

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

**AND**

**IN THE MATTER** of applications for resource consent by the Central Plains Water Trust and a notice of requirement for the designation of land by Central Plains Water Limited associated with the construction and operation of the Central Plains Water Scheme.

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**STATEMENT OF EVIDENCE OF DAVID MICHAEL NEWEY ON BEHALF OF THE  
DIRECTOR GENERAL OF CONSERVATION**

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**DIRECTOR GENERAL OF  
CONSERVATION**  
DEPARTMENT OF CONSERVATION

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## **1. INTRODUCTION**

### **Qualifications and experience**

- 1.1 My name is David Michael Newey. I am currently employed by the Department of Conservation (Canterbury Conservancy) in the position of Community Relations Supervisor (Resource Management Planner). I have held this position for two years.
- 1.2 I hold a Bachelor of Science (Zoology) and Post Graduate Diploma in Resource Studies and have eleven years experience in resource management. I was admitted as an affiliate member of the New Zealand Planning Institute in 1997.
- 1.3 My work experience has been with local, regional and central government. My responsibilities in these positions included a range of planning work in consents analysis, policy planning, strategic planning and community based planning.
- 1.4 I have been involved in several water and irrigation resource management issues including submitting on the Proposed Natural Resources Regional Plan and various irrigation proposals.
- 1.5 I have visited the Central Plains area including the Wainiwaniwa Valley and Waimakariri and Rakaia rivers on several occasions.
- 1.6 I have considered the notified applications and supporting material, including the Assessment of Environmental Effects, filed by the Applicants. I have also considered the evidence circulated by the Applicant on 1 February 2008 and relevant supplementary evidence. I have also considered the Officer's Report and recommendations of the Canterbury Regional Council and Selwyn District Council and relevant expert's evidence.
- 1.7 I confirm that I have read and agree to comply with the Environment Court Code of Conduct for Expert Witnesses Consolidated Practice Note 2006.

## Scope of evidence

1.8 My evidence provides a planning background against which Commissioners may consider evidence provided by a number of expert witnesses for the Department of Conservation (the Department). I also cite in my evidence where I have drawn upon evidence presented by expert witnesses for other parties to this hearing.

The substantive part of my evidence will address the following matters:

2. A brief description of the site
3. A brief description of the activity.
4. The activity status under the provisions of:
  - The National Water Conservation (Rakaia River) Order 1988 (NWCO)
  - Transitional Regional Plan (TRP),
  - Waimakariri River Regional Plan (WRRP),
  - Proposed Natural Resources Regional Plan (PNRRP)
  - Proposed Selwyn District Plan (PSDP).
5. An assessment of the proposed activities against the Objectives and Policies of relevant plans, being the Canterbury Regional Policy Statement (CRPS), WRRP, PNRRP and PSDP.
6. Section 104 to 108 Resource Management Act 1991 (RMA) matters including other matters that I consider are relevant considerations. These include the Canterbury Conservancy Conservation Management Strategy, the New Zealand Biodiversity Strategy and New Zealand Mudfish Recovery Plan.
7. Relevant Part II RMA matters.
8. I will then present my conclusions.

- 1.9 In relation to my overall evidence, I have not assessed whether all necessary applications have been applied for to construct and operate the CPW Scheme. I rely on the section 42A reports of Mr Fietje for the Canterbury Regional Council, and Mr Boyes for the Selwyn District Council, in this regard.
- 1.10 Where I substantially agree with previously presented planning evidence I indicate to that effect in order to avoid unnecessary repetition.
- 1.11 In my evidence I assess both the Central Plains Limited/Trust applications (CPW) and the Ashburton Community Water Trust (ACWT) take application. I refer throughout my evidence to “CPW” when considering the applications. This abbreviation refers to both the CPW and ACWT applications.

## **2. DESCRIPTION OF THE SITE**

- 2.1 The site of the proposed Scheme is located to the west of State Highway 1 between the Waimakariri and Rakaia Rivers. Intakes are proposed for both of those rivers.
- 2.2 Both the Waimakariri and Rakaia Rivers, along with other rivers within the proposed development area, particularly the Wainiwaniwa River and Selwyn catchment, contain significant ecological values as outlined in the evidence of Dr McIntosh, Dr Hughey, Dr Olsen, Dr Hayes and Mr Hay.

## **3. DESCRIPTION OF THE ACTIVITY**

- 3.1 The key elements of the CPW scheme include:
- Two intakes on the Waimakariri River, one being above the confluence of the Kowai River and connecting to a canal and tunnel to take up to 40 cumecs of water to the proposed Wainiwaniwa reservoir. The lower intake at the gorge will feed water into the

main headrace running between the Waimakariri and Rakaia Rivers.

- One intake on the Rakaia River, 8km below the gorge, to feed up to 40 cumecs into the main headrace.
- One intake on the true left of the Rakaia River, 5km below the gorge, to take up to 42 cumecs.
- A dam across the Wainiwaniwa Valley
- A distribution network of canals across the scheme area.

#### **4. ACTIVITY STATUS OF THE APPLICATION**

##### **Bundling of activities**

- 4.1 The assessment of activity status provided in Appendix E of the Assessment of Environmental Effects Report identifies that the applications require a large number of consents, the most stringent being as a non-complying activity.
- 4.2 This section of my evidence assesses the relevant rules in the statutory documents and establishes the activity status. In relation to the overall consideration of activity status, the issue of “bundling” of linked activities needs to be considered in terms of identifying the overall activity status.
- 4.3 Mr Murray, planner for CPW for Regional Council matters, in his evidence suggest that the applications lodged with the Regional Council should be considered on a case by case basis and that an overall status of non-complying should not apply, given the wide spread nature, of the proposed activities.

- 4.4 However, as assessed by Mr Fietje in his s42A report, some of the core activities of the proposal are non-complying, such as bywash discharges, sluicing discharges and other on going discharges.
- 4.5 Where this is the case, it would be appropriate in my opinion to consider that bundle of like activities under the most stringent status applying to any part of that activity.

### **Plan weighting**

- 4.6 Mr Murray is correct in pointing out that the PNRRP is only part way through the hearings process and decisions on key chapters relevant to the application before the Commissioners have yet to be released.
- 4.7 This being the case, the question as to what weight those plans should be given as compared to the TRP arises.
- 4.8 In relation to this matter, I concur with Mr Holland's analysis and suggest relatively more weight should be given the PNRRP than the TRP, particularly as the General Authorisations and regulations the TRP contain were not formulated under the RMA.

### **National Water Conservation (Rakaia River) Order 1988 (NWCO)**

- 4.9 The NWCO, like all Water Conservation Orders, is unlike a plan in that activities are either prohibited (if they do not comply with its terms or provisions), or they are not. If they are not, reference must then be made to rules in relevant plans to determine activity status. If no such plans or rules exist for a particular activity, then that activity defaults to being discretionary under Section 77(c)(1) of the Act. This is the case with respect to takes from the Rakaia.
- 4.10 The NWCO was put in place to recognise and sustain outstanding values through the protection of the Rakaia Rivers outstanding natural character and outstanding wildlife habitat, fisheries, recreational, angling and jetboating features.

- 4.11 Clause 7 of the NWCO is relevant to the area of the river below the gorge, being the area within which CPW will operate. Clause 7 prescribes the flow regime which is established to protect the values for which the NWCO was adopted.
- 4.12 Mr Holland raises some issues around how allocations have and are monitored against the flow regime set down in the NWCO. I support his concerns which relate to whether the water the applicants have applied for is available to be taken, given apparent gaps in analysis of current and proposed takes and overall monitoring of takes from the Rakaia River and connected groundwater.
- 4.13 Clause 9 is also relevant in setting standards which must be met in the granting of water rights. These standards are relevant to various aspects of the applications, including “agricultural” encroachment into the waterbody and the standard of discharges.
- 4.14 Mr Fietje notes that consideration of the NWCO regarding some of the proposed land use activities in the bed of the river is required. In my opinion, if consent were to be granted for those activities, then conditions should be imposed to ensure the proposal is not contrary to Clause 9(1).
- 4.15 Clauses 9(2) and 9(3) relate to water quality standards and the overall meeting of conditions of the NWCO. With regard to the interpretation of these Clauses and assessment of the application, I agree with Mr Holland’s evidence that something other than a literal interpretation of the quality of discharge to the Rakaia River as compared to Clause 9(2) will be necessary in order for consent to be granted.

### **Transitional Regional Plan (TRP)**

- 4.16 The TRP became operative in 1991 and contains General Authorisations, bylaws and regulations. Where the relevant standards

described in these mechanisms are not met, resource consent is required.

- 4.17 I agree with Mr Murray's analysis of the relevant sections of the TRP and the overall subsequent status of CPW proposed activities being discretionary.

### **Waimakariri River Regional Plan (WRRP)**

- 4.18 The Waimakariri River Regional Plan became operative in October 2004. I note in Mr Hayes' evidence he states that in his opinion some pertinent issues such as habitat flow modelling, were not fully considered during the formulation of the plan.

- 4.19 I also note that Dr Meredith suggests that the WRRP may not have envisaged the levels of abstraction pressure proposed by CPW and other recent applications.

### **Rule 5.1 – Discretionary Activity for which Environment Canterbury has restricted its discretion.**

- 4.20 Rule 5.1 states that within the proposed CPW area, taking of surface water is a restricted discretionary activity, provided a number of standards can be met.

- 4.21 Standard (a) is that "Fish shall be prevented from entering the water intakes". As discussed in Mr Hay, Dr McIntosh and Mr Bejakovich's evidence, the fish screens being proposed are still at a conceptual stage and their effectiveness at preventing fish from entering water intakes is unclear. Mr Hay in particular has suggested that the design criteria which are mentioned will not be sufficient to keep fish of various indigenous species out of the intakes. Therefore this condition cannot be complied with.

- 4.22 Given the lack of a default rule in the WRRP if a Standard cannot be met, section 77(c)(1) of the RMA will apply. This will make the proposed 40 cumec take from the Waimakariri River a discretionary

activity, which in turn opens the consideration of the effect of the proposed activity beyond the list of matters for restricted discretion to all relevant Policies and Objectives in the WRRP and the RMA, both of which I shall explore later in my evidence.

### **Rule 5.2 – Discretionary Activities**

- 4.23 This rule classifies the diversion of water from or discharge of water to the Waimakariri River below Woodstock as a discretionary activity, as CPW will take place below Woodstock.
- 4.24 Mr Murray concludes that the diversion of water for takes and discharges for sluicing are discretionary activities under this rule. I concur.
- 4.25 Rules 5.3, 5.4 are not relevant to the CPWES applications.

### **Rule 6.1 – Discretionary Activity**

- 4.26 Rule 6.1 outlines the standards to be met to comply with discretionary activity status for discharges of contaminants. This particular rule applies in terms of the applicants proposed construction activities, operational (including sluicing) and bywash discharges.
- 4.27 As outlined by Dr Meredith, effects of desilting flows in particular can be detrimental and should not be allowed except during times of adequate flood flows.
- 4.28 Given the standards and conditions proposed by Mr Lewthwaite, in my opinion the discharge will alter the natural quality of the water beyond a reasonable mixing zone and as such all relevant discharges should be treated as non-complying activities under Rule 6.2.

### **Rules 7.4 and 7.5**

- 4.29 I concur with Mr Murray that the construction, operation and maintenance of structures and works at the proposed upper and lower intakes are to be assessed as discretionary activities under Rule 7.4.

4.30 Rule 7.5 outlines prohibited activities, including the deposition of any contaminants resulting from an authorised discharge, in, on or under the bed of any river.

4.31 Given the definition of contaminant in the plan, I conclude that Didymo is a contaminant. That being the case, any discharge of waters from the Rakaia River containing Didymo via the proposed reservoir, headrace and bywash or emergency discharge to the Waimakariri River, is in my opinion a prohibited activity for which consent cannot be granted.

### **Proposed Natural Resources Regional Plan PNRRP)**

4.32 The PNRRP has been publicly notified and along with several variations, is now progressing through the hearings stage.

4.33 I shall proceed through the rules of the PRNNP by chapter. For the sake of brevity I shall only address those Chapters and rules of direct relevance to matters of interest to the Department. Where I agree with other planning evidence I will indicate as such.

### **Chapter 4 – Water Quality (WQL)**

**Rule WQL 18** – does not take effect until rule is operative.

#### **Rules WQL 20, 21 and 22**

4.34 Rules WQL 20, 21 and 22 refer to discharges from livestock into or near water. These rules have not been addressed by the Applicant. However in my opinion they are relevant considerations, particularly given the mitigation through Sustainable Farm Management Plans being proposed by the applicant.

**Rule WQL 34 –Vegetation clearance or soil disturbance within a riparian zone that does not comply with Regional Rules WQL 32 or WQL 33 – Restricted Discretionary.**

4.35 I agree with Mr Murray's conclusion that restricted discretionary activity status is appropriate for those applications seeking to clear vegetation or disturb soil in riparian zones.

**Rules WQL56, WQL57, WQL59, WQL60, WQL 61 – Various discharge of contaminant rules to water and land – discretionary and non-complying.**

4.36 I concur with Mr Murray that there are a number of discharge activities generated by the applications and generally agree with his analysis of the status of the proposed activities.

4.37 In particular I agree with the non-complying status of those construction, stormwater and bywash discharges outlined in Mr Murray's evidence, given the inability of the activities to meet the standards listed in Rules WQL 56 and 57. The potential spread of Didymo from the Rakaia River to other catchments is also a relevant consideration under these rules.

**Chapter 5 – Water Quantity (WQN)**

**Rule WQN 9 – Taking or diverting of water from a surface water body or an artificial water course not affecting limits – discretionary activity.**

4.38 I concur with Mr Fietje's s42A report that this rule only applies to the proposed take from the Wainiwaniwa River and that it is a non-complying activity given the lack of an allocation regime under Schedule WQN 1 for that river.

**Rule WQN18 (Taking of water from groundwater for site de-watering)**

4.39 I concur with Mr Murray that these takes should be considered discretionary activities under Rule WQN18.

**Rule WQN26 (Using of water for irrigation)**

4.40 I concur with Mr Murray's view that these uses should be considered discretionary activities under Rule WQN26.

**Rule WQN41 – Damming and/or diverting of water within or outside the bed of a surface water body or artificial water course that is not permitted or controlled – discretionary activity.**

4.41 I agree with Mr Murray’s analysis that a number of activities are captured by this rule, in particular the damming of the Wainiwaniwa River.

**Chapter 6 – Beds and Margins of Lakes and Rivers (BLR)**

4.42 Chapter 6 rules apply to all activities and structures being proposed outside of the Waimakariri catchment, including structures and activities in the Rakaia River, as they are not covered by the NWCO.

4.43 I have assumed, given Mr Murray’s analysis, that the proposed activities cannot meet the standards outlined in Rules BLR 1- 7, therefore making all activities in riverbeds discretionary activities. However the areas or issues where those standards cannot be met have not been made clear by the applicant, so a fuller assessment is not possible.

**Chapter 7 – Wetlands (WTL)**

4.44 It is clear from the available evidence that a number of wetlands will be effected to a greater or lesser extent by the proposed activities. This means that the rules of Chapter 7 PNRRP require consideration. Effects on wetlands within the area covered by the WRRP are to be assessed and addressed under that plan.

4.45 None of the proposed activities affecting any wetlands can meet the permitted activity status under Rule WTL 2 as Condition 1 cannot be met, given that Environment Canterbury have not completed any assessments of any areas for wetland significance.

4.46 That being the case, Rule WTL 3 allowing drainage of wetlands up to 0.5ha as permitted also does not apply as Condition 1 again cannot be met. The applicant has not, as noted by Mr Davis and Mr Grove,

carried out any on the ground survey to assess the extent or significance of wetlands within the scheme area.

- 4.47 Rule WTL 4 cannot be complied with given the lack of certainty and specificity regarding offsets and protection, therefore in my opinion Rule WTL 7 (Discretionary activity) applies to all wetlands within the scheme area.

### **Proposed Selwyn District Plan (PSDP)**

- 4.48 Having reviewed both Mr Boyes and Ms Robson's evidence and in order to avoid unnecessary repetition, I concur with their conclusions as to the overall status of land use activities being applied for as discretionary.
- 4.49 There is one matter however which I believe requires some further attention, being Rules IX 1.10 and 1.10A relating to exclusion of dairy cows from waterways.
- 4.50 I consider that the proposed scope and nature of the Farm Management Plans being suggested by the applicant as a tool for managing the effects of increased land use intensification is inappropriate, particularly given the lack of specificity and certainty in the proposed plans. Such plans are useful tools for demonstrating how conditions of consent will be complied with, rather than determining standards more appropriately included as condition of consent.

## **5. OBJECTIVE AND POLICY ASSESSMENT**

- 5.1 The RPS, WRRP, PNRRP and PSDP contain objectives and policies to achieve Part II of the RMA. I will examine each in turn. There are no Objectives and Policies in the TRP or the NWCO. I have however previously included some discussion of the Purpose of the NWCO.
- 5.2 The focus of my assessment is on those Objectives and Policies which have direct bearing on matters raised by the Department in submissions.

## **Canterbury Regional Policy Statement (RPS)**

5.3 The RPS became operative in June 1998 and provides a broad overview and direction relating to general management of natural and physical resources in the region.

### **Chapter 8: Landscape, Ecology and Heritage**

5.4 Objective 1 and Policies 1 and 2 are focused on the protection and enhancement of wetlands from land development, grazing and changes in hydrology.

5.5 The RPS sets as an Objective “the protection or enhancement of wetlands” – there is no standard set as to the quality or otherwise of wetlands to be protected.

5.6 Dr McIntosh, Mr Grove and Mr Davis all note that the applicants assessment of wetlands has been inadequate, that the values of wetlands within the scheme area have not been adequately assessed and that the impact on wetlands assessed as being significant, such as those in the Wainiwaniwa Valley, will be substantial.

5.7 I also note that the proposed mitigation is assessed by Mr Davis and Dr McIntosh in particular as being inadequate, ineffective and uncertain as to both the effectiveness of the creation or enhancement of new wetlands and the amount of information supplied with which to assess suitability as mitigation.

5.8 I also note that while Policy 2 raises the possibility of artificial wetlands, such as bywashes, being used as strategic improvement of natural habitat, the policy also notes that it is seldom possible to gain advantages from wetlands designed for water treatment (such as bywash wetlands) as habitat. This conclusion is also reinforced by Mr Hay in his evidence.

### **Objective 2 and Policy 3**

5.9 Objective 2 and Policy 3 seek to protect and enhance the regions distinctive natural features and landscapes from development. Based on Ms Lucas's evidence, I concur with Mr Smith's conclusions on this matter, that the Waimakariri and Rakaia rivers are regionally significant in terms of landscape and natural features and that the proposed development will permanently and significantly adversely affect the values which make these rivers significant.

### **Objective 3 and Policy 4**

5.10 Objective 3 and Policy 4 seek to protect and enhance the regions indigenous biodiversity from development. Drs McIntosh and Hughey have presented evidence which establishes the Waimakariri, Rakaia, Wainiwaniwa Valley and Te Waihora/Lake Ellesmere as significant habitats of indigenous fauna. Mr Davis s42A analysis also suggests given the lack of information provided by the applicant, the extent and nature of indigenous biodiversity within the scheme area is unknown and therefore the relative significance of particular areas cannot be assessed.

5.11 Primarily in relation to the loss of Canterbury Mudfish habitat, but also the effects of changes in river hydrology, both Drs McIntosh and Hughey conclude the Applicant's assessments as to effects and mitigation are incomplete and will not mitigate or offset the estimated impacts of the proposal.

5.12 In summary, based on the evidence referred to above, I therefore conclude the proposal as it currently stands is not consistent with Chapter 8 of the RPS.

## **Chapter 9: Water**

### **Objective 1, 2 and 3 and Policies 1-10**

- 5.13 Overall Objective 1, 2 and 3 and Policies 1-10 set a framework to allocate and allow water to be used for peoples benefit in an efficient and prioritised way while safeguarding and protecting the other users and values of those waterways.
- 5.14 I agree with Mr Holland's assessment of Chapter 9. I would also add however in relation to Objective 1 that Drs Hughey, Hayes and Olsen's evidence are also relevant considerations, particularly in relation to the ability of water flow regimes to safeguard the life supporting capacity of the water, including associated significant habitats of indigenous fauna.
- 5.15 As Dr Hughey, Dr Hayes and Dr Olsen note, the proposed abstractions and changes in flow regime from the Waimakariri River in particular, will have significant effects on macroinvertebrate and bird habitat.
- 5.16 In my opinion, from the evidence presented, the proposed activities of CPWES will be inconsistent with Objective 1 and Policy 10 of Chapter 9.

## **Chapter 10: Beds of Lakes and Rivers and their Margins**

### **Objective 1 and Policies 1-3**

- 5.17 Objective 1 sets a framework to protect and where appropriate enhance values in the beds and margins of lakes and rivers which is largely reflective of Part II RMA matters.
- 5.18 Policy 1 states that areas important for their conservation values should be identified, and that land use or development should avoid causing significant adverse effects on the conservation values in those areas. Prior to identification of those areas, activities should be carried out in ways that avoid or mitigate adverse effects, including effects on habitats of indigenous fauna (particularly threatened species) and species rare or endemic within Canterbury, habitats of the unimpeded passage of indigenous fish, landscape values, wetlands, areas of indigenous vegetation, spawning habitats and amenity and recreational values. Policy 2 goes on to state that areas of ecological, cultural or

landscape significance or any other area with natural values which is in a degraded state, should be enhanced.

5.19 The beds and margins of the Rakaia River, Waimakariri River, Wainiwaniwa River, the Selwyn River, and the Hororata and Hawkins **Rivers** have been identified by a range of experts and Officers in the information supplied to the hearing as having one or more of the values listed in Objective 1 and Policy 1. In addition, much of that same information identifies the potentially significant effects the CPW proposal will have on those values. In particular:

- Dr McIntosh notes that habitat in the Wainiwiniwa Valley contains significant habitat (river and wetlands) of the Canterbury mudfish, almost all of which will be inundated by the proposed dam in the bed of the Wainiwiniwa River. Dr McIntosh and Dr Meredith also conclude that the mitigation proposed by the applicant is vague, unproven and will not adequately address estimated mudfish losses.
- Dr McIntosh and Mr Hay conclude that the currently proposed intake structures will not be effective at preventing predatory fish from entering the Wainiwaniwa reservoir and impacting remaining Canterbury mudfish populations.
- Mr Hay also concludes that proposed culverts under various smaller waterways may represent a significant habitat loss and have the potential to present a permanent barrier to fish passage.
- Ms Lucas for the Canterbury Regional Council expresses concern at the effects of works in the bed and margins along with the ongoing significant effects of the proposed intake and overflow structures and ongoing “river training” will have on the Outstanding Natural features and Landscapes of the Waimakariri and Rakaia Rivers.

5.20 Policy 3 states that indigenous riparian vegetation should be retained and its establishment promoted to reduce the adverse effects of land use on water quality and to enhance conservation and amenity values. I agree with Mr Holland's analysis of the proposal in relation to this policy, given the current uncertainty and vagueness of mitigation being proposed by the applicant on this issue.

5.21 In my opinion, from the evidence presented, the proposed activities of CPW will be inconsistent with Objective 1 and Policies 1, 2 and 3 of Chapter 10.

## **Chapter 11: The Coastal Environment**

### **Policy 1**

5.22 I note Dr Larned and Dr Hughey's analysis that changes in water quality and quantity in the Te Waihora/Lake Ellesmere catchment as a result of the CPW may have adverse effects on that significant wetland/coastal lagoon. However given the level and detail of information supplied by the applicant the situation is unclear and therefore the ability of the proposal to meet Policy 1 is unclear.

### **Waimakariri River Regional Plan (WRRP)**

5.23 As referred to earlier in my evidence, the WRRP became operative relatively recently (October 2004) while most of the resource information upon which the WRRP is based was carried out in the 1980's. As such there should be some caution attached to the allocation and flow regimes within the plan given the development that has occurred since information was gathered on which the plan was based and lack of monitoring as to the effectiveness of those regimes.

## **Chapter 5: Water Quantity**

### **Objective 5.1 and Policy 5.1**

- 5.24 The framework for allowing water takes from the Waimakariri Catchment while protecting Part II matters is set out in Objective 5.1, while the associated Policy provides for the setting of the flow regime established in Table 2 of the plan, while achieving the (a) to (h) criteria of the Objective.
- 5.25 Rule 5.1 allows for consideration of the effects of the proposed take on criteria (a) to (h) “near the point of take”. The Plan provides no definition of what scale or distance is considered to be near the point of take. In my opinion, given the potential effects of the take on habitat values in particular and the scale of the proposed abstraction, consideration should be given to the effect of the take on that distance of the river where the effect will occur.
- 5.26 As explained in Dr Hughey’s evidence, the Waimakariri River is a habitat of at least national significance for threatened bird species, wrybill and black fronted terns particularly. Dr Hughey notes substantial losses in river bird habitat quality and quantity will occur given the proposed abstraction regime and that the proposed mitigation is unreliable and unproven. These matters relate to Objective 5.1(b).
- 5.27 Dr Olsen describes the losses of food producing habitat during key times of the year which he outlines as significantly affecting the productivity and composition of macroinvertebrates in the Waimakariri River. In terms of mitigation of those effects, he concludes there is insufficient information to assess the effectiveness or adequacy of the measures proposed. These matters are also of relevance to Objective 5.1(b).

- 5.28 Dr Hayes describes the indigenous fish species present in the Waimakariri River, outlining those which are of particular conservation concern, being longfin eel and lamprey. He expresses some concern at the potential cumulative effects new flow scenarios could have on seasonal habitat availability, particularly food, for indigenous fish and birds.
- 5.29 I also note that Mr Grove in his s42A report refers to Waimakariri River terrace wetlands being affected through reduced flows from connected groundwater, which is relevant to Objective 5.1(e).
- 5.30 The evidence of Ms Lucas for the Canterbury Regional Council is also relevant here. Ms Lucas expresses concern that the take may not preserve the natural braided character of the river, which is a consideration under Objective 5.1(e).
- 5.31 Given the combined evidence of these experts, I consider the proposal is inconsistent with Objective 5.1 and supporting Policy 5.1.

## **Chapter 6: Water Quality**

### **Objective 6.1 and Policies 6.1-6.3**

- 5.32 Objective 6.1 is identical to Objective 5.1, except it excludes reference to hydraulically connected groundwater. Policy 6.1 allows for the setting of water standards to protect different values, particularly the natural state of the Waimakariri water upstream of the Otukaikino creek confluence.
- 5.33 Policies 6.2 and 6.3 seek to improve or maintain water quality through promoting the improvement of land management practices and removing point source discharges (excluding stormwater) to the Waimakariri River and tributaries.
- 5.34 Dr Hayes in his evidence and Dr Meredith in his s42A report, suggest that the proposed sluicing discharge could have localised effects on

invertebrates and expresses some uncertainty as to whether proposed mitigation is sufficient.

- 5.35 Given that analysis, in my opinion based on the mitigation proposed to date I consider the sluicing discharge to the Waimakariri River is inconsistent with Objective 6.1 and supporting Policy 6.1.

## **Chapter 7: River and Lake Beds**

### **Objective 7.1 and Policies 7.1-7.2**

- 5.36 The framework provided by this Objective and associated Policies is to enable the use of river and lake beds in the catchment while controlling, in particular, structures, excavation, deposition and disturbance and safeguard and protect a range of values. Policy 7.2 takes protection one stage further to allow for the promotion of restoration or enhancement of values.
- 5.37 The intake structures on the Waimakariri River along with the Kowai River siphon and all associated construction activities are captured by these policies.
- 5.38 My earlier evidence in relation to the RPS is relevant here and covers the same issues. By way of summary:
- Ms Lucas for the Canterbury Regional Council expresses concern at the effects of works in the bed, and margins along with the ongoing significant effects of the proposed intake and overflow structures and ongoing “river training” will have on the Outstanding Natural features and Landscapes of the Waimakariri River.
  - Dr McIntosh and Mr Hay conclude that the currently proposed intake structures will not be effective at preventing predatory fish from entering the Wainiwaniwa reservoir, allowing fish to move across catchments and impacting remaining Canterbury mudfish populations.

5.39 I therefore consider the current design of structures and mitigation proposed is inconsistent with Objective 7.1 and Policy 7.1.

### **Proposed Natural Resources Regional Plan (PNRRP)**

5.40 I concur with Mr Murray that the PNRRP is relevant to all activities outside the area covered by the WRRP. This means activities that affect the Rakaia River (where not covered by the NWCO), wetland areas, Wainiwaniwa River, Selwyn River, Hororata River, Hawkins River, and waters below the scheme area including Te Waihora/Lake Ellesmere and its tributaries.

## **Chapter 4: Water Quality**

### **Objective WQL1 and Policies WQL 1-5**

5.41 Objective WQL1.1 relates to water quality outcomes for rivers and lakes, while Objective 1.2 focuses on Natural and artificial lakes. Both are supported by Policies WQL1 - 5.

5.42 Objective WQL1.1 (1) (a) states that where water quality is in its natural state, the water quality and the characteristics of the substrate are maintained in that state. Mr Murray considers there are no relevant water bodies within the scheme area that have natural state water quality. I agree with his conclusion.

5.43 The remainder of the Objective establishes a framework for maintaining or improving water quality focussing on standards set in Table WQN 5.

5.44 The second part of the Objective is relevant in relation to coastal lakes and artificial lakes where water quality is to be maintained to allow for certain uses and values.

- 5.45 The associated policy framework manages point and non point source discharges while ensuring that:
- Discharges will not facilitate the movement of pest species
  - Discharges will not significantly alter water quality, character of aquatic ecosystems.
  - How large a zone of non compliance may be.
  - Preventing the discharge of certain substances.
- 5.46 A number of discharges are associated with the CPW applications including during construction, as operational discharges (bywashes, tunnel discharge, reservoir discharge and fish bypass) and maintenance discharges, such as sediment sluicing. The majority of these discharges have been assessed as being non-complying activities.
- 5.47 Generally I agree with Mr Holland's analysis of alignment of the proposed scheme with Chapter 4, being that the proposed activities may not be consistent with Objective 1 and Policies 1 to 4 but that it is difficult to assess given the lack of information supplied by the applicants.
- 5.48 In addition I also refer to the s42A report of Dr Meredith who outlines potentially significant water quality issues with the proposed reservoir and suggests that if such water is to be discharged to natural waterways (such as the Wainiwniwa River) or through bywash discharges to foothill streams, such discharges must meet the relevant standard for the receiving water, in line with Policy WQL 1. If this is not achievable then such discharges should be regarded as being inconsistent with that policy.

## **Objective WQL 2 and Policies WQL 6-10**

- 5.49 Objective WQL 2 and associated Policies 6-10 relate to water quality outcomes for groundwater and discharges to land which may affect groundwater quality.
- 5.50 I refer to Dr Larned's analysis of information, assessment and critique of the Applicant's case for managing such effects, particularly as they relate to land use impacts on surface water and groundwater/surface water interaction.
- 5.51 It appears from Dr Larned's evidence that insufficient information has been provided to be sure that standards for the relevant water quality classes (Schedule WQL 1) for lowland streams and Te Waihora/Lake Ellesmere in terms of nitrogen, phosphorus and algal growths will not be breached. A standard also exists for macrophytes in lowland streams which is also relevant. I note Dr Larned has expressed concern about effects on macrophyte growth in lowland streams. Consequently I am not confident that the proposed use of land in the scheme area will be consistent with Policy WQL9.

## **Chapter 5: Water Quantity**

### **Objective WQN 1**

- 5.52 This Objective, enabling surface water to be taken while protecting Part II RMA matters, is relevant for consideration for the proposed water take from the Wainiwaniwa River during the construction phase.
- 5.53 Given the lack of information by the applicant on flows, takes and impacts on the values of that river, it is difficult to assess the proposed takes consistency with Objective WQN 1.

### **Objective WQN 3 and Policies WQN 8-13**

5.54 Objective WQN3 covers groundwater management, and is supported by Policies WQN8 – 13. This objective seeks to ensure that various adverse effects are not realised, including that takes do not adversely affects surface water flows and levels, and associated instream values. Policy WQN8 specifies how stream depletion effects shall be calculated and managed.

5.55 I concur with Mr Holland’s analysis that the temporary effects of groundwater abstraction, particularly on surface water flows are a valid concern, but with appropriate management such effects can be addressed.

### **Objective WQN 4 and Policies WQN 14 and 16**

5.56 I concur with Mr Murray’s conclusions in relation to the above Objective and Policies.

### **Objective WQN 8 and Policy WQN 21**

5.57 Objective WQN8 and Policy WQN21 relate to augmentation. The term ‘augmentation’ is defined in the PNRRP to mean “the storage or addition of water to improve water availability and maintain higher groundwater levels in an aquifer”. Mr Murray notes, the CPW involves augmentation through:

- Creation of the Wainiwaniwa reservoir
- Using the Rakaia and Waimakariri River intakes in combination or independently as the availability of the resource in each river dictates, and
- Recharging the groundwater resource, rivers and lowland streams.

I shall address each in turn.

- 5.58 As I have previously discussed, the Wainiwaniwa reservoir will have major impacts on significant wetlands, threatened Canterbury mudfish and their “key” habitat, as described by Ms Bowie in her evidence. Policy WQN 21(1) requires that before augmentation proposals are allowed, proponents need to show that the effects on the environment are avoided, remedied or mitigated and as such I conclude that the under Objective WQN 8 the proposal must also be consistent with Objectives WQN 1, Objective WQL 1.1 (2) and WQL 1.2 (3). Given the assessments I have previously outlined by Drs McIntosh and Meredith and Mr Hay I conclude the creation and use of the Wainiwaniwa reservoir is inconsistent with Policy WQN21(1), Objective WQN 1 and is uncertain as to Objective WQL1.
- 5.59 I am unclear as to how swapping water use between the Rakaia and Waimakariri is assessed as augmentation.
- 5.60 With regard to the incidental recharging of groundwater in the Plains area and increased flows in lowland streams, Drs McIntosh, Larned, Olsen and Mr Hay and Ms Hayward all raise issues with increased flows in various hill and lowland streams.
- 5.61 Dr McIntosh outlines the significant Canterbury Mudfish populations known from the Hororata and Selwyn Rivers and concludes that changed flow regimes in these waterways poses a risk to the mudfish and other indigenous fish by affecting the distribution of trout. This point is also made by Mr Hay, who suggests increased flows in the Selwyn catchment may detrimentally effect indigenous fish through the increased access afforded to larger predatory fish. Given the lack of information however the magnitude of such an effect is unclear.
- 5.62 Dr Larned does not consider enough work has been done by the applicant to show that the adverse effects of augmentation will be avoided, remedied or mitigated. While some mitigation has been proposed by the applicant, including sustainable farm plans, I refer again to the evidence of Dr Larned which states he considers these

lack enough specificity to be confident that will adequately mitigate the effects of intensified land use on water quality and associated values downgradient of the scheme area. Ms Hayward also raises these issues in relation to overall habitat changes and the lack of information on the long term effect of such changes.

- 5.63 Accordingly I consider the effects of augmentation on the environment are not consistent with Policy WQN21(1).

## **Chapter 6: Beds and Margins of Lakes and Rivers**

### **Objective BLR 1 and Policy BLR 1**

- 5.64 Objective BLR 1 seeks to allow activities in beds and river margins subject to environmental protections being observed, such as minimising the spread of pest plants, protecting significant habitat and protecting outstanding landscapes and natural features.
- 5.65 The associated Policy seeks to control land use activities within or adjacent to beds, particularly to protect flood carrying capacity, other structures or prevent plant pest infestations.
- 5.66 As discussed earlier with respect to the RPS, the placement of the Wainiwaniwa Dam and subsequent reservoir formation will destroy the habitat in the valley and very likely eliminate the Canterbury Mudfish population. The relevant experts have concluded the proposed mitigation will not avoid, remedy or mitigate that effect.
- 5.67 With regard to the Rakaia River, as outlined under my discussion of the RPS, this river is an outstanding natural feature, the values of which will be significantly impacted upon by the proposed intake structures and operational activities in the beds and the proposed mitigation will not avoid, remedy or mitigate that effect.
- 5.68 As discussed in Mr Hay's evidence, culverts and siphons proposed for conveyance of streams beneath the headrace and canals have the

potential to create a long term barrier to fish passage which, depending on the location, could represent a loss of significant habitat of indigenous fauna.

5.69 On this basis I conclude that proposed CPW activities in the beds of lakes and rivers will be contrary to Objective BLR 1 and Policy BLR 1.

### **Objective BLR 2 and Policy BLR 2**

5.70 Objective BLR 2 and Policy BLR 2 deal specifically with human activity in riverbeds and ensuring effects of those activities avoid as far as practicable impacts on indigenous fauna, vegetation and sites of significance.

5.71 As discussed by Dr Olsen, Dr Hughey and Mr Hay, construction activities have the potential to impact on a range of values including habitat removal through sediment deposition, disturbance of birds and disruption of fish passage. All these effects could be managed through appropriate monitoring, construction management and consent conditions. However the information put forward to date by the Applicants does not provide enough detail to assess if this will be the case.

5.72 On this basis I conclude that if appropriate consent conditions were applied, the proposed construction activities of CPW in the beds of rivers would not be contrary to Objective BLR 2 and Policy BLR 2.

## **Chapter 7: Wetlands**

### **Objective WTL 1 and Policies WTL 1 and 2**

5.73 Objective WTL1(1) seeks to manage Canterbury's wetlands to allow for their use while meeting several constraints, including:

- No overall reduction in the area of moderate or higher significance wetlands in the region; and
- No overall reduction in the natural character of wetlands and their margins, and in particular no overall loss of significant indigenous habitats.

5.74 Policies WTL 1 and 2 then set up a framework for the assessment of wetland significance, allowing drainage of smaller low value wetlands and promoting various non regulatory methods.

5.75 These policies apply to all wetlands within the scheme area outside of those covered by the WRRP.

5.76 Mr Murray suggests the only areas of wetland reduction are confined to the Wainiwaniwa Valley. It is unclear if this is the case given the s42A report of Mr Davis and lack of comprehensive survey of the scheme area.

5.77 What is agreed however is the significance of the wetlands in the Wainiwaniwa valley given their associated Canterbury Mudfish values.

5.78 As I have previously discussed I consider that Rule WTL 7 applies making drainage, discharges and creation of all wetlands in the scheme area a discretionary activity subject to consideration under Objective and Policy 1.

5.79 Given the evidence of Dr McIntosh and s42A reports of Mr Davis and Mr Grove, I consider insufficient detail has been provided regarding proposed offsetting of the loss of moderate or higher significance wetlands and the number and values of other wetlands in the scheme area.. Therefore I consider any activity including the destruction,

drainage or discharge to wetlands in the scheme area are contrary to Objective WTL1(1) and Policy WTL1.

### **Proposed Selwyn District Plan (PSDP)**

5.80 In this section of my evidence I identify matters of concern to the Department as they relate to relevant Objectives and Policies of the PSDP.

5.81 I understand no assessment of the Transitional District Plan is necessary as all outstanding appeals to the PSDP do not affect the relevant parts of the plan to be considered when assessing the applications by CPW.

5.82 Given the similarity between section 104 and section 171 of the RMA, I have combined my consideration of the CPW resource consent applications and NoR where appropriate as they relate to the relevant Objectives and Policies of the PSDP.

### **Section 1.1 Land and Soil**

5.83 The three Objectives in this section seek to avoid adverse effects of activities on the soil resource through the associated policies of controlling earthworks on slopes and unstable land and controlling removal and stockpiling of topsoil.

5.84 Objective 2 and Policy 4 are of particular relevance, given the proposed headrace and construction activity across the river terraces of the Waimakariri and Rakaia Rivers in particular.

5.85 Policy 7 is also of relevance in terms of the large volumes of top soil which will be moved and stored during the construction phase of the scheme. Given the lack of detail in the various proposed management plans being suggested by the applicant which might cover these activities, in my opinion it is unclear if the scheme is consistent with Policy 7.

## **Section 1.2 Indigenous Vegetation and Wilding Tree Spread, Ecosystems, Vegetation and Habitat.**

### **Objectives 1, 3 and 4 and Policies 1, 2, 5 and 6.**

5.86 I concur with Mr Boyes assessment based on Mr Davis s42A report on this matter that the proposal as it stands is contrary to Objective 1 and 3 and Policies 2, 5 and 6.

5.87 However in my opinion the proposal as it currently stands, including the NoR, in addition to the above, is also contrary to Objective 4. The adverse effects on known ecological values (Wainiwaniwa wetlands and Canterbury Mudfish habitat) and unknown values have not been adequately addressed and cannot be avoided, remedied or mitigated based on the current proposal.

5.88 Despite the lack of identified sites of significance in the PSDP, Mr Davis has identified that various ecologically accepted criteria can be applied to assess significance and in doing so has identified some areas which could be significant, particularly some riparian and river terrace wetlands. There are some criteria within the PSDP (Appendix 12) for assessing significance, but they appear to only apply to indigenous vegetation. In addition, Mr Grove states that given the paucity of remaining indigenous vegetation on the Canterbury Plains, all that is remaining could be regarded as significant.

5.89 I have also interpreted Drs McIntosh and Hughey's evidence to mean that all waterbodies containing Canterbury Mudfish and the beds of the

Waimakariri and Rakaia rivers are significant habitats. If that is the case then these areas are clearly covered by Objectives 1, 3 and 4.

- a. In terms of the ability of the applicant to comply with Policies 2 and 6 in particular, there seems to be some agreement between the above experts as to the proposed mitigation including conditions and management plans lacking specificity, certainty, and for management plans, enforceability by consent authorities and therefore not being of sufficient detail to be able to assess whether the effects of the activities can be avoided, remedied or mitigated.

5.90 Dr McIntosh is clear in his assessment that the proposed Wainiwniwa dam will very likely eliminate the Canterbury mudfish population in the Wainiwniwa Valley and that the proposed mitigation and offset will not address the effects of the proposal on mudfish habitat generally.

### **Section 1.3 Water**

#### **Objectives 1, 2, 3, 5, 6 and Policies 2, 4, 5, 6, 8 and 10.**

5.91 This section of the PSDP establishes a framework to control and manage land use activities effects on water so that the amenity, natural character, water quality and ecosystem values of wetlands, riparian areas, waterbodies and groundwater are protected or enhanced.

5.92 Of particular interest are Objective 5 and Policy 10 which seeks to ensure remaining wetlands within the District are protected and degraded areas restored.

5.93 I concur with Mr Boyes assessment based on Mr Davis and Mr Craig's evidence on this matter that the proposal as it stands is contrary to Objective 1 and 3 and Policies 2, 5 and 6.

5.94 In addition I would also add the evidence of Mr Larned and Dr Olsen as relevant considerations in relation to Policy 4. Both of the above

assess land use intensification arising from the scheme as potentially having a negative effect on water quality and macroinvertebrate communities in adjacent lowland streams. They both also conclude that the proposed mitigation measures to address these effects, namely Farm Management Plans, contain inadequate information to be able to assess their effectiveness.

5.95 I also consider the evidence of Dr McIntosh and Mr Grove as relevant considerations in relation to Policy 10. Both of the above conclude that wetlands, significant and otherwise, in the Wainiwniwa Valley and river terraces, will be lost as a result of the proposed activities. The lack of specific detail as to mitigation is either so unclear as to be unknown or in the case of the Wainiwaniwa wetlands, will not mitigate or offset the loss (Dr McIntosh).

5.96 In my opinion the proposal as it currently stands, including the NoR, in addition to the above, is also contrary to Objective 5 and Policy 5. I agree with Mr Boyes on this matter.

## **Section 1.4 Outstanding Natural Features and Landscapes**

### **Objective 1 and Policies 1, 2 and 3**

5.97 Mr Boyes in his s42A report suggests the Rakaia and Waimakariri Rivers are not listed as Outstanding Natural Features or Landscapes in the PSDP and therefore should only be considered to some lesser degree under section 6(b) RMA.

5.98 However I accept the evidence of Ms Lucas and agree with Mr Smith that the rivers are Outstanding Landscapes and Natural features and that the proposed intake structures in particular will have significant impacts. The application is therefore contrary to Objective 1 and Policy 2 of the PSDP.

## **Section 2.2 Utilities**

### **Objective 2 and Policies 6 (a and b)**

5.99 The above Objective and Policies set out an enabling framework for the consideration of utilities, while allowing for the mitigation of adverse effects.

5.100 Mr Boyes assesses the lack of information supplied by the applicant as to how they will mitigate the effects of utility placement on landscape, ecological and cultural values as being the reason behind the potential effects of the utilities being contrary to Objective 2 and Policies 6a) and b). I agree.

### **Land managed by the Department of Conservation**

5.101 As a further issue to bring to the Commissioners attention is that the District Council has notified that land management by the Department will be effected.

## **6. RESOURCE MANAGEMENT ACT 1991**

### **Sections 104-108**

6.1 Relevant section 104 matters have been discussed throughout my evidence, with reference to witnesses called by the Department and other experts.

### **Section 104**

6.2 In relation to s.104 (1)(a) I consider that there will be a number of significant actual and potential effects on the environment arising from the construction and operation of the CPW Scheme. There is a degree of uncertainty about some of the effects. This is due to the fact that insufficient information has been provided by the applicant to confirm the extent of certain effects and precisely what mitigation the applicant proposes. Of particular note are:

- the significant and cumulative effects on threatened bird habitat and values of the Waimakariri River, as outlined by Drs Hughey, Olsen and Hayes.
- The significant effect on threatened Canterbury Mudfish and their habitats as outlined by Drs McIntosh, Mr Hay and Ms Bowie.

- The overall uncertainty and lack of information about effects, specific and cumulative, on the ecological values of foothill and lowland streams, Te Waihora/Lake Ellesmere, wetlands within the river terrace and Plains locations and indigenous vegetation remnants.

6.3 In relation to s.104 (1)(b), I consider that the proposal will be inconsistent with a considerable number of the objectives and policies of the Regional Policy Statement, Waimakariri River Regional Plan, Proposed Natural Resources Regional Plan and Proposed Selwyn District Plan as outlined earlier in my evidence . Some question also remains regarding the ability of the scheme to comply with the requirements of the Rakaia Water Conservation Order, particularly in relation to discharge water quality parameters and the overall availability of water to be taken.

6.4 In relation to s104(1)(c), I consider there are other matters, in particular other plans and strategies, which are relevant and reasonably necessary to be considered. These are outlined below.

### **Canterbury Conservation Management Strategy 2000 - 2009(CMS)**

6.5 The CMS for the Canterbury Conservancy was approved by the New Zealand Conservation Authority in 2000.

6.6 The CMS is prepared under the Conservation Act 1987 and its purpose is:

*“to implement general policies and establish objectives for the integrated management of natural and historic resources and for recreation, tourism and other conservation purposes.”* (Section 17D Conservation Act 1987)

6.7 The CMS provides an overview of the Conservancy’s issues and an overall direction for its activities which are carried out under the more

specific management plans prepared for the Department's major land units which include in particular National Park management plans.

- 6.8 The CMS provides an overview of the Conservancy's issues and an overall direction for its activities which are carried out under the more specific management plans prepared for the Department's major land units which include in particular National Park management plans.
- 6.9 The CMS promotes an integrated approach to managing the protection of freshwater ecological values. In my view this is an important consideration in assessing the effects of the proposed scheme because the Department's work in managing threatened species is likely to be compromised unless the habitat of these species are protected. The Council's responsibilities under the RMA are a key means of protecting habitat in freshwater environments.
- 6.10 Part 3 of the CMS outlines the Goals and Priorities for conservation in the region. This is divided into key priorities by place, based on risks, opportunities and issues identified:

Plains – For Freshwater systems the Key Result Area are

- “Protection and enhancement of Te Waihora/Lake Ellesmere...”
- Canterbury Mudfish surveys and protection

Waimakariri – For Freshwater systems the Key Result Area is:

- “Waimakariri, Coleridge and Ryton catchments wetland protection”

Plains – For Indigenous species the Key Priorities are:

- “Canterbury Mudfish, wrybill and black fronted tern, long tailed bat and threatened plants.”

Waimakariri – For Indigenous species, Key Priorities are:

- “Threatened skinks, birds, kokopu and plants.

I include the relevant sections of the CMS as Appendix 1.

## **New Zealand Biodiversity Strategy (NZBS)**

- 6.11 While the NZBS has not been prepared under the RMA I believe that its contents are relevant and can be taken into account. It reflects New Zealand's international obligations in respect of freshwater environments, in particular in respect of wetlands. Its contents are relevant to these proceedings insofar as they address resource management matters.
- 6.12 The NZBS is applicable to the proposed scheme because there are a number of species, some of which are threatened, present in or associated with waterbodies. These species depend upon the natural functioning of the river. Maintaining life supporting capacity is a key component of sustainable management as defined in Part II of the RMA. The NZBS in Principle 8 of Part 2 states that biodiversity is best preserved in situ by conserving ecosystems and ecological processes to maintain species in their natural habitats. In this case this means maintaining the natural functioning of the river in order to protect habitat of species where they occur naturally and also to adopt a cautious approach to modifications to that habitat. There is also a need to make resource management decisions that are properly informed and are based on present knowledge.
- 6.13 The NZBS consists of several parts. Part One covers a strategy; Part Two states a vision, goals and principles; and Part Three identifies action plans for managing New Zealand's biodiversity.
- 6.14 Two key related principles in Part 2 of the NZBS that are especially relevant to the present case are:
- 6.15 Halting the decline in New Zealand's biodiversity by maintaining and restoring a full range of remaining natural habitats and ecosystems to a healthy functioning state (Principle 3); and

- 6.16 Maintaining habitat for all indigenous species where they naturally occur (Principle 8).
- 6.17 Principle 7 states that where an activity imposes adverse effects on biodiversity that the costs of mitigating or remedying those effects should be borne by those benefiting from the activity.
- 6.18 In Part 3 of the NZBS Theme 3 addresses protecting and managing freshwater ecosystems. Objectives under this theme recognise the importance of the RMA as a means of providing for this protection and that agencies should be endeavouring to protect a full range of remaining freshwater ecosystems and habitats. There are further objectives which specify how this protection should occur by restoration of habitat, enhancement of population of threatened species and identifying and filling critical gaps in knowledge.
- 6.19 I consider that the provisions of the NZBS that I have identified in Appendix 2 of my evidence are relevant considerations in assessing the proposed scheme.

**The New Zealand Mudfish Recovery Plan 2003 – 2013.**

- 6.20 This plan is a further relevant consideration given the recognised key habitat of the threatened Canterbury Mudfish which will disappear as part of the proposed scheme. The key aspects of the plan have been explored by Ms Bowie in her evidence. The key overall objective for the plan is:

Objective 1 – “Protect and manage habitats with key mudfish populations”

- 6.21 I consider the provisions above are relevant considerations. They reinforce the significance of some of the species and habitats that will be affected by the proposed activities and the weight to be given to that significance.
- 6.22 In relation to s104D and as noted earlier in my evidence, there are a number of applications within the scheme which are non complying,

particularly discharge consents, some of which are core to the operation of the scheme such as bywash discharges. I have also discussed the appropriateness of bundling those activities with like activities for consideration as a group under non complying status.

For those bundled activities with non-complying status, I conclude:

- a) Based on expert evidence submitted the potential adverse effects of construction discharges and associated activities along with sluicing, bywash and operational discharges are either inaccessible due to the lack of information provided by the applicant or have the potential to be more than minor.
- b) With respect to meeting the Objectives and policies of relevant plans, in many cases, particularly in relation to construction activities and discharges, compliance is unclear given the lack of information and reliance on yet to be formulated management plans to address effects to be prepared by the applicant. In relation to operational discharges and associated structures and effects, I consider those activities to be contrary to the relevant Objectives and Policies.

### **Section 105**

6.23 Section 105(1) sets out additional matters in relation to consideration of applications for discharge permits. In my opinion, insufficient information has been provided to ensure these matters are suitably addressed, including a lack of information about the nature of receiving environments, reasons for the proposed choice, and possible alternatives including discharges to other receiving environments.

### **Section 107**

6.24 Section 107(1) sets out matters that preclude granting of discharge permits ((d) and (g) being the relevant matters). Based on the evidence of Dr McIntosh, Dr Olsen, Dr Larned and Mr Hay, I conclude that insufficient information has been provided regarding the adequacy of

proposed mitigation to evaluate the potential effects of the proposal under this section of the Act.

### **Section 108**

6.25 Section 108 deals with conditions that can be applied to resource consents. The applicant places great significance on the use of management plans to address various effects of the scheme. While management plan templates are included as proposed condition of consent, they do not contain sufficient detail, specificity or certainty in order to assess their effectiveness with regard the ability of the plans to avoid, remedy or mitigate adverse effects.

### **Section 171**

6.26 Section 171 sets out the provisions and assessment for consideration of a requirement. These include, subject to Part II, relevant provisions of the RPS, a plan or proposed plan, consideration of alternatives, the necessity of the designation and any other reasonably necessary matters.

6.27 In relation to section 171(1)(a) I consider based on my earlier discussions and the evidence I have referred to that the requirement is contrary to the RPS, PNRRP, WRRP and PSDP.

6.28 In relation to section 171(1)(b) I consider that it is likely the proposed requirement will have a significant adverse effect on the environment and as such requires a consideration of alternative sites, routes or methods. From the information provided it is unclear what consideration has been given to alternative sites, routes or methods by the Applicants.

## **7. Part II Resource Management Act**

7.1 Section 6 of the Act contains a number of matters of national importance which must be recognised and provided for when considering activities under the Act.

**Section 6(a)**

7.2 The natural character of wetlands, lakes and rivers and their margins is considered by Dr Hayes, Dr Hughey, Dr McIntosh, Dr Larned, Mr Hay, Mr Davis, Mr Grove and Ms Lucas in relation to the ecological and landscape values of those areas. Generally they have concluded that there is either insufficient information to assess the overall effects, particularly on lowland streams and some wetlands. More specifically, Dr Hughey, Dr McIntosh and Ms Lucas describe significant impacts on the Waimakariri and Rakaia Rivers and Wainiwaniwa Valley wetlands which in my opinion will not achieve the preservation of the natural character of these areas.

**Section 6(b)**

7.3 Outstanding natural features and landscapes are considered by Ms Lucas and Mr Glasson. Having considered their evidence it is my opinion that the proposal will not protect these features and landscapes from inappropriate use and development.

**Section 6(c)**

7.4 As noted in the evidence of Dr Hughey, Dr McIntosh, Ms Bowie and Mr Davis, significant impacts can be expected from the proposal on, in particular, the threatened Canterbury Mudfish and its habitat and the Waimakariri River ecology and associated threatened bird species. There are also a number of significant gaps in the information supplied by the applicant meaning the full range of significant indigenous vegetation and significant habitats of indigenous fauna across the scheme are unknown and as such the effects of the proposal on them is also unknown.

7.5 Having considered the above information, I consider the CPW proposal to be inconsistent with section 6(c).

### **Section 7 (d) and (f)**

7.6 The quality of the environment and intrinsic values of ecosystems is raised in general terms by all experts presenting evidence on behalf of the Department and Fish and Game. Based on this evidence it is my view that either the effects on these values is unclear, given the lack of information, or that the values will be compromised.

### **Section 5**

7.7 Section 5 outlines the Purpose of the RMA, being to allow the use of natural resources for some benefit while sustaining their long term potential, ensuring their life supporting capacity is safeguarded and avoiding, remedying or mitigating adverse effects.

7.8 The Applicant's have put forward a case that the proposal will provide people access to water to irrigate land, thereby providing social and economic benefits to people and communities.

7.9 There are however a large array of adverse effects which have been identified by the experts I have referred to. In some cases these effects could have the potential to affect the life supporting capacity of particular ecosystems.

7.10 Based on the analysis presented in my evidence and the evidence prepared by the experts I have referred to, I consider the proposal will not avoid, remedy or mitigate adverse effects on the environment and in some instances will not safeguard the life supporting capacity of ecosystems and as such does is inconsistent with section 5 RMA.

### **8. CONCLUSION**

8.1 I have presented evidence in support of the Departments submissions.

8.2 I accept this is one component of the wider analysis of the proposed CPW scheme. The applicants have outlined positive benefits that may

occur as a result of the scheme proceeding. In the alternative, the Department and associated experts have identified a large number of adverse effects arising from the proposal.

- 8.3 I consider the effects of the proposed scheme are more than minor having regard in particular to effects on ecological functioning, natural character and landscape values.
- 8.4 I am of the view that the application is also contrary to a large number of the objectives and policies of the RPS, PNRRP, WRRP and PSDP. It is also potentially contrary to the Rakaia Water Conservation Order.
- 8.5 Given the above I consider the relevant parts of the application do not meet the tests set out in section 104D.
- 8.6 With regard to Part II of the RMA, I conclude that the applications are inconsistent with and will not promote the sustainable use of natural and physical resources and therefore will not achieve the purpose of the RMA.

David Newey

5 May 2008

## **APPENDIX 1**

### **RELEVANT SECTIONS FROM THE CONSERVATION MANAGEMENT STRATEGY**

Plains section pg 67

Key Priorities

#### 4.6.1 Ecosystems and Species

Issues

The unit consists of five ecological districts (Low Plains, High Plains, Ellesmere, Makikihi and Glenavy), the first two of which have been reconnaissance surveyed (report in preparation, DOC). Ellesmere has substantial existing ecological reports.

The plains constitute perhaps the most intensively modified surface encountered within the Conservancy. Only small fragments of indigenous vegetation remain. Consequently, much of the original biota is no longer represented or is relegated to a few precarious sites in areas such as riverbeds and roads. They survive more by luck than conscious management.

Braided rivers are a special feature of the plains and are nationally significant for their indigenous fauna and flora. They are best known for their distinctive bird life. The protection of the riverbed habitats also benefits the nationally important recreational fisheries. Horseshoe Lagoon is the only remaining habitat for the giant kōkopu/taiwharu in Canterbury. Canterbury mudfish/kōwaro live primarily in the swamps and creeks of the Canterbury plains.

Objectives

- . To identify the significant indigenous vegetation and threatened plant and animal species of the Plains unit.
- . To use a range of effective methods to protect the indigenous biodiversity of the Plains unit.
- . To protect and enhance the viability of priority threatened species populations and their habitat(s) in the Plains unit.
- . To advocate for the provision of linkages and corridors between threatened communities as a means of strengthening their viability and long-term survival.

Implementation

The Conservancy will:

1. Recognise the need to survey the ecological values of the Makikihi and Glenavy ecological districts.
2. Encourage Transit New Zealand, Canterbury Regional Council and district councils to avoid adverse effects on significant remnant areas of indigenous vegetation.
3. Ensure an adequate database of all relevant species and habitats is maintained in order to provide the regional council with information that ensures river works are timed and designed to minimise wildlife disturbance, and that they mimic natural riverbed processes.
4. Advocate for protection of in-stream values, habitat and ecological processes, and to maintain the lifesupporting capacities of braided rivers and other waterways. Where abstraction is considered acceptable, advocacy will include requesting minimum flow criteria.
5. Encourage community and district council initiatives to maintain and enhance remnant indigenous ecosystems, and to provide for linkages between these remnants.
6. Promote and utilise the maps, Indigenous Ecosystems of Otautahi/Christchurch (Lucas Associates, 1995. 1997).
7. Undertake research and/or surveys to clarify the distribution, status, habitat preferences and threats to the following species in the unit:
  - . Birds
  - . Wrybill/ngutu-pare
  - . Black-fronted tern/tarapirohe
  - . Bats
  - . Long-tailed bat/pekapeka
  - . Fish
  - . Canterbury mudfish/kōwaro
  - . Plants
  - . Shrubby tororara
  - . Melicytus .Egmont.
  - . Myosotis lytteltonensis
  - . Coprosma wallii
  - . Tupeia antarctica

#### 4.6.2 Te Waihora/Lake Ellesmere

##### Issue

Te Waihora/Lake Ellesmere is the most important wetland habitat of its type in New Zealand. To Ngāi Tahu it represents a major mahinga kai and an important source of mana. To Pākehā it has a range of values and uses: commercial fishing and farming, which dominate productive use; bird watching; recreational fishing, boating and duck hunting, which dominate recreational activity. The lake also provides essential habitats for a large range of bird, plant and invertebrate species. The lake has high nutrient levels, and its water levels are highly managed. Nevertheless, improved water level management in particular would benefit the lake ecosystem as would improved management of the surrounding lake edge wetland margins.

The Department considers that the existing water conservation order can, perhaps with some modification, be used to improve this water management regime.

There is a statutory requirement by the New Zealand Coastal Policy Statement 1994 (NZCPS) to plan for the inland migration of natural features (such as coastal lagoons like Te Waihora) resulting from such factors as sea-level rise. In its advocacy role, the Department should work with the Canterbury Regional Council to promote higher quality inflows into the lake.

The Department manages a considerable area of lake margin. Some of this land is not wetland or needed as a buffer, and land tenure needs to be rationalised so that the Department is only managing areas important for conservation. The issue is how the Department should divest itself of this responsibility while not compromising natural and historic resources, both now and into the future.

Te Waihora/Lake Ellesmere was subject to a claim to the Waitangi Tribunal. The Waitangi Tribunal recommended that ownership of Te Waihora be passed to Ngäi Tahu and that the tribe have greater involvement in the management of the lake and lake edge margins. These recommendations have been given practical effect in The Deed of Settlement (1997) and the Ngäi Tahu Claims Settlement Act 1998.

Te Waihora/Lake Ellesmere has long been recognised as meeting the nomination criteria for the IUCN: Wetland of International Importance status (see e.g. Palmer, 1982). The Department has, however, delayed nomination pending the resolution of the Ngäi Tahu claim. The Department is clear that any actions it would envisage taking for the conservation of Te Waihora/ Lake Ellesmere need to be done in harmony with Ngäi Tahu aspirations and with a clear conservation focus. This will primarily occur through the Settlement Act.s required joint Te Rünanga o Ngäi Tahu and Department, Te Waihora Management Plan.

#### Objectives

- . To enhance the natural values and process of Te Waihora/Lake Ellesmere lake ecosystem.
- . To assist with the implementation of the Ngäi Tahu Claims Settlement Act in relation to Te Waihora/Lake Ellesmere.
- . To monitor natural trends in Te Waihora/Lake Ellesmere in consultation and participation with Te Rünanga o Ngäi Tahu, with a view to identifying and resolving any management issues.
- . To liaise with Te Rünanga o Ngäi Tahu, the Canterbury Regional Council, adjacent landholders and other affected parties to improve and implement the conditions of the Lake Ellesmere Water Conservation Order.
- . To secure a margin of protected wetland surrounding the lakeshore by trading arable land managed by the Department for privately owned wetlands, and using other protection mechanisms.
- . To seek recognition of the international importance of Te Waihora/Lake Ellesmere and its values.

#### 4.6.5 Canterbury Mudfish/Kōwaro

##### Issue

The long-term survival of the endemic Canterbury mudfish/kōwaro is threatened by the loss and modification of wetland habitats.

##### Objectives

- . To identify existing habitats and populations of the Canterbury mudfish.
- . To increase the number of protected habitats for mudfish and consider captive breeding programmes.

#### Waimakariri Section, pg 75

#### 4.7.2 Lakes and Wetlands

##### Issues

There are a number of lakes, rivers and associated wetlands of important natural character (including landscape value) in basins associated with the Waimakariri, Coleridge and Ryton catchments. These include Lakes Lyndon, Hawdon, Letitia, Marymere, Blackwater, Sarah and Pearson (Moana Rua) in the north and Catherine, Coleridge (Whakamata), Georgina, Ida, Selfe, Evelyn and Henrietta in the south. These water bodies and their surrounds provide important habitats for indigenous species such as the crested grebe/kāmana and are also well used for a variety of recreational activities such as boating (including wind-surfing), fishing and camping. Recreational use may conflict with species protection, and water quality can be affected by nutrient enrichment from adjacent land. Of the lakes, only Pearson and Ida have beds managed by the Department; the remainder are Crown land or private land. Lake Grasmere is managed as a wildlife refuge.

Uncontrolled willow growth can also have an adverse effect on lake margins and downstream catchments. The Coleridge Hydro Power Scheme has had adverse effects on natural values and will be subject to ongoing RMA consent monitoring and review.

##### Objectives

- . To support land management practices that will maintain natural ecosystems, landscape and indigenous species populations.
- . To encourage recreational use compatible with the protection and enhancement of indigenous species and habitats.

## **APPENDIX 2**

### **RELEVANT SECTIONS FROM THE NEW ZEALAND BIODIVERSITY STRATEGY**

#### ***Goal Three***

*Halt the decline in New Zealand's indigenous biodiversity*

*Maintain and restore a full range of remaining natural habitats and ecosystems to a healthy functioning state, enhance critically scarce habitats and sustain the more modified ecosystems in productive and urban environments; and do what is necessary to:*

*Maintain and restore viable populations of all indigenous species and subspecies across their natural range and maintain their genetic diversity.*

(Page 18)

#### **Principles for Managing New Zealand's Biodiversity**

##### **Principle Seven Internalising Environmental Costs**

*Where an activity imposes adverse effects on biodiversity, the costs of mitigating or remedying those impacts should be borne by those benefiting from the activity.*

##### **Principle Eight – In situ Conservation**

*Biodiversity is best conserved in situ by conserving ecosystems and ecological processes to maintain species in their natural habitats....(Page 24)*

##### **Principle Nine – Indigenous Biodiversity Priorities**

*Priority should be given to conserving indigenous species over introduced species, when making management decisions (Page 25)*

### **Principle Ten- Sustainable use**

*Conserving biodiversity is a priority, but does not preclude its use, where this use is ecologically sustainable and does not result in the long-term decline of biodiversity.*

### **Principle Eleven – Management Actions**

*Biodiversity management requires a comprehensive approach that recognises all levels of biodiversity... Management actions should identify, and prevent and mitigate the causes of biodiversity loss and in doing so should*

- *Address all key threats*
- *Be based on the best and most current information and knowledge available;*
- *Be adaptive, aiming for continual improvement as new knowledge is gained; and*
- *Be focused on the priority needs; and*
- *Be cost effective. (Page 25)*

### **Principle Twelve – Precautionary Decision Making**

*Management actions to conserve.. biodiversity should not be postponed because of a lack of knowledge, especially where significant or irreversible damage to ecosystems can occur... (Page 25)*

### **Principle Thirteen – Focus on the future**

*Our actions in the past reflect the understanding and conditions of those times; while we can learn from our mistakes, the way forward will not be assisted by apportioning blame for the unsustainable practices of the past. (Page 25)*

## **PART THREE – ACTION PLANS FOR NEW ZEALAND’S BIODIVERSITY**

## **Theme 2 – Freshwater biodiversity**

### **Objective 2.1 Protection and sustainable management of freshwater ecosystems**

*Ensure that management mechanisms, including mechanisms under the Resource Management Act and protected area statutes, adequately provide for the protection of freshwater biodiversity from adverse effects of activities on land and in water.*

*Protect a full range of remaining freshwater ecosystems and habitats to conserve indigenous freshwater*

*biodiversity, using a range of appropriate mechanisms. (Page 52)*

### **Objective 2.3 – Freshwater habitat restoration**

*Restore areas of degraded or scarce natural freshwater habitat and ecosystems that are priorities for indigenous biodiversity. (Page 53)*

### **Objective 2.4 – Threatened freshwater species management**

*Enhance population numbers and ranges of indigenous freshwater species threatened with extinction and prevent additional species and ecological communities from becoming threatened. (Page 54)*

## **Theme 9 – Information, Knowledge and Capacity**

### **Objective 9.4 Expand the knowledge frontier**

*Identify and fill critical gaps in scientific knowledge, including applied research, and prioritise and coordinate future research to address key issues and threat to biodiversity. (Page 111)*

### **Objective 9.4 Reporting and adaptive management**

*Ensure that local, regional and national reporting on the state of indigenous biodiversity informs ongoing priority setting for biodiversity management and research as a key part of an adaptive management approach. (Page 112)*