

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 6

**The Waimakariri Take
The Rakaia Take**

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1. THE TAKING OF WATER FROM THE WAIMAKARIRI RIVER

- 1.1 In **Minute 9** we set out our preliminary views as to a sustainable take by CPW from the Waimakariri River. Having heard further evidence relating to the amended take regime now proposed by CPW, we were satisfied that with some minor modifications the proposed taking of water from the Waimakariri River at the Gorge Bridge will achieve the sustainable management purpose of the Resource Management Act (the Act) and will accord with the principles of the Act as set out in Part 2. We set out our reasoning for that conclusion in **Minute 12**.
- 1.2 We have in effect through **Minute 12** issued an interim decision in relation to the application by CPW to take water from the Waimakariri river. In that Minute we discussed the potential effects of the proposed take. We set out our conclusions and indicated what we considered to be appropriate restrictions on the take. There was some further debate around some of these conditions at the resumed hearing in March. We further discussed the so called "holiday rule" in **Minute 15** and have outlined our final conclusions in relation to that in Part 2 of this decision.
- 1.3 There is no need for us to repeat the detailed discussions in these Minutes. We note that **Minute 9** does contains some additional discussion of flow requirements for instream purposes and accordingly, both **Minutes 9** and **12** set out the basis for our conclusions in relation to the take regimes for the Waimakariri River. For present purposes it will suffice to set out our key conclusions in relation to the Waimakariri take. These largely repeat the summary contained in **Minute 12**.

Summary of our key conclusions in relation to the proposed take from the Waimakariri River and assessment against Part 2 of the RMA

- 1.4 The issues regarding the taking of further water from the Waimakariri are complex. These issues are important to the Applicant in terms of how much water will be available to it. They are also critically important to the Regional Council as manager (steward) of the resource, submitters and the Community as a whole.
- 1.5 Section 5 of the Act requires us to ensure that the Waimakariri water resource is managed so as "to enable people and the community to provide for their social, economic and cultural well being"and to..... "sustain the potential of the resource to meet the reasonably foreseeable needs of future generations..... safeguard the life supporting capacity [of the river] and adequately avoid, remedy or mitigate adverse

effects on the environment". In this context we must consider the reasonable needs of the applicant to take and use the water and the needs of the community now and in the future to maintain sufficient flows in the river to provide for ecological needs, for present and future recreational use, and for other social and cultural needs.

1.6 Section 6 requires us to "preserve the natural character" of the river and to protect the river from inappropriate development. We must also protect significant habitats of indigenous fauna and recognise and provide for the relationship of Maori with the river.

1.7 Section 7 requires us to have particular regard to a number of matters including maintaining and enhancing amenity values (including recreation amenity) and the quality of the environment, protecting the habitat of trout and salmon, the intrinsic value of ecosystems, the ethic of stewardship, kaitiakitanga and the efficient use and development of the resource.

1.8 The recreational and intrinsic amenity provided by the river are components of social and cultural wellbeing. The Waimakariri provides very high recreational amenity for the following activities:

- Kayaking for the Coast to Coast event and generally for beginner and intermediate kayaking and training downstream of the gorge and for intermediate kayaking in the Gorge.
- Jet boating (most highly used and accessible jet boating resource in the country and highly valued for its braided characteristics).
- Recreational salmon and trout fishing (highly valued and most used salmon fishery, close to the City and readily accessible for much of its length below the Gorge. Along with the Rakaia, Rangitata and Waitaki, a nationally significant salmon fishery and also a valued trout fishery).
- Whitebaiting at the river mouth.

1.9 The river also has other recreational amenity values but those listed above are the most significant. Of these activities, the most sensitive to the take regime are kayaking, jet boating and salmon angling. All of these are addressed to some degree by the WRRP minimum flow, however the evidence we have heard leads us to conclude that the

minimum flow does not by itself provide full protection of amenity values or ecological values.

1.10 We will need to consider the impact of the proposed take regime in terms of any increase in the frequency and duration of sub optimal (low) flows for any of these activities. That impact will vary with the time of year. We will also need to consider the impact of any loss of variability in flows in terms of these activities.

1.11 We must also consider the impact of the proposed take regime on (in no particular order):

- Salmon and trout habitat.
- Salmon passage.
- Recreational uses other than those listed above.
- Ecological values including nuisance algal growths, macro-invertebrate communities, native fish and river bird life.
- Sediment transport and river morphology (braided river characteristics).
- Water quality including assimilative capacity for existing pollutants.
- Recharge of the Christchurch and Kaiapoi aquifers.
- Effects on existing users including in particular Waimakariri Irrigation Ltd and those taking from gallery intakes downstream.
- Maori cultural values.

1.12 In comparing the different mitigation proposals before us, we have been primarily guided primarily by Part 2 of the RMA and the relevant objectives, policies and assessment criteria in the WWRP. We have also had regard to the provisions in PPC1. The result is a list of matters we have taken into account grouped approximately in the following order according to the weight they must be given and their relevance to the issues before us.

Section 5

- Safeguarding the life supporting capacity of the resource
- Sustaining the potential of the resource to meet the reasonably foreseeable needs of future generations
- Enabling people and communities to provide for their social economic and cultural well being
- (adequately) avoiding remedying or mitigating the adverse effects of the take on the environment.

Section 6

- Preservation of the natural character of the river and its margins
- Protection of the significant habitat of indigenous fauna (in particular endangered indigenous bird populations)
- The relationship of Māori and their culture and traditions to their ancestral waters.

Section 7

- Maintenance and enhancement of amenity values (including in particular recreational amenity values) and the quality of the environment.
- The protection of the habitat of trout and salmon
- Kaitiakitanga
- The ethic of stewardship (The regional Council as steward of this public resource)
- The efficiency of the proposed use of the water resource.
- Intrinsic values of ecosystems
- The effects of climate change

1.13 Section 7 requires us to have particular regard to the ethic of stewardship and to kaitiakitanga. Ngai Tahu are kaitiaki of the river, and the Regional Council is the "steward" of the resource on behalf of the Crown and the community. Accordingly in the present hearing we exercise a stewardship role. The rivers can be regarded as the commons which the regional council as steward must manage in the best interest of the whole of the community.

1.14 We have undertaken a balancing exercise focussed on the sustainable management of the Waimakariri River resource. We have balanced the protection of in stream values and river users alongside the out-of-stream benefits of CPW's water take, including

consideration of efficiency and reliability of water use. Our starting point has necessarily been in stream needs rather than the Applicant's needs/preferences. CPW will not have access to as much water as it originally sought and indeed we will be imposing additional restrictions beyond those proposed by CPW at the resumed hearing.

- 1.15** Our role is to evaluate the potential effects of the revised CPW proposal (which is now essentially an irrigation season run-of-river water take), and in the case of this Minute, to decide what mitigation measures should be required through conditions. This is a matter of weighing the effects cumulatively in tandem with the effects of existing takes. Much of the analysis of effects which we have heard is based on the assumption of full exercising of all allocations. We note that even with increased transfers of allocations among users, this worst-case situation will occur only rarely, and that it is the river and its users which benefit from unused allocations.
- 1.16** While our decision will affect any future allocations of water from the Waimakariri in a major way, it is not our role to decide how future allocations should be made. We appreciate that this decision has consequences for the Waimakariri River Regional Proposed Plan Change 1 process (PPC1) decision process. However it is not our role to either decide the PPC1 outcome, nor to require the CPW take to mitigate the effects of other consented takes of water.
- 1.17** We have concluded on the basis of the evidence presented to this hearing, that a Waimakariri flow regime with 1:1 flow sharing for the B permit take of up to 24 cumecs beginning above an Old Highway Bridge (OHB) unmodified flow of around 65 cumecs (41+A+B1 allocations), with some additional mitigating conditions applied, will be sustainable.
- 1.18** Adopting an overall balancing approach, we have concluded that the take will allow people and communities to provide for their economic needs, while at the same time ensuring that ecological and other natural values are sustained and amenity values are not affected in any significant way.
- 1.19** We have concluded that the modified regime now proposed by CPW will, with some additional restrictions, adequately avoid, remedy or mitigate the potential adverse effects (including cumulative effects) of the take to the extent that it will be in accord with the purpose and principles of the Act.

- 1.20** We have concluded that the more restrictive take regime set out in PPC1 is not required in order to adequately (sustainable) mitigate the effects of the CPW take.
- 1.21** The take regime which we consider to be appropriate, will allow CPW during the irrigation season, to commence taking water when unmodified flows at the Old Highway Bridge are at approximately 65 cumecs (m³/second). CPW will be able to take 24 out of the next 48 cumecs of flow, up to approximately 103 cumecs on a one to one basis (out of every 2 cubic metres of B water 1 can be taken by CPW and 1 left in the river). We have also concluded that there should be additional provision for flushing flows to pass unimpeded after periods of 14 days or more of sustained low flow (CPW had proposed a 21 day flow trigger).
- 1.22** We have concluded that to further mitigate adverse effects on recreational amenity, there should be an additional restriction on the take during potential peak usage times in the summer, so that for some of that period, the take can not commence until an unmodified OHB flow of around 75 cumecs. The objective would be to so far as is possible, maintain a residual flow of at least 55 cumecs (when that would have occurred but for CPW). We have set out our conclusions in relation to this condition in **Part 2**.
- 1.23** We are not convinced that the PPC1 recommendation of a 30 cumec gap prior to exercising of B permits has adequately accounted for the effects on scheme reliability. Nor do we consider that it will necessarily achieve significantly better mitigation of potential adverse effects. However we do accept that in relation to recreational amenity that regime may achieve slightly better outcomes.
- 1.24** We heard from many submitters that maintaining variability of flow is important. The main hydrological benefit of the flow sharing now proposed by CPW is to maintain variability of flow when B permit takes begin. One effect of the 30 cumec gap before a B permit take could begin, as proposed under PPC1, would be to flatline flows at around 71 cumecs, in addition to the current 41 cumecs. We prefer to maintain flow variability above the current authorised flat lining.
- 1.25** We summarise here the effects of the proposed water take on uses and values of the river, and evaluate these in more detail below.
- 1.26** In evaluating the impacts of the revised CPW proposal on river ecology and water quality, we have concluded that there will be little detriment to salmon and trout habitat

beyond effects caused by pre-existing takes. Salmon passage will likewise not be further hindered provided provision is made for CPW to stop taking water when a fresh occurs following a sustained period of low flows, and that measure is consistent with the PPC1 proposals.

- 1.27** The objective of protecting river birdlife during the critical September to December nesting period depends primarily on maintaining islands to discourage predation within the braided river system. With the mitigation proposed, the CPW proposal will not significantly affect that.
- 1.28** The incidence of nuisance periphyton (excessive algal growths) can be managed by allowing the bypass of freshes after prolonged low flows 21 days or more of flows at or below 41 cumecs). We note that a condition to this effect needs to apply year-round as algal proliferation can occur any time.
- 1.29** The effects of the CPW take on the productivity of the river ecosystem (primarily macroinvertebrate production for feeding fish and birds) are likely to be minor, as are effects on native fish. Nor were we convinced that the CPW water take would affect downstream suspended sediment concentration, thereby impairing fishability. However a monitoring and review condition would allow adaptive management if this is found to be a valid concern. For the larger sediment fraction we conclude that river morphology and bedload will continue to be dominated by floods and the CPW water take will have no noticeable effect, nor will it materially affect the water quality and assimilative flow available to discharges including Silver Fern Farms (formerly PPCS).
- 1.30** Given the high recreational amenity provided by the river, we have given emphasis to adequate mitigation of the potential effects of the CPW take on recreational users of the Waimakariri. Large takes, such as by CPW, can at times benefit the river for recreation because they draw flows down into more preferred flow bands (below a residual flow of around 100 cumecs). Having said that, we are not convinced that the overall effects on recreational amenity would be an improvement on the current situation and we are of the view that some further mitigation is required.
- 1.31** For the 60-150 cumec flow range preferred by kayakers, CPW would reduce the number of suitable kayaking days between October and March by some 4 to 9%. However it would also significantly increase the number of days in the 40-60 cumec range when kayaking is more marginal. We are concerned about effects at these flows as this would likely coincide with greater usage by families and novices. The same

applies to jet boating. We have proposed an additional restriction on CPW's take during low flows, at weekends and other high use periods for kayaking and jet boating.

- 1.32** Fish and Game made a strong case for protection of angling amenity and given the outstanding reputation of the Waimakariri for salmon angling, we accept the importance of this. Salmon angling success depends not only on a suitable flow regime but water clarity (similar to turbidity) within the range 0.4 – 1.0 metres. Based on a suitable flow range for angling being 70-100 cumecs the CPW take would increase the time that December to April flows are within this range.
- 1.33** We have concluded that the CPW take would not change the duration that the river is suitable for angling in terms of flow and turbidity. The potential effect is on the amount of fishable water available at the lower flows. We are not aware that the amount of fishable water in the braided reaches is currently a limiting factor for angling opportunity. Nevertheless we accept that the increase in the duration of flows where turbidity would be suitable, but angling area and flows would be reduced is a potential adverse effect. The proposed additional low flow mitigation will moderate the impact of flows being drawn below a residual flow of 55 cumecs at the Old Highway Bridge during the peak of the angling season. This will further mitigate effects on anglers beyond the mitigation already provided by the proposed one to one flow sharing. One matter which remains to be considered is which days and months that additional restriction should apply. We invite further submissions on that.
- 1.34** With 1:1 flow sharing and passing of river freshes after prolonged low flows, effects on whitebaiting and remaining identified forms of river recreation are likely to be minor.
- 1.35** With regard to effects on other users of water, we will require conditions which mean the CPW B permit take does not impair the reliability of supply of existing A (and B1) takes. CPW has obtained 1 cumec of A permit allocation from Ngai Tahu Properties so is a member of the group of A permit water users who may choose to share their access to A block water in compliance with ECan's WRRP requirements.
- 1.36** We conclude that Christchurch City water users will not be affected by any reduction in aquifer recharge from the Waimakariri River, as the recharge is relatively insensitive to changes in flow, and we doubt that any change would be measurable. No specific concerns were expressed by iwi about effects of the water take from the Waimakariri, so we conclude that effects on Māori cultural values of the river take are also likely to be minor.

1.37 We are not at this stage convinced that CPW should have access to B class water outside of the irrigation season except so far as that it needed to top up storage. We have no difficulty with CPW having access to unutilised A class water during the irrigation season.

1.38 We have concluded that an appropriate lapse period would be 8 years as for the Ashburton Community Water Trust scheme. We are satisfied that a 35 year term of consent would be appropriate in conjunction with adequate monitoring and intervening review conditions.

1.39 We are satisfied that the flow regime we are proposing will be sustainable and is in accord with objectives and policies of the Waimakariri River Regional Plan. A full assessment against objectives and policies of the WRRP and the PPC1 is set out in **Minute 12**.

Conclusions in relation to the objectives and policies of the Waimakariri River Regional Plan

1.40 For the reasons set out in **Minute 9** we have concluded that the take should be "bundled" with the other water permits to divert and use and the overall water activities should be regarded on a fully discretionary rather than restricted discretionary basis. However while we have concluded that our discretion is not restricted, the activity classification does remain as restricted discretionary. PPC1 does lend support to our view that our discretion should not be limited to the effects of the proposal near the point of take, and to that extent we do give some weight to that part of PPC1 which (but for section 88A) would make the application fully discretionary.

1.41 In terms of the operative plan (WRRP) the starting point is Objective 5.1, which is not amended by PPC1 and rule 5.1 and which limits our discretion to:

The effects the take has on river flows, and consequential effects on those values identified in (a) to (h) of Objective 5.1, near the point of take.

1.42 For the reasons discussed in **Minute 9** and **12** we have concluded that we are not limited to considering effects "near the point of take". However, in case we are wrong in that view, we record that in the context of this plan, we regard the words "near the point

of take" as including the river between the Gorge Bridge and at least the Willows or more sensibly, all the way to the sea.

- 1.43** Accordingly under the operative plan, WRRP, the provision is objective 5.1. The subsequent policies including the amendments proposed in PPC1 are intended to serve that objective. We set out the key provisions below:

Objective 5.1

Enable present and future generations to gain cultural, social, recreational, economic, health and other benefits from the rivers, lakes and wetlands in the Waimakariri River Catchment, and from hydraulically connected groundwater while:

- (a) safeguarding their existing value for efficiently providing sources of drinking water for people and their animals;*
- (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 rivers, lakes and wetlands and protecting them from inappropriate use and development;*
- (f) protecting outstanding natural features, and landscapes from inappropriate use and development;*
- (g) maintaining and enhancing amenity values; and*
- (h) protecting the significant habitat of trout and salmon.*

Policy 5.1

Set and maintain water flow, water level and water allocation regimes and control the taking, use, diversion, discharge and damming of surface water, and the taking of water from hydraulically connected groundwater, while achieving (a) to (h) of Objective 5.1, so that:

(b) below Woodstock (Figure 4 and Map 1):

(i) the braided character of the Waimakariri River, aquatic ecosystems and habitats, wetlands, amenity based on the river, and groundwater recharge from the river, are protected;

Matters restricting exercise of discretion

Environment Canterbury will restrict the exercise of its discretion when deciding to grant or refuse a resource consent, and in imposing any conditions, to the following matters:

(a) The reasonable need for the quantities of water sought, and the ability of the applicant

to abstract and apply those quantities.

(b) The availability and practicality of using alternative supplies of water including alternative public or community reticulated supplies.

(c) In the case of takes from hydraulically connected groundwater:

(i) the effects the take has on surface water flows including the cumulative effects of

the combined take from a person's bore field;

(ii) the effects the take has on neighbouring bores; and

(iii) the effects the take has on other authorised takes.

(d) For surface takes:

(i) the effects the take has on river flows, and consequential effects on those values

identified in (a) to (h) of Objective 5.1, near the point of take;

(ii) the effects the take has on other authorised takes.

(e) The collection, recording, monitoring and provision of information concerning the exercising of the consent in accordance with Section 108(4) of the RM Act

1.44 In essence the key assessment criteria under the WRRP remain unchanged under PPC1 which is focused on a particular method to achieve objective 5.1, rather than on changes to the objective or assessment criteria (except the removal of the words 'near the point of take'). We now discuss these key criteria.

Enable present and future generations to gain cultural, social, recreational, economic, health and other benefits from the rivers, lakes and wetlands in the Waimakariri River Catchment, and from hydraulically connected groundwater

- 1.45** We have concluded that the proposal will allow significant economic benefit to be derived from the use of water from the river by present and future generations without significantly compromising the ability of the river to provide for the cultural, social, recreational, health or other needs.

Safeguarding their existing value for efficiently providing sources of drinking water for people and their animals

- 1.46** The plan and existing consents provide for an allocation for these purposes. We are satisfied that the proposed take will not compromise the availability of ground water for drinking supply purposes in Christchurch or on the north side of the river.

Safeguarding the life-supporting capacity of the water, including its associated: aquatic ecosystems, significant habitats of indigenous fauna, and areas of significant indigenous vegetation

- 1.47** We are satisfied that the proposed take will safeguard the life supporting capacity of the water. In particular we are of the view that the proposed take regime is unlikely to increase the presence of nuisance algal growths, is unlikely to have any more than minor adverse effects on aquatic ecosystems and in particular native fish, trout and salmon and macro invertebrates. We also concluded that with the mitigations proposed it is unlikely to have any more than minor effects on the habitat of significant bird species.

Protecting wahi tapu and other wahi taonga of value to Tangata Whenua

- 1.48** We accept that the Waimakariri River is a taonga. We are satisfied that the proposed take regime will adequately protect that taonga and will not interfere with the relationship of Māori to the river.

Preserving the natural character of rivers, lakes and wetlands and protecting them from inappropriate use and development

- 1.49** We are satisfied that the proposed take will not of itself compromise the natural character of the river in any more than a minor way. In particular, the proposed one to one take regime allows for natural variability in flows to be maintained. We accept that the associated infrastructure will compromise the natural character of the river to a

limited degree, but on balance we do not consider this to require that the take be declined. We do not regard the take or associated infrastructure as being an inappropriate use or development of the resource. We are also satisfied that the take will not affect the braided characteristics of the river.

Protecting outstanding natural features, and landscapes from inappropriate use and development

1.50 We have set out our conclusions in relation to this matter in **Minute 11**.

Maintaining and enhancing amenity values

1.51 We are satisfied that the proposed take with the various mitigations proposed will not have any significant adverse effects (including cumulative effects) on recreational amenity values. The take will slightly reduce amenity values from current levels. In particular, there will be a slightly greater occurrence of lower flows at which the fishable area will be reduced in the middle reaches of the river. To that extent, fishing amenity values will not be maintained or enhanced but we have concluded that this relatively minor impact is sustainable when weighed against the economic benefits of irrigation.

Protecting the significant habitat of trout and salmon

1.52 We are satisfied that the proposed take regime will protect the significant habitat of trout and salmon in the river.

The braided character of the Waimakariri River, aquatic ecosystems and habitats, wetlands, amenity based on the river, and groundwater recharge from the river, are protected

1.53 We are satisfied that the proposed take regime will adequately protect all of these characteristics from harm.

Promote efficiency in the use of water

1.54 We are satisfied that the proposed use of the water which will be taken will be efficient. The proposed use is not wasteful and will be limited to efficient application rates. We also consider that the proposed use is efficient in terms of 'allocative efficiency' (using water where it has greatest value). The proposed take regime will protect instream

values and the water which can be taken will have high value for irrigation and food production. Whether that is the use which has greatest value is not something which we can determine.

The reasonable need for the quantities of water sought, and the ability of the Applicant to abstract and apply those quantities

1.55 We are satisfied that CPW has demonstrated a reasonable need for the quantities of water it has sought during the irrigation season and indeed would prefer have access to more water.

1.56 We are not satisfied that CPW has demonstrated a reasonable need for the same quantities outside of the irrigation season and will include a condition to limit the take to what is needed for the purposes of its currently proposed scheme.

The availability and practicality of using alternative supplies of water including alternative public or community reticulated supplies

1.57 We have considered the availability of alternative supplies of water for the scheme and have concluded that there are currently no such supplies available to the CPW scheme area other than those which CPW has targeted. In our view, the amended scheme makes more efficient use of existing groundwater supplies than the original scheme.

The effects the take has on river flows, and consequential effects on those values identified in (a) to (h) of Objective 5.1, near the point of take

1.58 We have addressed these effects in some detail in this Minute. We are satisfied that the proposed take regime will ensure that any adverse effects are sustainable.

The effects the take has on other authorised takes

1.59 Conditions have been imposed to ensure that the take will have no significant effect on the ability of other consent holders to take at the same rates and volumes as would be the case without CPW.

Proposed Plan Change 1 to the Waimakariri River Regional Plan

- 1.60** During the reconvened hearings in October 2009, we were made aware of by Regional Council officers of Proposed Change 1 to the WRRP, notified on 8 August 2009 (PPC1). This proposes to substantially amend the rules of the WRRP to impose a 30 m³ 'gap' between A band takes and B band takes from the Waimakariri River. Virtually all water available to CPW would come from B band takes, and this plan change would have major implications for the viability of the proposed scheme. Unsurprisingly, CPW was strongly opposed to the PPC1 take regime.
- 1.61** Less controversially, the plan change would also replace the point of measurement on the river from the Main North Road Bridge north of Christchurch, with a new point of measurement at Otarama in the Waimakariri Gorge above Kowai Bush.
- 1.62** Change 1 does not alter any of the objectives and policies in the WRRP or the RPS. Hearings on Plan Change 1 are expected to take place in mid-2010. Despite being at an early stage in the statutory hearings process, we were urged to place significant weight on the change. The applicant strongly contested the take regime proposed through the rules contained in Change 1, promoting instead a 1:1 sharing regime above the A band takes.
- 1.63** For the reasons set out in **Minute 12**, we decided we could not attach much weight to the new take regime in Proposed Plan Change 1. Firstly, section 88A freezes the activity status of the proposed take to what it was at the time the application was lodged. Secondly, submissions have not been heard on the PPC1 and it may change as a result of that process or appeals. Thirdly and perhaps most importantly, our decision must be based on the extensive evidence presented to us through the hearings process. However, as part of the consideration of the effects of the modified proposal, we did consider the costs and benefits in principle of both a "gap" regime and one based on 1:1 sharing.
- 1.64** The ECan officers recommended that we the CPW take regime be in accordance with the 30 cumec gap between A and B takes as set out in PPC1. However for reasons summarised below and dealt with in more detail in **Minutes 9** and **12** we have decided on a different regime. We concluded that on balance, a 1:1 sharing regime with some additional restrictions, would be sustainable and consistent with the purposes of the Act. Our rationale for this conclusion is set out in **Minute 12** and accordingly need not be repeated here.

- 1.65** We have discussed the weight to be given to PPC1 in **Minute 12**. PPC1 does not change Objective 5.1 or the first part of Policy 5.1 of the WRRP. The new Policy 5.1 (2) and resulting changes to rules is a method of achieving Objective 5.1. We consider that the take regime proposed by CPW, along with the minor adjustments which we have signalled, will achieve the same purpose and will also achieve the purpose of the first part of Policy 5.1 which has not changed.
- 1.66** We have focused on the objectives of the WRRP. We have considered the rationale for the proposed gap between the B1 and B blocks, and have concluded that the gap is not required to mitigate the effects of the CPW take. The first rationale is to avoid "flat lining" the river. The CPW proposal avoids this and maintains natural variability better than the PPC1 proposal. The PPC1 proposal would increase flat lining, albeit that the additional flat lining would be at a flow around 70 cumecs which is considered suitable for most recreational activities and instream needs. Such flat lining would be additional to that which currently occurs at 41 cumecs. We are not convinced that having flat lining of the river at 70 cumecs is desirable. The evidence we have heard suggests that maintaining natural variability above the minimum flow is desirable.
- 1.67** The second rationale for the PPC1 regime is to maintain flushing flows "that are important in washing algal growth and sediment from the river bed." As discussed above, we are satisfied that the proposed CPW take regime, including the more precautionary flushing condition, will maintain flushing flows at least as well as the PPC1 regime.
- 1.68** The third rationale for the gap, is to ensure variability for river users. The CPW regime will also do this and in our view, by avoiding flat lining at 70 cumecs may do so better than PPC1.
- 1.69** Another reason for the proposed gap, is to maintain flows for longer periods in preferred flow ranges. As discussed above, we have concluded that the CPW take regime with one modification, achieves this adequately. In our view, the slight reduction that the river will spend in some preferred ranges will not have any significant adverse effects on recreational amenity or ecological values. To the extent that the PPC1 regime would increase the time spent in preferred ranges, as compared to present, we note that CPW is not required to mitigate the effects of existing consented takes. However, we do accept that PPC1 may provide slightly "better" mitigation of effects on recreational amenity than the CPW proposal. We also acknowledge that our suggested additional

mitigation measure is in practice a B gap approach albeit that the gap would be rather smaller and would only apply for limited periods.

- 1.70** Finally, the proposed gap is said to provide some leeway for the existing minimum flow to be reviewed if required. We think that this is a matter for future changes to the Plan and for the review process rather than a rationale for a gap.
- 1.71** The documentation in support of the proposed gap does acknowledge that there would be costs in terms of reliability of supply for irrigation. We are not sure whether the Council has fully assessed these costs, in comparison to the benefits of the proposal. We have done so and have concluded that most of the benefits of the PPC1 can be achieved at significantly less lost opportunity cost by way of the proposed CPW 1:1 take regime with the addition of a reduced (10-15 cumec) B gap only applying at times of peak recreational use. In our view this is a more efficient and sustainable outcome.
- 1.72** We appreciate that if our decision is upheld, the proposed amendments to Policy 5.1 and resulting amendments to standards and rules will need to be revised. Whilst we value the work that has been put into PPC1 and understand and agree with the reasoning for the proposed changes, we have more information available to us to assess an appropriate take regime than the Council had when it proposed the change. We have concluded after a thorough review of the evidence provided, to this hearing, that Objective 5.1 of the WRRP can be adequately achieved with the conditions proposed and without the 30 cumec gap. The consequences of this in terms of the future of PPC1 is not a matter which we think we should put much weight on.

Conclusion in relation to the Waimakariri take

- 1.73** We have concluded that the revised take regime which we have required for CPW's Waimakariri take will be sustainable and will avoid, remedy or adequately mitigate adverse effects on recreation amenity, ecology and other parts of the environment. The take will be reduced by approximately 30% of the take proposed under the original scheme.
- 1.74** The key elements of the take regime are as follows:
- *The take will be subject to the existing minimum flow regime and existing A and B permit takes. Accordingly it will not affect the frequency and duration of flows below the A/B permit transition.*

- *The maximum take diverted for irrigation purposes will now be 24 cumecs rather than the originally proposed 40 cumecs.*
- *There will be very little take outside of the irrigation season because CPW will be limited to only so much as is required to top up on farm storage.*
- *The take will be subject to one to one flow sharing from the commencement of take at 66.1 cumecs as measured at the Old Highway Bridge (CPW will only be able to take one cumec for each additional two cumecs of flow).*
- *In addition the take will be subject to the so called "holiday rule" which will limit its take to 6 hours per day (largely overnight) during summer weekends, public holidays and some weekdays during the peak recreation season. This is directed at maintaining adequate flows downstream of the Crossbank during high use periods for kayakers and jet boaters.*
- *During these periods the take cannot commence until an unmodified flow of **around 75 cumecs as estimated at the old highway bridge**, thus maintaining a residual flow of **at least 55 cumecs**.*
- *No takes during the coast-to-coast event.*
- *After sustained periods of low flow (more than 21 days of flows less than 41 cumecs), CPW will be required to let the first fresh pass through unimpeded as a flushing flow.*
- *Rakaia water will be taken in preference to Waimakariri water and when sufficient water is available from the Rakaia no water will be taken from the Waimakariri. (An average rate of take for the Rakaia and Waimakariri rivers of 26.35 and 5.18 m³/s respectively).*

2. THE TAKING OF WATER FROM THE RAKAIA RIVER

Introduction and description of the application

- 2.1** The water permit application CRC021091 to take water from the Rakaia River is a joint application by the Ashburton Community Water Trust (ACWT) and CPW to take up to 40 m³/s (cumecs) from the river. The proposed CPWT take is on the north side of the river slightly downstream of the proposed ACWT take which is on the South bank some

5km downstream of the Gorge bridge. The CPWT take is for irrigation purposes whereas the ACWT take is for hydro-electricity generation purposes. The takes are at different locations, for different schemes which are not connected in any physical sense. However there is an agreement in place between the two applicants as to which party would be able to take at any time. In practice this means that during the irrigation season CPW will have priority over ACWT and outside of the irrigation season CPW will require very little water under its revised scheme. Accordingly in Winter ACWT will have priority.

Rationale for dealing with the ACWT and CPW takes separately

- 2.2** We ended up hearing and deciding the ACWT applications separately from the CPW applications. Our decision was released on 25 May 2009 and was not appealed by any party. This included granting ACWT a water permit to take water from the Rakaia on the south bank, separate from the consent which we are now granting to CPW to take on the north bank.
- 2.3** For the record, we set out below our reasoning for deciding to grant the ACWT water permit to take (CRC093683) separately from the CPW consent (CRC021091).
- 2.4** Section 103 is not applicable. That section requires that where there are two or more applications for consents being heard by the same consent authority in a joint hearing in relation to the same proposal then there must be a joint decision unless the authority is of the opinion that the applications are sufficiently unrelated so that it is unnecessary to decide the applications together.
- 2.5** The proposals by ACWT and CPW are for entirely different schemes. Even if one regards the joint application as being one proposal to take water by two different persons for different purposes, then section 103 still does not apply because there is only one application in that category. The rest of the ACWT applications relate to a different proposal from the CPW applications.
- 2.6** Nevertheless, in case we are wrong on this point, we record that we have concluded that the CPW and ACWT applications and the two parts of the joint application are sufficiently unrelated so that it is unnecessary to decide the applications (or both parts of the joint application) together. In particular:

- The two components of the joint application relate to different intake points on opposite sides of the river and there is no physical linkage beyond the fact that the takes would both be from the same river.
- The purpose of the two component takes is different: one is for irrigation and one is now for a hydro generation scheme.
- The ACWT scheme is totally unrelated to the remainder of the CPW applications and its Notice of Requirement.
- The effects of two takes for up to 40 cumecs authorised under two consents will be the same as the effect of two takes for up to 40 cumecs authorised under one consent.
- The effects of the ACWT take on the river and on other consent holders can be determined without knowing the outcome of the CPW scheme.
- The effects of the proposed CPW take on the river and on other consent holders can be determined without knowing the outcome of the ACWT scheme.
- Whilst the applicants have decided to apply together they could have (and normally would have) applied separately and been determined separately.
- For administrative efficiency and accountability it would be preferable that each has its own consent given that the takes are by different persons for different purposes at different locations.
- The combined hearing has allowed us to assess the effects of the total take applied for. Issuing a joint decision will not add to our understanding of those effects.
- The applicants intended to separate the consents in any event.
- If there are appeals against the ACWT decision (and there have been none), the Environment Court will still have the option of amalgamating those appeals with any appeals on the CPW proposal if it thinks fit.

- If the Court confirmed both consents it could grant them as one if it considers that to be necessary.
- In our view the applications would normally have been made separately and whilst we understand the strategic reasons for amalgamating them, we do not see that as being necessary for our decision making process.
- In our view no submitter or potential submitter will be prejudiced by us making a separate decision on either application.
- In particular, we do not see how Synlait will be prejudiced by this approach.

2.7 The only link between the two schemes is that the two applicants have decided to make only one application to take from the Rakaia. There is also an agreement between them as to how the allocation would be shared between the two takes. The applicants have signalled that they had intended eventually to separate any joint consent which might be granted. It seems that the sole reason for the joint application was to avoid any competition between ACWT and CPW, in terms of the first-in first-served system.

2.8 We accept that because there was a joint application it was appropriate and perhaps essential to hear evidence relating to each proposal concurrently so that we could understand the interrelationships between the two schemes. That is also what Synlait requested in its submission. However we do not agree that it was necessary for us to issue one decision on the joint application. That might have been the case if there had been a joint take point, but as it is, the schemes are physically unconnected beyond the fact that they take from the same river.

2.9 We accept that the instream impact of the joint application if granted and the impacts on Synlait will derive from the net effect of both takes. Accordingly the conditions of both consents are directed at the combined effects. Thus both consents need to ensure that the provisions of the Water Conservation Order are met and that the cumulative effects of both consents and other consents are sustainable.

2.10 Both also need to ensure that there is no substantial derogation of the Synlait consent or consents if such are confirmed on appeal. However, we cannot see any reason why all of this cannot be achieved by way of consecutive decisions granting separate consents. Indeed given that the intention has always been to separate the consent once granted, it would seem sensible that the panel which has heard the evidence does that now

rather than leaving it to be sorted out by officials later. Both applicants agreed to our suggestion that the consents be split and no party appealed our decision in relation to Synlait.

2.11 We of course need to ensure that both consents have consistent conditions and ensure that the single consents together can have no greater effect than a joint consent would have. The conditions of both will ensure that the requirements of the WCO are met and that the exercise of both consents separately or together, does not give rise to any significant derogation of the rights of other consent holders.

2.12 Separate consents will in total give rise to no greater or different effects than one combined consent. We cannot grant consent for more than what was applied for (a total of up to 40 m³/s whenever available and whenever that would not affect priority rights). In either event (joint consent or separate consents) the conditions of consent can and will constrain the effects to the same degree.

Interrelationship between the ACWT and CPW consents

2.13 The application is for CPW and/or ACWT to be able to utilise up to the full 40 m³/s at any time when the existing consents and the WCO would allow for that, but for the total from both takes (after bypass returns to the river) to never exceed 40 m³/s. Both applicants proposed that the water permit (or now permits) would not specify which party may take the water at any particular time; instead that is left to a side agreement between ACWT and CPW.

2.14 As we understand it, once both schemes are operating, CPW would have priority to the water during the irrigation season and ACWT would be able to take such of it as is not required by CPW. Outside of the irrigation season ACWT would have access to all of the available allocation, unless CPW requires some of that for storage. However it now only proposes 45MCM of storage.

2.15 Ms Appleyard acting for ACWT told us that the latest memorandum of agreement between CPW and ACWT provides that ACWT will receive 44% of the water available to be taken at any given time as granted under CRC093683 and CRC021091, plus the Glenroy consents which allocate up to 1.96 m³/s. This will give a 'first call' entitlement to ACWT of about 16 m³/s (based on all currently available water in the Rakaia).

2.16 The ACWT take consent included a condition which would limit the total take by CPWT and ACWT to a maximum of 40 m³/s, and we have proceeded on the same basis for the CPW Rakaia take.

2.17 In our **Minute 12** we suggested that CPW develop conditions for discussion among the parties, similar to those which we developed for granting the ACWT water permit, to ensure that both consents together comply with the minimum flow, one-to-one flow sharing and maximum allocation rules in the WCO. The final form of conditions proposed by CPW and the officers is somewhat different from the ACWT permit, but we are assured by the officers that the conditions proposed are not inconsistent with the approach adopted for ACWT. We have also been assured that the proposed conditions will ensure that the provisions of the WCO are met.

Decision making framework

2.18 The Rakaia River Water Conservation Order (WCO) is the primary instrument governing the taking of water for the ACWT and CPW schemes. The statutory assessment of the applications includes the legislative requirements of Part II (sections 5, 6, 7 and 8) and the more specific sections relevant to this application that are contained in Part VI of the Act (sections 104, 104B, 105 and 107). So far as the taking of water is concerned this is governed by the WCO and there is no take regime set out in the PNRRP. There are some relevant objectives and policies in the Regional Policy Statement but they really add little to what is already required in terms of Part 2 of the RMA and the WCO.

Consistency with Rakaia Water Conservation Order take regime

2.19 Section 217 of the RMA prohibits us from granting any water or discharge permit which would be contrary to any provision of the Water Conservation Order and requires us to include conditions adequate to ensure that the provisions of the Order are maintained.

2.20 Relevant provisions of the WCO in terms of water quality and natural character include:

Clause 3 that states the outstanding characteristics and features of the Rakaia River and its tributaries include:

(a) *an outstanding natural characteristic in the form of a braided river; and*

(b) *outstanding wildlife habitat above and below the Rakaia Gorge, outstanding fisheries, and outstanding recreational, angling and jet boating features.*

2.21 There is a specific minimum flow which varies from month to month. Once the flow as measured at the Rakaia Gorge bridge drops below the specified minimum flow all takes must cease, apart from some pre-existing stock water takes.

2.22 Clause 7(4) requires that "*while the gorge flow exceeds the minimum gorge flow by 140 cubic metres per second or more, the flow in the river shall not be reduced by abstraction or diversion by more than 70 cubic metres per second*".

2.23 In addition, the taking of water under the WCO is subject to a *one-to-one sharing rule* when the flow at the Gorge bridge exceeds a minimum flow which varies from month to month, up to 140 m³/s above that minimum flow. (i.e. for every cumec of water abstracted from the river, a cumec of water is left in the river for in-stream values/uses).

2.24 Clause 9 refers to water rights and general authorisations (now water and discharge permits, and permitted activity rules). It states in sub-clause (2) that water rights and general authorisations shall not be granted or made for any discharge into the Rakaia River downstream of its confluence with the Wilberforce River, if the effects of the discharge would be to breach the following provisions and standards [our emphases]:

(a) ***any discharge is to be substantially free from suspended solids, grease and oil;***

(b) ***after allowing for reasonable mixing of the discharge with the receiving water –***

(i) the natural water temperature shall not be changed by more than 3°C.

(ii) the acidity or alkalinity of the water as measured by the pH shall be within the ranges 6.5 to 8.3, except where due to natural causes.

(iii) the waters shall not be tainted so as to make them unpalatable, nor contain toxic substances to the extent that they are unsafe for consumption by humans or by farm animals, nor shall they emit objectionable odours.

(iv) there shall be no destruction of natural aquatic life by reason of a concentration of toxic substances.

(v) the natural colour and clarity of the water shall not be changed to a conspicuous extent.

(vi) the oxygen content in solution in the water shall not be reduced below 6mg/L.

(vii) based on not fewer than 5 samples taken over not more than a 30-day period, the median value of the faecal coliform bacteria content of the waters shall not exceed 200 per 100ml.

2.25 It is of note that (b) makes allowance for reasonable mixing whereas (a) does not. We discussed our interpretation of this provision in the ACWT decision.

What is the effect of the Rakaia Water Conservation Order

2.26 As noted above, section 217 requires us to ensure that the provisions of the Rakaia WCO will be met if we grant consent. There was some debate around whether the WCO also creates a presumption in favour of the grant of a conforming consent to take water from the river. Original senior counsel for CPW Dr (now Justice) Wylie submitted that the WCO has the purpose of protecting instream values and that accordingly, provided the provisions of the order will be met by any proposed take, the take should be granted. In other words, the submission was that the WCO takes care of instream values and we need not consider instream effects further and cannot impose more onerous restrictions (eg higher minimum flows). Fish and Game, the Department of Conservation and others strongly disagreed with that position and we expressed some reservations during the CPW opening as to whether that is the correct position.

2.27 Ms Appleyard for ACWT adopted a different position from Dr Wylie. She was of the view that the Order did not create any presumption in favour of the grant of a compliant consent and that there was no necessary barrier to imposing conditions more stringent than the WCO. However she was of the view that the terms of the order are a relevant matter under section 104.

2.28 Mr Burns, legal counsel for Malvern Hills Protection Society took a similar position:

The Rakaia River National Water Conservation Order does not provide a licence to take as much water as can be taken, and for whatever purpose an applicant chooses, as long as the minimum flows in them are maintained. Any water take proposal has to meet the sustainability test in the Act.

2.29 Neither the proposed Natural Resources Regional Plan (PNRRP) or the Transitional Regional Plan provide any more detailed rules for the taking of water from the Rakaia. The taking of water from the Rakaia is therefore a discretionary activity pursuant to section 77C(1)(a) of the Act. Accordingly we have discretion under section 104B to grant or refuse the application to take water from the Rakaia. The fact that the WCO allows takes up to an aggregate limit of 70 m³/s does not create a presumption that taking up to that limit and subject to the other flow limits is necessarily sustainable. There is no statutory or case law support for a positive presumption.

2.30 We also note that the WCO is directed at protection of certain listed *outstanding characteristics*. Whilst that includes the most important characteristics of the river it does not include them all. For example, the WCO does not address the protection of landscape values, macro-invertebrates, or the Mauri of the river. We appreciate that the WCO was determined in the context of the best evidence available at the time and there is now two decades of additional experience to draw upon.

2.31 We can and do put some considerable weight on the fact that the flow regime prescribed by the WCO was seen at that time (pre-1988) as being sufficient to protect the outstanding values identified in the order. We also note that there has been no application to vary the WCO. Nor has there been any decision by ECan to impose more restrictive provisions by way of Regional Rules. Accordingly, we are entitled to conclude that the community accepts that the WCO provisions provide adequate protection to instream values. We have nevertheless considered whether the proposed take subject to the suggested conditions (based on the WCO rules) will achieve the purpose and principles in Part 2 of the Act. For the reasons set out in our decision in relation to ACWT and in this decision we have concluded that it will. In particular we have heard no evidence which suggests to us that the WCO provisions do not provide adequate protection. That is perhaps unsurprising given that the objective of the WCO was conservation rather than sustainable management. Accordingly, if anything it is likely to be conservative in its approach to further abstractions.

The abstraction limits

2.32 The consent conditions must ensure that *'the flow in the river shall not be reduced by abstraction or diversion by more than 70 cubic metres per second'*. This could be interpreted as meaning that the total abstraction downstream of the Gorge must not exceed 70 m³/s. However, in our view the WCO is directed at ensuring that the residual flow is not reduced by abstraction at any point in the river by more than 70 m³/s below what it would otherwise have been. (We discuss this point in more detail in the ACWT decision.)

2.33 Determining the current total allocation and therefore the remaining available allocation has been a matter for some discussion. This issue was raised by Mrs Snoyink and Mr Wardell for Malvern Hills Protection Society, and by Mr Holland for Fish and Game. Mr Tipler based his modelling on 34.3 m³/s having already been allocated, Mr Borrie for ACWT advised that current (net) allocations within the river total 34.5 m³/s, and Mr Duncan for ECan cited January 2008 figures of 33.84 m³/s. Neither the 6 m³/s of Synlait's Band 2/3 allocations have been included in this figure, nor the further 6 m³/s of Band 5 which it has applied for and awaits a hearing. The 17 m³/s granted to Barrhill-Chertsey Irrigation (BCI) and available for use by ACWT has been taken account in these figures.

2.34 We noted as follows in our **Minute 12**, that CPW has a 10 year agreement with Barrhill Chertsey Irrigation Ltd (BCI):

In relation to the proposed water take from the Rakaia River, the only change from the original proposal is CPW's agreement with Barrhill-Chertsey Irrigation Ltd (BCI) to take up to 7 m³/s of its consented allocation. This agreement is for 10 years, and assuming CPW is in operation within that time, this would mean that more scheme water can be sourced from the Rakaia, resulting in less demand from the Waimakariri. However as the agreement is of limited duration and our role is in effect to identify an envelope of sustainable takes from each river, we have not put any weight on that agreement.

The CPW consent will allow for this agreement and others to operate provided the requirements of the WCO are met.

2.35 Mr Fietje in his supplementary evidence suggested that the current allocation figure should include *'groundwater takes which remove substantial additional water relatively quickly'*. We agree that is the intent of the WCO. We are also of the view that

diversions of water that remain within the riverbed for all but a short distance, such as bypass flows, should not be included for the purpose of calculating compliance with the WCO. Both Mr Tipler in his supplementary evidence for CPW and Mr de Joux for Fish and Game confirmed that ECan had updated the total existing allocation figure to 36.5 m³/s and we understand that figure to be based on those presumptions.

- 2.36** Mr Fietje advised that ECan proposes to 'tidy up' the Rakaia band allocations via a plan change, and we agree that this would be desirable to clarify the total allocations, including connected groundwater takes, because it is critical that all parties are clear on how the 1:1 sharing is being implemented, and when the 70 m³/s limit has been reached at any point along the river. We have found the current WCO take regime overlaid by the informal Band system to be somewhat confusing.
- 2.37** On our interpretation of the WCO, the *total allocation* of takes from the river (which is the basis of the Band approach) does not paint the full picture in terms of compliance with the allocation limit or minimum flows in the order. The critical figure is the amount of water actually being taken out of the river at any particular point at any particular time.
- 2.38** The consent conditions must be worded so as to ensure that exercise of the consent in conjunction with all other consents operating at a particular time does not cause *the flow in the river (at any point) to be reduced by abstraction or diversion by more than 70 cubic metres per second* from what would otherwise have been the case at that time. In calculating this, one must make allowance for whatever is being returned by ACWT or any other party to the river. We have however disregarded the Highbank discharge, since there is no obligation for that to occur.
- 2.39** For the purpose of consent conditions for ACWT, the critical figure to know was the amount of water already allocated for abstraction between the ACWT take and its discharge. The irrigation season and winter figures were provided to us for our ACWT decision and verified by ECan officers. During the irrigation season (September to April) up to 22.031 m³/s may be taken in this reach including the BCI take. In winter the figure decreases to 1.139 m³/s since BCI and other irrigators will not be taking.
- 2.40** These figures include the Synlait consent which is under appeal but exclude its application for band 5 water which has not yet been heard. The depletion figure used in the conditions will need to be adjusted if Synlait obtains priority band 5 water since its intake would be upstream of Barrhill. Correspondingly if it does not obtain a priority

consent for the application which is under appeal, the figure will also need to be adjusted.

- 2.41** These figures and ACWT consent conditions are also relevant to the CPW take since consent conditions for CPW must also ensure that the cumulative take at any point along the river does not exceed 70 m³/s and ensure that the one-to-one flow sharing requirements and minimum monthly flow requirements of the WCO are not breached.
- 2.42** The consent which has been granted to Synlait but which is under appeal relates to band 2/3 water. This has been accounted for in the total existing Rakaia allocation figure described above (36.5 m³/s). However, in determining the actual allocation above the ACWT outfall at Barrhill (i.e. 22031.14 l/s reducing to 1138.70 l/s in winter) it has been noted that the consents that Synlait intends to exercise in band 2 & 3 are located downstream of the ACWT scheme. This means that **if** Synlait gains priority for Band 2/3 water and is taking that water above the Barrhill discharge, ACWT and/or CPW will need to reduce their take rates accordingly (through a s127 review provided for in conditions). This has been provided for in the ACWT conditions, and will similarly be provided for in CPW conditions.
- 2.43** Both CPW and ACWT sought that their take consents allow for the possibility of them taking water which is currently within another person's 'allocation' when that allocation is not being utilised. In our view that approach is consistent with the WCO since as noted above that seems directed at maintaining instream flows rather than limiting a legal allocation. We do not consider that such an approach is contrary to the *Aoraki* decision provided that the subsequent consent cannot be exercised so as to limit the taking or diversion of water by existing consent holders at times when they are authorised to take and use the water.
- 2.44** The detailed discussion above illustrates to us that day-to-day exercising of all take consents affecting Rakaia flows in compliance with WCO rules and consent conditions will need some system within ECan to (a) track and preferably have publicly available the actual allocations on any particular day and (b) some form of monitoring preferably real-time and also publicly accessible to manage cumulative water takes on any particular day within the WCO limits at all take points along the Rakaia River.

Assessment of effects and the permitted and reasonably foreseeable environment

- 2.45** In assessing the effects of the proposed CPW take we have compared the effects of the take against the existing environment including existing operating consents. We have also included as a given, the effects of the ACWT and Barrhill Chertsey Irrigation (BCI) consents which have been granted but are not yet operating. Those consents form part of the reasonably foreseeable future environment and the effects of those consents have been approved and not appealed. Accordingly, we have concluded that when assessing the effects of the CPW proposal, we should exclude effects which have already been considered in relation to ACWT and focus on any additional effects from the CPW proposal plus any cumulative effects which CPW may have in conjunction with the effects of ACWT and BCI.
- 2.46** The ACWT take is for a maximum of 40 m³/s subject to the restrictions in the WCO. That consent allows ACWT to take up to the limits provided by those restrictions all year round. CPW is seeking to take no greater volume than ACWT and the combined rate of take by both parties at any time will not exceed 40 m³/s or such lesser amount as required by the WCO. Accordingly, it follows that the CPW take can not have any greater effect on flows or river ecology than the ACWT consent at least down as far as Barrhill.
- 2.47** Under the ACWT consent it will discharge all of its take back to the river at or upstream of Barrhill. However if the BCI scheme proceeds, only up to 23 m³/s will be returned over the irrigation season.
- 2.48** The key difference between the CPW take and the ACWT take, is that CPW will not be returning the water it takes to the river. The other difference is that CPW is seeking to take 40 cumecs **in addition** to BCI whereas ACWT only has consent to take 23 cumecs in addition to BCI.
- 2.49** In summary, the maximum combined effect of CPW and BCI on flows is 57 cumecs of which 17 cumecs has already been considered in relation to BCI and a further 17 considered and consented in relation to ACWT. (at least as far as Barrhill). Accordingly in relation to CPW we need only consider the effects of an additional maximum of 17 cumecs of depletion from its intake to Barrhill and 40 cumecs of depletion from there to the sea.

- 2.50** The effects of a maximum of 40 m³/s take between the ACWT intake and Barrhill have already been found to be sustainable in relation to the ACWT application and do not need to be further considered here.
- 2.51** Downstream of Barrhill 17 m³/s of the 40 m³/s going through the ACWT/BCI scheme does not need to be returned to the river. Accordingly, the additional effect of CPW downstream of Barrhill is a maximum of 23 m³/s (40 minus 17 already consented as a non return).

Assessment of effects of proposed water take on flows

- 2.52** We heard evidence from Mr Tipler on behalf of CPW regarding the effects of the proposed take on downstream flows. We also heard evidence from Mr Borrie for ACWT on the same matter. Regional Council officers discussed the administration of the WCO and the informal "banding" regime that has been developed to implement the order. Neither Mr Fietje nor Mr Duncan for ECan expressed any concerns regarding the hydrological or instream effects of the proposal.
- 2.53** What we have discussed above are **maximum** potential effects on river flows. However, the impact of such reductions is tempered significantly by the restrictions in the Water Conservation Order. In practice this means that CPW (and ACWT) could only commence their takes at relatively high flows and could only take at the maximum rate at even higher flows.
- 2.54** Mr Tipler presented modelling of the effects of a 40 m³/s CPW take on the frequency and duration of river flows. We had that information based on the scenario that Synlait has priority and has consent and on the alternative. The modelling proceeded on the basis that none of the 40 m³/s is being returned. However, in practice if ACWT proceeds most of the 23 m³/s will be returned except during the irrigation season when (subject to the WCO) all 40 m³/s could be taken by CPW for irrigation.
- 2.55** Hydrological analysis by Mr Duncan for ECan and Mr de Joux for Fish & Game confirmed that the WCO monthly minimum flows combined with 1:1 flow sharing mean that:
- flow variability is maintained in the Rakaia;
 - there is no flat lining of flows;

- the time the river will be at or below the 7-day MALF (94.8 m³/s) will not change

2.56 Mr de Joux’s analysis concluded that based on the conservative assumption that all take consents including ACWT/CPW are fully exercised, the median summer river flow would be reduced by 16% from the unmodified flow; the proposed abstraction reduces the median flows for October to January from their pre ACWT/CPW values by only 0.5%, 0.8%, 0.9% and 1.3% respectively.

2.57 Subsequent to the close of the ACWT hearing Mr Borrie at our request provided an amended table which shows the flows at which ACWT would be able to take water. This replaces a table he provided at the hearing which was based on a different interpretation of the WCO to the one we have adopted. This table is also applicable to the CPW take. It shows for the irrigation months (marked ‘A’) that the takes by ACWT can start after 1:1 flow sharing is provided for existing consented takes down to Barrhill (i.e. 2 x 22 m³/s, rounded) and similarly for outside the irrigation season (marked ‘B’) with 2 x 1.14 m³/s added to each minimum monthly flow.

Table 1: Rakaia River flow levels for each month

Month	NWCO minimum river flow (m ³ /s)	Minimum river flow for taking of water (m ³ /s)
January	124	168 A
February	108	152 A
March	105	149 A
April	97	141 A
May	95	97.3 B
June	96	98.3 B
July	91	93.3 B
August	92	94.3 B
September	90	134 A
October	106	150 A
November	129	173 A
December	139	183 A

2.58 During the B months the only take by CPW, based on its revised proposal without storage, would be for maintenance flows in the headrace and distribution canals, apart from provision for filling up to 45MCM of on-farm storage.

- 2.59** ACWT can take water that CPW doesn't want, so if CPW later wishes to add off-farm storage to their scheme, under this consent that would only change the balance between the ACWT and CPW takes, not the quantum of the total take.
- 2.60** We note that CPW has proposed a simpler application of this table in proposed conditions than we applied to the ACWT consent, and we return to this point when discussing conditions below.
- 2.61** The impact of the proposed ACWT and CPW abstractions on the Rakaia River will barely be noticeable in dry years because there is seldom sufficient flow available for the required abstractions to occur. The greatest impact of the abstractions is in the average years. Mr Duncan noted that largest changes in flow occur over the range of 180 m³/s to 250 m³/s.
- 2.62** This observation leads us into assessment of the effects of the take on instream values of the Rakaia.

Impacts of the take on instream values

- 2.63** We accept evidence from Dr Hughey on effects of the flow reduction on birds (particularly of black-fronted terns and wrybills), from Dr Olsen on flow effects on aquatic invertebrates, and from Dr Hayes on the 15 native fish species recorded in the Rakaia. All suggested only minor impact of the proposed take under the WCO rules. We also accept Dr Glova's evidence for CPW that the ACWT/CPW take will not significantly impact the availability of habitat for juvenile salmon and trout in the Rakaia, nor will it affect migration of adult salmon because the monthly minimum flows of the WCO provide adequate water depths.
- 2.64** Habitat and fish migration are less of an issue than salmon angling opportunity. Dr Hayes appearing for Fish & Game observed that salmon angling is the critical value for determining instream flow levels in the Rakaia River during November to April, when adult salmon are swimming from the sea up to their spawning areas. He cited angler survey figures of 21,460 – 68,000 visits per year, sufficient to confirm the Rakaia as a nationally important salmon fishery, a point also emphasised by Mr Canham for Fish & Game and DOC.
- 2.65** Dr Glova concluded that optimal flows for salmon angling in the Rakaia River occur at the tail end of floods at flows of 160 to 180 m³/s and good catches occur over the range

135 – 180 m³/s. These flows – as measured in the gorge - were supported by the evidence of Messrs Matravers (best angling at 150 m³/s), Goldie (180 m³/s), Barr (130-180 m³/s), van der Zwet (115 -180 m³/s) and Ellis for NZ Salmon Anglers (150 m³/s).

- 2.66** Dr Glova went so far as to suggest that the ACWT/CPW take could improve the number of angling days because it increases slightly the number of days that flows would be in the optimal angling range. However, as acknowledged for the Waimakariri, water clarity is also critical to angler amenity, and given that the reduction in flow is not accompanied by a change to water clarity we consider such an improvement in suitable angling days is unlikely. In any case, the effect of the ACWT/CPW take is likely to be small. Dr Hayes did suggest increasing the minimum flows for December-March to 160-180 m³/s to improve angler opportunity, but we had insufficient evidence before us of the benefits (if any) to warrant increasing the limits already provided for in the WCO.
- 2.67** One matter which we have considered is how to ensure that the cumulative takes from the Rakaia, as limited under the WCO, are both enforceable through conditions and in practice. This is especially important because ACWT and/or CPW wish to transfer and exercise portions of other people's take permits when those other consent holders are not using them. In our view, this calls for implementation of a comprehensive real-time telemetered water metering system, managed or audited by ECan for compliance, and preferably with cumulative takes accessible to the public via the Internet. Such a system should include monitoring of the discharges returned to the river from Highbank and Barrhill.
- 2.68** It is beyond the scope of this decision to prescribe such a system (other than prescribing conditions requiring compliance) but we raised this as a matter in the ACWT decision for consideration by ECan officers to achieve an integrated management system for Rakaia water takes below the Gorge, including connected groundwater takes, and note it again here.
- 2.69** The current system for managing cumulative takes along the Rakaia is cumbersome because of the varied conditions applying to all water take consents within the banding system. While it achieves the objectives of the WCO, the complexity does not make the operation of take consents transparent to the public (nor potentially the water users themselves). Some simplification through consent reviews and/or plan provisions is in our view desirable in the longer term.

2.70 In conclusion in relation to effects of the proposed take on Rakaia River flows, we have concluded that the *hydrological impacts* of the CPW take both above and below Barrhill will be minor, and within the constraints of the Rakaia WCO. We were not presented with any evidence which disputed the hydrological evidence or advanced a contrary view. Nor did the Regional Council officers express any concerns regarding the proposed take. We discuss potential secondary effects below.

Effects on sediment transport

2.71 Downstream of the proposed ACWT intake the Rakaia River flows some 56 km to the coast in a braided gravel bed channel. There are usually two to four larger braid channels, and four to ten smaller braids. The fairway is between 1.0 and 2.1 km across, and is typically about 1.3 km wide. It transports between 80,000 and 259,000 m³ of bed load (mainly gravel) to the coast per year. Dr Mabin reported that the Rakaia River has not shown clear trends of erosion or aggradation in its bed, and concluded that the river is well able to transport all the bed load supplied to it. We took from his analysis that the CPW and ACWT water takes would have effects on sediment transport only if the larger flood flows are measurably reduced.

2.72 Dr Mabin concluded that from an operational point of view, it would be prudent for both scheme operators to close intake gates at Rakaia River flows above about 800 m³/s as this corresponds to suspended sediment concentrations of about 1,500 – 2,000 g/m³ at which excessive sediment deposition is likely in sediment settling ponds. This is a moderate flood occurring about 5 times per year. Mr Lewthwaite confirmed that the CPW intake would be shut down during such floods.

2.73 Even if CPW or ACWT continued taking water at flows exceeding 800 m³/s, the reduction in bedload-transporting flows would only occur 1 day/year on average, and it would be insignificant in relation to the river flow. We concur with Dr Mabin that the effect on bedload transport capacity and on the landform characteristics of braid channels, bars and islands across the Rakaia River fairway will be no more than minor. In particular we are satisfied that the take will not compromise the braided characteristics of the river which the Water Conservation Order seeks to protect.

Effects of water take on Flooding at the River Mouth

2.74 Mr Southward, a witness for Malvern Hills Protection Society, described flooding at the Rakaia river mouth and was concerned that changes in the river flow may change the

frequency of flooding and the closing of the river mouth which exacerbates localised flooding (and we note from news reports that the river mouth has indeed closed temporarily since this part of the hearing, with very few abstractions occurring at that time).

- 2.75** Dr Mabin concluded that there will be no reduction in the volume of sediment transported to the coast, and that the additional take will not cause siltation of the river mouth lagoon system. Mr Borrie for ACWT noted that Rakaia river flows at the coast fluctuate by 30-35 m³/s because of variable discharges from Coleridge power station. He said that coastal processes and 'blow-outs' of the river mouth by flood flows are the dominant processes affecting flooding, and that neither will be affected by the proposed water take and discharge some 40km upstream.
- 2.76** On the basis of the evidence of Mr Borrie and Dr Mabin, we concluded that the reduction of up to 23 m³/s in flow between the ACWT intake and Barrhill will have no impact on the river mouth system. There would of course be no return flows to the Rakaia when CPW is taking their full allocation.
- 2.77** As deduced from Table 1, to ensure compliance with the WCO requirements, the full taking by CPW of 40 m³/s during summer would occur at moderate to high Rakaia river flows, i.e. when flows exceed the monthly minimum by 140 m³/s (70 m³/s, multiplied by 2 to implement 1:1 flow sharing). Worst case, in April, this would represent CPW taking no more than 17% of the natural flow. Cumulatively the net total take by all permit holders would be up to 27% taken from the natural river flow, which would occur at 216 m³/s, a slight fresh (97 minimum flow + (2 X (25CPW + 2 Glenroy + 17BHC = 36.5 existing – 23 returned by ACWT)). Total takes at any one time would be considerably less than this. Based on this evaluation, and the fact that flood flows will not be affected by the water takes, we consider any effects on the river mouth are unlikely.
- 2.78** Clearly, there is a problem at the river mouth, and we appreciate the significant efforts Mr Southward has gone to, to document the problem and draw it to the attention of the Regional Council. However, there is no evidence to suggest that his view that the changes are a result of current abstraction is correct. Nor is there any evidence to suggest that the CPW and ACWT takes are likely to have any measurable effect on deposition and flooding.

Effects of water take on other consent holders

- 2.79** On the true left (north) bank there are 22 water takes between 9 km and 46 km downstream of the proposed CPW intake. On the south bank there are six water takes, between 11.5 km and 40 km downstream of the consented ACWT intake. Some of these consent holders lodged submissions concerned that granting consent to ACWT and/or CPW could jeopardise their right to the water or their reliability of supply. As discussed above under Flow Effects, we believe that with an appropriate monitoring system to ensure compliance with the WCO minimum flows and 1:1 sharing, the granting of the CPW take, in conjunction with the already approved ACWT take, will have no effect on downstream water availability.
- 2.80** We also heard a submission from Synlait. It has been granted a consent to take 6 m³/s of unutilised Band 2/3 water. That consent is subject to appeal. It also has an application for Band 5 water for which a hearing has been deferred at Synlait's request. The High Court in *Synlait v Central Plains Water Trust*¹ has ruled that both applications have priority over the ACWT/CPW joint take application. This ruling has been reversed on appeal. The Court of Appeal has required that the issue of priority be referred back to the Environment Court. Synlait has since sought leave to appeal this decision to the Supreme Court.
- 2.81** The joint CPW/ACWT application to take water is for Band 5 water, i.e. water remaining available for abstraction under the provisions of the WCO after higher priority water takes have been exercised. On the basis of this "first in, first served" system, the proposed take would hold the lowest priority, with all existing abstractors holding priority ahead of the applicant. As pointed out by Synlait Ltd, the only exception would be if the applicant agreed with an existing consent holder to take their higher reliability water. Consent conditions for the ACWT take, which has been granted, recognise the higher priority to existing holders of water permits to take.
- 2.82** Assuming Synlait's band 2/3 consent is confirmed, the CPW and ACWT takes will not affect that consent because this is water which is already allocated to others and which is only available to whoever the existing consent holders agree may utilise that water (which is a matter for private agreement, not the consent).
- 2.83** In contrast the application for Band 5 water if successful (and subject to the outcome of Supreme Court and/or Environment Court hearings) may result in Synlait having priority

¹ *Synlait Limited v Central Plains Water Trust* High Court, Christchurch CIV-2007-409-1157, 11 March 2008

for that water ahead of ACWT and CPW at least during the irrigation season. In view of the continuing uncertainty regarding Synlait, we have included conditions in the consent to reflect the potential priority.

Effects on Water Quality and Instream Ecology

- 2.84** Because of the flow sharing and minimum monthly flow limits imposed by the WCO, there will be no flat lining of Rakaia river flows and nor will the 7-day Mean Annual Low Flow occur for longer. Dr Burrell's analysis showed that the maximum cumulative effect on the flow regime would be a 21% reduction of the FRE3 flow during summer (FRE3 being 3 times the median flow (477 m³/s), and the best predictor of various measures of periphyton and invertebrate biomass, and diversity of the flow).
- 2.85** Although Dr Burrell conceded there could be a minor increase in periphyton, invertebrate, and fish productivity associated with the minor increase in flow stability, he concluded this would be unlikely to result in nuisance algal growths or a major shift in invertebrate community composition because flushing by flood flows will continue, and nuisance growths of periphyton seldom occur in the Rakaia anyway.
- 2.86** Mr Kennedy stated that water abstraction effects on dissolved oxygen are not considered significant in the Rakaia River. The river has a naturally high capacity for re-aeration, cool temperatures, a low organic loading, and low biomass of periphyton and macrophytes.
- 2.87** We agree with Dr Burrell and Mr Kennedy and find overall that with management plans in place controlling construction effects and sediment sluicing limited to periods of high turbidity (above about 300 m³/s), the effects of the CPW (and ACWT) water takes on water quality, aquatic habitat and food resources of fish and wading birds will be minor.
- 2.88** The Rakaia is reportedly the sixth most fished river in NZ, and fishing amenity is recognised as an outstanding characteristic by the WCO, which it seeks to protect. Dr Glova considered that the WCO monthly minimum flows for the Rakaia River adequately provide for passage of adult salmon and trout and that the water take would not appreciably reduce the amount of useable habitat available for salmonids downstream of the intake.
- 2.89** However he also suggested that based on optimal flows for salmon fishing being between 160 and 180 m³/s, there could be a reduction in time that flows are optimal for

salmon fishing during dry years, but counteracted by a slight improvement in optimal fishing flows across all years. Dr Glova suggested there may be some slight benefits from sediment flushing for fishability because temporarily increased turbidity stimulates upstream movement of salmon. We don't believe this justifies sediment sluicing other than during higher flow periods, as the benefits of sediment discharge are outweighed by other effects such as proximity of fishing sites near the intake site, and potential hazards from sluicing discharges.

- 2.90** The evidence we heard did not suggest to us that the WCO provisions are inadequate to protect fishing amenity. Accordingly we are satisfied that the restrictions on take in the CPW consent, which reflect the WCO, will adequately avoid remedy or mitigate any adverse effects on fishing amenity. We also again note that of the 40 cumecs maximum take by CPW the effects of the first 23 cumecs has already been deemed to be acceptable in our decision on ACWT.
- 2.91** Mr Neville Ellis appearing for NZ Salmon Anglers was concerned about discharge by ACWT of dirty water from the scheme, and his same concern applies to CPW. However we were advised that water taking would be stopped during high flows. In any case most turbidity will be reduced by settling at the intake pond.
- 2.92** Regarding provision of fish screens at the scheme intake, Mr Lewthwaite for CPW suggested an alternative approach to that agreed by ACWT in their consents. Because of the potential costs of a prescribed 3mm mesh size, CPW sought an approach in which the objectives for the fisheries would be reviewed in conjunction with Fish & Game, DOC and ECan so that a more flexible approach to fish exclusion could be taken at the design stage.
- 2.93** Having heard arguments for and against this approach, we concluded in our **Minute 15** as follows:

We have provisionally concluded that the fish screen condition should either be Mr Lewthwaite's Option A but with a design objective of excluding at least 95% of adult juvenile salmonids, adult longjawed galaxias and longfin eels, or his Option B but with the same design objective as above and mesh and slot sizes as proposed by Dr Meredith. Either option would potentially allow CPW to seek a variation of the objective if further studies establish that such an objective is too conservative. Under the second option, CPW could subsequently utilise section 127 to change the objective and/or the mesh or slot sizes. Neither option would

preclude other design solutions being advanced at any time up until the final design of the screens.

Based on Figures 19-22 of the NIWA 2007 Fish Screening Guidelines, and to achieve an entrainment risk for salmonid, eel and longjawed galaxias less than 'high', we would conclude that if a traditional fish screening approach is taken, it would need square mesh size of less than 4mm.

- 2.94** The parties have negotiated further and we understand reached agreement on an objective and a process for designing and certifying a screen or other system, together with a fallback position as indicated by us of a 4mm mesh size. We agree with Dr Meredith's suggestion that to accord with the guidelines, the screen size should be specified in condition 8(g)(ii) as *"4mm side of square or diameter of material apertures, or 3mm slot width for slotted materials"*. (See Part 2 of our decision).
- 2.95** Finally, there were differences of opinion on the amount of the flow needed through the fish bypass at the intake. We discussed with Mr Borrie the reasons for ACWT's preference for 2 m³/s as opposed to Dr Glova's recommendation of 5 m³/s on behalf of CPW. For ACWT, we agreed that the depth and width of the bypass channel are the relevant considerations and that a 2 m³/s flow will be adequate for fish passage through and past the intake, given the proposed intake structure and degree of flow control possible through the use of radial gates. We can see no reason why the same provisions should not apply to CPW.

Conditions of take

- 2.96** For the CPW take consent for the Rakaia, the ACWT conditions have been the starting point so that the consent operates in conjunction with the existing ACWT take consent and also with the higher priority takes. However the approach to CPW take conditions is a simplification of those attached to the ACWT consent. The conditions have been negotiated among the parties and agreed by ECan technical staff and solicitors as enforceable and in compliance with clause 7 and other relevant provisions of the WCO. We have reviewed the draft conditions and after some further clarification from the officers and some minor amendments, we are now satisfied that the conditions are appropriate and consistent with the WCO. and comment on them below.
- 2.97** The maximum take of 40 cubic metres is set by condition 1 then further limited under conditions 2, 3, and 4. Condition 5 (a) provides for the taking of water allocated but not

taken by others. Condition 5 (b) provides for the taking of water which is governed by another consent but which has not been allocated. Together these conditions define the extent of the "allocation" or water available to CPW.

- 2.98** The discussion below is based on a similar evaluation contained in our ACWT decision:
- 2.99** Clause 7 (2) of the WCO provides that once the flow as measured at the Gorge bridge drops below the specified minimum flow for the month (the figures in the table above) flows downstream of the gorge must be retained in the river. For example in January, once the flow drops below 124 m³/s at the gorge bridge, all takes must cease. The aim is to protect downstream flows.
- 2.100** Clause 7 (3) of the WCO provides that at intermediate flows when the flows at the Gorge are above the specified minimum flows by less than 140 m³/s, total abstractions at any point must not exceed the Gorge flow minus the minimum flow divided by two. This is one to one flow sharing. At these intermediate flows the maximum total allowable abstraction ranges at any point downstream from 0 to 70 m³/s.
- 2.101** Clause 7 (4) of the WCO provides that when flows at the Gorge are above the minimum flow plus 140 m³/s the one to one flow sharing does not apply but total abstractions at any point must still not exceed 70 m³/s.
- 2.102** As discussed earlier, our interpretation is that the clause 7 of the WCO is directed at the total depletion at particular points in the river rather than at total abstraction. Accordingly, in calculating a total depletion we are of the view that diversions of water within the river channel should not be included, both because the water has not been taken from the river, and even if it were, the size of any of the currently proposed in-channel diversions in conjunction with upstream takes would not exceed 70 m³/s.
- 2.103** For the ACWT take consent, we concluded that the minimum flows above which water may be taken are in simple terms able to be based on:
- The minimum flows required under the WCO; plus
 - Any water that is required for abstraction upstream of the ACWT discharge point at Barrhill multiplied by two to allow for the one to one flow sharing.

- 2.104** What differs for the CPW take is that the water is not returned to the Rakaia. Therefore there are two reaches of river where higher priority (higher band) takes may limit how much water can be taken by CPW: above Barrhill, and below Barrhill.
- 2.105** Above Barrhill, net maximum takes including CPW will comprise (with all figures rounded to nearest 0.1 m³/s):
- ACWT 40 m³/s (returning 23 at Highbank and Barrhill if BCIL is taking its 17 for irrigation, otherwise returning 40)
 - Existing higher band takes 5.0 m³/s (from Attachment 1 of ACWT water permit)
- 2.106** Therefore with the WCO limiting total takes to 70 m³/s, the maximum potential take in this reach is 70-22, i.e. 48 m³/s. At 40 m³/s, the CPW maximum take is less than this.
- 2.107** Below Barrhill, net maximum takes upstream, including CPW, will comprise:
- BCIL 17 m³/s
 - Higher band takes above Barrhill 5.0 m³/s
 - Higher band takes below Barrhill 14.5 m³/s (i.e. 36.5-22, and this includes Synlait Band 2/3 use of other consent holders' allocations)
 - Potentially a Synlait Band 5 take of 6 m³/s
- 2.108** The maximum potential take above here is 70-36.5=33.5 m³/s, therefore at some times the maximum amount of water able to be taken by CPW (or ACWT) will be limited by the takes exercised by others downstream.
- 2.109** This analysis shows why conditions need to provide for the exercising of all consents in higher bands than CPW and ACWT, so that the allocation limits of the WCO are adhered to. Either we can assume - as we did in the ACWT consent - that higher banded consents are being used, and use those allocations as in ACWT condition 2(a) to specify the threshold flow before ACWT or CPW can begin taking water. Or there could be put in place a monitoring system (e.g. a real time telemetry system) from which ACWT, CPW and ECan as compliance auditor can determine how much water is being

taken under those higher priority consents, and use this information to set their take rates, preferably on a daily basis, rather than a continuously adjusted basis.

2.110 We have adopted the first option, as it has been agreed by the parties. Hence condition 2 of the CPW Rakaia take consent CRC021091 will limit the total Band 5 consumptive (non-returned) water take to a maximum of 33.5 m³/s (i.e. 70-36.5) and likewise the combined total take with ACWT to 33.5 as that is the amount of Band 5 water left for allocation.

2.111 CPW take condition 3 sets the monthly minimum flows above which their Rakaia take can commence. Because the CPW irrigation is substantially run-of-river, the increment of flow above the prescribed monthly minima set by the WCO is the same in condition 3 for every month of the year, rather than there being a lower increment during the winter months as set for ACWT. The difference between the WCO minimum flows and these numbers is calculated from the amount of water (36.5 m³/s) already allocated pre-CPW to give the increment above each monthly minimum flow of 73 m³/s, i.e. 36.5x2.

2.112 CPW condition 4 limits the combined water take by CPW, ACWT, BCIL and Glenroy to 67 m³/s to make clear the limits for exercise of a water sharing agreement among these parties. The 67 m³/s figure is calculated as the maximum allocation available to these consent holders taking into account higher priority allocations and return flows by ACWT. As shown in Table AA below from Mr Tipler, this calculation shows that CPW could take 25, Glenroy 2, ACWT and BCI 40 to total 67 m³/s, if one allows for the mid river irrigators to take their allocation of 3, provides for the WCO total depletion of 70, and provides for 14.5 m³/s to be returned by ACWT to allow that 14.5 to be taken by lower river irrigators. This condition has the effect of limiting CPW to 25 while others are taking their full allocations, without breaching the WCO. If CPW wants to take more water, then it can only do so if the others are taking less, hence limited by 67 in total for this group.

Table AA: Flow sharing for the Rakaia River

Water Available	Lower Users	Mid Users excl BHC	BHC	ACWT	ACWT + BHC	ACWT consumptive	Glenroy	CPWL	CPWL + Glenroy	ACWT total + CPWL	ACWT consumptive + CPWL	Total
70	14.5	3.0	17.0	23.0	40.0	8.5	2.0	25.0	27.0	48.0	33.5	70.0

- 2.113** Condition 5(a) allows CPW to take someone else's unused but **allocated** water pursuant to the rules in their consents, and pursuant to WCO minimum flows and maximum depletion of 70 m³/s, but only with that parties written approval.
- 2.114** Condition 5(b) specifically relates to the **unallocated** water in bands 2 and 3 (some of which Synlait is contesting). Because some band 2 and 3 water is unallocated, it does not need other consent holders' permission to use it, provided CPW is not taking at the same time as the specified group of consent holders.
- 2.115** In particular there are a number of consents where there is a volumetric limit on the take which does not reflect the WCO or instream needs, but relates to maximum rates of use of the water. At times when these consent holders have reached their volumetric limits, CPW may take the surplus water without that consent holder's permission, provided it still meets the requirements of the WCO and the minimum flows provided for in the relevant consent. This is advantageous to CPW because these consents being higher priority consents are subject to lower minimum flows.
- 2.116** Finally, CPW condition 6 limits the purpose of its water take to whatever is required for irrigation plus on-farm storage.
- 2.117** The final CPW conditions appeared to be fully accepted by the applicant, officers and those submitters who attended the final days of the CPW hearing at which conditions were discussed, and there have been no appeals of the final decision on ACWT which contains similar conditions. (We did not hear any submissions from Synlait regarding the CPW conditions.) We are satisfied that the proposed conditions will adequately avoid remedy or mitigate adverse effects on the environment and ensure that relevant Part 2 matters are addressed.

Consent Duration and Lapse


- 2.118** We have concluded that concurrent expiry with the ACWT take consent is appropriate to allow an integrated review of both schemes, accordingly we have set an expiry date of (insert ACWT date) for the water-related consents. We are conscious that this will be a slightly different expiry date from the Waimakariri consents but we do not see that as presenting a difficulty. The effects of the takes on each river can be assessed independently.

2.119 As for ACWT and as indicated in **Minutes 12** and **15**, a lapse date of 8 years from commencement is also provided for, because it achieves a balance between the time required for the applicants to get work under way, and the potential 'locking up' of the resource in the event that the scheme does not proceed.

Overall conclusion in relation to the taking of Water from the Rakaia river

2.120 We are satisfied that the proposed taking of water from the Rakaia river will be sustainable and in accordance with the principles set out in Part 2 of the RMA. We are also satisfied that the requirements of the Rakaia River Water Conservation Order will be achieved. These provisions afford a high degree of protection to instream values. The conditions which are required to reflect the WCO will similarly ensure that the outstanding characteristics of the river are protected and will also ensure that other characteristics not recognised by the order are sustained.

Independent Commissioners 28 May 2010



Philip Milne (chair)



Bob Nixon



Andrew Fenemor



Ray O'Callaghan