BEFORE THE CANTERBURY REGIONAL COUNCIL

IN THE MATTER OF	The Resource Management Act 1991
AND	
IN THE MATTER OF	an application by **Maree Horo** for four water permits filed under **CRC042011, CRC042015, CRC042017 and CRC042018** to divert, to take and use surface-water at Quail Burn, Ribbonwood Station, Quailburn Road, Omarama

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REPORT AND DECISION OF HEARING COMMISSIONERS PAUL ROGERS,

MICHAEL BOWDEN, DR JAMES COOKE AND EDWARD ELLISON

PART B - SITE SPECIFIC DECISION

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1 INTRODUCTION

1.1 This is a decision on applications by **Maree Horo** (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 proposes to divert, take and use water from four separate locations on the Quail Burn and East Diadem Stream (at or about map reference NZMS 260 H39:583-441 NZMS 260 H39:558-446 NZMS 260 H39:581-443 and NZMS 260 H39:563-411). The location of these intakes is illustrated in Figure 1 below.

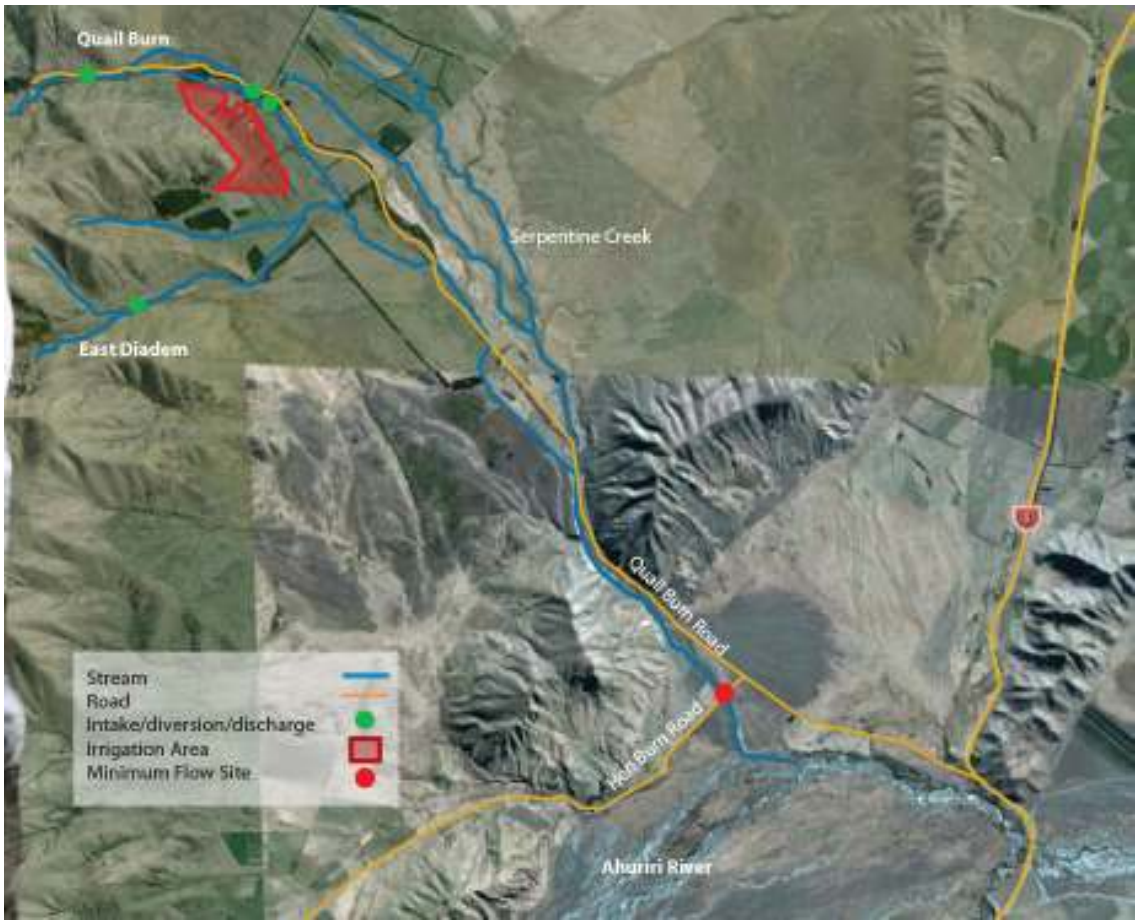

Figure 1: *Indicative Location Map*

2.2 The water will be taken at a rate of 30 litres per second up to a combined rate of 100 litres per second and an annual volume of 738,800 cubic metres. This water will be used to irrigate an area of 180 hectares of crops and pasture (excluding dairy cows) within Ribbonwood Station.

2.3 Water will be taken via a mobile pump from the Quail Burn intake site and piped to the spray irrigation system which serves a portion of the total 180 hectares. The current race system (which conveys stock water) on the East Diadem will be utilised to convey water around to the irrigation area, at which point it will be piped in order to provide suitable pressure to have a gravity-fed spray system.

2.4 The proposal includes the following measures:

(a) A minimum flow of $1m^3/s$ is proposed at Hen Burn Road, in accordance with the WCWARP.

(b) 1:1 flow sharing with the river is proposed, in accordance with the WCWARP ("B" allocation block).

(c) A fish screen will be installed on the intakes and the take of water will be metered.

2.5 The proposed annual volume does not include provision for stock water for the property. The applicant considers that the provision of stock water is covered by section 14(3)(b) of the RMA.

2.6 The applicant is not proposing to change their farming system from the existing activity of running sheep, cattle, deer and growing crops for finishing stock. The proposed irrigation will result in a degree of intensification of these activities on the property.

2.7 We note that the proposal as described above takes into account modifications after notification. Those modifications are fully described in the section of this decision headed "Modifications after notification".

The applications

2.8 The applications are for water permits to take and use surface water pursuant to section 14 of the RMA. Consent is required under the Waitaki Catchment Water Allocation Plan (WCWARP), as discussed below.

2.9 The applications (CRC042011, CRC042015, CRC042017 & CRC042018) were lodged with the Canterbury Regional Council (the Council) on 23 March 2004. The applications were publicly notified and there were a number of submissions that are referred to later in this decision. The applicant requested a consent duration to 2025 because being a new take, MIC shares are required. The agreement to obtain those shares and also obtain derogation approval from Meridian requires that the expiry of this application coincide with the expiry date of the consents that Meridian hold in the Basin, namely 2025.

Modifications after notification

2.10 Following notification, the applicant has clarified that the notification of all four applications to each abstract up to 57 litres per second and irrigate 100 hectares each was incorrect. The proposal is in effect to abstract up to 30 litres per second from each of four locations (three on the Quail Burn and one on East Diadem Stream) with a total of no more than 100 litres per second for the irrigation of up to, an area of 180 hectares (as revised on 15 April 2009). At any point in time only a portion of the 180 hectares will be irrigated within the area identified on Figure 1.

2.11 The total annual volume now being sought across these fours consents has been reduced from a total of 2,400,000 cubic metres (as notified) to the currently proposed 738,800 cubic metres. The total rate of diversion and take has also been reduced from 228 litres per second diversion and 120 litres per second take (as notified), to only provide for a take of water at a rate of 100 litres per second. The irrigation area was initially 400 hectares (as notified), but is now a total of 180 hectares.

2.12 The minimum flow now proposed has also been increased in line with the flow sharing requirements in Table 3 of the WCWARP. This is due to the allocation limit being full as a result of two replacement consents with higher priority, as discussed further below when we consider the status of the activity.

2.13 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 changes do not significantly alter the intensity or effects of the proposal and that no party would be adversely affected by allowing the changes.

Related consents and applications

2.14 The applicant previously held consents for the diversion, take and use of water from the East Diadem and Quailburn (WTK691017A, B & C, WTK691011A, B & C and WTK691013). However, these consents expired on 1 October 2001. As these applications were lodged two and half years after the expiry of the above consents, the applicant could not operate under section 124 of the RMA and we have therefore assessed the proposal as a new activity.

2.15 Applications CRC042020, CRC042022 and CRC042025 were also been lodged by the applicant to take and use water for irrigation of a further two blocks of land in the East Branch Ahuriri River and Wairepo Creek catchments. The decisions on these applications are provided separately.

2.16 The applicant also originally lodged applications to divert discharge water. However these applications have been withdrawn as the applicant no longer proposes to divert and discharge excess water. The entire system will be spray irrigated instead of border-dyke.

3 DESCRIPTION OF THE ENVIRONMENT

3.1 The applicant provided the following description of the environment:

(a) The East Diadem is a small stream with many tributaries. Channel width varies from 1 to 3 metres, with a depth of 0.3 to 0.5 metres. No flow data is available but the applicant estimates flows are between 100 and 500 litres per second.

(b) There are no recorded users of the East Diadem and the applicant considers there to be no significant native or protected species habitat in the vicinity of the diversion.

(c) The Quail Burn is a small braided river with channel width of 8 to 10 metres and average deepest depth of 0.5 metres with a range of 0.1 to 0.5 metres. The applicant expected flows to range between 60 and 890 litres per second. Figure 1 is a location map showing the irrigation area and abstraction points.

(d) There is no significant native wildlife evident and no other users near the diversion site. The applicant also notes that the river at the diversion points is not known for significant fish spawning.

3.2 The Ribbonwood Station Conservation Resources Report (2002), produced by the Department of Conservation for Tenure Review, provides additional information regarding the landscape and ecological values of the area.

3.3 Ribbonwood Station covers an area of 7,289 hectares of land stretching from the outwash plains of Lake Ohau across the Diadem Range to the river terraces of the Ahuriri River.

3.4 The proposed irrigation area is located on the Ohau Basin flats at the base of the East Diadem Range. The natural landscape has been transformed into productive agricultural landscape of conifer shelter belts, plantation forestry, "improved" pasture and paddocks. It is clearly differentiated from surrounding land by the shelter belts and improved pasture.

3.5 Freshwater fish species include koaro, alpine galaxias, Canterbury galaxias and upland bully, mostly inhabiting the gravel bottomed streams making up the Serpentine Creek. Brown and rainbow trout use these streams for spawning if flows and passage allow.

3.6 A small wetland area is the only remaining area of importance to birdlife on the eastern boundary of the property. In this wetland, black stilt, banded dotterel and pied oyster catcher breed and feed, as well as several other species which feed on this wetland.

3.7 We detailed our site visits in Part A and we do not repeat this information here. We familiarised ourselves with the area by driving up Quailburn Road as far as the DOC Reserve at the foothills of the Diadem Range. We were able to inspect the Quailburn Stream at various points. We also familiarised ourselves with the site from the air.

4 PRELIMINARY MATTERS

Ahuriri Water Conservation Order

4.1 Section 217 of the RMA states that where an operative conservation order exists, a consenting authority cannot grant a water right if the exercise of this permit would be contrary to any restriction or prohibition or any other provision of the order.

4.2 The Ahuriri National Water Conservation Order (AWCO) sets out various restrictions designed to protect the outstanding characteristics and features of the Ahuriri River and its tributaries. Clause 3 of the AWCO requires a catchment management approach and declares that "the Ahuriri River

and its tributaries include and provide for outstanding wildlife habitat, outstanding fisheries, and outstanding angling features."

4.3 Given that the water body from which the take will occur eventually flows into the Ahuriri River, this proposal is subject to the requirements of the AWCO. This includes ensuring that the minimum flow levels of the Ahuriri River are maintained and that the "protected waters" are not adversely affected by the discharge of contaminants. For the reasons discussed in the balance of the decision, we are satisfied that the application could be granted without breaching any of the provisions of the AWCO.

5 PLANNING INSTRUMENTS

5.1 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) Proposed Natural Resources Regional Plan (PNRRP);

(c) Natural Regional Resource Plan (NRRP)

(d) Proposed and Operative Canterbury Regional Policy Statement (CRPS); and

(e) Waitaki District Plan (WDP)

5.2 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

5.3 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.

5.4 All four applications are 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.

5.5 The following rules from the WCWARP are applicable to this application:

(a) Rule 2, clause (1) – To comply with this rule the applicant proposes a minimum flow of 1 cubic metre per second on the Quail Burn at Hen Burn Road, as required in Table 3, row (xi). The reason this higher minimum flow is proposed is because there are two replacement applications on the Quail Burn, with higher priority, that take up the allocation block of 0.31 cubic metres per second, as provided in the WCWARP. The applicant also proposes 1:1 flow sharing with the river as required by Table 3, row (xi)(c). The take from the East Diadem is also subject to the above as row (xi) applies to the Quail Burn and its tributaries,

(b) Rule 6 – The annual volume for the proposed take and use of 738,800 cubic metres is within the allocation limit of 275 million cubic metres for agricultural activities upstream of Waitaki Dam.

(c) Rule 15 – classifying rule – discretionary activity

5.6 Overall, the proposed water permits are **discretionary** activities under Rule 15 of the WCWARP and resource consents are required in accordance with section 14 of the RMA.

6 NOTIFICATION AND SUBMISSIONS

6.1 The applications were publicly notified on 4 August 2007 and 23 submissions in total were received on each application, including:

(a) 2 in support;

(b) 19 in opposition; and

(c) 2 neither in support nor opposition.

6.2 Table 1 is based on the relevant s42A reports and summarises those submissions that directly referenced the application. In addition to those listed, there were other submitters that presented evidence at the hearing that was relevant to this application. 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 1. Summary of submissions on applications

Submitter	Reasons	Position
Fish & Game NZ	Quail Burn is important spawning tributary and stream is over-allocated	Oppose
Meridian Energy Ltd	Concerned about water quality, metering and reasonable use	Oppose
Canterbury Aoraki Conservation Board	Concerns regarding effects on instream values, landscape, water quality and consider 35 yr duration too long.	Oppose
H & P Smith	Owners of Ben Dhu Station concerned that abstraction may reduce water levels in the Quail Burn swamps reducing stock water availability and increase in nitrates from irrigation may decrease water quality of stock water.	Oppose
The Glens Ltd, Greenfield Developments Ltd & DW McAughtrie	Downstream water user concerned about reduction in reliability of supply	Oppose
DW McAughtrie	Downstream water user concerned about reduction in reliability of supply	Oppose
Bellfield Land Co Ltd	Downstream water user concerned about reduction in reliability of supply	Oppose

6.3 Overall the key issues of concern to the submitters were effects on ecosystems, water quality, allocations, minimum flows, natural character and landscape, efficiency and cultural values.

7 THE SECTION 42A REPORTS

7.1 A comprehensive officer report on the application and submissions was prepared by the Regional Council's consents investigating officer (Ms Claire Penman).

7.2 The primary report was supported by a number of specialist reports prepared by Messrs Heller, Hanson, Glasson, McNae, and Stewart, and Drs Clothier, Schallenberg, Meredith and Freeman. The key issues addressed by these reports were cumulative water quality effects, landscape effects, and environmental flow and level regimes.

7.3 All reports were pre-circulated in advance of the hearing. We have read and considered the content of the reports and refer to them as relevant throughout this decision.

7.4 At the time the primary report was prepared, there was insufficient information for Ms Penman to reach firm conclusions on the effects of the proposal. Matters that were identified as outstanding at that time were, water quality, efficient and reasonable use, ecosystems, and cultural values. We discuss these issues further below after summarising the applicant's case.

7.5 On the issue of landscape, Mr Glasson placed this application within his Landscape Unit 4 – Quailburn. He told us this Landscape Unit is characterised by the high legible geomorphic processes that have shaped its formations. Rolling moraine, tarns, wetlands, streams, and areas of red and hard tussock and matagouri are common in this landscape.

7.6 He told us the significance of this landscape is that it is a foreground to the panoramic views of the Neumann and Ben Ohau Ranges, through which many tourists and recreationists pass on route to the Ruataniwha Conservation Area and the Ohau ski-field in Central Otago. He told us the Landscape Unit is moderately visible from the Quailburn and Lake Ohau Roads, with the eastern part of the Unit being highly visible from State Highway 8.

7.7 It was his view that the Unit has high to moderate visibility and high naturalness; it is very sensitive to change, with a low absorption capacity. He said this was particularly so for the hill slopes, wetlands, and rolling downlands where potential irrigation sites could have significant adverse landscape and visual effects.

7.8 He told us the recreational value for this Unit is of moderate significance with pursuits, including mountain-biking to Wairepo Lakes and site-seeing on-route to Lake Ohau and the Ahuriri Conservation Order area.

7.9 In respect of this application site, Mr Glasson was of the opinion that it is relatively small and discreetly located site, with low visibility due to its location and screening by dense coniferous shelter trees. He did note the site materials had a reference to a wetland. However, there was no mention, he said, of its retention and protection. Overall, he considered that the adverse effects of irrigation would be of a minor level.

8 THE APPLICANT'S CASE

8.1 Legal counsel for the applicant, Mr Ewan Chapman, presented opening submissions and called the following witnesses:

(a) Mrs Keri Johnston – Chartered Engineer

(b) Mr Andrew Craig – Landscape architect

(c) Mr Robert Batty – Planner

(d) Mr Andrew McFarlane – Farm management consultant

Opening legal submissions

8.2 The applicant is part of the Upper Waitaki Applicant Group (UWAG), as described in our Part A decision. Mr Ewan Chapman presented comprehensive opening legal submissions on behalf of all UWAG applicants. He said that said that there may be matters of a specific legal nature relating to certain applications and those issues will be raised when the specifics of the applications were discussed in closing.

8.3 Mr Chapman told us that UWAG represents some 72% of all applicants for water takes. This equates to 31% of the total water volume applied for (excluding stockwater and non-consumptive diverts) and 29% of the total irrigable area.

8.4 Mr Chapman emphasised that despite the collective approach adopted for these hearings, each application needs to be considered in isolation from others (allowing for priorities). However Mr Chapman noted that UWAG is not producing any other evidence to support its own assessments of cumulative effects and adopts the MWRL evidence to the extent that it defines nodal thresholds.

8.5 While raising some challenge to the outcomes of the mitigation measures proposed by MWRL resulting from the WQS study, Mr Chapman told us that the UWAG members were not presenting their case to say that they cannot or will not meet an area-based NDA threshold. To the contrary, he said that we would be shown that they have taken the model and applied it to all properties and will, with mitigation, meet the thresholds.

8.6 Mr Chapman then addressed us on the issue of allocation of assimilative capacity. Relevantly, for this application in terms of the Ahuriri, he told us the assimilative capacity is exceeded. He contended the approach taken by MWRL that essentially resulted in some farming units mitigating for the nutrient loss of other farming units, was inappropriate. He submitted a more appropriate method of allocation is on the basis of productive use of land. The productive use of the land he said represents the level of nutrient discharge of each farming unit and that should be used; and that the method of allocation based on dividing allocation on a per hectare basis should not be utilised.

8.7 He submitted that by assessing allocation of assimilative capacity on the basis of productive land use to reflect the NDA for each unit, these methods would be more representative and realistic of the nutrient discharge of each farming unit.

8.8 In terms of conditions concerning the nodal approach, he told us the essential issue lies with pinpointing who is exceeding their NDA if exceedances are detected at the nodal point. He told us the UWAG applicants' preference is for on-farm management of total nutrient discharge and annual auditing of individual FEMPs. He then referred us to a draft condition from the Rakaia Selwyn groundwater zone hearing, noting it was a very much site-specific condition.

8.9 He submitted that on-farm monitoring should be favoured over monitoring at nodal points. He said this did bring in the practicalities of the purpose of employing the FEMP with the result that if a breach of the FEMP occurs, the consent authority would have control to enforce the conditions of the consent against the individual applicant. It also reflects the reality that each farm will be different depending on the type of activity that is undertaken on that farm with their own tailored farming management practices.

8.10 Mr Chapman also said that UWAG had not tabled a final set of conditions or final farm management plans. These matters would be worked through and provided to all parties as the hearing progressed. UWAG was of the view that one suite of conditions was inappropriate. There were variables between sub-catchments, take points, and the "type" of consent applied for which would mean that individual conditions would need to be worked through. When possible, he said UWAG would engage with the consent authority and submitters informally on the wording of conditions.

Mrs Johnston

8.11 Mrs Johnston said that Maree Horo ("the applicant") farms two properties known as Ribbonwood Station and Shelton Downs, situated between the Ahuriri River and Lake Ohau.

8.12 These applications are specific to Ribbonwood Station. The property currently runs merino sheep and beef breeding cows. The property is 7289 hectares, and carries 11,300 stock units (8,000 as sheep and 3,300 as beef cattle).

8.13 Mrs Johnston also said that as the property is fully developed within normal economic parameters, irrigation is now required to take the property to the next production step.

8.14 Current farming practice without water involved fine wool, sheep and cattle breeding and store stock unit in a high country environment. Stock was currently sold on the store market, which had distinct limitations in dry seasons and in terms of market options. The applicant considered that with irrigation all progeny bred on the property will be able to be finished if the irrigation system was installed as planned. We do make the observation that based on information provided by the applicant, irrigation did previously occur on the site, with those consents expiring without renewal being sought on 1 October 2001.

Water Source

8.15 The Quailburn Catchment is located approximately 15km North-west of Omarama and drains the Diadem and Ohau Range. It has a catchment area above the minimum flow site (located at Henburn Rd) of 82km^2. The altitude of the upper catchment ranges from 500m to 1900m above MSL.

8.16 Several tributaries, including the East Diadem and Serpentine Stream, feed into the Quailburn upstream of the gorge, then into the Ahuriri River. Flows at the minimum flow site are usually continuous, however below this site is often dry, with surface flows often not continuous to the Ahuriri River.

8.17 East Diadem is a tributary of Quailburn Stream, and is itself, a stream with many tributaries. It has no significant fisheries habitat.

Effects on other water users

8.18 Mrs Johnston said that the applications are for new takes, for which MIC shares have been purchased. As B band water is now being sought, the applications are "in addition" to the allocation limit specified for the Quailburn and Tributaries as specified in Row xi of Table 3 of the WCWARP.

8.19 Mrs Johnston explained that these applications fall into Row xi of Table 3 of the WCWARP, which sets an allocation limit of 310 L/s and a minimum flow of 100 L/s, as well as a flow sharing threshold of 1,000 L/s above which any water taken, diverted, dammed or used pursuant to the flow sharing regime was in addition to the allocation limit.

8.20 Mrs Johnston said that there were two other users on the Quailburn system, Bellfield Land Co Ltd and the Quailburn Government Race parties (McAughtrie, Ellis-Lea and Greenfields), who seek to renew existing consents at this hearing. These two users take a total of 310 L/s, the allocation limit.

8.21 She said that the applicant sought to take water only when flows are in excess of 1,000 L/s. This would ensure that the other users were not affected, as there will be sufficient water flows so as not to reduce the reliability of supply of other users, and the take will not be occurring at a time when it could influence the 100 L/s minimum flow.

8.22 Mrs Johnston said that mitigation was proposed restricting the rate of take and volume per week. Given this, Mrs Johnston's opinion was that the effects on other users would be minor.

Effects on ecosystems

8.23 Mrs Johnston said that the applicant accepted the minimum flow for these applications as specified in Row xi of Table 3 of the WCWARP for B band applications. Also a fish screen would be installed prior to the commencement of this consent, and would be designed and installed in accordance with the NIWA client report.

8.24 Mrs Johnston considered the effects on in-stream values would be minor.

Effects of inefficient water use

8.25 Mrs Johnston derived the proposed irrigation annual volume of 738,800 m^3/year by using Schedule WQNv2. She based it on 50% medium soils (PAW range from 75 mm to 110 mm) and 50% heavy soils (PAW > 110 mm) and a land use of mixed cropping, and pasture for fattening sheep and beef cattle.

8.26 Mrs Johnston said that whilst the four applications would allow 120 L/s to be taken, it is proposed to limit the combined abstraction from these four consents to 100 L/s. The proposed application depth of 15 mm per return period is less than 50% of the water holding capacities expected. This is considered to be an efficient use of water.

8.27 Policy 19 of the WCWARP encourages piping or sealing distribution systems. The system will utilise existing race systems that are now well sealed.

8.28 Policy 21 of the WCWARP required all water takes to be metered. To ensure that this application was consistent with this policy, the applicant proposed to meter their take.

8.29 The CRC reporting officer and Mrs Johnston concurred that effects on inefficient water use are minor at the proposed annual volume.

Water Quality

8.30 Mrs Johnston said that cumulative effects on water quality had been addressed by Mackenzie Water Resources Limited (MWRL).

8.31 The calculated nutrient mitigation requirement of the receiving environments determined in the MWRL Study had identified an N and P threshold for each property.

8.32 "OVERSEER® had been RUN by a QUALIFIED person to model the N and P outputs from the proposed farming system. The results of the model had been incorporated into the table below. Mrs Johnston told us that the following table showed that the applicant could meet the property thresholds proposed by the MWRL study.

	Nitrogen Threshold (kg/farm)	Phosphorus Threshold (kg/farm)
MWRL Water Quality Study Property Thresholds	16,533	438
OVERSEER® outputs	16,194	352

8.33 Mrs Johnston said that the applicant was committed to implementing the "Mandatory Good Agricultural Practices" set out within the FEMP. Implementing those practices ensured that the OVERSEER® results were valid. She believed that this along with ensuring that the property thresholds of the WQS were not exceeded would ensure that the cumulative effects of the use of water for irrigation on water quality were no more than minor.

8.34 Mrs Johnston said that whilst the applicant was within their property threshold, the MWRL Study identified that the applicant still had to consider specific on farm effects and the impacts these activities could have on the local receiving environment. This required a specifically developed Farm Environmental Management Plan (FEMP) to identify and implement appropriate mitigation measures set out in the FEMP.

8.35 At a workshop held in Twizel in August 2009, the applicants met with Dr Melissa Robson of GHD Limited. A "desk top" analysis of on farm risks was undertaken. This was considered to be the "starting point" of the FEMP.

8.36 Mrs Johnston said that the workshop identified potential on farm risks specific to each farm along with possible mitigation measures. For Ribbonwood Station, the following potential risks were identified:

(a) Evidence of erosion

(b) Runoff from winter feed crops

(c) Laybacks from waterways from fertiliser application

(d) The many water ways that flow through the property

(e) Fencing off water races

(f) Stock access to water ways

8.37 We note that a final FEMP complete with Farm Environmental risk Assessment (FERA) was provided to ECan on 22 November 2010 and we comment on that FEMP in our Evaluation of Effects.

8.38 Mrs Johnston said that the N and P thresholds from the MWRL Study could be met, and with the applicant's commitment to addressing on farm risks with the implementation of the FEMP, the effects of the use of water on water quality for both the local receiving environment and cumulative effects would be minor.

8.39 Mrs Johnston said that although this application was for "new" water, the property was intensively farmed and part of a substantially modified rural environment, whereby cultivation and fencing occur regularly.

8.40 She said that greening of this specific area of land occurs seasonally during the irrigation season, which was therefore a temporary effect that is already experienced in this location with the applicant's existing consent and others nearby. Irrigation was within a defined area.

<u>People, Communities and Recreational values</u>

8.41 Mrs Johnston said that the applicant had proposed the appropriate minimum flow condition from the WCWARP for the water body from which they have applied to take and use water. The

proposed minimum flow she considered would adequately protect people, community and amenity values within the waterway specific to the application.

8.42 She also said that the activities all occurred in a rural setting, where the dominant land use was pastoral farming. The proposed activities all occurred on private farmland and the use of water was unlikely to adversely affect amenity values.

8.43 Mrs Johnston explained that the WCWARP set an annual allocation "cap" for agricultural and horticultural activities within defined areas (Table 5). The applicant had proposed an annual allocation limit for their own resource consents for the use of water, as well as proposing to implement Farm Management Plans, which required existing irrigation systems to be audited and improved where possible, and new systems to be designed and installed by accredited personnel.

8.44 Mrs Johnston said that given the applicant's commitment to ensuring efficient use of water on their properties, and that the take was within allocation limits set to protect in-stream values and other users, she considered that effects on people and communities will be minor.

Effects on Tangata Whenua Values

8.45 Te Runanga O Ngai Tahu submitted on all applications in the catchment, seeking that all applications be declined.

8.46 Mrs Johnston view was that the primary reasons for this were that the applications were considered to be inconsistent with the policies and objectives of the WCWARP, and also at odds with the cultural objectives of the RMA.

8.47 Ms Johnston acknowledged that Te Runanga O Ngai Tahu had a significant relationship with the Waitaki Catchment, and as such, appropriate minimum flow conditions, and management of water quality effects, was proposed by the applicant to ensure that the potential effects on the environment, including tangata whenua values were minor.

Mr Andrew Craig – landscape architect

8.48 Mr Andrew Craig gave his evidence in two parts. The first part dealt with the general landscape and his overview of the Upper Waitaki landscape and its values. The second part of his evidence dealt more directly with the individual applications.

8.49 In his part A evidence, Mr Craig discussed in detail Mr Glasson's mitigation approach and tools, and addressed us on statutory matters concerning the effects of landscape. Broadly, for reasons advanced in Part A, we agree with Mr Craig's assessment of the statutory planning documents in terms of landscape.

8.50 Unlike other applications by UWAG members, Mr Craig did not present a separate brief of evidence in respect of the current application. The reason for this was that he only prepared a separate brief of evidence where he considered the proposed irrigation was on a sensitive site. Visual sensitivity was determined by the location of publicly accessible vantage points and the views that could be had from them in relation to irrigation areas. In relation to the current application, Mr Craig considered that it was not a sensitive location in terms of landscape and that the proposal would therefore not negatively impact on landscape values.

Mr Robert Batty - planner

8.51 Mr Batty addressed us in relation to planning issues. He set out his broad view as being:

(a) whether or not granting any of the applications before us, including this application, would undermine the operational integrity of the WCWARP, regional plans and district plans;

(b) whether cumulative effects would arise from a grant;

(c) whether grants would promote reasonable efficiencies and sustainable management of the natural and physical resources concerned; and

(d) whether the grant of consent would derogate from any other consent.

8.52 He was critical of the section 42A officers' collective approach and suggested each application needs to be considered on its own merits. A move away from the generic approach of the reporting officers was required, he said, to enable a proper analysis of each application to occur.

8.53 He supported Mr Kyle's planning analysis on behalf of MWRL and he set out for us relevant policies and objectives in the district and regional plans. In conclusion, he was of the view that granting this consent and all other UWAG consents was appropriate.

Mr Andrew Macfarlane, farm management consultant

8.54 Mr Macfarlane is a farm management consultant with 29 years experience. He provided us evidence on behalf of all of the UWAG applicants.

8.55 He assessed the viability of the farm management plans and practicality and robustness of the mitigation measures and the ability to monitor progress.

8.56 He discussed a range of mitigation measures that had been examined and/or adopted by the UWAG farmers to deal with discharges from their properties consequent upon irrigation.

8.57 Mr Macfarlane also discussed with us the costing of various typical irrigation developments.

8.58 He considered on-farm monitoring, noting that on-farm monitoring had lifted in its intensity and in detail over the last 10 years, being driven by economic returns and a need to prove environmentally sustainable methods were being utilised. Overall, he held a high degree of confidence in progress concerning the ability to monitor and interpret interfaces between environmental science and management.

8.59 He raised with us the advantages of reliable availability of water and pointed out for us the benefits of irrigation, noting that while generally irrigation typically only represents a small part of the total farm area, but it does result in high productivity increases with a resultant favourable impact on economic viability of farming operations. He concluded with the correct planning, management and monitoring any negative environmental impact of intensification of a small area would lead to positive environmental outcomes on the balance of the property. It was his view a net positive balance was certainly possible.

9 SUBMITTERS

Meridian Energy Limited – Mr Richard Turner

9.1 We note through the evidence of Mr Richard Turner, Meridian Energy Limited (MEL) raised concerns for cumulative water quality reasons in respect of this application. We also note from Mr Turner's materials that this particular applicant was not complying with the derogation approval sought by MEL.

9.2 We also note that Mr Turner took issue with Mr Chapman's and Mr Batty's approaches in relation to conditions. Mr Turner observed that Mr Chapman and Mr Batty were suggesting that if the threshold limits at the subcatchment nodes are exceeded but individual consent holders are complying with their on-farm nutrient discharge allowances, then no remedial action should be required of the consent holders.

9.3 However, Mr Turner made the point that MEL does not support this approach because that approach would result in cumulative effects occurring and there would be no remedy available in terms of conditions.

9.4 Mr Turner was of the view that both on-farm nutrient discharge allowances and the threshold limits at the subcatchment nodes had to be complied with. Conditions were required to ensure this outcome was met.

Mr Frank Scarf - Fish & Game (hydrologist)

9.3 Mr Scarf said that Rule 2 Table 3 (xi) of the Plan limits allocation from the Quail Burn to 310 L/s and required a minimum flow of not less than 100 L/s to be retained instream at the Hen Burn Road (H39:655355) . A flow sharing regime was to be introduced when flows at Hen Burn Road exceed 1000 L/s.

9.4 McAughtrie et al and Bellfield Land Company sought replacement consents for their existing authorisations, CRC991473 and CRC011987, respectively. The former had applied to divert up to 170 L/s into what is referred to as the Quail Burn Government Race while the latter sought to take to divert and take 140 L/s immediately downstream from the Government Race intake for spray irrigation of 208 ha. Between them, these two applicants had exhausted the allocation of 310 L/s available from the Quail Burn.

9.5 Mr Scarf said that any approval for new applications such as Maree Horo (CRC042011, CRC042015, CRC042017 and CRC 042018 each taking 30 L/s) would necessarily default to 'B' permits with a 1000 L/s minimum flow and a sharing regime. He recommended a 1:1 sharing regime in this instance. Between them, these consents total 120 L/s, notwithstanding the applicant's claim that they propose to take only 100 L/s at any one time.

9.6 He also said that Gabities and Horrell estimated that MALF for the Quail Burn immediately upstream from the Government Race intake was about 330 L/s. This in turn, suggested that the 1:5 yr LF was about 220 L/s. From this, he concluded that the 100 L/s minimum flow identified in the Plan was inadequate and this too was something that may need to be addressed in the event of a Plan review.

Fish & Game – Mr Mark Webb

9.7 Fish & Game provided comment on the values in the Quail Burn in their submission, and considered it to be an important spawning and juvenile rearing tributary of the Ahuriri River, particularly for rainbow trout which are tributary spawners. Good angling is available early in the season, in the lower reaches before these become dewatered later in the summer. However, they note that the reaches crossing Ribbonwood Station would not be considered as prime angling waters.

9.8 Mr Webb told us the Quailburn being a tributary to the Ahuriri River provides a spawning habitat of an estimated 20 to 30 Ahuriri River origin brown and rainbow trout each year.

9.9 He told us the Quailburn flows are normally high in winter and there is a marked summer low-flow period from January to April.

9.10 The outcomes that Fish & Game were looking for in terms of the Quailburn were that a minimum flow be established and that allocation and flow-sharing rules be provided. We understood from the evidence of Fish & Game that it agrees with the minimum flow allocation limit and flow-sharing regime put forward by this particular applicant.

Mackenzie Guardians – Ms Di Lucas (landscape)

9.11 Ms Lucas on behalf of Mackenzie Guardians provided to us a broad-ranging brief of evidence, much of which we have already commented upon in Part A.

9.12 In respect of this particular application, she identified it has been located within her Ahuriri system.

9.13 We did note from her materials, particularly the attachments, when she referred us to the views she had from state highways that given the location of the site it was not highly visible. However, we do note the site's proximity to Quailburn Road.

9.14 In terms of her Attachment 19, Ms Lucas provided information about the subject site in terms of it being capable of being viewed from public land and public access. She identified some public access and public viewing points from which it could be viewed.

9.15 In her various attachments, Ms Lucas identified the site as Site 28. In her written texts, there was unfortunately no reference to Site 28. So we relied on her evidence for an overview rather than a detailed assessment of the site.

Mackenzie Guardians – Dr Susan Walker (ecologist)

9.16 Dr Walker, representing Mackenzie Guardians, provided us with a comprehensive overview of the Upper Waitaki Basin in terms of the cumulative effects of irrigation on vegetation. This evidence is discussed in Part A. Her evidence as a basin-wide overview concluded that more in-depth investigation was required before consent should issue. However, she included as Attachment 15 her views in relation to a number of sites.

9.17 In terms of this application's site, she referred to Ohau Company Trust (Maree Horo) provided CRC numbers (namely, CRC042021 and CRC042022), which unfortunately do not match with the applications before us.

9.18 However, she did refer to the farm name as Ribbonwood, noting that the tenure review survey had been completed with values being mapped.

9.19 She told us, subject to what we have said above, that the potential effects on terrestrial biodiversity were graded as least. Her comments on existing biodiversity information about the subject site noted that the site was mainly developed already and does not appear to overlap with significant inherent values identified as a consequence of the tenure review.

Department of Conservation

9.20 In the legal submissions advanced on behalf of the Department of Conservation (DoC) we were told that the Director-General is particularly concerned about:

(a) The possible effects on threatened indigenous fish populations in the lower Ahuriri, lower Tekapo and Pukaki Rivers (bignose galaxids, in particular); and

(b) The cumulative effects of these proposals on habitat for threatened fish and birds in the Upper Waitaki.

9.21 DoC put forward a range of briefs of evidence from very experienced ecological consultants and employees. We signalled in Part A we would refer to that where relevant in terms of individual applications within the context of Part B decisions.

9.22 An overriding theme coming through the DoC expert evidence was a criticism of the applicant group, including UWAG applicants, that very few of the streams and rivers subject to applications to take water were the subject of assessments of aquatic fauna and there was little in the way of information on the ecological effects of the proposed application.

9.23 DoC was concerned that key ecological information was lacking assessments of effects for all indigenous fish and birds.

9.24 DoC were critically concerned that an increase in nutrient levels and periphyton in streams and rivers has the potential to alter the invertebrate fauna of these streams, from communities with organic and nutrient pollution-sensitive species (such as mayflies) to communities with organic and nutrient pollution-tolerant species (such as snails and chironomids).

9.25 These experts noted that fish and bird diets that are closely linked to mayflies and caddisflies have the potential to be affected by changes to the invertebrate community, and this has not been assessed by many applicants.

9.26 The approach will refer to the maps and plans given by DoC, which identified the locations of indigenous fish populations in relation to applications sites. For this application Mr Peter Ravenscroft identified a population of the bignose galaxies in streams adjacent to the application site. Similarly, Dr Richard Allibone identified populations of kaoro and alpine galaxies in streams adjacent to the application site. In relation to the alpine galaxies, we were told by Dr Allibone that this was a threatened fish species.

Te Runanga o Ngai Tahu – Paul Horgan

9.27 Mr Horgan told us that Ngāi Tahu had taken a balanced approach when assessing the applications and resisted the temptation to simply oppose all applications in their entirety. More particularly, Ngāi Tahu had generally placed its emphasis upon the new (rather than replacement) consent applications and those that will result in large scale land use intensification, rather than the taking of water so as to provide security of supply for existing farming operations.

9.28 Mr Horgan told us that Ngāi Tahu had adopted two focal points against which they assessed the applications; the Ahuriri Delta was one of these as it would be one of the most acute receiving environments for the discharge of nutrients from the irrigation proposals. He also told us it was an area that Ngāi Tahu had prioritised for mahinga kai restoration.

9.29 Mr Horgan reiterated the Ngai Tahu position as quoted in the Cultural Impact Assessment (CIA) which states "As a priority Ngai Tahu does not want to see new irrigation proposed for these areas degrade existing habitats and deny opportunities to undertake enhancements".

9.30 Mr Horgan also told us that provided the smaller applicants carry out appropriate riparian planting and fencing and undertake not to significantly increase the intensity of their farming operations, then Ngāi Tahu were not opposed to the granting of consent.

Ngai Tahu – Ms Mandy Waaka-Homes, kaitiaki

9.31 Ms Mandy Waaka-Homes told us she had inherited the role of being a kaitiaki to the taonga and other natural resources of the Waitaki system, of which the Ahuriri catchment was a relatively unmodified remnant of the old Waitaki braided river habitat and headwater streams.

9.32 Ms Waaka-Homes stated that without clean water Ngai Tahu aspirations to restore mahinga kai in the Ahuriri catchment would be unachievable, she said that water should be clean enough to eat the mahinga kai that came from it.

10 UPDATES TO THE SECTION 42A REPORTS

10.1 The addendum s42A report of Ms Penman discussed additional matters that have been identified throughout the hearing, or had provided comment on changes proposed by the applicant. These included:

(a) A draft Farm Environmental Management Plan (FEMP) and assessment of cumulative water quality effects was included in the applicant's evidence.

(b) Ms Penman agreed with the proposal to include a fish screen designed in accordance with the NIWA guidelines.

(c) Ms Penman agreed that the annual volume being sought was 738,800 m^3 and the combined rate of 100 L/s across all four locations (under consents CRC040211, CRC042015, CRC042017, and CRC042018).

10.2 Subsequent to the presentation of the applicants evidence Dr Freeman listed this application as one those that, on the basis of the currently available information, are associated with a high level of uncertainty about potential cumulative adverse effects, and because of the scale of the development and therefore the potential consequences of adverse effects, taking account of cumulative water quality effects, the water permit applications should not be granted.

10.3 Mr Chris Glasson in his addendum report did not differ from the assessment provided in his principle report that the adverse effects of granting consent would be minor due to the fact that this application site is relatively small and discreetly located, with low visibility due to its location and screening by dense coniferous shelter belts. He did in his addendum refer again to the wetland area, noting that no mention had been made as the retention and protection of this area.

11 APPLICANT'S RIGHT OF REPLY

11.1 In his right of reply, Mr Chapman provided general comment on issues relevant to all UWAG applications and specific comment on several discrete proposals. There were no specific comments made in relation to this application.

11.2 Mr Chapman challenged Dr Freeman's Table 5, contained within his first addendum report dated 12 January 2010. Mr Chapman contended the list was flawed because consents are placed in the red category solely by virtue of their location within the Ahuriri Catchment. Mr Chapman considered the more correct approach for the ranking of the applications was to determine where they sit in relation to the existing environment.

11.3 He noted there had been much emphasis on nutrient management but he contended we should also be considering sustainability of the erosion-prone fragile soils within the catchment. He also submitted we should take note that district plans encourage farming, including irrigation, within these environments; and the tenure review undertaken by the Crown encourages intensification of land use retained in freeholding ownership in order to release more vulnerable pastures to be set aside under Crown ownership.

11.4 He also contended we should consider economic implications on the survival of these farms given their investment in infrastructure as a factor. He also noted we should take into account managing the land in light of weed and pest problems and how irrigation assists in that regard.

11.5 Mr Chapman addressed us on the MWRL proposition in terms of the Ahuriri River, namely a needs plus a buffer approach. Mr Chapman made it clear that the UWAG applicants in the Ahuriri, which includes this application, at the time of reply had only just received information relating to each individual farm's NDA, but noted this approach was of critical concern.

11.6 In terms of staging of implementation, Mr Chapman told us that undoubtedly those UWAG applicants, this applicant among them, may choose to stage the introduction of a new system of irrigation.

11.7 We did receive from Mr Chapman generic conditions applicable to all UWAG applicants.

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) Water quality effects

(b) Ecosystems

(c) Effects on other water users

(d) Landscape

(e) Inefficient take and use

(f) Tangata whenua values

(g) Positive effects

Water Quality

13.2 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 Ahuriri Arm of Lake Benmore

(b) Groundwater chemistry and in particular the -proposed threshold of 1 mg/L NO_3-nitrogen; and,

(c) Periphyton and other ecological effects in the Quailburn, and Ahuriri Rivers

13.3 The applicant has proposed mitigation measures to lessen the risk of their activities contributing to cumulative water quality effects. We need to consider whether the proposed mitigations, are in our view, sufficient to avoid significant water quality effects occurring, and/or whether refinements to the measures proposed are required.

13.4 A starting point for the consideration of effects on points (a)-(c) above is the FEMP. We refer to the final FEMP lodged with ECan on 22 November 2010.

13.5 Evidence on the FEMP was given by Mrs Johnston, but for consistency with other decisions we have undertaken an independent audit. Key points arising from our audit and additional to Mrs Johnston's evidence are summarised below:

(a) The property has a mix of soil types, ranging from 40 mm PAW to in excess to 110mm. There was no clear delineation within the FEMP of the soils under each of the irrigation areas but it was noted all are prone to wind erosion;

(b) The FEMP stated that the Wairepo groundwater catchment required the most severe nutrient mitigations for Ribbonwood (even though these particular applications are within the Quailburn catchment). i.e. An additional 16.40 kg N/ha/y are required to be prevented from leaching (or otherwise lost from the system) and 0.7 kg P/ha/y compared with that achieved using good agricultural practice.

(c) It is apparent that the applicants do not accept the property threshold assigned by MWRL as they note: "Upon further investigation it has been noticed within the WQS that the thresholds for Ribbonwood have been based on 650ha of irrigation land rather than the 532ha applied for. It has also been notified that the thresholds have not been determined based on the usual most stringent mitigation requirements, if this was the case then the N and P thresholds should have been 18673 kg N per annum and 648 kg P per annum. Further clarification of the establishment of thresholds has been requested from MWRL."

(d) The mitigations proposed in addition to those assumed in OVERSEER are listed as:

(i) No winter application of fertiliser on the irrigation area

(ii) N fertiliser applications split to under 50 kg N/application

(iii) No P fertiliser within three weeks of irrigation

(iv) Olsen P of below 30 maintained

(e) Mitigation measures proposed to ameliorate site specific environmental risks include:

(i) Twenty metre layback from any waterway when applying fertiliser by land based application e.g. bulk spreader

(ii) Restrict stock access (if land is to be utilised for grazing) via temporary fencing to permanently flowing waterways within the proposed irrigation area near the homesteads, Wairepo Creek, Serpentine Creek and the creek locally known as the North branch Serpentine Creek

(iii) Construct a basic settling basin at all points of discharge from stock water races to the East Ahuriri River

(iv) Construct a basic settling basin when the Wairepo, Serpentine and North Branch Serpentine creeks converge prior to exiting the property

(v) Restrict stock access, stock type and stock number from all permanently flowing waterways within other non irrigated intensively farmed areas

(f) The above mitigations are worthwhile initiatives that will prevent or delay nutrient from entering watercourses. We note that settling ponds are only effective if they are well maintained. However the mitigations in total do not give us confidence that the considerable reductions in the rate of nutrient loss in the Wairepo groundwater catchment (or the Ahuriri Arm surface water catchment which is more relevant) will be achieved. The applicant appears to be relying mainly on nutrient losses being below their

NDA as assigned by MWRL. Unfortunately as noted in Part A we do not accept MWRL's calculation of overall nutrient assimilative capacity and thence their division of that capacity into NDAs. Particularly in this sensitive Ahuriri catchment we are looking for evidence of no significant net increase in nutrient discharge at a property level.

13.6 The critical issues for us for are:

(a) Is the predicted nutrient load realistic?

(b) What effect will the predicted nutrient load (alone and in combination with other applications before us) have on the water bodies listed above making reasonable assumptions about flow paths?

(c) Can the effects be avoided, remedied or mitigated?

Predicted load realistic

13.7 The inputs to OVERSEER were audited by Mr McNae. In his final addendum he reported as a 'live' issue that the applicants preferred to stay with the developed setting in OVERSEER following advice from Mr McFarlane that a highly developed status would never occur. We accept Mr McFarlane's point on this but that our interpretation of Dr Snow's evidence (Part A) was that she advocated use of the highly developed setting on shallow soils, not because they were likely to reach that status, but rather as a pragmatic response to reflect that OVERSEER would significantly underestimate nitrogen losses on shallow soils. Nevertheless, the soils at Ribbonwood are not as shallow as others in the area and we accept that the developed setting will give a reasonable approximation of nutrient losses. There being no other issues in Mr McNae's opinion that would affect the accuracy of OVERSEER predictions, we accept that the loads predicted are reasonable.

13.8 Nevertheless we note that the predicted nutrient loads stated in the Ribbonwood FEMP (16,194 kg N/y and 352 kg P /y) which appear to represent the total nutrient load from Ribbonwood have been repeated in Mrs Johnston's evidence for both these applications, and also for CRC042022, CRC042025 (take and use in the Wairepo system). In other words the nutrient losses emanating from each of these application sets have been overstated. However in his addendum report, Dr Freeman appears to have recognised the problem and separated the predicted loads arising from each of applications sets. For Ribbonwood, Dr Freeman listed (his Table 7) that 12,457 kg N/y as the load predicted to end up in the Ahuriri Arm of Lake Benmore.

Effects on waterbodies

Ahuriri Arm of Lake Benmore

13.9 In part A we determined that the Ahuriri Arm of Lake Benmore was already close to the oligotrophic-mesotrophic boundary. MWRL agreed with this assessment, but submitted that through improvements to replacement consents and significant nutrient mitigation of new consents, all consents could be granted without causing the oligotrophic-mesotrophic boundary to be breached. We disagreed with the MWRL submission for the reasons given in Part A. Therefore we need to assess each application on its own merits, but taking into account other applications before us.

13.10 Dr Freeman's addendum (on behalf of the Regional Council) gave a useful summary of estimated total property nitrogen loads to the Ahuriri Arm associated with irrigation development proposals, together with their priority as determined by Professor Skelton on the basis of the date the application was deemed to be notifiable. As noted above Dr Freeman's (addendum Table 7) estimated that of the 16,194 kg N/y lost from Ribbonwood, 12,457 kg was in the Ahuriri Catchment and that it was 12th in priority order within that catchment

13.11 However Dr Freemans estimate is for the total property load simply prorated by the area within the Ahuriri Catchment. The estimated nutrient load without the proposed new irrigation forms, in effect, the permitted baseline. It would have been very useful, in our view, to have had this estimate, but in the absence of it, we draw upon Dr Snow's evidence for MWRL in which she estimated N load from dryland farming at a number of stocking rates (her Figure 6). At 2 SU/ha (the approximate stocking rate on dryland farms), Dr Snow (Figure 6) estimated an N loss of ~2 kg N/ha/y.

13.12 Dr Snow estimated that for partially irrigated sheep and beef properties irrigating up to 35% of their property, the N losses were up to 5 kg N/ha/y. The total irrigated area proposed for Ribbonwood within the Ahuriri catchment (this application plus CRC042020) is 480 ha or ~8.6% of the farmed area, within the catchment. If we divide the estimated nitrogen load (12457 kg N/y) by the farmed area (5606 ha) we get n estimated loss rate of 2.2 kg N/ha/y which is only 10% higher than the estimate under dryland farming.

13.13 Put another way, if Ribbonwood did not propose a change in farming operations (i.e. overall stock numbers will stay within normal annual and seasonal parameters) we could consider losses from the irrigated area alone. If we use the average figure (between the highly developed and developed settings) for irrigated pasture given by Dr Ryan (for Meridian) of ~20 kg N/ha/y, then the maximum additional N load lost from the catchment would be 9600 kg N/y of which 3,600 would be associated with this application (180/480 ha).

13.14 There is a significant discrepancy between the estimates derived by partitioning the 12457 kg N/y estimate into dryland (permitted) and partially irrigated, and that derived directly from considering maximum losses from the irrigated area only. The true figure is likely to be between these extremes. However we note that:

(a) A significant (but indeterminate) proportion of the soils under the irrigated areas are 'shallow' and thus the 12,457 kg N/y derived from Overseer modelling is likely to underestimated, and,

(b) Ribbonwood states in the FEMP (#2.1) their intention to intensify farming operations as a result of irrigation.

13.15 Thus our view is that the proposed area of irrigation will lead to a significant additional new nutrient load from the property even with the mitigation proposed, and that this additional load could be sufficient to cumulatively push the Ahuriri Arm from an oligotrophic to a mesotrophic state.

Groundwater

13.16 We agree with Dr Bright that effects on groundwater in this case are manifest by interaction with surface waters and that groundwater is largely a matter for policy considerations. There was no evidence specific to Ribbonwood on predicted NO_3-N concentrations. However if we accept Dr Bright's evidence given for Killermont Station that a conservative assessment on these high country stations is that the majority of the nitrogen (phosphorus may be different because of soil-associated losses) losses are derived from irrigated area, then we can infer that maximum concentration in drainage water beneath the root zone will be quite high. The final concentration in groundwater will depend upon dilution from upland sources and there has been no evidence presented that allow us to estimate this dilution.

Periphyton growths in Quailburn, East Diadem Stream and Ahuriri River

13.17 Dr Coffey's evidence (MWRL, Part A) included information on periphyton surveys in Ahuriri River. He reported periphyton biomass below levels of concern at all the sites he visited (upper, SH8 Bridge, and node). He also reported that the quality of macroinvertebrates declined from good to fair with distance down the river. We note that bed of the Ahuriri River is hard and dominated by cobbles, which would be susceptible to nuisance periphyton growths should nitrogen and/or phosphorus concentrations in the river be above that limiting periphyton growth (under stable flow conditions).

13.18 Dr Coffey also reported on periphyton surveys in the Quailburn. He reported no existing irrigation in the Quailburn sub-catchment but reduced physical habitat quality at the Quailburn Node site relative to Quailburn Upper. This was reflected in reduced riparian cover and increased periphyton cover at the downstream sampling site. He also noted that both cover and biomass of periphyton would constitute a "nuisance" condition at the downstream site.

13.19 The East Diadem Stream is a tributary of the Quailburn, and no assessments of existing periphyton biomass have been undertaken to our knowledge.

13.20 In Part A we rejected the MWRL proposal that the threshold for periphyton growth should be a 25% increase in maximum annual biomass calculated from modelled 'current' nutrient concentrations. We found instead, that MfE periphyton guidelines are applicable and should be used to protect streams from nuisance periphyton growths.

13.21 There are two important elements that will determine whether the MfE guidelines are likely to be breached:

(a) The flow path of drainage water/groundwater, and,

(b) The amount of dilution as the drainage water mixes with the Quailburn or Ahuriri River, particularly under summer low-flow conditions.

13.22 Superimposed on both of these elements is the groundwater travel time. However, for our purposes, that only affects the timing of any effect, rather than the effect itself.

13.23 We can infer that as the Quailburn node already exceeds nuisance guidelines on occasions the addition of a new nutrient load upstream of that point will only exacerbate that situation.

13.24 Using the applicants OVERSEER modelling predictions and assuming (i) a uniform mass flow into the river, and (ii) a low flow in the river of 10 m^3/s (flow at which most severe restrictions imposed by AWCO) then the resulting elevation in nutrient concentration would be theoretically be sufficient to exceed the aesthetics/aquatic biodiversity guideline (oligotrophic-mesotrophic) albeit with lengthy accrual times (>1 month between flood flows). We acknowledge that there are many unknowns with respect to flow paths and travel times, but given that Ribbonwood comprises a significant proportion of the proposed new nitrogen load to the river, there is reason to be cautious.

Avoided, remedied or mitigated

13.25 In our view, the applicant has not proposed sufficient mitigation measures in the FEMP that will avoid adverse environmental effects to high quality waterways as outlined above.

13.26 In his closing legal submissions, Mr Chapman stated that while some of his applicants may choose to participate in the lock-step approach, many of his clients could not. In any case, we have considered the lock-step approach and found it to be inappropriate to grant applications to take and use water for irrigation on this basis. The lock-step approach is an extension of adaptive management about which we gave our views in Part A. In summary, we are of the view that adaptive management (and the lock-step approach) should not be a substitute for a robust AEE 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.

13.27 In summary our view is that the adverse effects on water quality from the proposed take and use activity (CRC042011, CRC042015, CRC042017 and CRC042018) will be significant.

Flows and Ecosystems

13.28 A fish screen is proposed, however we received very little information to tell us how the diversion and fish screen were going to work in each of the proposed applications. We consider that subject to the fish screening being consistent with the recommended conditions by the s42A reporter, the effects of the proposed take on ecosystems will be minor.

13.29 We consider that a flow sharing minimum flow as set out in Table 3 will protect instream values, flow variability and fish spawning.

13.30 In terms of effects on aquatic ecology, we have referred to the various maps and plans provided by DoC, which provide an overview of threatened native fish values and species, none of which are located in proximity to the streams and rivers and/or adjacent to the application site.

13.31 We have also referred to the evidence of Fish & Game in terms of the value of the fishery, namely the Quailburn. While it has some value, it is not rated as a high value fishery.

13.32 Nevertheless, we did note the concerns of DoC in respect of impacts on aquatic ecology caused by the discharge of nutrients to waterways.

Effects on other water users

13.33 The applicant sought to take water only when flows are in excess of 1,000 L/s. This would ensure that the other users were not affected, as there will be sufficient water flows not to reduce the

reliability of supply of other users, and the take will not be occurring at a time when it could influence the 100 L/s minimum flow.

13.34 Mitigation was proposed by restricting the rate of take and volume per week and water metering. The proposed flow sharing minimum flow will ensure flow availability maintained for downstream users, both applicants and permitted users (e.g. stock water). Based on the above, our opinion is that the effects on other users would be minor.

Landscape

13.35 The irrigation area is not visible from the State Highway and has only limited visibility from Quail Burn Road. Already substantially cultivated pasture and modification of environment through shelter belts. Conclusions of Mr Chris Glasson on landscape effects (Report 5) considered that effects on landscape from this proposal are likely to be acceptable provided the wetland areas on the property are retained and protected.

13.36 We agree with Mr Glasson's assessment of this particular application. We accept his views for the reasons he advances that effects on landscape from this proposal are likely to be acceptable on the proviso that the wetland areas are retained and protected.

13.37 We note his comments and accept them in terms of the cultivated pasture and modification of this environment through shelter belts. We note this view was similarly advanced by Mr Andrew Craig on behalf of the applicant.

13.38 We note in terms of Ms Lucas's assessment she did not provide this application with a natural landscape rating using her 1 to 5 scale and she had the concern about protecting the wetland.

13.39 We note in terms of terrestrial ecology that Dr Walker's assessment concluded that up to 80% of the site had been converted to pastoral activities and she provided this site with an ecological rating of one of least concern.

13.40 For all of those reasons with the proviso we have referred to our conclusion on landscape and amenity effects in terms of land related issues was that the effects are properly categorised as being no more than minor.

Inefficient take and use

13.41 Mrs Johnston amended the proposed annual volume to 738,800 m^3/year. She derived the proposed irrigation annual volume of 738,800 m3/year by using Schedule WQNv2. She based it on 50% medium soils (PAW range from 75 mm to 110 mm) and 50% heavy soils (PAW > 110mm) and a land use of mixed cropping, and pasture for fattening sheep and beef cattle. The four applications would allow 120 L/s to be taken. It is proposed to limit the combined abstraction from these four consents to 100 L/s. The proposed application depth of 15 mm per return period is less than 50% of the water holding capacities expected. This is considered to be an efficient use of water.

Tangata Whenua values

13.42 There were no property specific issues raised by Ngai Tahu witnesses relating to this irrigation proposal by Ribbonwood Station. A primary concern for Ngai Tahu was to ensure that the irrigation proposals in the Ahuriri catchment did not compromise the Ngai Tahu cultural associations with the waters and mahinga kai habitat of the Ahuriri Delta.

13.43 Ngai Tahu told us that they had identified the Ahuriri Delta as a priority for mahinga kai restoration and did not want to see new irrigation degrade existing habitats and deny opportunities to undertake such enhancements.

13.44 Ngai Tahu concern was not confined to the Delta however, but included a concern for the related functions of small aquatic habitats such as wetlands, tarns, lagoons and small streams in the upper catchment.

13.45 Mr Horgan submitted that consents should only be granted if we are satisfied that there is a high level of certainty that the package of mitigation measures (FEMPs) proposed by the applicants will ensure that sustainable water quality outcomes are achieved. In the absence of such certainty he submitted that we must adopt a precautionary approach and decline the consents. The mitigation measures in the draft FEMP's represents an effort to address the nutrient issues

arising from the proposed activity, however they do not give us the high degree of certainty that Ngai Tahu are seeking.

Positive effects

13.46 The granting of these consents would result in significant economic benefits as well as positive environmental effects in terms of reducing/halting wind-borne soil erosion, and controlling invasive species over a significant area of land.

Key conclusions on effects

13.47 In relation to the actual and potential effects of the proposal, our key conclusions are as follows.

13.48 We consider that nutrient draining from the irrigation area will contribute significantly to increasing the trophic state of the Ahuriri Arm of Lake Benmore with the likely result in a change from its current oligotrophic state to a mesotrophic state.

13.49 We are also of the view that nutrient draining from the irrigation area could cause periphyton in the Quail Burn to breach MfE guidelines for aquatic biodiversity and recreation under summer low flow conditions and cumulatively contribute to a breach in those guidelines in the Ahuriri River.

13.50 In light of the key conclusions on water quality issues and the implications for the Ahuriri Delta we conclude that the proposed activity will have a more than minor effect on tangata whenua cultural values and mahinga kai aspirations.

13.51 We are satisfied that there are no landscape or terrestrial biodiversity effects of any concern that would arise as a consequence of a grant of consent.

13.52 In terms of effects upon aquatic ecology, we are not so confident, given our findings on water quality, that effects on aquatic ecology could properly be described as no more than minor.

13.53 Balanced against these adverse effects, the granting of these consents would result in significant economic benefits as well as positive environmental effects in terms of reducing/halting wind-borne soil erosion, and controlling invasive species over a significant area of land.

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.

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 potential periphyton growth during low-flow summer conditions, then in our view granting consent would not be consistent with Objective 1(c) or 1(b).

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 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.

14.10 Under the PNRRP, the Quail Burn 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 for the Ahuriri River changes to high country alpine, which has the same requirement (no change) and the Quailburn becomes spring-fed upland. Both of these water quality management units have maximum periphyton biomass objectives of 50 mg/m^2.We are of the view that granting these consents would likely result in an increased incidence of this periphyton biomass indicators being exceeded under summer low flow conditions.

14.11 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 could result in 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.

14.12 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 NO3-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.

14.13 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 in relation to water quality.

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. In addition, Policy 12 seeks to establish an allocation for each relevant activity within the catchment and requires consideration of the effects on other users. This is reflected in the rules of the PNRRP which specifies minimum flows and levels for water bodies and allocation limits for specific activities.

14.16 . As the applicant is proposing to adopt the minimum flow required by the WCWARP and falls within the instantaneous allocation limits, the proposal is consistent with these policies.

Efficient use of water

14.17 Policies 15 – 20 provide for an efficient use of water so that net benefits are derived from its use and are maximised and waste minimised. In particular, Policy 16 requires us to consider whether the exercise of these consents would meet a reasonable use test in relation to both the instantaneous rate of abstraction and the annual volume for take, use, dam or divert. As discussed in our evaluation of effects, we are satisfied that the rates and annual volumes reflect an efficient and effective use of water and that the reasonable use test can be met.

Landscape

14.18 We discuss the relevant objectives and policies for landscape in our Part A decision. In summary, they 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.

14.19 In considering these provisions we are informed by the provisions of the Waitaki District Plan, which identifies the applicant's property as being within a Rural Scenic zone outside any classification of an outstanding natural landscape. We note that the Waitaki Plan is the only plan that specifically mentions irrigation within the scope of permitted activities. Farming is in terms of that plan a permitted activity except for the irrigation of land for pastoral or crop production within areas identified as outstanding landscapes shown on the planning maps.

14.20 Accordingly then it seems that there is an explicit expectation within the Waitaki district that irrigation and its effects are going to be expressed as part of the rural landscape outside of outstanding natural landscape areas and this is the clear message the Waitaki District Plan gives in terms of farming activities. Because of this clear expectation we must put significant weight on that message.

14.21 For the reasons already advanced, we agree with Mr Glasson and Mr Craig that the landscape effects of this proposal will not be significant in light of the highly modified nature of the existing environment. On this basis we consider the proposal is consistent with the relevant objectives and policies on landscape.

Tangata Whenua

14.22 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 will not meet the spiritual and cultural needs of the tangata whenua

14.23 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 Ngāi Tahu and (d) protecting wāhi tapu and other wāhi taonga of value to Ngāi Tahu. Any deterioration of water quality habitat in the Ahuriri Delta would reduce access to mahinga kai restoration opportunities. Such an outcome would be inconsistent with the Objective.

14.24 Objective WTL1(a) and (d) from Chapter 7 of the NRRP includes provisions that seek to achieve no overall reduction in the contribution of wetlands to the relationship of Ngāi Tahu and their culture and traditions with their ancestral lands, water, mahinga kai sites, wāhi tapu and wāhi taonga. Any reduction in water quality and habitat value of wetlands in the Ahuriri catchment as a result of this activity being granted consent would be inconsistent with the Objective.

Key conclusions on planning instruments

14.25 For all of the above reasons we consider that granting consent would be contrary to the objectives and policies of the WCWARP (incorporating the PNRRP) and the NRRP relating to water quality and associated amenity values of waterbodies, in this instance the Ahuriri Arm of Lake Benmore and the Quailburn Stream. A consequence of this is that the proposal would be contrary to the objectives and policies relating to tangata whenua values.

14.26 Notwithstanding the above, the proposal is consistent with other objectives and policies from the relevant planning instruments dealing with matters such as environmental flow and level regimes, efficient use of water and landscape.

15 EVALAUTION OF OTHER RELEVANT S104 MATTERS

15.1 Under s104(1)(c), we are required to have regard to any other matter that we consider to be relevant and reasonably necessary to determine the application. After hearing all the relevant evidence, we consider that no such matters exist in relation to this application.

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.

Section 6 – Matters of National Importance

16.2 Section 6 RMA 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) RMA, we consider that the natural character of Lake Benmore may be compromised if we grant this consent. Granting this consent would result in a significant contribution of new additional nitrogen load to the Ahuriri Arm of Lake Benmore. Given this significant contribution, it is our view that such a contribution is likely to cause the Ahuriri Arm to become mesotrophic. While it is unlikely that a shift from oligotrophic to mesotrophic conditions will readily be seen by the public as deterioration in natural character, for those knowledgeable about lake quality and fisheries it will be perceived that way because it places 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 We are well alive to the amenity values that Lake Benmore and the Ahuriri Arm currently are recognised for. We are also alive to the myriad of recreational opportunities that the Ahuriri Arm and Lake Benmore provide.

16.5 The Ahuriri Delta is a relatively recent development, arising from hydro electric development on the Waitaki River. It exhibits strong potential in what is a modified environment for mahinga kai development and the continuation of a traditional association with an area of the catchment that Ngai Tahu value highly. Ngai Tahu has an expectation that the water quality and mahinga kai potential of the Ahuriri Delta will remain in its current state or will be improved. As a result of our assessment of water quality we are not confident that granting this application will be consistent with s6(e).

16.6 We are also concerned about drainage from the applicant's farming operation at Ribbonwood Station because in terms of our assessment of effects while we do acknowledge there are many unknowns with respect to flow paths and travel times, we do need to adopt, we think, a cautious approach because of the effect that new nitrogen load has on the Quailburn and consequently the Ahuriri River. We think that there is an element of risk that granting this consent would cause nuisance periphyton growths in the Ahuriri River under summer low-flow conditions. This is a concern in terms of both ss 6(a) and 6(b) RMA.

16.7 For the above reasons we consider that granting consent to the proposal would not recognise and provide for s6(a), s6(b) and s6(e) RMA as we are required to do under the RMA.

Section 7 – Other Matters

16.8 Section 7 RMA lists other matters that we shall "have particular regard to". We make the following findings in relation to each of those matters as they are relevant to the application – referring to the subparagraph numbers of section 7 RMA.

(a) The function of kaitiakitanga is relevant to this application. We heard from Ngai Tahu about their aspirations for mahinga kai restoration in the lower Ahuriri catchment. We

consider that this irrigation proposal will result in additional nutrient loss to the waters of the Ahuriri catchment and will contribute to an adverse effect on values of importance to Ngai Tahu.

(aa) The efficacy of stewardship has been followed with respect to land management of the applicant's property. On the other hand, we have determined that the loss of nutrient off-site is likely to cause adverse effects on waterways even with the significant mitigation measures proposed, which is therefore not consistent with stewardship. This is bought about because of the position of the applicant's property relative to waterbodies valued by the community.

(b) The applicant has demonstrated their proposal constitutes an efficient use of water.

(c) We think the effects on recreation and amenity values, particularly those arising from water quality outcomes from a grant of this proposal would be significant.

(d) In terms of the intrinsic values of terrestrial ecosystems, we note that, in our view, the existing value of the terrestrial ecosystems within the irrigation command area is low and there is no prospect of restoration under the existing and permitted land use. Stream ecosystems of streams surrounding the application site may be adversely affected by the deterioration of water quality of creeks and rivers downstream should nutrient enriched groundwater intercept them with the consequence the trophic state of the Ahuriri Arm of Lake Benmore will deteriorate.

(e) The quality of the water environment downstream of the applicant's property will, in our view, be degraded. Although the degree of that degradation cannot be predicted with confidence, there are significant consequences should the Ahuriri Arm become mesotrophic.

(f) The Ahuriri Arm is highly valued by Ngai Tahu, fishermen, tourists, and the local population. The WCWARP and the NRRP recognise the finite nature of water resources in the Mackenzie Basin and seek to ensure they are maintained or enhanced and certainly not degraded.

(h) While Fish & Game have raised some issues in respect of trout, in particular, in the streams surrounding the applicant's property, we note that should nuisance periphyton growths occur, then trout and salmon habitat will be compromised to some extent.

16.9 Having regard to the above matters in the context of Section 7 RMA, we conclude that the grant of consent could not be supported.

Section 8 – Treaty of Waitangi

16.10 Finally, section 8 requires that we shall take into account the principles of the Treaty of Waitangi.

16.11 The cultural values of tangata whenua are appropriately recognised in the relevant planning documents applicable to the Mackenzie Basin sufficient to alert applicants to the need to address such values. We are satisfied that notification of the appropriate Runanga and tribal authority has been followed and that the applicant was a contributor to the general assessment of the impact of irrigation activities on cultural values.

16.12 We are satisfied that the consultation procedures provided Ngai Tahu the opportunity to understand and respond to the proposed activity, albeit in conjunction with a large number of applications in the Mackenzie Basin.

Section 5 – Purpose of the RMA

16.13 Turning now to the overall purpose of the RMA, that is, the promotion of the sustainable management of natural and physical resources, we make the following further comments.

16.14 We consider taking all issue into account that the take and use of water from the Quailburn Stream to irrigate an area of 180 hectares of crops and pasture within Ribbonwood Station, is not consistent with the purpose of sustainable management. Although such an activity will make a positive economic contribution to the overall regional (Waitaki) wellbeing, the life-supporting capacity of aquatic ecosystems will not be safeguarded, but, rather, will be degraded.

16.15 In our view, the granting of consent would lead to unacceptable adverse effects on the quality of the downstream ecosystems.

16.16 This leaves section 5(2)(c) RMA and the obligation to avoid, remedy or mitigate any adverse effects of activities on the environment.

16.17 The applicant has proposed significant measures to mitigate nutrients generated by its activities. However, despite that mitigation, our view is that the remaining unmitigated nutrient leaving the property will be of sufficient magnitude such that adverse environmental effects will ensue.

16.18 In his reply, Mr Chapman referred to applicants for new water as being prepared to implement a lock step approach as a means of ensuring that the uncertainties discussed during the hearing are addressed prior to full exercise of the consent. We took from this comment he was referring to the lock step approach promoted by MWRL. However, for the reasons discussed in Part A, we do not consider that to be appropriate for several reasons, which in summary are:

(a) We consider the assessment of environmental effects carried out by MWRL on behalf of all applicants is inadequate for a proposal (all applications before us) of this scale. In our view, gathering the required data after the issue of consent is not an appropriate way to address this deficiency;

(b) The lock-step approach is not acceptable, in our view, because of the potential effects of the activity, the paucity of knowledge, and our high degree of concern that the potential effects will be significant. Even if adaptive management conditions were utilised, we are not comfortable that the consent holders will be able to adjust scale or timing of their activity or change their practices, particularly where there is a register of adverse effects on the receiving environment;

(c) There are groundwater travel times to consider. Because these travel times could be very lengthy, causing lag, they do not fit in with the proposed timetable of the lock-step approach. Such lags make adaptive management conditions, in our view, inappropriate.

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.

17.2 We find that the principal issue prevailing against grant of the application relates to the potential cumulative effect of land intensification in the Ahuriri Catchment on the trophic levels in Lake Benmore.

17.3 We also find that the proposal will likely cause an increase in nuisance periphyton growths under summer flow conditions. The proposed activity would contribute to a decline in water quality and ecosystem values and be contrary to the intent of the key planning instruments, the WCWARP and NRRP.

17.4 We acknowledge that should the application be granted that positive economic effects of the activity would occur on farm and in the district through greater agricultural productivity. However we consider this is not significant enough to outweigh the adverse effects that would result from the grant of consent.

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.

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 and 104B of the Resource Management Act 1991, we **DECLINE** applications CRC042011, CRC0422015, CRC042017 and CRC042018 by Maree Horo.

DECISION DATED AT CHRISTCHURCH THIS 16TH DAY OF FEBRUARY 2012

Signed by:

Paul Rogers 

Dr James Cooke 

Michael Bowden 

Edward Ellison