

**IN THE MATTER OF** the Resource Management Act 1991

**IN THE MATTER OF** applications by Central Plains Water Trust to:

Canterbury Regional Council for resource consents to take and use water from the Waimakariri and Rakaia Rivers for the Central Plains Water Enhancement Scheme and for associated consents required for the construction and operation of the Central Plains Water Enhancement Scheme

**AND**

**IN THE MATTER OF** applications by Central Plains Water Trust to:

Selwyn District Council for resource consents to construct and operate the Central Plains Water Enhancement Scheme

**AND**

**IN THE MATTER OF** a Notice of Requirement by Central Plains Water Limited to:

Selwyn District Council for the designation of land for works associated with the construction and operation of the Central Plains Water Enhancement Scheme

**JOINT DECISION AND RECOMMENDATION OF  
INDEPENDENT COMMISSIONERS  
28 MAY 2010**

**PART 8**

**Assessment against Objectives and Policies**

## **GUIDE TO DECISION DOCUMENTS**

- PART 1** – Introduction, Part II RMA, assessments, objectives and policy summary, conclusions, decisions and recommendations
- PART 2** – Disputed conditions
- PART 3** – Beneficial, economic, social and cultural effects of the scheme
- PART 4** – Intakes and headraces
- PART 5** – Distribution network
- PART 6** – Waimakariri and Rakaia takes
- PART 7** – Use of water
- PART 8** – Objectives and policies
- PART 9** – Regional Council consents and conditions
- PART 10** – Selwyn District Council consents and conditions
- PART 11** – Recommendations to Central Plains Irrigation Limited in respect of Notice of Requirement and Conditions
- PART 12** – List of hearing dates and appearances

## TABLE OF CONTENTS FOR PART 8

1...INTRODUCTION .....	1
2... THE OVERALL FRAMEWORK FOR ASSESSING THE OBJECTIVES AND POLICIES.....	5
3...EFFECTS ON INSTREAM VALUES AND ON THE MARGINS OF THE WAIMAKARIRI AND RAKAIA RIVERS.....	7
4... GROUNDWATER IMPLICATIONS AND EFFECTS ON TE WAIHORA/LAKE ELLESMERE	12
5... TERRESTRIAL AND AQUATIC ECOLOGY.....	18
6... LANDSCAPE VALUES AND AMENITY .....	20
7... RECREATION AND ACCESS .....	23
8... HERITAGE VALUES.....	26
9... TANGATA WHENUA .....	27
10. EARTHWORKS AND UTILITIES.....	31
11. DUST, ODOUR, NOISE AND VIBRATION .....	34
12. TRANSPORT AND ENERGY.....	36
13. PUBLIC SAFETY AND HAZARDS .....	37
14. SOCIAL AND ECONOMIC IMPACTS.....	39
15. OVERALL CONCLUSIONS ON OBJECTIVES AND POLICIES.....	39

**1. INTRODUCTION**

**1.1** This part of our decision addresses the objectives and policies relevant to the revised CPW Scheme. We have already discussed the relevant objectives and policies of the Waimakariri River Regional Plan and Proposed Plan Change 1 (PPC1) in Part 6 of this decision and in Minutes 9 and 12 and do not repeat that discussion here.

**1.2** In the course of the hearing we heard analysis of the objective and policy frameworks under the relevant regional and district planning instruments from Mr Leo Fietje of the Regional Council, Ms. Sue Robson and Mr. Daniel Murray on behalf of CPW, Mr. Nick Boyes on behalf of the Selwyn District Council, and Mr David Newey for the Department of Conservation.

**1.3** With respect to the resource consent applications to the Canterbury Regional Council and to the Selwyn District Council, Section 104 of the Act states:

*"(1) when considering an application for a resource consent and any submissions received, the consent authority must, subject of Part 2, have regard to -  
(b) any relevant provisions of -  
    (iii) a regional policy statement or proposed regional policy statement:  
    (iv) a plan or proposed plan; and  
....."*

**1.4** With respect to the Notice of Requirement (NoR) served on the Selwyn District Council, under section 171 the Act states:

*"(1) when considering a requirement and any submissions received a territorial authority must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to -  
(a) any relevant provisions of -  
    (iii) a regional policy statement or proposed regional policy statement:  
    (iv) a plan or proposed plan; and  
....."*

**1.5** It is noted that the test in terms of plan provisions is slightly stronger in respect to a NoR where the Act under Section 171 uses the words "particular regard", whereas in respect to a resource consent under section 104 it uses the word "regard".

**1.6** The relevant planning instruments are the **Canterbury Regional Policy Statement** (the RPS) which became operative in June 1998; the **Waimakariri River Regional Plan** (the WRRP) which became operative on 23 October 2004; and the **Proposed Natural Resources Regional Plan** (the PNRRP). Chapters 1 to 3 of this plan were notified on 1 July 2002, and were amended following decisions in September 2007. Chapters 4 to 9 were introduced by Variation 1 to the PNRRP and were notified in July

2004. Submissions on Chapters 4 to 9 are currently being heard. Since the substantive hearing of CPW's applications in 2008, the Regional Council have notified Change 1 to the WRRP, and this is discussed below. In addition, we must have regard to the relevant objectives and policies of the **Selwyn District Plan** (the SDP).

1.7 The applicable chapters of the RPS are listed below.

Chapter 6 -Provision for the relationship of Tangata Whenua with Resources  
Chapter 7 -Soils and Land use  
Chapter 8 -Landscape, Ecology and Heritage  
Chapter 9 -Water  
Chapter 10 -Beds of Rivers and Lakes and their Margins  
Chapter 12 -Settlement and the Built Environment  
Chapter 13 -Air  
Chapter 14 –Energy  
Chapter 15 -Transport  
Chapter 16 -Natural Hazards  
Chapter 17 -Hazardous Substances

1.8 Of the above, Chapters 6 - 10 have the greatest bearing on the CPW project.

1.9 The applicable chapters of the PNRRP are as follows. These chapters each have their own volume, and are much more expansive in terms of content and detail than the chapters in the RPS:

Chapter 3 -Air Quality ("AQL")  
Chapter 4 -Water Quality ("WQL")  
Chapter 5 - Water Quantity ("WQN")  
Chapter 6 - Beds And Margins of Lakes and Rivers ("BLR")  
Chapter 7 – Wetlands ("WTL")  
Chapter 8 - Soil Conservation ("SCN")

1.10 In addition, abstractions from the Rakaia River are subject to the **National Water Conservation (Rakaia River) Order 1998**. We discussed those provisions in some detail in our decision in relation to the Ashburton Community Water Trust hydro electric scheme and do not need to repeat that discussion here.

1.11 The provisions of the Transitional Regional Plan relating to extractions, diversions, discharges to water and air, and excavation apply to the CPW scheme, but are not relevant to this part of our decision as the TDP does not include any objectives and policies.

1.12 The provisions of the RPS, the WRRP and the SDP have to be given full weight, as they are operative documents, or in the case of the SDP the relevant provisions are now beyond challenge. Proposed Change 1 to the RPS concerns Christchurch urban

growth matters, and is not relevant to the consideration of objectives and policies insofar as the CPW scheme is concerned.

- 1.13** Some weight can be afforded to the provisions of the PNRRP, but this is tempered by the fact that parts of it are subject to significant challenge through submissions and no decisions have yet been issued in relation to the parts of that plan which are relevant to the current proposal. We have given more weight to those provisions of the PNRRP (of which there are a significant number) which are consistent with the objectives and policies in the RPS.
- 1.14** During the hearing, concerns were expressed that the weight to be given to the WRRP was limited, as the work underpinning the plan was outdated and a take of the magnitude sought by CPW had not been anticipated when the plan was drafted. We noted that at the objective and policy level, the WRRP faithfully followed the matching provisions in the RPS. However the rules in the WRRP were more liberal than the objectives and policies in both the RPS and the WRRP would initially suggest.
- 1.15** The following assessment of the relevant objectives and policies, and the degree to which the modified proposal is consistent or otherwise with them is to a large extent dependent on the costs and benefits of the scheme having regard to Part 2 of the Act and arriving at a balanced judgment, taking into account the adequacy of any mitigation measures proposed.
- 1.16** The modified scheme resulting from the removal of the Coalgate dam, the Waianiwaniwa reservoir, the upper Waimakariri intake and tunnel and reductions in the Waimakariri take, significantly reduces the extent and intensity of effects compared to the original proposal.
- 1.17** At our request, towards the conclusion of the original hearings in 2008, we were presented with an agreed list of the relevant objectives and policies which totalled some 66 pages; however since then large part of the scheme involving the dam, reservoir and upper intake have been withdrawn, so not all of these objectives and policies have direct relevance. Nevertheless, there remain a substantial number of objectives and policies which, to a greater or lesser extent, have application to the CPW scheme. We have not attempted to assess the project in terms of all of these provisions. Instead we have focused on those provisions having the most direct relevance, including assessing (and citing from where appropriate) those which we consider are most important.

- 1.18** We have set out to consider the objectives and policies in each of the planning instruments by topic area, rather than on a plan by plan basis. This is consistent with our approach to assessing the effects of the proposed activity as set out in the applications and the notice of requirement.
- 1.19** The objectives and policies have been considered 'in the round'. Accordingly, if the project is contrary to one or more objectives and policies, this is not necessarily in itself fatal to the designation or the resource consents applied for, in the latter case also depending on the type of activity category (e.g. noncomplying or discretionary). There is no requirement that all aspects of this scheme, or indeed any similar large scale proposal be not contrary to the objectives and policies. In addition, any assessment of the objectives and policies is still subject to Part 2 of the Act.
- 1.20** As a final introductory point, brief comment needs to be made on the "Canterbury Water Management Strategy" (CWMS) released in November 2009. This was mentioned several times during the October 2009 hearings. It has no statutory status, but forms part of a proposed strategy for managing competition for both surface and groundwater in Canterbury. A key element of the strategy with respect to water management (page 7) is that:
- "There **is** capacity for further development but it will require **existing** users and new users to improve the way they use water".  
(emphasis as stated in the report)*
- 1.21** The strategy makes it clear that environmental, cultural, stock water and community needs are to have first priority with respect to water resources, but that efficiency improvements and investment in infrastructure for irrigation is anticipated. The use of storage is also a key focus.
- 1.22** In April 2010, the government passed the Environment Canterbury (Temporary Commissioners and Improved Water Management) Act 2010. This requires those involved in plan preparation, changes or variations to have particular regard to the provisions of the CWMS. It does not affect the consideration of resource consent applications or designations. Nevertheless the CWMS is a relevant document which we have had regard to. A key focus of the strategy is *integrated management* of the region's water resources. We do not see the CPW scheme as being at odds with that. Certainly in reaching our decision we have been mindful of the need to adopt a holistic approach to the scheme. That should be particularly evident in our discussions around the use of water (Part 7 of this decision) which considers the downstream consequences of irrigation.

**1.23** Another focus of the strategy is on decreasing reliance on ground water takes (particularly in the CPW command area) by increasing use of surface water supplemented by storage. The revised CPW scheme will achieve those goals. While it no longer contains large scale storage, that is still a component which can be added to the scheme at a later date, if sustainable options are developed. There is no doubt that the scheme will take the pressure off ground water resources. The use of ground water as a supplementary supply rather than a primary supply is in consistent with the goals of the strategy. The scheme also has the potential to be utilised to provide winter recharge of groundwater if that proves to be beneficial.

## **2. THE OVERALL FRAMEWORK FOR ASSESSING THE OBJECTIVES AND POLICIES**

**2.1** The centrepiece of the proposed scheme is the take and use of water for a project to irrigate 60,000 ha with nearly 500 km of headrace canal and distribution races. Even in its revised form, it is undoubtedly of regional scale and significance. For this reason, we consider it appropriate to set out the contents of Objectives 1 to 3 of Chapter 9 of the RPS, which provide an integrated framework for considering the effects of the take and use of water on the natural and physical resources of the affected area. Given the different but complementary functions of regional and district councils, matters such as the take and use of water at the level of the RPS are primarily given effect to through regional plans, while matters such as landscape and heritage are primarily given effect to through the District Plan.

### **Objective 1**

*Achieve sufficient quantities of water in the region's water bodies to enable present and future generations to gain cultural, social, recreational, economic and other benefits from those water bodies while:*

### **Objective 2**

*Enable present and future generations to gain cultural, social, recreational, economic and other benefits from use of land where it affects the flows and levels of Canterbury's water bodies while:*

### **Objective 3**

*Enable present and future generations to gain cultural, social, recreational, economic, health and other benefits from the water quality in Canterbury's water bodies and coastal waters, while:*

- (a) safeguarding the existing value of water bodies for efficiently providing sources of drinking water for people;*
- (b) safeguarding the life-supporting capacity of the water, including its associated: aquatic ecosystems, significant habitats of indigenous fauna and areas of significant indigenous vegetation;*
- (c) safeguarding their existing value for providing mahinga kai for Tangata Whenua;*
- (d) protecting wahi tapu and other wahi taonga of value to Tangata Whenua;*
- (e) preserving the natural character of lakes and rivers and protecting them from inappropriate use and development;*

- (f) protecting outstanding natural features and landscapes from inappropriate use and development;*
- (g) protecting significant habitat of trout and salmon; and*
- (h) maintaining, and where appropriate, enhancing amenity values.*

- 2.2** Objectives 1 to 3 under Chapter 9 of the RPS are very broad in scope and address the great majority of the issues relevant to the potential effects of the CPW project on both surface and groundwater. These matters are central to the scheme, including the designation and the physical works associated with it. These objectives seek to enable cultural, social, recreational, economic and other benefits, which in turn are qualified by the need to *safeguard* drinking water and the life supporting capacity of water, ecological values, and provision of mahinga kai; *protecting* wahi tapu; *preserving* natural character; *protecting* natural features and landscapes and the habitat of trout and salmon; and *maintaining* amenity values. It can be noted that the format of these objectives closely follows the enabling principles in section 5(2) of the Act while recognising the qualifications under subsections (2) (a) – (c).
- 2.3** These matters encompass virtually all of the environmental effects requiring consideration as part of this decision, either directly or indirectly, and these three objectives also form the basis of the three key objectives in the WRRP.
- 2.4** Subchapter 20.4 of the RPS is also a helpful basis for introducing consideration of the objectives and policies, as it sets out matters of regional significance, and identifies regionally significant effects. It is referred to frequently in various objectives and policies set out under the RPS, and in the assessment below.
- 2.5** A consistent theme under the criteria contained in the subchapter are the importance of species, ecosystems, and habitats which are unique or endemic to Canterbury, and/or which are threatened; landscapes which are distinctive and unique to Canterbury; heritage sites and areas that contribute to understanding the human occupation of the Canterbury Region; and sites and places that are important for recreation and amenity.
- 2.6** The RPS and the other plans also provide for consideration of positive social and economic effects which might flow from the establishment of irrigation systems.
- 2.7** The following sections assess aspects of the CPW scheme by topic area. Obviously there is a degree of overlap, but the assessment below is undertaken with respect to the following headings:
- *Instream values and on the margins of the Waimakariri and Rakaia rivers*
  - *Groundwater and on Te Waihora/Lake Ellesmere*

- *Terrestrial and aquatic ecology*
- *Landscape values and amenity*
- *Recreation and access*
- *Heritage values*
- *Tangata Whenua*
- *Earthworks and utilities*
- *Dust, odour, noise and vibration*
- *Transport and energy*
- *Public safety and hazards*

### **3. EFFECTS ON INSTREAM VALUES AND ON THE MARGINS OF THE WAIMAKARIRI AND RAKAIA RIVERS**

**3.1** Chapter 9, Policy 6 of the RPS states as follows:

*In considering a permit to take water, a consent authority should, as part of the requirements of section 104 of the RM Act, consider the need to:*

- (a) specify maximum permitted water usage over specific time periods as well as maximum abstraction rates;*
- (b) be based on actual and reasonable water needs;*
- (c) provide for existing water permit holders to have priority for the term of their permits;*
- (d) specify the priority to be given to the permit in the event of restrictions being imposed; and*
- (e) provide mechanisms to reduce or suspend abstractions during periods of low water flows or levels.*

**3.2** This policy addresses the need for appropriate restrictions on abstractions (takes); the efficient use of the water resource; the effects on both the rate of take and security of supply for other users; the effect of a take on the values of the (in this case) Rakaia and Waimakariri Rivers; and the effects of a take on water quality.

**3.3** The proposed take from the Rakaia River is in full accordance with the provisions of the National Water Conservation Order, and by implication with the RPS. The maximum take of 40 cumecs represents the combined takes by both CPW and ACWT as a joint applicant, the latter take associated with proposed hydroelectric generation on the south bank of the river.

**3.4** We did not simply assume that any take falling within the general parameters of the WCO with respect to the extraction volumes had no environmental effects. However we did not hear any evidence that the WCO was insufficient to protect the key environmental qualities of the Rakaia River. The proposed CPW take would retain flow variability and avoid flatlining, and not give rise to any increase in flows below the "minimum annual low flow (MALF).

**3.5** With respect to the Waimakariri River, any take above that allocated to "A Permit" holders, is a restricted discretionary activity under the WRRP. An important point arising from this is that irrigation takes, are anticipated by the WRRP. Indeed prior to

PPC1 the plan was if anything, overly encouraging of additional takes, because it had no allocation cap and restricted discretion only to effects in the vicinity of the intake.

**3.6** We recognised the fact that the WRRP provisions were inadequate to achieve the objectives and policies of the RPS and the plan itself. The Waimakariri River is more 'fragile' and under considerably more pressure than the Rakaia because of its much lower average flow and the intensity of recreational activity. Mr Fietje on behalf of the CRC noted that (somewhat surprisingly) it had not been anticipated that someone might apply for a significant "B" take at the time that the WRRP was promulgated. This is now being rectified by way of Proposed Plan Change 1 (PPC1) and we have been mindful of the objectives and policies behind that change.

**3.7** Chapter 10, Objective 1 of the RPS calls for the protection of, and where appropriate enhancement, of natural character. Associated Policy 1 states:

*(a) Areas within the beds of rivers and lakes and their margins containing important conservation values are to be identified. These include:*

*(i) areas of natural character;*

*(ii) significant habitats of indigenous flora and fauna;*

*(iii) significant natural features and landscapes;*

*(iv) areas of mahinga kai, wahi tapu or wahi taonga (including historical artefacts, urupa, skeletal remains) and Tangata Whenua needs for access to them;*

*(v) significant amenity and recreation values;*

*(vi) significant heritage values;*

*(vii) significant habitats of trout and salmon.*

*(b) Land use or development should avoid causing significant adverse effects on the conservation values contained in areas identified in Policy 1(a).*

*(c) Prior to identification of areas under Policy 1(a), land use activities on the beds and margins of lakes and rivers should be undertaken at such times or in such ways that their adverse effects on the following values are avoided or mitigated:*

*(i) habitats of indigenous fauna, including international migratory bird species, particularly threatened species, and species rare or endemic within Canterbury;*

*(ii) habitats or the unimpeded passage of indigenous fish;*

*(iii) areas of indigenous vegetation;*

*(iv) wetland areas;*

*(v) natural character or significant landscape values;*

*(vi) spawning habitats or the unimpeded passage of trout and salmon; it*

*(vii) amenity and recreation values;*

*(viii) heritage sites;*

*(ix) Tangata Whenua values.*

**3.8** Objectives 5.1, 6.1 and 7.1 in the WRRP contain almost identical wording to Objectives 1 - 3 of the RPS. The former is relevant to proposed takes from the Waimakariri River, and the latter, proposed takes from both rivers.

**3.9** Objective 7.1 and Policy 7.1 in the WRRP are very similar in content to Chapter 10, Objective 1.

**3.10** Objective BLR1 in Chapter 6 of the PNRRP "Activities within the beds and margins" states:

*Activities in the beds and margins are able to be undertaken while:*

- (a) protecting flood carrying capacity to avoid increased risk of flooding of surrounding lands;*
- (b) protecting the stability of lawfully established structures and the banks of lakes and rivers;*
- (c) minimising the spreading or colonising by pest or undesirable plants;*
- (d) preserving natural character;*
- (e) protecting outstanding natural features and landscapes;*
- (f) protecting areas of significant indigenous vegetation and significant habitat of indigenous fauna;*
- (g) promoting the maintenance and enhancement of amenity values;*
- (h) providing for the relationship of Ngāi Tahu and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga;*
- (i) avoiding, remedying or mitigating adverse effects of reductions in sediment transport to the coast where there is a crucial link to rates of coastal erosion; and*
- (j) protecting significant habitat of trout and salmon.*

**3.11** There is clearly a strong element of overlap and consistency between these important objective and policy provisions, which are comprehensive and provide an overarching framework to the assessment of objectives and policies considered elsewhere in this assessment. They essentially call for a balance between the use of water for irrigation, activities affecting water quality, activities undertaken in the Rakaia and more particularly the Waimakariri River corridor including recreation, Maori values, and the other matters described in Part II of the RMA. This balance must be achieved in a manner whereby ecological, recreational and Tangata Whenua values are not significantly compromised.

**3.12** Policy BLR 2 in Chapter 6 of the PNRRP "Land use activities within the bed and margins" calls for the avoidance of activities which result in disturbance of indigenous birds nesting in the bed.

**3.13** Chapter 4, Objective WQL 1.1 in the PNRRP "Rivers" states as follows:

*(3) Where the water quality of a river, or the physical and chemical characteristics of the riverbed substrate, have been or are likely to be affected by a change to the flow regime of a river as a result of; augmentation of flow, damming, diversion, or discharge of water or contaminants:*

*(a) the instream values in the river, which existed before a change to the flow regime, are provided for, by ensuring that:*

- (i) any change to water quality, including changes to; clarity, natural water temperature, dissolved oxygen concentrations, or contaminants caused by reducing or low oxygen conditions;*
- (ii) sedimentation of the riverbed; or*
- (iii) excessive growth of periphyton, or aquatic plants; have no significant adverse effects on the instream values of the river; or*

*(b) where the instream values have been adversely affected by a change to the flow regime, the water quality of the river and the physical and chemical characteristics*

*of the riverbed substrate, are improved to restore, as far as practicable, the instream values of the river that existed before the change to the flow regime; and*  
*(c) the quality of river water recharging groundwater will not prevent the achievement of Objective WQL2.*

- 3.14** Chapter 4, Policy WQL 5 of the PNRRP seeks to avoid disturbance to river margins, minimising sediment discharge, retaining riparian vegetation, and with an emphasis on restoration of indigenous flora.
- 3.15** The framework of objectives and policies above provide a comprehensive basis for assessing the impacts of the take from the Waimakariri River. We consider the amended take regime is not contrary to these objectives and policies. We concluded that a 30 cumec "gap" regime as proposed by the Regional Council through PPC1 to the WRRP, would significantly compromise the viability and benefits of the scheme and while arguably providing a limited degree of added protection, would also have had the effect of flatlining the river except during major flood events.
- 3.16** It is up to a different panel to decide the future of the 30 cumec gap but we have concluded that the 30 cumec gap is not required to achieve the objectives set out above or to achieve sustainable management of the resource. We have concluded, that in the context of the current proposal, the objectives and Part 2 of the RMA can be achieved by another mechanism which we consider to be sustainable and more balanced between use and protection.
- 3.17** We find that the proposed intake structure on the Waimakariri at "the Pinnacles", and the effect of constructing the headrace canal and the earthworks on the escarpments of the Rakaia and Waimakariri Rivers will have some adverse effect on amenity values , mainly from the perspective of river users but do not consider these works to be contrary to the relevant objectives and policies (see also Part 2).
- 3.18** We consider that any effects of works in both rivers on indigenous nesting birds and on vegetation in the vicinity of the takes would be very localised in extent and of no more than minor effect in the context of the braided river systems as a whole. A more important consideration is the effect on bird life and potential predation in the river fairway as a whole during the spring nesting period. This is dependent on maintaining braids within the river channel, which we consider will be achieved through the flow restrictions included in the consents. With respect to the Rakaia River, these values are also protected by the WCO.
- 3.19** Objective WQL 1.1 and Policy WQL5 are relevant to potential water quality effects which were raised in a number of submissions during the hearing. In particular,

submitters expressed concerns about the adverse effects on water quality potentially arising from sedimentation associated with works during construction and from vegetation disturbance along the margins of the Rakaia and Waimakariri Rivers; reduced river braids and shallower braids; discharges from settling ponds; the effect of training activities in the riverbed; sedimentation and periphyton growth resulting from reduced flows and/or warmer water temperatures.

- 3.20** We concluded that any loss of water clarity associated with construction work, river training, and discharges from the settling ponds would be temporary in nature and could be adequately mitigated by appropriate conditions. We also concluded that the potential effects of sedimentation, the protection of braided character and periphyton growth could be managed to achieve effects that were no more than minor, provided subject to a condition allowing the passage of freshes following prolonged low flow periods. There was no evidence that the reduced take would adversely affect the extent of suspended sediment concentration downstream.
- 3.21** The Waimakariri River is particularly important with respect to recreational values. We consider that an acceptable balance between recreational values and extraction of water for irrigation can be achieved provided there are additional restrictions on takes during low flows, weekends and other high use periods, as is proposed under our conditions. As noted before, the WCO provides for a flow regime that protects the high values of the Rakaia River as a salmon fishing resource. In the case of the Waimakariri, we have concluded that the proposed flow sharing regime and associated further conditions will achieve the ongoing protection of this river as a recreational fishing resource, and as a resource for kayaking and jet boating.
- 3.22** Our overall conclusion, is that the proposed Waimakariri and Rakaia takes will not be contrary to the objectives and policies of the RPS, or the WRRP with respect to instream values. This is in contrast to the original Waimakariri take proposal which we concluded would be unsustainable and contrary to the objectives and policies of the RPS and WRRP.
- 3.23** The proposed take regime and its associated conditions will have an effect on Waimakariri flows, but will in our view result in a sustainable use of the water resource and an acceptable balance between the use of the resource for irrigation (with its associated economic and social benefits ) and the ecological, recreational and landscape values of the river. In our view the recreational amenity and ecological values of the river will be largely maintained. This is the balance that the objective and policy framework seeks to promote. It is also consistent with the CWMS.

#### **4. GROUNDWATER IMPLICATIONS AND EFFECTS ON TE WAIHORA/LAKE ELLESMERE**

**4.1** Objectives 1, 2 and 3 in Chapter 9 of the RPS, reproduced above provide an overall framework for assessing effects on water resources, including groundwater, as set out earlier under the “Overall framework for assessing the Objectives and Policies”. The Objectives, policies and rules relating to both groundwater quality and quantity are developed in much more detail under the PNRRP, Chapter 4, "Water Quality". We are aware however, that these provisions are subject to challenge through submissions on the PNRRP, which has some implications for the weight that we can place on them.

**4.2** In considering the effects of the CPW scheme, we were also careful to only take into account those effects which could be attributed to CPW, recognising for example, that they would still be effects from schemes such as Synlait, should CPW not proceed.

**4.3** Considerable evidence, as described elsewhere in this decision, was brought to bear on the subject of the effects on both groundwater quality and quantity, and will not be repeated here. Issues raised included enhanced groundwater recharge and potential mounding effects "downstream" of the command area, and particularly areas with high water tables near the coast; possible effects on nitrate levels in groundwater wells and in lowland streams and Te Waihora/Lake Ellesmere; and potential effects on the quality and quantity of Christchurch groundwater. Other matters raised, included possible effects on accessing gravel in quarries near Christchurch if groundwater levels rose, and even concerns relating to increased fog effects on Christchurch International Airport.

**4.4** Policy WQN 9 in the PNRRP “Prevent long-term decline in groundwater levels” concerns the issue of groundwater quantity, and states as follows:

*Control the total amount of groundwater allocated for abstraction so that there is not a significant continuing long-term decline in mean annual groundwater levels and artesian pressures.*

**4.5** The Canterbury Plains between the Waimakariri and Rakaia Rivers has been classified as an over allocated zone by the Regional Council with restrictions limiting the grant of any further consents for extraction of water from groundwater sources. The Regional Council and others have longstanding concerns that groundwater levels have reduced and are likely to fall further as a result of increased groundwater abstraction. The proponents of the CPW scheme have strongly contended that surface water from irrigation, by-wash discharges and some leakage from the

proposed headrace canal and the water race distribution system, will have the effect of reversing or at least stabilising this trend.

- 4.6** In terms of the groundwater levels, the opinion of all witnesses was that groundwater levels both within much of the command area and downstream towards the coast, would rise as a consequence of irrigation associated with the CPW scheme. The debate focused on the extent to which this would occur. With the modified scheme groundwater recharge and mounding would still occur, although to not such an extent as previously projected, particularly as existing groundwater takes are expected to be augmented rather than supplanted, by irrigation water. This has positive benefits in terms of flows in the smaller waterways entering Te Waihora. The scheme is expected overall to at least arrest the decline in groundwater levels within the "red zone" applying to this part of the Canterbury Plains.
- 4.7** Conversely, some concerns were expressed that the take from the Waimakariri would result in reduced infiltration from the Lower Waimakariri River into the Christchurch - West Melton Groundwater Recharge Area. Related concerns were that The intensification of farming following irrigation might adversely affect the quality of the city's water supply. Based on the weight of evidence received, we concluded that it was unlikely that there would be a significant change in volume of groundwater available to the city given the reduced magnitude of CPW's proposed take, and the apparent lack of sensitivity of the recharge to changes in flow in the river. While increases to the flows of city waterways are expected, these will be attributed to changes in the water table gradient between groundwater flows towards the lake and the city respectively. Groundwater movement under the CPW command area is to the southeast away from the city aquifers.
- 4.8** Overall, we consider that the increase in groundwater levels would on balance be beneficial in reducing the decline in the level of the water table, but we acknowledge that this is a spatially variable effect with some additional drainage improvements needed near the coast and Te Waihora/Lake Ellesmere. It is probable that the scheme will actually promote the achievement of the policy, rather than merely being not contrary to it. Mr Fietje noted that the possibility of raised groundwater levels was not addressed by the objectives and policies in the RPS or the PNRRP.
- 4.9** Objective WQL2 in the PNRRP "Water quality outcomes for groundwater and contaminated land" specifies in some detail the outcomes expected for groundwater **quality** in the Canterbury Region.

*In the Coastal Confined Gravel Aquifer System between the Ashley River/Rakahuri and the Rakaia River, the water quality in each aquifer is maintained at least in the state reported in July 2002, and the water is suitable for human consumption without treatment.*

*(2) In semi-confined, unconfined, and other confined aquifers or parts of these aquifers, where:*

*(a) the water quality is unaffected or largely unaffected by human activities, as reported in 2004, maintain the water quality in that state.*

*(b) the water quality is affected by human activities, the groundwater quality shall meet the following values:*

*(i) for nitrate-nitrogen, the maximum concentration shall not increase by more than two milligrams per litre above the maximum concentration measured between 1996 and 2001, and reported in 2002, and the maximum concentration shall not exceed 11.3 milligrams per litre;*

*(ii) the water quality shall remain within the Guideline Value for any aesthetic determinand listed in the Drinking Water Standards for New Zealand 200035, except for natural exceedances of the Guideline Value. If the water quality does not meet the Guideline Value, as a result of human activities, the water quality shall be improved so that the Guideline Value is achieved;*

*(iii) the median concentration of Escherichia coli shall be less than one organism per 100 millilitres of water; and*

*(iv) any other inorganic or organic determinand of health significance or pesticide (excluding nitrate nitrogen, or Escherichia coli,) listed in the Drinking Water Standards for New Zealand 2000 shall not be detected at a concentration greater than one tenth of the Maximum Acceptable Value for that determined, and.*

*(c) On land, where the concentration of a contaminant exceeds the naturally occurring background level and this concentration poses an unacceptable risk to human health or the environment, the land is managed in a way that reduces this risk, and the risk from any discharge from the land to groundwater, to a level that is acceptable for human health or the environment.*

**4.10** Objective WQL4 in the PNRRP: “The quality of Christchurch groundwater (as modified by Variation 6) states as follows:

*(1) The quality of Christchurch groundwater is maintained or enhanced in its overall high quality state in the long term*

*(2) Christchurch groundwater subject to existing localised contamination will be improved to achieve the maintenance and enhancement of its overall high quality state.*

**4.11** With regard to nitrate loadings, the available evidence suggested that the recorded levels between different sites exhibit significant local variations, and predicting the likely future effects of CPW is difficult. However it can confidently be predicted that any scheme involving irrigation and land intensification will have effects on groundwater quality.

**4.12** There is the probability of an increase in nitrate levels in domestic supply wells within and downstream of the command area. There may be additional circumstances where an increase in N-NO<sub>3</sub> concentrations in some shallow groundwater wells above the MAV of 11.3 mg/l is recorded as a result. Overall, it was expected that there would be

an increased volume of leached nitrates but that the concentration of nitrates would not increase significantly.

**4.13** There will be some compensatory dilution effect from irrigation water, by-wash and leakage from irrigation canals and races. The proposed Sustainability Protocol and Farm Plans will provide a degree of mitigation. In addition, conditions are proposed whereby a Groundwater Technical Review Panel would be established to monitor effects on groundwater and CPW will be required to undertake mitigation measures where required. By way of an example, this may require that alternative water supplies be made available to properties which subsequently exceed the MAV.

**4.14** With these measures in place, we consider that the impacts on groundwater can be managed such that the scheme would not be contrary to Chapter 9, Objective 3 in the RPS. We note that any increase in the number of bores with levels exceeding MAV would be contrary to Objective WQL 2, however this objective is subject to challenge through submissions on the PNRRP. The evidence we heard suggests to us that any irrigation scheme is likely to cause some increase in nitrate levels on bore water.

**4.15** The potential adverse implications of increased nitrate concentrations will be greater for the water quality of lowland streams and Te Waihora/Lake Ellesmere, because of the lower levels at which nitrates move aquatic systems towards a eutrophic state. However this effect is phosphate limited, and subject to farm management ensuring that sediment runoff is controlled, the additional effects are likely to be only minor.

**4.16** Policy WQL9 in the PNRRP is entitled “Non-point source discharges to land that may affect groundwater quality”.

*(1) Minimise the leaching of nutrients, chemical and microbiological contaminants to groundwater by requiring:*

*(a) the use of best management practices to:*

- (i) manage the input of nitrogen so that it matches plant requirements; and*
- (ii) prevent the accumulation of mineral nitrogen or other contaminants in the soil which have a high potential for leaching.*

*(b) that the use of water for irrigation:*

- i) is in accordance with Policy WQN17; and*
  - (ii) does not result in groundwater quality in any existing drinking water supply well, adjacent to, or down-gradient of the property being irrigated, being affected to the extent that the water in the well is no longer suitable for human consumption; and*
  - (iii) does not result in the maximum concentration of nitrate-nitrogen in any part of an unconfined or semi-confined aquifer at the downgradient boundary of a property:*
- .....

*(2) In areas where groundwater quality has declined because of non-point source discharges and the concentrations of determinands in groundwater do not meet Objective WQL2, implement measures to reduce the concentration of determinands*

*in groundwater in accordance with the relevant provisions of Policy WQL4(2) and WQL4(3).*

*(3) Where groundwater enters rivers or lakes, the contaminant concentrations in the groundwater shall not result in the surface water quality being reduced below the values of; Objective WQL1, or any relevant water quality standard set in this plan or by a water conservation order.*

- 4.17** Policy WQN 17 in the PNRRP “Reasonable and Efficient Use of Water”, subclause (5) states:

*In addition to requiring the measuring and recording of water that is taken in accordance with Policy WQN16, encourage irrigators to monitor their water application rates, soil moisture, and production as a method for achieving more efficient use of irrigation water.*

- 4.18** Policy 5.2 of the WRRP also seeks to promote efficiency in the use of water abstracted from the Waimakariri River.

- 4.19** The impacts on water quality resulting from land use intensification, and particularly dairying were a subject of much debate during the hearing. The modified CPW scheme now enables a substantially smaller increase in the dairying component of land intensification within the command area.

- 4.20** Overall, we consider that there is scope for mitigation through the implementation of the Sustainability Protocol by way of farm management plans as proposed by CPW. We observe that there is an absence of any measures to limit nutrient loss from existing farming activities both in the central plains area, and more importantly, the area to the east towards the coast and the lake, a point emphasised by the Environment Court in the *Lynton Dairies* case. We see significant benefits in the introduction of a farm management regime as proposed with the CPW scheme, noting that the Selwyn District Plan, in common with most district plans, simply provides for farming generally as a permitted activity.

- 4.21** Given the cost of delivering water to the farm gate, and the trend to much more efficient irrigation methods evident throughout Canterbury, we are satisfied that water will be applied and used efficiently. Overall, we are satisfied that the CPW scheme is not contrary to Policy WQL 9, Policy 5.2 or Policy WQL 17. (see the discussion of efficiency in Parts 1 and 6 of our decision.)

- 4.22** Objective WQN8 in the PNRRP “Augmentation of water bodies” provides as follows:

*Enable the augmentation of water resources provided that:*

*(a) it is consistent with provisions (a) to (h) of Objective WQN1, Objective WQL1.1 (2) and Objective WQL1.2 (3);*

*(b) it will not adversely affect existing water permit holders’ reliability of supply and access to water; and*

*(c) it will result in long-term social, economic and environmental benefits to the regional community.*

**4.23** Our conclusion is that there will be increased recharge of ground water in zones which the PNRRP regards as over allocated and consequent increase in flows in lowland streams entering Te Waihora/Lake Ellesmere. This will be beneficial overall, and on balance consistent with Objective WQN 8. We note however, that some of these benefits will be qualified by likely higher nitrate loadings in these waterways.

**4.24** Chapter 8 Objective SCN2 of the PNRRP: "Arable lands" provides as follows:

*On all arable land:*

*(a) maintain the life-supporting capacity and productivity of the soil to meet the needs of both current and future generations by:*

*(i) maintaining or enhancing long-term soil quality; and*

*(ii) progressively reducing the loss of topsoil by wind or water erosion to as close as possible to zero. Over the next 25 years, progress towards this objective will be aimed at reducing the average erosion rate for any area of arable soils to less than 0.25 millimetres per year; and*

*(b) prevent, as far as practicable, the movement of soil into water bodies.*

**4.25** We consider that extended irrigation within the command area will be beneficial to soil quality and stability, and enhance the productive characteristics of versatile soils. Accordingly, we consider that the CPW scheme will assist in promoting Objective SCN 2.

**4.26** Chapter 11 of the RPS concerns the coastal environment. Effects on the coastal environment did not figure prominently during the hearing, except to the extent that increased flows into Te Waihora may result in an additional lake opening being required each year. The lake is opened artificially on a number of occasions each year, the frequency of which depend on inflows into the lake. We did not consider the potential prospect of an additional lake opening as a result of additional inflows was an adverse effect of such magnitude as to significantly influence our decision on the scheme.

**4.27** Our overall conclusion is that the effects of the use of water in the command area on groundwater and downstream surface waterways are not contrary to the objectives and policies of the relevant plans. Our conclusions are based on the likelihood that any adverse effects can be adequately mitigated, as discussed in Part 6 of this decision.

## 5. TERRESTRIAL AND AQUATIC ECOLOGY

5.1 This section concerns the effects of the designation associated with the headrace canal and distribution races. It includes areas adjacent to rivers, dryland sites, and the existing drainage systems in the command area.

5.2 Chapter 8, Policy 1 of the RPS addresses effects on wetlands:

*(a) Adverse effects on the ecological integrity, functioning, natural character, cultural, amenity and recreational values of wetlands (including the effects of drainage, reclamation, clearance of vegetation, burning, grazing, cultivation, dumping, subdivision or building) should be avoided, remedied or mitigated. Where practicable these wetland areas should be enhanced. The particular sensitivity of wetlands to the effects of land use activities should be reflected in the provisions of regional and district plans.*

*(b) Significant adverse effects on the natural flows and water levels, or the natural quality of water in any wetland, resulting from an adjoining use of land, the discharge of contaminants, or the damming, use, taking or diversion of water, should be avoided, remedied or mitigated.*

*(c) Encourage restoration or enhancement of lost or degraded wetland areas.*

5.3 Chapter 8, Objective 3 of the RPS reinforces this policy by calling for the protection or enhancement of indigenous biodiversity.

5.4 Policy 4 associated with this objective states:

*Areas of indigenous vegetation and habitats of indigenous fauna that meet the relevant criteria of sub-chapter 20.4(1) should be protected from adverse effects of the use, development, or protection of natural and physical resources, and their enhancement should be promoted. In particular, indigenous species, communities and habitats that are threatened, unusual in, or characteristic of Canterbury should be identified, and their survival, and the survival of ecosystems on which they depend, safeguarded as far as practicable. The particular sensitivity of these areas of vegetation or habitats to regionally significant adverse effects in terms of sub-chapter 20.4(2) should be reflected in the provisions of district plans in the region.*

5.5 Objective 2, in Chapter 9 of the RPS, set out above in the introductory section to the objectives and policies is complementary to the provisions in Chapter 8. The CPW project can be seen as supporting this objective in that it will result in augmentation of lowland stream flows and its attendant benefits. These include restoration of depleted surface waterways, such as the lower Selwyn River and the Irwell River for example. Chapter 9, Objectives 1-3, and Chapter 10, Objective 1 of the RPS also strongly promote the protection of ecological values of rivers and their margins.

5.6 Objective 3 in Chapter 9 seeks to enable present and future generations to gain cultural, social, recreational, economic, health and other benefits from the water quality in Canterbury's water bodies and coastal waters, while:

*(b) safeguarding the life - supporting capacity of water, including its associated: aquatic ecosystems, significant habitats of indigenous format and areas of significant indigenous vegetation;*  
*(e) preserving the natural character of lakes and rivers and protecting them from inappropriate use and development.*

**5.7** It can also be noted that in respect to Te Waihora/Lake Ellesmere that subclauses (c) and(d) emphasise the significance of water quality values of significance to Tangata Whenua as addressed later. The lake is identified in the District Plan as an outstanding natural feature.

**5.8** Chapter 10, Objective 1, also calls for the protection of the ecological and natural values of lakes and rivers. Where development in the beds and margins of lakes and rivers is contemplated, “protection and where appropriate enhancement” is sought for:

*(a) natural character*  
*(b) significant habitats of indigenous flora and fauna*  
*(c) significant natural features and landscapes*  
*(d)mahinga kai area, wahi tapu, and wahi taonga, and Tangata Whenua access to these*  
*(i) life supporting capacity ( health) of aquatic and riparian ecosystems*

**5.9** Chapter 7 Objective WTL 1 of the PNRRP provides for the management of Canterbury's wetlands, subject to there being no overall reduction in the area of moderate or higher significant wetlands; no overall reduction in significant indigenous flora or fauna; no overall reduction in wetland significance to Ngai Tahu, and that the quality and quantity of wetlands be enhanced, especially where depleted.

**5.10** There are a number of complementary objectives and policies under the Selwyn District Plan.

**5.11** Objective B1.2.4, and Policies B1.3.5 and B1.3.10 respectively state as follows:

*The potential adverse effects from activities on areas of indigenous vegetation, habitats of indigenous fauna, and indigenous biodiversity and functioning are avoided, remedied or mitigated.*

*Retain vegetation, in particular indigenous vegetation, along the riparian margins of the coast, rivers, lakes and wetlands. Where large quantities of indigenous vegetation are removed, ensure they are replaced with the same or similar species.*

*Protection or enhancement of wetlands, their ecological integrity and functioning, their cultural amenity and recreational values, and the preservation of their natural character.*

**5.12** Policy B1.2.2 states as follows:

*Avoid irreversible damage to or destruction of significant ecological sites.*

**5.13** Policy WQN 17(8) of the PNRRP is addressed in passing, because it makes reference to the potential ecological values of the District Council's water race network. The subclause states:

*Encourage and, where appropriate, require the progressive upgrade and piping of stock water races where there is an environmental or economic benefit for so doing, but recognise that some stockwater races may provide important habitats for indigenous species and may justify strategic continuance to protect these. (Refer to Policy WQN14(9)(f)).*

**5.14** We conclude that the framework of objectives and policies at regional and district level are consistent and coherent in terms of protection of terrestrial and aquatic ecology. As we observed earlier, the effects of this geographically broad ranging scheme may well be different for each component of it.

**5.15** Construction of the proposed headrace canal system, and to lesser extent the distribution races, will have some adverse impacts on indigenous dry grassland sites, and the headrace will also have some impact on identified wetland areas, such as Westwood, although we are not convinced these sites would be badly damaged or lost, as was feared. A number of witnesses criticised the lack of detail in information provided by CPW, and concluded that consent should be denied for this reason, as well as for likely adverse effects. The evidence was that most sites are already severely modified by farming activities and other land uses, and that all or parts of the identified sites could either be avoided within the width of the designation corridor, or would not fall within the designated corridor. We have imposed a condition requiring a biological offset which could provide for rehabilitation of adjoining wetland sites or indigenous plant communities by measures such as removal of exotic weeds. We consider that with the imposition of appropriate conditions and compensatory wetland restoration and replanting, the effects of this component of the CPW scheme would be not be contrary to the relevant objectives and policies set out above.

**5.16** A consistent theme throughout the objectives and policies is that the state of the environment should be at least maintained, and where possible enhanced. In contrast to the effects of the original scheme, we consider this can be achieved in a manner consistent with the framework of relevant objectives and policies. We also note that the environment includes the economic conditions which affect people and communities and CPW will have positive effects in this regard.

## **6. LANDSCAPE VALUES AND AMENITY**

**6.1** Chapter 8, Objective 2 of the RPS states:

*Protection or enhancement of the natural features and landscapes that contribute to Canterbury's distinctive character and sense of identity, including their associated ecological, cultural, recreational and amenity values.*

**6.2** Policy 3 following on from this objective, is cross-referenced to Sub - Chapter 20.4, which was set out in the "Overall framework for assessing objectives and Policies" at the beginning of this part of the decision on objectives and policies. Policy 3 states:

*Natural features and landscapes that meet the relevant criteria of sub-chapter 20.4(1) should be protected from adverse effects of the use, development, or protection of natural and physical resources, and their enhancement should be promoted. Activities that may have adverse effects include those involving the clearance or modification of areas of indigenous vegetation (particularly tall tussock), earthworks, alteration to landforms, tree planting, or the erection of structures. The particular sensitivity of these natural features and landscapes to regionally significant adverse effects in terms of sub-chapter 20.4(2) should be reflected in the provisions of district plans in the region. Assessments of effects should be made by considering:*

- (i) aesthetic values;*
- (ii) expressiveness;*
- (iii) transitory value;*
- (iv) natural science factors.*

**6.3** Landscape values and amenity are another example of an issue where the potential visual impacts are different in degree, depending on the sensitivities of particular parts of the command area, which because of its geographical extent, varies significantly in character.

**6.4** It was common ground that the braided rivers are an outstanding landscape, although they are not identified as such in the SDP. However, with conditions on the Waimakariri River take, and compliance with the WCO on the Rakaia River, the scheme will not adversely affect the braided character of these rivers. It will affect the escarpments (river terraces) alongside the rivers, the central plains, and the foothills.

**6.5** Where both the Rakaia and Waimakariri rivers traverse the upper plains, both rivers are characterised by steep escarpments or 'terrace risers' which the headrace canal has to surmount at grade before crossing the plains. Because of the height of the escarpments, both the length and extent of the earthworks are unavoidably extensive and will detract from these as natural features.

**6.6** The escarpments are not identified as outstanding landscapes, and we doubt whether they can even be regarded as being of regional significance with respect to subchapter 20.4 (2), except in the case of the Rakaia River, in the immediate vicinity of its gorge. The works necessary to undertake this part of the scheme would not

promote the natural character of these parts of the river environment, but would not constitute "inappropriate" development.

**6.7** Returning to subchapter 20.4(2) we consider that the effects of the headrace and its construction on landscape and amenity on the lower slopes of the Homebush Ridge are likely to be adverse. Although not an outstanding landscape in its own right, regionally significant effects are defined under this subchapter to include the following matters:

- (b) whether any effects are likely to be long-term;*
- (c) whether any short-term effects are likely to be widespread;*
- (d) whether ecological resilience is likely to be affected;*
- (e) whether, and to what extent, there is likely to be an increase or decrease in scientific or educational value to the regional or national community;*
- (h) whether any effects are of widespread concern to Tangata Whenua within the region.*

**6.8** In addition, of particular relevance here is subclause (i):

- (i) whether any effect is likely to lead to irreversible changes (other than minor changes)*

**6.9** The landscape and amenity effects on the Homebush Ridge are significant given its long-standing historic connections, and clearly recognised amenity values. However it appears that the most significant heritage features will be avoided, and there is some prospect of rehabilitation and restoration of the landscape in the longer term. Notwithstanding this, the scale of works involved here is potentially in conflict with the provisions of Chapter 8, Objective 2 which emphasises the historic and cultural identity of the area rather than its natural values. However we do not consider the effects to be of such a scale or intensity, or of a permanent nature, as to justify us recommending that the designation for entire headrace be declined.

**6.10** The potential effects of the intake, associated structures and construction effects, on the "Pinnacles" site at the Lower Waimakariri Gorge are a similar issue. The Pinnacles consist of a somewhat striking series of rock formations, the views of which however, are largely confined to river users approaching from upstream. From the evidence available to us (primarily from Ms. Lucas) it appeared that adverse effects were significant, but may be able to be mitigated to some extent through realignment of the intake position to a point as far upstream as possible within the designation corridor.

**6.11** We conclude that overall, that some elements of the project are not consistent with Objective 2 and Policy 3 in Chapter 8 of the RPS. However a gravity-based headrace canal would inevitably have some adverse effects regardless of its alignment and contour. Such infrastructure is anticipated by the planning instruments at both regional

and district level, we do not consider that these constitute adverse effects of such magnitude as to justify rejection in terms of the objectives and policies as a whole.

- 6.12** Policies B1.4.1, B1.4.2, and B1.4.3 in the Selwyn District Plan are of particular relevance to this project, and are set out respectively as follows:

*Provide for the mix of physical and natural elements that are often contained in Outstanding Natural Features and Landscapes to continue.*

*Recognise that landscapes will change over time and allow changes to landscapes provided that they complement the landscape and retain its core values.*

*Control the effects of clearance of indigenous vegetation in the Outstanding Landscape Areas and encourage the restoration and enhancement of indigenous vegetation generally, and the mitigation of practices which are adversely impacting on indigenous vegetation cover.*

- 6.13** The SDP clearly contemplates that there can be some change to the rural landscape over time, and that this landscape is an amalgam of natural features and human modification. However we consider its overall direction to be similar and consistent with the RPS, and our conclusions are the same in terms of these policies. As noted above, there will be other changes to the landscape which in the short term will undoubtedly be negative, particularly in areas where major earthworks will be undertaken. However we consider that in the longer term, this is the kind of 'acceptable change' that the District Plan recognises and provides for under Policies B1.4.1 and B1.4.2, a point emphasised by the regional and District Plan's recognition of the importance of utilities.

## **7. RECREATION AND ACCESS**

- 7.1** As noted earlier, Objectives 1 to 3 of Chapter 9 of the RPS provide for present and future generations to gain "..... social and recreational benefits" from the region's water bodies. Subclause (g) seeks to protect the habitat of trout and salmon. Recreation issues figured prominently during the hearing, particularly in respect to angling, kayaking and jet boating.

- 7.2** Chapter 10, Objective 1 of the RPS contains the following relevant subclauses:

*With respect to land use and development within the beds and margins of lakes and rivers, protection, and where appropriate, enhancement of:*

- (e) habitat values of braided river beds;*
- (f) significant amenity and recreation values;*
- .....*
- (h) significant habitats of trout and salmon;*

- 7.3** Chapter 10, Policy 1 expands on this as follows:

*(a) Areas within the beds of rivers and lakes and their margins containing important conservation values are to be identified. These include:*

*(i) areas of natural character;*

.....

*(v) significant amenity and recreation values;*

.....

*(vii) significant habitats of trout and salmon.*

*(b) Land use or development should avoid causing significant adverse effects on the conservation values contained in areas identified in Policy 1(a).*

*(c) Prior to identification of areas under Policy 1(a), land use activities on the beds and margins of lakes and rivers should be undertaken at such times or in such ways that their adverse effects on the following values are avoided or mitigated:*

.....

*(ii) habitats or the unimpeded passage of indigenous fish;*

.....

*(v) natural character or significant landscape values;*

*(vi) spawning habitats or the unimpeded passage of trout and salmon;*

*(vii) amenity and recreation values;*

.....

**7.4** Policy 7.1(f) (iii) in the WRRP seeks to avoid works in the bed of rivers that would disturb salmon spawning sites.

**7.5** We consider that the primary effects on recreation concern the Rakaia and Waimakariri Rivers. We are satisfied that although there will be some impact on recreational values in the Rakaia River as a consequence of the proposed shared take with ACWT, this level of extraction has been anticipated through the Water Conservation Order, and we do not consider the effects on recreational values will be more than minor.

**7.6** Concerns have been expressed particularly by Fish and Game and recreational fishermen that fish passage is not affected through entrapment in the intakes to the headrace canal, and this is to be subject to conditions on the design and size of mesh screens to avoid this outcome. To this extent, we consider that the above two policies will be satisfied.

**7.7** Insofar as the Waimakariri River is concerned, we are of the view that the evidence demonstrated that the original flow regime sought by the applicant would have been contrary to Chapter 10, Objective 1 and Policy 1. However, with the maximum take reduced to 24 m<sup>3</sup> per second and subject to a flow sharing regime, and seasonal restrictions, effects on recreational values will in our view be reduced to an acceptable level when regard is had to Chapter 10, Objective 1 and Policy 1.

**7.8** We recognise that the Waimakariri is a very important river for salmon angling. The evidence indicated that the duration of flows with suitable turbidity conditions may well

increase, but that the salmon angling area available and suitable flow levels may be slightly reduced. We have concluded that any such effects will be minor.

**7.9** We concluded that with additional conditions on the proposed take regime as described earlier the proposed take will not be contrary to the objectives and policies in Chapter 10.

**7.10** Chapter 10, Objective 4 in the RPS is relevant to public access to recreation opportunities:

*Achieve improved and safe public access to and along rivers and lakes and their margins, to enhance recreational opportunities and the ability of Tangata Whenua to exercise kaitiakitanga, where it will not lead to activities which could:*

*(a) adversely affect values identified in Objective 1;*

*(b) compromise the stability and performance of flood control and other essential structures;*

*(c) cause conflicts with activities of land owners or occupiers.*

**7.11** Chapter 10, Policy 7 supports this objective.

**7.12** Policy B1.3.8 in the Selwyn District Plan is also relevant to recreational access:

*Ensure any earthworks, flood protection works, structures or trees that must be located in riparian margins, or access by stock to riparian margins:*

*Allow legal public access along the waterbody where appropriate if such access exists, or is desirable for recreation or Mahinga Kai; and*

**7.13** The CPW scheme involves substantial earthworks adjacent to both the Waimakariri and Rakaia Rivers. This has the potential to affect general public access, and vehicular access for anglers and others to the river margins. We consider that public access for vehicles to the river margins can be achieved (possibly with restrictions during the construction period) through conditions particularly aimed at enabling at least 4 wheel drive vehicular access across the headrace canal.

**7.14** With respect to kayaker safety, and to a lesser extent that of jet boats, we have concluded that this is another matter which can be addressed appropriately through detail design and conditions. In the case of kayaking, we acknowledge that there will still be an additional degree of risk, but as a result of discussions over conditions to be attached to the consent, we have concluded that a satisfactory safety environment for these users can be provided.

**7.15** We do not consider that the CPW scheme is contrary to the objectives and policies relating to recreation. We accept that the Waimakariri take regime included in our decision will still result in some minor adverse effects on recreational amenity but we

consider that it represents a reasonable balance between the use of water for irrigation purposes and the importance of the river as a recreational asset.

## **8. HERITAGE VALUES**

**8.1** Chapter 8 of the RPS, Objective 4 states as follows:

*Protection or enhancement of the historical and cultural heritage sites, buildings, places and areas, including their cultural, recreational and amenity values, that contribute to Canterbury's distinctive character and sense of identity.*

**8.2** Policy 5 supports this objective, which states that these matters are to be reflected in district plans where the heritage character meets the criteria of subchapter 20.4(1).

**8.3** Policy 4 has an emphasis on archaeological values and states:

*To promote the protection of any site or activity that yields evidence of koiwi tangata (human bones) or artefacts (taonga) from violation or desecration.*

**8.4** Policy B3.3.8 of the Selwyn District Plan seeks to:

*Discourage the demolition or destruction of heritage sites or buildings listed in Appendix 3, or the removal of heritage trees as listed in Appendix 4, except where necessary to:*

- Avoid danger to people or property; or*
- Allow reasonable use of the site; and*
  - There are no appropriate options to retain the site, building, or tree.*

**8.5** A considerable amount of the evidence presented throughout the hearing on the topic of heritage focused on the adequacy or otherwise of the assessment undertaken by the applicant. Evidence was presented that in the absence of more detailed knowledge, such as that required for the headrace system at least, consent should be declined.

**8.6** There seems little doubt that the amenity values of the Homebush area – at least in the short and medium term - will be adversely affected, notwithstanding that any buildings, archaeological sites, and protected trees may be "avoided" by the route selected and the consequent large-scale earthworks required. This area was described as having heritage landscape values, and its amenity and heritage qualities appear to be greater than those encountered elsewhere on the headrace corridor. We agreed that the Homebush area in particular contributes to the historic identity of Canterbury, but overall concluded that the character of this area was a section 7(c) and 7(f) matter, rather than outstanding in terms of section 6 of the Act.

**8.7** If the project were to proceed, it is possible that additional archaeological sites would be found to be affected by the project either through prior detailed site investigations required in particular locations as a condition of consent, or during the course of construction in other areas. There is a strong and consistent theme at both regional and district levels for the protection of sites of significance to Tangata Whenua, but there is a dearth of information about these values throughout much of the district. It is perhaps ironic that proposals like CPW raise awareness, if only by default, of these values. We consider that further investigation of both archaeological sites and heritage items in the Homebush/Selwyn River area (but not the whole headrace/ distribution race network) would be desirable to provide greater certainty. However we did not consider that the project as a whole is contrary to the above objective and policies as the most significant heritage features will not be affected by the route of the headrace. For these reasons, we concluded that while the construction of the headrace would not promote the objectives and policies in Chapter 8 of the RPS and Policy B 3.3.8 of the District Plan, it was not contrary to them.

## **9. TANGATA WHENUA**

**9.1** Objective 1 and Policy 5 in Chapter 6 of the RPS provide a framework for matters of importance to Tangata Whenua.

*To enable Tangata Whenua to exercise their relationship, their culture and their traditions with their ancestral lands, water, sites, wahi tapu, and other taonga and to take into account the Treaty principles of partnership and active protection of Tangata Whenua in the use of their lands and waters to the fullest extent practicable.*

### **Policy 5**

*(a) Promote the provision of access for Tangata Whenua to their ancestral lands, water, sites, wahi tapu, and other taonga where appropriate.*

*(b) Promote where appropriate the protection of wahi tapu, wahi taonga and mahinga kai sites of Tangata Whenua from general access where this is required by Tikanga Maori.*

**9.2** Chapter 9, Objectives 1, 2 and 3 and Chapter 10, Policy 1 in the RPS, notably subclauses (c) mahinga kai and (d) waahi tapu and waahi taonga complement these matters.

**9.3** Objectives 5.1 (c-d) 6.1 (c-d) and 7.1 (c-d) of the WRRP, repeats the wording of Chapter 9, Objectives 1-3.

**9.4** Objective WQL 1.1 (Rivers) and 1.2 (Lakes) in the PNRRP seek that water quality be maintained so that it continues provide for Ngai Tahu cultural values including Mahinga Kai.

- 9.5** Policy WQN 4 under the PNRRP identifies 'Mauri' as a factor to be taken into account in setting flow regimes for various 'river types' in the region. The application of these values is not further expanded upon in the "explanation in principal reasons" for the policy.
- 9.6** Objective WQN 1 "Rivers and lakes" enables "present and future generations to access the region's surface and groundwater resources to gain cultural, social, recreational, economic and other benefits, while....." and includes the following two subclauses:
- (c) safeguarding their mauri and existing value for providing mahinga kai for Ngai Tahu;*  
*(d) protecting waahi tapu and other waahi taonga of value to Ngai Tahu*
- 9.7** Ngai Tahu consider that resources have to be considered holistically and not in isolation from each other, and to some extent this approach is reflected in a framework of objectives and policies particularly at the regional level. The approach to the use of natural resources also has a distinct spiritual element to it, which can be contrasted with the more compartmentalised and 'scientific' analysis typically associated with planning assessments. This can make dealing with these issues quite challenging.
- 9.8** The concerns of Ngai Tahu were described during the hearing (D. O'Connell, paragraph 25) as effects related to water abstractions especially from the Waimakariri; effects related to the mixing of waters; effects related to the construction and use of canals; effects related to the use of water on the central plains, and access to resources.
- 9.9** Ngai Tahu place particular importance on the quality of surface waters in the catchment of Te Waihora which is a taonga of fundamental importance to the iwi, and especially as a source of mahinga kai. The lake is subject to the National Water Conservation (Lake Ellesmere) Order 1990, and its bed vested in Te Runanga o Ngai Tahu. Any decrease in water quality could impede the proposed restoration of the lake proposed by Ngai Tahu.
- 9.10** Relying on the evidence of Ms. Jolly on behalf of CPW, Mr. Murray stated in his paragraph 111 "Ngai Tahu were engaged throughout the consultation process, and one outcome was the preparation of a cultural impact assessment". Consultation was described as 'ongoing', but the adequacy of consultation was challenged by Ngai Tahu witnesses during the hearing. The applicant did concede (Murray paragraph 113) that in some locations and instances Ngai Tahu values could be "compromised".

**9.11** We conclude that a reduced take regime that meets other plan objectives and policies would not breach the cultural elements of the objectives and policies listed above. We consider that for the Rakaia, the Water Conservation Order prescribes the flow regime that adequately protects those cultural values.

**9.12** There is no doubt that the *mauri* of Te Waihora has been degraded by the encroachment of farming activities around its shoreline, by discharges primarily sourced from farming, and consequent effects on its contributory waterways. The CPW scheme, even under the best management regime possible, will have the effect of increasing nitrate discharges into the lake. The proposed scheme cannot be seen as promoting the objectives and policies above, but with appropriate conditions and management is not, in our view contrary to them.

**9.13** Policy 14 in Chapter 9 of the RPS addresses the concept of the ‘mixing of waters’, specifically raised by Ngai Tahu. The policy states:

*“Where a resource consent is for an activity which involves mixing of water from different water bodies, information on the effects of the activity on the environment should include effects of the mixing on the cultural values of Tangata Whenua”*

**9.14** Policy WQL 1 (b) in the PNRRP states as follows:

*“water, including water from one catchment being discharged into another part of the same catchment or into another catchment, ensure that:  
(i) the mixing of the waters as a result of the discharge avoids significant adverse effects on Ngai Tahu cultural values; and  
.....”*

**9.15** The CPW scheme would of necessity involve a ‘degree’ of mixing because a continuous body of water would exist between the intakes on the Rakaia and Waimakariri Rivers, however the discharge of waters would be to land and into groundwater from by-wash discharges. The withdrawal of the upper intake, dam and reservoir option has to some extent reduced the potential scope for mixing of waters. Unlike the RDR scheme, the CPW project does not involve water being taken from one river and discharged into another, and the only other direct discharge from one water body to another is by way of emergency by-wash.

**9.16** Evidence from Mr Murray on behalf of CPW (his paragraph 201) was that the discharge of by-wash water would be acceptable to Ngai Tahu, although this did not appear to be at all clear at the hearing. The proposal is that the overwhelming majority of the water taken for irrigation will be discharged to land, and even with the by-wash discharges, there would be no direct discharge into another waterway except in

emergency situations. This is a subject where it is difficult for the Hearings Panel to arrive at a conclusion with any certainty, but we have come to the view that there is not a significant policy conflict, as the waters from one river are not directly discharged into another. This matter is a difficult judgment, but we have tentatively concluded that the scheme is not contrary to the two policies above.

**9.17** A further important issue for Tangata Whenua is access to resources.

**9.18** Chapter 10 of the RPS, Objective 4 states as follows:

*Achieve improved and safe public access to and along rivers and lakes and their margins, to enhance recreational opportunities and the ability of Tangata Whenua to exercise kaitiakitanga, where it will not lead to activities which could:*

*(a) adversely affect values identified in Objective 1;*

*(b) compromise the stability and performance of flood control and other essential structures;*

*(c) cause conflicts with activities of land owners or occupiers.*

**9.19** Chapter 10 Policy 7, supports this objective.

**9.20** We consider that conditions can be imposed to ensure that access to resources can be maintained. With this qualification, we do not consider that the CPW scheme is contrary to the objectives and policies on access. This is a different issue to the environment of those resources, notably Te Waihora, as discussed above.

**9.21** The Selwyn District Plan contains the two policies relating to sites of significance to Tangata Whenua.

**9.22** Policy B3.3.3(a) and Policy B3.3.3(b) state respectively:

*Protect sites within areas recognised in the Plan as Silent File areas, from inappropriate disturbance.*

*Protect areas identified in the Plan as Wāhi Taonga Sites, Wāhi Taonga Management Areas and Mahinga Kai sites, from damage or destruction, whenever practical.*

**9.23** The District Plan focuses on the protection of archaeological sites and areas, in accordance with the Regional Plan. We expect that at least one site, and potentially others which may arise through further investigation and construction works, will be affected by the scheme. However we do not consider that the scale of likely adverse effects on archaeological sites is such as to create a situation where the scheme is contrary to the two policies above. It is considered that further investigation and recording of any sites discovered in known areas of historic occupation should be undertaken in consultation with Ngai Tahu and NZHPT.

## 10. EARTHWORKS AND UTILITIES

10.1 The objectives and policies for the provision of utilities are found in Chapter 12 of the RPS, under the heading of "Urban Growth".

10.2 Objective 1 states:

*Enable urban development and the physical expansion of settlements **and the use and provision of network utilities** to occur while avoiding, remedying or mitigating adverse effects on the environment, including in particular effects on:*

*(a) uses and values associated with water quality of water bodies.*

*(b) flow and level regimes of water bodies, including the flow regimes of spring-fed streams.*

*(c) air quality.*

*(d) natural character of coastal environments, wetlands, lake and river margins that meet the criteria of sub-chapter 20.4.*

*(e) natural features and landscapes that meet the criteria of sub-chapter 20.4.*

*(f) areas of significant indigenous and native vegetation and significant habitats of indigenous or native fauna including native fish, for example, inanga (whitebait), tuna (eel), including those that meet the criteria of subchapter 20.4.*

*(g) ancestral land, water, sites, wahi tapu, and wahi taonga of value to Tangata Whenua.*

*(h) amenity values that meet the criteria of sub-chapter 20.4.*

*(i) heritage values of sites, buildings, places and areas that meet the criteria of sub-chapter 20.4. (j) recreational resources that meet the criteria of subchapter 20.4.*

*(k) energy use.*

*(our emphasis)*

10.3 In addition to utilities being enabled under the RPS, the establishment and operation of utilities is also specifically recognised under the Selwyn District Plan. The RPS refers to 'network utilities' which can be interpreted to include the supply of water by way of irrigation (Section 166(d) of the RMA) and irrigation infrastructure is defined as a utility under the District Plan.

10.4 Objective B2.2.1, Objective B 2.2.2, and Objective B2.2.10 in the Selwyn District Plan state as follows, respectively:

*Utilities are recognised as essential tools for people's economic and social well-being, and to mitigate effects of other activities, on the environment.*

*The provision of utilities where any adverse effects on the environment and on people's health, safety and wellbeing is managed having regard to the scale, appearance, location and operational requirements of utilities.*

*Enable the provision of utility networks that serve extensive areas to be located in rural areas commensurate with operational requirements.*

10.5 The provision of utilities is clearly subject to an assessment of the environmental effects. Nevertheless, it is abundantly clear that both the regional and District Plans anticipate the provision of utility infrastructure including irrigation canals and

distribution races. The promotion of irrigation infrastructure at regional and district levels is an important matter for us to weigh in the balance, particularly in respect to Section 5 of the Act.

**10.6** The next matter to be considered is the physical impact of earthworks.

**10.7** Policy SCN 5 of the PNRRP "Earthworks and vegetation clearance activities" is similar in content to objective BLR 1 above. It calls for the adoption of the best practicable method for reducing erosion where earthworks and vegetation clearance is carried out. Priority areas for establishing clear mitigation measures include situations where work is undertaken on land with a slope greater than 25°. This is significant as the headrace proposed to be established on the Waimakariri and Rakaia River escarpments, will be largely constructed on steeper slopes. The scale of the earthworks would be very substantial with large areas of exposed cut and fill.

**10.8** Objective BLR 1 in the PNRRP contains a similar range of criteria to those considered earlier under the objectives and policies, notably those for the take and use of water under Chapter 9 of the RPS (objectives 1, 2 and 3), and those on the potential effects relating to in-stream values. This policy (subclauses (a) and (b)) concerns the effects of works in or adjoining rivers and requires that works do not result in other land being flooded, or other infrastructure damaged.

**10.9** Policy B1.1.4 and Policy B1.1.5 in the Selwyn District Plan address issues relating to 'unstable land'.

*Require earthworks on slopes to be carried out in ways that minimise the likelihood of land slipping or slumping.*

*Avoid adverse effects on people or their property from locating buildings or infrastructure on unstable land.*

**10.10** Policy B1.3.4 is similar in content to these two policies.

**10.11** We were satisfied that with the imposition of appropriate conditions, and the implementation of management plans characteristic of projects of this nature, issues associated with erosion and sedimentation can be mitigated. We agree with the applicant's observation that there is a compelling incentive for them to ensure their own works do not exacerbate flood potential, erosion, or instability. This is a distinct issue from other adverse effects (for example landscape and amenity values) which may arise from earthworks of the scale proposed in sensitive locations. Our conclusion is that subject to normal prudent engineering practice and management plans for managing erosion and sedimentation, the proposed scheme can be conditioned such

that it would not be contrary to Chapter 12 Objective 1, Objective BLR 1 and Policy SNC 5 in the PNRRP, or policies B1.1.4 and B1.1.5 in the Selwyn District Plan.

**10.12** This leads to the effects of the earthworks on landscape values and amenity. The scale of the earthworks proposed are such that there would be adverse effects on amenity and other values at "the Pinnacles", the river escarpments adjacent to both the Rakaia and Waimakariri, and the base of the Homebush Ridge (Objective BLR 1(g)). The river escarpments are not an outstanding landscape, but the earthworks, although not easily visible from major roads, will have a obvious visual impact for some years.

**10.13** Chapter 7 of the RPS contains policies related to soils, including soil stability and soil versatility issues.

**10.14** Policy 6 states:

*(a) Where consideration is being given to the use, development or protection of land comprising versatile soils, in circumstances where such use development or protection is necessary to achieve the purpose of the RM Act, particular regard shall be had, in the circumstances of the case, to any need to protect such land from irreversible effects that may foreclose some future land use options that benefit from being located on such land.*

*(b) Provided that where a proposed activity will irreversibly affect land comprising versatile soils and there is a choice in the locality between such activity occurring on that land or on less versatile land, the preference shall be to protect versatile land from such activity, unless the proposed activity would better achieve the purpose of the RM Act.*

**10.15** The policy itself is somewhat ambiguous and circular in its logic. Nevertheless, in order to construct and operate the headrace canal and distribution network across the plains, a substantial area of versatile soils will be permanently lost from production. In most circumstances - for example if it were taken for urban expansion, this would be a substantial loss of versatile soils. In this case the benefits from additional productivity on land to be irrigated will substantially exceed that from land which will be permanently lost from production. However it has to be considered in the balance as one of a number of factors which reduce the overall gross benefit of the proposal. It also can be observed that any major irrigation scheme from any other source on the central plains, or which used on farm storage, could result in the loss of as much - or even more, of the versatile soil resource. Mr. Boyes on behalf of the Selwyn district Council (his paragraph 254) did not consider the loss of soils was significant in policy terms.

**10.16** While the loss of versatile soils could be significant for some individual properties, we agree with his conclusions and do not consider the proposal to be contrary to Policy 6. It is also readily apparent to us that irrigation of would on balance reduce the potential for windblown soil erosion and would assist in the implementation of policies in the RPS on soil erosion and enhancing the life supporting capacity of soils.

**10.17** Issues relating to the effect on particular properties are discussed elsewhere in this decision under the section on the effects of the intakes and headrace canals.

## **11. DUST, ODOUR, NOISE AND VIBRATION**

**11.1** Objective 1 in Chapter 13 of the RPS seeks to maintain or improve ambient air quality, including the reduction of nuisance effects. Policy 5 states:

*(a) Activities which require resource consents to discharge contaminants into air should be encouraged to locate away from residential dwellings, educational facilities, hospitals, shops and other similar public buildings unless adverse effects can be avoided or mitigated.*

*(b) Avoid encroachment of new development on existing activities discharging to air, unless the adverse effects can be avoided or mitigated.*

**11.2** Chapter 3 of the PNRRP concerns discharges to air.

**11.3** Policy AQL 6 “Avoid dust nuisance” states as follows:

*(a) Any dust discharge shall not cause corrosion, be noxious or dangerous, or cause objectionable or offensive dispersal or deposition of particles beyond the boundary of the site where the discharge originates.*

*(b) Avoid the encroachment of sensitive activities on existing activities discharging dust into air, unless adverse effects of the discharge can be avoided or mitigated by the encroaching activity.*

*For the purposes of this policy existing activities are those activities which are lawfully established on or before 1 June 2002.*

**11.4** Policy B3.4.14 under the Selwyn District Plan reads as follows:

*Mitigate nuisance effects on adjoining dwellings caused by dust from earthworks, or stockpiled material.*

**11.5** There can be little doubt that during the construction period there will be some potential for dust nuisance, particularly in the vicinity of Coalgate where there is a concentration of major earthworks associated with an elevated headrace canal east and south of the township -albeit in relative terms, quite minor compared to the likely impacts of the original dam proposal. From our understanding of the evidence, construction effects would be confined to any particular location for perhaps 3-6 months during the staged construction of the headrace, and correspondingly less for the smaller scale distribution canals. Nevertheless there will be significant adverse

effects on a temporary basis for those whose homes or businesses are in close proximity to the proposed canal or race networks - the Homebush area and the de Jong business immediately spring to mind in this respect.

**11.6** It is considered that a dust management plan, and the cessation of works close to dwellings during periods of high wind, should be sufficient to mitigate all but short-term effects, which are an inevitable if temporary effect associated with construction of any substantial irrigation project. It is proposed that stockpiled material will be located distant from any dwellings. Again, we are of the view that the scheme will not be contrary to the objectives and policies on dust nuisance, in either the regional or district planning instruments. Potential dust nuisance following construction and grassing of berms of the canal and water race system, is expected to be negligible. Again, bearing in mind that irrigation infrastructure is anticipated by the District Plan in the rural area, and construction activity generally, we do not see the inevitable effects of implementing irrigation scheme is inherently contrary to the objectives and policies of the District Plan.

**11.7** With the exception of objectives and policies dealing with amenity at a very broad level, control of noise and vibration is managed at the district level. Some district plans make specific provision for construction noise to be subject to New Zealand Standard 6803:1999, rather than 'typical' noise controls dealing with permanent site related activities. This is not the case with the Selwyn District Plan.

**11.8** Policy B3.4.11 and Policy B3.4.13 in the Selwyn District Plan address noise and vibration respectively.

*Recognise temporary noise associated with short-term, seasonal activities as part of the rural environment, but ensure continuous or regular noise is at a level which does not disturb people indoors on adjoining properties.*

*Avoid, remedy or mitigate adverse effects caused by excessive or prolonged vibration.*

**11.9** We consider that noise would only be an issue during the construction period, and that noise from pumping stations or drop structures can be adequately managed through conditions. A noise management plan would adequately address noise issues associated with all construction aspects of the scheme, and controlled by requiring compliance with NZS 6803:1999, including consequential restrictions on hours of operation near affected dwellings.

**11.10** We consider that with conditions, any effects of noise and vibration associated with the construction and subsequent operation of the scheme will not be contrary to the two above policies.

## **12. TRANSPORT AND ENERGY**

**12.1** Objective 1 in Chapter 15 of the RPS seeks to enable the provision of a safe, efficient and cost-effective transport system.

**12.2** Policy 1 supports this objective, in terms of focusing on the effects of new activities on the transport network.

*Protect Canterbury's existing transport infrastructure and land transport corridors necessary for future strategic transport requirements by avoiding, remedying, or mitigating the adverse effects of the use, development or protection of land and associated natural and physical resources on the transport infrastructure.*

**12.3** Objective 1 in Chapter 14 of the RPS contains the following overall objective:

*Reduce Canterbury's dependence on non-sustainable energy sources.*

**12.4** Objective B2 .1 .1 in the Selwyn District Plan contains the following relevant transport objective:

*The safe and efficient operation of roads, railway lines and airfields is not compromised by effects of new land uses.*

**12.5** The matters raised during the hearing under the broad heading of transport included the effects of construction vehicles on the roading network, the construction of numerous bridges and culverts across canals and distribution races, the provision of new access points into properties, and energy efficiency. Long-term effects associated with consequent changes of land use following irrigation were also raised.

**12.6** The objective and policy framework in the Regional and District Plans anticipate further intensification of farming activity, and there can be little doubt that as a consequence of irrigation that there will be greater traffic volumes generated as a result of increased farm production. We do not consider that the effects of short-term construction vehicle movements, and those expected in the longer-term as a result of land use change, will have more than a minor affect on the state highway and District Council roading network, as there is substantial capacity available. There will undoubtedly be some disruption to traffic while canals/races are built alongside roads and necessary bridges constructed. However these effects will only be temporary in

nature, and can be satisfactorily resolved through a traffic management plan in consultation with the District Council and the New Zealand Transport Agency.

**12.7** We acknowledge concerns raised through Mr. Williams evidence about energy efficiency associated with transport, but consider that it would be inappropriate to conclude there would be a policy conflict, given that this matter would be logically tackled at the national level through measures such as taxation and vehicle testing standards.

**12.8** Our overall conclusions are that the CPW scheme would not be contrary to the relevant objectives and policies on transport in either the RPS or the SDP.

### **13. PUBLIC SAFETY AND HAZARDS**

**13.1** Objective 1 and Policy 1 in Chapter 7 of the RPS concern issues of soil erosion. The construction of the headrace and distribution race system will involve (cumulatively) very extensive earthworks, although these are distributed over a very wide area. The relevant objective and policy framework in respect to hazards focuses on the establishment of infrastructure and the risk to public safety or of sites that may be subject to natural hazards, rather than hazards that may be created (or perceived) to be created as a result of the establishment of the headrace canal and distribution races.

**13.2** Objective 1 in Chapter 16 of the RPS states as follows:

*Avoid or mitigate the actual or potential costs of loss or damage to life, property, or other parts of the environment from natural hazards.*

**13.3** Objective B3.1.1 in the Selwyn District Plan states as follows:

*Activities do not cause or exacerbate natural hazards.*

**13.4** Policies B3.1.6 and B3.1.7 state as follows

*Avoid multi-storey buildings and critical facilities in the Malvern Hills or High Country*

*Ensure the risk of damage from avalanche, earthquakes or slips is minor when locating buildings, other structures or recreational facilities at high altitudes or on steep slopes.*

**13.5** An issue raised in submissions with respect to kayaking activities, and to a much lesser extent public access to artificial waterways, was safety for members of the public. With respect to these matters, we are satisfied that kayaker safety can be

satisfactorily addressed through conditions specific to the intake sites on each river. We do not consider the scheme is contrary to the relevant objectives and policies.

**13.6** Objective 4 and Policy 7 in the RPS concern access to and along rivers. The relevant provision of the latter states as follows:

*"Maintain and enhance public access to and along rivers and lakes and their margins for the enjoyment of their recreation and amenity values and for Tangata Whenua to exercise kaitiakitanga, except where restrictions are necessary to:*  
*(a) safeguard the conservation values identified in Policy 1;*  
*(b) protect the stability or performance of flood control and other essential structures;*  
*(c) avoid conflicts with activities of land owners or occupiers;*  
*(d) protect public safety".*

**13.7** There will be an artificial network of waterways of nearly 500 km in length associated with the headrace and distribution canals. Matters raised during the hearing also included the physical stability of the headrace canal structures particularly where the canal was elevated, such as in the vicinity of Coalgate where CPW seek to avoid a 'contour route' through the township.

**13.8** The objective and policy framework in the RPS and the District Plan focus on both the extent to which works may exacerbate or create hazards, and secondly the risk to public safety during and following construction activities.

**13.9** It would clearly be of concern if the establishment and operation of the scheme had the effect of restricting access or compromising the safety of those who wish to enjoy the river corridors for their recreational and amenity values. It is expected however that for reasons of public safety, access would need to be restricted at times during the construction period. We did not consider that any of these restrictions would, at least in the long term, be contrary to the objective and policy. It is also readily apparent that the implementation of the scheme would create hundreds of kilometres of additional artificial waterways ranging from the large headrace to smaller distribution races. The existence of these features would undeniably create a potential water hazard, primarily for children. However they are a feature characteristic of, and expected within a rural environment with Ashburton District being an example.

**13.10** We are satisfied that construction activities can be managed such that they do not create an undue hazard to the public, and that any restrictions on access during this time would be temporary. We also satisfied that there is little likelihood that the activities proposed would exacerbate natural hazards, and indeed there is a very strong incentive for the applicant to avoid such an outcome. Finally, while we accept that the existence of an extensive waterway system could be argued to create a potential water hazard, such features are anticipated by the relevant plans and are not

an unexpected feature of a rural environment. We conclude that the scheme is not contrary to objectives and policies in the RPS or the SDP relating to hazards and public safety.

#### **14. SOCIAL AND ECONOMIC IMPACTS**

**14.1** The RPS, and to an even greater extent the PNRRP focus on managing the **adverse** effects of activities on natural resources, particularly water, air and soil. The SDP focuses on managing **adverse** effects on natural and physical resources and on the operation of infrastructure. Both plans appear to reflect the 'permissive' character of the RMA and do not directly seek to promote particular land uses, or indeed activities that may result in higher levels of production from rural land, as might be expected as a result of irrigation.

**14.2** Chapter 12 Objective 2 of the RPS seeks to achieve patterns of settlement that do not adversely affect the efficient operation, use and development of (among other infrastructure ) network utilities.

**14.3** Objective B3.4.2 in the SDP states:

*"A variety of activities are provided for in the rural area, while maintaining rural character and avoiding reverse sensitivity effects".*

**14.4** In recognising that the rural zone policies and rules are not as stringent as those in living zones, the plan recognises the rural zone as an area where a variety of activities can take place and that it has a primary emphasis on business activities (farming and other activity) which are expected to diversify in the future.

**14.5** In effect, any positive economic and social outcomes that might be expected from the irrigation of the central plains are largely reliant on section 5(2) of the Act in terms of enabling the people of the district to provide for their social and economic welfare. In terms of objectives and policies in the applicable Regional and District Plans, the scheme in itself is not contrary to the few objectives and policies of specific relevance.

#### **15. OVERALL CONCLUSIONS ON OBJECTIVES AND POLICIES**

**15.1** There are a plethora of objectives and policies in a number of plans which have greater or lesser significance to the scheme or various components of it.

**15.2** There is no doubt that there will be components of the modified scheme that to a varying degree, are contrary to some objectives and policies. It cannot be credibly

argued that the effect of the scheme is such that there will be no adverse effects on river recreation amenities, components of the central plains landscape, or on nitrate concentrations. In weighing up the objectives and policies however we have to take into account that the proposed scheme **holistically** and measure it against the objectives and policies as a whole, having regard to the nature and intensity of any adverse effects, the effectiveness of mitigation measures, and the ability of conditions to address such effects.

**15.3** Finally we note, that whilst we have had regard to the relevant objectives and policies; our primary focus has been consistency with the purpose and principles of the RMA. We have concluded that the revised scheme is sustainable and in accord with the principles of the Act.

**15.4** As stated at the beginning of this assessment, Objectives 1 - 3 in Chapter 9 of the RPS (and Objective 1 in Chapter 10 ) provide an overarching basis for considering the effects of virtually all the main aspects of the scheme and the potential effects that it generates. On this basis, we have concluded that on balance the modified scheme is not contrary to the objectives and policies as a whole, and particularly when regard to that the fact that irrigation infrastructure is anticipated under all planning instruments we were required to consider.


**Independent Commissioners 28 May 2010**



Philip Milne (chair)



Bob Nixon



Andrew Fenemor



Ray O'Callaghan