

IN THE MATTER of the Resource Management
Act 1991

AND

IN THE MATTER of the Environment
Canterbury (Temporary Commissioners and
Improved Water Management) Act 2010

AND

IN THE MATTER of proposed Plan Change 3 to
the Waitaki Catchment Water Allocation Regional
Plan

REPORT AND RECOMMENDATIONS

OF THE

HEARING COMMISSIONERS

APPENDIX B

Proposed Plan Change 3 – Inclusive of Recommended Amendments

Hearing Commissioners:

Gordon Whiting

Edward Ellison

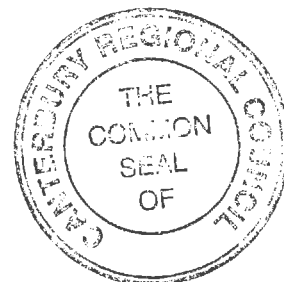
Andrew Fenemor

I hereby certify this is a true and correct copy of the decisions on Proposed Plan Change 3 to the Waitaki Catchment Water Allocation Regional Plan, approved at a meeting of the Canterbury Regional Council on 16 June 2016.

The Common Seal of the Canterbury Regional Council was fixed in the presence of:



Bill Bayfield
Chief Executive
Canterbury Regional Council



Dame Margaret Bazley ONZ, DNZM, Hon DLit
Chairperson
Canterbury Regional Council

16 June 2016

Proposed Plan Change 3 to the Waitaki Catchment Water Allocation Regional Plan

How to read this document

Operative parts of the Waitaki Catchment Water Allocation Regional Plan are indicated as follows:

- Operative text that is not amended by proposed Plan Change 3 is shown in black.
- Definitions are shown in black text with underlining

All amendments to the Waitaki Catchment Water Allocation Regional Plan, as proposed by Plan Change 3 (as notified), are indicated as follows:

- Proposed additions are shown in **red text**
- Proposed deletions are shown in ~~red text with strikethrough~~

All amendments to the Waitaki Catchment Water Allocation Regional Plan, as recommended by the Hearing Commissioners, are indicated as follows:

- Additions proposed by Plan Change 3 (as notified), and which the Hearing Commissioners recommend accepting, are indicated in **red text**
- Additions not proposed by Plan Change 3 (as notified), but which the Hearing Commissioners recommend adopting in response to submissions, are indicated in red text with a double underline
- Additions proposed by Plan Change 3 (as notified), but which the Hearing Commissioners recommend rejecting in response to submissions, and any consequential deletions, are indicated in ~~red text with a double strikethrough~~
- Deletions proposed by Plan Change 3 (as notified), and which the Hearing Commissioners recommend accepting, are indicated in ~~red text with strikethrough~~
- Deletions proposed by Plan Change 3 (as notified), but which the Hearing Commissioners recommend not accepting, are indicated in red text with a dashed underline

Submission points

- Footnotes are used throughout the document to identify the source submission point for any recommended addition or deletion. These footnotes are indicated as follows:

Example text inserted^{F1}

F1 –Submitter name, Submission point

Editorial Note

Sections 1, 2, 3, 4, 5 of the Waitaki Catchment Water Allocation Regional Plan are omitted from this Appendix because they are not proposed to be amended by proposed Plan Change 3.

Waitaki Catchment Water Allocation Regional Plan

Prepared by the Waitaki Catchment Water Allocation Board
in September 2005,
and
incorporating amendments as directed by the High Court
on 3 July 2006.

Waitaki Catchment Water Allocation Board



Te Poari Tiaki Wai o Waitaki

Resource Management (Waitaki Catchment) Amendment Act 2004 Approval of the Waitaki Catchment Water Allocation Regional Plan

This Waitaki Catchment Water Allocation Regional Plan was prepared by the Waitaki Catchment Water Allocation Board under the Resource Management (Waitaki Catchment) Amendment Act 2004.

The Waitaki Catchment Water Allocation Board, at a meeting on 30 September 2005 of the Board attended by all members, by resolution in accordance with section 26 of that Act approved the Waitaki Catchment Water Allocation Regional Plan. The Plan will become operative on the day fixed by section 27 of the Resource Management (Waitaki Catchment) Amendment Act 2004.

DATED at Christchurch this 30th day of September 2005.

Approved by the Waitaki Catchment Water Allocation Board:

David Sheppard (Judge) Chairperson

Sheila Watson Deputy Chairperson

Dr Nick Brown

Edward Ellison

Claire Mulcock

Waitaki Catchment Water Allocation Board



Te Poari Tiaki Wai o Waitaki

Originally published in September 2005 by the Waitaki Catchment Water Allocation Board

Te Poari Tiaki Wai o Waitaki

PO Box 1345, Christchurch, New Zealand

This version of the Plan incorporates amendments to Rules 6, 8 & 21A as directed by the High Court on 3 July 2006 in *Re MacKenzie Irrigation Company Ltd* and *Meridian Energy Ltd* (unreported, HC Wellington, CIV 2005 485 2192, 3 July 2006).

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Cover images (clockwise from top left):

1. Aoraki/Mt Cook and Lake Pūkaki
2. Small stream near Clearburn
3. Lower Waitaki River and mouth (Photo courtesy of the *Otago Daily Times*)
4. Lower Waitaki River at Kurow Bridge

This document is available on the Board's pages on the Ministry for the Environment's website:
www.waitakiboard.mfe.govt.nz

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Phrases and words underlined are included in the definitions and abbreviations section.

1. Introduction

This Waitaki Catchment Water Allocation Regional Plan has been prepared by the Waitaki Catchment Water Allocation Board in accordance with the requirements of the Resource Management (Waitaki Catchment) Amendment Act 2004.

The Plan provides for the allocation of water in the Waitaki catchment on a basis that is consistent with the purpose and principles of the Resource Management Act 1991. Annex 1 of the Plan includes the reasons for adopting the provisions of the Plan and a list of the reports that the Board has considered. Annex 1 also includes the decisions in relation to the Plan. The legal context for the Plan is described in the following section of the Plan.

The Waitaki catchment is shown on Map 1. It is located largely within the Canterbury Region, with a small portion at its southern end lying within the Otago Region. It includes portions of the Mackenzie, Waitaki and Waimate Districts.

The Waitaki Catchment Water Allocation Regional Plan is the regional plan for the allocation of water in that part of the catchment that is within the Canterbury Region. The Resource Management (Waitaki Catchment) Amendment Act 2004 also provides that the Waitaki Catchment Water Allocation Board may change the Otago Regional Council's *Regional Plan: Water* (Otago Regional Water Plan) as it relates to the Waitaki catchment, as necessary, to ensure that the Otago Regional Water Plan gives effect to the Waitaki Catchment Water Allocation Regional Plan. The Plan includes changes to the Otago Regional Water Plan.

The further evaluation that the Board has made before making decisions in relation to the Plan is summarised in the document *Waitaki Catchment Water Allocation Regional Plan, Section 32 Report*.

The Plan incorporates some material by reference. A copy of this material is contained in the document *Waitaki Catchment Water Allocation Regional Plan, Material incorporated by reference*.

2. Legal framework

Statutes

Resource Management Act 1991

The purpose of the Resource Management Act 1991 (RMA) is to promote the sustainable management of natural and physical resources. Part 2 of the RMA establishes this purpose and principles, while sections 63 to 70 and the First Schedule include relevant matters relating to the preparation of a regional plan.

Resource Management (Waitaki Catchment) Amendment Act 2004

The Resource Management (Waitaki Catchment) Amendment Act 2004 (the Waitaki Act), established the Waitaki Catchment Water Allocation Board with the function of developing, within 12 months, a regional plan for the allocation of water in the Waitaki catchment on a basis consistent with the purpose and principles of the RMA.

The Waitaki Act directs that the Board must include objectives, policies, and methods (including rules, if appropriate) in the regional plan, to provide for:

- (a) water that is or may be taken from, or used in, the Waitaki catchment in accordance with section 14(3)(b) and (e) of the RMA; and
- (b) water to sustain the intrinsic values and amenity values that the Board identifies and determines should be sustained in the Waitaki River and associated beds, banks, margins, tributaries, islands, lakes, wetlands, and aquifers; and
- (c) the allocation of water to activities, as appropriate; and
- (d) the management of allocated water, including methods that provide for dealing with periods of time or seasons when the level or flow of water is low.

The Waitaki Act includes provisions relating to the nature of this plan and the process for its preparation, including provisions that sections of the RMA do or do not apply to the development of this plan.

Ngāi Tahu Claims Settlement Act 1998

The Ngāi Tahu Claims Settlement Act 1998 (the Settlement Act) gave effect to the Deed of Settlement signed by the Crown and Te Rūnanga o Ngāi Tahu in 1997, to achieve a final settlement of the Ngāi Tahu¹ historical claims against the Crown. The Settlement Act includes statutory acknowledgements, which recognise the special relationship of Ngāi Tahu with a range of areas in the South Island. The purpose of statutory acknowledgements are to ensure that the particular relationship Ngāi Tahu has with these areas is identified and Ngāi Tahu are informed when a proposal may affect one of the areas. Part 12 of the Settlement Act sets out the provisions relating to statutory acknowledgements and should be referred to in relation to the statutory acknowledgement areas in the Waitaki catchment.

Within the Waitaki catchment, Aoraki/Mt Cook, the Waitaki River, Hakataramea River, Lake Aviemore (Mahi Tikumu), Lake Benmore (Te Ao Mārama), Lake McGregor (Whakarumoana), Lake Tekapo (Takapo), Lake Pūkaki and Lake Ōhau are all statutory acknowledgement areas.

¹ Refer definition in Section 10.

Documents that must be considered

The Waitaki Act specifies that sections 66(2A) and 67(2)(a) of the Resource Management Act (RMA) apply to the preparation of the regional plan, with the necessary modifications, as if the Board was a regional council (section 18(3)). Section 66(2A) specifies that [the Board] must take into account any relevant planning document recognised by an iwi authority and lodged with the council. Section 67(2) states that a regional plan must give effect to any national policy statement or any New Zealand coastal policy statement. Section 67(2)(a) states a regional plan must not be inconsistent with any water conservation order.

Iwi Management Plans

There are three iwi management plans that fall into the category of relevant planning documents recognised by an iwi authority (Te Rūnanga o Ngāi Tahu) and lodged with the council.

These are:

- Te Rūnanga o Ngāi Tahu Freshwater Policy (undated)
- Te Whakatau Kaupapa - Ngāi Tahu Resource Management Strategy for the Canterbury Region (1990 - reprinted in September 1992)
- Kai Tahu ki Otago Natural Resource Management Plan (1995)².

The plans all have equal status as plans recognised by the iwi authority.

New Zealand Coastal Policy Statement

As elements of water management will impact on the coastal environment, the provisions of the *New Zealand Coastal Policy Statement*, gazetted in 1994, have been considered where relevant. There is no other relevant National Policy Statement.

National Water Conservation (Ahuriri River) Order 1990

The only Water Conservation Order in the catchment is the Ahuriri River Conservation Order. It covers the Ahuriri River from its source to Lake Benmore, the Ōmārama Stream downstream of the bridge near Clifton Downs Station (map reference NZMS 1 S116 579310)³, and the rivers, streams and lakes within 400 metres of the Ahuriri River (the protected waters). The Order does not apply to the Quail Burn or its tributaries.

Documents that set up the existing resource management framework

Part V of the RMA (Standards, Policy Statements and Plans) does not apply to the preparation of the Plan, except for particular specified sections (section 18 of the Waitaki Act). Therefore, the requirement that the Plan must not be inconsistent with the regional policy statement or with any other regional plan of the region concerned (section 67(2)(b) Resource Management Act) does not apply.

The following documents that set up the existing resource management framework for the Waitaki catchment have been had regard to:

- Canterbury Regional Policy Statement (operative on 26 June 1998)
- Canterbury Transitional Regional Plan (notified October 1991)

² The "Kāi Tahu Ki Otago Natural Resource Management Plan 2005" came into operation on 24 June 2005 after the publication of the draft Waitaki Catchment Water Allocation Regional Plan, and was not taken into account.

³ The metric grid reference is NZMS 260-H39 (2002 version) H39:6094-2343.

- Proposed Canterbury Natural Resources Regional Plan
- Canterbury Regional Coastal Environment Plan (adopted 11 December 2003, except for Chapter 9 that is under appeal)
- Otago Regional Policy Statement (operative October 1998)
- Otago Regional Plan: Water (operative January 2004)
- Waimate District Plan (operative 2001)
- Mackenzie District Plan (operative May 2004).

Other resource management documents

The following related documents were also considered:

- Canterbury Conservation Management Strategy (approved in 2000 by the New Zealand Conservation Authority under the Conservation Act 1987)
- Otago Conservation Management Strategy (approved in 1998 by the New Zealand Conservation Authority under the Conservation Act 1987)
- Aoraki/Mt Cook National Park Management Plan (approved in August 2004 by the New Zealand Conservation Authority)
- Central South Island Fish and Game Council Sports Fish and Game Management Plan (approved by the Minister of Conservation in 1999)
- South Island Eel Management Plan (prepared by Te Waka a Maui me ona Toka Mahi Tuna, December 1996)
- South Canterbury/Waitaki Eel Management Plan (prepared by South Canterbury/Waitaki Eel Management Committee, undated).

3. The natural and physical resources and communities of Waitaki catchment

Overview

Aoraki/Mt Cook and the mountains of the Southern Alps/Kā Tiritiri o te Moana dominate the Waitaki catchment. Flows of ice, water and eroded rock have formed the glacial lakes and braided rivers of the Mackenzie and Ahuriri basins; carved a gorge through the Benmore, Kirkliston and Hawkdun ranges; and culminate in the extensive braided Lower Waitaki River. The continuing uplifting and weathering of the mountains by rain, snow and ice provide constant flows of water and gravel down the river and its tributaries to the sea. Tributary rivers and streams join the flow from the mountains, providing connections to wetlands, springs and aquifers. The Waitaki River reaches widths of up to one kilometre before meeting the Pacific Ocean north of Oamaru.

The Waitaki catchment, with its extreme variation in topography and climate, provides a diverse range of freshwater habitats and species, and a strong sense of place for people. The catchment is home to a large number of indigenous fish and birds, including the black stilt - one of New Zealand's rarest and most specialised braided riverbed birds.

Just over 5,000 people live in the catchment, with many more returning to visit year after year. The rivers and lakes are popular recreation resources for a range of activities.

Aoraki/Mt Cook and the Waitaki River are the ancestral mountain and river of Ngāi Tahu. The upper catchment and Aoraki/Mt Cook National Park are nationally and internationally recognised nature and tourism locations.

Water in the catchment provides essential supplies to towns and communities, including Oamaru and parts of Waimate District, and is a very important source of electricity and hydro-electricity storage nationally. It also provides for significant irrigation on land both in and out of the catchment.

Natural resources

Climate

Prevailing north-west winds from the Tasman Sea, forced up over the ranges of the main divide, are the predominant source of water for the catchment, dropping an annual average of 8,000 millimetres of rain, snow and sleet in the alpine area, with slightly more precipitation in summer than in winter. This alpine precipitation provides about 80 percent of flow in the catchment.

Rainfall declines rapidly with distance from the mountains. While Aoraki/Mt Cook village averages about 4,000 millimetres of rain each year, at Twizel and Ōmārama (60 kilometres away), annual rainfall is much less than that - just over 500 millimetres. The low rainfall and prevailing north-west wind bring a sub-continental climate of warm summers and cold winters to the Mackenzie and Ahuriri basins. Temperatures in the summer in these basins frequently exceed 30 degrees Celsius and droughts are common, while frosts can occur at any time of year.

For the lower part of the catchment (east of Lake Benmore), the dominant weather patterns are southerly or south-easterly storms with occasional north-east winds from the coast. These patterns do not bring the high rainfall or temperatures associated with weather from the north-west that dominates in the upper catchment. However, easterly storms can generate large floods in the foothills of South Canterbury and North Otago, contributing to high flows in the Lower Waitaki River. Average annual rainfall is low, approximately 500 mm between Waitaki Dam and the east coast.

Drought occurs in most of the catchment because of the low and sporadic rainfall, high rates of evapotranspiration associated with high winds and temperatures, and low soil moisture.

Landform, geology and land cover

The main divide of the Southern Alps/Kā Tiritiri o te Moana (at altitudes over 3,000 metres) forms a steep glaciated boundary to the north-west of the catchment. The bare rock, bluffs and scree on the high slopes provide constant inputs of weathered rock that, combined with glaciers, have formed the moraines and extensive glacial outwashes of the Mackenzie and Ahuriri basins. The Mackenzie and Ahuriri are wide intermountaine basins dominated by extensive tussock grasslands and expansive views to the surrounding mountains.

To the east and south, these basins are bounded by the Rollesby, Dalgety, Grampians, Benmore and Kirkliston ranges - steep, rocky mountains with rolling, rounded summits rising to about 2,000 metres which are some of the driest greywacke mountains in New Zealand. The Waitaki River marks the geological divide between the greywacke of Canterbury and the schists of Otago.

The middle Waitaki valley consists of gorges and valleys cut through the Benmore, Hawkdun and St Mary ranges. On their seaward side, the mountains ease into foothills (600-800 metres) and rolling downlands through to the lower Waitaki alluvial floodplains, which are characterised by flat terraces stepping down to the river.

The catchment land cover (Table 1 below) is varied, reflecting the underlying geology and climatic features of the area and a history of land use modifications.

Table 1: Land cover of the Waitaki catchment

Land cover	Percentage of total catchment area	Predominant location
Rock	11.5%	Alpine areas
Permanent snow and ice	2.5%	Alpine areas
Alpine and sub-alpine herb-fields, shrub land	5%	Alpine areas
Indigenous forest	1.5%	Upstream of the glacial lakes
Depleted tussock grassland	11.5%	Ahuriri and Mackenzie basins
High producing pasture	10%	East of Waitaki Dam and Hakataramea catchment
Lake, ponds and rivers	6.5%	Throughout catchment
Tall tussock	25%	Throughout catchment
Low producing pasture	21.5%	Throughout catchment
Scrub, matagouri	2%	Throughout catchment
Exotic forest	1%	Throughout catchment
Other	<1% each	

Source - New Zealand Land Cover Database 2 (Snapshot 2001/2)

Water resources

The Waitaki River has the fourth largest flow of all New Zealand rivers, with a mean historical flow (1927-2000) at Waitaki Dam of 359 cubic metres per second (m³/s). It is fed predominantly by water flowing from the main divide mountains through Lakes Ōhau, Pūkaki and Tekapo and the Ahuriri River. The ice- and snow-fed upper catchment has a strong seasonal flow regime with summer peaks produced by heavy rain and snow/glacial melt, and lowest flows in winter (June, July, and August). Inflows to Lakes Pūkaki, Tekapo and Ōhau, the Ahuriri River and, if it was unmodified, the Lower Waitaki River peak in summer and are lowest in winter. Glacial lake inflows vary significantly from year to year - with up to 30 percent less in a dry year.

The glacial lakes of Tekapo, Pūkaki and Ōhau influence flows downstream by dampening flood peaks and modifying flood flows into the lower catchment. This natural storage, together with the control of lake levels by hydro-electricity development further regulates downstream flow.

Four large braided river systems (the Tekapo, Pūkaki, Ōhau and Ahuriri) cross the upper basins. Of these, only the Ahuriri, which contributes around nine percent of catchment inflows, follows its natural water course. The other three rivers have been largely diverted into the canals of the upper Waitaki hydro-electricity system. Other, smaller tributaries (including the Fork Stream, Irishman Creek, Mary Burn, Twizel River, Wairepo Creek, Grays River, Sawdon Stream and Edward Stream) collectively provide five percent of annual inflows into Lake Benmore. The peak flows in these rivers (apart from Fork Stream which has a high proportion of its flow from snow melt) tend to be in winter and spring (May to November) with low flows from February to April.

Downstream of Ōmārama, the four rivers combine to form a single channel carved through steeply sided valleys. This part of the river is dammed in three places, creating Lakes Benmore, Aviemore and Waitaki. Tributaries of these lakes, which contribute five percent to the total catchment inflow, include the Otematata, Awahokomo and Otamatapaio Rivers.

Just below the Waitaki Dam, the river widens to become a large, braided river flanked, in places, by wetlands with a coastal lagoon where it reaches the sea. Along the length of both banks of the Lower Waitaki River, small rivers and streams (including the Hakataramea River, Elephant Hill and Waikakahi Streams, Awakino River, Kurow River, Otiake River, Otekaieke River, Maerewhenua River, Awamoko River, and Welcome Creek/Whakapapa Ariki) flow into the mainstream. Collectively these tributaries, which have peaks flows in winter, provide two percent of the river flow.

Groundwater (which frequently exchanges water with rivers and streams) is found throughout the catchment. Depth to groundwater is variable over the catchment and within specific basins. Wetlands and springs are generally associated with shallow groundwater including those associated with the Grays, Ahuriri, Twizel and Ōhau Rivers; Duntroon Spring; Welcome Creek/Whakapapa Ariki and Waikakahi Stream. Springs and wetlands tend to occur in three general areas in the lower Waitaki valley - at the base of terraces, at locations where gravels become narrower or shallower, and along the riparian margins. The larger groundwater storage areas are found in the Tekapo and Twizel basins and lower Waitaki valley downstream of Black Point. All groundwater in the upper catchment will flow into Lake Benmore. In the lower Waitaki valley, groundwater flow is more complex, with flow from both the aquifer to the river and from the river to the aquifer, and to the sea.

The braided rivers of the Waitaki catchment are formed and maintained by a number of interacting factors, predominantly: flood flow regime; sediment/gravel inputs and throughput; riparian flood protection works; and vegetation encroachment onto the riverbed. The way these factors interact influences the form and character of braided rivers. Each of these factors in the Waitaki catchment has changed historically, or is changing, due to natural processes and human intervention.

Catchment Ecology

The braided river system is a dynamic and diverse ecosystem comprising riparian wetlands, swift water, pools, ephemeral areas, braided channels and gravel islands. It is the combination of these habitat types and the ability of species to move between them, and the ever-changing nature of the river bed and flows, that provides the unique braided river ecosystem.

Important wetlands are found throughout the catchment. Nationally significant wetlands occur at the margins of the glacial lakes, around the smaller rainfed lakes (particularly those on the western side of Lake Tekapo) and at the river mouth.

In the Lower Waitaki River, river terrace and riparian wetlands are particularly important as breeding, spawning, feeding or shelter areas for birds and fish.

The habitats provided by the lakes, rivers and wetlands, and their margins support a huge variety of aquatic plant and animal life. Large areas of the catchment contain unmodified habitats, the significance of which is recognised in the Aoraki/Mt Cook National Park and the South West New Zealand (Te Wāhipounamu) World Heritage Area.

Plants Many vegetation types are present in the Waitaki catchment, reflecting the differences in habitat created by the variations of altitude, temperature, rain and snow as well as historic land use changes. The indigenous vegetation ranges from alpine herb-fields through tussock grasslands to scrub, wetlands, and forest (Table 1). Around 100 indigenous plant species are associated with braided rivers and their wetland margins.

There are 78 recorded species of threatened plants within the catchment, of which approximately half are associated with rivers, lakes and wetlands. The most threatened (nationally critical threat status) wetland plant species (recorded at the Ben Omar Swamp and near the Pūkaki River) is sneezeweed (*Centipeda minima*). Two species of indigenous broom, *Carmichaelia kirkii* (nationally endangered) and *Carmichaelia vexillata* (in serious decline), are the area's most commonly recorded threatened plant species and occur on river terraces. Macrophytes and periphyton form the basis of the food chain and are critical to the functioning of aquatic ecosystems.

Invertebrates The catchment contains a diverse range of terrestrial and aquatic invertebrate species. The composition of aquatic invertebrate communities varies from location to location depending on a variety of interacting environmental factors including flow, substrate type and stability, water quality, climate and biogeography. The indigenous robust grasshopper, which lives on dry river terraces, is nationally endangered and is found only in the Waitaki catchment.

Fish Twenty-four species of indigenous fish, 13 of which are diadromous (complete some part of their life cycle at sea), are known in the catchment. Six threatened indigenous fish species (Canterbury mudfish, lowland and upland long-jawed galaxias, big-nosed galaxias, long-finned eel and lamprey) are present. The most threatened of these fish taxa are the lowland long-jawed galaxias (*Galaxias cobitinus* - nationally critical), and the Canterbury mudfish (*Neochanna burrowsius* - nationally endangered) which has been found in only 20 places including the Waikakahi Stream. The lowland long-jawed galaxias is found only in the upper tributaries of Canterbury's braided rivers including the Hakataramea, Twizel, Otamatapaio, Ahuriri and Lower Ōhau Rivers in this catchment.

Brown and rainbow trout occur throughout the catchment, whereas Chinook salmon are found only below the Waitaki Dam.

Birds The upper catchment is used (for breeding or visiting) by 30 species of indigenous birds, ranging from the larger free-flying mountain species (kea), to smaller forest and scrub birds (rifleman/titipounamu) and birds of the broad, open braided riverbeds. Braided rivers provide habitat for more than 80 species of birds, including the wrybill, black stilt, black-billed gull and black-fronted tern, which have evolved on braided rivers and now have specific adaptations for breeding and feeding on them. The braided riverbeds and deltas of the upper catchment are the primary breeding habitat for the black stilt, one of New Zealand's rarest birds (only 100 exist). Another bird found in the catchment and listed as nationally critical with an estimated population of 250 individuals is the southern crested grebe, recorded on Lakes Alexandrina, McGregor, Middleton and Aviemore. The catchment also contains 15 percent of the country's remaining wrybill population and 60 percent of the remaining black-fronted terns. Other threatened birds are the Australasian bittern (wetland species), blue duck (mountain streams), and banded dotterel (braided rivers). A range of game birds is found in ponds and wetlands.

Lizards One of the three gecko species and four of the six skink species recorded in the Waitaki are threatened. Of these lizards, only the jewelled gecko (*Nauklinus gemmeus*), the green skink (*Oligosoma chloronoton*) and the long-toed skink (*Oligosoma longipes*) live in riparian areas, river terraces or river islands. They have been recorded near the Tekapo River and upstream of Lake Ōhau and Lake Pūkaki.

Physical resources (related to water)

Towns and settlements

The majority (65 percent) of the 5,000 residents in the catchment live in towns and settlements of which Twizel is the largest with a population of 1011. Others include the rural service townships of Kurow and Ōmārama, Aoraki/Mt Cook village (which services the management and tourism of the national park), and the settlements of Aviemore, Lake Waitaki, Otematata and Lake Tekapo that were once hydro towns but now exist primarily for tourism and growing holiday home/subdivision needs. Piped water supplies service these and the smaller settlements of Ōhau, Duntroon, and Glenavy with potable water.

Hydro-electricity installations

Since 1935, the water in the Waitaki catchment has been used to generate electricity. Between 1935 and 1985 the three main glacial lakes (Tekapo, Pūkaki and Ōhau) were dammed and the levels raised, the braided rivers of the Mackenzie Basin diverted into canals, and the river in the upper Waitaki was dammed to create the artificial lakes of Benmore, Aviemore and Waitaki. Five power stations were built at the dams. The scheme comprises eight power stations with an installed capacity of 1,723 megawatts and produces approximately 8,000 gigawatt-hours annually.

Depending on inflows, the Waitaki hydro-electricity scheme generates approximately 20-25 percent of New Zealand's electricity annually, with Lakes Tekapo and Pūkaki providing around 65 percent of the nation's hydro-electricity storage capacity. This storage is critically important to the nation's energy system, especially for security of supply in the South Island in dry years. The operational flexibility of hydro-electricity generation compared to other generation types, particularly thermal, means it plays a key role in the ability to match supply to patterns of peak demands.

Water is also used in micro hydro-electricity generation for localised use such as ski fields and high country stations.

Agricultural installations

The agricultural sector consists of mainly dryland grazing in the Mackenzie and Ahuriri basins, with more intensive agriculture in the Hakataramea and lower Waitaki valleys. There is a small area of horticulture in the lower Waitaki valley, including some viticulture.

Water from the catchment is used for stock drinking-water and irrigation. Stock drinking-water is transported via open channel and piped schemes; in the upper catchment the infrastructure is associated with hydro-electricity canals. Rural water supply schemes are fed from the lower Waitaki, Hakataramea and Maerewhenua catchments.

The water irrigates approximately 54,600 hectares of land (about ten percent of New Zealand's irrigated land). About 8,600 hectares are currently irrigated from takes in the upper catchment, supplied mostly through individual or small scheme/collective infrastructure, together with the Upper Waitaki Irrigation Scheme which takes water from upstream of the Waitaki Dam (although the irrigated area is in the lower catchment). Construction has begun on an irrigation scheme to take water from the upper Ōhau River for irrigating a further 4,000 hectares.

Takes in the lower catchment irrigate an estimated 46,000 hectares of land. The two largest irrigation schemes (Lower Waitaki on the south side of the river and Morven-Glenavy-Ikawai on the north bank) provide water to the coastal alluvial plains of the Lower Waitaki River. The command areas for these schemes extend outside the catchment, taking water as far south as Oamaru and beyond the Waihao River to the north. In addition there is one smaller scheme (Maerewhenua) as well as some private irrigation infrastructure in the lower Waitaki valley. Stage 1 of the North Otago Irrigation Company development, due for commissioning in February 2006, will add a further 10,000 hectares.

Parks and reserves

Of the catchment's 12,000 square kilometres, about a quarter is classified as public reserves and protected areas. This land, administered by the Department of Conservation, is mostly upstream of Lakes Tekapo, Pūkaki and Ōhau, or in the Ahuriri catchment, or on the Ben Ōhau, the Hawkdun and the Kirkliston ranges.

Aoraki/Mt Cook National Park covers about six percent of the total catchment area. A third of the park is in permanent snow and ice, and the remainder mostly steep, actively eroding mountain land. The park is internationally recognised for its outstanding natural values and attracts an estimated 250,000 visitors each year. Along with Westland/Tai Poutini and Fiordland National Park, Aoraki/Mt Cook National Park became New Zealand's first world heritage area in 1986 and part of the much larger 2.6 million hectare South West New Zealand (Te Wāhipounamu) World Heritage Area in 1989.

The ongoing process of tenure review of Crown pastoral leases is adding high country land to the conservation estate.

Other infrastructure

The catchment has very little other water-related infrastructure. There is an industrial processing site at Pukeuri, just north of Oamaru, which uses water provided via the Lower Waitaki irrigation scheme infrastructure. Other water uses are for bottled water, snow-making on the Roundhill and Ōhau ski fields, gravel washing and a very small amount for mining in the Maerewhenua catchment. Salmon farms have been established in the hydro canal system.

Social, economic and cultural characteristics

Significance to Ngāi Tahu

Waitaki is the ancestral river of Ngāi Tahu, fed by the sacred waters of Aoraki and the tears of Raki (Sky Father). The life-giving waters flow to the sea passing through the valleys and plains of Papatūānuku (Earth Mother). The river is a symbol of permanence and source of spiritual meaning to tāngata whenua. The creation traditions tell of the interconnection between earth, sky and the natural elements, the source of life or mauri that emerged from the primordial waters, and the realm of the gods who made Te Wāpounamu habitable for humans.

Tribal whakapapa links the cosmological world of the gods and present generations, giving rise to a spiritual relationship and respect for the mauri evident in the tribal landscape. The Waitaki River is a central element of the tribal identity and mana, a taonga derived from the gods, which requires a reciprocal duty to protect the Waitaki and the associated natural resources now and for future generations.

Wāhi tapu and wāhi taonga are cultural anchors associated with the Waitaki catchment. These include sites linked to the creation traditions, burial sites and areas where important historical events have occurred.

The relationship with the Waitaki catchment is recalled in traditions, place names, songs and whakapapa. The practice of mahinga kai was a cornerstone of Ngāi Tahu existence and culture, a seasonal food and resource-gathering activity requiring intimate knowledge of the catchment, seasons and methods of procurement. The Waitaki catchment was a prime provider of mahinga kai resources and a means of travel by reed raft (mōkihi).

Kaitiakitanga, a function of manawhenua, involves the observance of kawa and tikanga, traditional rules applied to protect the mauri from harm by human actions, to ensure that the health and spirit of the Waitaki remains intact and the principle of sustainable use of the natural resources observed.

The three Papatipu Rūnanga whose takiwa intersect in the catchment - Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki - exercise kaitiakitanga on behalf of their whānau and hapū. Te Rūnanga o Ngāi Tahu is the iwi authority vested with statutory functions to act in the interests of Ngāi Tahu in matters of natural resource management.

Population and communities

The Waitaki River has strong emotional, spiritual, aesthetic, cultural, social and economic value for people who live in, make their livelihood from, holiday in and travel through the catchment. The scenery, setting and its landforms, along with its sparse population mostly concentrated in small towns, provide a distinctive rural lifestyle and holiday destination. In many places the development of the community infrastructure was linked to hydro construction.

The population of the catchment and surrounding districts (about two percent of the national population), is both decreasing and ageing, with relatively fewer younger people and more older people than the national average. The population grows significantly over summer months when, for example, the Twizel population increases from 1,000 to 6,000 people, and over 50,000 people are estimated to camp around the lakes over the summer. There has recently been a significant increase in lifestyle and holiday home development around Lake Tekapo, Twizel, Ōmārama and Otematata.

Most of the catchment area upstream of Waitaki Dam is farmed in high country stations. Historically these stations were Crown leasehold land, but a recent process of tenure review means farmers are negotiating with the Crown for an arrangement that sees some of the land returned to the Crown for conservation and the remainder to the farmer as freehold land. This reorganisation of land holdings can mean that runholders have an increased need to use farmland more intensively. Changes in land use, including the introduction of viticulture and dairying conversion, will influence the community in future.

In 2003, the entire Mackenzie, Waimate and Waitaki Districts had a combined population close to 34,000 people, produced \$1.3 billion in output and \$0.5 billion of value added (equivalent to Gross Domestic Product). Around 30 percent of the 12,000 local jobs and value added was based on primary production, particularly cropping and livestock farming (including significant input into food processing), and food processing itself. Retail and accommodation accounted for a further 20 percent of the jobs. The utilities sector (predominantly electricity generation and distribution) accounted for about three percent of value added and 0.3 percent of employment, reflecting its capital-intensive nature.

Recreation and tourism

The catchment provides for a wide range of outdoor recreation activities and experiences, some of which are not found elsewhere in New Zealand. The natural and scenic attributes of the catchment, including its rivers and lakes, are defining characteristics of what people want to experience. The lakes and canals are popular for recreation.

Aoraki/Mt Cook National Park is a nationally significant recreation and tourism destination that offers tramping, walking, climbing and sightseeing, but other parts of the catchment are increasingly attracting visitors, especially from within New Zealand. For example, although 70 percent of visitors to Aoraki/Mt Cook National Park are from overseas, New Zealanders are the predominant recreational users (80-85 percent) in other parts of the catchment.

Fishing is a major recreation activity in the catchment. A national survey of anglers (2001/2002) estimated that just over a tenth of days spent fishing across New Zealand were in the Waitaki catchment. About a quarter of those days were spent on Lake Benmore, a further quarter on the Lower Waitaki River and the rest on a mixture of other lakes and rivers. The Tekapo and Ahuriri rivers are regarded as nationally significant trout fisheries and attract proportionally more overseas and out-of-region anglers than other locations.

Fish and Game New Zealand has reported the Lower Waitaki River to be the most intensely fished stretch of river in New Zealand. It attracts anglers from throughout New Zealand and overseas. Special features are the 'big river', the presence of three major fish species (brown and rainbow trout, and salmon) in the same river, the size of the fish, and opportunities for solitude. Fishing for eel, whitebait, kahawai, flounder, mullet, cod and skate occur at the river mouth.

Canoeing, kayaking and rafting of upper catchment rivers occur predominantly during controlled flow releases into the Tekapo and Pūkaki rivers. Kayakers consider the slalom courses used during the controlled releases to be nationally significant. Catchment lakes are popular for boating, camping, rowing (to international standards), swimming, wind-surfing and water-skiing. Lake Aviemore has ideal conditions (considered to be some of the best in the South Island) for wind-surfing. The Lower Waitaki River offers the 'big river' experience for recreationalists, including international jet boating events. The catchment also supports hunting, camping, skiing, cycle touring, climbing (near Duntroon), mountain biking, walking, four-wheel driving, tramping and gliding (Ōmārama).

Commercial fisheries

There are three salmon farms/fisheries on the Mackenzie hydro canals which together contribute about 400 tonnes or five percent of New Zealand's annual salmon production. The Lower Waitaki River supports a commercial eel fishery with a 9.5 tonne annual catch of long finned eels. The only other commercial fishery is for whitebait.

4. Overview of requirements for water

Water plays various roles in sustaining the natural and social values of the catchment. Each role requires differing amounts, timing and patterns of water. There is potential for increased demand for recreation and tourism, for new hydro-electricity and increased abstraction for town/municipal supplies and irrigation.

Physical requirements of river and wetland systems for water

The braided river system of the catchment has evolved to carry the high flows of water and gravels produced in the mountains. A key role of water is the maintenance of the braided river system itself, including the main braided channel, slow-moving backwaters, riparian wetlands, and gravel islands. The presence and connection between these various habitats is important to the flora and fauna that inhabit the rivers. The river's braiding pattern, depth, width, bed material, bank stability and the functioning of the river mouth depend on the flow regime in the river. Floods are the major natural channel-forming mechanism, reshaping and refreshing the bed and riparian areas, to establish the bed material and braiding pattern. Lower flows provide important physical conditions, particularly depth and width, and maintain connections between the main channel and adjacent habitats. The number of braids can reduce if there is a lack of flows of sufficient magnitude to transport sediment, remove vegetation and form channels.

Wetland ecosystems contain plants adapted to various water levels experienced over a year. Some plants require year-round water whereas others require fluctuating water levels. The diverse vegetation around the margins of wetlands is attributed to the fluctuation in water levels.

Variability of flows over different time-scales is important for ecological functioning with different species and communities adapted to different types of variability.

Ecological requirements for water

Macrophytes and periphyton

Periphyton require relatively stable areas in river riffles, but can form excessive growths if there are insufficient high flows to cause abrasion or prevent accumulation of fine silts.

Macrophytes generally require still water areas, and different species and communities are adapted to different flow regimes and water levels.

Invertebrates

The Waitaki catchment supports a diverse range of aquatic invertebrates. The composition of invertebrate communities depends on local conditions, most importantly the stability of flows and substrate material. Some species prefer high velocities whereas others prefer the lower flows of margins and side channels. Most invertebrates feed on periphyton and play a role in controlling organic material within a stream ecosystem. They are an important food source for birds and fish.

Indigenous fish

While some indigenous fish exist throughout the catchment, most are found only in habitats that meet their specific feeding and spawning requirements. Indigenous fish need water flow and levels that provide:

- habitat conditions suitable for freshwater insects and access to terrestrial insects as a food source;

- preferred velocities and depths (ranging from low-flowing swampy streams for the Canterbury mudfish, to bouldery rapids in sub-alpine streams for the alpine galaxias) for feeding and spawning;
- suitable turbidity, temperature and oxygen levels;
- riparian vegetation, woody debris and/or large rocks for cover;
- flat surfaces, vegetation or river bed substrate suitable for spawning;
- exclusion of predators, particularly salmonids;
- refuges during high flow events;
- stable water levels to prevent eggs drying up or being disturbed once laid;
- prevention of unnaturally high levels of plant growth; and
- passage between rivers, lakes and wetlands, and to and from the sea for diadromous species. Migration times vary but at least one species of fish is migrating up or down river at any one time.

Salmonids

Trout and salmon need water flows and levels that provide:

- conditions suitable for freshwater insects and small fish as a food source for trout;
- their preferred depths, velocities and substrate for feeding, migration and spawning;
- for adult and juvenile fish passage to and from the sea/lakes (adult salmon enter the river from November to March, adult rainbow trout spawn in late winter or early spring in tributaries, and brown trout spawn in mid-winter in main channels and tributaries); and
- river bank vegetation to provide shelter.

Birds

The three major types of habitats for river and wetland birds are the braided river bed, the lakes and wetlands. Birds require flows and levels that provide:

- conditions suitable for freshwater insects and small fish as a food source;
- their preferred velocities and depths for feeding, ranging from shallow riffles for most braided river species to torrenting mountain streams for the blue duck;
- for braided riverbed birds clean gravels for nesting preferably on predator, vegetation, and flood-free areas (islands between braids are preferred; breeding season is from September to early January);
- vegetation along lake edges for nesting of lake birds, (for example, the southern crested grebe breed from November to March); and
- wetlands and shallow margins along lakes for winter feeding.

Tāngata whenua cultural requirements for water⁴

Sustaining the mauri of a water body requires management of water bodies that:

- protects the water's capacity to renew its groundwater and surface water flows and stocks;
- sustains habitats, breeding, food sources and migratory requirements of mahinga kai species such as eels, flax and watercress, in their freshwater and coastal environments;
- provides seasonal flow variability via a range of flows including seasonal floods of different magnitudes;
- protects the exchange of freshwater and seawater at the mouth, maintains freshwater flows in estuaries, and prevents the unnatural closing of a river mouth;

⁴ Drawn from Te Rūnanga o Ngāi Tahu Freshwater Policy.

- enables the longstanding histories and traditional and cultural uses to be maintained; and
- prohibits the unnatural mixing of water from different bodies.

Town and community requirements for water

Water from both surface water and groundwater is required for the supply to towns and communities, and for domestic supply to individual users where no community supply exists.

Increased demand for town and community water within the catchment is likely to be driven by increased subdivision and lifestyle development near Lake Tekapo, Lake Ruataniwha, Twizel and Otematata. Out-of-catchment demand for water is expected to grow significantly, particularly from settlements along the dry North Otago coast that have little or no access to groundwater. Interest has been expressed in taking Waitaki River water as far south as Dunedin.

Recreation and tourism requirements for water

Recreational uses of water require flows and levels that provide for:

- access for recreational users;
- stable water levels for rowing and lake boating;
- flow conditions suitable for target species - fish or game birds;
- suitable velocities, clarity and depths;
- a large enough area of suitable river or lake to prevent conflict; and
- the taking of water for tourism and recreational facilities, including snow making.

For many recreational users and tourists who do not directly use water, the main role of water bodies in the catchment is to provide a backdrop or setting to the activity. The most significant effect of changing water use is likely to be on experiences, perceptions of landscape amenity and the naturalness of the environment.

There is considerable potential for growth in active and passive recreation and tourism within the catchment both from New Zealand and overseas. This growth will require greater use of water for drinking/domestic use. Water use for these activities is usually provided by town supplies, and is small compared to the flow required for other uses such as hydro-electricity and irrigation. As an example, Aoraki/Mt Cook village has consent to use 0.03 cubic metres per second for these purposes.

Hydro-electricity

Hydro-electricity uses the greatest amount of water, but returns water to the system so that other activities can use or abstract the water downstream. Because the highest inflows to the Waitaki system occur in spring and summer, and peak electricity demand is generally in winter, storage provides a critical ability to match supply and demand. Because of the importance of the storage in Lakes Tekapo and Pūkaki to the New Zealand electricity system, water in these lakes has the highest value for hydro-electricity generation within the Waitaki scheme. Water from Lake Tekapo flows through eight power stations, and water from Lake Pūkaki through five stations. The flow through Benmore Power Station reaches a maximum of 660 cubic metres per second and uses, on average, 11,000 million cubic metres a year.

Compared to other sources of electricity, the output from a hydro-electricity generator can be ramped up and down quickly. Flexibility in the rate of taking water is critical to the ability to match the daily demand peaks and maintain the stability of the transmission system.

Potential new hydro-electric generation includes large or small scale schemes on the Lower Waitaki River using canal or canal/tunnel options, micro hydro-electricity and hydro- electricity generation in combination with irrigation.

Agriculture and horticulture

Existing resource consents that take water upstream of Waitaki Dam provide water for 12,600 hectares of irrigation using a peak rate of 15.5 cubic metres per second and an estimated annual demand of 96 million cubic metres. Estimates of the potentially irrigable land upstream of Waitaki Dam reach as high as 80,000 hectares, representing an eight-fold increase in water demand.

There are currently about 46,000 hectares of land irrigated with water taken from the lower catchment, although some of this is outside the catchment boundary. Some remaining pockets of land within the lower catchment could benefit from irrigation, the largest of which is in the Hakataramea catchment.

The Waitaki catchment provides a possible source of water for irrigation in the dry parts of South Canterbury and North Otago. Significant additional irrigation demand is likely to come from these areas. Known proposals include taking water from Lake Tekapo over Burkes Pass into South Canterbury, and taking water from the Lower Waitaki River into both South Canterbury and North Otago. A resource consent has recently been obtained for eight cubic metres per second to irrigate 20,000 hectares of land outside the catchment in the North Otago downlands, and Stage 1 of this scheme, to service 10,000 hectares, is already under construction.

Existing resource consents for irrigation and stock drinking-water in the lower catchment require an estimated peak flow of around 60 cubic metres per second (90 percent of which is taken directly from the Lower Waitaki River) and a seasonal volume of 900 million cubic metres. Estimates of the peak demand to provide for the approximately 74,000 hectares identified as potentially irrigable in the remainder of the catchment, South Canterbury and North Otago, amount to a 70 percent increase in the peak flow of water required.

Pastoral farming also requires stock drinking-water. The existing allocation to stock drinking- water in the catchment exceeds reasonable use estimates, even with full irrigation development assumed. Therefore, additional stock drinking-water needs can be met by efficiency improvements or provided in combination with irrigation development.

Groundwater maintains soil moisture levels in some unirrigated areas of the lower Waitaki valley where groundwater is shallow and clayey soils exist.

Commercial and industrial

There is not a great demand for water in the catchment for commercial and industrial purposes currently, although there is likely to be some out-of-catchment demand through the Oamaru and Waimate town supplies. The only major existing industry is the Pukeuri freezing works. Increased agricultural and horticultural production is likely to require additional processing capacity either within or near the catchment.

There are three salmon farms on the hydro-electricity canal system in the Mackenzie Basin.

5. Issues to be addressed

This Plan addresses issues relating to water allocation in the Waitaki catchment. Water allocation has relationships with other aspects of resource management, including landscape, water quality, soil and bank erosion, wetland fencing and siltation, operational management of beds and rivers, and the management of floods. This Plan does not provide comprehensively for such matters. This Plan has been prepared with the assumption and expectation that there will be parallel management provisions that address these related aspects of resource management that fall outside of the issues that are addressed in this Plan.

This section of the Plan identifies the particular issues to be addressed in the Plan including its geographical coverage, water allocation issues addressed, methods used and administrative issues addressed.

Waitaki catchment definition

This Plan only addresses issues that arise within the Waitaki catchment that is defined in the Waitaki Act as:

- (a) the area of land bounded by watersheds draining into the Waitaki River; and
- (b) includes aquifers wholly or partially within the area of land.

The Waitaki River means the river known by that name, the confluence of which with the sea is shown on grid references NZMS 260-J41 (2002 version) J41:2364-5584.

The boundaries of the catchment are shown on Map 1.

The Plan applies to the taking, using, damming or diverting of water from water bodies within the Waitaki catchment, whether the water is used within or outside the catchment. Other matters should be addressed through the relevant statutory planning instruments of the regional and district councils.

Water allocation definition

This Plan provides for the matters set out in section 13 of the Waitaki Act. In preparing this Plan, water allocation is defined as addressing the taking, using, damming and diverting of water in relation to the following matters:

- a whole-catchment approach
- environmental flow and level regimes
- the mixing of waters
- the allocation to activities
- efficient and effective use
- water metering
- transfer of resource consents
- restrictions during times of low water availability
- replacement of existing consents.

This Plan addresses the following matters to the extent necessary to provide for water allocation as defined in this Plan but does not make comprehensive provision for them. Objectives, policies and methods (including rules) contained in the relevant Canterbury Regional Council statutory planning instruments that address the following matters apply in the Waitaki catchment with any necessary modification to

give effect to the provisions of this Plan:

- landscape
- water quality
- soil and bank erosion
- afforestation in flow-sensitive catchments
- wetland management - fencing and siltation
- operational management of beds and rivers
- management of floods
- forestry as a land use
- interference effects between bores - well interference
- dam safety and high water levels, including maximum lake levels
- ramping rates
- passage of fish past structures
- fish screening of intakes.

The application of methods other than rules

This Plan does not specify methods other than rules to implement the water allocation policies. Other methods included in the relevant statutory planning instruments remain available to be implemented by the Canterbury Regional Council in the Waitaki catchment. These include:

- advocacy
- information and promotion
- compliance and enforcement
- investigations
- "Resource Care" initiatives
- water users groups.

Administrative issues

The following provisions in the Proposed Canterbury Natural Resources Regional Plan adopted by the Canterbury Regional Council on 28 March 2002 and publicly notified on 1 June 2002 for submissions, including variation 1 to that plan, adopted by the Canterbury Regional Council on 27 May 2004 and publicly notified on 3 July 2004 for submissions, apply in the Waitaki catchment with any necessary modification to give effect to the provisions of this Plan:

- information to be included with an application for a resource consent
- the processes to be used to deal with issues that cross local authority boundaries, and issues between territorial authorities and between regions
- the procedures used to monitor the efficiency and effectiveness of the policies, rules, or other methods contained in the plan, including environmental monitoring
- financial contributions and bonds.

This Plan **does not** include provisions relating to consent duration. The provisions addressing this matter included in the relevant statutory planning instruments that apply to the Waitaki catchment remain available to be implemented by the Canterbury Regional Council.

Identification of issues within the catchment

Table 2 provides an overview of issues relating to the requirements for water and potential water allocation issues within the Waitaki catchment as a whole, as well as in specific localities within the catchment. Map 2 illustrates the localities referred to in the table.

The table reflects that the taking, using, damming and diversion of water can reduce or alter surface water flows, groundwater, wetland or lake water levels and may adversely affect the availability of water necessary to meet other requirements. There is also competition between different users of water (both in-stream and out-of-stream activities), within the same activity, and between present and future water users.

Table 2: Identification of water allocation issues within the Waitaki catchment

Localities/river	Requirements for water	Potential water allocation issues
Catchment wide	Large braided river system. Connectedness between all parts of the freshwater systems of the Waitaki River and associated beds, banks, margins, tributaries, islands, lakes, wetlands and aquifers. Includes continuity of flow from mountains to the sea. Ecosystems including habitats of indigenous plants and animals including rare and threatened species. Tangata whenua relationships and values. Intrinsic and amenity values. Essential water needs. Economic activities. Recreation activities. Social and cultural wellbeing.	Demand exceeds availability: <ul style="list-style-type: none"> • Abstractive vs in-stream uses • Alternative abstractive uses • Hydro-electricity generation vs other activities. Water quality implications of intensification of land use. Integrated management of conflicts constrained by having two regional authorities.
Tributaries of Lake Tekapo, Lake Pūkaki and Lake Ōhau	High natural character. High landscape and visual amenity values. Habitats for birds and fish. Recreation and tourism facilities. Hydro-electricity generation.	Retaining high natural-character state.
Ahuriri catchment	High natural character. High landscape and visual amenity values. Habitat for wading birds. Trout habitat. Ōmārama water supply. Recreation including fishing. Irrigation. Hydro-electricity generation.	Water Conservation Order sets environmental flow regime. Allocation to activities not specifically addressed in Water Conservation Order. Quail Burn which has conflicting demands excluded from the Water Conservation Order. Flow-sensitive sub-catchments (as identified in the <u>NRRP</u>).
Rain-fed lakes including Lakes McGregor, Alexandrina and Middleton, Lakes and tarns upstream of the glacial lakes	High natural character. High landscape and visual amenity values. Habitat for birds. Trout habitat. Recreation including fishing and water fowl hunting.	Retaining high natural-character state.
Lake Tekapo, Lake Pūkaki and Lake Ōhau	Iconic nature of lakes and surrounds. High natural character. High landscape and visual amenity values. Recreation. Hydro-electricity generation. Irrigation within area and out-of-catchment.	Allocation to activities. Lake operating levels. Operational flexibility for hydro-electricity generation.
Tekapo, Pūkaki and Ōhau rivers	Connectedness to the glacial lakes to provide continuity of flows from mountains to sea. Recreation, including fishing and kayaking. Hydro-electricity generation. Irrigation. Wetlands. Habitat for birds and fish.	Restoring flows in dry river systems. Allocation to activities. Abstractive (hydro and irrigation) vs in-stream uses.

Hydro-electricity canals	Fishing. Hydro-electricity generation. Irrigation. Salmon farms.	Allocation to activities.
Upper catchment tributaries	Flow to wetlands and groundwater. Upper reaches salmonid-free. Habitats for indigenous aquatic species. Town supply to Lake Tekapo and Twizel. Fishing. Hydro-electricity generation. Irrigation.	Allocation to activities. Water quality implications of intensification of land use.
Small streams, groundwater and wetlands in upper catchment	High natural character. Groundwater, wetlands and springs closely connected to surface flows and part of larger river system.	Smaller streams are not well covered in ecological monitoring, and often do not have flow recording. Retaining high natural character of wetlands.
Tributaries of Lake Benmore, Lake Aviemore and Lake Waitaki	Trout fishery and spawning areas. Irrigation of small areas. Hydro-electricity generation. Otematata town water supply.	Allocation to activities. Most river flows not recorded. Some catchments are flow-sensitive (as identified in the <u>NRRP</u>).
Lakes Ruataniwha, Benmore, Aviemore and Waitaki	Lake-based recreation. Hydro-electricity generation. Irrigation Supply to Kurow water race system. Habitats for birds and fish.	Allocation to activities. Lake operating levels. Operational flexibility for hydro-electricity generation.
Hakataramea catchment	Wetland connections. Habitats for birds and fish (including spawning). Fishing. Irrigation. Potential for water harvesting. Water supply Hakataramea township.	Current allocations to abstractive uses threaten in-stream values. Water quality implications of intensification of land use. Some catchments are flow-sensitive (as identified in the <u>NRRP</u>).
Tributaries of Lower Waitaki River	Salmon spawning. Native fish passage. Sediment supply to Lower Waitaki River. Water supplies to towns in Waitaki and Waimate districts. Irrigation.	Allocation to activities. Current allocations to abstractive uses threaten in-stream values in most tributaries. Deemed permits in Awakino, Kurow, Maerewhenua, Otekaieke and Otiake catchments.
Lower Waitaki River	Braided river system processes including connections, to wetlands, springs and groundwater. Habitats for birds and fish. River mouth functioning. Recreation including fishing, jet boating and game bird hunting. Community water supplies (including Oamaru). Industrial and commercial water supply. Hydro-electricity generation. Irrigation in and out of catchment. Potential for out-of-catchment town and community water supply, and industrial and commercial uses.	Allocation to activities. Residual flows and flow variability to maintain the attributes of large flowing river. Operational flexibility for hydro-electricity generation.
Lower catchment groundwater and springs	Flows to springs, spring-fed streams and wetlands. Irrigation. Community water supply including Duntroon. Maintaining groundwater levels.	Allocation to activities. Interconnectedness of surface and groundwater and wetland systems.

6. Objectives

Objective 1⁵

To sustain the qualities of the environment of the Waitaki River and associated beds, banks, margins, tributaries, islands, lakes, wetlands and aquifers by:

- a. recognising the importance of maintaining the integrity of the mauri in meeting the specific spiritual and cultural needs of the tāngata whenua, and by recognising the interconnected nature of the river
- b. safeguarding the life supporting capacity of the river and its ecosystems
- c. managing the water bodies in a way that maintains natural landscape and amenity characteristics and qualities that people appreciate and enjoy
- d. safeguarding the integrity, form, functioning and resilience of the braided river system
- e. providing for individuals' reasonable domestic water needs
- f. providing for individuals' reasonable needs for their animals' drinking-water
- g. providing for fire-fighting water needs.

Objective 2⁵

To the extent consistent with Objective 1, to enable people and communities to provide for their social, economic and cultural wellbeing and their health and safety, by providing for water for:

- a. town and community water supplies
- b. hydro-electricity generation
- c. agricultural and horticultural activities
- d. industrial and commercial activities
- e. tourism and recreation facilities
- f. any other activities.

Objective 3

In allocating water, to recognise beneficial and adverse effects on the environment and both the national and local costs and benefits (environmental, social, cultural and economic).

Objective 4

To promote the achievement of a high level of technical efficiency in the use of allocated water.

Objective 5

To provide for a practical and fair sharing of allocated water during times of low water availability.

⁵ The order in which the items within the objectives are stated does not imply an order of importance or priority. In any circumstance in which a decision is made, the relative importance of competing or conflicting factors may need to be considered for that decision.

7. Policies

Objectives 1 - 5 will be achieved through the following policies⁶:

Policies incorporated from the National Policy Statement for Freshwater Management 2014

Policy 1A

1. When considering any application for a discharge the consent authority must have regard to the following matters:
 - a. the extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water and
 - b. the extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.
2. When considering any application for a discharge the consent authority must have regard to the following matters:
 - a. the extent to which the discharge would avoid contamination that will have an adverse effect on the health of people and communities as affected by their secondary contact with freshwater; and
 - b. the extent to which it is feasible and dependable that any more than minor adverse effect on the health of people and communities as affected by their secondary contact with fresh water resulting from the discharge would be avoided.
3. This policy applies to the following discharges (including a diffuse discharge by any person or animal):
 - a. a new discharge or
 - b. a change or increase in any discharge - of any contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.
4. Paragraph 1 of this policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.
5. Paragraph 2 of this policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2014 takes effect.

Policy 1B

1. When considering any application the consent authority must have regard to the following matters:
 - a. the extent to which the change would adversely affect safeguarding the life supporting capacity of fresh water and of any associated ecosystem and
 - b. the extent to which it is feasible and dependable that any adverse effect on the life supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided.
2. This policy applies to:
 - a. any new activity and
 - b. any change in the character, intensity or scale of any established activity – that involves any taking, using, damming or diverting of fresh water or draining of any wetland which is likely to result in any more than minor adverse change in the natural variability of flows or level of any fresh water, compared to that which immediately preceded the commencement of the new activity or the change in the established activity (or in the case of a change in an intermittent or seasonal activity, compared to that on the last occasion on which the activity was carried out).

⁶ Each policy is accompanied by a cross-reference to the objective(s) to which that policy principally relates

3. This policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.

Catchment-wide policies

Policy on a whole-catchment approach

Policy 1

Cross-ref:
Objective 1

By recognising the importance of connectedness between all parts of the catchment from the mountains to the sea and between all parts of freshwater systems of the Waitaki River and associated beds, banks, margins, tributaries, islands, lakes, wetlands and aquifers.

Explanation

The Waitaki catchment is large and complex. This policy recognises the importance of taking a whole-catchment "mountains to the sea" approach to water allocation in the catchment - an approach that recognises the physical, ecological, cultural and social connections throughout the catchment.

Policies on environmental flow and level regimes

Policy 2

Cross-ref:
Objective 1

By recognising that the following water bodies have a high natural character worthy of a high level of protection, because they are currently either in largely unmodified parts of the catchment; or contain rare or important species and habitat or habitat assemblages:

- a. tributaries of Lakes Tekapo, Pūkaki and Ōhau;
- b. mainstems and tributaries of Fork Stream, Irishman Creek and Mary Burn, upstream of the Braemar Road;
- c. mainstem and tributaries of the Twizel River, upstream of the Pūkaki Canal;
- d. wetlands with a moderate or higher significance throughout the catchment;
- e. Lakes Alexandrina, McGregor and Middleton and their tributaries and other lakes upstream of Lakes Tekapo, Pūkaki and Ōhau.

Explanation

This policy recognises that there are some parts of the catchment where the water bodies should be managed as far as possible to retain their high natural character and are, therefore, afforded a high level of protection in this Plan. This is consistent with provisions of the Canterbury Regional Policy Statement (Chapter 9 Policy 4) regarding the identification of any water bodies that should be sustained as far as possible in their natural state.

Policy 3

Cross-ref:
Objectives 1 and 2

By setting environmental flow and level regimes in the water bodies of the Waitaki catchment (other than those identified in Policy 2) that enable access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.

Policy 4

Cross-ref:

Objectives 1 and 2

By considering the following matters when setting environmental flow and level regimes:

- a. mauri and healthy ecosystems of indigenous species, including mahinga kai species;
- b. wāhi tapu sites or areas, and wāhi taonga;
- c. natural character, landscape, and visual amenity;
- d. vegetation within and adjacent to the water body;
- e. habitats including those of invertebrates, birds and fish;
- f. fish passage, as appropriate, including controlling spread of non-indigenous species into new areas;
- g. undesirable periphyton and sediment accumulation;
- h. effects on water quality;
- i. maintenance of groundwater flows;
- j. naturally occurring dry river or stream beds;
- k. the potential for establishment of invading exotic vegetation;
- l. bedload and sediment transport processes;
- m. shoreline or bank erosion;
- n. functioning of the river mouth;
- o. recreation opportunities;
- p. existing flow and level regimes, physical resources and activities;
- q. the amount and reliability of water that can be taken, used, dammed or diverted; and
- r. accessibility to water bodies and their margins.

Policy 5

Cross-ref:

Objectives 1 and 2

By considering the following additional matters when setting groundwater flow and level regimes:

- a. any surface water body into which the groundwater flows, in particular wetlands and springs;
- b. the long-term water level and/or artesian pressure in each aquifer;
- c. the location of the salt-water interface;
- d. the potential for deterioration in water quality through water loss from one aquifer to another as a result of cross-connection and/or reversed pressure gradients between aquifers; and
- e. the potential for land subsidence.

Explanation for Policies 3– 5

The range of components that may make up the environmental flow and level regime in any particular instance include flow-sharing, allocation limits, flushing flows and minimum flows and levels.

The minimum flows set in this Plan are predominantly set at the bottom end of a catchment or sub-catchment. For most rivers, the exact monitoring site is not set in this Plan thus allowing some flexibility to choose the most appropriate monitoring site given the physical conditions at the locality. If a monitoring site is significantly upstream the consent authority will need to adjust for any tributary inflows or losses between the recorder and the downstream location where the minimum flow is to be achieved. As part of implementing the environmental flow and level regimes, the consent authority could also establish minimum flows on tributaries or at a point of take as a means to ensure compliance with the

downstream flows set in this Plan. The details of implementing the environmental flow and level regimes of this Plan in a consistent way throughout a sub-catchment are not addressed in this Plan, but will be matters for consideration through the resource consent process.

Policies 4 and 5 identify the matters considered when setting environmental flow and level regimes and these should be addressed when considering any application for a resource consent that is a non-complying activity in respect of the environmental flow and level regimes established in this Plan. Because the Plan does not set environmental flow and level regimes for groundwater (other than that covered by Policy 6), applications to take or use groundwater will be considered against Policy 4 and 5.

The environmental flow and level regimes for specific water bodies are further addressed in the locality-specific policies below and in the rules. In some cases, locality-specific policies recognise a particular value that is important when setting the regime for a water body.

Policy 6

Cross-ref:

Objectives 1 and 2

To recognise the close connection between groundwater and surface water in some locations, by requiring any take, use or diversion of:

- a. connected groundwater;
- b. shallow groundwater upstream of Lake Benmore; and
- c. shallow groundwater in the Hakataramea and Maerewhenua catchments

to comply with environmental flow and level regimes set for the relevant surface water body.

Explanation

This policy recognises that abstraction of groundwater can alter surface water flows both by drawing water from adjacent streams and rivers (connected groundwater), and by reducing flows to surface water and springs at the point where groundwater would naturally emerge which may be some kilometres away. In the upper catchment (upstream of Lake Benmore) and the Maerewhenua and Hakataramea catchments, rivers both gain and lose water to groundwater along their length. Subsequent rules that give effect to this policy require that all groundwater taken above Lake Benmore or in the Hakataramea or Maerewhenua catchments where the average depth to groundwater is less than 10 metres (shallow groundwater) is to be considered within the environmental flow regime for the surface water body to which it contributes flow.

Policy 7

Cross-ref:

Objectives 1, 2 and 3

In considering whether to grant or refuse consent to take, dam, divert or use water from streams where the mean annual low flow is less than 100 litres per second, the consent authority will have regard to whether there are alternative locations for the activity on larger water bodies.

Explanation

This policy seeks to discourage taking water from very small streams when there is a viable alternative. The ecological values of these streams are often uncertain and this policy provides for a cautious approach to altering their flow.

Policy 8

Cross-ref:

Objectives 1, 2 and 3

By promoting water harvesting, outside of the water bodies identified in Policy 2, as a means of capturing

water for use when flows are low by allowing the taking, damming or diversion of water at flows in the water body that are above the mean and in a manner that avoids or mitigates the loss of physical and ecological benefits of high flow events.

Explanation

In parts of the catchment, there is insufficient water to reliably meet all current and reasonably foreseeable demands. There may be opportunities for capturing a portion of high flows within a catchment and storing the water for use when flows are low (ie water harvesting). This policy recognises the potential value of such measures, and the value of retaining downstream flow variability. It is given effect to by provisions within the environmental flow and level regimes.

Policy on the mixing of waters

Policy 9

Cross-ref:

Objectives 1

1. By discouraging further⁷ taking, use or diverting of water so that it mixes with water of another catchment or sub-catchment.
2. The adverse effects of taking, use or diverting of water so that it mixes with water of another catchment or sub-catchment may be mitigated:
 - (a) if the mixing has no significant adverse effect on the ability of people and communities (including tāngata whenua) to provide for their cultural wellbeing.
 - (b) if the water taken, used or diverted passes through earth before it mixes with water of another catchment or sub-catchment.
 - (c) if there is no significant adverse effect on the quality, amenity values or natural character of any receiving water body in the Waitaki catchment.
 - (d) if there is no significant risk of an undesirable organism being introduced into a receiving water body that is in the Waitaki catchment.

Explanation

This policy recognises that there can be adverse cultural or ecological effects of water of one catchment (or sub-catchment) being mixed with water of another catchment or sub-catchment; and discourages taking, use or diversion so that it mixes and those effects may occur. Applicants for consent should identify, and consent authorities should consider, whether any of the stated effects of mixing might occur as a result of any proposal to take, use or divert water, and if so, establish whether the taking, use or diversion can be managed so that the adverse effect is not significant.

The potential effect of the mixing of waters is generally likely to be greater when water of one catchment mixes with water of another catchment, than when water of sub-catchments of the same catchment mixes. The policy does not affect taking, use or diversion of water except where water of one catchment (or sub-catchment) mixes with water of another catchment (or sub-catchment). The adverse effects of taking, using or diverting water that is applied to land so that it seeps into the earth and subsequently mixes with water may be mitigated by the cleansing effect of passing through the earth.

The policy recognises that currently water is taken, used or diverted so that it mixes with water of another catchment or sub-catchment. The policy applies only to new proposals, and is not intended to affect those currently authorised by resource consents during their current terms. However after a current consent expires, a consent authority considering an application for a replacement consent should have regard to the extent to which the proposal gives effect to this policy.

⁷ That is, other than that authorised by resource consents that are in effect on the date this plan becomes operative.

Policies on the allocation to activities

Policy 10

Cross-ref:
Objectives 2 and 3

By enabling small amounts of water to be taken or diverted, outside of the water bodies identified in Policy 2, where singly and cumulatively with other such takes or diversions, the amounts are so small that the effects on the matters outlined in Policy 4 and 5 will be minor.

Explanation

Outside of the water bodies identified as needing a high level of protection to preserve their high natural character, this policy recognises that there are some water uses that are of sufficiently minor effect that they can occur without significant adverse effects. These can be permitted without requiring a resource consent for each take or diversion.

This policy and the associated rules do not apply to the taking and using of freshwater for an individual's reasonable domestic needs and the reasonable needs of an individual's animals for stock water. These takes and uses under section 14(3)(b) of the RMA do not require a resource consent if the taking or use does not, or is not likely to, have an adverse effect on the environment. Water for fire-fighting can be taken and used without resource consent. Rule 1 which implements this policy substantially mirrors the quantity of water permitted to be taken by the Canterbury Transitional Regional Plan

Policy 11

Cross-ref:
Objectives 2 and 3

In considering effects when allocating to activities under the provisions of this Plan:

- a. Tāngata whenua values are those held by Ngāi Tahu⁸, and with respect to allocations to mahinga kai activities within the Lower Waitaki River, those held by Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki^{F1A}
- b. national effects refer to those that arise within New Zealand.
- c. local effects refer to those that arise in the Mackenzie District, the Waimate District and the Waitaki District.

Explanation

This policy presents the scope of effects as they apply to this Plan. Part (a) reflects the Ngāi Tahu Claims Settlement Act 1998 which recognises the mana of Ngāi Tahu in relation to a range of sites and areas in the South Island. Effects are considered from both national and local perspectives. It is recognised that local social and economic effects are likely to extend beyond the catchment boundary, and will vary unevenly with distance, depending on the circumstances of each case. For the purpose of this Plan however it is necessary to define the scope of local effects considered in order to define the basis of assessment, and this is provided in part (c) of this policy.

F1A – Insertion consequential to deletion in Policy 12(ga), refer Hearing Commissioners Report and Recommendations Para [533]ff

⁸ Refer definition in Section 10

Policy 12

Cross-ref:

Objectives 1, 2, 3, 4 and 5

To establish an allocation to each of the activities listed in Objective 2 by:

- a. having regard to the likely national and local effects of those activities;
- b. reference to relevant national, regional and local plans and strategies;
- c. recognising the iconic nature of Lakes Tekapo, Pūkaki and Ōhau;
- d. recognising the importance of Lakes Tekapo, Pūkaki, Ōhau Ruataniwha, Benmore, Aviemore and Waitaki and their associated infrastructure to New Zealand's electricity system;
- e. recognising the importance of irrigation for agriculture and horticulture;
- f. considering the relative environmental effects of the activities including effects on landscape, water quality, mauri, and the beds of lakes and rivers;

~~g(ga). considering opportunities to reserving water within the Lower Waitaki for the enhancement of mahinga kai, and the associated tāngata whenua values^{F2} provided that Te Rūnanga o Arowhenua, Te Rūnanga o Waiārae and Te Rūnanga o Moeraki have been consulted,^{F3} and the augmentation of flows into Wainono Lagoon.^{F4}~~

- g. assuming a high level of efficacy and technical efficiency;
- h. giving a preference to needs for water within the catchment; and
- i. expressing the allocation to activities in annual volumes:
 - upstream of the outlets of each of Lakes Tekapo, Pūkaki, and Ōhau;
 - upstream of Waitaki Dam;
 - downstream of Waitaki Dam but upstream of Black Point; and
 - downstream of Waitaki Dam but downstream of Black Point.

Explanation

One of the requirements of the Waitaki Act is that this Plan must provide for the allocation of water to activities. This policy describes the approach used to make allocations among the activities set out in Objective 2. These allocations apply, at the point that water is taken, to new and replacement consents from all water bodies including canals, and will require all consents to specify an annual volume. Within the Lower Waitaki River environmental flow regime,^{F5A} water has been allocated for projects activities^{F5B} that will enhance mahinga kai and therefore enhance the values held by Ngāi Rūnanga tāngata whenua,^{F6A} both within and beyond the Waitaki catchment. One of these projects is augmentation flows for the Wainono Lagoon^{F6}. Water has also been allocated for augmenting flows into the Wainono Lagoon.^{F7} Any activity that falls outside the annual allocations set under this policy in Rule 6 will be a non-complying activity and must demonstrate the effect of granting the consent on the entitlements to other activities over the timeframe of the consent. Except as provided for under Policy 10, applications for resource consents are still required for taking or diverting water within the annual allocation volumes. These applications are subject to the other provisions of this Plan, and to the consideration of effects under the resource consent processes.

Policy 13

Cross-ref:

Objectives 1, 2, 3 and 4

In considering whether to grant or refuse consent to take, divert, dam or use water allocated to agricultural and horticultural activities, the consent authority will have regard to the extent to which exercise of the consent could result in the water quality objectives in the Natural Resources Regional Plan not being achieved.

F2 – Green Party, 3248; LWRMS, 3206

F3 – Deletion on the basis of *vires*, refer consequential amendment to Policy 11

F4 – Turner, B, 3193, Green Party, 3248

F5A – Cl16, Sched 1 to the RMA consequential to amendments to Policy 12(ga)

F5B – Consequential to Ngāi Tahu, 3438

F6A – Cl16, Sched 1 to the RMA

F6 and F7 – Turner, B, 3193

Explanation

This policy recognises the importance of water quality considerations when allocating water to agricultural and horticultural activities and, in particular, to irrigation. The intensification of land use, including that arising from irrigation, increases the potential for adverse effects on water quality. The Waitaki catchment has some sensitive and pristine water bodies that have not, to date, had intensive land uses in their catchments. This policy links to the Natural Resources Regional Plan water quality chapter to ensure these matters are considered when deciding consents.

Policy 14

Cross-ref:
Objectives 2 and 3

In considering whether to grant or refuse consents to take, divert or use water outside of the Waitaki catchment, the consent authority will have regard to the extent to which granting consent will reduce the availability of water to current and reasonably foreseeable in-catchment needs.

Explanation

In parts of the catchment there is insufficient water to reliably meet all current and future demands. This policy places a primacy on demands for water within the catchment by providing for current and projected in-catchment needs for water to be considered before a consent authority decides whether or not to grant applications to take water out of the catchment. The policy does not preclude the grant of applications for out-of-catchment use, but provides for consideration of likely in-catchment needs when considering such applications. Policy 9 concerning the mixing of waters may also be relevant to the consideration of such applications.

Policies on efficient and effective use

Policy 15

Cross-ref:
Objectives 1, 2 3 and 4

By ensuring that the rate of abstraction, **seasonal duration**, and the annual volume of resource consents for taking, using, damming or diverting water are reasonable for the intended end use, and thereby avoiding significant wastage of water.

Policy 16

Cross-ref:
Objective 4

~~By requiring resource consent applications for irrigation to meet a reasonable use test in relation to the instantaneous rate of abstraction and the annual volume of the proposal to take, use, dam or divert water, including:~~

- ~~a. consideration of land use and on-site physical factors such as soil water holding capacity, climatic factors such as rainfall variability and potential evapotranspiration, and irrigation system operation and management.~~
- ~~b. consideration of an irrigation application efficiency of at least 80 percent. Where the resource consent application is for an irrigation system with a higher application efficiency, the higher efficiency will be used.~~
- ~~c. annual volumes based on either:~~
 - ~~i). soil moisture measurements, local rainfall and evapotranspiration modelling for the 1-in-5 year dry season (the year for which seasonal demand is exceeded in 20 percent of years); or~~
 - ~~ii). the difference between peak total seasonal demand as shown in Table A1, Environment Canterbury Report U05/15 and the effective summer rainfall exceeded 80 percent of the~~

~~time from an approved rainfall site.~~

By requiring resource consent applications to:

- a. Consider whether the amount of water to be taken and used is reasonable for the proposed use. In assessing reasonable use for irrigation purposes, the application must meet a reasonable use test, in accordance with Schedule 42^{F7A}, in relation to the instantaneous rate of abstraction and the seasonal and^{F7B} annual volume necessary to efficiently irrigate the identified irrigation area; and of the proposal to take, use, dam or divert water, that addresses the rate, volume and seasonal duration for which the water may be taken, used, dammed or diverted;^{F7B}
- b. Maximise the efficiency of systems used for the conveyance or application of water, taking into account practicable options to implement any change to existing systems, and the benefits and costs of achieving a higher level of efficiency.

Policy 17

Cross-ref:
Objective 4

~~By requiring resource consent applications for town and community water supplies or stock drinking-water supply systems to meet a reasonable use test in relation to the rate of abstraction and the volume of the proposal to take water, using as guidelines:~~

- ~~a. a volume of 300 litres per day per person based on the population to be supplied for domestic use;~~
- ~~b. daily stock drinking-water requirements in Table WQN26 and Table WQN27 of the Natural Resources Regional Plan^{F8} Schedule 1; and~~
- ~~c. a reasonable quantity for other water uses supplied from the water supply system.~~^{F8AA}

Policy 18

Cross-ref:
Objective 4

By encouraging and, where appropriate, requiring the water allocation specified on existing resource consents to reflect the actual quantity needed to undertake the activity.

Policy 19

Cross-ref:
Objective 4

By encouraging the piping or otherwise sealing of water distribution systems to minimise water losses and maintain the quality of water and, where appropriate, requiring their progressive upgrade and piping where there is an environmental and/or economic net benefit for so doing, but recognising that some may provide significant habitats.

Policy 20

Cross-ref:
Objectives 2, 3 and 4

By promoting the integration of multiple uses of water.

F7A – Cl16, Sched 1 to the RMA

F7B – Consequential to Forest and Bird, 3529

F8 – Ngāi Tahu, 3427

F8AA – LWRMS, 3211

Explanation for Policies 15 – 20

These policies provide for an efficient use of water so that the net benefits derived from its use are maximised, and waste minimised. Policy 15 provides a general policy for efficient use of water. Policy 16 establishes a reasonable use test for applications for resource consents for irrigation. Policy 17 establishes a reasonable use test for applications for resource consents for community and stock drinking-water supply systems. These policies are matters for discretion and do not prevent the consent authority considering other matters such as existing infrastructure, energy usage and financial costs alongside the matters listed in the policies.

Policies 18 and 19 encourage the enhancement of the technical efficiency of water use authorised by existing resource consents, and efficient distribution systems. These policies recognise that generally these uses will not formally be able to be subjected to the reasonable use tests of Policies 16 and 17 until their consents expire and they are the subject of applications for replacement consents, but that it is nevertheless desirable to enhance the efficiency of water use wherever practicable.

Policy 20 recognises that there are opportunities for the integrated multiple use of water that can enhance the efficiency of water use and the net benefits to be derived from its use.

There are no rules specifically associated with these policies. They provide matters of discretion when considering an application for a resource consent

Policy on water metering

Policy 21

Cross-ref:

Objectives 1, 2, 3, 4 and 5

By requiring the installation and use of water-measuring and recording devices that accurately record the taking, using, or diverting water at the point of take or diversion, with reporting to the Canterbury Regional Council. The consent authority will consider the application of this policy:

- a. when resource consents are issued and given effect, (unless it is considered appropriate to install these at a later date);
- b. when any resource consents are reviewed under section 128 of the Act;
- c. when a resource consent is transferred; or
- d. by invoking an existing condition of consent requiring measuring and recording upon request.

Explanation

The effective and efficient management of water requires relevant and timely information, and this policy requires the metering of taking, using, or diverting water. It provides for water metering that is accurate, and for the record to be reported to the regional council. The specific application of this policy (for example: type of meter, accuracy specifications, point of installation, reporting frequency and protocols) can be determined by the consent authority at the time a consent is granted, or at the other listed opportunities for implementing the policy.

Policy on the transfer of resource consents

Policy 22

Cross-ref:

Objectives 2, 3 and 4

By facilitating the transfer of consents from one part of the catchment to another where this is consistent with the provision of this Plan, including being subject to the annual allocation to activities, environmental flow and level regimes and water metering.

Explanation

This policy provides for the transfer of a permit from one place to another provided that it complies with the provisions of this Plan. It must comply with the annual allocation to activities and the environmental flow and level regimes applicable to the area that it is transferred to, and be subject to water metering and the other provisions of this Plan. Rule 8 and Rules 22 to 24 state the scope of transfers that are provided for, and the matters to be controlled and considered by the consent authority.

The transfer of a water permit to a subsequent owner or occupier of the same site does not require approval, as it is allowed under section 136(1) of the RMA. It does, however require notice to be given to the consent authority. Sections 136(2) and 136(2A) of the RMA provide for the transfer of consents in whole or in part and for limited periods.

The change of the use or purpose of a resource consent is not treated as a transfer, and is subject to an application to change the consent under section 127 (where the change is to a consent condition), or otherwise, is subject to an application for a new resource consent.

Policies on restrictions during times of low water availability

Policy 23

Cross-ref:
Objectives 1 and 5

By ensuring environmental flow and level regimes are complied with by requiring all consent holders to restrict their rate of taking or diverting shallow groundwater (upstream of Lake Benmore, in the Maerewhenua catchment or in the Hakataramea catchment), connected groundwater, or surface water when the amount of water available for taking or diverting is low, except where the water is used for essential domestic uses, essential animal drinking needs and for the processing and storage of perishable produce.

Policy 24

Cross-ref:
Objectives 1, 4 and 5

By allowing consent holders to take water for domestic, stock drinking-water uses and for the processing and storage of perishable produce when rivers or lakes are at or below minimum flows or levels provided the amount taken does not exceed 250 litres per person per day based on the population being supplied at that time, plus actual stock drinking-water requirements, plus the minimum necessary to maintain fire-fighting capability and for the processing and storage of perishable produce. In addition, an allowance may be made for reasonable losses from reticulated supply schemes.

Policy 25

Cross-ref:
Objectives 1, 4 and 5

By allowing the restrictions on takes and diversions to be achieved by sharing the available water between resource consent holders within a water-users group, provided the total amount taken by any individual does not exceed their resource consent, and the sum of the takes does not exceed the water available above the minimum flow or minimum lake level.

Policy 26

Cross-ref:
Objective 5

By providing a measure of certainty as to the likely frequency of restrictions to consent holders taking or

diverting water on a run-of-river basis from upper or mid-catchment tributaries, the Ahuriri catchment, the Hakataramea catchment, or tributaries of the Lower Waitaki River (see Map 2) through setting priority bands. The first priority band will be set to provide a reliability which either:

- a. allows at least 95 percent of the allocation specified on the consent to be taken in any 14-day period from August to May in 6 years out of 10, and at least 75 percent of the allocation specified on the consent to be taken in any 14-day period from August to May in 9 years out of 10; or
- b. if the existing reliability is less than that specified in Policy 26a, maintains the existing reliability.

Policy 27

Cross-ref:

Objectives 3 and 5

By giving priority during times of low flows or levels to integrated schemes in which water is used for more than one purpose.

Explanation for Policies 23 – 27

This suite of policies sets out how restrictions will be applied when, on a run-of-river basis, there is not enough water for all resource consent holders to take, divert or use at the peak rates specified in their consents.

Policy 24 specifies that restrictions do not apply to consents to use water for essential domestic use, stock drinking-water, maintaining fire-fighting capacity and for the processing and storage of perishable produce. The per-person provision for domestic uses includes residents and visitors being supplied at the time of the water shortage. This policy and the associated rules do not apply to the taking and using of freshwater for an individual's reasonable domestic needs and the reasonable needs of an individual's animals for stock water. These takes and uses under section 14(3)(b) of the RMA do not require a resource consent if the taking or use does not, or is not likely to, have an adverse effect on the environment. Water for fire-fighting can be taken and used without resource consent.

Where a consent is for combined uses, only that proportion of the consent that is identified for essential uses is exempt from the restrictions.

Policy 25 encourages water-user groups as a means for users to collectively manage their cumulative abstraction within the limits of the environment flow and level regime.

Policy 26 is adapted from the Natural Resources Regional Plan (Policy WQN 14(4)), and recognises that as further consents to take, use or divert water are issued the run-of-river reliability to each user reduces. The priority bands provide enhanced planning certainty for water users who take or divert water on a run-of-river basis by limiting their exposure to the incremental erosion of their reliability of access to water in times of low flow. The policy is about managing between users, and not about the reliability to be provided as a result of setting an environmental flow regime. If the environmental flow regime provides for reliability greater than that in Policy 26(a), the policy prevents reduction of reliability below a specified level by introducing priority bands.

Within a priority band restrictions apply equally to all users, rather than the use of a last-on, first-off restriction regime. The exception is essential uses which are given priority by exemption from the minimum flow or level. Users in subsequent bands must cease taking before restrictions are applied to the higher priority band.

The priority band system applies to management of run-of-river takes. In Policy 46, the Plan provides a separate regime for the Lower Waitaki River.

In many sub-catchments of the Waitaki, the existing reliability is below the level set in Policy 26a. For those catchments, the policy recommends that a priority band is set that is equivalent to the existing peak allocation or to the size of the first priority band if such an approach has been used previously. The

specific priority bands can be established by the Canterbury Regional Council in each instance in accordance with this policy.

Policy on replacement of existing consents

Policy 28

*Cross-ref:
Objectives 3 and 4*

In considering whether to grant or refuse applications for replacement of existing consents⁹, the consent authority will:

- a. consider whether all reasonable attempts to meet the efficiency expectations of this Plan have been undertaken;
- b. recognise the value of the investment of the existing consent holder; and
- c. maintain the inclusion of the consent, if granted, in any allocation limits and priority bands on the water body concerned.

Explanation

*There is no right of renewal of a resource consent, and this policy **and Policy 47** provides^{F8A} guidance on how an application to replace an existing consent should be considered by the consent authority. The consideration of the efficiency of use of water being used under an existing consent is critical to ensure that the efficiency expectations of this Plan are implemented. The policy provides for maintaining an existing consent in the same allocation limit and priority band when it is replaced. It also provides for recognition of the value of the investment when an application for replacement is considered.*

Locality-specific policies

The divisions used for the locality-specific policies are illustrated on Map 2.

Policies for High Natural-Character Water Bodies

Policy 29

*Cross-ref:
Objectives 1 and 2*

By recognising the high natural character of the water bodies listed in Policy 2 through restricting the cumulative allocation to activities from them.

F8A – Cl16 to Sched 1 to the RMA

⁹ Sections 124A, 124B and 124C as inserted into the RMA by the Resource Management Amendment Act 2005 will apply to applications for a new consent to replace an existing consent from 10 August 2008. These sections set up a process to give existing consent holders priority (in having their application determined) over new applications when an existing consent holder applies for a new consent to replace an existing consent.

Policy 30

Cross-ref:
Objective 1

By preventing the taking, using, damming or diversion of water from Lakes Alexandrina, McGregor¹⁰ and Middleton and their tributaries, other lakes¹¹ upstream of Lakes Tekapo, Pūkaki and Ōhau and wetlands, unless it is a wetland that is not a wetland with a moderate or higher significance, for the purpose of protecting their:

- a. natural character intrinsic and amenity values;
- b. ecosystems of indigenous species, including māhinga kai species
- c. Ngāi Tahu relationships; and
- d. trout and salmon habitat (where these species are currently found).

Policy 31

Cross-ref:
Objectives 1 and 2

By discouraging the taking, using, damming and diverting of water for irrigation purposes from the tributaries of Lakes Tekapo, Pūkaki and Ōhau identified in Policy 2 as having a high natural character worthy of a high level of protection.

Policy 32

Cross-ref:
Objectives 1 and 2

In considering whether to grant or refuse consents to take, use, dam or divert water from the High Natural-Character Water Bodies, the consent authority will ensure that any taking, using, damming or diverting of water does not, by itself, or in combination with any other take, use, dam, or diversion in the same area, have a more than minor adverse effect on:

- a. the natural flow variability
- b. mauri, and ecosystems of indigenous species, including māhinga kai species
- c. indigenous vegetation within and adjacent to the water body
- d. natural character and landscape
- e. sites of wāhi tapu
- f. sites of wāhi taonga
- g. habitats including those of invertebrates, birds and fish
- h. passage and spawning areas for trout and salmon (where these species are currently found)
- i. amenity values, including wild and scenic values
- j. existing water quality.

Policy 33

Cross-ref:
Objectives 1 and 2

In considering whether to grant or refuse consents to take, use, dam or divert water from the High Natural-Character Water Bodies the consent authority will recognise the need for taking, using, damming and diverting of water to be distributed among High Natural-Character Water Bodies to avoid the concentration of effects on any one water body.

Policy 34

¹⁰ Lake McGregor has a statutory acknowledgement in the Ngāi Tahu Claims Settlement Act 1998.

¹¹ Lakes, as defined by the RMA, includes tarns.

Cross-ref:
Objectives 1, 2 and 3

In considering whether to grant or refuse consents to take, use, dam or divert water from the High Natural-Character Water Bodies the consent authority will, for activities for which water is taken and returned to the sub-catchment such as snow-making and micro hydro-electricity generation, have regard to any benefit of returning the water to the vicinity of the take or diversion point provided the take or diversion is consistent with Policies 32 and 33.

Explanation for Policies 29 – 34

These policies recognise the high natural character of particular water bodies within the catchment and generally control the taking, using, damming or diversion of water from them. In the most sensitive water bodies, (moderate or higher significance wetlands, Lakes Alexandrina, McGregor and Middleton and their tributaries and other lakes upstream of Lakes Tekapo, Pūkaki and Ōhau) taking, using, damming or diversion of water is prevented.

Policies and subsequent rules recognise that there are some water uses that are of sufficiently minor effect that they may be able to occur without materially disturbing the special features of these areas. In the case of wāhi tapu this may be a stringent test.

Policies for Lakes Tekapo, Pūkaki and Ōhau¹²

Policy 35

Cross-ref:
Objectives 1 and 2

By setting minimum lake levels that recognise the iconic nature and the mana of Lakes Tekapo, Pūkaki and Ōhau, and enable appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1. The minimum lake level applies to all takes, damming, diversion or uses of water for other than town and community water supplies, stock drinking-water, and tourism and recreational facilities from the lakes and from the canals leading from them.

Policy 36

Cross-ref:
Objectives 1 and 2

By providing for temporary lowering of Lakes Tekapo and Pukaki for the purpose of electricity generation only in times of national or South Island power shortage as established by the Electricity Commission.

Policy 37

By providing for the temporary lowering of Lakes Tekapo, Pūkaki and Ōhau where necessary for the purposes of maintenance or rehabilitation of electricity generation infrastructure.

Explanation for Policies 35 – 37

Policies 35 - 37 recognise the high value of these lakes both for natural values and their importance to New Zealand as a source of hydro-electricity. The existing minimum lake levels set on the consents to dam the lakes are maintained. Policy 35 applies those lake levels to all other taking, diversion, damming or using of water from the lakes and canals leading from the lakes, with specified exceptions. The “appropriate access” referred to in Policy 35 and reflected in the rules reflects the balance between

¹² Lakes Tekapo, Pūkaki and Ōhau have statutory acknowledgements in the Ngāi Tahu Claims Settlement Act 1998.

the matters identified in Objectives 1 and 2, and does not include easement issues.

Policies for the Tekapo, Pūkaki and Ōhau Rivers

Policy 38

*Cross-ref:
Objective 1*

By acknowledging that the Tekapo, Pūkaki and Ōhau Rivers are associated with the mana of Lakes Tekapo, Pūkaki and Ōhau and that flows in these rivers could provide continuity of flow from the mountains to the sea.

Policy 39

*Cross-ref:
Objectives 1 and 2*

By setting an environmental flow regime in the upper Ōhau River that recognises the importance of flow continuity from the mountains to the sea; healthy ecosystems of indigenous species; and the trout fishery.

Explanation for Policies 38 – 39

These three rivers have been extensively modified. These policies reflect the significance of these rivers themselves, as well as their importance to the connectedness of the catchment as a whole (refer to Policy 1). Policy 39 in combination with the rules in this Plan provides that the existing minimum flow in the Ōhau River upstream of Lake Ruataniwha is maintained.

Policy for other rivers and streams in the upper catchment

Policy 40

*Cross-ref:
Objectives 1 and 2*

By setting environmental flow regimes in the rivers and streams (within the upper catchment tributary areas shown on Map 2) that recognise the connections of those rivers and streams to wetlands and groundwater systems of the Mackenzie and Ahuriri basins, and enable appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.

Explanation

This policy relates to those parts of the Fork Stream, Mary Burn, Irishman Creek, Twizel River, Grays River, Wairepo Creek, and Quail Burn and their tributaries that are not High Natural-Character Water Bodies. This policy sets the basis for the environmental flow regimes set in the rules for these rivers. It identifies particularly important values that were considered in setting the regimes.

Ahuriri catchment

Explanation

There are no locality-specific policies for the Ahuriri catchment. The National Water Conservation (Ahuriri River) Order 1990 sets provisions including allocation limits and minimum flows for taking, using, damming and diverting water from the water bodies to which the Order applies. The Quail Burn is specifically excluded from the Order and is addressed in Policy 40. Rules which implement Policies 11, 12, 13 and 14 - allocation to activities - will apply to this catchment as the Order does not address allocation to activities.

Policy for the tributaries of Lakes Benmore, Aviemore and Waitaki

Policy 41

Cross-ref:
Objectives 1 and 2

By setting environmental flow regimes in the tributaries of Lakes Benmore, Aviemore and Waitaki (within the area identified on Map 2 as mid-catchment tributaries) that:

- (i) recognise the natural values of the tributaries, and in particular recognise the fish spawning habitat and connectedness with Lake Aviemore of the Otematata River;

and

- (ii) enable appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.

Explanation

This policy applies to tributaries of Lakes Benmore, Aviemore and Waitaki except those which flow through the Mackenzie or Ahuriri basins which are covered by policies for the upper catchment streams. It includes the Otamatapaio, Awahokomo, and Otematata Rivers. These policies set the basis for the environmental flow regimes set in the rules for these rivers. It identifies particularly important values that were considered in setting these regimes.

Policy for Lakes Ruataniwha, Benmore, Aviemore and Waitaki¹³

Policy 42

Cross-ref:
Objectives 1 and 2

By setting minimum lake levels for Lakes Ruataniwha, Benmore, Aviemore and Waitaki that recognise the natural and recreational values of the lakes, and enable appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.

Explanation

These policies set the basis for the minimum lake levels set in the rules. The rules reflect the existing minimum lake levels for these lakes.

Policy for the Hakataramea catchment¹⁴

Policy 43

Cross-ref:
Objectives 1 and 2

By setting an environmental flow regime in the Hakataramea River that:

- (i) recognises:
 - a. the need to provide for healthy ecosystems of indigenous species, including mahinga kai species;

¹³ Lakes Benmore and Aviemore have statutory acknowledgements in the Ngāi Tahu Claims Settlement Act 1998.

¹⁴ The Hakataramea River has a statutory acknowledgement in the Ngāi Tahu Claims Settlement Act 1998.

- b. the importance of maintaining flows through the wetlands at the confluence of the Hakataramea River with the Lower Waitaki River;
- c. the need to sustain the availability of trout and salmon spawning habitat;
- d. the need to provide for passage of fish; and
- e. that the catchment is flow-sensitive with respect to afforestation;

and

- (ii) enables appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.

Explanation

This policy identifies the important values of the Hakataramea catchment and the basis for the environmental flow regime set in the rules.

Policy for tributaries of the Lower Waitaki River

Policy 44

*Cross-ref:
Objectives 1 and 2*

By setting environmental flow regimes in the tributaries of the Lower Waitaki River (shown on Map 2) that:

- (i) recognise the natural and recreational values of the tributaries, in particular, the value of the Awakino and Maerewhenua Rivers for trout- spawning, and the Waikakahi Stream for healthy ecosystems of indigenous species, including mahinga kai species;

and

- (ii) enable appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.

Explanation

This policy sets the basis for the environmental flow regimes set in the rules for these rivers. It identifies particularly important values that were considered in setting the regimes. Relevant rules recognise that there are some deemed permits in some of these catchments that are subject to sections 413 to 417 of the RMA.

Policies for the Lower Waitaki River

Policy 45

*Cross-ref:
Objectives 1 and 2*

1. By setting an environmental flow regime in the Lower Waitaki River that:
 - (i) maintains
 - a. the physical characteristics (including flow variability) of a dynamic braided river;
 - b. the physical and ecological functioning of the river mouth;
 - c. the connectedness of the main flow with riparian margins, wetlands, and back water areas;
 - d. habitats for aquatic plants, invertebrates, birds and fish;
 - e. support for cultural relationships (including those of Ngāi Tahu) with the river;
 - f. the opportunity for people to experience the river's aesthetic characteristics,

- g. including openness, naturalness, and magnitude; and recreational opportunities;

and

- (ii) enables appropriate access to water for the activities identified in Objective 2, to the extent consistent with Objective 1.

2. In deciding whether to grant or refuse consent for an application to take, use, dam or divert water from the Lower Waitaki River upstream of Black Point that would result in a cumulative peak rate of abstraction greater than 90 cubic metres per second, the consent authority will have regard to the extent to which the exercise of the consent would maintain the matters listed in Policy 45(1)(i).

Policy 46

*Cross-ref:
Objectives 2, 3 and 5*

By maintaining a flow of water into the Lower Waitaki River downstream of the Waitaki Dam that is sufficient to ~~maintain~~^{F9}:

- (i) Maintain^{F10} the minimum flow and flushing flows of the environmental flow regime for the Lower Waitaki River;

and

- (ii) meet the actual requirements of activities that are not fully provided for by a flow of 150m³/s being^{F11} the aggregate of:
 - a. the actual requirements of exercising existing¹⁵ and new¹⁶ consents (at their points of taking) in the Lower Waitaki River for town and community water supplies, industrial and commercial activities, tourism and recreational facilities, and any other activities provided for within the annual allocations for all those activities; and
 - b. the actual requirements of exercising existing¹⁵ consents for agricultural and horticultural activities (at their points of taking) in the Lower Waitaki River provided for within the annual allocation for those activities; and
 - c. the actual requirements of exercising, up to 95 percent of the peak rate of taking, of new¹⁶ consents for agricultural and horticultural activities (at their points of taking) in the Lower Waitaki River provided for within the annual allocations for those activities; and^{F12}
 - d. the actual requirements for enhancing mahinga kai and augmentation of Wainono Lagoon being either:
 - i. the requirements set out in new consents¹⁶ (at the points of taking) in the Lower Waitaki River and provided for within the annual allocation for that activity in Table 5;
 - or
 - ii. in-river flows in the Lower Waitaki River if the allocations for mahinga kai or for augmenting Wainono Lagoon are not taken or diverted.^{F13}

up to a maximum of ~~80 32~~ 40^{F14} cubic metres per second.

F9, F10 – Consequential to Meridian, 3467, Ngāi Tahu, 3435

F11 - F14 Meridian, 3467, Ngāi Tahu, 3435, Central South Island Fish and Game, 3328

F15 - Cl16, Sched 1 to RMA

¹⁵ Authorised by resource consent in effect on the date this Plan becomes operative; and a consent in replacement of it (refer to Schedule 2^{F15} 3).

¹⁶ Not authorised by resource consent in effect on the date this Plan becomes operative.

Explanation for Policies 45 – 46

These policies describe the basis on which the environmental flow regime for the Lower Waitaki River has been set. In the rules, there are two different environmental flow regimes set in the Lower Waitaki River, both of which contain minimum flows. For the reach downstream of Black Point, flow variability above the minimum flow is provided for by an allocation limit. In the reach between Waitaki Dam and Black Point, variability above the minimum flow is provided for by flushing flows and the requirements in Policy 45(2).

Because the flow in the river is artificially controlled, the reliability for downstream users is dependent on the pattern of flow release.

Policy 47

~~In considering whether to grant or refuse applications for replacement of existing consents^{16A} By providing cessation flows^{16A} as an alternative to the minimum flow^{F16} for takes and diversions from the Lower Waitaki River downstream of the Waitaki Dam, the consent authority will implement Policy 28 by providing an alternative minimum flow subject to a reduction in the volume of water taken at certain times during the growing season, and cessation of takes in periods of sustained low flows.~~^{F17}

- ~~(a) for existing consents^{16A} that implement Policy 28, and all other takes and diversions; and~~
- ~~(b) to facilitate the taking or diverting of part of the allocations reserved for mahinga kai during winter months.~~^{F18}

Explanation

~~There is no right of renewal of a resource consent and this policy and Policy 28, provides guidance on how an application to replace an existing consent should be considered by the consent authority. Policy 47 enables the setting of cessation flows, that are an alternative to the minimum flow for existing consents^{16A} for takes from the Lower Waitaki River downstream of the Waitaki Dam that implement Policy 28, subject to cessation of takes in periods of sustained low flow. Policy 47 also sets these alternative cessation flows to facilitate the taking or diverting of a portion of the allocation for mahinga kai enhancement.~~^{F19}

The plan seeks to provide for individual and community wellbeing within the limits of sustaining the environmental qualities of the river (Objectives 1 and 2). Plan provisions provide for water to pass over the Waitaki Dam to provide for downstream users.

The plan recognises that there were several consents that were granted before the plan was made operative (refer Schedule 2 ~~3~~^{F20A}). These consent holders had invested in infrastructure designed for the actual requirements of their activities (i.e very high reliability). Policy 46 recognises this by requiring a flow of water to ~~be passed over~~ the Waitaki Dam. Requiring those consents to comply with the minimum flows of the Lower Waitaki River all of the time will impact on reliability, and on the ability of communities to provide for their wellbeing. River flows are sufficient for both Objectives 1 and 2 to be achieved for the majority of the time, but the 25 year hydrological record (from 1979 to 2004) shows that imposing a minimum flow of 150m³/s will not achieve the needs of existing consent holders all of the time. Providing ~~a lower minimum flow~~ cessation flows^{F20} for existing consent holders will enable people to provide for their social and economic wellbeing, while not compromising the qualities of the Waitaki River that are to be sustained under Objective 1.

This policy recognises that providing ~~an alternative minimum flow~~ cessation flows^{F21} for existing consents (i.e. those referred to in Schedule 2 ~~3~~^{F22A}) or resource consents which facilitate the taking or diverting of a portion of the allocation for mahinga kai enhancement^{F22} is appropriate where doing so has minor adverse effects, and all other provisions of the plan are met.

F16, F17, F18, F19, F21, F22 - Consequential to Meridian, 3470; Ngāi Tahu, 3437

F20A, F22A – CI16, Sched 1 to RMA

16A Authorised by resource consent in effect on the date this Plan becomes operative; and a consent in replacement of it (refer to Schedule 23).

8. Rules

Each rule is accompanied by a reference to the policies that are particularly relevant. Other policies and provisions of this Plan may also be relevant in particular circumstances.

Rules setting environment flow and level regimes

Rule 1

Cross-ref:

Policy 10

Subject to Rules 9 and 10, no person shall take, use or divert more than 10 cubic metres per day per property at a rate not exceeding 5 litres per second.

Rule 2

Cross-ref:

Policies 1-8, 23, 24, 28, 29, 32 and 38-47^{F22B}

- (1) Except as provided in (2) ~~and~~ (3), and (4)^{F22C} no person shall take, use, dam or divert surface water or groundwater unless:
 - a. the flow in the relevant river or stream, or the level in the relevant lake, is above the minimum flow or level in Table 3B^{F22D}; and
 - b. the amount taken or diverted from the relevant river or stream is for a replacement consent¹⁷ or in combination with the amount of water authorised to be taken ~~or diverted~~ by existing resource consents, does not exceed the allocation limits in Table 3B^{F22D}; and
 - c. the take or diversion complies with a flow-sharing regime such that no more than half of the water above or between the thresholds in Table 3B^{F22D} can be taken or diverted; and
 - d. the consent holder provides the flushing flows in Table 3B^{F22D} xvii(b) where applicable.
- (2) Water taken for essential drinking, stock drinking-water, maintaining fire- fighting capacity, ~~and~~ for the processing and storage of perishable produce and for augmentation flows to Wainono Lagoon^{F23} is exempt from cessation flow^{F24}, minimum flow and level and flow-sharing regimes.
- (3) Water taken or diverted and returned to the same water body in the vicinity of the take or diversion point, in the same condition and quality as taken, for micro hydro-electricity generation or fisheries and wildlife, is exempt from the allocation limits in Table 3B^{F22D}.
- (4) Subject to Rule 2(2)^{F25} ~~Water taken or diverted, from downstream of the Waitaki Dam, as authorised by~~^{F26} ~~consents referred to in Schedule 2~~^{F27}, has the minimum flow cessation flows^{F28} set out in Table 3A, or that of the existing consent, whichever is the higher; provided that:
 - ~~a. the amount of water taken as a percentage of the consented take complies with Table 3A;~~
 - ~~b. in the event that the daily average flow of the Lower Waitaki River is at or below 150m³/s for ten consecutive days, all takes must cease for a period of 48 hours;~~
 - aa. all relevant provisions of line xvii of^{F28A} Table 3B apply, except minimum flow.
 - bb. cessation flows for water taken or diverted by existing consents that are referred to in Schedule 3, are set out in Rows 4 and 5 of Table 3A, provided that:
 - (i) the default cessation flow is either the number in Row 4 of Table 3A or the minimum flow that is recorded on the consent, whichever is the higher; and
 - (ii) in the event that the daily average flow of the Lower Waitaki River is at or below 150m³/s for ten consecutive days, all takes must cease for a period of 48 hours.
 - cc. cessation flows for water taken or diverted for the enhancement of mahinga kai up to the maximum rate specified in Row 1 of Table 3A, are set out in Rows 6 and 7 of Table 3A.
 - d. cessation flows for water taken or diverted, that are not provided for in clauses (bb) and (cc) of this Rule, are set out in Rows 8 and 9 of Table 3A^{F29}

F22B, F22C, F22D, - CI16, Sched 1 to RMA

F23 - Consequential to Turner B. 3193, Green Party, 3248, F24 - Consequential to Meridian Energy Limited 3470

F25 - The Alliance Group -3221,

F26 - F29, Consequential to Meridian 3470, Ngāi Tahu, 3437

F28A - CI16, Sched 1 to RMA, minor amendment for clarification

¹⁷ With the same or lesser amounts of water to be taken or diverted

Table 3A F30

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
<u>Minimum Flow (m³/s)</u>	<u>102</u>	<u>102</u>	<u>102</u>	<u>120</u>	<u>138</u>	<u>144</u>	<u>144</u>	<u>138</u>	<u>120</u>	<u>102</u>	<u>102</u>	<u>102</u>
<u>Amount of water to be taken (as % of consented take)</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>63</u>	<u>25</u>	<u>43</u>	<u>43</u>	<u>25</u>	<u>63</u>	<u>100</u>	<u>100</u>	<u>100</u>

Table 3A Reserved Water and Cessation flows for the Lower Waitaki River F31

<u>Row</u>	<u>Reserved Water:</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sept</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
<u>1</u>	<u>Rate available for allocation to mahinga kai (m³/s)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>5</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>5</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>2</u>	<u>Rate available for allocation to mahinga kai (m³/s), from within the flows required by Rule 7</u>	<u>10</u>	<u>10</u>	<u>10</u>	<u>5</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>5</u>	<u>10</u>	<u>10</u>	<u>10</u>
<u>3</u>	<u>Rate available for augmentation of Wainono Lagoon, from within the flows required by Rule 7</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
	<u>Cessation Flows:</u>												
<u>4</u>	<u>Default Cessation Flow (m³/s) for consents listed in Schedule 3</u>	<u>111</u>	<u>111</u>	<u>111</u>	<u>120</u>	<u>142</u>	<u>148</u>	<u>148</u>	<u>142</u>	<u>120</u>	<u>111</u>	<u>111</u>	<u>111</u>
<u>5</u>	<u>Adjusted Cessation Flow (m³/s) if some or all of the reserved water is consented to be taken or diverted</u>	<u>Adjusted Cessation Flow equals the Default Cessation Flow less the sum of the rate of reserved water (m³/s) consented to be taken from Row 1, Row 2 and Row 3 up to a maximum of 11 m³/s.</u>											
<u>6</u>	<u>Default Cessation Flow for water reserved for enhancement of mahinga kai in Row 1 (m³/s)</u>				<u>151</u>	<u>149</u>	<u>149</u>	<u>149</u>	<u>149</u>	<u>151</u>			
<u>7</u>	<u>Adjusted Cessation Flow (m³/s) if some or all of the reserved water is consented to be taken or diverted</u>	<u>Adjusted Cessation Flows equal the Default Cessation Flow less the rate of reserved water (m³/s) consented to be taken up to a maximum volume of water available for allocation as set out in Row 1.</u>											
<u>8</u>	<u>Default Cessation Flow (m³/s) for water abstracted that does not have a cessation flow set by Rows 4 and 6</u>	<u>164</u>	<u>164</u>	<u>164</u>	<u>156</u>	<u>155</u>	<u>155</u>	<u>155</u>	<u>155</u>	<u>156</u>	<u>164</u>	<u>164</u>	<u>164</u>
<u>9</u>	<u>Adjusted Cessation Flow (m³/s) if some or all of the reserved water is consented to be taken or diverted</u>	<u>Adjusted Cessation Flow equals the Default Cessation Flow less the sum of the rate of reserved water (m³/s) consented to be taken from Row 1, Row 2 and Row 3 up to a maximum of 11 m³/s.</u>											

Table 3B: Environmental flow and level regimes for water bodies in the Waitaki catchment

Water bodies	Environmental Flow regimes
i. High Natural-Character Water Bodies as defined in Policy 2a, b and c	<p>a. An <u>allocation limit</u> of 10% of the <u>Mean Annual Low Flow</u> of the water body as assessed by the Canterbury Regional Council.</p> <p>b. No <u>flow-sharing</u> regime</p>
ii. Tekapo River	<p>a. An <u>allocation limit</u> from Lake George Scott to the confluence with the Grays River of 0 m³/s</p> <p>b. From the Fork Stream confluence to Lake Benmore, a <u>minimum flow</u> of 3.4 m³/s measured immediately downstream of the Mary Burn confluence</p> <p>c. An <u>allocation limit</u> from downstream of the Grays River confluence to Lake Benmore of 0.7 m³/s</p> <p>d. Any taking of water that has been released into the Tekapo River from Lake George Scott for <u>agricultural and horticultural activities</u> is in addition to the <u>allocation limits</u> in a and c above</p> <p>e. No <u>flow-sharing</u> regime</p>
iii. Fork Stream and tributaries ¹⁸	<p>a. A <u>minimum flow</u> of 1 m³/s immediately upstream of the confluence with the Tekapo River</p> <p>b. An <u>allocation limit</u> of 0.5 m³/s</p> <p>c. No <u>flow-sharing</u> regime</p>
iv. Mary Burn, Irishman Creek and their tributaries ¹⁹	<p>For Irishman Creek upstream of State Highway 8</p> <p>a. A <u>minimum flow</u> of 0.3 m³/s at State Highway 8, and</p> <p>b. An <u>allocation limit</u> of 0.3 m³/s</p> <p>For Mary Burn upstream of State Highway 8</p> <p>c. A <u>minimum flow</u> of 0.33 m³/s at State Highway 8 and</p> <p>d. An <u>allocation limit</u> of 0.25 m³/s</p> <p>For Mary Burn and Irishman Creek downstream of State Highway 8</p> <p>e. A <u>minimum flow</u> of 1.5 m³/s in the Mary Burn immediately upstream of its confluence with the Tekapo River, and</p> <p>f. An <u>allocation limit</u> of 0.15 m³/s</p> <p>For all reaches</p> <p>g. No <u>flow-sharing</u> regime</p>
v. Grays River and tributaries	<p>a. A <u>minimum flow</u> of 1.8 m³/s in the Grays River at Days Bridge</p> <p>b. An <u>allocation limit</u> from the Sawdon of 0.25 m³/s</p> <p>c. An <u>allocation limit</u> from the Edward Stream of 0.25 m³/s</p> <p>d. An <u>allocation limit</u> from the remainder of the Grays catchment of 0.5 m³/s</p> <p>e. No <u>flow-sharing</u> regime</p>
vi. Upper Ōhau River	<p>a. A <u>minimum flow</u> of 8 m³/s from Lake Ōhau to Lake Ruataniwha</p> <p>b. An <u>allocation limit</u> of 0 m³/s</p> <p>c. Any taking of water that has been released into the upper Ōhau from Lake Ōhau for <u>agricultural and horticultural activities</u> is in addition to the <u>allocation limit</u></p> <p>d. No <u>flow-sharing</u> regime</p>
vii. Twizel River and tributaries ²⁰	<p>For the Twizel River catchment upstream of State Highway 8</p> <p>a. A <u>minimum flow</u> of 1.0 m³/s at State Highway 8</p> <p>b. A <u>flow-sharing</u> threshold of 2.6 m³/s</p> <p>For the Twizel River catchment downstream of State Highway 8</p> <p>c. A <u>minimum flow</u> of 0.8 m³/s immediately upstream of the confluence with the Ōhau River</p> <p>d. A <u>flow-sharing</u> threshold of 2.6 m³/s</p>
viii. Wairepo Creek and tributaries	<p>For the Wairepo catchment upstream of State Highway 8</p> <p>a. A <u>minimum flow</u> of 0.03 m³/s at the point where the creek is closest to Lake Ōhau Road</p> <p>For the Wairepo catchment downstream of State Highway 8</p> <p>b. A <u>minimum flow</u> of 0.03 m³/s immediately upstream of the Wairepo lagoon and</p>

¹⁸ Row i. of Table 3B also applies to parts of these water bodies

¹⁹ Row i. of Table 3B also applies to parts of these water bodies

²⁰ Row i. of Table 3B also applies to parts of these water bodies

Water bodies	Environmental Flow regimes
	For the whole catchment c. An <u>allocation limit</u> of 0.2 m ³ /s and d. A <u>flow-sharing</u> threshold of 0.3 m ³ /s upstream of the Wairepo lagoon - any water taken, diverted, dammed or used pursuant to the <u>flow-sharing</u> regime is in addition to the <u>allocation limit</u>
ix. Lake Ruataniwha	a. A <u>minimum lake level</u> of 458 metres <u>a.m.s.l.</u>
x. All water bodies to which the National Water Conservation (Ahuriri River) Order 1990 applies.	a. The <u>environmental flow regime</u> set in the Order.
xi. Quail Burn and tributaries	a. A <u>minimum flow</u> of 0.1 m ³ /s at the Hen Burn Road b. An <u>allocation limit</u> of 0.31 m ³ /s c. A <u>flow-sharing</u> threshold of 1.0 m ³ /s - any water taken, diverted, dammed or used pursuant to the <u>flow-sharing</u> regime is in addition to the <u>allocation limit</u>
xii. Hen Burn and tributaries	a. A <u>minimum flow</u> of 0.02 m ³ /s at the Hen Burn Road b. An <u>allocation limit</u> of 0.08 m ³ /s c. A <u>flow-sharing</u> threshold of 1.4 m ³ /s - any water taken, diverted, dammed or used pursuant to the <u>flow-sharing</u> regime is in addition to the <u>allocation limit</u>
xiii. Lake Benmore	a. A <u>minimum lake level</u> of 355.25 metres <u>a.m.s.l.</u>
xiv. Otematata River	a. A <u>minimum flow</u> of 1.9 m ³ /s at the "Pumphouse" site b. An <u>allocation limit</u> of 1.0 m ³ /s c. A <u>flow-sharing</u> threshold of 7.6 m ³ /s - any water taken, diverted, dammed or used pursuant to the <u>flow-sharing</u> regime is in addition to the <u>allocation limit</u>
xv. Lake Aviemore	a. A <u>minimum lake level</u> of 265.5 metres <u>a.m.s.l.</u>
xvi. Lake Waitaki	a. A <u>minimum lake level</u> of 227 metres <u>a.m.s.l.</u>
xvii. Lower Waitaki River	a. A <u>minimum flow</u> from Waitaki Dam to the sea of 150 m ³ /s, except that: If, throughout the period from 1 November in any year to the following 30 April, the sum of all the catchment inflows above Waitaki Dam as determined by the Canterbury Regional Council are less than, or equal to, the 1-in-20 year inflows, then, during the following period from 1 June to 31 August, a minimum flow equivalent to the natural flow at Waitaki Dam or 150 m³/s whichever is the lesser. If during any period when the mean of the <u>calculated natural inflows</u> above the Waitaki Dam for the preceding seven day period is less than or equal to 150 m ³ /s, a minimum flow equivalent to the <u>calculated natural inflows</u> . b. From Waitaki Dam to Black Point, <u>flushing flows</u> of at least 450 m ³ /s for not less than 24 hours are to be provided no less than 7 times per year, no fewer than 2 of which are to be in the period 1 February to 31 March in every year. c. An allocation limit of 90 m³/s (not counting any flows abstracted from the Lower Waitaki River above Black Point that are returned to the Lower Waitaki River above Black Point). An allocation limit of 79 m ³ /s, not counting any flows abstracted from the Lower Waitaki River above Black Point that are returned to the Lower Waitaki River above Black Point; plus an allocation of 10 m ³ /s reserved for enhancing <u>mahinga kai</u> and Te Rūnanga o Arowhenua, Te Rūnanga o Waihao and Te Rūnanga o Moeraki have been consulted plus an allocation of 1 m ³ /s reserved for augmentation flows for Wainono Lagoon. d. All flows in the Lower Waitaki River determined for the purpose of this item xvii are to be based on measurements at the Kurow recorder ²¹ and based on 1-hour rolling averages an average over a 24 hour period <u>from midnight to midnight</u> . ^{F33} e. No flow-sharing regime.
xviii. Awakino River and tributaries	a. A <u>minimum flow</u> of 0.4 m ³ /s from October to April at State Highway 83 b. A <u>minimum flow</u> of 0.5 m ³ /s from May to September at State Highway 83 c. A <u>flow-sharing</u> threshold of 1.0 m ³ /s
xix. Hakataramea River	From September to March a. A <u>minimum flow</u> at the Main Highway recorder site of 0.5 m ³ /s

F33 – Minor amendment for clarification.

²¹ Water level recording site number 71104

Water bodies	Environmental Flow regimes
	<p>b. An <u>allocation limit</u> of 0.5 m³/s</p> <p>c. <u>Flow-sharing</u> between the thresholds of 1.0 and 4.5 m³/s - any water taken, diverted, dammed or used pursuant to the <u>flow-sharing</u> regime is in addition to the <u>allocation limit</u></p> <p>From April to August</p> <p>d. A <u>minimum flow</u> at the Main Highway recorder site of 0.75 m³/s</p> <p>e. <u>Flow-sharing</u> between the thresholds of 0.75m³/s and 4.5 m³/s</p> <p>At all times</p> <p>f. Any water taken when the river is above 4.5m³/s is in addition to the <u>allocation limit</u> and <u>flow-sharing</u> regime</p>
xx. Maerewhenua River and tributaries	<p>a. A <u>minimum flow</u> of 0.4 m³/s at Kelly's Gully.</p> <p>b. An <u>allocation limit</u> of 0.2 m³/s</p> <p>c. <u>Flow-sharing</u> between the thresholds of 0.8 and 2.0 m³/s</p> <p>d. Any water taken, diverted, dammed or used pursuant to the <u>flow-sharing</u> regime is in addition to the <u>allocation limit</u></p> <p>e. Any water taken when the river is above 2 m³/s is in addition to the <u>allocation limit</u> and <u>flow-sharing</u> regime</p>
xxi. Waikakahi Stream	<p>a. A <u>minimum flow</u> of 0.21 m³/s at Te Maiharoa Road</p> <p>b. An <u>allocation limit</u> of 0.5 m³/s</p> <p>c. No <u>flow-sharing</u> regime</p>
xxii. All other rivers and streams (except for the Pūkaki River, lower Ōhau River and the Tekapo River upstream of Lake George Scott)	<p>a. A <u>minimum flow</u> of the 5-year, 7-day low flow as assessed by the Canterbury Regional Council set at the downstream end of the catchment</p> <p>b. A <u>flow-sharing</u> threshold at the mean flow as assessed by the Canterbury Regional Council</p>
xxiii. All <u>connected groundwater</u>	<p>a. The <u>environmental flow regime</u> in the relevant surface water body applies</p>
xxiv. <u>Shallow groundwater</u> - upstream of Lake Benmore; in the Hakataramea catchment; or the Maerewhenua catchment	<p>a. The <u>environmental flow regime</u> in the surface water body to which the groundwater contributes the majority of its flow</p>

Rule 3

Cross-ref:

Policies 1, 3, 4, 6, 23, 24, 28 and 35-37

- (1) Except as provided in (2) and (3), no person shall take, use, dam or divert water from the lakes in Table 4 or from the canals leading from the lakes in Table 4 unless the level in the relevant lake is above the minimum lake level in Table 4.
- (2) Water taken for town and community water supplies, stock drinking-water, tourism and recreational facilities, maintaining fire-fighting capacity and the processing and storage of perishable produce, is exempt from all minimum lake levels specified.
- (3) A temporary reduction in lake level below the minimum lake level specified in Table 4 for the purposes of maintenance or rehabilitation of electricity generation infrastructure is exempt from the minimum lake levels specified.

Table 4: Minimum lake levels for Lakes Tekapo, Pūkaki and Ōhau

Lakes	Minimum Lake Levels
i Lake Tekapo	<ul style="list-style-type: none"> a. A <u>minimum lake level</u> of 701.8 metres <u>a.m.s.l.</u> during the months of April to September inclusive b. A <u>minimum lake level</u> of 704.1 metres <u>a.m.s.l.</u> during the months of October to March inclusive except as provided for in (c) c. An extreme <u>minimum lake level</u> of 701.8 metres <u>a.m.s.l.</u> during the months of October to March for hydro-electricity generation uses when the aggregate storage for the nation or for the region that includes the Waitaki catchment is below the second (emergency) zone established by the Electricity Commission in accordance with the Government Policy Statement in relation to Electricity Industry Governance.
ii Lake Pukaki	<ul style="list-style-type: none"> a) A <u>minimum lake level</u> (normal) of 518.0 metres a.m.s.l. b) A <u>minimum lake level</u> (electricity supply emergency) of 513.0 metres <u>a.m.s.l.</u>, during the period when the System Operator, defined as Transpower in Section 8 of the Electricity Industry Act 2010 (or its delegate or any other statutory body exercising like powers and functions), has commenced an official conservation campaign in accordance with Part 9 of the Electricity Industry Participation Code 2010 (or subsequent equivalent) provided that: <ul style="list-style-type: none"> (i) The Canterbury Regional Council shall be advised that the above circumstances exist before Lake Pukaki is reduced below 518 metres a.m.s.l; and (ii) Once the official conservation campaign ends in accordance with Part 9 of the Electricity Industry Participation Code 2010 (or subsequent equivalent), Lake Pukaki shall be restored to the minimum lake level of 518 a.m.s.l as soon as practicable, and during the period within which this is achieved the Canterbury Regional Council shall be advised weekly of the strategies adopted to accomplish this and of lake levels. c) A <u>minimum lake level</u> of 515 metres <u>a.m.s.l</u> for any period when the electricity security of supply situation is expressed as a security of supply “alert” in the weekly security of supply report issues issued^{F34} under the current Security of Supply Forecasting and Information Policy (as approved or varied under Part 7 of the Electricity Industry Participation Code 2010 made under section 36 of the Electricity Industry Act 2010; or subsequent equivalent regulatory arrangement).
ii Lake Ohau	A <u>minimum lake</u> level of 519.45 metres <u>a.m.s.l.</u>

Rule 4

Cross-ref:
Policies 1, 2, 4, 29 and 30

No person shall take, use, dam or divert water from a wetland ²²that:

- a. has not yet been classified according to the criteria for classifying wetlands in Chapter 7 of the Natural Resources Regional Plan; or
- b. has been so classified as a wetland with a moderate or higher significance.

Rule 5

Cross-ref:
Policies 1, 2, 4 29 and 30

No person shall take, use, dam or divert water from Lakes Alexandrina, McGregor and Middleton and their tributaries and other lakes upstream of Lakes Tekapo, Pūkaki and Ōhau.

F34 - Electricity Authority, 2549

²² As defined in the RMA

Rule on the annual allocation to activities

Rule 6

Cross-ref:
Policies 1, 10 – 14, and 31

- (1) Except as provided in (2), no person shall take, use, dam or divert water, ~~if the take, when,~~^{F35} by itself or in combination with any other take, ~~use, dam, or diversions, results in~~^{F36} the sum of the annual volumes authorised by those^{F37} resource consents, ^{F38} exceeding^{F39} the annual allocation to that activity in Table 5.
- (2) Water taken or diverted and returned to the same water body in the vicinity of the take or diversion point, in the same condition and quality as taken, for micro hydro-electricity generation or fisheries and wildlife, does not need to be accounted for in the annual allocation to activities in Table 5.

Table 5: Annual allocations to activities

Note: units = millions of m³ per year.

		<u>Town and Community water supplies</u>	<u>Industrial and commercial activities (outside municipal or town supply areas)</u>	<u>Tourism and recreational facilities</u>	<u>Agricultural and horticultural activities</u>	<u>Mahinga Kai</u> ^{F40}	<u>Any other activities</u>	<u>Hydro-electricity generation</u>
i.	Upstream of Lake Tekapo outlet	1.6	NIL	0.6	275 ^{23A} except that: a. no more than 8 can be taken upstream of Lake Tekapo outlet. b. no more than 8 can be taken upstream of Lake Pūkaki outlet. c. no more than 12 can be taken upstream of Lake Ōhau outlet.		NIL	All other inflows
ii.	Upstream of Lake Pūkaki outlet	2.2	0.1	0.6			NIL	All other inflows
iii.	Upstream of Lake Ōhau outlet	1.6	NIL	0.6			NIL	All other inflows except the flows that must be provided into the Ōhau River pursuant to the <u>environmental flow regime</u>
iv.	Upstream of Waitaki Dam but not upstream of the outlets of the glacial lakes ²³	16	6.3	9.5			6.3	All other inflows
v.	Downstream of Waitaki Dam but upstream of Black Point	3	1	2	450 200	315 ^{F41}	16	All other flows except the flows that must remain in the rivers, pursuant to the <u>environmental flow regimes</u>
vi.	Downstream of Waitaki dam but downstream of Black Point	19	8.5	4.3	1100		112 plus an allocation of 32 reserved for the augmentation of Wainono Lagoon. ^{F42}	

F35 – F39 – Cl16, Sched 1 to the RMA, F40 - Ngāi Tahu 3437, Meridian 3740

F41, F42 - Meridian 3476, Ngai Tahu 3438

^{23A} While the consents to operate the Waitaki power scheme remain in force, the Upper Catchment is already fully allocated to a holder of those consents and other existing consent holders (see discussion at p14 of the s32 report).

²³ For the purposes of Rule 6, the annual volumes for taking, using or diverting water from the canals leading from the glacial lakes, and those from the Ahuriri catchment, are considered downstream of the lake outlets and are covered in row iv of Table 5.

Rule 7

Cross-ref:

Policies 10 – 14, 46

In addition to the minimum flows and flushing flows of the environmental flow regime for the Lower Waitaki River, the consent-holder for the Waitaki Dam shall provide flows in the Lower Waitaki River sufficient to meet the actual requirements of activities identified in Policy 46(ii) (at their points of taking), ~~up to a maximum of the flows in Table 6, where those actual requirements will not be met by a flow of 150m³/s~~^{24 F43} ~~such that except that no flows shall be required to be provided during any period when the mean of the calculated natural inflows above the Waitaki Dam for the average of the preceding seven day period is less than 182 m³/s.~~

(a) Whenever the calculated natural inflows above the Waitaki Dam for the rolling average of the preceding 7 day period exceed 190m³/s, the additional flows shall be up to a maximum of the flows in Table 6.^{F44}

or

(b) Whenever the calculated natural inflows above the Waitaki Dam for the rolling average of the preceding 7 day period are between 150m³/s and 190m³/s, the additional flow to be provided shall be equivalent to the difference between 150m³/s and the calculated natural inflow up to a maximum of the flows in Table 6:^{F49}

Table 6: Provision of flows into the Lower Waitaki River

Month	Flows to be provided above the <u>minimum flow</u> of 150m ³ /s
October to March	80 32 40 ^{F45}
April and September	50 20 22 ^{F46}
May and August	20 8 12 ^{F47}
June and July	10 4 8 ^{F48}

or

(c) Whenever the calculated natural inflows above the Waitaki Dam for the rolling average of the preceding 7 day period are equal to or less than 150m³/s, no additional flows shall be required to be provided.^{F50}

Rule on transfer of resource consents

Rule 8

Cross-ref:

Policies 10 – 14, 46

- (1) No person shall transfer a consent to take or use water so that the use that is made of the water in exercise of the consent is changed.
- (2) No person shall transfer the location at which a consent to take water is exercised to any water body to which either Rule 4 or Rule 5 applies.
- (3) No person shall transfer the location at which a consent to take or use water is exercised unless the new location is downstream along the route the water would flow between the existing location and the sea.
- ~~(4)(4A)~~^{F51A} ~~No person who holds a consent subject to Rule 2(4) shall transfer that consent to another person on another site, or to another site, unless that site is already the subject of a Schedule 23~~^{F51} ~~consent to take and or~~^{F52A} ~~use water.~~
- ~~(4)~~^{F52} No person shall transfer the location at which a consent to take or use water is exercised from one part of the catchment to another, except in accordance with Rule 21, Rule 21A, Rule 22 or Rule 23.

F43 – F50 Ngāi Tahu, 3445; Meridian, 3477; Waitaki Irrigators Collective, 3360;

F51A, F51, F52A,, F52 Cl16, Sched 1 to the RMA

²⁴ Water level recording site number 71104, and based on an average over a 24 hour period.

Rules classifying activities

Rule 9

Any activity that is undertaken outside the High Natural-Character Water Bodies defined in Policy 2 and outside water bodies to which the National Water Conservation (Ahuriri River) Order 1990 applies, and that does not contravene Rule 1 is a permitted activity.

Rule 10

Any activity that does not contravene Rule 1 but is undertaken within the High Natural-Character Water Bodies defined in Policy 2 is a discretionary activity. In considering an application to which this rule applies the consent authority will have regard, among other matters, to:

- Policy 1 (a whole-catchment approach)
- Policy 7 (consideration for small streams)
- Policy 9 (mixing of waters)
- Policy 14 (consideration of in-catchment needs)
- Policies 15 - 20 (efficient and effective use) Policy 21 (water metering)
- Policies 23 - 27 (times of low water availability)
- Policy 28 (replacement consents)
- Policies 29 - 34 (High Natural-Character Water Bodies).

Rule 11

Any activity that does not contravene Rule 1 is not subject to Rules 12 to 20

Rule 12

Any activity that does not comply with Rule 3 is a prohibited activity.

Rule 13

Any activity that does not comply with Rule 4 is a prohibited activity.

Rule 14

Any activity that does not comply with Rule 5 is a prohibited activity.

Rule 15

Any activity that complies with Rules 2, 6 and 7, **and is not subject to Rule 15A** is a discretionary activity. In considering an application to which this rule applies the consent authority will have regard, among other matters, to:

- Policy 1 (a whole-catchment approach)
- Policy 7 (consideration for small streams)
- Policy 8 (water harvesting)
- Policy 9 (mixing of waters)
- Policy 12(gg) (opportunities to enhance mahinga kai and augment flows into Wainono Lagoon)**^{F53}
- Policy 13 (water quality considerations for irrigation)
- Policy 14 (consideration of in-catchment needs)
- Policies 15 - 20 (efficient and effective use)
- Policy 21 (water metering)
- Policies 23 - 27 and Policy 45 (times of low water availability)
- Policy 28 ~~and Policy 47~~^{F54} (replacement of existing^{F55} consents) **and Policy 47 (Lower Waitaki River consents)**^{F56}
- Policies 33 - 34 (High Natural-Character Water Bodies)
- Policy 38 (Tekapo, Pūkaki and Ōhau Rivers).

F53 - Turner, B – 3193; Green Party, 3248

F54, F55, F56 – Cl16, Sched 1 to RMA, consequential amendment for clarification

Rule 15A

~~Any activity that complies with Rules 2, 3, 6 and 7 and is the subject of an existing consent to take, dam, divert or use water for hydro-electricity generation is a restricted discretionary.~~ is part of the Waitaki Power Scheme, for which a consent is held and is the subject of an application for a new consent for the same activity and is:

- (a) the use of water for the generation of electricity; or
- (b) the taking, damming or diverting of water for storage; or
- (c) the taking or diverting of water into canals; or
- (d) the taking, damming, or diverting of water to protect the structural integrity of dams, power houses, canals and appurtenant structures;

is a controlled activity, provided the activity complies with Rules 2, 3, 6 and 7.

~~The exercise of discretion is restricted to the following matters~~ matters over which control is reserved are:^{F57}

- ~~4-(a)~~ In respect of flows into the Pūkaki River, the Lower Ōhau River or the Tekapo River (above the confluence with the Forks Stream), adverse effects, including effects on Ngāi Tahu culture, traditions, customary uses and relationships with land and water, unless the environmental flow and level regimes for these rivers have been reviewed after the public notification date of this rule and the outcome of the review has ~~been made~~ become^{F58} operative in accordance with clause 20 of Schedule 1 to^{F59} ~~the relevant provisions of the Resource Management Act;~~
- ~~2 (b)~~ Any mitigation measures to address adverse effects (including effects on Ngāi Tahu culture, traditions, customary uses and relationships with land and water), except for changes or alterations to environmental flow and level regimes, minimum lake levels, annual allocation to activities, or the ~~provisions~~^{F60} of flows into the Lower Waitaki River, set by this Plan;
- ~~3 (c)~~ Collection, recording, monitoring and provision of information concerning the exercise of consent; and,
- ~~4-(d)~~ Lapse period, duration of consent and review requirements.

Any application made under Rule 15A will be publicly notified.

Rule 16

Any activity which contravenes any of Rules 2, 6 or 7 is a non-complying activity. In considering an application to which this rule applies the consent authority will have regard, among other matters, to all the policies of this Plan.

Rule 17

Any activity that complies with both Rules 3 and 6 is a discretionary activity. In considering an application to which this rule applies the consent authority will have regard, among other matters, to:

- Policy 1 (a whole-catchment approach)
- Policy 9 (mixing of waters)
- Policy 13 (water quality considerations for irrigation)
- Policy 14 (consideration of in-catchment needs)
- Policies 15 - 20 (efficient and effective use)
- Policy 21 (water metering)
- Policy 28 (replacement consents)
- Policy 38 (Tekapo, Pūkaki and Ōhau Rivers).

Except that for Lake Pukaki, the take, use, dam or diversion of surface water for hydro-electricity generation that complies with Rule 3, Table 4(ii)(b) (minimum lake level (electricity supply emergency)) is a permitted activity.

Rule 18

Any activity which contravenes Rule 6 but complies with Rule 3 is a non-complying activity. In considering an application to which this rule applies the consent authority will have regard, among other matters, to all the policies of this Plan.

Rule 19

Any taking or using of water from a water body to which Rules 2 to 5 do not apply, and that complies with Rule 6, is a discretionary activity. In considering an application to which this rule applies the consent authority will have regard, among other matters, to such of the following policies as are applicable:

- Policy 1 (a whole-catchment approach)
- Policies 4 and 5 (environmental flow and level regimes)
- Policy 8 (water harvesting)
- Policy 9 (mixing of waters)
- Policy 13 (water quality considerations for irrigation)
- Policy 14 (consideration of in-catchment needs)
- Policies 15 - 20 (efficient and effective use)
- Policy 21 (water metering)
- Policy 28 (replacement consents)
- Policies 33 - 34 (High Natural-Character Water Bodies)
- Policy 38 (Tekapo, Pūkaki and Ōhau Rivers).

Rule 20

Any taking or using of water from a water body to which Rules 2 to 5 do not apply and that does not comply with Rule 6, is a non-complying activity. In considering an application to which this rule applies the consent authority will have regard, among other matters, to all the policies of this Plan.

Rule 21

- (1) This rule applies to the transfer of a consent (not being a deemed permit) to take or use water from one part of the catchment to another if:
 - (i) the transfer does not contravene any of clauses (1) ~~to (3)~~ (2), (3) or (4A)^{F61} of Rule 8; and
 - (ii) in the new location:
 - a. the exercise of the consent complies with Rule 6, and with either Rule 2 or Rule 3; and
 - b. the amount of water taken is metered to give effect to Policy 21; and
 - c. the exercise of the consent complies with any water quality standards in the Natural Resources Regional Plan.
- (2) The transfer of a consent to which this rule applies is a controlled activity.
- (3) In considering an application for a controlled activity to which this rule applies, a consent authority has control over the following matters:
 - (i) the method for preventing fish from entering the water intake;
 - (ii) the technical efficiency of the exercise of the consent;,
 - (iii) the effect on flow in the immediate vicinity of the new location, and the need for and provision of any additional restriction to prevent that flow from reducing to zero;
 - (iv) the consent-holders' responsibility for monitoring, including the timely provision of information to the Canterbury Regional Council;
 - (v) the location and method of water-measuring devices; and
 - (vi) the need for backflow prevention.
- (4) Applications for transfer under this rule do not need to be served on affected persons.

Rule 21A

- (1) This rule applies to the transfer of a consent (not being a deemed permit) to take or use water from one part of the catchment to another if:
 - (i) the transfer does not contravene any of clauses (1), ~~or~~ (2) or (4A)^{F62} of Rule 8; but
 - (ii) the transfer does contravene clause (3) of Rule 8; and if
 - (iii) in the new location:
 - a. the exercise of the consent complies with Rule 6, and with either Rule 2 or Rule 3; and
 - b. the amount of water taken is metered to give effect to Policy 21; and
 - c. the exercise of the consent complies with any water quality standards in the Natural Resources Regional Plan.
- (2) The transfer of a consent to which this rule applies is a restricted discretionary activity.
- (3) In considering an application for a restricted discretionary activity to which this rule applies, a consent authority shall exercise its discretion in relation to the following matters:
 - (i) the effect of the transfer on the exercise of any other consent to take, use, dam or divert water;
 - (ii) the method for preventing fish from entering the water intake;
 - (iii) the technical efficiency of the exercise of the consent;
 - (iv) the effect on flow in the immediate vicinity of the new location, and the need for and provision of any additional restriction to prevent that flow from reducing to zero;
 - (v) the consent-holders' responsibility for monitoring, including the timely provision of information to the Canterbury Regional Council;
 - (vi) the location and method of water-measuring devices; and
 - (vii) the need for backflow prevention.

Rule 22

- (1) This rule applies to the transfer of a consent (not being a deemed permit) to take or use water from one part of the catchment to another, if -
 - (i) the transfer does not contravene any of clauses (1), ~~to (3)~~ (2), (3) or (4A)^{F63} of Rule 8; and
 - (ii) in the new location the exercise of the consent complies with Rule 6, and with either Rule 2 or Rule 3.
- (2) The transfer of a consent to which this rule applies is a discretionary activity.
- (3) In considering an application to which this rule applies, a consent authority will have regard, among other matters, to:
 - Policies 15 - 20 (efficient and effective use)
 - Policy 21 (water metering)

Rule 23

- (1) This rule applies to the transfer of a consent (not being a deemed permit) to take and use water from one part of the catchment to another, if the transfer does not contravene any of clauses (1), ~~to (3)~~ (2), (3) or (4A)^{F64} of Rule 8.
- (2) The transfer of a consent to which this rule applies is a non-complying activity.
- (3) In considering an application to which this rule applies, the consent authority will have regard, among other matters, to all the policies of this Plan.

Rule 24

Any taking, use, damming, or diversion of water that causes or is likely to cause adverse effects not covered by this Plan is a discretionary activity. In considering an application to which this rule applies the consent authority will have regard, among other matters, to all the policies of this Plan.

Applications of rules to existing consents

Rule 25

Cross-ref:

Policies

2 – 8

- (1) This rule applies to the extent that the exercise of an existing water permit (not being a deemed permit) in compliance with its conditions would contravene Rule 2.
- (2) By section 68(7) of the RMA, Rule 2 shall affect the exercise of an existing water permit to which this rule applies:
 - (i) in the Maerewhenua catchment, from the expiry of 7 years after the day on which this Plan becomes operative;
 - (ii) except in the Maerewhenua catchment, from the expiry of 5 years after the day on which this Plan becomes operative.^{F65}

9. Anticipated environmental results

1. There is a high level of awareness and recognition of the connectedness of the water bodies in the catchment - between the mountains and the sea, and between the components of the aquatic systems.
2. The High Natural-Character Water Bodies retain their special features and characteristics.
3. Freshwater habitats of rare or endangered species are enhanced.
4. The area and quality of freshwater habitat for indigenous species is maintained or enhanced.
5. Lakes Tekapo, Pūkaki and Ōhau and their catchments retain their mana and their iconic status.
6. The landscape and amenity values of water bodies within the catchment are maintained or enhanced.
7. The mauri of the water bodies in the catchment is enhanced.
8. The opportunities for the relationship of Māori with water, sites, wāhi tapu and other taonga are enhanced.
9. The effects of the mixing of waters are mitigated.
10. The structural integrity of aquifers is maintained and there is no significant continuing long-term decline in mean annual groundwater levels.
11. There is no significant loss in freshwater habitat for trout and salmon.
12. The recreational and tourism value of the catchment is maintained.
13. Local people and communities have access to freshwater to provide for present and reasonably foreseeable needs.
14. The Waitaki catchment continues to provide an important source of electricity to New Zealand.
15. There is an established allocation of water among activities that provides planning certainty and clarity for current and future water users.
16. There is a balance between national and local perspectives related to the social, economic, cultural and environmental outcomes from water allocation.
17. The allocation system allows water to be transferred within a category of use to facilitate water being used for the greatest net benefit, providing the adverse environmental effects can be managed.
18. Existing and potential resource consent holders are provided with certainty as to their priority of access to water when the amount of water available for taking or diverting is low.
19. Water users have a responsible attitude to their use of the water, and seek to continually improve the technical efficiency of their use of water.

10. Definitions and abbreviations

The words in this Plan have the same meaning as in the Resource Management (Waitaki Catchment) Amendment Act 2004 or the Resource Management Act 1991, unless otherwise defined in this Plan or unless the context clearly requires otherwise.

In this Plan, the spelling of Māori words using ng and k is interchangeable (for example Ngāi Tahu and Kāi Tahu).

a.m.s.l.	Above mean sea level
Agricultural and horticultural activities	All activities involved with the primary industries of agriculture and horticulture, including common stock drinking-water schemes, but excludes processing agricultural and horticulture produce.
Allocation limits	The limits on the cumulative rate of taking and diverting ^{F66} of water that are established by this Plan and are specified in Rule 2 of this Plan.
Annual volume	The volume of water that can be taken or diverted in any 12-month period.
Any other activities	Activities that are not <u>agricultural and horticultural activities</u> , hydro-electricity generation, <u>industrial and commercial activities</u> , <u>tourism and recreation facilities</u> , or <u>town and community water supplies</u> .
Black Point	Black Point is identified by way of a line drawn perpendicular to and through the river, and through points NZTM 1425638 5027366 and 1426261 5029285
Calculated natural inflows	The combined natural <u>catchment</u> inflows into Lakes Tekapo, Pūkaki and Ōhau and from the Ahuriri catchment that would have occurred if the Waitaki Power Scheme had not been installed, above the Waitaki Dam derived from available information using a method that is certified as appropriate by a qualified and experienced hydrologist and approved by the Chief Executive of the Canterbury Regional Council. ^{F67}
<u>Cessation flows</u>	<u>Cessation flows are the flows at which all takes must cease, and are:</u> <u>(i) the default cessation flow, being the cessation flow where no reserved water has been consented; or</u> <u>(ii) the adjusted cessation flow which is the default cessation flow less the volume of reserved water that has been consented.</u> ^{F68}
Connected groundwater	(i) The full amount of water specified in a resource consent to take groundwater is considered connected groundwater if the effect of seven days groundwater abstraction on the surface water body is equal to or greater than 90 percent of a continuous steady abstraction rate. Otherwise (ii) The stream depletion effect is considered connected groundwater provided it is greater than 5 l/s. The stream depletion effect is that determined as the effect after 150 days groundwater abstraction at a continuous abstraction rate consistent with the flows specified in the resource consent.
Deemed permit	A permit derived from a mining privilege in respect of water, as defined in section 413(1) of the RMA.
Environment Canterbury Report UO5/15	"Schedule WQN9 Revision – Review of seasonal use approach included in proposed NRRP". Report UO5/15, May 2005. Prepared for Environment Canterbury by Anthony Davoren and David Scott.
Ecosystem	Plants, animals, their physical environment, and the dynamic processes that link them.

F66 - Irrigation NZ - 3309

F67 - LWRMS - 3216

F68 – Consequential to Meridian 3470; Ngāi Tahu, 3437

Environmental flow and level regimes	The <u>flow-sharing</u> , <u>allocation limits</u> , <u>minimum flows and levels</u> and <u>flushing flows</u> established by this Plan.
Fisheries and wildlife	Activities relating to the management and enhancement of habitats of fish and indigenous wildlife.
Flow-sharing	The apportioning of flow between in-stream uses and the cumulative taking and diverting of water, as specified in Rule 2(c).
Flushing flows	Flows passing or released from a dam to prevent siltation and build-up of filamentous algae in the river downstream of the dam.
In-catchment needs	Water requirements of users where the water is taken or diverted for use within the Waitaki catchment.
Industrial and commercial activities	Industrial and commercial activities (but excluding hydro-electricity generation) that are not served by a reticulated town and community water supply.
Instantaneous rate of abstraction	The rate at which water is taken at any point in time.
Irrigation application efficiency	A measure of the amount of applied water that is stored in the crop root zone, as a proportion of the average depth of the water applied to the crop.
Iwi Management Plan	A relevant planning document recognised by Te Rūnanga o Ngāi Tahu, and lodged with the council.
l/s	Litres per second.
m ³ /s	Cubic metres per second.
Mahinga kai	Food and other resources, the gathering of those resources and the areas that they are sourced from.
MALF	Mean annual low flow.
Mauri	Essential life force or principle; a metaphysical quality inherent in all things, both animate and inanimate.
Mean annual low flow	The average, for a number of years, of the annual lowest daily flows. This is determined by selecting the lowest daily flow (average over 24 hours) for each year of record, summing those values and then dividing the total by
Micro hydro-electricity generation	The generation of hydro-electricity not exceeding a capacity of 50 Kilowatts continuous output.
Minimum flow and level Minimum lake level	The flow or lake level at which the taking and diverting of water from a water body authorised by a resource consent must cease. In the case where a river is dammed, inflows and outflows must be managed to maintain or exceed the minimum lake level and the minimum flow downstream.
Natural flow	The flow that would have occurred if the Waitaki Power Scheme had not been installed.
Natural Resources Regional Plan (NRRP)	Proposed Canterbury Natural Resources Regional Plan adopted by the Canterbury Regional Council on 28 March 2002 and publicly notified on 1 June 2002 for submissions, including variation 1 to that plan, adopted by the Canterbury Regional Council on 27 May 2004 and publicly notified on 3
Ngāi Tahu or Kāi Tahu	The collection of individuals who descend from the primary hapū of Waitaha, Ngāti Mamoe, and Ngāi Tahu, namely Kāti Kurī, Kāti Irakehu, Kāti Huirapa, Ngāi Tuahuriri and Kai Te Ruahikihiki.
Priority bands	A method for managing run-of-river takes and diversions to ensure a known reliability of supply such that all users within a priority band will be subject to the same restrictions.
Property	Any contiguous area of land held in one, or more than one, ownership that is utilised as a single operating unit, and may include one or more titles.

Rate of abstraction	The rate at which water is taken at any point in time.
RMA	Resource Management Act 1991.
Shallow groundwater	Groundwater having an average depth (assessed at the point of take) below the land surface of less than 10 metres.
Technical efficiency	Using a resource in a way that any given output is produced at least cost, including avoiding waste.
Tourism and recreation facilities	Tourism and recreation facilities that are not served by a reticulated town and community supply, such as hotels, lodges, restaurants and ski fields.
Town and Community water supplies	Reticulated water supplies servicing urban areas, rural-residential and residential subdivisions including all commercial and industrial premises and schools and other educational facilities located within the reticulated area.
Waitaki Act	Resource Management (Waitaki Catchment) Amendment Act 2004.
Water-users group	A group of users with existing authorisation to take water.
Wetland with a moderate or higher significance	A wetland that has been assessed and has been classified as moderate or higher significance in accordance with the criteria and methodology in Appendix WTL1 of the <u>Natural Resources Regional Plan</u> .

11. Schedules^{F69}

Schedule 1 – Reasonable Use Test for Uses other than irrigation

Tables A and B provide guidance for the efficient use of water (refer Policy 17).

Table A: Daily stockwater requirements

<u>Stock type</u>	<u>Litres/head/day</u>
<u>Dairy cattle -</u>	
<u>In lactation</u>	<u>70</u>
<u>Dry</u>	<u>45</u>
<u>Beef cattle</u>	<u>45</u>
<u>Calves</u>	<u>25</u>
<u>Horses –</u>	
<u>Working</u>	<u>55</u>
<u>Grazing</u>	<u>35</u>
<u>Breeding ewes</u>	<u>3</u>
<u>Sows</u>	<u>25</u>
<u>Pigs</u>	<u>11</u>
<u>Poultry – per 100 birds</u>	<u>30</u>
<u>Turkey – per 100 birds</u>	<u>55</u>

Table B: Examples of application of provisions for stockwater

<u>Land use</u>	<u>Stock numbers</u>		<u>Litres/head/day</u>	<u>Total L/day</u>	<u>Total x1.2 L/day</u>
<u>Sheep and beef</u>	<u>Sheep</u>	<u>1780</u>	<u>3</u>	<u>5,340</u>	
	<u>Beef</u>	<u>660</u>	<u>45</u>	<u>29,700</u>	
<u>Total Demand</u>				<u>35,040</u>	<u>42,048</u>
<u>Dairy</u>	<u>Dairy cows</u>	<u>300</u>	<u>70</u>	<u>21,000</u>	<u>25,200</u>
<u>Total Demand</u>				<u>21,000</u>	<u>25,200</u> ^{F70}

Note: Schedule 1 includes material from Table WQN26 and Table WQN27 of the NRRP^{F71}

F69 - Cl16, Sched 1 to RMA

F70 - Ngāi Tahu, 3427

F71 - Ngāi Tahu, 3427

Schedule 4 ^{F72} – Reasonable Use Test for irrigation

This Schedule only applies to the activity of using water for irrigation purposes, and provides three methods for determining the seasonal irrigation demand.

1. Records of past use, moderated to ensure the annual volume is sufficient to meet demand conditions that occur in nine out of ten years for a system with an irrigation application efficiency of 80%; or
2. Use of a model that has been field validated and shown to reliably predict annual irrigation volume within an accuracy of 15%. The annual volume calculated using the model shall be compliant with the following criteria:
 - a. an irrigation application efficiency of 80%;
 - b. a system capacity to meet peak demand;
 - c. a nominal irrigation season from 1 September to 30 April; and
 - d. demand conditions that occur in nine out of ten years.
3. Using the methodology set out below and the figures set out in Table 7

To determine the applicable seasonal irrigation demand standard and derive an annual volume:

1. find the total seasonal demand from Table 7 for the particular Soil PAW Class. Where the Soil PAW Class is between 100 - 200 mm, insert the appropriate PAW for the soil to be irrigated into the formula to determine the total seasonal demand;
2. determine effective irrigation season rainfall for the location using Figure 1: Map of effective irrigation season rainfall;
3. deduct the effective irrigation season rainfall from the total seasonal demand amount to give the irrigation requirement in millimetres—this provides the seasonal irrigation demand standard;
4. adjust this seasonal irrigation demand standard by multiplying by 10 to find the volume of water (cubic metres) per hectare per season; and
5. multiply this amount by the area that is to be irrigated to give the annual volume.

Example

Consent details:

Maximum instantaneous pump rate:	110 l/s
Volume per DRP:	9,108 m ³
Design Return Period (DRP):	1 day
Area to be irrigated:	200 ha
Profile Available Water (PAW) at location:	69 mm
Total Seasonal Demand:	910 mm (taken from Table 7)
Effective rainfall (exceeded 60% of time)	230 mm (determined from Figure 1)
Annual irrigation allocation	(910 mm – 230 mm) X 10 X 200 ha = 1 360 000 m ³

Table 7: Total seasonal demand to meet plant water requirements

Soil PAW Class	Total Seasonal Demand
<100mm	910mm
100-200mm	$910 - 1.6(\text{PAW} - 100) \text{ mm}$
>200mm	750mm

Soil PAW Class represents the upper and lower limits of the soils that are generally irrigated in Canterbury in terms of the profile available water (PAW) of the soils. Between the upper and lower limits set out in Table 7, a sliding scale is used to determine the relevant total seasonal demand.

Total seasonal demand is the total amount of water required to satisfy plant water needs during the main growing period. This demand can be satisfied by rainfall and irrigation. In determining the irrigation component, provision has been made for:

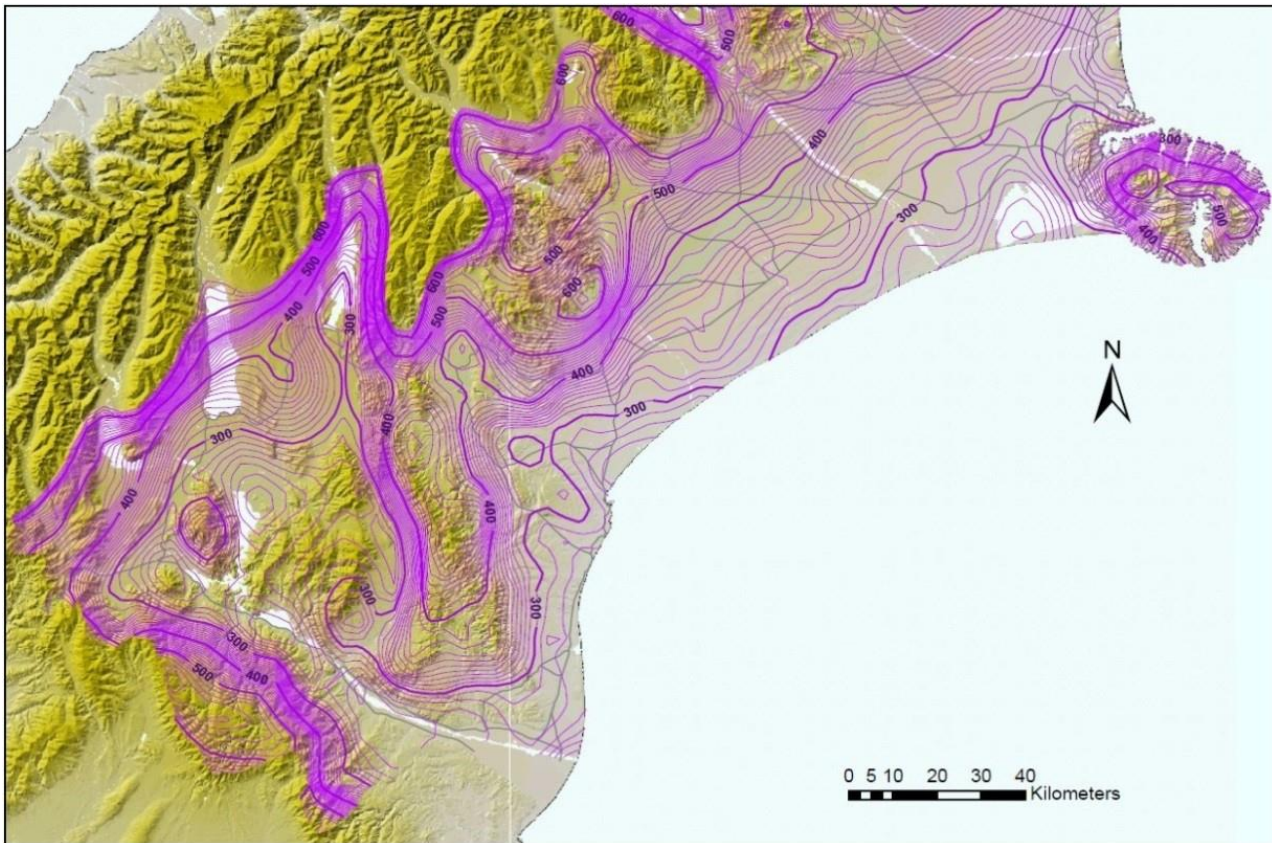
1. an irrigation application efficiency of 80%;
2. a system capacity to meet peak demand
3. a nominal irrigation season from 1 September to 30 April;
4. demand conditions that occur in nine out of ten years; and
5. a land use of intensive pasture production.

Effective irrigation season rainfall is the amount of rain that will contribute to crop growth over the nominal irrigation season. In determining this amount, provision has been made for:

1. rainfall that occurs on average in six out of ten years (which, together with a complementary seasonal irrigation allowance, is estimated to meet total water demand with a reliability of nine out of ten years based on analysis of long-term climate data); and
2. excluding daily rainfall amounts of less than 5mm, or cumulative rainfall amounts in consecutive days in excess of 50mm.

Seasonal irrigation demand standard for a given Soil PAW Class is the depth of water (measured in millimetres) per hectare per year required to be supplied by irrigation to satisfy plant water demand after allowing for effective irrigation season rainfall.

Figure4: Map 3 - Map of effective irrigation season rainfall (millimetres) (mid and southern Canterbury)



Schedule 2 ~~3~~^{F73}

Existing consents downstream of the Waitaki Dam^{F74} referred to in this Plan (including in Policy 47) are listed in this Schedule. Derivatives of these consents are also included in the term 'existing consent.' An existing consent in the context of this plan is a consent authorised at the time the plan was made operative in 2006. A derivative is any consent that arises as a consequence of changes to a consent listed in this Schedule, whether that change arises through a change to conditions, a transfer, or a consent in replacement of one listed in the Schedule.

CRC000042.1	CRC141565	CRC030342	CRC962093.2
CRC000897	CRC020744.1	CRC031246	CRC081841.1
CRC000945	CRC142037	CRC897381C.1	CRC962259
CRC001203	CRC021028.1	CRC940497B.3	CRC980851
CRC002085.1	CRC092359.1	CRC940846	CRC980921.1
CRC011913	CRC021286.4	CRC950119.1	CRC981733
CRC141190	CRC021983	CRC950649.1	CRC992778.2
CRC012641	CRC022002	CRC952215.1	CRC041003
CRC012648.1	CRC030182.2	CRC960030.2	CRC041002
CRC012812	CRC030183.1	CRC961298	CRC061919
<u>CRC940477</u> ^{F75}	<u>CRC962154.1</u> ^{F76}	<u>CRC982133</u> ^{F77}	<u>CRC132624</u> ^{F78}
<u>CRC012337</u> ^{F79}	<u>CRC952149</u> ^{F80}		

F73 – Cl16, Sched 1 to RMA

F74 - Genesis, 3547

F75 – F78 Ngāi Tahu, 3453

F79 – F80 Federated Farmers, 3296