

## 10.1 Introduction

This section assesses the statutory framework applicable to the proposed Central Plains Water Enhancement Scheme, with particular respect to the Resource Management Act 1991 and the underpinning Regional and District Plans.

## 10.2 Resource Management Act 1991

### 10.2.1 Part 2 – Purpose and Principles

#### Sections 5-8

Section 5 of the RMA contains the purpose of the Act:

##### *5. Purpose*

- (1) *The purpose of this Act is to promote the sustainable management of natural and physical resources.*
- (2) *In this Act, “sustainable management” means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –*
  - (a) *Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
  - (b) *Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
  - (c) *Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

Section 6 of the RMA contains matters of national importance, to be recognised and provided for in achieving the purpose of the Act:

##### *6. Matters of national importance*

*In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:*

- (a) *The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:*
- (b) *The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:*
- (c) *The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*
- (d) *The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*
- (e) *The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.*
- (f) *The protection of historic heritage from inappropriate subdivision, use, and development.*
- (g) *The protection of recognised customary activities.*

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Section 7 of the RMA contains other matters which shall be given particular regard to in achieving the purpose of the Act:

**7. Other matters**

*In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to –*

- (a) *kaitiakitanga:*
- (aa) *the ethic of stewardship:*
- (b) *the efficient use and development of natural and physical resources:*
- (ba) *the efficiency of the end use of energy:*
- (c) *the maintenance and enhancement of amenity values:*
- (d) *intrinsic values of ecosystems:*
- (e) *repealed.*
- (f) *maintenance and enhancement of the quality of the environment:*
- (g) *any finite characteristics of natural and physical resources:*
- (h) *the protection of the habitat of trout and salmon:*
- (i) *the effects of climate change:*
- (j) *the benefits to be derived from the use and development of renewable energy.*

Section 8 of the RMA states the role of the Treaty of Waitangi in achieving the purpose of the Act:

**8. Treaty of Waitangi**

*In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).*

**Assessment**

The purpose and principles of the Act direct the objectives, policies and methods of the underlying Regional Policy Statement and Regional and District Plans. To this extent the assessment elsewhere in this section and AEE implicitly addresses whether the CPW scheme is consistent with the purpose and principles of the Act. However, this section provides a more direct assessment of whether the CPW scheme will promote the sustainable management of natural and physical resources.

The ability to irrigate land will provide for the social and economic wellbeing of people and communities. This will occur through three principal means:

- (1) Construction/operation of the scheme and the associated employment of people;
- (2) Increased land productivity for the shareholders of the scheme,
- (3) Flow-on social and economic benefits from (1) and (2) above (e.g. employment, secondary industries, etc) on a local, regional, and national level.

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The above positive effects are ultimately the reason why such a scheme is being proposed. Detailed discussion of the social and economic benefits are contained in Section 8 of the AEE.

The benefits will be derived from the use and development of the natural resource (water) provided by the Rakaia and Waimakariri Rivers. The Act enables the use and development of natural resources for human benefit, provided it is used in a way, or at a rate, that does not compromise the ability of the resource to provide for future generations, safeguards the life-supporting capacity of the resource, and avoids, remedies or mitigates adverse effects on the environment.

The AEE has demonstrated that the water can be taken from the rivers within existing allocation regimes. In basic terms these regimes allow for water to be abstracted until such time that a set minimum river level is reached, below which takes for irrigation must cease. In other words, these regimes have already set a baseline below which impacts on the environment are unacceptable. 'Unacceptable' in this sense means that the resource may not be sustained for present and future uses, the life-supporting capacity of the resource may be degraded, and significant adverse effects on the environment could occur.

The CPW scheme does not involve the taking of any water below the minimum levels that have been set in the WRRP or Rakaia River Water Conservation Order. A critical component of the project is the storage lake, which will allow water to be 'harvested' during times when there is a relative abundance of water which otherwise does not serve an explicit use in terms of its resource value or its life-supporting capacity. The stored water can then be used for irrigation when the rivers are near or below their minimum flows. This is considered an efficient use of the natural resource.

The CPW scheme requires a large investment in infrastructure to deliver the abstracted water to its end users. This infrastructure relies on the use and development of natural and physical resources, including the land resource and existing structures. The infrastructure is clearly a critical part of delivering the social and economic benefits previously described, and will have a number of ancillary benefits, such as amenity and recreation enhancement and water resource augmentation. However, the infrastructure – in terms of its construction, operation and on-going presence as a permanent feature in the landscape – will have a range of impacts on natural and physical resources which are essentially unavoidable. These impacts have been described throughout the AEE, and are relevant to nearly all parts of Sections 5-8 of the Act. By way of summary, such impacts include effects on the natural character of rivers and their margins, on water quality, on instream ecology, on amenity values, and on Maori values.

Where any of the effects of the CPW scheme on the environment can be described as adverse, to a large extent they can be avoided, mitigated or remedied to a minor level, through appropriate design, construction and operation methodologies. These methodologies will be consistent with the matters raised under sections 6-7 of the Act, particularly when considered in the context of the existing environment as described in Section 6 of this AEE. Through consultation with Ngai Tahu the principles of the Treaty of Waitangi have been taken into account.

For the above reasons, it is considered the CPW scheme can deliver social and economic benefits to the community, while sustaining the water and land resource, maintaining their life-supporting capacity, and avoiding, remedying or mitigating adverse effects on the environment. Through appropriate design and

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construction and operation methods, important environmental values within the project area can be maintained and in many instances enhanced.

Overall, the construction and operation of the CPW scheme, subject to appropriate design and construction and operation methodologies, is considered consistent with the purpose and principles of the RMA.

### 10.2.2 Part 3 – Duties and Restrictions

Part 3 of the RMA contains the duties and restrictions under the Act. Sections relevant to the CPW scheme project are summarised in Table 11-1 overleaf.

Section 1 “Introduction” of this AEE contains a full list of the various resource consents required under Part 3. The main types of activities requiring resource consent are broadly summarised here:

- a) Take water from the Waimakariri and Rakaia Rivers (covered under previous applications);
- b) Use water for irrigation and ancillary purposes;
- c) Divert water to:
  - (i) facilitate the taking of water;
  - (ii) allow construction activities to occur in drier conditions;
- d) Dam water at the storage lake;
- e) Erect/place structures, including:
  - (i) headrace and distribution network races;
  - (ii) dam;
  - (iii) intake structures, siphons, pipes, and other structures in the bed of a river or lake;
  - (iv) pump stations and other buildings/facilities, including temporary buildings during construction;
- f) Use and maintain/repair all structures.
- g) Excavate and disturb land (including river and lake beds and riparian margins), for the purposes of:
  - (i) erecting/placing, using and maintaining/repairing structures;
  - (ii) to facilitate diversion and damming activities;
- h) Discharge water from the headrace and canal network to surface waterbodies and groundwater;
- i) Discharge contaminants to air, land and water, from construction, use, and maintenance/repair activities.

Table 11-1: Relevant Duties and Restrictions under the RMA

RMA Section	Summary	Consent type	Consent Authority
9(1)	No person may use land [e.g. earthworks, build structures] in a manner that contravenes a rule in a district or proposed district plan, unless allowed by a resource consent.	Land Use	Selwyn District Council
9(3)	No person may use land [e.g. earthworks, build structures] in a manner that contravenes a rule in a regional or proposed regional plan, unless allowed by a resource consent.	Land Use	Canterbury Regional Council
13	No person may, in relation to the bed <sup>*1</sup> of a river <sup>*2</sup> or lake: <ul style="list-style-type: none"> <li>• Use, erect and maintain/repair structures; or</li> <li>• Excavate or disturb the bed; or</li> <li>• Introduce plants; or</li> <li>• Deposit substances; or</li> <li>• Reclaim or drain the bed, unless expressly allowed by a rule in a regional, proposed regional plan or by a resource consent.</li> </ul> No person may: <ul style="list-style-type: none"> <li>• Enter or pass across the bed of a river or lake; or</li> <li>• Disturb, damage or remove plants, in a manner that contravenes a rule in a regional plan or proposed regional plan, unless allowed by a resource consent.</li> </ul>	Land Use	Canterbury Regional Council
14	No person may take, use, dam or divert any water <sup>*3</sup> unless the taking, use, damming, or diversion is allowed by a rule in a regional plan and proposed regional plan or a resource consent.	Water Permit	Canterbury Regional Council
15	No person may discharge any: <ul style="list-style-type: none"> <li>• Contaminant or water<sup>*3</sup> into water; or</li> <li>• Contaminants onto or into land in circumstances which may result in that contaminants entering water; or</li> <li>• Contaminant from any industrial or trade premises into air; or</li> <li>• Contaminants from any industrial or trade premises onto or into land, unless the discharge is allowed by a rule in a regional plan and a proposed regional pan or a resource consent.</li> </ul> No person may discharge any contaminants into the air, or into or onto land, from: <ul style="list-style-type: none"> <li>• Any place; or</li> <li>• Or any other sources, whether moveable or not, in a manner that contravenes a rule in a regional plan or proposed regional plan unless allowed by a resource consent.</li> </ul>	Discharge Permit	Canterbury Regional Council

\*1 – **Bed** - (a) In relation to any river, is the space of land which the waters of the river cover at its fullest flow without overtopping its banks: (b) In relation to any lake controlled by artificial means [i.e. the storage lake], the space of land which the waters of the lake cover at its maximum permitted operating level.

\*2 – **River** - means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal):

\*3 – **Water** - (a) Means water in all its physical forms whether flowing or not and whether over or under the ground: (b) Includes fresh water, coastal water, and geothermal water: (c) Does not include water in any form while in any pipe, tank, or cistern:

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### 10.3 Regional Policy Statement

The Canterbury Regional Policy Statement (RPS) became operative in June 1998. The RPS provides an overview of the resource management issues of the region and its chapters contain objectives, policies and methods relating to specific resources of the natural and physical environment. The chapters of particular relevance to the CPW scheme are:

- Chapter 5 - Matters of Resource Management Significance to Tangata Whenua
- Chapter 6 - Provision for the Relationship of Tangata Whenua with Resources
- Chapter 7 - Soils and Land use
- Chapter 8 - Landscape, Ecology and Heritage
- Chapter 9 - Water
- Chapter 10 - Beds of Rivers and Lakes and their Margins
- Chapter 12 - Settlement and the Built Environment
- Chapter 13 - Air
- Chapter 14 - Energy
- Chapter 15 - Transport
- Chapter 16 - Natural Hazards

The provisions contained in Sections 5-8 of the RMA provide the framework for the objectives and policies of the RPS. The RPS in turn provides the framework for the issues, objectives, policies and methods of the underlying Regional Plans. These are discussed in greater detail in the following sections. This discussion implicitly addresses whether the CPW scheme is consistent with the provisions of the RPS and Sections 5-8 of the RMA

### 10.4 Regional Plans

As relevant to the project, Regional Plans contain objectives, policies and rules covering activities subject to Sections 9(3), 13, 14, and 15 (as per Table 11-1 earlier).

The following Regional Plans, administered by Environment Canterbury, are relevant to the project:

- a) Transitional Regional Plan (TRP);
- b) Waimakariri River Regional Plan (WRRP);
- c) Proposed Natural Resources Regional Plan (PNRRP);

With respect to the WRRP, this principally has effect over the project insofar as the taking of water from the Waimakariri River, discharges to surface waterbodies in the Waimakariri River catchment, and

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activities in the beds of rivers within the Waimakariri River catchment. Similar rules in the NRRP, which have effect over most of the Canterbury region, do not have any effect in that part of the project area contained in the Waimakariri River catchment.

With respect to the NRRP, it is very important to note that the provisions of Chapters 4-8 of the Plan are in the very early stages of their life cycle, having only been publicly notified in July 2004. Submissions against the Plan were lodged by December 2004, with the Summary of Decisions Requested notified on 15 October 2005. The period to make further submissions closes on 19 December 2005. Therefore, the objectives, policies and rules of the NRRP, as presented in this report, are subject to change following the hearing process, release of decisions, and any appeals.

### 10.4.1 Rule Assessment

Refer to Appendix E.

### 10.4.2 Waimakariri River Regional Plan – Objectives and Policies

Objective 5.1 is concerned with water quantity:

#### *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.*

Policies 5.1 and 5.2 support Objective 5.1 as follows:

#### *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):*

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- (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;*
  - (ii) *the aquatic ecosystems and habitats, wetlands and amenity based on the Kaiapoi-Cam-Cust, Otukaikino Creek, Styx, Kowai and upper Eyre River systems, are protected.*

**Policy 5.2**

*Promote efficiency in the use of water.*

Matters relating to the proposed takes from the Waimakariri River are addressed in the earlier application and AEE lodged by CPWL.

Objective 6.1 is concerned with water quality:

**Objective 6.1**

*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 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.*

Policies 6.1 – 6.3 support Objective 6.1 as follows:

**Policy 6.1**

*Set and maintain water quality standards for, and control the discharge of contaminants into, surface water bodies in the Waimakariri River Catchment as outlined in Figure 6 and defined in Map 2 to:*

*[...]*

- (b) *ensure water quality is suitable for drinking water for animals, contact recreation, fisheries, fish spawning, aquatic ecosystems and is not altered in those characteristics that have a direct bearing upon the aesthetic values of water or Tangata Whenua cultural values, in the mainstem of the Waimakariri River downstream of the confluence of the Waimakariri River with the Otukaikino Creek;*
- (c) *ensure water quality is suitable for drinking water for animals, fisheries, fish spawning, aquatic ecosystems and is not altered in those characteristics that have a direct bearing upon the aesthetic values of water, in the Kaiapoi River, Styx River, Otukaikino Creek downstream of the Groynes picnic area, and their tributaries; and*
- (d) *ensure that, in the Otukaikino Creek and its tributaries at, and upstream of, the Groynes picnic area:*
  - (i) *water quality is suitable for drinking water for animals, fisheries, fish spawning, and aquatic ecosystems;*
  - (ii) *the natural water quality with respect to organisms of public health significance is maintained; and*

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(iii) *water quality is suitable aesthetically and visually for contact, and other forms of, recreation.*

**Policy 6.2**

*Promote land management practices in:*

- (a) *the Waimakariri River Catchment which assist in achieving water quality standards; and*
- (b) *the catchment of the Groynes picnic area of the Otukaikino Creek which improve water quality at the picnic area to a level suitable for contact recreation.*

**Policy 6.3**

*Within ten years of this plan becoming operative, except for stormwater, discharge of contaminants into the Waimakariri River or its tributaries occur unless the discharge is of a standard that ensures the quality of receiving water is not reduced outside of a reasonable mixing zone.*

Water will be discharged back to the Waimakariri River via the sluice and fish bypass channels at the intake sites, and via Races D2 and D3 at the end of the network. During the construction phase, there will be some impact on water quality from instream disturbance. However, these impacts can be minimised through mitigation, and furthermore, the effects are temporary. Once the construction phase is complete and, where relevant, the reservoir has matured and stabilised, the quality of discharged water will not be significantly different from the point that it was taken. The reservoir inlet canal, headrace and distribution race network will to a large extent be isolated from surrounding land use practices (through location and fencing etc) that may otherwise affect water quality. On this basis the proposal is generally consistent with Objective 6.1 and Policies 6.1 and 6.3.

Policy 6.2 promotes land management practices in the Waimakariri River catchment that assist in achieving water quality standards. However, the WRRP does not contain any rules that control land use outside of river and lake beds, as the NRRP governs this aspect. Impacts on water quality from the use of the water is discussed elsewhere in this section and AEE.

Objective 7.1 is concerned with land use activities in the beds of rivers and lakes:

**Objective 7.1**

*Enable present and future generations to gain cultural, social, recreational, economic, health, and other benefits from river and lake beds in the Waimakariri River Catchment while:*

- (a) *safeguarding the existing value of rivers and lakes for efficiently providing sources of drinking water for people and their animals;*
- (b) *safeguarding the life-supporting capacity of the water in the beds of rivers and lakes, including its associated: aquatic ecosystems, significant habitats of indigenous fauna, and areas of significant indigenous vegetation;*
- (c) *safeguarding the existing value of rivers and lakes 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;*
- (h) *protecting and where appropriate enhancing the habitat and heritage values of river and lake beds;*

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- (i) *protecting and where appropriate enhancing the flood carrying capacity of rivers;*
  - (j) *protecting the banks of rivers and lakes, and the stability and performance of essential structures in their beds; and*
  - (k) *protecting the significant habitat of trout and salmon.*

Objective 7.1 is supported by Policies 7.1 and 7.2:

**Policy 7.1**

*Control in the bed of any river or lake in the Waimakariri River Catchment:*

- (a) *the use, erection, reconstruction, placement, alteration, extension, removal, or demolition of any structure or part of any structure in, on, under, or over the bed;*
- (b) *the excavation, drilling, tunnelling, or other disturbance of the bed;*
- (c) *the introduction or planting of any plant or any part of any plant (whether exotic or indigenous) in, on, or under the bed;*
- (d) *the deposition of any substance in, on, or under the bed;*
- (e) *the reclamation or draining of the bed; and*
- (f) *the disturbance, removal, damage, or destruction of any plant or part of any plant (whether exotic or indigenous) or the habitats of any such plants or of animals in, on, or under the bed;*

*so that (a) to (k) of Objective 7.1 are achieved and in particular:*

- (i) *the flood hazard to adjacent land is not increased;*
- (ii) *disturbance to protected wildlife and their breeding habitat, and indigenous vegetation is minimised;*
- (iii) *salmon spawning sites are not disturbed;*
- (iv) *wetlands are protected;*
- (v) *the braided character of the Waimakariri River where it exists is sustained;*
- (vi) *the natural patterns, colours and textures of the riverbed areas are maintained;*
- [...]
- (viii) *below Woodstock, defined in Figure 4 and Map 1, the present natural character of river beds is at least maintained.*

**Policy 7.2**

*Promote measures in river and lake beds in the Waimakariri River restore or enhance those values in (a) to (k) of Objective 7.1.*

The construction of the upper and lower intakes on the Waimakariri River, and the canal siphon beneath the Kowai River, are the areas of river bed within the Waimakariri River catchment affected by the CPW scheme. These structures (and related infrastructure) will be built in a way that does not exacerbate any existing flood or erosion hazard, maintains natural values, and minimises any disturbance to ecological and amenity values. On this basis the proposal is not contrary to Objective 7.1 and Policy 7.2.

### 10.4.3 Proposed Natural Resources Regional Plan – Objectives and Policies

The objectives and policies of the following chapters are relevant to the CPW applications:

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- Chapter 2 – Ngai Tahu and the management of natural resources
  - Chapter 3 – Air quality (AQL)
  - Chapter 4 – Water quality (WQL)
  - Chapter 5 – Water quantity (WQN)
  - Chapter 6 – Beds and margins of lakes and rivers (BLR)

The key objectives and policies are detailed below.

### **Chapter 3 – Air Quality**

The provisions of the Air Quality chapter apply to the entire project area.

#### ***Objective AQL1 Objective for localised air quality***

*Localised contaminant discharges into air do not, either on their own or in combination with other discharges, result in significant adverse effects on the environment including:*

- a) adverse effects on Tangata Whenua from the loss of air's toanga; and*
- b) adverse effects on human health and safety; and*
- c) offensive or objectionable odours; and*
- d) diminished visibility, as a consequence of human activities; and*
- e) corrosion and soiling of structures, not being property owned by those causing the discharge; and*
- f) adverse effects on health and functioning of ecosystems, plant and animals; and*
- g) contamination of water.*

#### ***Policy AQL6: Avoid dust nuisance***

- a) Any dust discharge shall not cause corrosion, be noxious or dangerous, or cause objectionable or offensive dispersal or deposition of particles beyond the boundary of the site where the discharge originates.*
- b) Avoid the encroachment of sensitive activities on existing activities discharging dust into air, unless adverse effects of the discharge can be avoided or mitigated by the encroaching activity.*

Effects on air quality will principally arise from the creation of dust during bulk earthmoving activities associated with the construction of the headrace and canal network, dam and storage lake, and activities in the beds of rivers. Dust may also be an issue post-construction during maintenance activities, and at times when the storage lake is at low levels.

Although the discharge of dust in such a large scale earthworks exercise is to some extent unavoidable, the use of appropriate construction methodologies and mitigation techniques will be employed to minimise dust creation to the greatest extent practicable in the circumstances. Such methodologies and mitigation are discussed earlier in the AEE. It is expected that dust can be managed to the extent that the activities will not be contrary to Objective AQL1 and Policy AQL6.

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**Chapter 4 – Water quality**

The provisions of the Water quality chapter apply to the entire project area, with the exception of discharges to surface water bodies in the Waimakariri River and catchment.

**Objective WQL1.1 Rivers**

(1) *Where the river water quality or the physical and chemical characteristics of the riverbed substrate are:*

*[...]*

(b) *not in a natural state, as a result of point source or non-point source discharges, the water quality and the riverbed substrate are maintained or improved so that:*

- (i) *they are suitable for contact recreation in those reaches that are valued for this purpose;*
- (ii) *water is suitable for stock drinking water;*
- (iii) *they are suitable as a habitat for indigenous species or salmonids;*
- (iv) *they provide for amenity values;*
- (v) *they provide for Ngāi Tahu cultural values, including mahinga kai.*

(2) *In addition, where the water quality, or the physical and chemical characteristics of the riverbed substrate:*

(a) *equals or is better than the numerical outcomes for indicators of nutrient status and sedimentation of riverbed substrate for the river type, specified in Table WQL5, the water quality and substrate are maintained in that condition; and*

(b) *does not meet the outcomes in Table WQL5, the water quality or the characteristics of the substrate are improved so that:*

- (i) *the outcomes in Table WQL5 are achieved; and*
- (ii) *there are no visible heterotrophic slime growths in the river.*

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

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

- (i) *any change to water quality, including changes to; clarity, natural water temperature, dissolved oxygen concentrations, or contaminants caused by reducing or low oxygen conditions;*
- (ii) *sedimentation of the riverbed; or*
- (iii) *excessive growth of periphyton, or aquatic plants;*

*have no significant adverse effects on the instream values of the river; or*

(b) *where the instream values have been adversely affected by a change to the flow regime, the water quality of the river and the physical and chemical characteristics of the riverbed substrate, are improved to restore, as far as practicable, the instream values of the river that existed before the change to the flow regime; and*

(c) *the quality of river water recharging groundwater will not prevent the achievement of Objective WQL2.*

**Objective WQL1.2 Natural and artificial lakes:**

*[...]*

(3) *For artificial lakes, the water quality of the lake shall be maintained so that:*

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- (a) *it is suitable for the activities and uses for which the lake and its water is used; and*
  - (b) *it does not result in persistent seasonal stratification leading to oxygen depletion in the lake; and*
  - (c) *it does not result in toxic or nuisance algal blooms; and*
  - (d) *the average annual phytoplankton biomass does not exceed five milligrams of chlorophyll a per cubic metre of lake water.*

**Policy WQL1 Point source discharges to surface water**

- (1) *Before allowing a point source discharge of:*
  - (a) *a contaminant, excluding those contaminants specified in Policy WQL 2, into surface water or onto land where a contaminant may enter surface water, ensure that:*
    - (i) *measures are or will be applied to avoid the production of the contaminant, or to reuse, recover, or recycle materials to minimise the volume and concentration of the contaminant in the discharge, and*
    - (ii) *the discharge to an existing treatment and discharge system or network is not a practical alternative, and a discharge into or onto land cannot be undertaken in accordance with Policy WQL6.*
  - (b) *water, including water from one catchment being discharged into another part of the same catchment or into another catchment, ensure that:*
    - (i) *the mixing of the waters as a result of the discharge avoids significant adverse effects on Ngāi Tahu cultural values; and*
    - (ii) *the discharge of water will not facilitate the movement of pest plant or animal species, or other exotic species, between catchments; and*
    - (iii) *the discharge of water will not result in the introduction of plant and animal species that do not naturally occur in the receiving catchment, and*
    - (iv) *the discharge of water will not significantly alter the water quality, or characteristics of the bed substrate, aquatic ecosystems or values of the receiving water body, and the water of the river or lake continues to meet the relevant outcomes in Objective WQL1.*
- (2) *If the requirements of Policy WQL1(1) are satisfied and a discharge of a contaminant or water into water in a river or lake is necessary:*
  - (a) *the following matters shall apply when determining the size of a Zone of Non-Compliance, where the water quality standards for the river or lake may not be achieved:*
    - (i) *the discharge of a contaminant shall be into water and the Zone shall be as small as practicable, and either alone, or in combination with other Zones of Non-Compliance shall not occupy a significant proportion of the receiving water body; and*
    - (ii) *take into account the assimilative capacity of the receiving water under low flow conditions for the river, or low levels for a lake, or the equivalent flow or level where the flow has been modified by any take, use, dam, diversion or discharge; and*
    - (iii) *the Zone shall not create a barrier to fish migration or limit contact recreation in areas which support high levels of use; and*
    - (iv) *the Zone shall not result in a significant impact on Ngāi Tahu cultural values; and*
    - (v) *the discharge shall not result in the accumulation of persistent compounds in aquatic ecosystem or in sediment within the Zone of Non-Compliance; and*
  - (b) *the water quality, outside of the Zone of Non-Compliance in a river or lake shall meet the standards specified for that river or lake either in Schedule WQL1 or in a relevant water conservation order.*

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- (3) *Where the existing surface water quality does meet the water quality standard for the water body specified in Schedule WQL1, the discharge shall not be allowed unless it can be demonstrated that the adverse effects of the discharge on the receiving water quality, outside of the Zone of Non-Compliance, are not likely to result in water quality which is less than the water quality standard set for the receiving water.*
- (4) *Where the discharge occurs within the following areas, the water quality standard for that river or lake shall be met at the point of discharge:*
- (a) *within one kilometre upstream in a river, or within a one kilometre radius on a lake, from an intake for a community drinking water supply;*
  - (b) *in a river where the flow is to be maintained in a natural state;*
  - (c) *an area identified as a significant spawning reach for salmon.*

Impacts on the water quality of surface water bodies, resulting from construction activities and discharge of surplus water, have been discussed previously in the AEE. Construction-related effects are considered to be minor, of a short-term nature, and can be mitigated through normal design and construction methodologies. Operation of the Scheme may in the initial years involve the discharge of lower quality water from the reservoir to the headrace canal. Mitigation measures will ensure the quality of discharges will meet requirements of Schedule WQL1 and Table WQL5 in Chapter 4 of the PNRRP. Overall there are not expected to be any adverse changes in water quality in surface water receiving environments as a result of the water takes or discharges associated with the Scheme. Some mixing of waters of the Waimakariri, Rakaia, and Selwyn Rivers may occur from time to time. However, the Scheme has been designed in an effort to minimise this mixing.

***Policy WQL5: Management of riparian margins***

- (1) *Maintain or improve water quality, the quality of river bed substrate, or aquatic habitats in a river or lake by:*
- (a) *ensuring activities that disturb or deposit soil or vegetation on the margin of a river or lake are undertaken in ways that:*
    - (i) *minimise the discharge of sediment into water; or*
    - (ii) *do not increase the rate of erosion of the bed or banks of the water body.*
  - (b) *retaining, maintaining, or planting riparian vegetation that effectively:*
    - (i) *minimises the supply of sediment from bank erosion;*
    - (ii) *reduces the concentration of nutrients, sediment and animal faecal matter in overland flow from adjacent land; and*
    - (iii) *shades water and controls the excessive growth of macrophytes or algae, or limits large fluctuations in the daily water temperature.*
- (2) *When giving effect to Policy WQL(1)(b), the retention, maintenance or planting of riparian vegetation should, as far as practicable:*
- (a) *contribute to the indigenous biodiversity of the area, particularly plant communities that are threatened or under-represented;*
  - (b) *provide for a diversity of habitats for indigenous fauna;*
  - (c) *improve or establish connections between riparian plant communities which create corridors for wildlife dispersal;*

- (d) *not reduce the flood carrying capacity of a river, or cause adverse effects on the stability or performance of essential structures;*
- (e) *avoid the establishment of pest plant and animal species, and implement measures to control the spread of pest species;*
- (f) *not impede existing public access to or along a river or lake;*
- (g) *not impede existing access for the maintenance of drains; and*
- (h) *take into account the effects of a change from short to tall vegetation on the flow regime in a catchment identified in Chapter 5, Appendix WQN4. Where there is a conflict between the effects of vegetation on the flow regime and the need to retain or plant vegetation for water quality purposes, an assessment should be made of the relative costs and benefits of using tall vegetation for these purposes.*

A number of aspects of the project will impact on the riparian margins, particularly where the headrace and canal network cross river beds. Such impacts will be kept to the minimum practicable to allow these crossings to be established. Best practice works methodologies and structural design will be employed to avoid and mitigate adverse effects on water quality from sediment discharge, and to reduce the potential for bank erosion. Where appropriate vegetation will be replanted to enhance amenity and riparian habitat, and provide erosion protection. Overall, it is expected the project will not be contrary to Policy WQL5.

***Objective WQL2: Water quality outcomes for groundwater and contaminated land***

[...]

- (2) *In semi-confined, unconfined, and other confined aquifers or parts of these aquifers, where:*
  - (a) *the water quality is unaffected or largely unaffected by human activities, as reported in 2004, maintain the water quality in that state.*
  - (b) *the water quality is affected by human activities, the groundwater quality shall meet the following values:*
    - (i) *for nitrate-nitrogen, the maximum concentration shall not increase by more than two milligrams per litre above the maximum concentration measured between 1996 and 2001, and reported in 2002, and the maximum concentration shall not exceed 11.3 milligrams per litre;*
    - (ii) *the water quality shall remain within the Guideline Value for any aesthetic determinand listed in the Drinking Water Standards for New Zealand 200035, except for natural exceedances of the Guideline Value. If the water quality does not meet the Guideline Value, as a result of human activities, the water quality shall be improved so that the Guideline Value is achieved;*
    - (iii) *the median concentration of Escherichia coli shall be less than one organism per 100 millilitres of water; and*
    - (iv) *any other inorganic or organic determinand of health significance or pesticide (excluding nitrate nitrogen, or Escherichia coli,) listed in the Drinking Water Standards for New Zealand 2000 shall not be detected at a concentration greater than one tenth of the Maximum Acceptable Value for that determinand.*
  - (c) *On land, where the concentration of a contaminant exceeds the naturally occurring background level and this concentration poses an unacceptable risk to human health or the environment, the land is managed in a way that reduces this risk, and the risk from any discharge from the land to groundwater, to a level that is acceptable for human health or the environment.*

***Policy WQL6 Point source discharges onto or into land which affect soil or groundwater quality***

- (1) *A point source discharge of a contaminant onto or into land is to be managed as follows:*

- 
- (a) *before allowing a point source discharge of a contaminant onto or into land where a contaminant may enter groundwater, ensure that:*
- (i) *measures are or will be applied to avoid the production of the contaminant, or to reuse, recover, and recycle materials to minimise the volume and concentration of the contaminant in the discharge; and*
  - (ii) *the discharge to an existing waste treatment and discharge system, or network is not a practical alternative; and*
- (b) *if, after the application of Policy WQL6(1), a point source discharge onto or into land is to be authorised, the discharge shall be applied in a way and at a rate that:*
- (i) *does not exceed the infiltration capacity of the soil or subsoil at the site of the discharge; and*
  - (ii) *does not exceed the capacity of physical properties, or chemical and biological processes in the soil or subsoil, to reduce the contaminant concentration in the soil drainage water and to minimise the concentration of any contaminant entering groundwater; and*
  - (iii) *will not result in the accumulation of a contaminant in the soil which will limit the future use of the land; and*
- (c) *if, after the application of Policy WQL6(1)(a) and WQL6(1)(b), a point source discharge onto or into land is likely to result in a contaminant:*
- (i) *entering groundwater, including groundwater that emerges as surface water, then:*
    - 1. *adverse effects on the drinking water quality of groundwater, including the risk to public health or the palatability of the water, in a well adjacent to, or down-gradient of the discharge, or as a result of pumping from a well, are to be avoided;*
    - 2. *the best practicable option is adopted to ensure that any resulting contaminant plume in groundwater is as small as practicable;*
    - 3. *the discharge shall not result in the accumulation of a persistent or toxic contaminant in groundwater;*
    - 4. *the effects of the discharge, either alone or combination with any other discharge, must meet Objectives WQL1 and WQL2; and*
  - (ii) *entering the Coastal marine area in a contaminant plume, the effects of the discharge, either alone or combination with any other discharge must meet the requirements of Policy 7.1 or 7.2 of the Proposed Regional Coastal Environment Plan.*

[...]

**Policy WQL9 Non-point source discharges to land that may affect groundwater quality**

- (1) *Minimise the leaching of nutrients, chemical and microbiological contaminants to groundwater by requiring:*
- (a) *the use of best management practices to:*
    - (i) *manage the input of nitrogen so that it matches plant requirements; and*
    - (ii) *prevent the accumulation of mineral nitrogen or other contaminants in the soil which have a high potential for leaching.*
  - (b) *that the use of water for irrigation:*
    - (i) *is in accordance with Policy WQN17; and*
    - (ii) *does not result in groundwater quality in any existing drinking water supply well, adjacent to, or down-gradient of the property being irrigated, being affected to the extent that the water in the well is no longer suitable for human consumption; and*

- (iii) *does not result in the maximum concentration of nitrate-nitrogen in any part of an unconfined or semi-confined aquifer at the downgradient boundary of a property:*
1. *increasing beyond the range that occurs or would have occurred in the groundwater under extensive grazing of unimproved pasture in the catchment up-gradient of the property. This applies to properties located in the Waitaki basin above Lake Benmore, the Ashburton lakes area, upper Orari catchment, or the upper catchment of a braided river; and*
  2. *exceeding the values of Objective WQL2(2)(b)(i), where the property is located in the Hakataramea Valley, the Fairlie basin, the Waiau-Culverden basin, the Hanmer basin or Lees Valley.*
- (2) *In areas where groundwater quality has declined because of non-point source discharges and the concentrations of determinands in groundwater do not meet Objective WQL2, implement measures to reduce the concentration of determinands in groundwater in accordance with the relevant provisions of Policy WQL4(2) and WQL4(3).*
- (3) *Where groundwater enters rivers or lakes, the contaminant concentrations in the groundwater shall not result in the surface water quality being reduced below the values of; Objective WQL1, or any relevant water quality standard set in this plan or by a water conservation order.*

The Scheme will be generally in accordance with Objective WQL2. Assessments presented in Section 8 indicate that there may be an overall increase in nitrate nitrogen concentrations in downgradient groundwater of around 2 g/m<sup>3</sup>. It is possible that this level of increase may not occur, as no account has been taken of mitigation measures that are to be developed. In addition, it is the intention of the Trust to require farm management practices that are consistent with the measures outlined in Policy WQL9.

## **Chapter 4 – Water quantity**

The provisions of the Water quantity chapter apply to the entire project area, with the exception of Waimakariri River and catchment.

### **Objective WQN1 Rivers and lakes**

*Enable present and future generations to access the region's surface and groundwater resources to gain cultural, social, recreational, economic and other benefits, while:*

- (a) *safeguarding their existing value for efficiently providing sources of potable water for people and for stock;*
- (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 mauri and existing value for providing mahinga kai for Ngāi Tahu;*
- (d) *protecting wāhi tapu and other wāhi taonga of value to Ngāi Tahu;*
- (e) *preserving the natural character of lakes and rivers and protecting them from inappropriate use and development;*
- (f) *protecting outstanding natural features and landscapes from inappropriate use and development;*
- (g) *protecting significant habitat of trout and salmon; and*
- (h) *maintaining, and, where appropriate, enhancing amenity values.*

### **Policy WQN3 Flow and level regimes**

- (1) *For all water bodies where taking, using, damming, diverting or discharging of water occurs or is likely to occur, Environment Canterbury will progressively set flow or level regimes in Schedule WQN1 and Schedule WQN3 to meet the requirements of Objective WQN1, having regard to the matters listed in Policy WQN4, and also to meet the requirements of Chapter 4 – Water Quality Objective WQL1.1.*

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- (2) *Establish and maintain these flow and level regimes by:*
- (a) *controlling the taking, using, diverting or damming of surface water, and the discharge of water to surface water;*
- [...]
- (e) *not allowing abstraction of water to induce a river to go dry; and*
  - (f) *not allowing the taking, using, diverting or damming of surface water, or the discharge of water to surface water, to result in a change to the water quality contrary to Chapter 4 — Water Quality Objective WQL1.1.*

**Objective WQN4 Allocation of the available water resource**

- (1) *The available water is allocated in ways that enables communities to maximise their social, economic and cultural wellbeing, and their health and safety.*
- (2) *Allocation regimes are established that identify at least one allocation block within which the reliability of supply of water does not become a factor that limits the long-term economic viability of uses that are dependent on that block of water.*

**Policy WQN14 Allocation regimes for surface and ground water**

- (1) *To establish and apply allocation regimes for all water bodies from which water is, or is likely to be taken, dammed, diverted, discharged or used. Where water conservation orders have established allocation regimes, these shall be applied.*

[...]

The take from the Rakaia River is consistent with the Rakaia River Water Conservation Order, and on this basis, is considered generally consistent with the above objectives and policies.

**Objective WQN5 Efficient use of water**

*Achieve a high level of efficiency in terms of resource availability and the use of water.*

**Policy WQN17 Reasonable and efficient use of water**

- (1) *Ensure that the instantaneous rate of abstraction, the return period and the annual volume of water permits for taking, using or diverting water are no more than reasonable for the intended end use, and thereby avoid significant wastage of water and avoid or limit the adverse effect on water quality (See also to Policy WQL9 and WQL12).*
- (2) *When assessing water permit applications for irrigation (new or replacement) in terms of (1) above, the instantaneous rate of abstraction, the return period and the seasonal volume of the proposal to take, divert or use water will be required to meet a reasonable use test, including:*
  - (a) *consideration of on-site physical factors such as soil water-holding capacity, climatic factors such as rainfall variability and potential evapotranspiration and land use activity; and*
  - (b) *assume that there is an irrigation application efficiency of at least 80% even if the actual system being used has a lower application efficiency. Where the water permit application is for an irrigation system with a higher application efficiency, the higher figure will be used.*
- (3) *Further to Policy WQN17(2) above, provide for the use of water for irrigation to be:*
  - (a) *a permitted activity where the seasonal irrigation demand standards in Schedule WQN9 are met for seasonal irrigation use; and*
  - (b) *a discretionary activity where the seasonal irrigation demand standards in Schedule WQN9 are not met, provided that exception shall only be made:*

- (i) *where it can be demonstrated that the demand conditions are different to those mapped on the Proposed NRRP Map Volume Part 1 Planning Maps, due to micro-climatic or other variations; or*
- (ii) *for a lower efficiency level or a greater seasonal volume where mitigating circumstances are clearly demonstrated. These circumstances may include beneficial effects such as energy savings or prevention of wind erosion that would not be achieved otherwise, or recharge to groundwater, surface water or wetlands. There should be a demonstrable long-term community benefit from the proposal consistent with Objective WQN4(1). Where a long-term community benefit cannot be demonstrated, a programme of staged improvement may be considered as mitigation.*

[...]

- (5) *In addition to requiring the measuring and recording of water that is taken in accordance with Policy WQN16, encourage irrigators to monitor their water application rates, soil moisture, and production as a method for achieving more efficient use of irrigation water.*
- (6) *Develop guidelines in conjunction with water users, other agencies and the community for cost-effective improvements in water efficiency and conservation, and promote these across the region.*
- (7) *Promote the use of water audits for agricultural, industrial, hydro electricity and community water supply activities to identify areas for improvements in water use efficiency.*

[...]

- (10) *Encourage owners and managers of irrigation schemes to minimise water losses through the beds of irrigation canals.*

The operation of the Scheme will be consistent with Objective WQN5 as this is a central objective of both the Trust and CPW Ltd. The relevant matters covered by Policy WQN17 will be complied with as the Scheme would not be economically viable without such measures. Water will be allocated to farmers on the basis of the volume needed, and water use will be monitored.

**Objective WQN8 Augmentation of water bodies**

*Enable the augmentation of water resources provided that:*

- (a) *it is consistent with provisions (a) to (h) of Objective WQN1, Objective WQL1.1 (2) and Objective WQL1.2 (3);*
- (b) *it will not adversely affect existing water permit holders' reliability of supply and access to water; and*
- (c) *it will result in long-term social, economic and environmental benefits to the regional community.*

**Policy WQN21 Managing the effects of augmentation**

- (1) *Before augmentation proposals are allowed, particularly where the augmentation scheme involves damming a river, raising a lake or discharging to another river, proponents need to show that existing available water is, or will be, effectively allocated and efficiently used, and that the effects on environmental and Ngāi Tahu values are avoided, remedied or mitigated. Where water is diverted from one catchment and discharged into another Policy WQL1(1)(b) shall apply.*
- (2) *Augmentation should not diminish the reliability of supply for existing water users without their agreement. Proponents must determine the likely effects on any existing allocation regimes and demonstrate how these can be mitigated or equitably managed.*
- (3) *Those who contribute to, or participate in, the augmentation of a water body will be enabled to abstract water from the augmented water body, provided that:*
  - (a) *instream flow requirements in the vicinity and downstream of the take are met; and*
  - (b) *stored or diverted water is released as necessary to meet minimum flow requirements.*

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- (4) *To avoid adverse effects, any augmentation take or diversion for out-of stream uses should only occur when flows in the source water body are above the minimum flow. Abstraction or diversion from a source water body, that is below its minimum flow, that is to be used to maintain the minimum flow in the receiving water body, should only occur where there is an overall significant net benefit to the environment.*
  - (5) *Environment Canterbury may provide financial resources to support augmentation proposals for environmental purposes.*

The CPW project will involve the discharge of water, either directly or through soakage, that will augment both surface and ground water resources associated with the Selwyn River. It is expected that the CPW scheme will be consistent with Objective WQN1 and the maintenance of water quality for rivers (Objective WQL1.1(2)) and artificial lakes (Objective WQL1.2(3)), will not affect existing users access to water, and will result in considerable long-term benefits to the region. These matters are discussed in greater detail elsewhere in the AEE. On this basis parts (a) to (c) of Objective WQN8 are met, and the provisions of Policy WQN21 are met.

### **Chapter 6 – Bed and margins of lakes and rivers**

The provisions of the Chapter 6 apply to all river beds in the project area – including the Rakaia, Hororata, Selwyn, Waianiwaniwa, and Hawkins – but they do not extend to the Waimakariri or Kowai, which are covered by the WRRP. The proposed storage lake will, once established, be subject to Chapter 6.

#### ***Objective BLRI Activities within the beds and margins***

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

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

#### ***Policy BLRI Effects of activities within the bed or margins***

- (1) *Control land use activities, including:*
  - (a) *the use, erection, reconstruction, placement, alteration, extension, demolition or removal of structures;*
  - (b) *excavating, drilling, tunnelling or other disturbance;*
  - (c) *the introduction, planting, pruning, removal or harvesting of plants;*

(d) *the depositing of any substance, including residential, commercial and industrial waste; and*

(e) *reclamation or drainage,*

*within:*

(i) *the beds of lakes and rivers;*

(ii) *7.5 metres of the bed of a lake or river; or*

(iii) *7.5 metres of any flood control structure,*

*to ensure that the achievement of objective BLR1 is not compromised. In particular, activities shall not:*

1. *restrict the passage and/or the dynamics of water flow in a manner that generates or leads to a reduction in flood carrying capacity;*
2. *cause localised scouring or erosion that adversely impacts on the bed or banks of lakes and rivers, or the stability of lawfully established structures; or*
3. *create an increase in undesirable or pest plant infestation, unless it can be demonstrated through the resource consent process that adequate mitigation measures can be undertaken.*

(2) *Encourage land holders and users of the beds and margins of lakes and rivers to undertake their activities such that the achievement of Objective BLR1 is not compromised.*

Construction of the CPW scheme will require a range of disturbance works and structures in the beds and margins of rivers. Such works include channel construction, diversions, and material extraction and deposition. Structures will include an intake and related infrastructure (NRRP affects Rakaia only), canal structures, siphons, pipes, discharge structures, and erosion protection. All works and structures involve disturbing/excavating the river bed during construction, and to a much lesser extent during future maintenance activities. Vegetation, both in the bed and on the banks of the rivers, may also require removal to facilitate construction and maintenance activities. It is also possible that vegetation may be planted, to provide amenity enhancement and erosion protection.

All works and structures will be constructed and maintained in such a way that adverse effects on floodway carrying capacity, river dynamics, erosion, amenity values, natural character, public access, and cultural values, will either be avoided or minimised to the greatest extent practicable. It is expected the CPW project will not be contrary to Objective BRL1 and Policy BRL1.

## 10.5 District Plans

As relevant to the project, District Plans contain objectives, policies and rules covering activities subject to Sections 9(1) (as per Table 11-1 earlier).

The project area is contained wholly within the Selwyn District. Various rules under the relevant Transitional District Plans, and the Proposed Selwyn District Plan, would normally require that resource consent be obtained for the construction and use of the headrace, canal and distribution network. Applications for the distribution network were lodged with Selwyn District Council in June 2006.

However a notice of requirement was lodged, also with Selwyn District Council in June 2006, to cover the intakes, headraces and reservoir. The designation process will be similar to the resource consent

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process, however, once the designation is obtained the designation allows a greater degree of certainty and flexibility to CPWL in regards to the construction, use and maintenance of the principal infrastructure.

## **10.6 Other Legislation and Documents**

### **10.6.1 Crown Minerals Act 1991**

A mining permit under the Crown Minerals Act 1991 will be required for the extraction of material from land (not in a river bed) for construction of the dam.

### **10.6.2 Ngai Tahu Claims Settlement Act 1998**

There are no Statutory Acknowledgement Areas within the CPW scheme boundaries.

### **10.6.3 Iwi Management Plans**

The Te Waihora Joint Management Plan was jointly prepared by Te Rūnanga o Ngāi Tahu and the Department of Conservation, with the draft released in October 2004. Although the extent of this Plan does not fall within the area directly subject to the CPW scheme, the lake does fall within the downstream catchment of the scheme. Some of the values described in the Plan – including mauri, wairua, mahinga kai resources, wildlife habitat and biodiversity – may be affected or enhanced by the scheme in terms of water augmentation and water quality.

### **10.6.4 Ngai Tahu Freshwater Policy**

The Ngai Tahu Freshwater Policy sets out issues, objectives, and policies with respect to the role of water in Maori life. The following are identified as specific cultural values associated with water:

- Mauri (life giving essence)
- Kaitiakitanga (exercise of guardianship, includes the ethic of stewardship)
- Rahui (restriction on an area or resource)
- Water quantity
- Water quality
- Mahinga kai

Cultural effects are discussed in the CIA.

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## **10.6.5 Rakaia River Water Conservation Order**

The Rakaia River Water Conservation Order has effect insofar as the taking of water (covered in a separate application and AEE) and the discharge of water to the river are concerned. The Scheme will operate in accordance with the Order.