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 a water permit filed under **CRC042020** to divert, take and use surface-water at East Branch Ahuriri River, 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

TABLE OF CONTENTS

1 INTRODUCTION

1.1 This is a decision on an application 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. Part A has been issued as an interim decision to become final on the release of this Part B decision.

2 THE PROPOSAL

2.1 The applicant proposes to divert, take and use water at a rate of 174 litres per second from East Branch of the Ahuriri River (at or about map reference NZMS 260 G39:486-412) to irrigate an area of 300 hectares of crops and pasture within Ribbonwood Station, Quailburn Road, Omarama.

2.2 The applicant proposes the following activities:

(a) To divert, take and use water from East Branch River at a rate of 174 litres per second, with a volume not exceeding 1,350,000 cubic metres per year at or about map reference NZMS 260 G39:486-412.

(b) Water shall be used for spray irrigation of up to 300 hectares of crops and pasture (excluding dairy cows) within Ribbonwood Station, Quailburn Road, Omarama.

(c) A minimum flow of 400 L/s, equivalent to the 5-year 7-day low flow in the East Branch is proposed, in accordance with Table 3, row (xxii) of the WCWARP.

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

2.3 Water will diverted from the existing intake which supplies stock water to the property. The current race system will be upgraded to a piped system in order to provide suitable pressure to support a gravity-fed spray system.

2.4 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.

2.5 The location of the diversion point and proposed irrigation area is shown in Figure 1 below.

2.6 We note that the proposal as described above is after taking account of modifications after notification, which are fully described in the section of this decision headed "Modifications after notification".

The application

2.7 The application is for a water permit 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.

2.8 The application (CRC042020) was lodged with the Canterbury Regional Council (the Council) on 23 March 2004. The application was 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

2.9 Since the application was lodged, there have been a number of formal amendments. The total annual volume now being sought has been reduced from 2,100,000 cubic metres (as notified) to the currently proposed 1,350,000 cubic metres. The total rate of diversion and take has also been reduced from 570 litres per second diversion and 250 litres per second take (as notified), to only provide for a take of water at a rate of 174 litres per second. The irrigation area was initially

500 hectares, then 350 hectares (as notified), but is now a total of 300 hectares. All changes were made on 15 April 2009.

2.10 The general principle for modifications after notification is that amendments are allowed provided they do not increase the scale or intensity of the activity or significantly alter the character or effects of the proposal. The key consideration is prejudice to other parties by allowing the change. In this case, we are satisfied that the change does not significant alter the intensity or effects of the proposal and that no party would be adversely affected by allowing the change.

2.11 In addition to the above, all associated discharge permits 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.

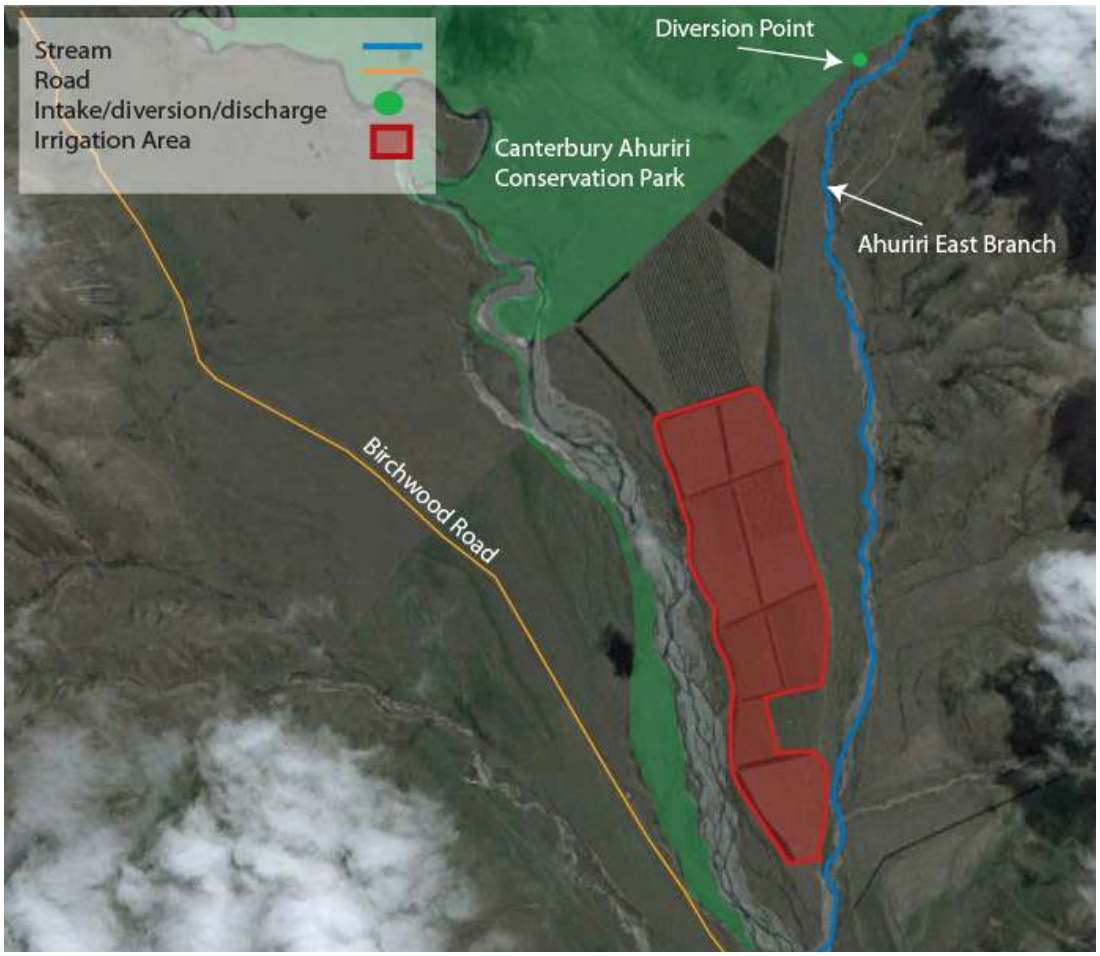

***Figure 1**: Indicative location of diversion point and proposed irrigation area*

Related consents and applications

2.12 Applications CRC042011, CRC042015, CRC042017, CRC042018, CRC042022, and CRC042025 have also been lodged by the applicant to take and use water for irrigation of a further two blocks of land in the Quail Burn and Wairepo Creek catchments. Those applications are independent of this application and are discussed in a separate decision.

2.13 We note that this applicant held consents WTK691016A and WTK691016B, which expired on 1 October 2001. Those consents provided for the diversion, take and use of water from the East Branch at a maximum rate not exceeding 570 litres per second, for stockwater and irrigation of some 500 hectares. These consents were being given effect to prior to 2001 to irrigate the applicant's property.

2.14 Because the current applications were lodged two and a half years after expiry of the above-described consents, the applicant is, we understand, not operating, nor applying, pursuant to s124 RMA. We have therefore assessed the proposal as a new activity on the basis that it has not been occurring since the consents expired. This has important implications for our assessment of water quality, which we return to later in this decision.

2.15 While generally we understand from the evidence received that the applicant proposes to upgrade the existing intake, which applies stockwater to the property, we are unclear whether or not any upgrade and/or works required will necessitate a resource consent for works on or under the bed and banks of a river. We simply observe that no application for resource consent under s13 RMA has been lodged.

3 DESCRIPTION OF THE ENVIRONMENT

3.1 The East Branch Ahuriri River is a braided river with a main channel width of between 10 and 15 metres. The depth of the river is approximately 0.2 to 0.5 metres at normal flows.

3.2 Flows range from 200 litres per second to 3,700 litres per second but this is based on limited data. Some flow losses are known to occur between the gorge and its confluence with the mainstem.

3.3 There is little recreational use of the East Branch because of limited access.

3.4 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.

3.5 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.

3.6 The outwash flats on the Ahuriri River valley floor consist of two main terrace levels. The higher terrace bounds the Ahuriri River mainstem and extends to a lower terrace associated with the East Branch. The upper terrace, on which irrigation is proposed, has been planted in substantial shelter belts (up to 10 rows deep) and forestry blocks which criss-cross the landscape. Overall the terraces are highly modified with predominantly over sown pasture species.

3.7 Freshwater fish species include koaro, alpine galaxias, Canterbury galaxias and upland bully. Brown and rainbow trout use the East Branch for spawning with a large number of juvenile trout rearing the East Branch and migrating downstream to the mainstem as fingerlings.

3.8 Black stilt, banded dotterel and pied oyster catcher breed and feed in the wetlands associated with the East Branch as well as several other species which feed on these wetlands

3.9 The proposed irrigation area is predominantly gently flat land located some distance up the Ahuriri River valley. The irrigation area is not visible to traffic on the main highway over the Lindis Pass, but will be visible to anglers and other recreational users of the Ahuriri River valley.

3.10 There are no other existing consent holders on the East Branch and no other applicants seeking to take water from the East Branch. All other applicants in the Ahuriri catchment are seeking to take water from the Omarama Stream and its tributaries, or the Ahuriri River downstream of the confluence with the East Branch.

3.11 We detailed our site visits in Part A and we do not repeat this information here. We did not specifically visit the site on the ground however we did familiarise ourselves with the site from the air.

4 PRELIMINARY MATTERS

Ahuriri Water Conservation Order (AWCO)

4.1 Given the location of this proposal, it is subject to the requirements of the AWCO, including ensuring that the minimum flow levels of the Ahuriri River are maintained. In accordance with section 217 of the RMA, we may not grant a consent that is inconsistent with the requirements of the AWCO.

4.2 We acknowledge that the East Branch of the Ahuriri River is excluded from the definition of the "protected waters" in the AWCO. However we consider that the AWCO remains of potential relevance to the extent that the taking of water from the East Branch may impact on the flows in the downstream section of the Ahuriri River that is specifically regulated by the AWCO.

4.3 In respect of this application, we are satisfied that the proposed take of water would not adversely impact on the flows of the section of the Ahuriri River below the confluence with the East Branch and that, if we are satisfied on all other issues, consent could be granted without breaching the provisions of the AWCO. This matter is discussed subsequently within the Decision.

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) Natural Resources Regional Plan (NRRP);

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

(d) 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 The application is listed in Schedule 2 of the Resource Management (Waitaki Catchment) Amendment Act 2004. Section 88A therefore does not apply and the relevant plan for this activity is the operative WCWARP.

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 the minimum flow of the 5-year 7-day low flow of 400 litres per second in the East Branch Ahuriri River (Table 3, row (xxii)). This minimum flow location is below all abstractions in the catchment, and is reasonably near the bottom end of the catchment. The minimum flows in the Ahuriri River Water Conservation Order (Table 3, row (x)) do not apply to the East Branch Ahuriri River for the purposes of activity classification.

(b) Rule 6 – Provides allocation limits for activities. The applicant proposes an annual volume of 1,800,000 cubic metres which 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 is a **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 application was publicly notified on 4 August 2007 and 24 submissions in total were received, including:

(a) 4 in support;

(b) 18 in opposition; and

(c) 2 neither in support nor opposition.

6.2 Many of the received submissions are equivalent to submissions made in response to all applications notified on 4 August 2007. Table 1 is based on the relevant s42A reports and summaries those submissions that directly reference the applications. 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 we have given all submissions equal importance, even if not specifically listed below.

Table 1. Summary of submissions on application CRC042020

Submitter	Reasons	Position
Fish & Game NZ	Important fish spawning habitat and angling location may be affected by flow reduction	Oppose
Meridian Energy Ltd	Concerned about water quality, metering and reasonable use	Oppose
Canterbury Aoraki Conservation Board	Water quality, effects on ecosystems, natural character and landscape	Oppose
TJ & J Cooke	Assist in efficient use of the land and sustainable management of resource	Support

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 (21B) 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 considered that the application site was discreetly located with low visibility from the public roads and river. He also noted it was well-screened by a coniferous shelter belt. He considered that the adverse effects of the irrigation activity proposed would be less than minor and consequently there would be no adverse cumulative landscape effects for this landscape if consent were granted.

8 THE APPLICANT'S CASE

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

(a) Ms Keri Johnston - Chartered Engineer.

(b) Mr Andrew Craig – Landscape Architect

(c) Mr David Boraman – Hydrological Consultant

(d) Mr Robert Batty – Planner

(e) 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 individual 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.

Ms Johnston - Chartered Engineer

8.11 Mrs Keri Johnston said that the applicant proposed to irrigate 532 hectares (combined with the applicant's other applications) using spray irrigation, irrigating pasture used predominantly for sheep grazing with some cattle at approximately the same ratios as are carried now.

8.12 This application relates to 300 hectares which would be irrigated with water from the East Branch of the Ahuriri River at a rate of 174 L/s. Water would be gravity fed via race to a small holding pond. Water could then be gravity fed from the holding pond to irrigators.

8.13 The intake is a stockwater race which returns surface-water to the river. The East Branch of the Ahuriri River does not have a permanent connection to the main branch of the Ahuriri during summer low-flow conditions, being underground for that period.

8.14 The application was lodged in 2004 and has been reduced significantly since lodging being notified with an annual volume of 2,100, 000 cubic metres a year, to now only seeking 1,350,000 cubic metres per year

8.15 A minimum flow of 400 L/s has been proposed for the East Branch of the Ahuriri which is the 1 in 5-year, 7-day low-flow as required by Table 3 of the WCWARP for "all other streams".

8.16 The property is 7289 hectares, and carries 11,300 stock units (8,000 as sheep and 3,300 as beef cattle)

8.17 As the property is fully developed within normal economic parameters, irrigation is now required to take the property to the next production step.

8.18 Farming practice now without water involves a fine-wool sheep and cattle breeding and store stock unit in a high country environment. Livestock are currently sold on the store market which has distinct limitations in dry seasons and in terms of market options. The applicant considers that with irrigation all progeny bred on the property will be able to be finished if the irrigation system is installed as planned.

Effects on other water users

8.19 The applications are for new takes, for which MIC shares have been purchased. A minimum flow has been specified as required by Table 3 of the WCWARP. There are no other users on the East Branch of the Ahuriri.

8.20 Ms Johnston then told us that this river was in the "all other streams" category of Table 3 Row xxii of the WCWARP. There are no other water users on the East Branch of the Ahuriri, but it is a tributary of the Ahuriri River, where there are numerous consented abstractions.

8.21 Ms Johnston said that the proposed minimum flow for this abstraction was considered to protect other users. It was also noted that whilst these are new applications, the property has held water rights historically, and on the East Branch was entitled to take 500 L/s , which is significantly more than is being sought now, and did so with no known effects on other users.

8.22 Mitigation to protect other users is proposed, namely restricting the rate of take and volume per week.

Effects on ecosystems

8.23 The applicant accepts the minimum flow for all takes as specified in Table 3 of the WCWARP. This included the requirement to specify a minimum flow for the East Branch of the Ahuriri of the 1 in 5 year, 7 day low flow.

8.24 A fish screen will be installed prior to the commencement of this consent, and will be designed and installed in accordance with NIWA Fish Screening Guidelines.

8.25 Therefore, effects on in-stream values were considered by Ms Johnston to be minor.

Effects of inefficient water use

8.26 Ms Johnston derived the proposed irrigation annual volume of 1,350,000 m^3/year by using Schedule WQNv2. She based it on medium soils (PAW range from 75 mm to 110 mm) and a land use of mixed cropping, and pasture for fattening sheep and beef cattle.

8.27 The proposed application depth of 15 mm per return period is less than 50% of the water holding capacities expected. This was considered by Ms Johnston to be an efficient use of water

8.28 Policy 19 of the WCWARP encourages piping or sealing distribution systems. The system will

utilise existing race systems that are to be sealed.

8.29 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.

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

Water Quality

8.31 Ms Johnston said that cumulative effects on water quality had been addressed by Mackenzie Water Resources Limited (MWRL). 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. The following table shows that the applicant can meet the property thresholds proposed by the MWRL study.

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

8.33 Ms Johnston said that the applicant was committed to implementing the "Mandatory Good Agricultural Practices" (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 Ms 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 Ms Johnston said that the workshop identified potential on farm risks specific to each farm (or applicant) along with possible mitigation measures. For the applicant's farm, 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 lodged with ECan on 22 November 2010. We refer to this FEMP in our evaluation of effects.

8.38 Ms Johnston said that the N and P thresholds from the MWRL Study could be met, and 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 she considered to be minor.

Effects on people, communities and recreational value, including landscape

8.39 Ms Johnston said that the WCWARP sets 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 implementing 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, and to implement initiatives that ensured that water was used wisely.

8.40 She also said that the primary objective of an annual allocation was to ensure that the water was used efficiently and effectively for the land use, soil type and climatic conditions. The applicant had proposed an annual volume that was considered to reflect reasonable and actual use and this was within the allocation limit defined by Table 5.

8.41 An appropriate minimum flow was proposed and the applications were within allocation limits set by the WCWARP, therefore Ms Johnston considered the effects on people, communities and recreational values were minor.

8.42 Ms 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.

8.43 She said that greening of this specific area of land occurs seasonally during the irrigation season, which is therefore a temporary effect that is already experienced in this location with the applicant's existing consent and others nearby. We assume here she was referring to past irrigation under the old consents, which expired in 2001.

8.44 The activities all occur in a rural setting, where the dominant land use is pastoral farming. Given that the proposed activities all occur on private farmland, Ms Johnston said that the use of water is unlikely to adversely affect amenity values

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 Ms Johnston's 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 She pointed out that this application was entirely within the limits defined by the WCWARP.

8.48 However, she said that it was 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, were proposed by the applicant to ensure that the potential effects on the environment, including tangata whenua values were minor.

Comments on Submissions

8.49 In respect of the Meridian Energy Ltd submission, Ms Johnston said that derogation approval has been obtained, and the applicant would install a flow meter, and had provided mitigation to ensure that effects on water quality are minor.

Mr Andrew Craig – landscape architect

8.50 Mr Craig provided a general overview in his evidence, which gave us his assessment of the landscape character and amenity of the catchment. He also described for us the general effects arising from irrigation on the landscape. He discussed in detail Mr Glasson's mitigation approach and tools, then addressed us on statutory matters concerning the effects on landscape. Broadly,

for reasons advanced in Part A, we agreed with Mr Craig's assessment of the statutory planning documents in terms of landscape.

8.51 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

8.52 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.

8.53 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.

8.54 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.

8.55 In conclusion, he was of the view that granting this consent and all other UWAG consents was appropriate.

David Boraman – hydrological consultant

8.56 Mr Boraman provided us with a flow data summary for the east Ahuriri and an analysis of the same. He prepared flow reports, which he produced to us.

8.57 He undertook his investigation into the hydrology of the East Branch of the Ahuriri River some time after March 2009. Sixteen existing flow measurements were used to derive flow records for the east Ahuriri he told us. This information was correlated with several catchments. After some attempts it was correlated with the Lindis River, which is on the southern side of the main Ahuriri branch but is a similar distance from the divide.

8.58 His analysis, he told us, supports a contention that the figure for 5-year 7-day low-flow for the east Ahuriri is 392 L/s. In accordance with the WCWARP the proposed interim flow, he told us, should be set at 400 L/s. He told us the figure should be treated as interim and a flow measurement programme set up to further the data set. The statistics and analysis should be reviewed once a season where the interim 5-year 7-day low-flow has been surpassed.

8.59 He commented on the section 42A officer's report from Claire Penman (Report 21B) where she proposed mitigation that the minimum flow be 400 L/s.

8.60 Mr Boraman was of the view that this mitigation was not the regime intended by the WCWARP Table 3 xxii(a). The use of flow graph 2 he contended was incorrect, as it restricts the applicant above the minimum flow because the minimum flow site is below the point of abstraction.

8.61 He provided an alternative mitigation condition, which provided that wherever the flow (expressed in litres per second) in the East Branch of the Ahuriri River as estimated by the Canterbury Regional Council at map reference NZMS 260 G39: 483-355;

(a) is greater than 400 L/s , the maximum rate at which the water is taken shall not exceed 174 L/s ;

(b) is equal or less than 400 L/s, the taking of water in terms of this permit for irrigation shall cease.

8.62 Water may be diverted, taken, and used:

(a) with a volume not exceeding 15,033 cubic metres per day;

(b) with a volume not exceeding 1,455,080 cubic metres between 1 July and the following 30 June.

Mr Andrew Macfarlane, farm management consultant

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

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

8.65 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.

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

8.67 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.

8.68 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

9.1 We note through the evidence of Mr Brian 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

9.5 Mr Frank Scarf said that any consent issued to take water from the East Branch Ahuriri River has potential to impact on the provisions of Clause 4 of the Conservation Order. Clearly Clause 5 allows for some abstraction to occur. However, the Order fails to make clear whether any consent

issued to take water from the East Branch are to be included within the total abstractive allocation limits for the Ahuriri River as set out in Clause 5.

9.6 Mr Scarf said that the applicant submitted that their application was exempt from the provisions of the Conservation Order and therefore automatically defaulted to the 'All other rivers and streams' category of the Plan. He remained somewhat uneasy about this assumption.

9.7 Mr Scarf also noted that the previous consent expired in October 2001 and this application was not lodged until some 18 months after that expiry date which in effect relegated the application to the new applications category as opposed to renewal of an existing consent.

9.8 Mr Scarf said that if we accepted the applicant's contention that the application fell into the 'All other rivers and streams' category and decide to grant consent then in his opinion the appropriate minimum flow should be 400 l/s at G39:483355 immediately downstream from Ribbonwood Creek. This was assessed to be the 1:5 yr low flow for that site.

Department of Conservation

9.9 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.

9.10 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.

9.11 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.

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

9.13 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).

9.14 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.

9.15 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.

Mackenzie Guardians – Ms Di Lucas

9.16 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.

9.17 In terms of this particular application, she identified it as being within her Ahuriri system sites. Within her evidence, this application did not receive a great deal of attention other than a broad comment in terms of what she described as Site 27. She considered allowing irrigation was inappropriate in terms of impacts upon the natural landscape values. Overall from her evidence we remained unclear as to whether she was recommending that no irrigation should occur on the site or alternatively, that a landscape plan should be included or provided before consent issued

so that landscape issues may be comprehensively developed to avoid, remedy, and mitigate the effects of the development on the natural landscape visual heritage and amenity values.

Mackenzie Guardians - Dr Susan Walker - ecologist

9.18 Dr Walker (representing Mackenzie Guardians) noted that this site had had its terrestrial biodiversity values mapped as a consequence of the tenure review. She noted the subject site was adjacent to the Ahuriri RAP and WERI. She did not provide us with direct information in terms of the actual command area itself. She did however consider that the potential effects on terrestrial biodiversity in relation to this application were high.

9.19 We note that Dr Walker gave comprehensive evidence on the cumulative effects of irrigation on vegetation in the Mackenzie Basin. This evidence is discussed in Part A. Her evidence as Basin-wide and she concluded that more in-depth investigation was required. Also, she included as Attachment 15 (which we refer to above) her views in relation to a number of particular sites.

Te Runanga o Ngai Tahu – Paul Horgan –environmental advisor

9.20 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.

9.21 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.

9.22 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*".

9.23 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, cultural issues

9.24 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.

9.25 Ms Waaka-Homes stated that without clean water Ngai Tahu aspirations to restore mahinga kai in the Ahuriri catchment would be unachievable, 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 has discussed additional matters that were identified throughout the hearing, or provided comment on changes proposed by the applicant. These include:

(a) Ms Penman agreed with the revised annual volume of 1,350,000 m^3 being sought.

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

(c) Ms Penman also identified some discrepancies with the OVERSEER input parameters used by the applicant and noted that a total irrigation area of 950ha was used when they were seeking only a combined total of 532 ha (with CRC04211, CRC04215, CRC03217 & CRC04218). For the irrigated blocks, no irrigation water was included. The rainfall used is 450 mm. However, the map included in the FEMP indicated that the area is within the 750 to 850 mm rainfall band.

10.2 The addendum s42A report of Ms Penman commented on these outstanding matters in paragraphs 260-266 and concluded that issues of water quality and cultural values remain outstanding.

10.3 Mr Glasson in his addendum report referred back to the landscape assessment undertaken by Mr Andrew Craig. Overall, Mr Glasson's recommendation was this site was acceptable for irrigation in its proposed form.

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 The Chapman reply, paragraphs 32 through to 42, addresses Table 3 and flow related issues.

11.6 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.

11.7 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.

11.8 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;

(b) Instream ecosystems

(c) Efficient use;

(d) Environmental flows and levels;

(e) Tangata whenua issues;

(f) Landscape; and

(g) Terrestrial ecology.

Water quality

13.2 We have recorded earlier that irrigation occurred on this site earlier, concluding in 2001. The applicant other than providing us with this information did not raise any issues relating to this circumstance. For example, any issues that might impact on water quality considerations such as contending that the previous irrigation activity affected water quality and that position should be taken to represent the existing environment. Not having any views or information expressed in terms of the impact of this prior irrigation, we have undertaken our water quality assessment on the basis of considering effects of this application alone. In any event, we record for the sake of certainty that we do not consider that the prior irrigation activity given it ceased in 2001 would make any material difference to the conclusions we have reached.

13.3 For her assessment of the cumulative water quality effects Ms Johnston relied on the Mackenzie Water Resources Limited (MWRL) study identification of nutrient discharge allowance (NDA) and also the OVERSEER® modelling of the property's proposed operation and management, which showed that they could meet their NDA. However, for reasons discussed in our Part A decision, our view is that the total catchment load calculation is flawed and therefore the individual NDAs are also likely to be flawed. Therefore, even if we accept the OVERSEER® modelling on the applicant's property, there is no defensible benchmark upon which to compare the outputs.

13.4 In Part A of this decision we rejected the MWRL proposition that all consents sought in this hearing could be granted (with conditions) and without causing cumulative water quality effects. It is incumbent upon us, therefore, to consider (as far as is possible) whether granting this application, in combination with other water permits we grant, will lead to unacceptable water quality effects. In this case it means considering the potential effects of granting this application (in combination with others we grant) on:

(a) The trophic state of the Ahuriri Arm of Lake Benmore;

(b) Groundwater chemistry and in particular the -proposed threshold of 1 mg/L NO3-nitrogen; and

(c) Periphyton growths and other ecological effects in the East Branch and main stem of the Ahuriri River.

13.5 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.

13.6 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.

13.7 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 110 mm. 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; and

(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.

13.8 The critical issues for us to consider 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

13.9 In relation to Mr McNae's audit of OVERSEER inputs, the applicant's preference for using the developed setting, and Mrs Johnston's evidence on predicted nutrient loads arising from OVERSEER, we note that the applicant had not separated the nutrient loads arising from the different application groups (Quailburn, Wairepo, and East Branch) within Ribbonwood. This has had the effect of overstating the likely nutrient load from each application.

13.10 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 the application 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

13.11 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.

13.12 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 Freemans (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

13.13 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.

13.14 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 CRC042011,15,17,18) 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.

13.15 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 6000 kg N/y would be associated with this application (300/480 ha).

13.16 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 be

underestimated, and,

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

13.17 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

13.18 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 this application 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 losses are derived from irrigated areas, then we can infer that maximum concentration in drainage water beneath the root zone will be of the order 5 mg/L – 8 mg/L. 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 the East Branch and mainstem of the Ahuriri River

13.19 We note that Dr Coffey's evidence (from MWRL) in Part A stated that for all three of the Ahuriri sites he surveyed average periphyton cover and biomass were below a threshold of concern. However, with an increase in nutrient load arising from this and other consent applications (if granted) this may not continue. We note that the Wilks, Norton and Meredith nutrient limitation study (reported by Meredith and Snelder in Part A) found that the Ahuriri River was nutrient limited by both nitrogen and phosphorous, though phosphorous appeared "more limiting" than nitrogen at the location tested. As the Ahuriri is highly valued for wildlife, mahinga kai, and recreational values there are good reasons to be conservative.

13.20 To our knowledge there have been no periphyton surveys in the East Branch.

13.21 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.

13.22 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.

13.23 With respect to flow paths we note that the lower part of the branch is subsurface during summer low flow conditions, which would preclude periphyton growth under those conditions. We also note that the confluence of the East Branch with the main stem is close to the Ahuriri delta, so the change in substrate that occurs in this region of the river would also limit the opportunity for periphyton growth.

13.24 No information has been provided that allows us to assess the risk of excessive periphyton growth in the perennially-flowing part of the East Branch, but we infer that because it appears to recharge groundwater in its lower reaches, it will be flow-limited and susceptible to nuisance periphyton growths under summer low-flow conditions. There is insufficient information from which to assess the likelihood or extent of such growths.

13.25 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.

13.26 We conclude that for this particular application, although there will be sufficient nutrient load to sustain periphyton growths in the East Branch, there will be little opportunity for nuisance growths to develop because of substrate and light limitations. The exception may be the perennial-flowing parts of the East Branch itself. The proposed irrigation alone is unlikely to result in nuisance periphyton growths in the main stem of the Ahuriri River but in combination with other irrigation in the catchment it could result in cumulative effects.

Avoided, remedied or mitigated

13.27 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.

13.28 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 and supporting evidence presented at the hearing 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.

13.29 In summary, our view is that the adverse effects on water quality from the proposed take and use activity (CRC042020) will be significant; particularly with respect to contributing to a change in trophic state of the Ahuriri Arm of Lake Benmore.

Instream ecosystems

13.30 If the predicted increase in nutrient levels caused by this activity travels to the streams and waterways in which DoC has identified threatened species then we would expect an increase in periphyton in these locations. This may lead to the outcome that DoC is concerned about, namely the loss of those threatened species from those habitats.

13.31 In this instance, we understand that the streams affected by this application are not those that DoC have expressed concern about and, further, the east branch discharges downstream of the habitats of concern to DoC.

Efficient use

13.32 Ms Penman reached the view that the revised annual volume of 1,350,000 m^3 being sought was appropriate. We agree with her.

Environmental flows and levels

13.33 Mr Scarf raised an issue as to which row of Table 3 of the WCWARP this proposal should properly be assessed under, The choices were row x (referring to the AWCO levels) , or row xxii (referring to all other rivers and streams). Other than Mr Scarf's comment we received very little evidence on which row was correct. All of the relevant experts have assessed it under row xxii.

13.34 We have accepted the assessment under row xxii. The key reason for this is that we consider that the East Branch should be treated as a tributary to the Ahuriri, particularly when we consider that it is not connected to the Ahuriri during summer low flow conditions. We therefore consider that it is inappropriate to apply the minimum flows for the main stem of the Ahuriri River to the East Branch. However we record that which row is correct in the end is not pivotal to the decision we have reached.

13.35 We note that Mr Boraman and Mr Scarf are in agreement that a minimum flow of 400 L/s represents the 5-year 7-day low flow for the East Ahuriri calculated in accordance with Table 3, row xxii(a) of the WCWARP. We note that Ms Penman also agrees with this assessment. We accept that evidence.

Tangata whenua issues

13.36 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.

13.37 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. Ngai Tahu interest 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 Ahuriri catchment.

13.38 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 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.

13.39 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.

Landscape

13.40 There was little, if any, difference between the views expressed by Mr Craig, for the applicant, in Mr Glasson's report (a section 42A reporting officer). We noted that Mackenzie Guardians did not support the grant of consent.

13.41 Because, based on an effects consideration, there was little difference between the applicant and reporting officer, little discussion occurred in relation to the planning instruments relevant to this particular application.

13.42 Given the views expressed by Mr Craig and Mr Glasson and their commonality we were persuaded to accept their opinions in preference to those provided to us by Ms Lucas. We did this primarily because we considered that the Craig and Glasson assessment in terms of landscape impacts was more considered and fulsome. It seemed to us that both Mr Craig and Mr Glasson had properly taken into account that the landscape of the subject site was modified as a result of man-made interventions linked with the farming activity undertaken on the site. We do acknowledge Ms Lucas's assessment of the contribution that the East Branch of the Ahuriri River makes to the naturalness of the environment, but overall we preferred the more fulsome view of Mr Craig and Mr Glasson.

Terrestrial ecology

13.43 We infer from the evidence of the applicant that the command irrigation area has been significantly modified as a consequence of farming activity, which has occurred over a number of years. We note in terms of the evidence from Mackenzie Guardians that we were not provided with any direct evidence in terms of the values of the terrestrial ecology as it exists within the command irrigation area itself. We note that the site had had its terrestrial biodiversity values mapped as a consequence of the tenure review and we infer from that, given this site remains part of the Ribbonwood Station, that the terrestrial biodiversity values are not such that this land is to be retained by DoC.

Key conclusions on effects

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

13.45 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.

13.46 In terms of periphyton, we conclude that only the perennially flowing part of the East Branch would be susceptible to nuisance periphyton growths under summer low-flow conditions.

13.47 We agree that the revised annual volume of 1,350,000 cubic metres is an efficient use of water and that the proposed minimum flow of 400 L/s is appropriate.

13.48 We find that the mahinga kai values and associations that Ngai Tahu holds with the Ahuriri Delta will be adversely affected by the proposed activity.

13.49 We conclude that the landscape effects that this proposal may give rise to, caused primarily by the introduction of spray pivots, will be capable to being absorbed into this landscape because of its capacity to absorb such changes coupled with the existing level of modification caused by farming activities within this location. We also observe that this application site is a discreet site, well protected from view by way of planted shelter belts. It is not highly visible from roadways, tracks or public viewing positions.

13.50 In terms of instream ecosystems we have referred to the east branch of the Ahuriri River above. In terms of the streams and waterways that DoC held concern about in terms of specialised habitat, we have formed the view that there will not be any adverse effect on those habitats arising from a grant of consent.

13.51 In terms of terrestrial ecology, we have also concluded that there would not be an adverse effect on terrestrial ecology arising from a grant of consent.

14 EVALUATION OF RELEVANT PLANNING INSTRUMENTS

14.1 Under s 104(1)(b) RMA, 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, which are water quality, environmental flow and level regimes, efficient use of water, landscape, and tangata whenua.

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 Arm of Lake Benmore is highly rated for its recreation and amenity values. Taking this into account, 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 Ahuriri River (including East Branch) was classified (WQL1) as 'Natural' under which the water quality and substrate had to be maintained in that state (i.e. No change). Under the operative NRRP the classification changes to high country alpine, which has the same requirement (no change). This water quality management unit has 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 that 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 2 – 8 deal with minimum flows for the East Branch Ahuriri. In particular, Policies 3 and 4 outline the values that must be maintained in the water bodies, and a number of matters that must be considered when setting an environmental flow and level regime, and are particularly relevant to this application. As the applicant is proposing to adopt the minimum flow for flow sharing required by the WCWARP Table 3 Row xxii, we are satisfied that the proposal is consistent with these policies.

Efficient use of water

14.16 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

14.17 We discuss the relevant objectives and policies for landscape in our Part A decision. In summary, these are primarily found in the Proposed and Operative CRPS and the NRRP. In broad terms, these provisions seek the protection of outstanding natural landscapes from inappropriate use and development.

14.18 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 zoning outside the area classified as an Outstanding Natural Landscape. It does however border an outstanding landscape area in terms of the Waitaki District Plan, being the East Branch of the Ahuriri River.

14.19 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 modified nature of the existing environment. On this basis we consider that the proposal is consistent with the relevant objectives and policies on landscape.

14.20 This is particularly so given that the site of this proposal is zoned Rural Scenic Zone under the Waitaki District Plan. The Waitaki District Plan is the only plan of the three district plans which we have had to consider in these decisions that specifically mentions irrigation within the scope of permitted activities within the Waitaki. Under the Waitaki Plan farming is a permitted activity except for the irrigation of land for pastoral or crop production within areas identified as outstanding landscape shown on planning maps. Therefore, we accept the view advanced by Mr Craig that there is an explicit expectation within what 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. Accordingly we must place significant weight on this expectation.

Tangata Whenua

14.21 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 or meet the spiritual and cultural needs of the tangata whenua.

14.22 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 and habitat in the Ahuriri Delta would reduce access to mahinga kai restoration opportunities. Such an outcome would be inconsistent with the Objective.

14.23 Objective WTL1(a) and (d) from Chapter 7 of the NRRP includes a provision that seeks to achieve no overall reduction in the contribution 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 this Objective.

Amenity values

14.24 We record for the sake of completeness that we have discussed impact on amenity values in our review of water quality issues.

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, the associated amenity values of waterbodies; in this instance, the Ahuriri arm of Lake Benmore and the East Branch of the Ahuriri River. A consequence of this is that the proposal would also be contrary to 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 EVALUATION 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 application.

Section 6 – Matters of National Importance

16.2 Section 6 identifies matters of national importance that we must "recognise and provide for" when making our decision, including preserving the natural character of lakes and rivers (s6(a)), protecting outstanding natural features and landscapes (s6(b)) and the relationship of Maori with the environment (s6(e)).

16.3 In relation to s6(a), we consider that the natural character of Ahuriri arm of Lake Benmore may be compromised if we grant this consent. While it is unlikely that a shift from oligotrophic to mesotrophic conditions will be readily seen by the public as a deterioration in natural character, for those knowledgeable about lake quality and fisheries it will be perceived that way because it will place Lake Benmore firmly on the continuum of increasing trophic waterbodies that are very difficult to reverse. We are also cognisant that Lake Benmore is not a natural waterbody, but is nevertheless nationally significant because of its importance for power generation and supporting the best lake fishery in the South Island.

16.4 Also, we do not think that granting consent would recognise and provide for the natural character of the East Branch given the adverse effects we have already referred to and the potential for periphyton growth during summer low-flow conditions.

16.5 Ngai Tahu informed us that the Ahuriri River Delta and tributaries hold strong cultural and spiritual significance, that efforts to enhance that relationship are of high importance. We conclude that granting these consents would not recognise and provide for section 6(e).

16.6 For the above reasons, we consider that granting consent to the proposal would not recognise and provide for sections 6(a) and 6(e), as we are required to do under the RMA.

Section 7 – Other Matters

16.7 Section 7 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 sub paragraph numbers of s7:

(a) Sub-section 7(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 such that it will contribute to an adverse effect on values of importance to Ngai Tahu.

(aa) The ethic of stewardship has been followed with respect to land management of the applicant's property. We have determined the loss of nutrients offsite is likely to cause adverse effects on waterways, even with the significant mitigation measures proposed, which is not consistent with stewardship. This is brought about because of the position of the applicant's property in the landscape, relative to waterbodies valued by the community.

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

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

(d) The intrinsic value of terrestrial ecosystems will be affected with existing vegetation replaced by pasture. However the existing value of terrestrial ecosystems within the irrigation command area is low and there is little prospect of its restoration under existing permitted land use.

(e) The Ahuriri Arm valued is highly by Ngāi Tahu, fishermen, tourists, and the local population. The WCWARP and NRRP recognise the finite nature of water resources in the Mackenzie Basin and seek to ensure that they are maintained or enhanced and certainly

not degraded. The grant of consent will not in our view ensure that these elements are maintained or enhanced. Moreover we are of the view that they would be taking into account the proposed mitigation measures degraded.

(h) Fish & Game have not raised any issues with respect to trout in salmon in water bodies downstream of the applicant's property. However, should nuisance growths occur then trout and salmon habitat will be compromised to some extent.

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

Section 8 – Treaty of Waitangi

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

16.10 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.

16.11 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

16.12 Turning now to the overall purpose of the RMA, that is, "*to promote the sustainable management of natural and physical resources*".

16.13 Taking all issues into account, we consider that the take and use of water from the East Branch of the Ahuriri River for spray irrigation of 300 hectares of crop and pasture is not consistent for the purpose of sustainable management. Although such an activity will make a positive economic contribution to the overall regional (Waitaki) wellbeing and will have positive enhancement effects, the life-supporting capacity of aquatic systems will not be safeguarded but rather will be degraded.

16.14 In our view, the scale of the proposal is such that unacceptable adverse effects on the Ahuriri arm of Lake Benmore, groundwater, and the perennial flowing of the East Branch of the Ahuriri River are highly likely and such an outcome is unacceptable in terms of meeting the purpose of the relevant planning instruments.

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

16.16 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 considered the assessment of environmental effects carried out by MWRL on behalf of all applicants inadequate for a proposal (all applications before us) of this scale and our view was gathering the required data after the issue of consents is not the 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 potential effects will be significant. Even if adaptive management conditions were utilised, we are not comfortable that consent holders would be able to adjust scale or timing of their activity or change practices, particularly where there was a register of adverse effects on the receiving environment.

(c) There are groundwater travel times to consider. Because they could be very lengthy (in terms of travel time) 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.

16.17 We do not consider that granting an application for consent for this option is consistent with sustainable management because the predicted nutrient load still represents a significant nutrient load in the context of this sensitive catchment.

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) No landscape effects which can properly be described as no more than minor;

(c) Avoiding consideration of any irrelevant matters;

(d) 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

(e) 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 consider the key conflicting considerations in this case are that there will be considerable economic benefits to the farm and potentially the wider district, but adverse environmental effects on the Ahuriri arm of Lake Benmore and the East Branch of the Ahuriri River.

17.3 We have considered the scale or degree of conflict and note that the major focus of this hearing is to sustain the water quality of streams, rivers, and lakes in the Upper Waitaki catchment. We therefore consider that because of our finding that the Ahuriri arm of Lake Benmore is likely to increase in trophic state from oligotrophic to mesotrophic, that this has to be the overriding consideration.

17.4 We do observe that the lack of data supporting the modelling of groundwater contributed to our conclusion, as did the position of the applicant's property in relation to the Ahuriri River. The potential adverse effects are, we consider, significant; this meant we took a conservative approach in coming to our decision, which we consider to be a justified approach given the long-term consequences of granting consent and the potential effects being realised.

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; and

18.2 For all of the above reasons and pursuant to sections 104 and 104B of the Resource Management Act 1991, we **DECLINE** application CRC042020 by Maree Horo.

DECISION DATED AT CHRISTCHURCH THIS 16TH DAY OF FEBRUARY 2012

Signed by:

Paul Rogers 

Dr James Cooke 

Michael Bowden 

Edward Ellison