems, water quality and landscape values and duration

7 THE CONSENT INVESTIGATING OFFICER'S REPORT

- 7.1 Comprehensive officer reports (Report 23C and D) on the application and submissions were prepared by the Regional Council's Consent Investigating Officer (Ms Yvette Rodrigo). The report was supported by specialist reports prepared by:
- (a) Chris Glasson (Landscape effects - individual and cumulative);
 - (b) Dr Michael Freeman (Overview water quality and landscape effects); and
 - (c) Mr McNae (OVERSEER audit).
- 7.2 In addition, Ms Rodrigo was influenced and supported in her reports by the introductory s42A (Report 1), the planning and technical reports on hydrology and minimum flows (Report 2A and 2B), the planning report outlining annual allocations (Report 3) and the reports on cumulative landscape and water quality effects in the catchment (Reports 4(A) – (F) and 5).
- 7.3 The report was pre-circulated in advance of the hearing. Specific points noted from the s42A report are summarised below. The officer's report considers all of the applications together and what follows relates to all of the applications under consideration.

Adverse effect on people, communities and amenity values

- 7.4 Mr Chris Glasson (Consent Investigating Officer for landscape effects) concluded that the effects on landscape values resulting from the proposed use of water for irrigation would result in significant adverse effects for the following reasons:
- (a) The high natural character of the area;
 - (b) The proximity of the site to the Ahuriri River;
 - (c) The proximity to views of the Clay Cliffs, which is considered to be an outstanding landscape area in the Waitaki District Plan; and
 - (d) The continuity of the landscape on both sides of SH8.
- 7.5 The irrigation area is included in "Landscape Unit 6: Omarama" in Mr Glasson's audit. For this unit, Mr Glasson concludes that the cumulative impacts of irrigation could be acceptable if all mitigation measures recommended for individual sites, were adhered to. However this would require the re-location of the irrigation area for this application.
- 7.6 Ms Rodrigo noted effects on amenity and recreational values of the irrigation activity may occur as a result of the effects on landscape values as discussed above.
- 7.7 The intake structure is existing, maintenance and modification will be of short duration and unlikely to have an adverse effect on amenity or recreational values.
- 7.8 Given the conclusions reached by Dr Freeman and Mr Glasson, Ms Rodrigo considered that the adverse effects on people, communities and amenity values as a result of irrigation development of land between SH8 and the Ahuriri River are likely to be significant.

Flood-carrying capacity and erosion

- 7.9 The diversion and discharge channel have been in place for some years, the amount of water diverted and discharged as a result of this proposal is relatively small compared to what already occurs from this channel, and unlikely to increase the risk of flooding or erosion.

Adverse Effects on other Users

- 7.10 Ms Rodrigo agreed with the applicant's assessment that the effects on other users should be minor provided that the AWCO limits are adhered to.

Adverse effects of inefficient use

- 7.11 Ms Rodrigo used the method recommended in Policy 16(c)(ii) of the WCWARP to confirm that the annual volume proposed represents a reasonable annual volume.

Adverse effect of use on water quality and ecosystems

- 7.12 An assessment of cumulative effects on water quality was requested to address the above concerns, in relation to Policy 13 of the WCWARP. Ms Rodrigo noted that the applicant has contributed to the study by MWRL on cumulative effects within the catchment.
- 7.13 The report by MWRL has been audited and the conclusion of Dr Mike Freeman and other experts, at the time Ms Rodrigo compiled her S42A report, is that it would be premature to make robust conclusions about the potential adverse cumulative effects.
- 7.14 The effects of the proposed intake structure works are limited in extent and only associated with maintenance and remediation of the intake structure, effects will be limited to 50 m downstream and effects would be temporary.
- 7.15 Ms Rodrigo's only concern about ecosystems was the adequacy of using the existing Tara Hills intake without an additional fish screen. She invited the applicant to address this issue during the hearing.

- 7.16 The discharge from the applicant's property will be approximately 6% of the total abstractions authorised by consent. The quality of the discharges into the Ahuriri River is not known, but any effects resulting from the applicant's diversion and discharge are likely to be minor in relation to the total diversion and discharge of water from the race. Ms Rodrigo has recommended a condition that meets the standards of the AWCO.

Adverse effects on Tangata Whenua values

- 7.17 The applicant did not include an assessment of the proposed activity on cultural values. The sites of the proposed activities are within the rohe of Te Runanga O Moeraki. Both Te Runanga Moeraki and Te Runanga O Ngai Tahu were served notice of the applications in August 2007.
- 7.18 Ms Rodrigo noted that Te Runanga O Ngai Tahu have raised concerns relating to mixing of waters between catchments, deterioration of water quality, dewatering and residual flows, changes to sediment flow and deposition and impacts on sites of cultural significance.

Conclusion on effects and statutory assessment in relation to the take and use CRC041331

- 7.19 Ms Rodrigo could not confirm that under s104(1)(a), the actual and potential effects of the proposed take and use activity were acceptable when taking account the proposed mitigation. In particular, she added, there is uncertainty regarding the following aspects of the application:
- (a) The impacts on landscape values. and
 - (b) The impacts on surface water quality.
- 7.20 In Ms Rodrigo's view, all other effects could be mitigated by way of conditions should we decide the consents

Statutory Assessment

- 7.21 Ms Rodrigo provided a statutory assessment in relation to her views discussed above. She concluded that the applicant's proposal:
- (a) may not be consistent with Policy 13 of the WCWARP due to there being likely effects on water quality, unless appropriate mitigation is proposed and implemented,
 - (b) of irrigation of land north of SH8 and on the south bank of the Ahuriri River, is likely to result in significant adverse effects and may therefore be considered to be contrary to Objective 1(c) of the WCWARP.,
 - (c) to "avoid, remedy or mitigate" the potential impacts on surface water quality and landscape values as required in Section 5(2)(c) of the RMA may not be adequate
 - (d) may not be consistent with Section 6 of the RMA Subsections (b) and (e) due to a change in the visual aesthetics in an area of high amenity for which the applicant has not proposed mitigation measures
 - (e) may not be consistent with Section 7 of the RMA Subsections (c) and (d) due to a lack of "maintenance and enhancement of amenity values" for which the applicant has not proposed mitigation measures (subsection (c)) and confirmation that an appropriate fish screen will be installed at the new intake structure (subsection (d)).

Conclusion in relation to CRC041330 and CRC041332

- 7.22 Ms Rodrigo's overall recommendation in respect of the above-described applications having regard to her effects assessment and her consideration of the relevant statutory instruments and her statutory assessment was that these applications could be granted with suitable conditions.

Recommendation

- 7.23 Having considered all relevant matters outlined in section 104(1), Ms Rodrigo was not satisfied that the actual and potential effects of the proposed activity are acceptable. This is based on concerns regarding the effects on water quality, landscape and ecological values. On this basis, Ms Rodrigo could not recommend that CRC041331 be granted, although she did consider that CRC041330 and CRC041332 could be granted with suitable conditions.

8 THE APPLICANT'S CASE

- 8.1 Legal counsel for the applicant, Christian Whata, presented opening submissions and called nine witnesses as follows:
- (a) John McIndoe (Aqualinc Research Limited)
 - (b) Dan and Kerry Thomas (Owners – Killermont Station)
 - (c) John Kyle (Mitchell Partnerships Limited)
 - (d) Stephen Brown (Stephen Brown Environments)
 - (e) Dr John Bright (Aqualinc Research Limited)
 - (f) Robert Engelbrecht (Bob Engelbrecht Consultancy Limited)
 - (g) Buddy Mikaere (Buddy Mikaere and Associates)
 - (h) Dr Ruth Goldsmith (Ryder Consulting Limited)
 - (i) Buddy Mikaere (Buddy Mikaere and Associates)
 - (j) Dr Melissa Robson (Ryder Consulting Limited)
- 8.2 We note that the majority of the applicant's expert evidence was presented in conjunction with, one or more, of the following applicant's: Five Rivers Limited, Southdown Holdings Limited which included both the Glen Eyrie Downs and WHL Killermont properties. In this Decision the evidence presented in The Applicant's Case (Section 7) and The Applicants Right of Reply (Section 10) only includes information relevant to the applicant's property, and this application in particular.
- 8.3 It should also be noted that where the evidence has referred to multiple properties, which includes the applicants, we have used that information in the context of applying to the applicant's property only. The original evidence should be referred to determine any other property that this information may relate to.

Opening legal submissions

- 8.4 The applicant, together with Five Rivers Ltd, Williamson Holdings Ltd and Killermont Station Ltd, was represented by Mr Christian Whata . Mr Whata also represented McKenzie Water Research Ltd, who presented the cumulative effects assessment on behalf of all applicants seeking consents at this hearing.
- 8.5 Mr Whata opened his evidence by stating that the applicant is committed to best practice and that their farm management proposals are cutting edge. He added that the applicant fully appreciates the need to avoid adverse effects. Importantly, best practice combines with high productivity to make the farm viable.
- 8.6 Mr Whata acknowledged that the application covers relatively large irrigable areas (though small within the context of the Basin as a whole). He added that the applicant should not be penalised for this and should be judged on their merits, which in his view include:
- (a) More efficient and productive use of land and water resources;
 - (b) Comprehensive management of resources to agreed standards on an integrated basis so as to avoid effects of significance;
 - (c) Better enablement of both people and communities through long term sustainable and viable use of resources, and
 - (d) Enhancement of stream and terrestrial environments, and protection of valued areas, through uniform farm management practices across large land holdings.
 - (e) Greater ability to respond to and mitigate unanticipated adverse effects through the application of entire farm management systems over large irrigable areas.

- 8.7 Mr Whata then went into detail on the existing environment and noted that it is not a pristine natural environment and reflects the reality of dryland farming in a tough environment. He noted that the applicant's property is currently farmed and these activities have an impact on the environment including generating nutrients, waterways not fenced, minimal riparian planting and significant soil erosion.
- 8.8 Mr Whata then considered more broadly, existing activities are affecting the sub catchments and provided a number of specific examples from the applicant's property regarding soil erosion during a recent wind blow event.
- 8.9 Mr Whata then went into details regarding the permitted baseline in terms of the relevant PNRRP rules. He noted that the permitted activities included: minor takes or diversions for activities such as stock water outside the water bodies identified as being of high natural character; general farming activities such as intensive pastoral grazing, fertiliser application, dryland cropping and ancillary activities.
- 8.10 In terms of land use activities Mr Whata noted that the District Plan permits all farming activities and irrigation (except in Outstanding Landscape Areas in the Waitaki District). Mr Whata stated that the applicant hold a number of resource consents and certificates of compliance that permit certain farm related activities as set out in detail in the evidence of Mr Kyle.
- 8.11 Mr Whata then noted that the applicants have undertaken an assessment of how the ecological values of the property will be affected by applying water to the land. He drew on the other expert witness evidence and noted there will also be ecological benefits, such as improved vegetation cover and exclusion of stock from streams.
- 8.12 Mr Whata then provided an evaluation of the application in terms of the objectives and policies of the WCWARP and the PNRRP. He noted Part II of the RMA and provided an overview of the application in relation to Sections 5-8. In his evaluation he drew on the evidence of other expert witnesses and the applicant's own evidence.
- 8.13 In relation to the s42A Reports, in Mr Whata's view many of the concerns raised stem from a lack of information, a misunderstanding of the information provided or concerns relating to the WQS. Mr Whata outlined other witnesses' evidence that, in his opinion, addressed these issues.

Owners' submission – Dan and Kerryn Thomas

- 8.14 Dan and Kerryn Thomas are the directors of Killermont Station. They opened their evidence by noting that the property has been in the Thomas Family for 71 years with Dan being a third generation farmer.
- 8.15 They then explained the various committees on which Dan has been active including the Merino wool growers and Ultra Fine Merino Company. They added that they are very passionate about Merino wool having taken on all and any information that would help improve their own wool and flock. They added that their wool is highly regarded in the merino industry.
- 8.16 They noted that Mr Thomas' parents still live on the farm in the Homestead and they are currently going through farm succession. Their evidence then turned to briefly describing the Thomas family of which they noted that their children have learnt so many invaluable life skills from the many opportunities that farming life provides and that everyone helps out around the farm when the work requires.

The Mackenzie Basin

- 8.17 Their evidence then described the Mackenzie Basin and the many recreational uses the Thomas' family undertakes in the area including snow sports, water sports and hunting and fishing.
- 8.18 In 2006, the Thomas' finalised Tenure Review noting that they had lost summer grazing country and riverbed frontage in the process, which caused a reduction in the stocking rate. Consequently they have had to change their farming practice by investing in the existing irrigated area. They noted that they are very proud of how they maintain the unique and protected plants and species that this area is renowned for. The family are committed to preserving the special nature and character of the place and the surrounding areas.
- 8.19 There are many challenges associated with the weather when farming in the Mackenzie Basin according to the Thomas' evidence. The growing season is short with a "real" growing season

early October through to the beginning or mid April. They explained that this is when they need to take advantage of the high temperatures and nor'west rainfall.

- 8.20 The Thomas' noted that if they do not get good spring rains the pastures and forage crops are dried off by November. This in turn causes a real problem when trying to grow supplementary feed to carry stock through the harsh winter months. During the summer months they have had to sell their run cows because of a lack of feed. The winter months are just as challenging with snow falls causing feed to disappear for weeks at a time.

Current farming practices

- 8.21 The Thomas' noted that they have invested heavily over the last 40 years, but particularly in the last 6 years, developing a farming operation that will provide better economic returns. Part of this farming operation includes maintaining and enhancing the property so that grass growth is maximised. They provided the example of where they have not put fertiliser on the hill country for 9 years which has resulted in regeneration of native grasses and less scrub in the gullies.
- 8.22 The Thomas' then described the current farm system on Killermont Station that includes 3,200 Merino Ewes, 2,600 Merino Hoggets, 150 Wapiti/Red Hinds and 60 - 80 cattle for fattening each year.

Future ambitions for the property

- 8.23 Due to the challenges they face because of farm succession, the harsh environment and market vulnerability, the Thomas' stated that irrigation is their last option to make a sustainable, viable, progressive farming unit. They added that they are excited about the prospect of being able to perfect the balance on Killermont but overwhelmed by this process and at the thought of having to struggle on as they are would leave the only option left of selling the family farm.
- 8.24 They explained that they hope to be able to establish an irrigated farm to sustain their stocking rate throughout the year (and to increase their stock numbers). This will enable them to take advantage of the market vulnerability by only selling stock when the prices are at their highest and the stock are at their maximum weight for age. They added that this will also release the pressure on the more fragile country and high country in times of extreme weather conditions.

Environmental mitigation

- 8.25 The Thomas' noted that they have studied many farming practices and feel they will definitely be able to progress and implement their proposed FEMP. They added that they know that monitoring nutrient application, discharge and water application are all part of maintaining a healthy irrigated farming unit.
- 8.26 The Thomas' supported other irrigation consents in this catchment and the Mackenzie Basin as a whole because they have seen firsthand the advantages of a well managed farming approach to applying water in times of need.
- 8.27 In conclusion the Thomas' stated that they have invested a huge amount of money and effort in this onerous and lengthy process which they would not have done had they not thoroughly researched all alternative options for their farm.
- 8.28 They added that they have spent a considerable amount of money on an expert team who have advised them that irrigating in the Mackenzie Basin is possible through state of the art farm management plans and ongoing auditing and monitoring.
- 8.29 The Thomas' stated that they appreciated that a high benchmark has been set in terms of maintaining water quality but understand that by continually meeting these benchmarks it will create a sustainable farming unit that will set up their farm for generations to come. They added that they have come into this process with their eyes wide open and appreciate the obligations that are in front of them if the consent is granted. They concluded by noting that securing water is their only option.

- 8.30 Mr John Kyle (Partner, Mitchell Partnerships Limited) was engaged by the applicant (and Southdown Holdings Ltd, Williamson Holdings Ltd and Five Rivers Ltd) to present evidence with respect to various planning documents (Regional Documents and RMA) as well as site specific evidence relating to overall mitigation and conditions.
- 8.31 Mr Kyle outlined the relevant planning documents and which plan the applicant's activity relates to. He noted the 'permitted baseline' concept and added that in terms of relevant Regional Plan rules the permitted baseline is limited to minor takes or diversions for activities such as stock water outside the water bodies identified as being of high natural character. In Mr Kyle's opinion, general farming activities such as pastoral grazing, fertiliser application and ancillary activities are permitted under the NRRP.
- 8.32 He added that in terms of land use effects, farming activities are generally permitted in the Waitaki District and he provided a list of these permitted activities from the Waitaki District Plan. Given the permitted baseline that prevails, it is Mr Kyle's opinion that the landscape issues generated by farming activities are generally not significant.
- 8.33 Mr Kyle then went on to discuss the relevant matter from the RMA including Part 2 and Section 104 matters. He considered that the proposed abstraction and use of water for irrigation will not generate any significant Part 2 issues. The total abstraction is within the limits established by the WCWARP and is consistent with the agreements in place between the MIC and Meridian. With appropriate mitigation and management in place, it is Mr Kyle's view that the applicant's proposal will not generate significant adverse effects on the receiving environment.
- 8.34 Mr Kyle stated that the RMA does not seek to prevent changes to the environment. Rather, it seeks to provide for the use and development of natural and physical resources, subject to the provisions in Section 5. In regard to these applications, in Mr Kyle's opinion the ability to irrigate land will provide significant social and economic benefits to people and communities. These benefits arise from the employment of people on the farms, increased land productivity, and flow on social and economic benefits (e.g. secondary industries, employment) on a local, regional and national level. With appropriate mitigation which is set out within the suggested conditions, values such as the life supporting capacity of the water resources will be safe-guarded, and in some cases enhanced (localised waterways and riparian margins). Furthermore he added that the mitigation proposed will ensure that the applications will not compromise the values of the water resource and its ability to provide for existing uses and meet the needs of future generations.
- 8.35 Mr Kyle then discussed in depth the policies and objectives of the WCWARP and NRRP and how, in his view, the applicant's proposed activities were consistent with these Policies and Objectives. In regards to site specific evidence Mr Kyle drew on the evidence of Mr Brown, Dr Ryder and Dr Robson, which is discussed further below.
- 8.36 Mr Kyle then went on to address specific issues relating planning matters raised by s42A officers addressing specific applications.
- 8.37 Mr Kyle told us that the applicants propose a cut and carry system as the preferred management system for the Pebbly Block, to provide dry matter to local dairy farms. Under this system dairy effluent will be imported and dry matter exported but no stock will be grazed
- 8.38 Mr Kyle referred us to Mr Brown's evidence on mitigation of landscape issues on Pebbly Block, but reiterated that in his view landscape was not a relevant issue for us to consider.

Description of the Proposed Activity (Ian McIndoe)

- 8.39 Mr Ian McIndoe (Aqualinc Research Limited) firstly described all the applications from Killermont Station and their effects on waterways and then described specific aspects of each application.
- 8.40 For the Pebbly Block, he told us that the profile available water (PAW) varies, but is primarily represented by two main groups; Larbreck and Mackenzie with average PAW of 40 mm and 45 mm, respectively.
- 8.41 Mr McIndoe told us that water is currently diverted from the Ahuriri River under resource consents CRC010728.1 (Tara Hills) and CRC011354.1 (Omarama Station) at or about map reference H39:6133-3007. From this point, up to 500 l/s is taken through the existing Tara Hills water race and 400 l/s is piped under gravity for irrigation and stockwater supply on Omarama Station. On-farm pipelines will be PVC pipe or similar, buried with minimum 400 mm cover. Mr

McIndoe noted that power lines will be installed to supply electricity to irrigators and other infrastructure on the property.

- 8.42 The applicants proposed to place an intake in the existing diversion channel, below the main control gate and gravity feed up to 100 l/s of water through a pipeline to a pump shed located on the applicant's property. This approach means that the current bywash system can be used, and as both the Tara Hills and Omarama Station intakes are downstream of the proposed Pebbly take.
- 8.43 The proposal is to use K-Lines to irrigate the 216 ha. Irrigation will occur either side of the Tara Hills Race, but the lines will not irrigate over the race.
- 8.44 The irrigation system will be designed so that K-Lines have the capacity to apply 4.0 mm/day over the 216 ha, or up to 5.5 mm/day over approximately 158 ha. The soils on the Pebbly Block are relatively light, so deep rooted more drought tolerant grasses such as lucerne, fescue hybrids, cocksfoot, and chicory will be used in preference to ryegrasses to effectively double soil profile available water.
- 8.45 A flow rate of 100 l/s for irrigation has been applied for under this consent application. This equates to an average system capacity of 4.0 mm/day over the 216 ha that is to be irrigated. The applicant is also considering the option of applying on average 5.5 mm/d over a smaller irrigation area. The land use over the property will consist of growing pasture and forage crops, and will be operated under a cut and carry system.
- 8.46 Mr McIndoe reported on irrigation demand modelling and told us that the analysis indicated that the applicant may have insufficient water to fully meet demand more frequently than 20 % of the time. The applicant will therefore have to manage the proposed irrigation system to achieve an application efficiency greater than the 80 % that has been modelled to ensure significant yield losses do not occur in extreme years.
- 8.47 This would be achieved by using deep rooted, more drought tolerant species to increase the effective profile available water and lower the trigger point for irrigation.
- 8.48 To mitigate the potential adverse effects of irrigation on the Ahuriri River, he told us, the applicant is proposing to provide a buffer distance of approximately 200m from the river, within which irrigation will not occur. Additionally, the property will only be operated under a cut and carry system, therefore stock will not have access to the river, or cause damage to the banks.

Landscape (Stephen Brown)

- 8.49 Stephen Brown (Landscape Architect, Stephen Brown Environments Ltd) was engaged by the applicant (along with three other applicant's subject to this consent process) to assess the landscape effects of their combined implementation.
- 8.50 Mr Brown stated a number of components of the proposals are critical in terms of all of the applicants' combined activities in this area, as listed in Table 1 above.
- 8.51 Mr Brown acknowledged that the Pebbly Block abuts a DoC reserve between the state highway and the Ahuriri River that provides a foundation for views both to the River and the Clay Cliffs. In his assessment, any structures that intruded into views across this apron of land would, in all likelihood, threaten the integrity of the composite ONL.
- 8.52 In his view, the K-line irrigation proposed for the Pebbly Block would hug the ground and would have little presence in their own right. As a result, they would have little impact on the landscape character of the Ahuriri River and its physical margins, and would do little to disturb or disrupt the natural and endemic qualities of those margins.
- 8.53 He noted greening of the Pebbly Block is also a matter needing careful consideration. He told us that currently the block has a very 'bony' character: large parts of it are covered by hieracium, sweet briar and other weeds, interspersed with exposed schist and river stones. Aerial photos also reveal braiding underlying a shallow soil layer across most of the Block. These are clearly associated with past 'freshes'.
- 8.54 In his opinion, greening of the Pebbly Block would create a degree of domestication and modification that is discernible by the general public. However, it would not - in its own right - obstruct or intrude into, views of the adjacent river and Clay Cliffs, and even though the land

cover content of the immediate foreground would change, particularly when viewed from the vicinity of SH8, the Ahuriri's channels, braids, banks and foothill margins would not be physically touched by such modification. Perception of these landscape components would be affected to a limited degree.

- 8.55 He noted that a number of alternative land uses – cropping or forestry in particular – would be far more damaging in terms of the overall landscape character and value of the Ahuriri River and its backdrop. Consequently, he considered the more limited irrigation and stocking proposals for the Pebbly Block to be acceptable.

Nutrient discharge allowance (NDA) and groundwater – Dr John Bright

- 8.56 There are four proposed irrigated areas: Frosty Gully Scheme (28ha), Manuka Creek Scheme (75ha), Woolshed Block (300ha) and Pebbly Block (216ha). As the NDA has been derived for the applicant's entire property, all four blocks of proposed irrigation were discussed in Dr Bright's (Aqualinc Research Ltd) evidence.
- 8.57 Dr Bright noted that the Woolshed Block is divided equally between the Omarama Stream sub-catchment and the Ahuriri River sub-catchment, and Pebbly Block lies entirely within the Ahuriri River sub-catchment.
- 8.58 In relation to regional groundwater movement, Dr Bright concluded that all water draining below the rootzone on Killermont is expected to flow to regional groundwater in the Ahuriri River basin and to not contribute directly to Ahuriri River or to Omarama Stream flow locally.
- 8.59 The nitrate-nitrogen concentration in groundwater in the Ahuriri River Basin is approximately 0.1 mg/litre, based on monitoring of well H39/0002 located close to Omarama, upstream from the Ahuriri River basin node point. From these measurements Dr Bright concluded that there is very little impact on groundwater quality from existing agricultural activity and there is available assimilative capacity with respect to the groundwater quality threshold.
- 8.60 Dr Bright noted that static groundwater levels near the Woolshed, and earlier groundwater studies have shown that the Ahuriri River is perched about 40 metres above groundwater level. He told us that simultaneous flow gauging of the Ahuriri River has shown that the river recharges groundwater through the section of river that lies between Clay Cliffs, on the true left bank, and Pebbly Block on the true right bank. He considered it very unlikely that drainage water from Pebbly Block would contribute nutrients to the Ahuriri River at or in the vicinity of Pebbly Block.
- 8.61 Similarly Dr Bright said that the modelled direction of groundwater flow (north-east) is consistent with the spatial pattern of water inputs and the emergence of groundwater into the Ahuriri River flow near Omarama. The direction of flow indicates that drainage water from the area to be irrigated will not contribute to Omarama Stream flow, and therefore will not have a more than minor adverse affect on its water quality.
- 8.62 Dr Bright told us that the nutrient discharge allowance for Killermont Station allocated through the WQS (Part A) is 9,440 kg nitrogen per year (including a 1500 kg re-allocation from WHL Killermont) and 179 kg phosphorus per year. The NDA was based on the Ahuriri Arm having the most stringent requirements for nutrient reduction.
- 8.63 By comparison the predicted average annual nitrogen leaching losses from the whole farm area was 9,254 kg of nitrogen, and 172 kg of phosphorus.
- 8.64 Dr Bright concluded that the effects of the proposed irrigation on surface water bodies would be minor provided the FEMP was followed and there was an opportunity to adapt farm management practices in the event that monitoring showed greater leaching losses than expected. He advocated the use of lysimeters, which would provide the most rapid reflection (compared with groundwater or surface water monitoring) of nitrate-N concentrations in lysimeters.

Farm Systems - Robert Englebrecht

- 8.65 Robert Engelbrecht (Director, Robert Engelbrecht Consultancy Ltd) provided a brief overview of the applicant's proposed activity and outlined the information (including site visit) he used to make his assessment.
- 8.66 Mr Engelbrecht told us that he had visited the 2,500 ha Killermont Station farm and noted that is already had some irrigation, but proposed to upgrade and extend it over a greater area of the

farm. The proposed development on this property is to expand the sheep and beef cattle enterprises, as well as provide some cut and carry feed supply to dairy farming operations in the immediate locality.

- 8.67 The proposed irrigation enhancement and further development of Killermont Station is both feasible and practical with the farm programmes as outlined he told us. However precise livestock management would be required, since the sheep, beef cattle and deer will be run in a conventional farming system.

Aquatic Ecology and Avifauna –Dr Ruth Goldsmith

- 8.68 Dr Ruth Goldsmith (Environmental Scientist, Ryder Consulting Limited) was engaged by the applicant to describe the existing aquatic and avifaunal ecological values associated with the proposed take and use of water, the ecological effects associated with the irrigation developments and the recommended mitigation options to address these effects on Killermont Station.

Existing values

- 8.69 Dr Goldsmith told us that she had observed the presence of didymo at the proposed intake location for Pebbly block in the Ahuriri River. Other diatom growths and long green filamentous algae (>2cm long) were also present at both sites.
- 8.70 She noted that previous studies on the Ahuriri River have reported high taxonomic diversity and that macroinvertebrate communities are dominated by high quality Deleatidium species mayflies. Her own surveys for this project found that community health indices were indicative of and 'good' biotic health at the proposed Pebbly Block intake diversion.
- 8.71 She told us that five freshwater fish species have been recorded in the Ahuriri River (3 native species, Canterbury galaxias, koaro and upland bully, and 2 introduced species, brown and rainbow trout) in the general vicinity of the proposed intakes. The Ahuriri River is known to support a highly valued sports fishery, and brown and rainbow trout are also present in the vicinity of the proposed Pebbly Block take. None of the three native fish species are classified as rare or uncommon. Other species have been recorded in the Ahuriri River several kilometres downstream of the intake, including alpine, bignose and lowland longjaw galaxias, longfin eel and common bully.
- 8.72 Dr Goldsmith told us that the Ahuriri River is recognized as an important habitat for rare and uncommon bird species, in particular the black-fronted tern and grey duck, which are listed by the Department of Conservation as 'Nationally Endangered' and the falcon, which is listed as 'Nationally Vulnerable'. Previous surveys of the wider Ahuriri River area found the area provides important feeding, roosting and breeding habitat for many key bird species, including black stilt, black-fronted tern, wrybill, banded dotterel, black-billed gull, marsh crake, Australasian bittern, Australasian shoveler and New Zealand scaup.

Potential effects

- 8.73 Dr Goldsmith considered that effects on fish communities as a result of the Pebbly Block intake will be less than minor because the intake will be screened (screen pipe) and adhere to good practice guidelines for fish screening in Canterbury.
- 8.74 Provided her recommendations for construction of the intakes are followed (#3.16) Dr Goldsmith told us that effects on invertebrates, fish and birds would be short-term and minor in nature.
- 8.75 Similarly, she said, there is no reason to suspect that the discharge of surplus irrigation water from the Pebbly Block intake discharge would adversely affect downstream aquatic communities in the Ahuriri River, since it should be no different in quality to intake water from the Ahuriri River.

Irrigation

- 8.76 Irrigation of Pebbly Block will be used to grow pasture and forage crops and no stock will be grazed in the area. Dr Goldsmith told us that solid dairy effluent will be imported to the farm and spread as needed according to nitrogen requirements.

- 8.77 Dr Goldsmith said that the proposed irrigation area will be set back at least 200m from the river and that as the area would not be used for stock grazing, fencing of the river was not required.
- 8.78 In Dr Goldsmith's opinion, irrigation and subsequent pasture and crop production would be beneficial to the main bird species that are currently found within the proposed irrigation areas (e.g. greenfinch, chaffinch, and skylark). However, she acknowledged that irrigated pastures may also attract Canada geese, which can cause fouling of waterways and pasture and that monitoring of the Canada geese population was therefore recommended on irrigated land adjacent to the Ahuriri River.
- 8.79 Irrigation could result in a reduction in the local rabbit abundance, which could result in mammalian predators (e.g. cats, ferrets and stoats) switching to alternative prey, such as birds. Dr Goldsmith therefore recommended monitoring of mammalian predators in areas adjacent to the Ahuriri River (in consultation with the Department of Conservation), and if necessary the implementation of an appropriate pest management strategy.

Terrestrial Ecology – Dr Ruth Bartlett

- 8.80 Dr Ruth Bartlett (Mitchell Partnerships) gave evidence on terrestrial ecological values (particularly native vegetation) on the applicant's property, and the likely effects of irrigation.

Description of Vegetation and Ecological Values

- 8.81 Dr Bartlett stated that the ecological values and effects of the Killermont Station areas are similar to those for Williamson Holdings Limited. She added that the cultivated crop and grazing land has already lost almost all of its indigenous vegetation.
- 8.82 The Pebbly Block has a sparse cover of mainly exotic grasses, with hieracium, bird's foot trefoil, stonewort, woolly mullein and occasional fescue tussock present. Along the edge of Tara Hills water race, which traverses this area, scattered *Chionochloa rigida* and *Shoenus sp.* were present, along with exotic species and fescue tussock. The ecological values of this areas is extremely limited, Dr Bartlett told us, and the poor vegetation cover is likely to result in ongoing soil loss year round.

Effects of the Proposal

- 8.83 In Dr Bartlett's view, irrigation would have the beneficial effect of assisting development of a ground cover that may minimise continued soil loss from the Pebbly Block.

Cultural Effects (Buddy Mikaere)

- 8.84 Buddy Mikaere (Principal, Buddy Mikaere and Associates) appeared on behalf the applicant (and two other applicants represented by Mr Whata). He stated that the objective of his evidence was to show how the cultural issues that were raised by Te Runanga O Ngai Tahu (TRONT) and the Ngai Tahu Mamoe Fisher People Incorporated had been addressed.
- 8.85 Mr Mikaere has considered all the applications and his assessment is that provided the suggested mitigation proposals are put in place by way of appropriate consent conditions and incorporated into the respective FEMPs then the overall impact on cultural values of the proposed irrigation and associated infrastructure will be less than minor.
- 8.86 Sections 6(e), 7(a) and 8 of Part 2 of the RMA are normally regarded as the 'cultural' sections according to Mr Mikaere. In his view the applicant is in compliance with these sections of the RMA. Mr Mikaere then provided details on how he believed these applications are compliant with these sections. Mr Mikaere then outlined the relevant 'cultural' policies and objectives from the WCWARP and in summary noted the applicants proposed activities are consistent with these policies and objectives.
- 8.87 While we have considered Mr Mikaere's evidence in full, it is discussed further in that section of our Part A decision dealing with tangata whenua values.

Farm Environment Management Plan (FEMP) – Dr Melissa Robson

- 8.88 Dr Melissa Robson (Ryder Consulting Ltd) presented evidence on behalf of the applicant and the three other properties represented by Mr Whata. Dr Robson's evidence on the purpose and

development of the FEMP was covered in Part A of the decision and is not repeated in this section, which only contains evidence specific to the applicants property.

8.89 Information in her evidence specific to Pebbly Block included:

- (a) on farm activities in Pebbly block could affect the immediate hydrologically connected area of the Ahuriri river,
- (b) a cut and carry system is proposed on approximately half of the block, to provide dry matter to local dairy farms. Solid manure from the neighbouring dairy unit will be imported and dry matter exported. No stock will be grazed,
- (c) an 85% pasture utilisation rate has been assumed as the mechanical harvesting and feeding of silage on neighbouring dairy farms will result in greater utilisation rates, and the lack of pasture damage from stock will enhance pasture production,
- (d) the manure imported onto Pebbly Block will provide an important part of the nutrient requirement for that block,
- (e) the OVERSEER model in its current format is not able to model a complete cut and carry system as the model will only allow up to 50 % of the dry matter grown on a paddock to be cut, with the remainder having to be grazed. The implications of this are that the nutrient losses modelled in OVERSEER on this block are likely to be an overestimate.

Amendment to FEMP

8.90 On 9 March 2010 the applicant provided an amendment to their FEMP. This amendment did not introduce further farming systems, but did remodel the OVERSEER outputs using both the Developed and Highly Developed setting and reallocated 6,105 kg nitrogen from WHL Killermont to ensure their compliance under the Highly Developed setting. Consequently, the new NDA for Killermont Station tabled by Dr Robson is 14,045 kg nitrogen, which is equal to the modelled nitrogen discharge using the highly developed setting.

9 SUBMITTERS

9.1 We note that most of the submissions against the granting of large-scale irrigation applications (of which this proposal is one if one considers all the proposed takes and irrigation blocks proposed by Killermont Station) were aired as generic opposition to the cumulative water quality effects of granting. As such, it has been summarised in Part A and will not be repeated here. However we consider all the Part A evidence along with the specific submissions to this application in our consideration of the issues.

Groundwater and water quality – Peter Callander

9.2 Mr Callander presented three briefs of evidence at the hearing, a general brief, a brief on cumulative water quality effects and one on individual applications. In this evidence Mr Callander provided comment on Dr Bright's evidence on the applicant's property in addition to the three other applicants represented by Mr Whata.

9.3 Much of Mr Callander's evidence related to a critique of Dr Bright's evidence, in which he interpreted the likely groundwater pathways for individual applicants from the MWRL Water Quality study. Mr Callander considered that Dr Bright's evidence presents a generalised description of a possible migration of nutrients that has been provided to Dr Bright by GHD. In Mr Callander's view however, Dr Bright did not appear to have critically reviewed that information and not described the uncertainties associated with it. Mr Callander provided a description of the uncertainties, which in his view lessen the confidence we should place on their assessment. This summary of uncertainties has been noted.

9.4 Mr Callander acknowledged that these uncertainties are largely due to a lack of reliable field data rather than any basic errors in the assessments. However, due to that lack of data he added that it would be appropriate to present either a conservative analysis (which is not the current MWRL approach) or a sensitivity analysis to consider a range of possible nutrient generation and migration scenarios that could arise within the constraints of the information available.

9.5 In respect to this application Mr Callander noted Dr Bright's conclusion that nutrients drain to groundwater due to a deep water table and measured surface flow losses between the Clay Cliffs

and SH8. This groundwater will contribute to surface flow in the lower gaining reaches of the Ahuriri River.

Landscape Effects – Dr Walker, Di Lucas, Anne Stevens

- 9.6 In her site specific evidence Dr Walker noted that the proposed application site overlaps significant inherent values identified in the Tenure Review and WERI¹ sites (being a braided river system with associated wetlands).
- 9.7 Ms Lucas' comments related to all sites of proposed irrigation on Killermont Station (excluding the WHL Killermont block). For these sites she endorsed Ms Stevens' assessment (#192) regarding the landscape character experienced. There would, in her view be a large loss of naturalness, spaciousness and of the wild and remote desert landscape character of the semi-arid lands.
- 9.8 Ms Lucas's opinion was that the proposal for the development of the Pebbly Block to intensive land use for some 4 km alongside SH8 is inappropriate, being an area highly valued by visitors.
- 9.9 Anne Steven's had direct experience with Killermont Station through being retained by Department of Conservation through the tenure review process.
- 9.10 She noted that the river margin of the Pebbly block is currently proposed as part of the Outstanding Natural Landscape (ONL) of the Ahuriri River and Clay Cliffs, with an underlying Rural Scenic zone.
- 9.11 She told us the Pebbly Block falls within the area currently recognised as outstanding natural landscape at regional level. The Ahuriri River adjacent has several designations including a Water Conservation Order, giving it overall outstanding status for wildlife and fishery values.
- 9.12 The Clay Cliffs (adjacent to Pebbly Block) is a geopreservation site with a QEII Open Space covenant over it she told us.

Ecological effects – Mark Webb

- 9.13 Mr Mark Webb (Fish and Game) told us of the importance of the Ahuriri River as a trout fishery. Apart from the lower reaches which are now beneath Lake Benmore, the Ahuriri River is the last relatively unmodified river fishery of significance in the upper Waitaki Catchment. The National Angler Survey indicates 3,000 to 5,000 angler-days are sustained annually on the river and in the last ten years angler use has approximately doubled. The Ahuriri River has an international reputation for the quality of its fishing.
- 9.14 The most popular areas for fishing are the Lake Benmore delta (a few kilometres either side of SH 8) and above the gorge.
- 9.15 Clay Cliffs (see Figure 1) are an important marker for spawning he told us. Angling in the lower reaches of the river, below Clay Cliffs, is greatly influenced by runs of rainbow trout and to a lesser extent brown trout up the river from Lake Benmore. These fish migrate in response to change in river flows particularly floods and freshes in summer when the river is otherwise too low and warm, and in response to the urge to seek suitable spawning habitat in autumn and winter. Spawning runs for trout from Lake Benmore do not appear to extend further upstream than Clay Cliffs. About 30% of all trout spawning in the Ahuriri River or between 30 and 60 redds annually, occurs between Lake Benmore and Clay Cliffs.
- 9.16 Mr Webb was also concerned about the design and effectiveness of proposed fish screens on the buried pipe that would extract the water.

10 UPDATES TO THE SECTION 42A REPORTS

Landscape effects

- 10.1 Mr Chris Glasson audited Mr Brown's assessment but disagreed with his principal conclusion that with portable K-line irrigation and the proposed farm management (i.e. cut and carry) landscape effects would be acceptable. Mr Glasson could not recommend the consent be granted with the

¹ Wetland of Regional Importance, being a classification developed by the Department of Conservation and used as an indicator of areas with some significant ecological value.

current scale and mitigation measures proposed primarily due to the importance of the view to Clay Cliffs and the landscape values associated with the Ahuriri River.

OVERSEER audit

- 10.2 Ms Rodrigo stated in her addendum report that Mr McNae (technical s42A OVERSEER audit) had identified a number of uncertainties relating to the OVERSEER inputs for the property. However in his addendum report, Mr McNae appeared to have resolved all significant issues relating to Pebbly Block.

Water quality – cumulative effects

- 10.3 The applicant's draft FEMP and water quality assessment was audited by the Council's technical experts. Ms Rodrigo noted that for this application they considered that there is a high level of uncertainty about potential adverse effects on water quality within the Ahuriri Arm of the catchment, and given the potential consequences of those adverse effects, suggested that the application (in conjunction with the applicant's other applications) should not be granted.

Fish screening

- 10.4 Ms Rodrigo confirmed that the condition recommended by ECan has been proposed by the applicant in the land use consent (CRC041330) associated with this water permit, and that this issue is now resolved.

11 APPLICANT'S RIGHT OF REPLY

Closing Legal Arguments

- 11.1 Mr Whata provided the closing legal submissions on behalf of the applicant and three other applicants subject to this consent process. In his overview he stated that the final officer recommendations have lost sight of the big picture, and more particularly a realistic appraisal of the adverse and positive effects of the proposed farming systems.
- 11.2 He addressed us on the existing and future environment reminding us that the applicant's site was not a pristine natural environment and reflects the reality of a dryland farming tough environment. He discussed with us outstanding issues, including water quality issues, cultural issues, and landscape issues, which we discuss in more detail below.
- 11.3 Mr Whata also referred to Mr Glasson's recommendation that the Pebbly Block application be declined because of the importance of the Clay Cliffs and the landscape values of the Ahuriri River, citing Mr Brown's response that landscape components would be affected to only a limited degree.
- 11.4 He also addressed us in detail in respect of adaptive management, including lock-step, staging, and ratcheting, which we discuss in greater detail later within this Decision.

Aquatic Ecology (Dr Ruth Goldsmith)

- 11.5 In her evidence in chief, Dr Goldsmith stated that Tara Hills water race does not flow continuously and hence had only minor aquatic values. In her right of reply, Dr Goldsmith accepted Greg Stuart's (Farm Manager) evidence for Tara Hills Station, who stated that this is incorrect, as the water race does flow continuously with 50l/s for stock water and also that fish have access to the water race. However she reiterated that a flow of 50 l/s would provide only minor habitat for aquatic communities.

Terrestrial Ecology (Dr Ruth Bartlett)

- 11.6 Dr Bartlett visited the applicant's property prior to giving her right of reply evidence and undertook further vegetation survey work. While showing photo's supporting her survey there was no information on Pebbly Block vegetation additional to her evidence in chief.

Cultural Effects (Buddy Mikaere)

- 11.1 Mr Mikaere stated that the purpose of his reply evidence is to respond to matters raised in the evidence of David Higgins, Di Robertson, Paul Horgan and Mandy Waka Home on behalf of Te Runanga O Ngai Tahu. In that response he set out at length a further review of the consultation

process undertaken with Ngai Tahu. He was clear in his view a longer consultation would not have assisted in terms of identification of application specific issues, but may have been helpful in the formulation of appropriate mitigation, remedial and avoidance strategies. He was of the view that any issues around consultation had been remedied largely because of the content and nature of the FEMPs.

- 11.2 We note that Mr Mikaere's reply is generic to the all the applicants represented by Mr Whata and does not cite cultural concerns specific to any one property including Killermont Station. We note that Mr Mikaere acknowledged that the health and water quality of the Ahuriri Arm had been raised as a specific issues in the CIA and by Ngai Tahu in their submission and that a proportion of leachate from this application will drain to that Arm.

Planning (John Kyle)

- 11.3 In his right of reply Mr Kyle provided a set of proposed consent conditions for the applicant's consent. He also included a flow chart that explained how the approach to conditions in terms of response to the proposed OVERSEER modelling and water quality monitoring would be achieved.

Landscape (Stephen Brown)

- 11.4 Mr Brown rejected Mr Glasson's evidence about the intrusiveness of the irrigation into the landscape and reiterated that k-line irrigation was the least intrusive in this regard.
- 11.5 He agreed that "greening of the Pebbly Block would create a degree of domestication and modification that is discernible by the general public", however he asked us to weigh up the greening effect against the gradual "browning" and occupation by rose briar, hieracium and other weeds.

12 STATUTORY CONTEXT

- 12.1 The relevant statutory context is set out in detail in our Part A decision. In accordance with those requirements, we have structured this evaluation section of our report as follows:
- (a) Evaluation of effects
 - (b) Evaluation of relevant planning instruments
 - (c) Evaluation of other relevant s104 matters
 - (d) Part 2 RMA
 - (e) Overall evaluation

13 EVALUATION OF EFFECTS

- 13.1 Drawing on our review of the application documents, the submissions, the Officers' Reports, the evidence presented at the hearing and our site inspection, we have concluded that the effects we should have regard to are :
- (a) Landscape and amenity
 - (b) Terrestrial Ecology
 - (c) Groundwater
 - (d) Water Quality and aquatic ecology
 - (e) Cultural
 - (f) Positive effects

Landscape and amenity

- 13.2 The Pebbly Block proposal is located in a high natural character area and abuts a DOC reserve between SH8 and the Ahuriri River that provides a foundation for views of the both the Ahuriri River and Clay Cliffs. The area is highly visible from SH8 and is an important component of the continuity of the landscape on both sides of SH8 with the proposed command area extending for 4km alongside the highway. The applicant proposes the use of k-line irrigation which would have the benefit of hugging the ground and have little physical presence. However the greening effect would be discernible to the public and while it would not "obstruct" the views of the adjacent river and Clay Cliffs, it would, we conclude intrude into the visual experience that the locality is valued for.
- 13.3 The proposed application site overlaps significant inherent values identified in the Tenure Review and WERI sites being a braided river system with associated wetlands. Both Mr Brown for the applicant and Mr Glasson (S42A) supported the desirability of relocating the proposed activity to the alternative option on the southern part of Killermont Station, adjacent to the Woolshed proposal. This is an area which is already affected or modified and this irrigation would remain obscured behind an elevated terrace.
- 13.4 In our Part A decision we summarised the evidence of a number of landscape experts who expressed differing views the effects that irrigation would have on visual effects. We reached some general conclusions on the issue and set out the general approach for assessing landscape effects for individual proposals. We now move on to apply this assessment approach to the current proposal.

Existing landscape

- 13.5 The site is located within Unit 6 – Omarama as per Mr Glasson's evidence. This Landscape Unit is at the southern end of the Upper Waitaki catchment. It is a landscape of an outwash plain and terraces resulting from the action of the Ahuriri River. The surface is flat to undulating.
- 13.6 The landscape is defined on both sides of the Ahuriri River. It is valley-like with high hills on each side and an enclosure at the southern end by the Lindis Pass. The northern end closest to Omarama is much more open. Irrigation is already present in this landscape unit on flat pastures.
- 13.7 Killermont Station is located on both sides of State Highway 8 with the Pebbly Block located to the north immediately adjacent to the Ahuriri River. The area is highly visible from State Highway 8 and is an important component of the continuity of the landscape on both sides of State Highway 8 with the proposed command area extending 4k alongside the highway.
- 13.8 Mr Glasson did note that already in the landscape there are modifications, which include shelter belts, wilding pines, water races, roads, fences, farm buildings, irrigated pasture, plus the settlement of Omarama. He noted that Omarama is the base from which various recreational pursuits and tourist pursuits, such as camping, fishing, hunting, gliding, and site-seeing take place.
- 13.9 Mr Glasson tells us it is a landscape with a legible expression of land forms with a strong horizontal emphasis, an absence of trees, a high naturalness with a dominating tussock and grassland character. Although we do observe (from our site visits) the grassland quality was certainly not good. It is a consistent landscape, unified in form, colour and texture. According to Mr Glasson the landscape holds a low absorption capacity for change.
- 13.10 Mr Glasson emphasised it was the two opposite mountain ranges on each side of the valley coupled with the valley floor and open flat landscape surface that gave this particular landscape unit what he called a special quality. He told us this openness allows unimpeded views, especially to the clay cliffs on the northern side of the plain, and long distance views following State Highway 8.

Effects on landscape

- 13.11 It was generally agreed between the different experts that granting consent to the proposal would bring about the following changes to the landscape:

- (a) The greening effect would be discernible to the public and while it would not “*obstruct*” the views of the adjacent river and Clay Cliffs it would intrude into the visual experience that the locality is valued for.

13.12 We move on to assess the significance of these changes, taking into account the evidence received from the various experts.

Significance of effects

- 13.13 A useful reference point when considering the significance of the change caused by irrigation is how the landscape is treated in the relevant district plan. The site itself, the Pebbly Block, has Rural Scenic zoning as per the Waitaki District Plan. However, the site is located immediately adjacent to the clay cliffs and adjacent to an Outstanding Landscape area to the north of the Ahuriri River. The Ahuriri River itself is also noted for its high level of naturalness.
- 13.14 The Pebbly Block also abuts a DoC reserve. The clay cliffs are noted as a geopreservation site with a QEII Open Space covenant. The Ahuriri River itself has a Water Conservation Order given its overall outstanding status for wildlife and fishery values.
- 13.15 The Waitaki District Plan provides that the Rural Scenic zone has a particular visual amenity that is associated with the dominance of open-space vistas and land forms, lack of intense subdivision and land use, and the overall absence of buildings and structures. However, farming and irrigation are permitted activities in the zone.
- 13.16 In respect of the general visibility of the site, we took from the evidence that all landscape experts agreed that the Pebbly Block was very visible from State Highway 8. We agree that there is significant amount of traffic, including tourists. We think that this is a landscape unit that is sensitive to change. We think this point was acknowledged by Mr Brown – in particular, when he expressed preference that the irrigation activity should relocate to the Woolshed/Home Block.
- 13.17 In terms of mitigation measures, we took from Mr Brown’s evidence that given the nature of the activity it was not really possible to provide any mitigation measures.
- 13.18 Mr Glasson’s view was much more direct. He considered because of the greening effect the activity should relocate from the subject site. He was not confident given the characteristics of the site that any mitigation measure would be appropriate.
- 13.19 Overall, we agreed with the assessment of the site put forward by both Mr Glasson, Ms Steven, and Ms Lucas, both of whom supported Mr Glasson’s assessment and his outcomes.
- 13.20 We are mindful of the point that at a regional level the basin is taken to be an outstanding natural landscape. Irrigation development may not be appropriate on every site within the basin. Given that we have accepted the application site overlaps with over sites that have significant inherent values, we have concluded that having regard to the fact that mitigation is not possible in terms of the proposed activity that irrigating the Pebbly Block proposal would have a more than minor effect on landscape values. In reaching this outcome we are alive to the fact that farming and irrigation are permitted activities in this zone in terms of the district plan.
- 13.21 In our view, we do think that within his evidence Mr Brown recognised the vulnerability of this landscape to change when he acknowledged how easy it would be to threaten the integrity of what he called the composite ONL and that with greening the perception of this landscape would be affected, but only to a limited degree. We think the effect will be much greater than a limited effect.
- 13.22 In reaching this conclusion we have taken into account the potential cumulative effects of this proposal. However, our conclusion remains unchanged irrespective of whether we are considering the Pebbly Block in isolation or in combination with other existing and future developments. For this reason and given our overall findings on this application we have not provided a detailed discussion on cumulative landscape effects within this decision.

Terrestrial ecology

- 13.23 Pebbly Block has a sparse cover of mainly exotic grasses, with hieracium; birds foot trefoil, stonewort, woolly mullein and occasional rescue tussock present. The area is described by the applicant as having extremely limited ecological value, with the poor vegetation cover likely to

result in ongoing soil loss. Irrigation on this block would have a positive effect by creating a vegetative cover and reduce soil loss and halt the spread of hieracium and rose briar. Thus any effect on terrestrial ecology will be less than minor.

Groundwater

- 13.24 Dr Bright for the applicant advised us that the Ahuriri River, adjacent to Killermont Station is perched about 40 metres above groundwater level, according to the measurements from one well, H39/0045. This together with the free draining soils in the areas proposed to be developed for irrigation, means the drainage below the root zone will recharge groundwater and will not move laterally to the Ahuriri River and affect surface water quality. Dr Bright contended that the modelled direction of groundwater flow (north-east) is consistent with the spatial pattern of water inputs and the emergence of groundwater into the Ahuriri River flow near Omarama. The direction of flow indicates that drainage water from the area to be irrigated will not contribute to Omarama Stream flow, and therefore will not have a more than minor effect on Omarama sub-catchment water quality.
- 13.25 While we accept that Dr Bright's evidence may apply to Killermont Station as a whole, we would expect at least some of the drainage from Pebbly Block to flow directly to the adjacent Ahuriri River due to its hydrological connectedness.

Water quality and aquatic ecology

- 13.26 In Part A of this decision we rejected the MWRL proposition that all consents sought in this hearing could be granted (with conditions) and without causing cumulative water quality effects. It is incumbent upon us, therefore, to consider (as far as is possible) whether granting this application, in combination with other water permits we grant, will lead to unacceptable water quality effects. In this case it means considering the potential effects of granting this application (in combination with others we grant) on:
- (a) the trophic state of the Ahuriri Arm of Lake Benmore;
 - (b) Groundwater chemistry and in particular the proposed threshold of 1 mg/L Nitrate-nitrogen; and
 - (c) Periphyton growths and other ecological effects in the Ahuriri River
- 13.27 A starting point for the consideration of effects is the FEMP. Evidence on the FEMP was given by Dr Robson, but for consistency with other decisions we have independently audited the FEMP.
- 13.28 There is little in the FEMP or our audit that is specific to Pebbly Block, however we note that:
- (a) this will be a cut and carry operation, i.e., no animals will graze the block, though solid manures sourced from other proposed dairy operations are proposed as a nutrient supplement (complementing fertiliser additions). We note that the application states it is for grazing animals and crops excluding dairy cows.
 - (b) the soils on the new area are dominantly shallow Mackenzie with a PAW of ~45mm. Our view (see Part A) is that the developed setting of OVERSEER may underestimate nutrient loss of such soils and that the highly developed setting, whilst not scientifically robust, provide a more pragmatic conservative estimate of the nitrogen losses that may be expected.
 - (c) lay-backs are proposed from manure spreading to minimise the possibility of manure entering watercourses,
 - (d) Dr Robson acknowledges that at least part of Pebbly Block is hydrologically connected to the Ahuriri River. The aerial photo (Figure 1) clearly shows this hydrological connectivity.
- 13.29 For Killermont Station, the WQS identified the Ahuriri Arm's mitigation requirements as being the most stringent. MWRL through the WQS set Killermont Stations NDA (amended FEMP) for nitrogen at 14,045 kg/y. However this included 6,105 kg reallocated from WHL Killermont. The actual OVERSEER load modelled for Killermont Station was 9229 kg nitrogen/y and 172 kg phosphorus/y using the developed setting.

- 13.30 We are aware that one of the benefits of OVERSEER is that it models whole farm management and that nutrient losses cannot be attributed to the irrigation site alone, but includes the extra stock that it supports. Nevertheless in the case of Killermont Station we are faced with the situation of having 4 separate applications, with in our view different environmental settings and consequences. We note that Dr Bright made the assumption that the majority (if not all) new nutrient load arising from Killermont would come from irrigated areas and that seems a reasonable assumption to make for the purposes of separating out the likely effects of the different applications.
- 13.31 The modelled loads arising from Pebbly Block alone are difficult to determine. Dr Freeman (addendum evidence Table 7) appears to lump the Pebbly Block and Woolshed Block together (516 ha) and apportions a collective nitrogen load of 7,710 kg nitrogen/y. This load estimate is a good reflection of the alternative system (not preferred by Killermont) whereby the Pebbly block is left as it is currently and all irrigation takes place on land adjacent to the proposed Woolshed Block and is grazed (i.e. the Woolshed block plus the land adjacent to Woolshed Block irrigated from this take point).
- 13.32 The OVERSEER output files for the Pebbly Block show an estimated nitrogen leaching rate of 3 kg N/ha/y for both the developed and highly developed setting which would equate to a load of ~ 650 kg N/y. However we note the inability of OVERSEER to model a 100% cut and carry system. Given the stony nature of the soils on Pebbly Block, the hydrological connectedness with the Ahuriri river (even commented upon by Mr Brown – see his evidence above), and the nutrient inputs required to maintain the cut and carry system we are of the view that nitrogen losses will be greater than 3 kg/ha/y, though we accept that will be very much less than would be the case if grazing animals were present. The inability to more accurately quantify potential nutrient losses in this particular situation is a concern to us, given its proximity to the Ahuriri River.

Effects on waterbodies

Ahuriri River

- 13.33 We accept Dr Goldsmith's evidence that the ecological effects (fish, invertebrates, birds) of the proposed irrigation on the Ahuriri River will be minor. We do not have sufficient information to be sure there will not be more than minor effects on periphyton growths in the Ahuriri River, but given the flow of the river, and the relatively low (compared with a grazed system) nutrient losses from the cut and carry system, and the lay-back distances proposed, we think that periphyton growths would be localised and at the river margins.
- 13.34 We also accept Ms Rodrigo's view that the discharge consent from the in-take of bypass water back to the Ahuriri River with suitable conditions will have a less than minor effect, given it will be combining with an existing overflow from the existing intake structure.

Ahuriri Arm of Lake Benmore

- 13.35 In part A we determined that the Ahuriri Arm of Lake Benmore was already close to the oligotrophic-mesotrophic boundary. The proposed Pebbly Block irrigation would contribute to new nutrient load to the Ahuriri Arm albeit by a maximum of ~1% (approximately the same as the Manuka Creek proposed irrigation. We have taken this into account when making our final determination taking into account the purpose and principles of the Act.
- 13.36 For the alternative system the potential increase in nutrient load to the Ahuriri Arm will be greater (2-3% of new load in the catchment) because it is a grazed system. However the time for any such effects to be manifest will be longer because of groundwater travel times.

Groundwater

- 13.37 The Pebbly Block irrigation is unlikely to increase regional groundwater concentrations due to its proximity to, and hydrological connectedness with the Ahuriri River.

Avoided, remedied or mitigated

- 13.38 The applicant has proposed a lock-step approach as a measure to ensure that any remaining 'unknowns' are addressed before their activities are fully developed. This is an advancement of the applicant's thinking on adaptive management about which we gave our views in Part A.

- 13.39 The lock-step approach in essence, includes the design and implementation of a pre-irrigation monitoring programme. Simply put, if the baseline assumptions are not confirmed through this monitoring, then irrigation cannot commence.
- 13.40 While attractive at first blush it raised for us the question: Why should consent be granted in the circumstance where what we considered to be fundamental pre-consent research was either not completed or not completed adequately?
- 13.41 Our concern with this approach is that while we see the sense in the circumstances of this case of pre-irrigation monitoring, we note that, firstly, it is more than pre-irrigation monitoring; indeed, it is the design and implementation of a pre-irrigation monitoring programme.
- 13.42 Next, if we are to grant consent on this basis, then our view of the evidence produced there is a very real risk the applicant group would not be able to proceed beyond the pre-irrigation monitoring programme. Rather than grant a consent that could not be given effect to and which might create difficulties for both the applicant group and the consent authority, we considered it more appropriate that we recognise, through declining consent, that the applicant bears the primary responsibility of coming to a hearing with adequate information.
- 13.43 In addition, to the lock-step approach, the applicants have (in Mr Whata's closing arguments) proposed staging (capping nutrient discharge at 80% of the provisional NDA in the first full five years of irrigation) and ratcheting (a mechanism that provides for reducing nutrient discharge in the event that the monitoring reveals that loadings are approaching 90% of the Ahuriri TLI threshold).
- 13.44 The difficulty we have with both of these suggestions is that we are of the view that the Ahuriri Arm is already close to the oligotrophic-mesotrophic boundary and even 80% of the proposed NDA would be sufficient to effect that change in state. Similarly, after 5 years of nutrient discharge (excluding allowances for travel time) we would be reasonably certain that the Ahuriri Arm would have crossed the mesotrophic boundary. It would in our view, be irresponsible to grant a consent on the basis that once the Ahuriri Arm reached that undesirable state, the applicants would then have to ratchet back their nutrient discharge.
- 13.45 In summary we are of the view that the lock-step approach should not be a substitute for a robust AEE and/or supporting evidence in which the state of the existing environment is adequately described and reasonable efforts are made to address reasonably foreseeable environmental effects. As discussed in Part A we are of the view that the MWRL WQS falls short of the standard expected for a proposal (the total consents for irrigation before us) of this magnitude.

Tangata Whenua

- 13.46 The Ngai Tahu objective to undertake mahinga kai enhancement projects in the Lower Ahuriri River area would be detrimentally affected by an increase in nutrient levels above present levels. The Pebbly Block would contribute to the cumulative negative water quality effects of existing and new irrigation proposed in the Ahuriri catchment. Ngai Tahu expressed opposition to any further irrigation, particularly large scale activity due to uncertainty about the effects on key water bodies that might occur as a result. We agree, our finding in Part A of the decision was that we had insufficient information to determine the effect of the nutrient increase on down catchment water quality to grant all consents (with conditions).

Positive Effects

- 13.47 The addition of 216 ha of irrigated land to the Killermont Station operation would provide an undoubted boost to the properties economic viability through the benefits of production and sale from the cut and carry activity. There would also be benefits that flow on to the local and regional economy.

Permitted baseline

- 13.48 In accordance with s104(2), we have the discretion to disregard an adverse effect on the environment where the relevant plan permits an activity with that effect.
- 13.49 We think the permitted baseline is relevant in relation to farming activity, as pointed out to by Mr Brown. He referred to cropping and forestry as activities. At least in terms of the current farming activity that occurs on the site as well as cropping we have taken them into account as

part of the permitted baseline. However we do see quite a distinct difference between those permitted as of right activities and the effect of irrigation on the command area of Pebbly Block, namely the adverse impact of the greening effect as described below.

Key conclusions on effects

- 13.50 In relation to the actual and potential effects of the proposal, our key conclusions are as follows.
- 13.51 The Pebbly Block proposal will be highly visible and introduce a greening effect that would have a significant effect on the public enjoyment of a combination of landscape features that are special to the locality and a part of a natural, spaciousness and wild and remote desert landscape character of the semi arid lands. We accept it will not be possible to avoid, remedy or mitigate these effects.
- 13.52 Given the stony nature of the soils on Pebbly Block, the hydrological connectedness with the Ahuriri River, and the nutrient inputs required to maintain the cut and carry system we are of the view that nitrogen losses will be greater than the 3 kg/ha/y modelled by the applicant. The absence of grazing animals in the system provides a positive reduction in nitrogen produced but the inability to more accurately quantify potential nutrient losses in this particular situation is a concern to us, given its proximity to the Ahuriri River.
- 13.53 We agree with the applicant, submitters, and the Consent Investigating Officers that, subject to the imposition of appropriate conditions, the effects of the applications to disturb the bed and to discharge surplus irrigation water into the Ahuriri River would be minor.

14 EVALUATION OF RELEVANT PLANNING INSTRUMENTS

- 14.1 Under s 104(1)(b) of the Act, we are required to have regard to the relevant provisions of a range of different planning instruments. Our Part A decision provides a broad assessment of those planning instruments and sets out the approach we have applied to identification and consideration of the relevant provisions. The following part of our decision should be read in combination with that Part A discussion.
- 14.2 In relation to the current applications, we consider that the most relevant and helpful provisions are found in the regional plans, including in particular the WCWARP and the NRRP. In addition, the proposed and operative CRPS and the relevant district plans are of assistance in relation to landscape issues that arise.
- 14.3 The following sections of this decision provide our evaluation of the key objectives and policies from these planning instruments. We have organised our discussion in accordance with the key issues arising for this application. We have already included that the effects on terrestrial ecology will be less than minor.

Water quality

- 14.4 In relation to water quality the key documents we have considered are the WCWARP incorporating the objectives of the PNRRP and the operative NRRP.
- 14.5 In relation to the WCWARP we considered that Objective 1 is the critical objective. In particular, Objective 1(b) seeks to safeguard life-supporting capacity of rivers and lakes and Objective (d) seeks to safeguard the integrity, form, function, and resilience of the braided system.
- 14.6 In terms of Objective 1(b), the Ahuriri River is highly rated for its amenity values, in particular for trout fishing, picnicking, swimming, duck shooting, kayaking, canoeing and rafting. In addition to this, a black-fronted tern restoration program is situated on the Ahuriri River. Taking into account these matters, we do not see how the granting of consent given the water quality outcomes that we are concerned about, that we would be enabling present and future generations to access the water resource to gain cultural, social, recreational, economic and other benefits.
- 14.7 Objective 1(c) requires us to manage waterbodies in a way that maintains natural landscape and amenity characteristics and qualities that people appreciate and enjoy. Given our finding in terms of the likely results in the Ahuriri Arm of Lake Benmore becoming more mesotrophic in summer from its current oligotrophic state and our finding in terms of maximum annual periphyton biomass exceeding MfE guidelines during low-flow summer conditions, then in our view granting consent would not be consistent with Objective 1(c) or 1(b). We do acknowledge,

however, that the nutrient load from Pebbly Block will be relatively small compared with others in this applicant group.

- 14.8 We note that Objectives 2, 3, 4 and 5 'in the round' deal with and provide for the allocation of water. However, the critical qualification is that water can be allocated provided that to do so it is consistent with Objective 1. Given the findings we have made about Objective 1, we must conclude that allocating water in terms of the balance objectives would not be consistent with the overall scheme of the WCWARP. We have reached this view taking into account the national and local costs and benefits (environmental, social, cultural and economic) of the proposal, as required by Objective 3.
- 14.9 Policy 1 of the WCWARP requires us to take a whole of catchment approach and requires us to recognise the importance of the connectedness between all parts of the catchment from mountains to the sea. In this particular proposal, given the findings we have made in relation to water quality and the connectedness between all parts of the catchment, we have a very real concern that grant of consent could lead to environmental outcomes that would have significant adverse impacts on the water quality of the entire catchment. We conclude then that grant of consent would not be consistent with Policy 1.
- 14.10 Policy 13 links the WCWARP to the PNRRP (as it existed at the time) by requiring us to have regard to how the exercise of the consent could result in water quality objectives in the PNRRP not being achieved. As explained in our Part A decision, we have considered the objectives of the PNRRP and the now operative NRRP in relation to the current proposal.
- 14.11 Under the PNRRP, the Omarama Stream and Ahuriri River were classified (WQL1) as 'Natural' under which the water quality and substrate had to be maintained in that state (i.e. No change). Under the operative NRRP the classification changes to high country alpine, which has the same requirement (no change). We are of the view that granting these consents could result in a deterioration in the quality of the Ahuriri River margins adjacent to Pebbly Block; specifically the breaching of periphyton guidelines under summer low flow conditions.
- 14.12 The Ahuriri Arm of Lake Benmore is classified as an Artificial Lake under Table WQL6 of the NRRP, which has as an outcome the TLI shall not be greater than 3 (i.e. oligotrophic-mesotrophic boundary). As discussed in Part A, we are of the view that granting these consents would contribute to a deterioration of lake water quality and cause that outcome to be breached. Therefore, on both criteria (maximum TLI and intent of the water quality outcomes) Objective WQL1.2(2) of the NRRP would not be achieved.
- 14.13 For non-point source discharges to groundwater, Objective WQL2 of the PNRRP distinguishes between groundwater that is "*unaffected or largely unaffected by human activities*" [as reported in 2004]. While there is extremely limited groundwater quality data in the Upper Waitaki there appears to be general agreement that nitrate nitrogen concentrations are generally low (<1 mg/l) and the WQS (#3.85d Part A) proposed a threshold of 1 mg/L Nitrate-nitrogen for those catchments that sit below the threshold.. Because of the importance of groundwater as a determinant of surface water quality, our view is that the 1 mg/L Nitrate-nitrogen threshold is appropriate. We note the NRRP Objective WQL2.1(3) states that "Where groundwater enters a river or lake, the concentration of any contaminant in the groundwater shall not result in the surface water quality being reduced below the relevant provisions of Objective WQL1, or the standards set by a water conservation order." There has been insufficient data and analysis presented from which to predict maximum concentrations in groundwater and consequently whether the surface water threshold in WQL2.1(3) could be breached.
- 14.14 Overall then, having regard to the scheme of the WCWARP and the NRRP, we reach a conclusion that granting consent in this case would not be consistent with the key objectives and policies of those plans.

Environmental flow and level regimes

- 14.15 Policies 3 and 4 of the WCWARP refer to the setting of environmental flow and level regimes to achieve the objectives of the WCWARP. This is reflected in the rules of the WCWARP which specifies minimum flows and levels for water bodies and allocation limits for specific activities. In relation to these applications, the applicant proposes to comply with flow and level regimes in the WCWARP, which should ensure that the proposal is consistent with Policies 3 and 4.

Efficient use of water

- 14.1 Objective (4) of the WCWARP seeks to promote “*the achievement of a high level of technical efficiency in the use of allocated water*”. The technical efficiency of the application is consistent with the provisions of the WCWARP. Application by spray within the constraints of an annual volume will require a high degree of efficiency to ensure that crops and pasture are not stressed in extreme conditions and water is not wasted.
- 14.2 Policies 15 – 20 deal with efficient and effective use of water and are applicable to this application. The Policies provide for an efficient use of water so that net benefits are derived from its use and are maximised and waste minimised. We are satisfied that the rates and annual volumes sought by the applicant reflect an efficient and effective use of water and that the reasonable use test can be met. The proposal is compliant with Policy 16(c)(ii) which the applicants used to calculate the annual volume. Overall, we consider that the proposed irrigation will comply with the reasonable use and efficiency provisions of the WCWARP.

Cultural issues

- 14.3 Objective 1(a) of the WCWARP relates to the integrity of mauri and is closely linked to Objective 1(b). If we are not satisfied that the health of a particular water body is being safeguarded then the mauri is not being safeguarded either. As noted above, we do not have confidence that even with the mitigation measures proposed by the applicant, sustainable water quality outcomes will be achieved. It therefore follows that granting the consents may not maintain the integrity of the mauri and also, will not meet the spiritual and cultural needs of the tangata whenua
- 14.4 Objective WQN1 from Chapter 5 of the NRRP seeks to enable present and future generations to access the regions surface water and groundwater resources to gain cultural, social, recreational, economic and other benefits, while (c) safeguarding their value for providing mahinga kai for Ngai Tahu and (d) protecting waahi tapu and other waahi taonga of value to Ngai Tahu. This objective aligns with one of the principal aspirations expressed by Ngai Tahu during the hearing of enhancing mahinga kai resources and supporting ecosystems. The potential for an increase in algal blooms at important mahinga kai gathering sites such as the Ahuriri Delta would be a serious consequence for Ngai Tahu. This application is one of a number that will result in nutrient losses that travel to the Ahuriri Arm, and our finding that there is likely to be a deterioration in trophic status from oligotrophic and mesotrophic should these applications be granted causes this application to be inconsistent with the objective.
- 14.5 Objective WTL1(d) from Chapter 7 of the NRRP seeks to achieve no overall reduction in the contribution wetlands to the relationship of Ngai Tahu and their culture and traditions with their ancestral lands, water, mahinga kai sites, waahi tapu and waahi taonga. The traditional relationship that Ngai Tahu are seeking to restore through restoration of mahinga kai and kaitiakitanga practices relate principally to the Ahuriri Delta, and the wetlands in the Lower Ahuriri. Given the uncertainty over the water quality issues related to this and the other applications in the Ahuriri catchment we find that the proposal would be inconsistent with the objective.

Landscape and amenity values

- 14.6 We discuss the relevant objectives and policies for landscape in our Part A decision. In summary, these are primarily found in the Proposed and Operative CRPS and the NRRP. In broad terms, these provisions seek the protection of outstanding natural landscapes from inappropriate use and development.
- 14.7 In considering these provisions, we are informed by the provisions of the Waitaki District Plan, which identifies the applicant’s property as being outside the area classified as an Outstanding Natural Landscape. However, the irrigation site overlaps with other sites that have significant natural values as earlier described and we have concluded that notwithstanding the provisions of the Waitaki District Plan, we are concerned that the policies and objectives of the proposed and operative CRPS would not be supported by a grant of consent.
- 14.8 However, given the finding we make on water quality, which ultimately determines the outcome for these applications, we do not think it is necessary for us to advance this matter further.

Disturbance of the bed

- 14.9 The key objectives and policies that are relevant to the application to maintain the intake structure can be found in Chapter 6 of the NRRP, which relates to activities in the beds of lakes and rivers. The chapter contains one objective and two related policies.
- 14.10 Objective BLR1 aims to ensure that works in the beds and banks of lake, rivers and streams can be undertaken while minimising effects, including flood-carrying capacity, natural character, ecosystems, other structures, erosion, Ngai Tahu values. Policies BLR1 and BLR2 aim to control activities associated with the erection, placement, use and maintenance of structures within the bed of rivers to ensure that Objective BLR1 is achieved. This may include restricting activities so that they do not affect flood carrying capacity, erosion or create plant infestations.
- 14.11 Given the conclusions we have reached on these matters above, we consider that, subject to appropriate conditions, the application to disturb the bed (CRC041330) is consistent with these objectives and policies.

Discharge of water

- 14.12 In relation to the discharge application (CRC041332), the key provisions of relevance can be found in the water quality chapter of the NRRP (Chapter 4). This includes Objective WQL1.1 discussed above, along with Policy WQL1 which relates specifically to point source discharges that may enter surface water. The bywash will be discharged via the existing bywash channel (Tara Hills and Omarama Station) when irrigation is not required, this will be water of the same quality as Ahuriri River water. This augments an existing activity the effects of which will be less than minor and consistent with these provisions.

Key conclusions on planning instruments

- 14.13 For all of the above reasons, we consider that granting the consent for the take and use application would be contrary to the objectives and policies of the WCWARP (incorporating the PNRRP) and the NRRP relating to water quality. As consequence of this is that the proposal would also be contrary to the objectives and policies relating to tanagta whenua values found within the WCWARP and the NRRP. Also we conclude that the granting of consent would be contrary to the objectives and policies of the operative CRPS and proposed CRPS in terms of seeking to protect outstanding natural landscapes from inappropriate use and development.
- 14.14 In relation to the applications to disturb the bed and discharge surplus irrigation water, we consider that these activities are consistent with the objectives and policies of the relevant plans.

15 EVALAUTION OF OTHER RELEVANT S104 MATTERS

- 15.1 Under s104(6) RMA we may decline application for resource consent on the grounds that it has inadequate information to determine the application. However before doing so, we must have regard to whether any request made of the applicant for further information or reports resulted in further information or any report being available.
- 15.2 Any effects on receiving waters (creeks, rivers, lakes) will be manifest by the ingress of groundwater to the receiving water in question. In our view, the applicant has not provided sufficient information to understand the likely fate of nutrients leached from the irrigation command area to receiving waters. The evidence on this matter is rudimentary, based on few field measurements, and gives little geographic certainty as to where in the Ahuriri River system drainage waters will emerge. Having a reasonable understanding of recharge areas, together with approximate travel time is important in order to gauge the impacts of the activity on Ahuriri system and over what length.
- 15.3 We note the applicant proposes to address these uncertainties through their lock-step approach: where the information is gathered, audited, and conclusions made and agreed prior to exercising the consent. However we have rejected this approach for the reasons set out in Section 13 above.

16 PART 2 RMA

- 16.1 Section 104(1) states that the matters which we have discussed above are subject to Part 2, which covers section 5 through section 8 inclusive. These sections are set out in full in our Part A decision and are discussed below in the context of the current applications. These comments

primarily relate to the take and use application rather than the applications for works in the bed and the discharge of water.

Section 6 – Matters of National Importance

- 16.2 Sections 6 identifies matters of national importance that we must “recognise and provide for” when making our decision, including preserving the natural character of lakes and rivers (s6(a)), protecting outstanding natural features and landscapes (s6(b)) and the relationship of Maori with the environment (s6(e)).
- 16.3 In relation to s6(a), the proposed activity may compromise some of the values that have been identified as having national and international values in the Water Conservation Order for the Ahuriri River, through the release of nutrients to groundwater and emerging to join with surface water in the lower Ahuriri River. The proposed activity would contribute to a cumulative impact on the natural character of Lake Benmore. While it is unlikely that a shift from Oligotrophic to mesotrophic conditions will be readily seen by the public as a deterioration in natural character, for those knowledgeable about lake quality and fisheries it will be perceived that way because it will place Lake Benmore firmly on the continuum of increasing trophic waterbodies that are very difficult to reverse. We are cognisant that Lake Benmore is not a natural waterbody, but it is nevertheless nationally significant because of its importance for power generation and supporting the best lake fishery in the South Island.
- 16.4 Under s6(b), we are required to consider the effect of the proposal on the broad landscape that is a distinctive part of the basin and highly visible from SH8, and in an area of public recreation and visitation to view the Clay Cliffs or to enjoy angling. Using low level k-line irrigators along with proposed buffer zones between the irrigation site, Ahuriri River and SH8 will not alleviate the significant impact on the significant landscape and visual values.
- 16.5 Finally, in relation to s6(e), the attachment that Ngai Tahu have demonstrated with the Ahuriri delta (in particular) and their efforts to promote restoration of mahinga kai in that area, lead us to conclude that granting these consents would (in combination with other applications in the Ahuriri catchment) be contrary to 6(e).
- 16.6 For the above reasons, we consider that granting consent to the proposal would not recognise and provide for sections 6(a), (b) and (e), as we are required to do under the RMA.

Section 7 – Other Matters

- 16.7 Section 7 list the following other matters that we shall “have particular regard to”. We make the following observations in relation to each of these matters as they are relevant to the application referring to the sub paragraph numbers of s7:
- (a) The principle of Kaitiakitanga has been observed to the extent that the applicant has endeavoured to consult with and understand the tangata whenua (Ngai Tahu) values that might be subjected to impacts from the proposed Pebbly Block irrigation development. Ngai Tahu Runanga and the tribal authority combined to make it very evident that there are cultural and spiritual values associated with the Ahuriri River and delta that are significant to their customs and practices for current and future generations. The applicant has gone on to develop a Farm Environmental Management Plan and a nutrient mitigation process that they consider will address the kaitiaki interests of Ngai Tahu. We note however that Ngai Tahu remain concerned at the end of the hearing with the scale and consequently the potential cumulative impacts the proposed development might have on downstream waterways and mahinga kai values.
 - (aa) The ethic of stewardship has been followed with respect to land management of the applicant’s property. The applicant has submitted that irrigation is the only way to arrest the very considerable problem of wind-borne soil erosion and control invasive species such as hieracium. We agree with that assessment. On the other hand, however, we have determined the loss of nutrients offsite is likely to cause adverse effects on waterways, even with the significant mitigation measures proposed, which is not consistent with stewardship. This is brought about because of the position of the applicant’s property in the landscape, relative to waterbodies valued by the community.
 - (b) The applicant has demonstrated their proposal constitutes an efficient use of water.

- (c) The intrinsic value of terrestrial ecosystems will be affected with existing vegetation replaced by pasture. However the existing value of terrestrial ecosystems within the irrigation command area is low and there is little prospect of its restoration under existing permitted land use. However this may be offset by deterioration of creeks and river downstream should relatively nutrient-enriched groundwater intersect them, and the trophic state of the Ahuriri Arm of Lake Benmore will deteriorate (in combination with other applications before this hearing).
- (d) The overall quality of the environment downstream of the applicant's property will in our view be degraded, and although the degree of that degradation cannot be predicted with confidence, there are significant consequences should the Ahuriri Arm become mesotrophic.
- (e) The Ahuriri Arm is highly valued by Ngai Tahu, fishermen, tourists, and the local population. The WCWARP and NRRP recognise the finite nature of water resources in the Mackenzie Basin and seek to ensure that they are maintained or enhanced and certainly not degraded.
- (f) Mr M Webb of F&G told advised us of the importance of the Ahuriri as a trout fishery, being the last relatively unmodified river fishery of significance in the upper Waitaki River. Up to 30% of trout spawning occurs between Lake Benmore and the Clay Cliffs, the river sustains an estimate of 3000-5000 angler-days annually, in the last ten years angler days have approximately doubled.

16.8 Having particular regard to the above matters in the context of section 7, we conclude that overall the grant of consent could not be supported.

Section 8 – Treaty of Waitangi

- 16.9 Finally, section 8 requires that we shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).
- 16.10 Section 8 of the RMA has had a cascading influence on the development of regional and district plans in so far as they affect the Upper Waitaki through the integration of Ngai Tahu values into the respective objectives and policies. The applicants were part of the initiative (MWRL) to develop a Cultural impact Assessment and the subsequent engagement of a cultural expert (Mr Buddy Mikaere) to assist the individual applicants such as Killermont Station to relate the findings of the CIA to their property. Efforts were made to consult with Ngai Tahu interests to clarify and mitigate identified cultural issues, this included on site visits by Ngai Tahu. While the applicant has developed significant mitigation measures to reduce or remove the negative impacts of the proposed activity, we note that the scale of the proposed development has made it difficult for Ngai Tahu to be confident that the cumulative effects are no more than minor. Their position at the close of the hearing was that they remained opposed to this application unless we (the Commissioners) were assured that in granting this consent (with conditions) effects on water quality would be no more than minor. We cannot give that assurance.

Section 5 – Purpose of the RMA

- 16.11 Turning now to the overall purpose of the RMA, that is, "to promote the sustainable management of natural and physical resources".
- 16.12 The Pebbly Block proposal at 216 ha is a relatively large scale, new activity, one of four applications by Killermont Station totalling 619 ha of spray irrigation. We are of the view that the catchment has limited assimilative capacity to receive additional nutrient loadings without having a negative effect on current trophic levels of the Ahuriri Arm of Lake Benmore.
- 16.13 In Part A we determined that the Ahuriri Arm of Lake Benmore was already close to the oligotrophic-mesotrophic boundary. The proposed Pebbly Block irrigation would contribute 1% of new nutrient loading to the Ahuriri Arm, the absence of grazing animals and a cut and carry operation on half the block combine to reduce the nutrient load.
- 16.14 The high recreational interest in the amenity values of the Ahuriri River and the stated objectives of Ngai Tahu to undertake mahinga kai restoration in the lower Ahuriri River are both predicated on existing levels of water quality remaining. The potential for the new irrigation proposals to add significant levels of nutrients to the lower Ahuriri and Lake Benmore are very real concerns.

- 16.15 The applicant has proposed a no grazing policy and the use of a cut and carry operation over half the block, which will combine to reduce the level of nutrients produced. The operation will include the importation of effluent solids to be spread on the block, in any case in the absence of animal grazing use of fertilizers or importation of effluent dung will be necessary to raise and maintain adequate soil fertility levels. This will increase nitrogen losses to above that predicted by the applicant, but still much less than would be the case if grazing animals were present.
- 16.16 The landscape and visual effects would be significant and impact on what is a large and natural looking semi-arid outwash plain. The naturalness of the landscape is an important feature and of the four proposals on Killermont Station, the location of the block between SH8 and the Ahuriri River in the vicinity of the Clay Cliffs and the Ahuriri River, a place of national and international importance for recreationalists makes it a particularly difficult site to create mitigation measures that would be effective and acceptable in an area with high natural landscape values.

17 OVERALL EVALUATION

- 17.1 Under s104B of the RMA, we have a discretion as to whether or not to grant consent. This requires an overall judgment to achieve the purpose of the Act and is arrived at by:
- (a) Taking into account all the relevant matters identified under s 104;
 - (b) Avoiding consideration of any irrelevant matters;
 - (c) Giving different weight to the matters identified under s 104 — depending on our opinion as to how they are affected by the application of s 5(2)(a), (b), and (c) and ss 6-8 — to the particular facts of the case; and then in light of the above; and
 - (d) Allowing for comparison of conflicting considerations, the scale or degree of conflict, and their relative significance or proportion in the final outcome.

Take and use CRC041331

- 17.2 The effect of the proposed activity on surface water quality in a catchment with limited assimilative capacity to receive additional nutrient loadings has the potential to create adverse water quality effects. The WQS identified the Ahuriri Arm mitigation requirements as being the most stringent, and in the case of Killermont Station allocated a NDA for nitrogen and phosphorus that would comply with the threshold nominated by MWRL. In the case of Pebbly Block the mitigating factors were that there would be no grazing animals, and the cut and carry of produce exported from the block would result in a much reduced nutrient loss than a normal farming system. However the nutrient inputs required to sustain the cut and carry operation will partially counteract the benefits. Quantifying the nutrient losses has been problematic and we believe the modelled losses would be greater than that predicted by the applicant.
- 17.3 The stony nature of Pebbly Block and proximity to the Ahuriri River, hydrological connectedness to the Ahuriri River we believe will result in nutrient losses of greater than 3 kg/ha/y to groundwater. The groundwater will contribute to surface flow in the Ahuriri River.
- 17.4 The Pebbly Block proposal raises significant landscape issues due to proximity to a high natural character landscape area of the Ahuriri River and Clay Cliffs which are listed in an Outstanding Landscape Area (OLA) in the Waitaki District Plan. The continuity of the SH8 corridor through dry and semi-arid plains is an important aspect of the area also to be preserved. Using k-line irrigators as they hug the ground does reduce visual impediments. However, the greening effect on 216 hectares of land situated between SH8 and the Ahuriri River is difficult to mitigate.. We find that the landscape effects for Pebbly Block to be more than minor and other than a possibility of relocation, no real mitigation measures were proposed by the applicant.
- 17.5 Having reviewed the application documents, all the submissions, taking into account the evidence to the hearing and taking into account all relevant provisions of the RMA and other relevant statutory instruments we have concluded that the outcome which best achieves the purpose of the Act is to decline consent for CRC041331.

Works in the bed CRC041330; and discharge CRC041332

- 17.6 We agree with the applicant, submitters, and the Consent Investigating Officers were generally in agreement that subject to the imposition of appropriate conditions the effects of the applications

to disturb the bed and to discharge surplus irrigation water into the Ahuriri River would be minor, and grants of consent would be consistent with the objectives and policies of the relevant plan.

- 17.7 In particular, we note that the conditions applicable to Rules BLR4 and BLR5 are capable of being satisfied subject to close attention to the detailed requirements and preparation of an implementation of an ECan Erosion and Sedimentation Control Guidelines plan, Construction Management Plan authorised by ECan and adherence to the ECan "Fish Screening" Good Practice Guidelines for Canterbury. In addition, observance of sensitive exclusion periods for aquatic, avifauna and recreational activities will be required.
- 17.8 We accept Ms Rodrigo's view that the discharge consent from the intake of bypass water back to the Ahuriri with suitable conditions will have a less than minor effect, given it will be combining with an existing overflow from the existing intake structure.
- 17.9 We also note Ms Rodrigo confirmed that the condition recommended by ECan had been proposed by the applicant in land use consent CRC041330 associated with the water permit; therefore, the concerns that Mr Webb had about the design and effectiveness of the proposed fish screen were resolved.

18 DECISION

- 18.1 Pursuant to the powers delegated to us by the Canterbury Regional Council:
- 18.2 For all of the above reasons and pursuant to Sections 104,104B and 108 of the Resource Management Act 1991, we **DECLINE** application CRC041331 by Killermont Station Limited for the take and use of water for spray irrigation.
- 18.3 For all of the above reasons and pursuant to sections 104 and 104B of the Resource Management Act 1991, we **GRANT** the following applications by Killermont Station Limited:
- (a) CRC0410330 – To maintain an existing intake structure in the bed of the Ahuriri River, at or about map reference NZMS 260 H39:6062-2992, for the purposes of supplying stockwater and irrigation water to Killermont Station, Omarama Station and Tara Hills Stations.
 - (b) CRC0410332 – To discharge surplus irrigation water into the Ahuriri River at a maximum rate of 100 litres per second, at or about map reference NZMS 260 H39: 6234-3058, at Killermont Station, State Highway 8, Omarama..
- 18.4 Pursuant to section 108 RMA, the grant of consent for CRC0410330 and CRC0410332 is subject to the conditions specified at **Appendix A** and **Appendix B** respectively, which conditions form part of this decision and consent. The duration of these consents shall be until the 30th April 2025.

DECISION DATED AT CHRISTCHURCH 22ND DAY OF NOVEMBER 2011

Signed by:

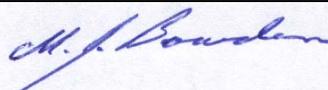
Paul Rogers



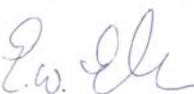
Dr James Cooke



Michael Bowden



Edward Ellison



APPENDIX A

Conditions of Consent (CRC041330 – Maintain Intake Structure)

1. The works shall be limited to:
 - a. The maintenance and use of an intake structure and associated infrastructure at or about NZMS 260 H39:6062-2992.
2. If further works at the site in the river bed is not to occur within seven days following the last working at the site, then the following shall occur:
 - a. All deposits of gravel, sand and other natural material shall be leveled to the natural bed level;
 - b. The excavation area shall be reshaped and formed to a state consistent with the surrounding natural river bed.
3. The Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, shall be notified not less than 3 working days prior to the commencement of works described in condition (1).
4. Prior to commencing excavation, a copy of this resource consent shall be given to all persons undertaking activities authorised by this consent.
5. The consent holder shall ensure that the following procedure is adopted in the event that koiwi (human remains) or taonga (cultural artefacts) are unearthed or are reasonably suspected to have been unearthed during any maintenance activities.
 - a. Immediately as it becomes apparent, or is suspected by workers at the site that koiwi or taonga have been uncovered, all activity at the site will cease.
 - b. The plant operator will shut down all machinery or activity immediately, and leave the area and advise his or her supervisor of the occurrence.
 - c. The supervisor shall take steps to immediately secure the area in a way that ensures that koiwi or taonga remain untouched as far as possible in the circumstances and shall notify the consent holder.
 - d. The consented holder will notify the New Zealand Police (in the case of koiwi) and the relevant runanga representatives that it is suspected that koiwi and/or taonga have been uncovered at the site.
 - e. The runanga representatives will contact the appropriate kaumatua to act on their behalf in this matter in order to guide and advise the consent holder as to the appropriate course and the consent holder will immediately advise the consent holder of the identity of such kaumatua.
 - f. The consent holder shall ensure that representatives on its behalf are available to meet and guide kaumatua and police (as appropriate) to the site, assisting with any requests they may make.
 - g. If the kaumatua are satisfied that the koiwi or taonga are of Maori origin the kaumatua will decide how they are to be dealt with and will communicate its decision to the consent holder, New Zealand Police and such other parties as are considered appropriate.
 - h. Activity on site shall remain halted until the New Zealand Police and the kaumatua have given approval for operations to recommence.
 - i. The consent holder shall ensure that kaumatua are given the opportunity to undertake karakia and such other religious or cultural ceremonies and activities at the site as may be considered appropriate in accordance with tikanga Maori (Maori custom and protocol).

6. Maintenance works shall not be undertaken in any manner likely to cause erosion of or instability to, the banks or bed of the Ahuriri River; or reduce the flood-carrying capacity of the waterway.
7. During any maintenance the consent holder shall adopt the best practicable options to:
 - a. Minimise soil disturbance and prevent soil erosion;
 - b. Prevent sediment from flowing into any surface water; and
 - c. Avoid placing cut or cleared vegetation, debris, or excavated material in a position such that it may enter surface water.
8. At least 20 working days prior to the commencement of the works, the consent holder shall submit to the Canterbury Regional Council, Attention: RMA Enforcement and Compliance Manager, an Erosion and Sediment Control Plan (ESCP) as part of the ESCP that includes, but is not limited to the following:
 - a. a locality map; and
 - b. detailed drawings showing the type and location of erosion and sediment control measures, on-site catchment boundaries, and off-site sources of run-off; and
 - c. drawings and specifications of all designated erosion and sediment control measures with supporting calculations; and
 - d. a programme of works, which includes but is not limited to a proposed timeframe for the works;
 - e. a schedule of inspections and maintenance of erosion and sediment control measures; and
 - f. details of when the erosion and sediment control measures are to be established and decommissioned; and
 - g. measures to ensure that there is no tracking of mud or earth onto the surrounding road network, including the provision of shaker ramps and/or wheel washes where appropriate; and
 - h. measures to be undertaken should erosion and sediment control measures fail and result in contamination of any watercourse or water body.
9. The ESCP shall be prepared in general accordance with the Environment Canterbury Erosion and Sediment Control Guidelines 2007 (ECAN ESC Guidelines).
10. The ESCP shall be communicated to all persons undertaking activities authorised by this consent and a copy of the ESCP shall be kept on site at all times.
11. The Erosion and Sediment Control Plan and any revisions of that document shall be submitted to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager, for certification that the Erosion and Sediment Control Plan meets all the requirements of the conditions of this consent.
12. No activities authorised by this consent shall commence or be undertaken other than in full compliance with the Erosion and Sediment Control Plan that has been certified by or on behalf of the Canterbury Regional Council RMA Compliance and Enforcement Manager in terms of condition 8.
13. Prior to any maintenance works being carried out in the period 1 September to 1 February, the consent holder shall ensure that:
 - a. a suitably qualified and independent person inspects the proposed area of works, no earlier than eight working days prior to any works being carried out, and locates any bird breeding sites of birds listed in Schedule A;

- b. the person carrying out the inspection prepares a written report that identifies all the located bird breeding or nesting sites and provides copies of that report to the consent holder and the Canterbury Regional Council;
 - c. the name and qualifications of the person carrying out the inspection are provided to the Canterbury Regional Council with the report;
 - d. any person carrying out works authorised by this consent are informed of any bird breeding or nesting sites located; and
 - e. where work ceases for more than 10 days, the site will be re-inspected for bird breeding and nesting sites in accordance with parts (a) to (d) of this condition.
14. The consent holder shall ensure that any maintenance work does not occur within 100 metres of birds, which are nesting or rearing their young in the bed of the river identified in accordance with condition 13.
15. Any maintenance works that require bed disturbance in flowing water should be avoided in the first two weeks of November and outside that period Fish and Game should be consulted prior to any works.
16. To prevent the spread of Didymo or any other aquatic pest, the consent holder shall ensure that activities authorised by this consent are undertaken in accordance with the Biosecurity New Zealand's hygiene procedures.

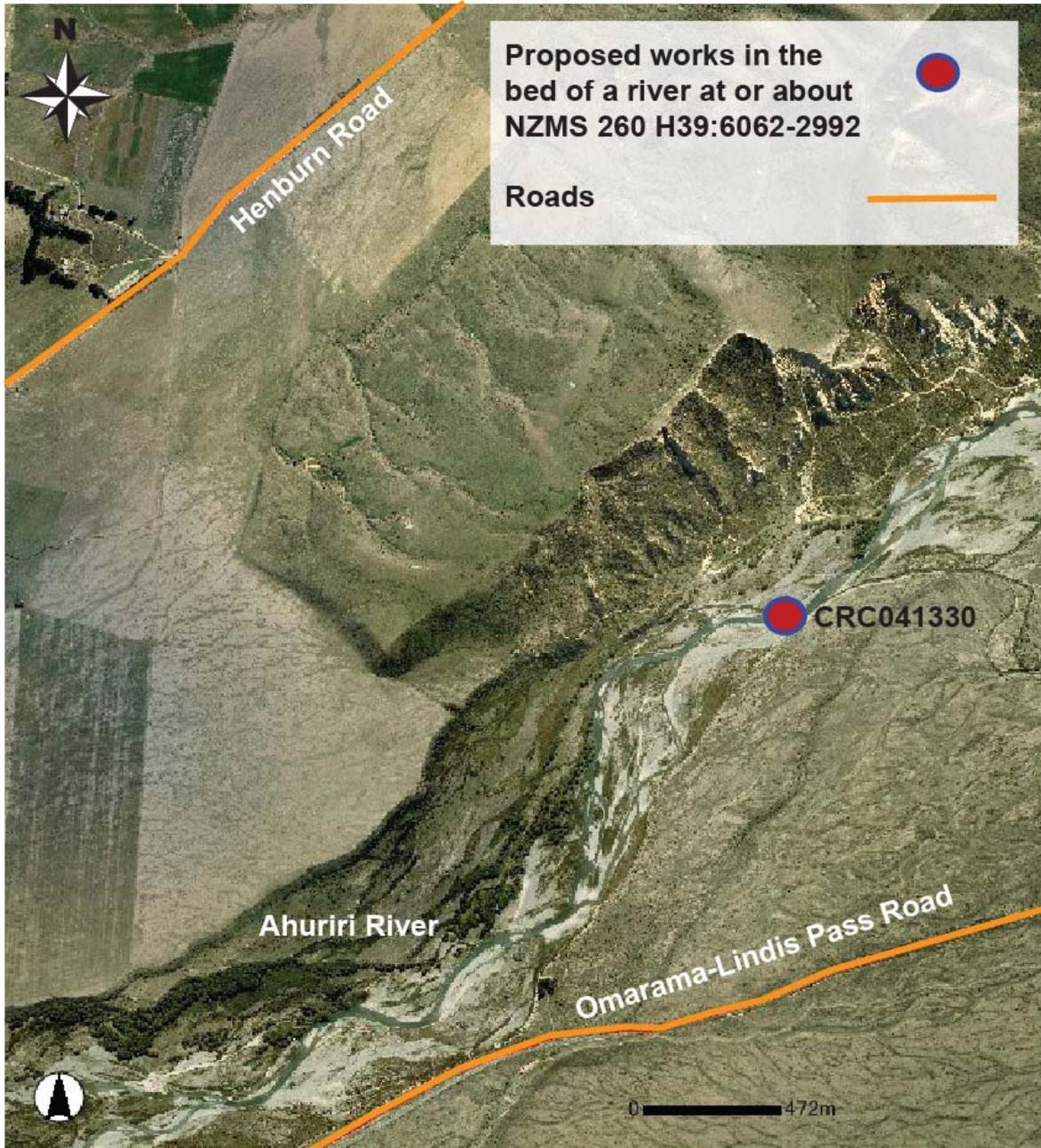
Note: You can access the most current version of these procedures from the Biosecurity New Zealand website <http://www.biosecurity.govt.nz> or Environment Canterbury Customer Services.

17. The consent holder shall ensure that during any maintenance activities:
- a. All practicable measures shall be undertaken to prevent oil and fuel leaks from vehicles and machinery.
 - b. There shall be no storage of fuel or refuelling of vehicles and machinery within 20 metres of the bed of a river.
 - c. Fuel shall be stored securely or removed from site overnight.
18. The consent holder shall ensure that works do not prevent the passage of fish, or cause the stranding of fish in pools or channels.
19. The consent holder shall ensure that machinery shall be free of plants and plant seeds prior to use in the waterbody.
- 20.
- a. The consent holder shall ensure that if water is abstracted, the intake shall be designed to prevent native and exotic fish species from entering the system.
 - b. The fish screen shall be designed by a person with experience in freshwater ecology and fish screening techniques, and constructed in a manner that ensures the principals of the NIWA fish screening guidelines (Fish Screening: Good Practice Guidelines for Canterbury, NIWA Client Report 2007-092, October 2007, or other revision of these guidelines. (Copy available on www.ecan.govt.nz)) are achieved.
 - c. No water may be taken in terms of this permit until, upon completion of the intake works a report is provided to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager. The report shall be prepared by the consent holder for certification and shall demonstrate compliance with the following:
 - i. Design plan for the intake specifying dimensions;
 - ii. Any ongoing maintenance required by the manufacturer is carried out in accordance with their specifications."

- d. The intake structure shall be maintained in good working order. Records shall be kept of all inspections and maintenance. And those records shall be provided to the Canterbury Regional Council upon request.
21. Upon completion all disturbed areas outside the lake or river bed shall be stabilised and revegetated with similar species to those found in the intermediate vicinity of the particular site following completion of the works.
22. Upon completion all spoil and other waste material from the works shall be removed from site on completion of works.
23. The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent pursuant to Section 128 of the RMA, for the purposes of dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage.
24. The lapsing date for the purposes of section 125 shall be 31st December 2016.

Advice note:

Nothing in this consent authorised the taking and use of water for irrigation purposes. A separate consent is required from the Canterbury Regional Council for this activity.



Schedule A – list of bird species

South Island Pied Oystercatcher

Black Stilt

Pied Stilt

Wrybill

Banded Dotterel

Black-fronted Dotterel

Grey warbler

Fantail

Bellbird

Silvereye

Spur-winged Plover

Paradise Shelduck

Grey Duck

NZ Shoveler

Grey Teal

NZ Scaup

Black-billed Gull

Red-billed Gull

Caspian Tern

White-fronted Tern

Black-fronted Tern

White-winged Black Tern

Australasian Bittern

Marsh Crake

Spotless Crake

Cormorant/shag colonies

Or any other bird species deemed by a suitably qualified person to require protection.

APPENDIX B

Conditions of Consent (CRC041332 – Discharge Irrigation Water)

1. Water shall only be discharged to the Ahuriri River at or about map reference NZMS 260 H39:6234-3058.
2. Water shall only be discharged at a rate not exceeding 100 litres per second.
3. The consent holder shall ensure that:
 - a. All practicable measures shall be undertaken to avoid erosion of the bed or banks of the Ahuriri River occurring as a result of the discharge.
 - b. In the event of any erosion occurring to the bed or banks of the Ahuriri River, as a result of the discharge, the consent holder shall be responsible for rectifying the situation as soon as practicable.
4. The consent holder shall ensure that the discharge is substantially free from suspended solids, grease and oil.
5. The consent holder shall ensure that after reasonable mixing of the discharge with the receiving water:
 - a. The waters shall not be tainted so as to make them unpalatable, nor shall they contain toxic substances to the extent that they are unsafe for consumption by humans or farm animals, nor shall they emit objectionable odours:
 - b. There shall not be any destruction of natural aquatic life by reason of a concentration of toxic substances:
 - c. The natural colour and clarity of the waters shall not be changed to a conspicuous extent.
6. The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent, pursuant to Section 128 of the RMA, for the purposes of dealing with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage.
7. The lapsing date for the purposes of section 125 shall be 31st December 2016.

Advice note:

Nothing in this consent authorised the taking and use of water for irrigation purposes. A separate consent is required from the Canterbury Regional Council for this activity.