

## Appendix 2



# Final Draft (Prior to Design for Printing Incorporating all tracked changes made prior to printing)

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Fish and Game version – C Block Alternative

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## Part 1 – Introduction

### *Purpose*

The purpose of this Plan is to promote the sustainable management of rivers and streams and groundwater in the Hurunui, Waiau and Jed river catchments.

The Plan has been prepared in accordance with the Resource Management Act, 1991.

In July 2011, the Waiau-Hurunui Zone Committee (established under the Canterbury Water Management Strategy), released its Zone Implementation Programme. The Programme was received by Canterbury Regional Council on 25 August 2011. The Programme contained recommendations as to how water management issues in the Waiau-Hurunui Zone should be addressed. Where these recommendations required a statutory response through the Resource Management Act, 1991 they have been addressed by this Plan.

The Plan identifies the specific Hurunui, Waiau and Jed river catchment resource management issues, in accordance with section 30(e), (f) and (fa) of the Resource Management Act, 1991. It outlines what is sought to be achieved (the objectives), and then states how the objectives will be achieved through policies and rules. The policies and rules in this Plan work in combination with, and are intended to compliment, the non-statutory actions identified in the Waiau-Hurunui Zone Implementation Programme, 2011.

### ***Scope of this Plan and the area to which it applies***

This Plan applies to:

- the taking, using, damming and diverting of surface water and stream-depleting groundwater (in accordance with section 14 of the Resource Management Act) within the Waiau, Hurunui and Jed River catchments, as shown in Map 1;
- the taking and using of groundwater within the Waiau, Hurunui and Jed River catchments located (in accordance with section 14 of the Resource Management Act) within a Groundwater Allocation Zone as described in Policy 4.1, and shown in Map 2;
- the discharge of water (in accordance with section 15(1) of the Resource Management Act) for non-consumptive uses; and
- the use of land (in accordance with section 9(2) of the Resource Management Act) in the Nutrient Management Area shown in Map 4.

Where an activity is expressly provided for in this Plan, the provisions of this Plan apply. For all other activities, the provisions in the Natural Resources Regional Plan apply.

## ***The Resource Management Issues***

The Hurunui and Waiau Rivers are the two largest rivers in the Hurunui District. Their headwaters are located in the main divide and are largely free of human influence; however as these rivers emerge onto the flat land of the plains some of their flows is used for drinking (domestic and stock) and for irrigation<sup>1</sup>.

The takiwa (geographical interests) of two Ngāi Tahu hapu (sub tribes) straddle the Hurunui and Waiau river catchments: Ngāti Kuri and Ngai Tuahuriri. Ngāti Kuri's interest extends from Parinui o Whiti (White Bluffs) in the north to the Hurunui River in the south, east from the Main Divide out to sea as far as the eye can see. Ngai Tuahuriri's interest extends from the Hurunui River in the north to the Hakatere/Ashburton River in the south, east from the main divide and out to sea as far as the eye can see.

The mauri of the Waiau and Hurunui rivers represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. All elements of the natural environment possess a life force, and all forms of life are related. Mauri is therefore a critical element of the spiritual relationship of Ngāi Tahu Whānui with the rivers.

The Hurunui River once provided an important mahinga kai resource for Ngāi Tahu. Traditionally, the river was particularly known for its tuna (eel) and inaka (whitebait). Nohoanga (settlements) were located at points along the length of the Hurunui river, with some wāhi tapu located near the mouth. There is a statutory acknowledgement on both the Hurunui River and Hoka Kura (Lake Sumner) recognising Ngāi Tahu's cultural spiritual, historical and traditional association and the Crown's acknowledgement of these.

For Ngāti Kuri the Waiau-uha (the Waiau River) has a cosmological link with the Waiau-toa (Clarence River). The river in legend is the female spirit of the inland mountains, and the Waiau-toa is the male. Moving from the Spencer Mountains and Miromiro (Jollies pass), where the Waiau-uha meets the Waiau-toa, the waters become separated. As the Waiau-uha laments the parting, her tears fall as warm rain to melt alpine snows, swelling both rivers to massive proportions. The water flow from the Waiau River is therefore an important factor in the ecological health and biodiversity of the river and coastal resources.

Both rivers provide important habitat for native fish and have key trout, salmon and whitebait fisheries. Both rivers and some of the larger tributaries also provide important habitat for braided riverbed nesting birds and the headwaters provide habitat for threatened species such as blue duck. The rivers are used for a variety of water based recreation activities including kayaking and jet boating. These values can be degraded if the flow in the river is insufficient, changes occur to the natural frequency of floods and freshes, water quality deteriorates or the river is modified by structures.

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<sup>1</sup> Salmon farms and small scale hydro electric power generation also utilise water from the Hurunui and Waiau Catchments.

The Jed River and a number of tributaries such as the Waitohi, Waikari, Leader and Mason Rivers receive water from foothills catchments. These rivers often flow sub-surface for part of their length in part of the year.

Out of stream water use is an important driver of economic development in the Hurunui District. Irrigation currently occurs primarily along the riparian margins of both rivers however there are several exceptions where irrigation schemes have developed infrastructure to take water from the river and distribute it, the largest of these is in the Culverden Basin between the Hurunui and Waiau Rivers where the Amuri Irrigation Company takes water from the Hurunui and Waiau Rivers.

The alluvial gravels deposited by the Hurunui and Waiau Rivers and some of the larger tributaries have in-filled the structural basins in the Hurunui and Waiau Catchments, and contain an important groundwater resource. A number of properties in the Culverden, Domett and Parnassus basins access this groundwater resource via wells for irrigation. In most cases these wells are located close to a surface water body, and some or all of the water taken is actually sourced directly from the surface water body. This is called a stream depletion effect, and means that surface water flows will immediately be affected whenever water is taken from these bores. In addition, because the groundwater areas are structurally constrained by the surrounding hills, the only place for water to exit is via the main river gorges. Thus any abstraction of groundwater will ultimately have an effect on the surface water flows. However, if the take is a long distance away from a surface water body there could be a significant delay before any effect is noticed in the surface flow.

Taking water for irrigation has altered the natural flow pattern below the intake point, resulting in lower river flows and higher levels of nitrate and phosphate entering water bodies as a result of higher intensity land use. Higher concentrations of nitrate and phosphate can then cause the growth of nuisance periphyton or toxic cyanobacteria that impacts on recreational uses, amenity values and the mauri of rivers.

~~The current intensity of land and water use has not compromised environmental and recreational values to date, and if managed carefully~~ Careful management is required to ensure that additional abstraction and subsequent expansion of irrigated land area can be undertaken in a way which maintains and improves environmental, cultural and recreational values while providing the maximum benefit to water users.

There is a large amount of land (up to 100,000ha, of which about 30,000ha is currently irrigated) in the Hurunui and Waiau Zone that could be irrigated if reliable water could be sourced and distributed to these properties. These areas include much of the Hanmer Basin, the Balmoral Forest, the Hawarden Plains and Waikari and Scargill Valley and much of the Jed River catchment, as well as a number of other smaller areas across the two catchments.

To achieve full irrigation of this land, water from both the Hurunui and Waiau Rivers will need to be utilised. It is also highly likely that water from one or both rivers, taken at times of high flow, will need to be stored for use in times of low flow.

There are however some parts of the catchments where it has been determined that the intrinsic natural values present, together with geotechnical risks presented by the Hope Fault and other faults, mean that storage will be costly and the cultural, environmental and social effects of storage will be difficult to mitigate.

There are other areas in the catchment where it has been identified that there are fewer environmental, cultural and geotechnical issues. In these areas, with appropriate mitigation, storage proposals, whether in-stream, or out-of-stream, are likely to be able to be progressed with fewer effects on the environment. ~~However, developing storage infrastructure in areas where the environmental effects are less is expected to be significantly more expensive than storage infrastructure in the environmentally sensitive areas.~~

The cost of developing a large scale irrigation proposal may be close to the affordability threshold for new water users. Developing dual use proposals that provide new water for irrigation alongside the provision of hydro-electric power generation developments may provide a larger pool of capital.

Currently access to drinking and stock water for the majority of people in the Hurunui and Waiau catchments is provided by the Hurunui District Council by way of rural and urban community supplies. As townships within the Hurunui District continue to grow and develop and the rural land is more intensively used, it is likely that the Hurunui District Council will need to increase the amount of water that it takes for these supplies. Currently the infrastructure managed by the Hurunui District Council is optimised for run of river abstraction. There is a risk that as the water resources in the Hurunui and Waiau River catchments are allocated, insufficient water will remain to provide for reasonable community and stock drinking water needs.

The resource management issues for the Hurunui, Waiau and Jed river catchments therefore addressed by this Plan are:

- Issue 1            Economic growth of North Canterbury is highly dependent on agriculture and horticulture activities. Irrigation can enable these activities to produce more and therefore increase the gross domestic product of North Canterbury. For irrigation to be effective, reliable water needs to be available at critical times of the year.
- Issue 2            Reducing surface water flow in the Waiau, Hurunui and Jed Rivers and their tributaries can have a detrimental effect on:
- The mauri of the waterways.
  - Instream aquatic ecosystems.
  - Breeding and feeding of riverbed nesting birds.
  - The natural frequency of river mouth openings of the Hurunui River and maintaining an open river mouth in the Waiau River to provide for the migration of native fish and salmonid species and the collection of mahinga kai by tangata whenua.
  - The frequency and extent of aquatic plant growths and cyanobacterial blooms and their impact on recreational activities.

- The ability of fish, including native fish (such as eels), salmon and trout species to pass both up and downstream.
  - Recreationally important flows in the mainstem of the Hurunui and Waiau Rivers for kayaking, jetboating, swimming and salmon and trout fishing.
  - The assimilation capacity of the river and the quality of water in the mainstem and tributaries.
  - The daytime water temperature which can affect the behaviour of, or is lethal for, some fish species.
- Issue 3      The natural flow variability is modified by large abstractions of water for out-of-stream uses.
- Issue 4      Existing abstractors require reliable water in order to operate their existing farming operations. As more water is allocated within each allocation block the reliability of all water users is reduced.
- Issue 5      To effectively irrigate additional land in the Waiau Hurunui Zone will require the storage of water, but:
- The damming of water in some parts of the Hurunui and Waiau catchments will have environmental effects that cannot be adequately mitigated.
  - ~~The cost of developing storage infrastructure in some parts of the Hurunui and Waiau catchments, where the environmental costs are less, may result in the development being uneconomic.~~
  - The taking of water at higher flows and the development of infrastructure to store this water, if not undertaken in a comprehensive manner, may limit or restrict other storage options which are necessary to provide reliable water to irrigable land in the Hurunui Waiau Zone.
  - As more land is irrigated and its use intensified the amount of water needed for stock and community drinking water supply will increase.
- Issue 6      As demand for water in the Hurunui, Waiau and Jed Catchments increases, access to high quality and reliable supplies of human and stock drinking water could be at risk.
- Issue 7      Groundwater takes near a surface water body can affect the flow or level of that surface water body and if not managed in conjunction with surface water abstractions, may result in long term declines in groundwater levels and Objective 2 and Objective 3 in this Plan not being achieved.
- Issue 8      With further irrigation development in the Hurunui, Waiau and Jed river catchments nutrients in water bodies may reach concentrations that:
- Affect the mauri of waterbodies.
  - Affect riverbed bird aquatic food supplies.
  - Decreases trout habitat.



- Affect amenity and recreational uses in the mainstems of the Hurunui and Waiau rivers.
- Result in a loss of amenity, recreational and cultural uses in the tributaries.
- Result in chronic nitrate toxicity effects on aquatic species in tributaries.

## ***The Vision for Sustainable Management of Water Resources in the Hurunui and Waiau Zone***

The Canterbury Water Management Strategy was developed between 2004 and 2010 as a key partnership between Environment Canterbury, Canterbury's district councils and Ngāi Tahu as well as key environmental and industry stakeholders. The Strategy sets out a way forward towards improving management and use of Canterbury's water resources.

The desired outcome of the Strategy is:

*“To enable present and future generations to gain the greatest social, economic, recreational and cultural benefits from our water resources within an environmentally sustainable framework”.*

The Strategy sets out fundamental principles and targets to ensure water resources are managed sustainably.

The primary principles are sustainable management, regional approach and tangata whenua. Supporting principles are natural character, indigenous biodiversity, access, quality of drinking water, recreational opportunities and community and commercial use.

Within the regional approach principle is a set of priorities. The first order priorities are environment, customary use, community supplies and stock water. Second order priorities are irrigation, renewable electricity generation, recreation and amenity.

When developing this Plan the Canterbury Regional Council was required, in accordance with the Environment Canterbury (Temporary Commissioners and Improved Water Management) Act 2010, to have particular regard to the vision and principles of the Canterbury Water Management Strategy in addition, to the range of existing considerations in accordance with the Resource Management Act.

The region's water resources under the Canterbury Water Management Strategy are split up into ten zones.

The Hurunui Waiau Zone, to which this Plan covers a large part of, extends over an area that is contiguous, for the most part, with the Hurunui District, covering the area between Waipara River in the south to the top of the Hundalees (including Okarahia River) just north of Conway River/Tutae Putuputa in the north from the coast to the Southern Alps.

Each Zone has a zone committee and there is one Regional Committee. Zone committees are joint committees of the local and regional councils which operate under the Local Government Act. Zone committees have the role of co-ordinating the development and review of Implementation Programmes that give effect to the Canterbury Water Management Strategy. The Regional Committee works alongside zone committees and communities and considers regional issues of environmental

restoration; land use impacts on water quality; as well as water storage, distribution and efficiency options.

Since July 2010, the Hurunui Waiau Zone Committee has been working collaboratively and undertaken extensive consultation with runanga, local communities, interested parties, industry groups, government and non-government organisations, scientists and advisory groups to develop their recommendations on the management of water in the Hurunui Waiau Zone. These recommendations were included in the Hurunui Waiau Zone Implementation Programme, July 2011.

The Zone Implementation Programme recognised that the future social and economic prosperity of the Zone was largely dependent on utilisation of its water resources, for agricultural and horticultural development through the expansion of irrigation, and tourism activities. The vision of the Hurunui Waiau Zone Committee is that this should be achieved while maintaining and striving to enhance, environmental outcomes in order to achieve a 'net gain' for the water resources and associated ecosystems as well as preserving cultural and recreational values.

The Programme notes that this requires effective and responsible economic and natural resource management of the land and rivers, including implementation of appropriate environmental flow regimes for the major rivers and their tributaries, the setting of nutrient load limits in catchments and the adoption of sustainable best practice audited self management programmes led by community/user-based land care groups and industry, backed up by a regulatory framework.

The Zone Implementation Programme consequently contained a suite of water-management recommendations to Canterbury Regional Council, Hurunui District Council, developers and other parties. This includes recommendations as to how this Plan should contribute to an integrated solution for the development and management of freshwater resources in the Hurunui Waiau Zone.

The key recommendations in the Zone Implementation Programme 2011, as they relate to this Plan were:

- Flow and allocation regimes need to be set for the rivers and their tributaries to ensure the life supporting character of the rivers is maintained.

For the Waiau River minimum flows were considered to be able to remain unchanged, provided current water use remained unchanged and in-river values do not deteriorate. For the Hurunui River, minimum flows and the A Block allocation as proposed in Variation 8 to the Natural Resources Regional Plan were considered appropriate with minor changes.

- Nutrient load limits need to be set for the major rivers and their tributaries.

The water quality for Hurunui River at State Highway One was sought to be maintained at or about the same or better standard 'as present' (2005 - 2010). The Programme sought that new irrigation development adopt good nutrient management and that implementing load limits be undertaken through a

tributary and land/water user-based approach. Implementation of sustainable best practice audited self management programmes, particularly for water quality, led by community/land user based land care groups and industry was also seen as essential and the Programme sought that this be backed up by a regulatory framework.

- Provision of 'more water' for irrigation and augmentation of river flows (in Waipara River), preferably with associated hydropower development, but not for hydropower development on its own, was sought from integrated use of run-of-river takes and off-mainstem storage.

Isolated Hill was considered one of the few viable options for off-river major water storage in Waiau River. The Waitohi River was the preferred location for major water storage in Hurunui catchment. Water storage options in Lake Sumner or the Hurunui South Branch were sought to be deferred until a Waitohi storage option had been determined to not be viable, or for two years, whichever was the shorter.

The Regional Committee recommended a 3 tier approach to the investigation of storage. In the first instance that the Waitohi should be explored, but if the Waitohi is unable to proceed, then other tributaries in the Hurunui should be considered. If all other options were considered and are not able to proceed then the South Branch and Lake Sumner options should be considered.

This Plan is one of the 'tools' to assist in delivering sustainable water management for the Hurunui and Waiau Zone. Other 'tools' also assist with delivering the Zone's vision. These include the Immediate Steps Biodiversity Programme, the Land Use and Water Quality Implementation Programme, and initiatives by industry and community based groups. Other Plans such as the Waipara River Catchment Environmental Flow and Allocation Regional Plan and the Natural Resources Regional Plan also play a role in delivering the vision.

## ***How this Plan Responds to the Resource Management Issues and the Hurunui Waiau Zone Implementation Programme***

As a statutory document prepared under the Resource Management Act, this Plan outlines the resource management objectives (outcomes) sought and the way in which the objectives will be achieved through policies and rules. The response to the resource management issues and the recommendations in the Hurunui Waiau Zone Implementation Programme are therefore reflected in the objectives of this Plan and responded to in the policies and rules.

This Plan sets up a policy and rule framework to ensure that additional water can be abstracted to promote local and regional economic development while addressing the issues around sustaining environmental and cultural values and protecting recreational opportunities. It does this by:

1. Providing for existing and additional community and/or stock drinking water supplies.
2. Setting environmental flows to sustain environmental, recreational and cultural values present within the Hurunui, Waiau and Jed river systems.
3. Allocating water to ensure existing abstractors retain access to water at a similar reliability to that which they currently enjoy, while also providing access to additional water at higher flows to support further irrigation development.
4. Managing groundwater in an integrated way with surface water.
5. Managing the cumulative effects from non-point source discharges from existing and new land uses to ensure nutrient concentration in the mainstems of the Hurunui and Waiau rivers are maintained at current levels and improved over time.
6. Providing a policy and rule framework to deliver 'more water' for irrigation (with potential associated hydro-electric power development) in the areas preferred for water storage, while also setting out the preferred outcome of deferring options in other locations until further investigation has been undertaken.
7. Ensuring more efficient use of water.

This Plan has been developed recognising the principles of Kaitiakitanga, the holistic and traditional Māori philosophy of resources management. The Plan has sought to provide for the principles of Kaitiakitanga by managing water in a holistic manner by integrating nutrient management and the flow and allocation regimes for both surface and groundwater recognising and providing for cultural uses. The Plan also seeks to ensure that there is appropriate management around the mixing of waters.

### **Community and/or stock drinking water supplies**

Providing drinking water for individuals, communities and stock is a key outcome sought for the Hurunui, Waiau and Jed catchments. While takes for an individual's reasonable domestic needs and the reasonable needs of an individual's stock are provided for under section 14(3) of the Resource Management Act distribution schemes managed by the Hurunui District Council have traditionally had to compete

for the same water resource as irrigation and other consumptive and non-consumptive uses.

This Plan takes a different approach, and:

- explicitly provides for the continuation and reasonable expansion of community and/or stock drinking water schemes as long as the life-supporting capacity of the river is provided for;
- sets aside 200l/s of additional water for community and/or stock drinking water use from the mainstem of each of the Hurunui and Waiau Rivers to enable future growth and development of towns, villages and communities in the Hurunui and Waiau river catchments (see policies 1.2 and 1.3); and,
- does not require that community and/or stock drinking water supply schemes comply with the minimum flow for that river, if a Water Supply Asset Management Strategy has been developed and is being implemented.

### **Environmental Flows**

'Environmental flows' describe the quantity, timing of water flows required to sustain freshwater and estuarine ecosystems and the human livelihoods and well being that depend on these ecosystems. Environmental flows strive to achieve a flow regime or pattern that provides for human uses and maintains the essential processes required to support healthy river ecosystems. Environmental flows do not necessarily require restoring the natural, pristine flow patterns that would occur absent of human development, use and diversion, but, instead, are intended to produce a broader set of values and benefits from rivers than from management focused strictly on water supply, energy, recreation, or flood control.

Water ways such as the Hurunui and Waiau rivers represent the blood vessels of papatuanuku (mother earth), and as such have a key role in providing nourishment to all living things. This Plan therefore seeks to ensure that the mauri of waterbodies in the catchments is not adversely affected by the taking of water for out of stream uses.

The mauri of a water body is dependent on the state of a number of physical factors including:

- aesthetic qualities such as clarity, natural character, and the type of flora and fauna;
- life supporting capacity and ecosystem robustness;
- depth and speed of flow;
- whether the flow continues uninterrupted from source to sea;
- how suitable the river is for cultural practices; and,
- the productive capacity of the water body.

Through the development of the environmental flow regime in this Plan it was identified that there are a number of key flows which are critical for the health and mauri of the river catchments. A minimum flow of a river needs to supply sufficient flows to provide food and sustenance to riverbed nesting birds, passage for salmon, trout as well as other aquatic fauna and provide enough water for jet boaters to traverse the mainstems of the Hurunui and Waiau Rivers.

In both the Hurunui and Waiau Rivers it is recognised that while the rivers are currently in good ecological health, modelling shows that if all current abstractors used their entire consented rate of take, then the life supporting capacity and mauri of both rivers could be adversely affected. However, increasing the minimum flows immediately would have negative effects on existing abstractors' reliability of supply. Therefore this Plan proposes to maintain the status quo flow regime for the mainstem of the Hurunui and Waiau rivers in the short term. The Plan also recognises that the B Allocation Block is not sufficiently reliable for run of river irrigation and that storage is needed. Storage provides an opportunity for the minimum flow to be increased to improve ecological health and mauri of the rivers, as stored water is able to be utilised to augment existing abstractors supply when the river falls to low levels, improving reliability.

This Plan therefore requires the minimum flow in the Hurunui River be increased to 15 cumecs for the months of February, March and April, and decreased to 12 cumecs in August and 10 cumecs in June, July and August for non-consumptive takes following the commissioning of any water storage facility which takes and stores more than  $210,000,000\text{m}^3$  of water. For the Waiau River the minimum flow must be increased to 20 cumecs in the months of February and March following the commissioning of any water storage facility which takes and stores more than  $210,000,000\text{m}^3$  of water. And, to provide an incentive for storage (potentially alongside hydro electric power generation on Waiau River) reduced to 20 cumecs in the months of May to December, as modelling indicates that the life supporting capacity of the River will continue to be protected at this flow during these months.

Water ways such as the Hurunui and Waiau rivers represent the blood vessels of papatuanuku (mother earth), and as such have a key role in providing nourishment to all living things. This Plan therefore seeks to ensure that the mauri of waterbodies in the catchments is not adversely affected by the taking of water for out of stream uses.

At times of low flow in the mainstem of the Hurunui and Waiau rivers the contribution of flow by the tributaries is important to maintain an open river mouth and protect the ecological and cultural values in the lower parts of both catchments. The Plan therefore requires that the minimum flow for the mainstem of the Hurunui River and the Waiau River must be complied with, whether an individual is taking from the mainstem or a tributary of the river.

Flows of 35 to 75 cumecs in the Waiau River and 30 to 50 cumecs in the Hurunui are important for the recreational uses of the river. Salmon angling requires flows in the higher end of this flow band, while family jet boating is preferred throughout the specified flow band. Trout fly fishing, particularly in the braided sections of the rivers, is optimal in the lower region of these bands. Policy 2.7 in this Plan seeks to ensure that any take or diversion protect these flow ranges.

In the mainstem of the Hurunui and Waiau River flows of around 1.5 to 2 times the median flow are important for flushing periphyton (aquatic plant growths and blooms), while flows of around 3 times the median flow are needed to turn over and mobilise

larger gravel boulders and reset algae and macro-invertebrate populations. Policy 2.5 seeks that these ecologically important and channel-forming flows be protected.

This Plan requires that takes on the mainstem reduce the amount of water that is taken to ensure the minimum flow for that section (of the mainstem) is not breached. The mainstem allocation blocks are large and many abstractors' infrastructure is set up to run only on a single flow rate. Abstractors taking less than 450 l/s on the mainstem of the Hurunui or Waiau rivers may therefore choose to undertake a pro-rata reduction or a reduction in the total volume taken over a 24 hour period. Alternatively they could form a water user group (which shares the available portion above the minimum flow) to ensure that the minimum flow for the mainstem of the river is not breached.

If an abstractor is taking from a tributary with a specific allocation block, then the Plan requires that they must, on a pro-rata basis, reduce the amount of water that is taken or ensure that the minimum flow for that tributary is not breached through the formation of a new, or joining an existing, water user group.

Lowry Peaks Drain, Hermitage Drain, Mt Palm Drain and St Leonards Drain have generally poor water quality. The Land Use and Water Quality Pilot Project in 2010 identified in its preliminary findings that St Leonards Drain had very high concentrations of both nitrogen and phosphorus.

As existing irrigators have increased their application efficiency, primarily through the conversion from boarder dyke to spray irrigation, the flows in some of these lower tributaries have reduced, therefore affecting the reliability of supply of the abstractors taking from these drains.

To maintain reliability of supply on a river with a long term expected decline in flow means either an increase to the minimum flow or a decrease in the number of people taking water from the river. Wetlands can filter water and reduce the concentration of nitrogen and phosphorus. It is thought that over time it may be possible to encourage existing abstractors to develop wetlands to reduce the nitrogen and phosphorus loadings. To encourage this to occur this Plan signals, in Policy 2.10, that the minimum flow may be reduced to zero if a wetland is developed. The reduction in minimum flow would however have to be introduced by way of a Plan Change following the process outlined in Schedule 1 of the Resource Management Act.

Groundwater abstraction can reduce surface water flows. It is important for the health and mauri of the rivers that all abstractions that have a rapid effect on surface flows cease when minimum flow levels are reached. This Plan therefore requires stream depleting groundwater takes with a direct, high or moderate hydraulic connection to surface water to be managed in a way which protects flows in the rivers. Policy WQN7 in the Natural Resources Regional Plan provides a robust mechanism for managing the effect that groundwater abstractions have on surface water flows, and this policy framework is utilised by this Plan.

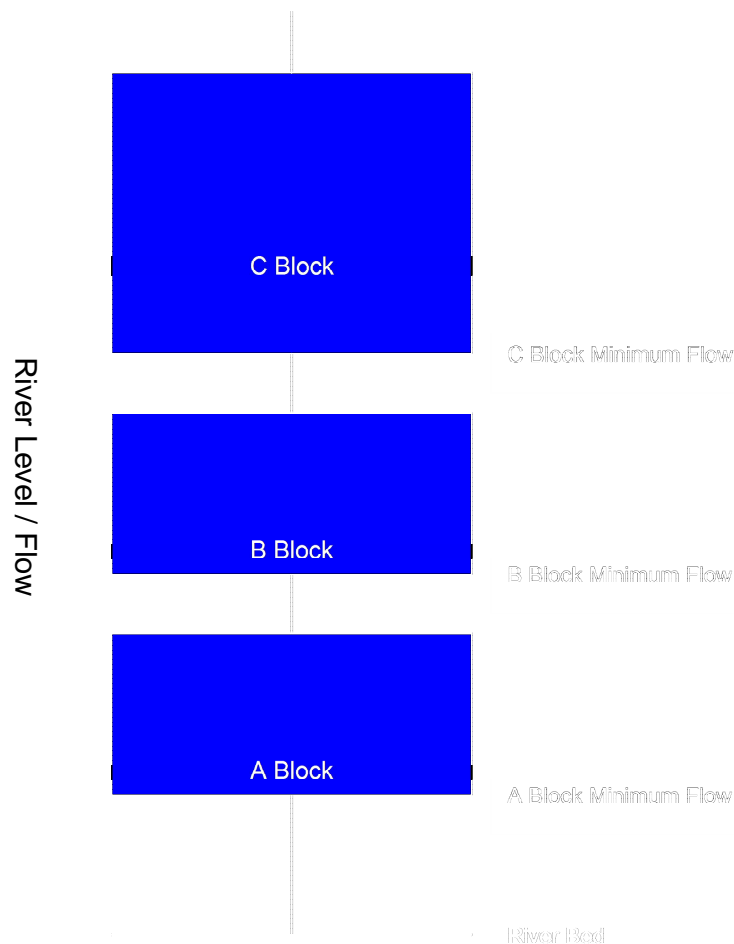
The Jed Catchment is a water short catchment, with the Jed and its tributaries often running dry. A recent resource investigation facilitated by the Canterbury Regional



Council involving the local community members identified that there was insufficient water in the Jed River catchment for a community driven stream restoration project to be successful. There is currently only one person taking surface water from water storage lakes which are filled from southerly and easterly rainfall events. Further research needs to be undertaken before additional water is allocated from this catchment. It may be that the water resource in the Jed Catchment is too unreliable for run of river abstraction to occur while sustaining instream values. This Plan therefore requires all applications for water takes, use or storage in the Jed River area to be a non-complying activity.

### Allocation of Water

This plan sets up an enabling policy framework for taking water within the A and, B or C-Blocks and takes a cautious approach to taking water within the C Block. A Block water has the lowest minimum flow and the most reliable water, B Block water has a higher minimum flow and is less reliable, while the C Block has the highest minimum flow and is the least reliable. Water may be allocated to two or more activities within an allocation block, for example irrigation and hydro-electric development with water used for hydro-electric development when it is not required for irrigation. The environmental flow and allocation regime that sets out the amount of water that can be taken from each of these blocks is included in Table 1, Part 4 to this Plan.



In general the A Block comprises the existing takes, with additional demand provided for from the B and C Blocks which have been established on the mainstems of both the Hurunui and Waiau Rivers. There is a high level of confidence that the B Allocation Block is set at a size which protects instream values. The taking of B Block water is therefore managed as a restricted discretionary activity under Rule 2.3 and the Canterbury Regional Council has restricted its discretion to a number of key factors.

The C Block has been set at a size which allows for a range of out of stream uses however there is a risk that if the C Block is utilised to its maximum potential for out of stream use the environmental, cultural and recreational values may be compromised. Therefore any use of the C Block for out of stream use is a non-complying discretionary activity under rules 3.1 and 3.2.

Where A blocks have been exceeded through the historic granting of resource consents, this Plan seeks that the allocation will be reduced over time. This is to be achieved by not reallocating water where resource consents have been surrendered, lapsed or expired and are not renewed under section 124 of the Resource Management Act.

The total amount of additional B and C Allocation Block water provided for in this Plan, along with the storage of unutilised A Block water from both the Hurunui and Waiau Rivers, is believed to be sufficient to fully irrigate the Hurunui-Waiiau Zone, as long as there is sufficient storage capacity.

Because of the importance of the 'gap' between blocks in protecting ecologically significant freshes this Plan sets up a very restrictive policy framework for taking water below the minimum flow for an allocation block, exceeding the size of an allocation block or taking water from within the 'gap'.

While the majority of abstraction is from the mainstem of the Hurunui and Waiau rivers, there is also a significant volume of water taken from the tributaries of the Hurunui and Waiau rivers. If too much water is taken from the tributaries it could potentially result in the flows in the mainstems being compromised. This Plan therefore sets a limit on the total amount of run of river abstraction (A Block takes) for the entire catchment.

The Jed River, along with Caroline Stream is in a very water short area and as such abstraction in these areas is a non-complying activity. The upper Waiau River is an area with high environmental and cultural values and the allocation block for this area has been set at zero for all takes except small scale drinking water supplies.

## **Groundwater**

The groundwater resource in the Hurunui and Waiau catchments, with the exception of groundwater takes located near to surface water bodies, has not been heavily used. As such, groundwater allocation blocks for the seven groundwater allocation zones are not yet fully allocated.

This Plan sets up a strong and enabling policy framework to allow for additional groundwater abstraction within the Hurunui and Waiau catchments while at the same time managing the long term groundwater decline and associated effects on surface water flows.

To achieve this, the Plan sets limits which specify the total amount of groundwater that can be allocated. This ensures that base river flows are not adversely affected by groundwater abstraction.

Groundwater takes close to surface water bodies are likely to have a relatively immediate effect on surface flows and these have been included within 'River Zones' (see Map 2). Takes within these zones that are less than 30m deep are considered direct surface water takes, unless it can be shown through the consenting process (as a non-complying activity) that the take will have a lesser effect on surface water flows. Most takes within these 'River Zones' are already considered as having a direct hydraulic connection under the existing Natural Resources Regional Plan; however the approach will give greater certainty and simplify the consenting process.

For takes outside the 'River Zones' or within these Zones but greater than 30m deep, an assessment will need to be undertaken in accordance with Policy WQN7(1) of the Natural Resources Regional Plan to determine the effect of the groundwater take on surface water flows. Depending on the outcome of this assessment, a minimum flow may be applied to the take and all, or a portion, of it be included in a relevant surface water allocation block.

### **Cumulative effects of land use on water quality**

To maintain and improve water quality in the Hurunui and Waiau rivers and protect current values, uses and the mauri of the rivers, while ensuring the economic return from land is maximised, land use practices that result in the loss of nutrient to water need to be improved.

This improvement involves a two pronged approach, where both non-statutory education, advice and leadership is provided to land owners while at the same time this Plan provides a specific regulatory backstop, specifically by setting limits for nitrogen and phosphorus, which is contained in Schedule 1 of this Plan.

The Hurunui Waiau Zone Implementation Programme sets out in some detail the non-statutory implementation actions, including the development of good practice guidelines, which aim to lower the nutrient concentrations in the mainstem and tributaries while at the same time providing headroom for additional land to be developed and intensified within the Hurunui and Waiau catchments.

There are two parts to the regulatory backstop. From the date of notification of this Plan ~~discretion will be given to whether~~ a take, diversion or use of water that will result in the nutrient limits contained in Schedule 1 of this Plan being exceeded will require resource consent for a discretionary or non-complying activity. This consideration will only apply to new applications (or replacement of existing resource consents that have expired) and only applies to the take and use of water.

The second part of the regulatory backstop enables existing land uses to continue as permitted activities provided property owners have an industry certification system, a catchment agreement, an irrigation scheme management plan or lifestyle block management plan, in place by 2017. From the date of notification of this Plan, aAny change in land use will also ~~continue to~~ be permitted, if the catchment remains below the nutrient load limit and one of the schemes, agreements or plans described above is in place. Where a catchment specific nutrient load is over the limit in Schedule 1, resource consent will be required. Where the limit is exceeded by a significant amount, the activity will be a non-complying activity and consent will only be granted if the water quality objectives of this Plan can be met. ~~The resource consent applicant, in these circumstances, will be required to demonstrate that their land use practices, in combination with all other land uses in the specific catchment can achieve the limit in Schedule 1.~~

~~The lowest risk option to ensure that the current values, uses and the mauri of the Hurunui River are protected is to maintain both nitrogen and phosphorous loads at current levels (2005-2010). However it also recognises that in the short term, a limit on nutrients at current levels would limit development within the Zone which is provided for through other objectives, policies and rules in this Plan. As, existing land managers will not have had sufficient time to modify their farming practices to provide 'space' under the limits in Schedule 1. This Plan therefore provides for the annual dissolved inorganic nitrogen load (measured at the State Highway 1 monitoring site) to increase 20% above 2005-2010 levels prior to 2017. Phosphorous would continue to be maintained at current levels to ensure the values identified in Objective 5.1 are maintained. Post 2017, nitrogen would be maintained at 2005-2010 levels, or better, so as to continue to restore the mauri of the River. In taking this approach, Canterbury Regional Council recognises that ongoing and responsive monitoring and review of the effectiveness of management practices will be required to ensure that this Plans provisions are protecting the health, and mauri, of the river. The Zone Implementation programme contains a number of monitoring recommendations which will therefore be progressed by Canterbury Regional Council in partnership with the Zone Committee, Ngāi Tahu, industry and the community.~~

At time of notifying this Plan, limits are only included for the Hurunui River at Mandamus and SH1. Over time limits will be established for the wider Hurunui Catchment and the Waiiau Catchment, including the mainstem and River, the Hurunui River mouth and specific tributaries as the scientific understanding improves.

### **Storage and Additional Demand for Water Resources**

Increasing the quantum of irrigated land in the Hurunui, Waiiau and Jed catchments and adjacent catchments such as the Waipara is a key economic driver for North Canterbury. Allowing more run of river water irrigation will result in a lower reliability of supply for existing water users. Therefore the only way to provide additional highly reliable irrigation water is through the storage of higher flow water for use at times of low flow.

The water storage location will have environmental consequences; in some locations the environmental costs outweigh the economic benefit derived from the use of this water for irrigation and/or hydro-electric development; in other locations the environmental effects are less due to the storage location being situated where the existing environment is no-longer in its natural state.

This Plan shows in Map 3 the areas of the Hurunui, Waiau and Jed catchments that have been identified as being suitable for development of water storage infrastructure. These parts of the catchments are described as Zone B 'Infrastructure Development Areas'. The Map also shows the areas where water storage should not be progressed. These parts of the catchments are described as Zone A 'High Value Areas'. Finally the Map identifies areas where only limited investigations have been carried out. In these areas water storage infrastructure may be appropriate as long as a range of environmental, cultural and recreational effects are addressed, less environmentally sensitive areas have been explored and the affordability gap between what can be afforded and the cost of infrastructure development have been unable to be resolved. These parts of the catchments are described as Zone C 'Areas not identified as High Value or Infrastructure Development'.

It is important that water storage infrastructure is developed in an integrated fashion; therefore this Plan requires that all large scale water storage infrastructure is developed with the goal of achieving irrigation of all potentially irrigable land in the Hurunui Waiau Zone. All proposals for water storage or non-consumptive use, are therefore required to submit alongside the resource consent application an Infrastructure Development Plan. This Plan must show how the application fits within the zone wide pattern which provides for the storage of water in the mid reaches of the Waiau River in the Emu or Amuri Plains, possibly in Isolated Hill; and provides for the storage of water for irrigation in the Waitohi River as a first option. Or if this is not able to be progressed, in other tributaries of the Hurunui River, achieving the Objectives of the Plan while maximising the economic and social benefits of water abstraction, including utilising water for multiple out of stream uses.

The inter-catchment transfer of water (for example between the Hurunui and Waiau Rivers or vice versa) may be an important component of achieving the full irrigation of the 100,000ha of potentially irrigable land. This Plan provides for the transfer of water between the Hurunui and Waiau Rivers or from the Hurunui or Waiau Rivers to rivers outside the Plan area as long as the method of transfer and distribution meets the cultural needs of Ngāi Tahu and local Rununga, and other requirements in Policy 6.6 and only seeks to transfer water that is located within the A or the B Block as set out in the Environmental Flow and Allocation Regime in Table 1.

The Waipara River is a water short catchment, it has been identified that the minimum flow in the Waipara should potentially be higher to protect for the needs of instream values. However increasing the minimum flow will have unacceptable economic implications due to the reduction in reliability of supply experienced by existing abstractors taking from the Waipara catchment. One way to mitigate the environmental effects of people taking water from Waipara Catchment is to augment the flow in the Waipara with that from another river. This Plan signals that any

storage proposal applied for within the Hurunui Catchment needs to address how water could be transferred to the Waipara Catchment.

The mainstems of both the Hurunui and Waiau rivers are iconic and regionally important features and they have very high social, cultural and environmental values which would be significantly impacted if either the Hurunui or Waiau mainstem was dammed<sup>2</sup>. Therefore this Plan prohibits damming on the mainstems of the Hurunui and Waiau Rivers.

### **Efficient use of water**

To provide flexibility for resource consent holders this Plan allows for the transfer of surface and groundwater takes between properties as a restricted discretionary activity. However to ensure that any environmental effects on the surface water flows and other water users are minimised a number of factors must be complied with. Transfers that do not meet the criteria are considered as full discretionary activities.

A key goal is to improve water use efficiency thereby enabling more land to be irrigated with the same amount of water. This Plan responds to that goal by requiring all water users to minimise any leakage in the design and operation of infrastructure, requiring 80% irrigation application efficiency, and for all consumptive irrigation takes, whether surface or groundwater, to have an annual volume which provides 80% application efficiency in accordance with Policy WQN16 to the Natural Resources Regional Plan.

This Plan seeks that all resource consents have a common expiry date and a maximum duration of 10 years. Canterbury Regional Council will work on ensuring that the resource consenting process is simplified for those abstractors whose resource consents expire near to the 2025 or 2035 expiry date so that all resource consents are aligned with the common expiry date as expediently as possible.

It is recognised that storage infrastructure and hydro-electric power generation infrastructure can be very costly to develop and the infrastructure that is developed is likely to have a working life in excess of 80 years. This Plan therefore seeks that these types of activities, when the capital cost is greater than \$10,000,000, have resource consented for up to 35 years, the maximum term possible under the Resource Management Act.

To allow for the efficient and effective provision of community and stock drinking water supplies and to fulfil the goal of optimising the amount of irrigated land within the Waiau Hurunui Zone, the use of water for specified activities needs to be prioritised. This Plan seeks to prioritise resource consents in accordance with the first and second order priorities in the Canterbury Water Management Strategy when the Plan is reviewed.

The Plan recognises that within the A Allocation Block existing consent holders will continue to have priority for future allocation, and within the B Allocation Block

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<sup>2</sup> ~~For the avoidance of doubt, the definition of mainstem in this Plan is the same as that in the Proposed Regional Policy Statement.~~

irrigation, both existing and future, will also have first priority. This means that allocated water needs to be available for first priority uses when and where those uses wish to have access to, that water. However, the water may also be allocated to second priority uses, such as hydro-electricity generation, when or where the water is not actually being taken, diverted or used for its first priority use. For example, water allocated for irrigation may be used for hydro-electricity generation when the water is not being taken for irrigation as it is either not allocated by resource consent or not required; or if the water is taken and returned to the river upstream of the irrigation take. This Plan therefore intends that compliance with the allocation block limits would be calculated in terms of the amount allocated and available to be used by all uses on any day and at any point in the river.

## Part 2 – Objectives and Policies

### *Community and/or Stock Drinking Water*

**Objective 1** People and communities of North Canterbury have ready access to high quality and reliable supplies of human and stock drinking water.

**Policy 1.1** To enable the renewal of existing community and/or stock drinking water supply takes.

**Policy 1.2** To enable up to 200 l/s of additional water to be abstracted from the mainstem of the Hurunui River, for new community and/or stock drinking water supplies, where the water is sourced either by way of a surface water take or a hydrologically connected groundwater take.

**Policy 1.3** To enable up to 200 l/s of additional water to be abstracted from the mainstem of the Waiau River, for new community and/or stock drinking water supplies, where the water is either by way of a surface water take or a hydraulically connected groundwater take.

**Policy 1.4** To provide for the sustainable development of communities in the Hurunui, Waiau and Jed river catchments, by providing for the taking and use of water for community water and/or stock drinking supplies, where water is to be taken from the Jed River or a tributary of the Hurunui River or Waiau River provided:

- (a) abstraction will not induce the river to go dry;
- (b) the frequency of flow events between 1.5 and 3 times the median flow will not be reduced; and,
- (c) native and salmonid fish passage will not be compromised.

**Policy 1.5** To enable community and/or stock drinking water supplies to continue to abstract water when the minimum flow in the Environmental Flow and Allocation Regime shown in Table 1 is reached, where the community and/or stock drinking water supply has a Water Supply Asset Management Strategy in place.

**Policy 1.6** To enable water to be taken and stored, from any water body in the Hurunui, Waiau, or Jed river catchments, to provide for the efficient fighting of fires.

Note: The additional water provided for in policies 1.2 and 1.3 above is not shown in Environmental Flow and Allocation Regime in Table 1 as these takes will not have to comply with the minimum flow and allocation regime in Table 1 where a Water Supply Asset Management Strategy is in place (see Rule 2.2).



## ***Environmental Flow***

- Objective 2**    **Management of water levels and flows in the Hurunui, Waiau or Jed rivers and their tributaries does not result in adverse impacts on:**
- (a) the mauri of the waterbodies;**
  - (b) instream aquatic life;**
  - (c) upstream and downstream passage of native fish, salmon and trout;**
  - (d) the existing landscape and amenity values present;**
  - (e) breeding and feeding of riverbed nesting birds;**
  - (f) river mouth opening of the Hurunui River, and maintaining an open river mouth in the Waiau River, to provide for the migration of native fish and salmonid species and the collection of mahinga kai by tangata whenua;**
  - (g) the extent of periphyton and cyanobacterial growth and the impact on recreational activities; and,**
  - (h) recreationally important flows in the mainstem of the Hurunui and Waiau rivers for kayaking, jetboating, swimming and salmon and trout fishing.**
- Policy 2.1**    No resource consent to take, dam or use water should be granted if the proposed activity will cause the minimum flows specified in the Environmental Flow and Allocation Regime in Table 1 to be breached; unless the take is for a community or stock drinking water supply and there is a Water Supply Asset Management Strategy in place.
- Policy 2.2**    Where a minimum flow has not been set for a tributary in the Environmental Flow and Allocation Regime in Table 1, then either:
- (a) a residual flow shall be set for that tributary at 90% of 7dMALF if there is not a robust relationship between the flow record in the mainstem of the Hurunui or Waiau rivers; or;**
  - (b) if there is a robust relationship between the tributary and a minimum flow site listed in Table 1 then the take will be required to comply with the Environmental Flow and Allocation Regime minimum flow in Table 1.**
- Policy 2.3**    To require all takes and diversions of water on the mainstem of the Hurunui and Waiau rivers, to reduce the amount of water taken on a pro-rata basis, either:
- (a) by reducing the instantaneous rate of take; or,**
  - (b) if the maximum rate of abstraction is less than 450 l/s, by reducing the total volume taken over a 24 hour period; or,**
  - (c) by forming a water user group,**
- to ensure that the minimum flow in the mainstem of the Hurunui and Waiau River, in the Environmental Flow and Allocation Regime in Table 1, is not breached unless the take is for a community or stock drinking water supply and there is a Water Supply Asset Management Strategy in place.
- Policy 2.4**    To require all takes and diversion on tributaries of the Hurunui or Waiau rivers, where a specific allocation block is listed in the Environmental Flow

and Allocation Regime in Table 1, to reduce the amount of water taken on a pro-rata basis, either:

- (a) by reducing the instantaneous rate of take; or,
- (b) by forming a water user group;

to ensure that the minimum flow for that tributary, in the Environmental Flow and Allocation Regime in Table 1, is not breached; unless the take is for a community or stock drinking water supply and there is a Water Supply Asset Management Strategy in place.

**Policy 2.5** To ensure that any new take, dam or diversion of water does not adversely affect the effectiveness of flows, between 1.5 and 3 times the median flow, that flush periphyton, mobilise gravel, and reset algae and macro-invertebrate populations in the mainstem of the Hurunui and Waiau rivers.

**Policy 2.6** To ensure that any new take, dam, diversion or discharge of water does not adversely affect the mauri of the Hurunui and Waiau rivers and their tributaries.

**Policy 2.7** To ensure that any new take, dam or diversion of water provides for a range of flows, between 30 and 50 m<sup>3</sup>/s in the mainstem of the Hurunui River and between 35 and 75 m<sup>3</sup>/s in the mainstem of the Waiau River, to provide for recreational activities.

**Policy 2.8** To ensure that the minimum flow at Mandamus and State Highway 1 in the Hurunui River is increased to 15 m<sup>3</sup>/s during February, March and April, and decreased to 12 cumecs in August and for non consumptive takes the minimum flow is decreased to 10 m<sup>3</sup>/s in June, July and August following the commissioning of any water storage facility or facilities which cumulatively exceed takes and stores more than 210,000,000m<sup>3</sup> of water (whether water is stored in-stream or out of stream) within the Hurunui River Catchment to ensure that the factors in Objective 2 are protected while at the same time creating an incentive for storage.

**Policy 2.9** To ensure that the minimum flow at Marble Point in the Waiau River is increased to 20 m<sup>3</sup>/s during February and March and reduce the minimum flows to 20 m<sup>3</sup>/s from May to December inclusive following commissioning of any water storage facility or facilities which cumulatively exceed takes and stores more than 210,000,000m<sup>3</sup> of water (whether water is stored in-stream or out of stream) within the Waiau River Catchment, to ensure that the factors in Objective 2 are protected while at the same time creating an incentive for storage.

**Policy 2.10** To investigate whether a minimum flow is not required in Lowry Peaks Drain, Hermitage Drain, Mount Palm Drain or St Leonards Drain if a wetland is developed which mitigates nutrients from entering the mainstem of the Hurunui and Waiau rivers.

**Policy 2.11** No resource consent to take, dam or use water should be granted in the Jed River catchment unless it can be demonstrated that the activity will not:

- (a) increase the length or duration of the dry reaches in the Jed River, and its tributaries and coastal streams within this area;
- (b) reduce the movement or passage of native fish;
- (c) reduce water quality; and,
- (d) adversely affect flows at the Jed River mouth at Gore Bay which could affect the naturally occurring biota or the intrinsic, natural, amenity and cultural values.

Note: All environmental flow policies above apply to all surface water takes and diversions and groundwater directly or highly connected to surface water.

## ***Allocation of Water***

**Objective 3** Water is allocated so as to enable further economic development, while:

- (a) protecting the mauri of the waterbodies;
- (b) ensuring that water quality is not decreased;
- (c) ensuring flow variability is maintained and that flows of between 1.5 and 3 times the median flow required to flush periphyton and mobilise gravel and reset the bed of the mainstem of the Hurunui and Waiau rivers are not adversely effected;
- (d) ensuring that the water temperature is not unnaturally increased to levels which affect salmonid species;
- (e) protecting the ability of native fish, salmon and trout to traverse the river from the marine environment to upstream habitats;
- (f) protecting the reliability of supply for existing abstractors; ~~and~~;
- (g) maintaining the ability to navigate the river by Jet Boat; and.
- (h) maintain flows needed for salmon angling.

**Policy 3.1** To reduce the size of the catchment wide A Allocation Block in the Waiau River Catchment to 18 cumecs; and to reduce the size of the catchment wide A Allocation Block in the Hurunui River Catchment at 11 cumecs.

**Policy 3.2** No resource consent to take, dam, divert or use water should be granted if the proposed activity will cause the allocation blocks specified in the Environmental Flow and Allocation Regime shown in Table 1 to be exceeded at any point on the river and at any given time.

**Policy 3.3** Notwithstanding Policy 3.2 above, where the sum of consented abstractions in an allocation block is greater than 100% of the Allocation Block limit listed in the Environmental Flow and Allocation Regime specified in Table 1, there shall be no reallocation of water that arises from surrendered (section 138 Resource Management Act) or lapsed resource consents (section 125 Resource Management Act) or expired resource consents that are not applied to be replaced by existing consent holders under section 124 of the Resource Management Act.

**Policy 3.4** To enable water to be taken from the B Allocation Block set for the mainstem of the Hurunui and Waiau rivers as specified in the Environmental Flow and Allocation Regime in Table 1, and used for out of stream uses.

**Policy 3.5** To ~~only allow enable~~ water to be taken and used from the C Allocation Block set for the mainstem of the Hurunui and Waiau rivers, as specified in the Environmental Flow and Allocation Regime in Table 1, ~~if all~~ provided the following ~~are~~ maintained:

- (a) water quality;
- (b) flow variability and in particular flows between 1.5, and 3 times the median flow that flush periphyton and turn over larger gravel boulders and reset the bed of the mainstem of the Hurunui and Waiau rivers;
- (c) water temperature suitable for salmonid species;
- (d) the natural braided character of the Hurunui and Waiau Rivers, including the river mouth and coastal dynamics;
- (e) a flow regime in the mainstem or tributaries of the Waiau and Hurunui Rivers that maintains invertebrate food production;
- (f) the reliability of supply for existing abstractors;
- (g) the ability of large salmonid and eel species to traverse the river from the marine environment to upstream habitats;
- (h) the ability to navigate the river by Jet Boat; and
- (i) daily patterns of flow that allow existing recreational opportunities and experiences in the mainstem of the rivers, their mouths or tributaries to be maintained.

**Policy 3.6** To enable water to be discharged from non-consumptive activities to the Waiau and Hurunui rivers and their tributaries provided the following is maintained downstream of the point of take:

- (a) macro-invertebrate populations both upstream and downstream of the discharge point;
- (b) habitat and unimpeded passage for existing populations of native fish species, salmon and trout;
- (c) health and safety of people and communities using the river;
- (d) bare gravel islands and bars are free of woody vegetation for bird nesting; and,
- (e) the water is returned to the river in the same or better state and quality.

~~**Policy 3.7** In addition to the requirements of Policies 2.1 and 3.2, no resource consent to take, divert, discharge or use water from the C Allocation Blocks in the Environmental Flow and Allocation Regime in Table 1 will be granted if the standards and terms for non-complying activity takes cannot be met.~~

## **Groundwater**

**Objective 4** Groundwater abstraction occurs in a sustainable manner preventing a long term decline in groundwater levels and surface water flows.

- Policy 4.1** No resource consent to take and use groundwater shall be made or granted if the proposed activity will result in the following annual allocation limits being exceeded:
- (a) 52.8 Mm<sup>3</sup> in the Culverden Hurunui Groundwater Allocation Zone as shown in Map 2;
  - (b) 3.7 Mm<sup>3</sup> in the Domett Groundwater Allocation Zone as shown in Map 2;
  - (c) 7.1 Mm<sup>3</sup> in the Waikari Groundwater Allocation Zone as shown in Map 2;
  - (d) 8.6 Mm<sup>3</sup> in the Hanmer Groundwater Allocation Zone as shown in Map 2;
  - (e) 33.4 Mm<sup>3</sup> in the Culverden Waiau Groundwater Allocation Zone as shown in Map 2;
  - (f) 6.5 Mm<sup>3</sup> in the Parnassus Groundwater Allocation Zone as shown in Map 2; and,
  - (g) 2.6 Mm<sup>3</sup> in the Jed Groundwater Allocation Zone as shown in Map 2.
- Policy 4.2** To manage the effect of groundwater takes on surface flows as follows:
- (a) the degree of hydraulic connection to surface water bodies of all groundwater takes, except in those located within the River Zone as shown on Map 2, shall be determined in accordance with Policy WQN7 of the Natural Resources Regional Plan;
  - (b) all takes from a River Zone, as shown on Map 2, that are less than 30 m deep, are considered to have a direct hydraulic connection as defined in Policy WQN7 of the Natural Resources Regional Plan, unless it can be demonstrated by means of aquifer testing and any other relevant information that a different classification should apply; and,
  - (c) groundwater takes with a direct, high or moderate hydraulic connection shall comply with the Environmental Flow and Allocation Regime in Table 1, to the degree specified in Policy WQN7 of the Natural Resources Regional Plan.
- Policy 4.3** To manage the interference effects between bores as per Policy WQN19 of the Natural Resources Regional Plan.
- Policy 4.4** To maximise access to the available groundwater resource by ensuring that all bores adequately penetrate the aquifer as per Policy WQN14(b) of the Natural Resources Regional Plan.
- Policy 4.5** To manage the natural geothermal water resource in a way that maximises community wellbeing, while ensuring no long term decline in water temperature from human induced activities.

### ***Cumulative effects of land use on water quality***

- Objective 5.1 Concentrations of nutrients entering the mainstems of the Hurunui, Waiau and Jed rivers are managed to:**
- (a) maintain and enhance the mauri of the waterbodies;
  - (b) protect naturally occurring biota including riverbed nesting birds, native fish, trout, and their associated feed supplies and habitat;

- (c) control periphyton growth that would adversely affect recreational, cultural and amenity values;
- (d) ensure aquatic species are protected from chronic nitrate toxicity effects; and,
- (e) ensure concentrations of nitrogen do not result in water being unsuitable for human consumption.

**Objective 5.2** Concentrations of nutrient entering tributaries to the Hurunui, Waiau and Jed rivers are managed to meet agreed community outcomes while ensuring they do not give rise to:

- (a) chronic nitrate toxicity effects on aquatic species; and,
- (b) water being unsuitable for human consumption.

**Policy 5.1** ~~To take a tributary and community based approach to managing water quality and improving nutrient management practices.~~

~~To manage water quality in the mainstem of the Hurunui River to ensure that:~~

- ~~(a) The 95<sup>th</sup> percentile of monthly Pperiphyton biomass measurements in of the mainstem of the lower Hurunui River (below Pahau R confluence) does not exceed 120 mg/m<sup>2</sup> and 20% cover of filamentous algae in 4 years out of 5 years.~~
- ~~(b) Nitrate5 year rolling median annual dissolved inorganic nitrogen concentrations for monthly measurements at SH1 do not exceed the current annual median (0.35mg N/L) chronic nitrate toxicity threshold for 99% level of protection (1.0 mg N/L).~~
- ~~(c) 5 year rolling median Average annual dissolved reactive phosphorus concentrations for monthly measurements at SH1 do not exceed the current annual averagemedian (0.00344mg P/L).~~

~~Policy 5.1(a) To manage water quality in the mainstem of the Waiau Rover to ensure that:~~

- ~~(a) The 95th percentile of monthly periphyton biomass measurements in the mainstem of the Waiau River does not exceed 120 mg/m<sup>2</sup> or 20% cover of filamentous algae.~~

**Policy 5.2** ~~To ensure all existing and new land use activities in the Nutrient Management Area shown on Map 4, have best nutrient management practices in place by 2017.~~

~~To manage water quality in the tributaries of the Hurunui River to ensure that:~~

- ~~(a) The 95<sup>th</sup> percentile of monthly Pperiphyton biomass measurements inef the Pahau and Waitohi rivers should not exceed 200 mg/m<sup>2</sup> and 30% cover of filamentous algae in 4 years out of 5 years.~~
- ~~(a)(b) Annual average nitrate nitrogen concentrations do not exceed the chronic nitrate toxicity threshold for 95% level of protection (1.7 mg N/L) and does not exceed the chronic 90% level of protection threshold (2.4 mg N/L) at any time.~~

~~Policy 5.2(a) To manage water quality in the tributaries of the Hurunui River to ensure:~~

- ~~(a) Annual average nitrate nitrogen concentrations do not exceed the chronic nitrate toxicity threshold for 95% level of protection (1.7 mg N/L) and does not exceed the chronic 90% level of protection threshold (2.4 mg N/L) at any time.~~

~~**Policy 5.3** — To protect existing values, uses and the mauri of the Hurunui River and its tributaries while also providing for future development in the catchment by ensuring the annual nutrient loads (as set out in Schedule 1) at the:~~

- ~~(a) Mandamus flow recorder, for both Dissolved Inorganic Nitrogen and Dissolved Reactive Phosphorous, are maintained at 2005–2010 levels.~~
- ~~(b) State Highway 1 flow recorder:
  - ~~(i) dissolved Reactive Phosphorous, is maintained at 2005–2010 levels;~~
  - ~~(ii) dissolved Inorganic Nitrogen prior to 2017, does not increase more than 20% above 2005–2010 levels; and~~
  - ~~(iii)(i) dissolved Inorganic Nitrogen post 2017, is improved to 2005–2010 levels.~~~~

~~**Policy 5.3** To progressively set Catchment Nutrient Load Limits for the Hurunui and Waiau Catchments, including the mainstems and tributaries, to ensure that Objectives 5.1 and 5.2 are met and the outcomes sought by Policies 5.1 and 5.2 are achieved. Catchment Nutrient Load Limits should include specific limits for the nutrients identified and state where the limits are to be measured.~~

~~**Policy 5.4** — To progressively set nutrient limits in tributaries of the Hurunui River, at the river mouth and in the Waiau River Catchment to ensure that Objective 5.1 and 5.2 are met.~~

~~**Policy 5.4** To ensure that all properties in the Hurunui and Waiau Catchments are being managed in a way that meets the Catchment Nutrient Load Limits and reduces, as far as practicable, nutrient loss from the land.~~

~~**Policy 5.5** To only allow changes in land use where to exceed the Catchment Nutrient Load Limits are exceeded if Objectives 5.1 and 5.2 would be met.~~

~~**Policy 5.6** To manage the taking, use, damming, diversion, discharge, and transfer of water so that the Catchment Nutrient Load Limits are met.~~

## **Storage and Additional Demand for Water Resources**

**Objective 6** Infrastructure for out of stream uses of water, whether for irrigation, hydro-electric generation or other uses is developed in a manner which, alongside other economically viable proposals, ~~allows for full~~**contributes to** irrigation of all economically irrigable land in the Hurunui, Waiau and Jed River catchments, while:

- ~~(a)~~ **(a)** protecting areas with high intrinsic, cultural and recreational values;
- ~~(b)~~ **(b)** safeguarding the ecological health of the river systems;
- ~~(b)(c)~~ **(c)** avoiding areas with significant natural hazards;
- ~~(c)(d)~~ **(d)** addressing demand for community and/or stock drinking water supplies;
- ~~(d)(e)~~ **(e)** maintaining existing geomorphologic and sediment transport processes; ~~and,~~
- ~~(f)~~ **(f)** maintaining passage for native and introduced fish; ~~and.~~

~~(e)~~(g) ensuring water quality is not decreased.

Policy 6.1(a) To manage the effects of the development of water storage infrastructure through identifying three Development Zones, by reference to the requirements of Objective 6, which will form the basis of the policy and rule framework:

Zone A: areas where water storage infrastructure should not be progressed in order to protect outstanding natural areas identified in accordance with the Operative and Proposed Canterbury Regional Policy Statements, to protect areas with high intrinsic, cultural and recreational values, and to avoid areas with significant natural hazards

Zone B: areas generally considered suitable for the development of water storage infrastructure in specific circumstances

Zone C: areas where only limited investigations have been carried out and the development of water storage infrastructure should proceed with caution.

**Policy 6.1** To prohibit the damming or impoundment of water within the parts of the Hurunui and Waiau River Catchments shown as Zone A 'High Value Areas', on Map 3, or on the mainstem of the Hurunui and Waiau Rivers.

**Policy 6.2** To enable the development of storage facilities for A, B or C Block water in the parts of the Hurunui and Waiau River Catchment shown as Zone B 'Infrastructure Development Areas', on Map 3, provided:

(a) There is no impoundment of water on the mainstem of the Waiau or Hurunui Rivers;

~~(a)~~(b) the Environmental Flow and Allocation Regime for the mainstem of the Hurunui and Waiau Rivers in Table 1 is complied with;

~~(b)~~(c) the minimum flow for any tributary identified in the Environmental Flow and Allocation Regime in Table 1 is maintained;

~~(e)~~(d) water is reserved for community and stock drinking water supplies;

~~(d)~~(e) woody vegetation is managed to provide for bird habitat, natural channel and bed forming processes and sediment supply from the headwaters to the sea is maintained by flow events;

~~(e)~~(f) nuisance periphyton growths are removed by flow events;

~~(f)~~(g) health and safety of communities is provided for;

~~(g)~~(h) loss of wetlands is mitigated;

~~(h)~~(i) the reliability of supply of existing abstractors is not reduced; and,

~~(i)~~(j) existing recreational activities which occurred prior to storage are provided for.

**Policy 6.3** To enable proposals to dam water within the parts of the Hurunui, Waiau and Jed river catchments shown as Zone C 'Areas not identified as High Value or Infrastructure Development' on Map 3, where they will:

(a) not impound water on the mainstem of the Hurunui River, ~~downstream of the confluence of the South Branch,~~ or Waiau River ~~downstream of the confluence with the Hope River~~<sup>3</sup>;

<sup>3</sup> Note: Damming on the mainstem of the Waiau and Hurunui Rivers, and in the Waiau and Hurunui Catchments within Zone A upstream of the Hope River Confluence is a Prohibited Activity under Rule



- (b) preserve natural high quality and large wetlands in the Hurunui and Waiau river catchments;
- (c) preserve the number and area of existing significant salmon spawning sites identified in Schedule WQN14 of the Natural Resources Regional Plan;
- (d) maintain the braided riverbed bird habitat on the mainstem of the Hurunui and Waiau Rivers;
- (e) Preserve the braided character of rivers in the Hurunui and Waiau river catchments;
- (f) maintain the upper catchment alpine rivers as natural ecosystems and landscapes;
- (g) make water available for a community or stock drinking water supply;
- (h) provide for storage and distribution of rural community and stock water infrastructure;
- (i) ensure existing river mouth and coastal processes (including sediment supply) are maintained;
- (j) not result in a net loss of habitat of native fish, including specific habitat requirements for fast water dwellers such as torrent fish; and,
- (k) preserve the existing diversity and quality of water-based recreational sites, opportunities and experiences, including angling, active recreation instream such as jetboating kayaking and swimming and passive recreation such as walking, sightseeing and picnicking.

**Policy 6.4**

Notwithstanding Policy 6.3, to avoid the damming of water in Zone C 'Areas not identified as High Value or Infrastructure Development' on Map 3 until:

- (a) until 2 years after this plan ~~is notified~~becomes operative; and,
- (b) it can be demonstrated that opportunities for water storage in Zone B 'Infrastructure Development' are not able to proceed.

**Policy 6.5**

To require any proposal utilising water from the Hurunui, Waiau and Jed river catchments to:

- (a) demonstrate how it will fit within a zone wide pattern of infrastructure development designed to optimise the amount of land irrigated subject to water quality requirements, and:
  - (i) provide for the storage of water in the middle reaches of the Waiau River in the Emu or Amuri Plains; or
  - (ii) provide for the storage of water in:
    - i. the Waitohi River as a first option, or if this is not able to proceed;
    - ii. in other tributaries of the Hurunui River located in Zone B in Map 3, or if these are not able to proceed; and,
    - iii. in the other tributaries of the Hurunui River, ~~including the North Branch upstream of the confluence of the South Branch~~ located in Zone C.
- (b) assist in achieving the objectives of this Plan; and,
- (c) maximise the economic and social benefits of water abstraction, including utilising water for multiple out of stream uses.

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~~5.1 as is damming on the mainstem of the Hurunui River below the confluence of the south branch and the mainstem of the Waiau River below the Hope River confluence.~~

- Policy 6.6** To provide for the transfer of water from the Hurunui to the Waiau catchment or the Waiau to the Hurunui catchment, provided:
- (a) it occurs in a culturally sensitive manner which aligns with the values of Ngāi Tahu and local Rununga;
  - (b) the point of take, discharge and the entire length of the transfer infrastructure is in the parts of Hurunui and Waiau River Catchment shown as Zone B – Infrastructure Development Areas, on Map 3; and,
  - (c) Water is provided in accordance with the A or B Allocation Blocks identified in Environmental Flow and Allocation Regime in Table 1.
- Policy 6.7** To require all water storage proposals, storing more than 20,000,000m<sup>3</sup> of water to provide a source for community and stock drinking water supplies, sufficient to supply potable water to all properties impacted by the water storage scheme.
- Policy 6.8** To enable the development of on farm storage of water for irrigation, where it will:
- (a) improve the existing abstractors reliability; or,
  - (b) allow for greater efficiency of application; or,
  - (c) allow for a larger land area to be irrigated and help achieve the goal of irrigating up to 100,000ha of land in the Hurunui-Waiiau Zone.
- Policy 6.9** All new applications for water permits ~~should~~**shall** concurrently apply for any discharge or land use consents required from the Canterbury Regional Council or the Hurunui District Council to enable consideration of the full range of effects of the proposed development.
- Policy 6.10** Any proposal for water storage greater than 20,000,000m<sup>3</sup> within the Hurunui Catchment shall consider making water available to either:
- (a) increase the flow in the Waipara River to offset the ecological effects of current abstraction on that River; or,
  - (b) provide an alternative source of water to existing abstractors, taking from the Waipara catchment to allow for the minimum flow in the Waipara River to be increased while maintaining a reliable supply to those abstractors.
- Policy 6.11** Despite Policy 6.10 above, any consent to transfer water between the Hurunui and Waiau Catchments or from the Hurunui and Waiau Catchments to another catchment should not be granted if it results in there being insufficient water remaining instream to meet the reasonable out of stream needs of land owners within the catchment from which the water is taken.

## ***Efficient Water Use***

### **Transfers**

**Objective 7**     **Surface and groundwater resource consents are transferred efficiently, maximising efficient water use in a way that mitigates any additional effects on surface and groundwater levels.**

**Policy 7.1**     To provide for the transfer of surface water and groundwater takes, less than 30m deep, in the River Zone as shown on Map 2, provided:

- (a) the transfer is within the same surface water allocation zone as shown on Map 1;
- (b) the transfer is subject to the same (or more restrictive) terms and subject to the same conditions, to ensure that the same or lesser rate of take and volume is taken;
- (c) the transfer does not result in a reduction in the reliability of supply for any other existing lawfully established surface or groundwater take;
- (d) the exercise of the resource consent post-transfer does not result in an increase in the length or duration that the river is dry; and,
- (e) the transfer does not compromise the Environmental Flow and Allocation Regime in Table 1.

**Policy 7.2**     Where the sum of consented abstractions in an allocation block is greater than 100% of the Allocation Block limit in the Environmental Flow and Allocation Regime in Table 1, there should be no transfers of resource consents except for transfer applications effected under s136(1) of the Resource Management Act.

**Policy 7.3**     To provide for the transfer of groundwater takes, excluding those groundwater takes located within the River Zone, shown on Map 2, provided:

- (a) for groundwater takes with a direct, high or moderate hydraulic connection to surface water determined in accordance with Policy WQN7(1) of the Natural Resources Regional Plan:
  - (i) the transfer occurs within both the same surface and groundwater water allocation zones as shown in Maps 1 and 2;
  - (ii) the transfer is subject to the same (or more restrictive) terms and subject to the same conditions, to ensure that the same or lesser rate of take and volume is taken;
  - (iii) the degree of hydraulic connection and the stream depletion effect is the same or less after the transfer as prior to it;
  - (iv) the transfer does not result in a reduction in the reliability of supply for any other existing lawfully established surface or groundwater take;
  - (v) the transferred consent does not result in an increase in the length or duration that the river is dry;
  - (vi) the transfer does not compromise the Environmental Flow and Allocation Regime in Table 1; and,
  - (vii) if the surface or groundwater allocation block is over allocated then transfers will not be allowed.
- (b) for groundwater takes with a low stream depletion effect:
  - (i) the transfer occurs within the same groundwater allocation zone as shown in Map 2;
  - (ii) the take is for the same or lesser rate and volume;

- (iii) the transfer does not result in a stream depletion effect on any surface water body that is to be counted in the allocation block;
- (iv) the transfer does not result in a reduction in the reliability of supply for any other existing lawfully established surface or groundwater take; and,
- (v) the transferred consent does not result in an increase in the length or duration that the river is dry.

## Water Use Efficiency

**Objective 8** Water used for out of stream uses is maximised while ensuring water remains instream to the greatest extent practicable.

**Policy 8.1** To maximise efficiency in the taking and use of water in the Waiau, Hurunui and Jed river catchments, by ensuring that:

- (a) any leakage in the design and operation of infrastructure used to take or convey water is minimised;
- (b) the surrender or transfer of unused water takes is encouraged;
- (c) a minimum of 80% application efficiency for irrigation uses as per WQN16 of the Natural Resources Regional Plan with an annual volume to provide reasonable use of water, for the intended land use, for 9 out of 10 years;
- (d) All water takes in excess of 5l/s are metered and the data recorded is telemetered to an Approved Third Party Service Provider for distribution on an agreed frequency to the Canterbury Regional Council; and,
- (e) resource consents to take are for a specified use and that the rate and volume of abstraction are reasonable for the intended use in accordance with Policy WQN16 of the Natural Resources Regional Plan.

## Priority of Use

**Objective 9** Water in the Hurunui, Waiau and Jed Catchments is managed in an integrated manner, with any changes in water management being undertaken in a consistent way which is fair and equitable for all resource consent holders.

**Policy 9.1** To limit the duration of any new resource consent (including the replacement of expired resource consents) to:

(a) take, use or divert surface water or stream-depleting groundwater from within the Hurunui, Waiau and Jed river catchments; and, to no later than 1 January 2025; and thereafter to no later than 1 January 2035, and to limit the duration of all new resource consents (including the replacement of expired resource consents) to not more than 10 years, ensuring that resource consents granted within 10 years of a common expiry date should expire on the immediately following expiry date.

(b) Dam surface water within the Hurunui, Waiau and Jed River catchments; and,

(c) Discharge water or contaminants to surface water or groundwater within the Hurunui, Waiau and Jed River catchments; to no later than 1 January 2025; and thereafter to no later than 1 January 2035.

- Policy 9.2** Notwithstanding Policy 9.1, to recognise the regional significance of applications for hydro-electric generation and large scale water storage with a capital cost of more than \$10,000,000, and provide for a resource consent duration of up to 35 years.
- Policy 9.3** To prioritise resource consents, post 2025, within the catchments to align with the Canterbury Water Management Strategy first and second order priorities so that:
- (a) resource consents granted for environmental reasons, customary use, community supplies and stock water are given the highest priority; and,
  - (b) resource consents granted for irrigation, renewable electricity generation, recreation and amenity reasons are given lower priority.
- Policy 9.4** To enable the spatial and temporal sharing of allocated water between different uses within allocation blocks, provided that:
- (a) within the A Allocation Blocks existing consent holders retain priority; and,
  - (b) within the B Allocation Blocks, irrigation activities are afforded first priority on an ongoing basis.

## Part 3 - Rules

This Plan's rules apply to:

- the taking, using, damming and diverting of surface water and stream-depleting groundwater (in accordance with section 14 of the Resource Management Act) within the Waiau, Hurunui and Jed river catchments, as shown in Map 1;
- the taking and using of groundwater within the Waiau, Hurunui and Jed river catchments located (in accordance with section 14 of the Resource Management Act) within a Groundwater Allocation Zone as described in Policy 4.1, and shown in Map 2.
- the discharge of water (in accordance with section 15(1) of the Resource Management Act) for a non-consumptive use; and,
- the use of land (in accordance with section 9(2) of the Resource Management Act) in the Nutrient Management Area shown in Map 4.

Unless stated to the contrary in the policies or rules in this Plan, the objectives, policies and rules of this Plan apply when considering activities controlled by this Plan. Therefore where an activity is expressly provided for in this Plan's rules, the rules of this Plan apply. For all other activities, the rules in the Natural Resources Regional Plan apply.

## Surface Water

**Permitted Activities**

~~Rule 1.1~~ The diversion of surface water either:

- ~~• in Zone B on Map 3; or,~~
- ~~• for the purpose of maintaining, repairing or replacing existing infrastructure in Zone A and C as shown on Map 3;~~

~~is a permitted activity, provided the following conditions are complied with:~~

~~(a) for the mainstem of the Hurunui and Waiiau River, any diversion does not exceed 60% of the flow at any one time;~~

~~(b) the water is not diverted out of the riverbed;~~

~~(c) surface water flow remains continuous;~~

~~(d) the surface flow is not diverted away from the intake of any other lawfully established surface water take;~~

~~(e) the diversion occurs for no more than 15 days in any 12-month period; and,~~

~~(f) the quality of water discharged is of the same or better quality than when the water was taken.~~

**Rule 1.2** The taking and using of surface water for the purpose of maintaining, repairing or replacing existing infrastructure is a permitted activity, provided the following conditions are complied with:

- (a) ~~the maximum rate of take shall not exceed 10 L/s and the maximum volume shall not exceed 40 m<sup>3</sup>/day~~ the total take, diversion and use per property shall not exceed the following rates and volumes;

| <u>Water Body</u>                        | <u>7dMALE</u><br><u>As estimated by</u><br><u>CRC</u> | <u>Max Rate</u> | <u>Maximum</u><br><u>Volume per day</u> |
|--|---|-----------------|---|
| <u>Rivers and</u><br><u>Streams</u>      | <u>&lt;100l/s</u>                                     | <u>0.5l/s</u>   | <u>2m3/day</u>                          |
|  | <u>100 – 500l/s</u>                                   | <u>2l/s</u>     | <u>10m3/day</u>                         |
|  | <u>500l/s – 10m3/s</u>                                | <u>5l/s</u>     | <u>20m3/day</u>                         |
|  | <u>10-20m3/s</u>                                      | <u>10l/s</u>    | <u>50m3/day</u>                         |
|  | <u>20+ m3/s</u>                                       | <u>10l/s</u>    | <u>100m3/day</u>                        |
| <u>Artificial Water</u><br><u>Course</u> | <u>NA</u>   | <u>5l/s</u>     | <u>10m3/day</u>                         |
| <u>Lakes</u>                             | <u>NA</u>   | <u>5l/s</u>     | <u>50m3/day</u>                         |

- (b) fish shall be prevented from entering the intake, as set out in Schedule WQN12A of the Natural Resources Regional Plan;
- (c) the take shall not occur for more than 60 days per annum; and,
- (d) the take shall cease when the flow in the river is at or below the minimum flow at the closest minimum flow recorder site downstream of the take.

**Rule 1.3** The taking or diverting and using of water from a surface water body is a permitted activity provided the following conditions are complied with:

- (a) the total take, diversion and use per property shall not exceed the following rates and volumes:

| Water Body                 | 7dMALF<br>As estimated by<br>CRC | Max Rate | Maximum<br>Volume per day |
|----------------------------|----------------------------------|----------|---------------------------|
| Rivers and<br>Streams      | <100l/s                          | 0.5l/s   | 2m <sup>3</sup> /day      |
|                            | 100 – 500l/s                     | 2l/s     | 10m <sup>3</sup> /day     |
|                            | 500l/s – 10m <sup>3</sup> /s     | 5l/s     | 20m <sup>3</sup> /day     |
|                            | 10-20m <sup>3</sup> /s           | 10l/s    | 50m <sup>3</sup> /day     |
|                            | 20+ m <sup>3</sup> /s            | 10l/s    | 100m <sup>3</sup> /day    |
| Artificial Water<br>Course | NA                               | 5l/s     | 10m <sup>3</sup> /day     |
| Lakes                      | NA                               | 5l/s     | 50m <sup>3</sup> /day     |

- (b) for rivers where the 7dMALF is unable to be reliably calculated by the Canterbury Regional Council the maximum rate of take shall be 0.5 l/s and a maximum volume of 2m<sup>3</sup>/day may be taken;
- (c) the take or diversion shall not be from an irrigation canal or a water storage facility that is outside the bed of a river or stream for the supply of water for electricity power generation;
- (d) fish shall be prevented from entering the water intake as set out in Schedule WQN12A of the Natural Resources Regional Plan;
- (e) the take or diversion shall not be from a wetland unless permitted under Rule WTL2 of the Natural Resources Regional Plan;
- (f) water shall not be permitted to run to waste; and,
- (g) if the take is not for an individual's reasonable domestic or stockwater use or for the use of a community water supply then no water shall be taken when the river level is:
- (i) at or below the minimum flow in the Environmental Flow and Allocation Regime in Table 1 for that water body; or,
  - (ii) at or below the minimum flow for the mainstem of either the Hurunui or Waiau River, depending on the catchment that the take is located in, for takes from any water body not listed in the Environmental Flow and Allocation Regime in Table 1.

**Rule 1.4** The taking or diverting of water from an irrigation canal, hydro-electric canal or water storage facility is a permitted activity provided the following conditions are complied with:

- (a) there is an existing written agreement with the holder of the resource consent, for the irrigation or hydro-electric canal or storage facility, to take or divert water; ~~and;~~

(b) fish shall be prevented from entering the water intake as set out in Schedule WQN12A of the Natural Resources Regional Plan, unless they are already prevented from entering the canal or water storage facility at the initial point of take; and,-

~~(b)~~(c) The terms and conditions of the original consent will be complied with.

**Rule 1.5** The damming of water is a permitted activity in Zones B on Map 3 provided the following conditions are complied with:

- (a) the maximum amount of water dammed does not exceed 20,000m<sup>3</sup>;
- (b) where certification under the Building Act is not required the Dam structure shall be designed by or under the guidance of a chartered professional engineer (civil) and once commissioned, shall be certified by a chartered professional engineer (civil);
- (c) the activity will not affect any wetland except where this is authorised under Rule WTL2 of the Natural Resources Regional Plan;
- (d) the dam structure is authorised under Rules BLR3 and BLR4 of the Natural Resources Regional Plan as a permitted activity;
- (e) where the damming of water is within the bed of a surface water body, the following shall apply:
  - (i) The 7dMALF of the water body, as estimated by the Canterbury Regional Council, is less than 5 l/s; and
  - (ii) Fish passage for indigenous fish and other migratory species shall be maintained; and,
  - (iii) The proportion of the tributary whose catchment is dammed is limited so that:
    - a. the catchment area above the Dam shall not exceed 100ha; and,
    - b. in conjunction with other activities to dam water, no more than 25% of the total catchment area from the confluence of the tributary with the mainsteam of the Hurunui or Waiau Rivers is dammed.

### Restricted Discretionary Activities

**Rule 2.1** The taking, diverting, using and discharging of surface water for any non-consumptive activity, is a restricted discretionary activity provided it complies with the following standards and terms:

- (a) the water will be returned into the same surface water body from which it is taken at the same rate as soon as reasonably practicable;
- (b) the water will be discharged back into the same surface water body within 250 metres of the point of take; and,

(c) the take or diversion shall not be from any wetland unless authorised by Rule WTL2 of the Natural Resources Regional Plan as a permitted activity; and,-

(d) the take, diversion and discharge will maintain the following:

- i. macro-invertebrate populations both upstream and downstream of the discharge point;



- ~~ii.~~ habitat and unimpeded passage for existing populations of native fish species, salmon and trout;
- ~~iii.~~ health and safety of people and communities using the river;  
and,
- ~~iv.~~ the water is returned to the river in the same or better state and quality.

The Canterbury Regional Council will restrict the exercise of its discretion to the following matters:

- (i) the reasonable need for the quantities of water sought to be taken or diverted for the proposed activity;
- (ii) any effects on water quality, including whether the activity, in combination with all other activities, will result in the nutrient limits in Schedule 1 being exceeded;
- (iii) any effects that the take will have on the Environmental Flow and Allocation Regime in Table 1;
- (iv) any effects on instream values; and,
- (v) any effects on any other lawfully established take, use or diversion of water within that waterway.

## Rule 2.2

The taking, using or diverting of surface water for a community and/or stock drinking water supply, including water necessary for fighting fires, is a restricted discretionary activity, provided it complies with the following standards and terms:

- (a) the consent holder has a Water Supply Asset Management Strategy in place;
- (b) fish shall be prevented from entering the water intake as set out in schedule WQN12 of the Natural Resources Regional Plan; ~~and,~~
- ~~(c)~~ the take or diversion shall not be from any wetland unless authorised by Rule WTL2 in the Natural Resources Regional Plan as a permitted activity; -
- ~~(d)~~ abstraction will not induce the river to go dry;
- ~~(e)~~ the frequency of flow events between 1.5 and 3 times the median flow will not be reduced; and,
- ~~(f)~~ native and salmonid fish passage will not be compromised.

The Canterbury Regional Council will restrict the exercise of its discretion to the following matters:

- (i) the reasonable need for the quantities of water sought and the ability of the applicant to abstract those quantities, and whether storage of water is proposed;
- (ii) the availability and practicality of using alternative supplies of water;
- (iii) the adequacy of the Water Supply Asset Management Strategy in achieving a reduction in the amount of water taken and used at times of low flow;
- (iv) the efficiency of the exercise of the resource consent;
- (v) the effects the take has on surface water flows, including floods, freshes and prolonging periods of low flow;
- (vi) the effects the take has on any other authorised takes;

- (vii) the reduction in the rate and/or volume of water taken during times of low flow; and,
- (viii) the collection, recording, monitoring and provision of information concerning the exercise of the resource consent.

**Rule 2.3**

The taking, diverting, discharge and use of surface water in accordance with the Environmental Flow and Allocation Regime in Table 1, with the exception of the use of the C Allocation Block for the Waiau and Hurunui Rivers, is a restricted discretionary activity, provided it complies with the following standards and terms:

For all activities:

- (a) the maximum rate of take, in addition to all existing resource consented takes, including expired resource consents continuing to be operated under section 124 of the Resource Management Act, does not exceed both the allocation block limit in the Environmental Flow and Allocation Regime in Table 1 for that surface water body, and the catchment-wide allocation limit;
- (b) for the Waiau River, when this water is allocated from the B Block for irrigation at least 6m<sup>3</sup>/s shall be taken and used downstream of Stanton River;
- (c) the take complies with the minimum flow for the relevant allocation block for the surface water body as set out in the Environmental Flow and Allocation Regime in Table 1;
- (d) the take or diversion shall not be from any wetland unless authorised by Rule WTL2 in the Natural Resources Regional Plan as a permitted activity;
- (e) the point of take occurs downstream of:
  - (i) the confluence of the Hope River with the Waiau River mainstem in the Waiau Catchment; or,
  - (ii) the confluence of the ~~North and South Branches of the~~ Hurunui River Mainstem and Surveyors Stream in the Hurunui Catchment.
- (f) fish shall be prevented from entering the water intake, as set out in Schedule WQN12 of the Natural Resources Regional Plan; ~~and,~~
- ~~(g)~~ (g) an Infrastructure Development Plan is submitted with the application; ~~and,-~~
- ~~(g)(h)~~ (g)(h) The activity in combination with all other activities shall not result in the concentrations in Policy 5.1(b) and (c) being breached nutrient limits in Schedule 1 being exceeded.

In addition, for irrigation takes:

- ~~(h)(i)~~ (i) The annual volume applied for, provides an 80% or greater application efficiency and reasonable water use in 9 out of 10 years.

The Canterbury Regional Council will restrict the exercise of its discretion, to the following matters:

- (i) the extent to which the proposal addresses Policy 6.5;

- (ii) any effects on water quality, ~~including whether the activity in combination with all other activities will result in the nutrient limits in Schedule 1 being exceeded;~~
- (iii) the reasonable need for the quantities of water sought, the intended use of the water, and the ability of the applicant to abstract and apply those quantities, including whether storage of water is proposed;
- (iv) the availability and practicality of using alternative supplies of water;
- (v) the technical efficiency of the take and use;
- (vi) the effects the take or diversion has on any other authorised takes or diversions;
- (vii) the reduction in the rate of take in times of low flow;
- (viii) the need for and provision of any additional restrictions to prevent the flow from reducing to zero; and,
- (ix) the collection, recording, monitoring and provision of information concerning the exercise of the resource consent.

**Rule 2.4**

The damming of more than 20,000m<sup>3</sup> of water, or an activity that does not meet all the conditions to Rule 1.5 is a restricted discretionary activity, provided it complies with the following standards and terms:

- (a) damming of water within the bed of a surface water body is located in Zone B excluding the mainstem of the Hurunui and Waiau Rivers, on Map 3;
- (b) damming of water outside the bed of a surface water body is wholly on land in Zone B, on Map 3;
- (c) the reliability of supply of downstream takes is no less than before the damming of water;
- (d) where certification under the Building Act is not required the Dam structure shall be designed by or under the guidance of a chartered professional engineer (civil) and once commissioned, shall be certified by a chartered professional engineer (civil); ~~and,~~
- (e) an Infrastructure Development Plan is submitted with the application; ~~and,~~
- ~~(e)(f) The activity in combination with all other activities shall not result in the concentrations in Policy 5.1(b) and (c) being breached nutrient limits in Schedule 1 being exceeded.~~

The Canterbury Regional Council will restrict the exercise of its discretion to the following matters:

- (i) the extent to which the proposal addresses Policy 6.5;
- (ii) effects of flooding, including but not limited to the effects of inundation and dam breach or dam failure;
- (iii) effects on values of significance to Ngāi Tahu;
- (iv) the effect that the damming will have on fish passage;
- (v) any effects on water quality, ~~including whether the activity in combination with all other activities will result in the nutrient limits in Schedule 1 being exceeded;~~
- (vi) the management of the discharge of water to the Hurunui River or Waiau Rivers or any tributary;

- (vii) the effects the damming has on any other authorised takes;
- (viii) the operating rules and management of the dam or reservoir;
- (ix) the release of flows in order to maintain instream values, including the need for variable flows, and flows that simulate freshes that are sufficient to remove vegetation colonising gravel bars, nuisance periphyton, and maintain geomorphological processes;
- (x) the geotechnical stability; and,
- (xi) the collection, recording, monitoring and provision of information concerning the exercise of the resource consent.

**Discretionary Activities****Non-Complying Activities**

**Rule 3.1** The taking, diverting, discharge and use of water, from the C Allocation Block in the Environmental Flow and Allocation Regime in Table 1, in for the Waiau River Catchment, is a **discretionary non-complying** activity provided it complies with the following standards and terms:

- (a) the take occurs downstream of the Marble Point Flow Recorder;
- (b) the discharge, or return, of water used for non consumptive use shall be upstream of the confluence of the Stanton River;
- (c) the take complies with the minimum flow for the surface water body as set out in the Environmental Flow and Allocation Regime in Table 1;
- (d) the maximum rate of take, in addition to all existing resource consented takes, including expired resource consents continuing to be operated under section 124 of the Resource Management Act, does not exceed both the relevant allocation block limit in the Environmental Flow and Allocation Regime in Table 1 for that surface water body, and the catchment-wide allocation limit. The maximum rate of take shall be calculated as the amount allocated and available to be used by all existing consented takes on any day and at any point in the river;
- (e) fish are prevented from entering the water intake, as set out in Schedule WQN12 of the Natural Resources Regional Plan;  
~~a study has been undertaken and included with the application showing how the proposed take will affect the ecological and recreational values present within the catchment to which the take occurs;~~
- ~~(f) the activity in combination with all other activities shall not result in the concentrations in Policy 5.1(b) and (c) being breached nutrient limits in Schedule 1 being exceeded;~~
- ~~(g) Water quality in the Waiau is maintained;~~
- ~~(h) flows between 1.5, and 3 times the median flow that flush periphyton and turn over larger gravel boulders and reset the bed of the mainstem are retained;~~
- ~~(i) Maintenance of the natural braided character of the Hurunui and Waiau Rivers, including the river mouth and coastal dynamics;~~
- ~~(j) water temperature suitable for salmonid species is maintained;~~
- ~~(k) a diverse invertebrate community dominated by sensitive species is maintained;~~
- ~~(l) salmon and eel passage is maintained at all times;~~
- ~~(m) Jet boat passage is maintained at all times;~~
- ~~(n) existing recreational opportunities and experiences in the mainstem of the rivers, their mouths or tributaries is maintained. The activity results~~

in no more than a 10% reduction in the time flows in the Hurunui River are between 25 to 40 m<sup>3</sup>/s, or the time flows in the Waiau River are between 50 to 75 m<sup>3</sup>/s.

- (o) a study has been undertaken showing how the proposed take will affect the mauri of the Waiau River; and,
- (p) an Infrastructure Development Plan is submitted with the application.

### Rule 3.2

The taking, diverting, discharge and use of water, from the C Allocation Block in the Environmental Flow and Allocation Regime in Table 1, in the Hurunui River Catchment, is a discretionary non-complying activity provided it complies with the following standards and terms:

- (a) the take occurs downstream of the confluence of ~~the North and South Branches Surveyors Stream and the of the~~ Hurunui River;
- ~~(b) if the point of take is upstream of Surveyors Stream then the rate of take is being optimised to provide suitable white water recreation flows from the point of take to Surveyors Stream.~~
- ~~(e)(b)~~ the maximum rate of take, in addition to all existing resource consented takes, including expired resource consents continuing to be operated under section 124 of the Resource Management Act, does not exceed both the relevant allocation block limit in the Environmental Flow and Allocation Regime in Table 1 for that surface water body, and the catchment-wide allocation limit. The maximum rate of take shall be calculated as the amount allocated and available to be used by all existing consented takes on any day and at any point in the river;
- ~~(e)(c)~~ the discharge, or return, of water used for non consumptive use shall be upstream of the confluence of the Pahau River;
- ~~(e)(d)~~ the take complies with the minimum flow for the surface water body as set out in the Environmental Flow and Allocation Regime in Table 1;
- ~~(f)(e)~~ fish are prevented from entering the water intake, as set out in Schedule WQN12 of the Natural Resources Regional Plan;  
~~a study has been undertaken and included with the application showing how the proposed take will affect the ecological and recreational values present within the catchment to which the take occurs;~~
- ~~(f)~~ the activity in combination with all other activities shall not result in the concentrations in Policy 5.1(b) and (c) being breached nutrient limits in Schedule 1 being exceeded;
- ~~(g)~~ flows between 1.5, and 3 times the median flow that flush periphyton and turn over larger gravel boulders and reset the bed of the mainstem are retained;
- ~~(h)~~ water temperature suitable for salmonid species is maintained;
- ~~(i)~~ a diverse invertebrate community dominated by sensitive species is maintained;
- ~~(j)~~ salmon and eel passage is maintained at all times;
- ~~(k)~~ jet boat passage is maintained at all times;
- ~~(l)~~ The activity results in no more than a 10% reduction in the time flows in the Hurunui River are between 25 to 40 m<sup>3</sup>/s, or the time flows in the Waiau River are between 50 to 75 m<sup>3</sup>/s. existing recreational opportunities and experiences in the mainstem of the rivers, their mouths or tributaries is maintained.

- (m) a study has been undertaken showing how the proposed take will affect the mauri of the Hurunui River; and,
- (n) an Infrastructure Development Plan is submitted with the application.

### **Non-Complying Activities**

- Rule 4.1** The damming of water, greater than 20,000 m<sup>3</sup>, is a non-complying activity, where it is within the bed of a river located in Zone C on Map 3.
- Rule 4.2** Any take, use, diversion, damming or discharge of surface water not specified as a permitted activity, restricted discretionary activity, discretionary activity or prohibited activity.
- Rule 4.3** The taking, using, diverting, damming of water within the Jed River Catchment that is not authorised as a permitted activity.

### **Prohibited Activities**

- Rule 5.1** The damming or impoundment of water in:
- (a) the mainstem of the Waiau River ~~below the Hope River Confluence;~~
  - (b) the mainstem of the Hurunui River ~~below the confluence of the North and South Branch;~~ or,
  - (c) tributaries and lakes, including Lake Sumner, in the of the Hurunui River Catchment above the confluence with Surveyors Stream and in the Waiau River Catchments above the confluence with the Hope River, in Zone A, on Map 3,
- is a prohibited activity.

- Rule 5.2** The taking of water from the Hurunui or Waiau catchments that is not consistent with Environmental Flow and Allocation Regime in Table 1, unless the take is for Community and/or Stock Drinking Water Supply is a prohibited activity.

- Rule 5.3** The taking, diverting, discharge or use of water from the C Allocation Blocks in the Environmental Flow and Allocation Regime in Table 1, that cannot meet the standards and terms of non-complying Rules 3.1 or 3.2, is a prohibited activity.

## **Groundwater**

### **Permitted activities**

- Rule 6.1** The taking or using of groundwater from within any Groundwater Allocation Zone, on Map 2, for carrying out bore development or pumping tests is a permitted activity provided the following conditions are complied with:
- (a) the bore from which the groundwater is to be taken shall have been lawfully established;

- (b) the bore from which the water is taken shall be authorised under Rule WQL32 of the Natural Resources Regional Plan;
- (c) the take shall continue only for the time required to carry out bore development or a pumping test;
- (d) the extraction rate shall not exceed the rate required for the purposes of the pumping test;
- (e) the taking of groundwater shall not be for a continuous period of more than 96 hours. Bore development and pump testing may each occur for no more than a total of 10 days in any 12 month period per bore;
- (f) any bore development or pumping test shall be carried out in accordance with the report 'Aquifer Test Guidelines (2<sup>nd</sup> Edition)', Environment Canterbury Technical Report R08/25 (Aitchison-Earl, P., Smith, M., 2008); and,
- (g) records of the pumping test(s) shall be kept by the holder of a permit for the installation and use of the bore, detailing accurate location of the bore(s), flow rates, drawdown at specific times and in specific wells, and any information analysis and a copy shall be forwarded to the Canterbury Regional Council within six (6) months of completion of the pumping test.

**Rule 6.2**

The taking and using of less than 5l/s and 10m<sup>3</sup>/day of groundwater is a permitted activity provided the following conditions are complied with:

- (a) where the take is less than 30m below ground level:
  - (xii) the bore shall be located at least 50m from a neighbouring property;
  - (xiii) the bore shall be located at least 50m from the bank of any river or stream or the high water mark of any lake or pond; and,
  - (xiv) the bore shall be located at least 50m from the boundary of any wetland; and,
- (b) the bore from which water shall be taken shall be authorised under Rule WQL32 of the Natural Resources Regional Plan; and,
- (c) water shall not be allowed to run to waste.

**Rule 6.3**

The taking of groundwater for the purposes of de-watering of sites for carrying out excavation, construction and geotechnical testing, is a permitted activity provided the following conditions are complied with:

- (a) the take shall continue only for the time required to carry out the work but not exceeding nine months;
- (b) the take shall not lower the groundwater level more than eight metres below the ground level of the site;
- (c) the take shall not, in combination with other takes cause ground subsidence;
- (d) the take shall not have a moderate, high or direct hydraulic connection to a surface water body, determined in accordance with Policy WQN7(1)(a) of the Natural Resources Regional Plan;
- (e) the take shall not cause a reduction in the rate and volume of water available from a community supply or private drinking water bore; and,

- (f) the take shall not cause a wetland to be de-watered, except where it is authorised under Rule WTL2 of the Natural Resources Regional Plan as a permitted activity.

**Rule 6.4**

The taking and use of groundwater for the purpose of maintaining, repairing or replacing existing infrastructure is a permitted activity, provided the following conditions are complied with:

- (a) the maximum rate of take shall be 10 l/s and the maximum volume shall be 40 m<sup>3</sup>/day;
- (b) the take shall not have a direct, high or moderate degree of hydraulic connection to a surface water body, determined in accordance with Policy WQN7(1)(a) of the Natural Resources Regional Plan;
- (c) the take shall not occur for more than 60 days per annum;
- (d) where the take is less than 30m below ground level;
  - (i) the bore shall be located at least 50m from a neighbouring property;
  - (ii) the bore shall be located at least 50m from the bank of any river or stream or the high water mark of any lake or pond; and,
  - (iii) the bore shall be located at least 50m from the boundary of any wetland.
- (e) the bore from which groundwater is taken shall have been lawfully established;
- (f) the bore from which water shall be taken shall be authorised under Rule WQL32 in the Natural Resources Regional Plan; and,
- (g) water shall not be allowed to run to waste.



## Restricted Discretionary Activities

**Rule 7.1** The taking, diverting, using or discharging of groundwater for any non-consumptive activity, is a restricted discretionary activity provided it complies with the following standards and terms:

- (a) the water shall be returned to the same groundwater source within 250m from which it is taken at the same rate, unless the take is deemed to be directly hydraulically connected and in these cases it can be discharged, into the nearest surface water body to the point of take, at the same rate at which it is taken;
- (b) where the take is less than 30m below ground level;
  - (i) the bore shall be located at least 50m from a neighbouring property;
  - (ii) the bore shall be located at least 50m from the bank of any river or stream or the high water mark of any lake or pond; and,
  - (iii) the bore shall be located at least 50m from the boundary of any wetland.
- (c) the bore from which groundwater is taken shall have been lawfully established;
- (d) the bore from which water is taken shall be authorised under Rule WQL32 in the Natural Resources Regional Plan;
- (e) water shall not be allowed to run to waste; and,
- (f) the take or diversion shall not be from any wetland unless authorised by Rule WTL2 in the Natural Resources Regional Plan as a permitted activity.

The Canterbury Regional Council will restrict the exercise of its discretion to the following matters:

- (i) the reasonable need for the quantities of water sought to be taken or diverted for the proposed activity;
- (ii) any effects on the natural heat energy of the water, where the groundwater is of geothermal origin;
- (iii) any effects on water quality, including whether the activity, in combination with all other activities, will result in the nutrient limits in Schedule 1 being exceeded;
- (iv) interference effects between bores;
- (v) any effects on instream values; and,
- (vi) any effects on any other lawfully established take, use or diversion of water within that source.

**Rule 7.2** The taking and using of groundwater from any Groundwater Allocation Zone on Map 2, is a restricted discretionary activity provided it complies with the following standards and terms:

- (a) the maximum annual volume of take, in addition to all existing resource consented takes, including expired resource consents continuing to be operated under section 124 of the Resource Management Act, does not exceed the Allocation Limit specified in Policy 4.1 for the Groundwater Allocation Zone within the zones in Map 2;

- (b) the bore shall not be within 50m of any wetland, where the take is less than 30m below ground level;
- (c) if the groundwater take is:
  - (i) less than 30m below ground level located within the River Zone on Map 2 and is managed as a direct degree of hydraulic connection, as defined in Policy WQN7 of the Natural Resources Regional Plan, it shall comply with the Environmental Flow and Allocation Regime in Table 1;
  - (ii) more than 30m deep or located outside the River Zone on Map 2 and has a direct, high or moderate degree of hydraulic connection to surface water, as defined in Policy WQN7(1)(a) of the Natural Resources Regional Plan, the take is managed as per Policy WQN7(1)(b) of the Natural Resources Regional Plan, it shall comply with the Environmental Flow and Allocation Regime in Table 1.
- (d) where the take is for irrigation the annual volume applied for provides for 80% or greater efficiency of application and the reasonable volume required for the intended land use for a reliability of not greater than 9 out of 10 years; ~~and;~~
- ~~(d)(e) the activity in combination with all other activities shall not result in the concentrations in Policy 5.1(b) and (c) being breached nutrient limits in Schedule 1 being exceeded; and;~~
- ~~(e)(f)~~ an Infrastructure Development Plan is submitted with the application.

The Canterbury Regional Council will restrict the exercise of its discretion to the following matters:

- (i) the extent to which the proposal addresses Policy 6.5;
- (ii) any effects on water quality, ~~including whether the activity in combination with all other activities will result in the nutrient limits in Schedule 1 being exceeded;~~
- (iii) any effects on the natural heat energy of the water, where the groundwater is of geothermal origin;
- (iv) the reasonable need for the quantities of water sought, the intended use of the water, and the ability of the applicant to abstract and apply those quantities, including whether storage of water is proposed;
- (v) the availability and practicality of using alternative supplies of water;
- (vi) the technical efficiency of the take and use;
- (vii) the effects the take or diversion has on any other lawfully established takes or diversions;
- (viii) the reduction in the rate of take in times of low flow;
- (ix) interference effects between bores; and,
- (x) the collection, recording, monitoring and provision of information concerning the exercise of the resource consent.

### Rule 7.3

The taking or using of groundwater for community and / or stock drinking water supply is a restricted discretionary activity, provided it complies with the following standards and terms:

- (a) the resource consent holder has a Water Supply Asset Management Strategy in place;

- (b) the maximum rate of take, in addition to all existing consented takes, including expired resource consents continuing to be operated under section 124 of the Resource Management Act, does not exceed the Allocation Limit in Policy 4.1 for a Groundwater Allocation Zone on Map 2;
- (c) the bore shall not be within 50m of any wetland, where the take is less than 30m below ground level; and,
- (d) if the groundwater take is:
  - (i) less than 30m below ground level located within the River Zone on Map 2 and is managed as a direct degree of hydraulic connection, as defined in Policy WQN7 of the Natural Resources Regional Plan, it shall comply with the Environmental Flow and Allocation Regime in Table 1; and,
  - (ii) more than 30m deep or located outside the River Zone on Map 2 and has a direct, high or moderate degree of hydraulic connection to surface water, as defined in Policy WQN7(1)(a) of the Natural Resources Regional Plan, the take is managed as per Policy WQN7(1)(b) of the Natural Resources Regional Plan, shall comply with the Environmental Flow and Allocation Regime in Table 1.

The Canterbury Regional Council will restrict the exercise of its discretion to the following matters:

- (i) the reasonable need for the quantities of water sought, and the ability of the applicant to abstract those quantities, and whether storage of water is proposed;
- (ii) the adequacy of the Water Supply Asset Management Plan in achieving a reduction in the amount of water taken and used in times of low flow;
- (iii) the availability and practicality of using alternative supplies of water;
- (iv) the technical efficiency of the take and use;
- (v) the effects the take has on surface water flows;
- (vi) interference effects between bores;
- (vii) the effects the take has on any other authorised takes; and,
- (viii) the collection, recording, monitoring and provision of information concerning the exercise of the resource consent.

### **Non-complying Activities**

**Rule 8.1** Unless specified as a permitted activity or restricted discretionary activity or prohibited activity the taking and use of groundwater from any Groundwater Allocation Zone in Map 2, is a non-complying activity.

### **Prohibited Activities**

**Rule 9.1** The taking and use of groundwater in any groundwater allocation zone in Map 2 above the allocation limit specified in Policy 4.1, is a prohibited activity.

## Cumulative Effects of Land Use on Water Quality

Rules 10.1, ~~10.2~~, and 11.1 ~~and 11.2~~ do not come into effect until 1 January 2017. The Rules are included here now to provide a transitional lead in period to allow land managers to modify their farming practices outside of a regulatory framework. Rules 11.1 and 11.2 come into effect from the date of notification of this Plan (1 October 2011)

### Permitted Activities

**Rule 10.1** Any existing land use as at 1 October 2011, in the Nutrient Management Area shown on Map 4, is a permitted activity provided that on or before 1 January 2017, one of the following is being implemented by the landowner or occupier:

- (i) an Industry Certification System; or
- (ii) a Catchment Agreement; or
- (iii) an Irrigation Scheme Management Plan; or
- (iv) a Lifestyle Block Management Plan.

**Rule 10.2** After ~~2017~~ 1 October 2011, any change in land use, ~~resulting in an increase to a discharge of nitrogen or phosphorous which may enter water,~~ in the Nutrient Management Area shown on Map 4, is a permitted activity, provided the following conditions are complied with:

- (a) the annual nitrogen and phosphate load at the downstream water quality monitoring site is less than the limit specified for that site in Schedule 1; and,
- (b) on or before the date the land use is changed ~~1 January 2017~~, one of the following is being implemented by the landowner or occupier:
  - (i) an Industry Certification System; or
  - (ii) a Catchment Agreement; or
  - (iii) an Irrigation Scheme Management Plan; or
  - (iv) a Lifestyle Block Management Plan.

### Discretionary Activities

**Rule 11.1** Any existing land use as at 1 October 2011, in the Nutrient Management Area shown on Map 4, which does not comply with Rule 10.1 by 1 January 2017 is a discretionary activity.

**Rule 11.2** After ~~2017~~1 October 2011, any change in land use, ~~resulting in an increase to a discharge of nitrogen or phosphorous which may enter water,~~ in the Nutrient Management Area shown on Map 4, which does not comply with one or more of the conditions of Rule 10.2 is a discretionary activity as long as the annual nitrogen and phosphate load at the downstream water quality monitoring site is less than 125% of the limit specified in Schedule 1 for Nitrogen and less than 110% of the limit specified for Phosphate.

### Non-Complying Activities

Rule 11.32.4 After 1 October 2011, any change in land use, in the Nutrient Management Area shown on Map 4, where the annual nitrogen and phosphate load at the downstream monitoring site is 125% or more than the limit specified in Schedule 1 for Nitrogen and 110% or more than the limit specified for Phosphate is a non-complying activity.

## Transfer of Resource Consents

### Restricted Discretionary Activities

**Rule 12.1** The temporary or permanent transfer of a resource consent (or part thereof) to take or use surface water wholly within one surface water allocation zone, on Map 1, is a restricted discretionary activity provided it complies with the following standards and terms.

- (a) the technical efficiency of the use of the water in the transferred location is at least as high as in the original location and provides for an application efficiency of 80% in the new location;
- (b) the reliability of supply for any other lawfully established water take is not reduced;
- (c) the Environmental Flow and Allocation Regime shown in Table 1;
- (d) the maximum rate of take after the transfer is less than or equal to the rate of take prior to the transfer; ~~and,~~
- (e) the activity in combination with all other activities shall not result in the concentrations in Policy 5.1(b) and (c) being breached nutrient limits in Schedule 1 being exceeded;
- (f) fish are prevented from entering the intake as set out in Schedule WQN12A of the Natural Resources Regional Plan; and,
- (e)(g) the annual volume of take after the transfer is less than or equal to the volume of take prior to the transfer, or if no annual volume has been applied an annual volume is applied which provides for 80% or greater application efficiency and the reasonable water use for the intended land use for 9 out of 10 years.

The Canterbury Regional Council will restrict the exercise of its discretion to the following matters:

- (i) the nature of the transfer, whether short term, long term, partial or full, and the apportioning of the maximum rate and annual volume in the case of a partial transfer;
- (ii) the appropriateness of existing conditions, including conditions on minimum flow, annual volume and other restrictions to mitigate effects;
- (iii) the reasonable need for the quantities of water sought, the intended use of the water and the ability of the applicant to abstract and apply those quantities;
- (iv) the technical efficiency of the exercise of the resource consent;
- (v) the reduction in the rate of take in times of low flow;
- (vi) the collection, recording, monitoring and provision of information concerning the exercising of the resource consent;
- (vii) any effects on water quality; ~~and, including whether the activity in combination with all other activities will result in the nutrient limits in Schedule 1 being exceeded;~~
- (viii) the need for and provision of any additional restrictions to prevent the flow from reducing to zero; ~~and,~~
- ~~(ix) the method of preventing fish from entering any water intake.~~

Resource consent applications for transfer under this rule shall not be notified or served on any affected persons, under section 95 of the Resource Management Act.

#### **Rule 12.2**

The temporary or permanent transfer of a resource consent (or part thereof) to take or use groundwater within the same groundwater zone in Map 2, is a restricted discretionary activity provided it complies with the following standards and terms.

- (a) the technical efficiency of the use of the water in the transferred location is at least as high as in the original location and provides for an application efficiency of 80% in the new location;
- (b) the take complies with the groundwater allocation limits in Policy 4.1;
- (c) For hydraulically connected groundwater takes:
  - (i) the transfer is within the same surface water allocation zone, as shown on Map 2;
  - (ii) the take complies with Environmental Flow and Allocation Regime in Table 1; and,
  - (iii) the stream depletion effect and degree of hydraulic connection effect is no greater in the transferred location than in the original location.
- ~~(d) the annual volume of take after the transfer is no greater than the volume of take prior to the transfer; and,~~

~~(d),(e) the activity in combination with all other activities shall not result in the concentrations in Policy 5.1(b) and (c) being breached nutrient limits in Schedule 1 being exceeded.~~

The Canterbury Regional Council will restrict the exercise of its discretion to the following matters:

- (i) the nature of the transfer, whether short term, long term, partial or full, and the apportioning of the maximum rate and annual volume in the case of a partial transfer;
- (ii) interference effects between bores;
- (iii) the reasonable need for the quantities of water sought, the intended use of the water and the ability of the applicant to abstract and apply those quantities;
- (iv) the technical efficiency of the exercise of the resource consent;
- (v) the collection, recording, monitoring and provision of information concerning the exercise of the resource consent;
- (vi) any effects on water quality, ~~including whether the activity in combination with all other activities will result in the nutrient limits in Schedule 1 being exceeded~~; and,
- (vii) for hydraulically connected groundwater takes, the reduction in the rate or volume of take at times of low flow.

Resource consent applications for transfer under this rule shall not be notified or served on any affected persons, under section 95 of the Resource Management Act.

### **Discretionary Activities**

**Rule 13.1** The transfer of a resource consent to take or use water that does not comply with Rule 11.1 or 11.2 is a discretionary activity.

**Part 4 – Table 1: Environmental Flow and Allocation Regime**

| <b>WAIIAU CATCHMENT</b>   |   |  |  |  |                         |                                  |                         |                         |                           |
|---|---|--|--|--|-------------------------|----------------------------------|-------------------------|-------------------------|---------------------------|
| <b>Water Resource</b>   | <b>Min Flow Site</b>                                  | <b>A Block Min Flow</b>  | <b>A Block Allocation</b>                                      | <b>B Block Gap Size</b>  | <b>B Block Min Flow</b> | <b>B Block Allocation</b>        | <b>C Block Gap Size</b> | <b>C Block Min Flow</b> | <b>C Block Allocation</b> |
| All takes within the Waiau River Catchment (until storage with a capacity greater than 210,000,000m <sup>3</sup> is developed*)   | Marble Point  | Jan–20m <sup>3</sup> /s<br>Feb–15m <sup>3</sup> /s<br>Mar–15m <sup>3</sup> /s<br>Apr–20m <sup>3</sup> /s<br>May–25m <sup>3</sup> /s<br>Jun–25m <sup>3</sup> /s<br>Jul–25m <sup>3</sup> /s<br>Aug–25m <sup>3</sup> /s<br>Sep–25m <sup>3</sup> /s<br>Oct–25m <sup>3</sup> /s<br>Nov–25m <sup>3</sup> /s<br>Dec–25m <sup>3</sup> /s     | 18 m <sup>3</sup> /s for all months of the year <sup>4</sup> . | 2 m <sup>3</sup> /s  | 40 m <sup>3</sup> /s    | 11m <sup>3</sup> /s <sup>5</sup> | Nil                     | Nil                     | Nil                       |
| All takes within the Waiau River Catchment (when storage with a capacity greater than 210,000,000m <sup>3</sup> is developed*)  | Marble Point  | 20m <sup>3</sup> /s for all months of the year.  | 18 m <sup>3</sup> /s for all months of the year <sup>4</sup> . | 2 m <sup>3</sup> /s  | 40 m <sup>3</sup> /s    | 11m <sup>3</sup> /s <sup>5</sup> | 0                       | 51m <sup>3</sup> /s     | 42m <sup>3</sup> /s       |
| All takes within the Waiau Catchment, except those takes for the reticulated supply of human drinking water and stock water must comply with the minimum flow and allocation block limit in the table above and any specific minimum flow shown below. If no minimum flow is shown below then Policy 2.2 should be applied. |   |  |  |  |                         |                                  |                         |                         |                           |
| <b>Waiau River Mainstem</b>   |   |  |  |  |                         |                                  |                         |                         |                           |
| <b>Water Resource</b>   | <b>Min Flow Site</b>                                  | <b>A Block Min Flow</b>  | <b>A Block Allocation</b>                                      | <b>B Block Gap Size</b>  | <b>B Block Min Flow</b> | <b>B Block Allocation</b>        | <b>C Block Gap Size</b> | <b>C Block Min Flow</b> | <b>C Block Allocation</b> |
| Waiau River mainstem downstream of Marble Point (until storage with a capacity greater than 210,000,000m <sup>3</sup> is developed*)  | Marble Point  | Jan–20m <sup>3</sup> /s<br>Feb–15m <sup>3</sup> /s<br>Mar–15m <sup>3</sup> /s<br>Apr–20m <sup>3</sup> /s<br>May–25m <sup>3</sup> /s<br>Jun–25m <sup>3</sup> /s<br>Jul–25m <sup>3</sup> /s<br>Aug–25 m <sup>3</sup> /s<br>Sep–25 m <sup>3</sup> /s<br>Oct–25 m <sup>3</sup> /s<br>Nov–25 m <sup>3</sup> /s<br>Dec–25m <sup>3</sup> /s | 18m <sup>3</sup> /s <sup>4</sup>                               | 2 m <sup>3</sup> /s  | 40 m <sup>3</sup> /s    | 11m <sup>3</sup> /s <sup>5</sup> | Nil                     | Nil                     | Nil                       |
| Waiau River mainstem downstream of Marble Point (when storage with a capacity greater than 210,000,000m <sup>3</sup> is developed*)   | Marble Point  | 20 m <sup>3</sup> /s for all months of the year.   | 18m <sup>3</sup> /s <sup>4</sup>                               | 2  | 40m <sup>3</sup> /s     | 11m <sup>3</sup> /s <sup>5</sup> | 0                       | 51m <sup>3</sup> /s     | 42m <sup>3</sup> /s       |
| Waiau River mainstem and tributaries (other than Chatterton and Hanmer Rivers) upstream of Marble Point   | Marble Point  | N/A  | Nil  | N/A  | Nil                     | Nil                              | Nil                     | Nil                     | Nil                       |
| <b>Waiau River Hill Fed Tributaries</b>   |   |  |  |  |                         |                                  |                         |                         |                           |
| <b>Water Resource</b>   | <b>Min Flow Site</b>                                  | <b>A Block Min Flow</b>  | <b>A Block Allocation</b>                                      | <b>Gap Size</b>  | <b>B Block Min Flow</b> | <b>B Block Allocation</b>        | <b>C Block Gap Size</b> | <b>C Block Min Flow</b> | <b>C Block Allocation</b> |
| Chatterton  | Rodgerson Road upstream of consented irrigation takes | 220l/s   | 37l/s  | No B or C Allocation Block is specified for these tributaries, if any in-stream storage is developed it is expected that provision will be made for flow variability to achieve the requirements of this plan. |                         |                                  |                         |                         |                           |
| Hanmer  | Hanmer River Bridge                                   | 350l/s   | 61l/s  |  |                         |                                  |                         |                         |                           |
| Mason   | At Waiau Lyndon Road Bridge                           | 275l/s   | 228l/s   |  |                         |                                  |                         |                         |                           |
| Blind Stream  | At the point of take                                  | All consented takes must leave a residual flow of 2l/s   | 31l/s  |  |                         |                                  |                         |                         |                           |

<sup>4</sup> The A Block and B Block is primarily irrigation blocks and priority will be given to irrigation uses, however when water is not utilised from the A or B Block for irrigation then it can be used for another out of stream use such as hydro-electric power generation if : the water has yet to be allocated for irrigation use; the water has been allocated for irrigation use but is not used for irrigation; or the water has been allocated for irrigation use but that water is used and returned to the river above the intake for the irrigation use.

\*For the purpose of assessing resource consent application's compliance with this table, compliance with the phrase "is developed" can be achieved by: the storage being constructed and operational; the storage being proposed as part of the same resource consent application; or the application being proposed on the basis that it cannot be implemented prior to the storage being constructed and operational.



| Home Stream   | At the point of take              | All consented takes must leave a residual flow of 60l/s   | 121l/s               |  |   |   |                  |  |   |
|---|-----------------------------------|---|----------------------|--|---|---|------------------|--|---|
| Tuahuka - Leader  | SH1 Bridge                        | 85l/s   | 73l/s                |  |   |   |                  |  |   |
| <b>Amuri A and B Allocation Blocks in The Waiiau Catchment</b>  |                                   |   |                      |  |   |   |                  |  |   |
| Water Resource  | Min Flow Site                     | A Block Min Flow  | A Block Allocation   | Gap Size   | B Block Min Flow  | B Block Allocation  | C Block Gap Size | C Block Min Flow   | C Block Allocation                              |
| Amuri A Block   | Amuri A                           | 800l/s  | 1460l/s              |  |   |   |                  |  |   |
| Mt Palm Drain   | Minimum Flow Site at Mt Palm Road | Must comply with the Amuri A Minimum Flow and leave a residual flow of 30l/s in the stream where the take is occurring  |                      |  |   |   |                  |  |   |
| Hermitage Drain   |                                   | Must comply with the Amuri A Minimum Flow and leave a residual flow of 30l/s in the stream where the take is occurring  | 29l/s                |  |   |   |                  |  |   |
| No B or C Allocation Block is specified for these tributaries   |                                   |   |                      |  |   |   |                  |  |   |
| Amuri B Block   | N/A                               | Nil   | Nil                  | Nil  | Nil   | Nil   |                  |  |   |
| <b>HURUNUI CATCHMENT</b>  |                                   |   |                      |  |   |   |                  |  |   |
| Water Resource  | Min Flow Site                     | A Block Min Flow  | A Block Allocation   | B Block Gap Size   | B Block Min Flow  | B Block Allocation  | C Block Gap Size | C Block Min Flow   | C Block Allocation                              |
| All takes within the Hurunui River Catchment (until storage with a capacity greater than 210,000,000m <sup>3</sup> is developed)  | Mandamus                          | Jan-15m <sup>3</sup> /s<br>Feb-12m <sup>3</sup> /s<br>Mar-12m <sup>3</sup> /s<br>Apr-12m <sup>3</sup> /s<br>May-12m <sup>3</sup> /s<br>Jun-12m <sup>3</sup> /s<br>Jul-12m <sup>3</sup> /s<br>Aug-13m <sup>3</sup> /s<br>Sep-15m <sup>3</sup> /s<br>Oct-15m <sup>3</sup> /s<br>Nov-15m <sup>3</sup> /s<br>Dec-15m <sup>3</sup> /s  | 11m <sup>3</sup> /s  | N/A  | Jan-27m <sup>3</sup> /s <sup>5</sup><br>Feb-27m <sup>3</sup> /s<br>Mar-27m <sup>3</sup> /s<br>Apr-27m <sup>3</sup> /s<br>May-19m <sup>3</sup> /s<br>Jun-19m <sup>3</sup> /s<br>Jul-19m <sup>3</sup> /s<br>Aug-20m <sup>3</sup> /s<br>Sep-27m <sup>3</sup> /s<br>Oct-27m <sup>3</sup> /s<br>Nov-27m <sup>3</sup> /s<br>Dec-27m <sup>3</sup> /s | 10m <sup>3</sup> /s for all months of the year <sup>5</sup> . | N/A              | N/A  | 0m <sup>3</sup> /s for all months of the year.  |
| All takes within the Hurunui River Catchment (when storage with a capacity greater than 210,000,000m <sup>3</sup> is developed)   | Mandamus                          | Jan-15m <sup>3</sup> /s<br>Feb-15m <sup>3</sup> /s<br>Mar-15m <sup>3</sup> /s<br>Apr-15m <sup>3</sup> /s<br>May-12m <sup>3</sup> /s<br>Jun-12m <sup>3</sup> /s (10m <sup>3</sup> /s) <sup>6</sup><br>Jul-12m <sup>3</sup> /s (10m <sup>3</sup> /s) <sup>6</sup><br>Aug-12m <sup>3</sup> /s (10m <sup>3</sup> /s) <sup>6</sup><br>Sep-15m <sup>3</sup> /s<br>Oct-15m <sup>3</sup> /s<br>Nov-15m <sup>3</sup> /s<br>Dec-15m <sup>3</sup> /s | 11m <sup>3</sup> /s  | N/A  | Jan-27m <sup>3</sup> /s <sup>5</sup><br>Feb-27m <sup>3</sup> /s<br>Mar-27m <sup>3</sup> /s<br>Apr-27m <sup>3</sup> /s<br>May-19m <sup>3</sup> /s<br>Jun-19m <sup>3</sup> /s<br>Jul-19m <sup>3</sup> /s<br>Aug-19m <sup>3</sup> /s<br>Sep-27m <sup>3</sup> /s<br>Oct-27m <sup>3</sup> /s<br>Nov-27m <sup>3</sup> /s<br>Dec-27m <sup>3</sup> /s | 10m <sup>3</sup> /s for all months of the year.               | 0                | Jan-37m <sup>3</sup> /s<br>Feb-37m <sup>3</sup> /s<br>Mar-37m <sup>3</sup> /s<br>Apr-37m <sup>3</sup> /s<br>May-29m <sup>3</sup> /s<br>Jun-29m <sup>3</sup> /s<br>Jul-29m <sup>3</sup> /s<br>Aug-29m <sup>3</sup> /s<br>Sep-37m <sup>3</sup> /s<br>Oct-37m <sup>3</sup> /s<br>Nov-37m <sup>3</sup> /s<br>Dec-37m <sup>3</sup> /s | 33m <sup>3</sup> /s for all months of the year. |
| All takes within the Hurunui Catchment, except those takes for the reticulated supply of human drinking water and stock water must comply with the minimum flow and allocation block limit in the table above and any specific minimum flow shown below. If no minimum flow is shown below then Policy 2.2 should be applied. |                                   |   |                      |  |   |   |                  |  |   |
| <b>Hurunui Mainstem</b>   |                                   |   |                      |  |   |   |                  |  |   |
| Water Resource  | Min Flow Site                     | A Block Min Flow  | A Block Allocation   | B Block Gap Size   | B Block Min Flow  | B Block Allocation  | C Block Gap Size | C Block Min Flow   | C Block Allocation                              |
| Hurunui River mainstem Amuri Reach (until storage with a capacity greater than 210,000,000m <sup>3</sup> is developed,*)  | Mandamus                          | Jan-15 m <sup>3</sup> /s<br>Feb-12 m <sup>3</sup> /s<br>Mar-12 m <sup>3</sup> /s<br>Apr-12 m <sup>3</sup> /s<br>May-12 m <sup>3</sup> /s<br>Jun-12 m <sup>3</sup> /s<br>Jul-12 m <sup>3</sup> /s<br>Aug-13 m <sup>3</sup> /s<br>Sep-15 m <sup>3</sup> /s<br>Oct-15 m <sup>3</sup> /s<br>Nov-15 m <sup>3</sup> /s<br>Dec-15 m <sup>3</sup> /s  | 6.2m <sup>3</sup> /s | Jan-5m <sup>3</sup> /s<br>Feb-8m <sup>3</sup> /s<br>Mar-8m <sup>3</sup> /s<br>Apr-8m <sup>3</sup> /s<br>May-0m <sup>3</sup> /s<br>Jun-0m <sup>3</sup> /s<br>Jul-0m <sup>3</sup> /s<br>Aug-0m <sup>3</sup> /s<br>Sep-5m <sup>3</sup> /s<br>Oct-5m <sup>3</sup> /s<br>Nov-5m <sup>3</sup> /s<br>Dec-5m <sup>3</sup> /s | Jan-27m <sup>3</sup> /s <sup>5</sup><br>Feb-27m <sup>3</sup> /s<br>Mar-27m <sup>3</sup> /s<br>Apr-27m <sup>3</sup> /s<br>May-19m <sup>3</sup> /s<br>Jun-19m <sup>3</sup> /s<br>Jul-19m <sup>3</sup> /s<br>Aug-20m <sup>3</sup> /s<br>Sep-27m <sup>3</sup> /s<br>Oct-27m <sup>3</sup> /s<br>Nov-27m <sup>3</sup> /s<br>Dec-27m <sup>3</sup> /s | 10 cumecs for all months of the year.                         | N/A              | N/A  | 0 cumecs for all months of the year.            |
| Hurunui River mainstem Amuri Reach (when storage  | Mandamus                          | Jan-15m <sup>3</sup> /s<br>Feb-15m <sup>3</sup> /s<br>Mar-15m <sup>3</sup> /s<br>Apr-15m <sup>3</sup> /s  | 6.2m <sup>3</sup> /s | Jan-5m <sup>3</sup> /s<br>Feb-58m <sup>3</sup> /s<br>Mar-58m <sup>3</sup> /s<br>Apr-58m <sup>3</sup> /s  | Jan-27m <sup>3</sup> /s <sup>5</sup><br>Feb-2730m <sup>3</sup> /s<br>Mar-2730m <sup>3</sup> /s<br>Apr-  | 10 cumecs for all months of the year.                         | 0                | Jan-37m <sup>3</sup> /s<br>Feb-3740m <sup>3</sup> /s<br>Mar-   | 33 cumecs for all months of the year.           |

<sup>5</sup> The B Block is primarily an irrigation block and priority will be given to irrigation uses, however when water is not utilised from the B Block for irrigation, either because it has yet to be allocated or because it has been allocated but the water is not needed for irrigation due to no soil moisture deficit then it can be used for another out of stream use such as hydro-electric power generation.

| with a capacity greater than 210,000,000m <sup>3</sup> is developed,*)   |   | May-12m <sup>3</sup> /s<br>Jun-12m <sup>3</sup> /s (10m <sup>3</sup> /s) <sup>6</sup><br>Jul-12m <sup>3</sup> /s (10m <sup>3</sup> /s) <sup>6</sup><br>Aug-12m <sup>3</sup> /s (10m <sup>3</sup> /s) <sup>6</sup><br>Sep-15m <sup>3</sup> /s<br>Oct-15m <sup>3</sup> /s<br>Nov-15m <sup>3</sup> /s<br>Dec-15m <sup>3</sup> /s     |                                      | May-0m <sup>3</sup> /s<br>Jun-0m <sup>3</sup> /s<br>Jul-0m <sup>3</sup> /s<br>Aug-0m <sup>3</sup> /s<br>Sep-5m <sup>3</sup> /s<br>Oct-5m <sup>3</sup> /s<br>Nov-5m <sup>3</sup> /s<br>Dec-5m <sup>3</sup> /s   | 2730m <sup>3</sup> /s<br>Apr-2730m <sup>3</sup> /s<br>May-19m <sup>3</sup> /s<br>Jun-19m <sup>3</sup> /s<br>Jul-19m <sup>3</sup> /s<br>Aug-19m <sup>3</sup> /s<br>Sep-27m <sup>3</sup> /s<br>Oct-27m <sup>3</sup> /s<br>Nov-27m <sup>3</sup> /s<br>Dec-27m <sup>3</sup> /s |                    | 3740m <sup>3</sup> /s<br>Apr-3740m <sup>3</sup> /s<br>May-29m <sup>3</sup> /s<br>Jun-29m <sup>3</sup> /s<br>Jul-29m <sup>3</sup> /s<br>Aug-29m <sup>3</sup> /s<br>Sep-37m <sup>3</sup> /s<br>Oct-37m <sup>3</sup> /s<br>Nov-37m <sup>3</sup> /s<br>Dec-37m <sup>3</sup> /s |                  |                    |
|--|---|---|--------------------------------------|--|--|--------------------|--|------------------|--------------------|
| Hurunui River Domett Reach (until storage with a capacity greater than 210,000,000m <sup>3</sup> is developed*)              | SH1   | Jan-15m <sup>3</sup> /s<br>Feb-12m <sup>3</sup> /s<br>Mar-12m <sup>3</sup> /s<br>Apr-12m <sup>3</sup> /s<br>May-12m <sup>3</sup> /s<br>Jun-12m <sup>3</sup> /s<br>Jul-12m <sup>3</sup> /s<br>Aug-13m <sup>3</sup> /s<br>Sep-15m <sup>3</sup> /s<br>Oct-15m <sup>3</sup> /s<br>Nov-15 m <sup>3</sup> /s<br>Dec-15m <sup>3</sup> /s | 2m <sup>3</sup> /s                   | No B or C Allocation Block is specified for the Domett Reach of the River, abstractors in this reach of the river may choose to apply to take B or C Block water from the Amuri Reach Allocation Block as long as there is capacity in the allocation block and the Mandamus is utilised as the minimum flow site. |  |                    |  |                  |                    |
| Hurunui River Domett Plains (when storage with a capacity greater than 210,000,000m <sup>3</sup> is developed*) <sup>4</sup> | SH1   | Jan-15m <sup>3</sup> /s<br>Feb-15m <sup>3</sup> /s<br>Mar-15m <sup>3</sup> /s<br>Apr-15m <sup>3</sup> /s<br>May-12m <sup>3</sup> /s<br>Jun-12m <sup>3</sup> /s<br>Jul-12m <sup>3</sup> /s<br>Aug-13m <sup>3</sup> /s<br>Sep-15m <sup>3</sup> /s<br>Oct-15 m <sup>3</sup> /s<br>Nov-15m <sup>3</sup> /s<br>Dec-15m <sup>3</sup> /s | 2m <sup>3</sup> /s                   |  |  |                    |  |                  |                    |
| <b>Hurunui River Tributaries – Amuri Plains Reach</b>  |   |   |                                      |  |  |                    |  |                  |                    |
| Water Resource   | Min Flow Site                                     | A Block Min Flow  | A Block Allocation                   | Gap Size   | B Block Min Flow   | B Block Allocation | C Block Gap Size   | C Block Min Flow | C Block Allocation |
| St Leonards Drain  | Upstream of Pahau Confluence                      | 140l/s  | 1020l/s                              | No B or C Allocation Block is specified for this tributary.  |  |                    |  |                  |                    |
| Pahau River  | Dalzells upstream St Leonards Confluence          | 750l/s  | 580l/s                               | No B or C Allocation Block is specified for this tributary, if any in-stream storage is developed it is expected that provision will be made for flow variability to achieve the requirements of this plan.  |  |                    |  |                  |                    |
| Dry Stream   | No Min Flow Site                                  | 0   | 790l/s                               | No B or C Allocation Block is specified for this tributary.  |  |                    |  |                  |                    |
| Waitohi River (until storage with a capacity greater than 210,000,000m <sup>3</sup> is developed)                            | Upstream of the confluence with the Hurunui River | 350l/s  | 365l/s                               | No B or C Allocation Block is specified for this tributary.  |  |                    |  |                  |                    |
| Waitohi River (when storage with a capacity greater than 210,000,000m <sup>3</sup> is developed)                             | At Lake Sumner Road Bridge                        | 130l/s  | 365l/s                               | No B or C Allocation Block is specified for this tributary, if any in-stream storage is developed it is expected that provision will be made for flow variability to achieve the requirements of this plan.  |  |                    |  |                  |                    |
| <b>Hurunui River Tributaries – Domett Plains Reach</b>   |   |   |                                      |  |  |                    |  |                  |                    |
| Water Resource   | Min Flow Site                                     | A Block Min Flow  | A Block Allocation                   | Gap Size   | B Block Min Flow   | B Block Allocation | C Block Gap Size   | C Block Min Flow | C Block Allocation |
| Waikari River  | Pannett's Road, Scargill                          | 40l/s   | 18l/s Oct – April<br>46l/s May – Sep | No B or C Allocation Block is specified for this tributary, if any in-stream storage is developed it is expected that provision will be made for flow variability to achieve the requirements of this plan.  |  |                    |  |                  |                    |

<sup>6</sup> Numbers within parentheses indicate the minimum flow for non-consumptive takes.

\*For the purpose of assessing resource consent applications compliance with this table, compliance with the phrase "is developed" can be achieved by: the storage being constructed and operational; the storage being proposed as part of the same resource consent application; or the application being proposed on the basis that it cannot be implemented prior to the storage being constructed and operational.

## Part 5 - Definitions, Schedules and Maps

### Definitions

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| <p><b>Catchment Agreement</b></p>                          | <p>A Catchment Agreement is an agreement approved by Canterbury Regional Council that identifies actions to be undertaken to actively manage the use of natural resources in order to achieve high standards of environmental management and optimise production from <u>all</u> properties within a catchment or sub-catchment of the Hurunui, Waiau or Jed Rivers or their tributaries. Environment Canterbury will consider catchment agreements which do not include all properties on a case by case basis depending on the number of properties included in the agreement, the types of land uses in the catchment and the extent to which values may be compromised if not all properties are included in the agreement.</p> <p>Any Catchment Agreement must at a minimum, to the extent considered appropriate and corresponding to the scale and significance of the activities within the catchment or sub-catchment contain the elements identified in Schedule 2.</p> |
| <p><b>Change of land use</b></p>                           | <p>For the purposes of this Plan a change in land use, is calculated on a per property basis, and is determined as being <b>either</b></p> <p><del>a) an increase greater than 10% in the stocking number measured in stock units; or,</del></p> <p>b) an increase greater than 10% in the <u>long term average</u> release of <u>Nitrogen</u> or Phosphate to land which may enter water, measured on a kg/ha basis, but calculated on the gross load per property.</p>  |
| <p><b>Consumptive Activity</b></p>                         | <p>A consumptive water take is a take which uses water taken from a surface body and does not return the water to the same water body at the same or similar rate and in the same or better water quality.</p>  |
| <p><b>Community and/or stock drinking water supply</b></p> | <p>Means a water supply that has been developed to provide <i>drinking water</i> for people or to provide water for stock (of more than one individual) to drink.</p>   |
| <p><b>Cumecs</b></p>                                       | <p>A cumec is a measure of river flow. One (1) cumec is the equivalent to one (1) cubic metre per second or alternatively 1,000l/s</p>  |
| <p><b>Drinking Water</b></p>                               | <p>Has the same meaning as that in section 69G of the Health Act 1956</p>   |
| <p><b>Fighting Fires (Water used for)</b></p>              | <p>Water used for fighting fires is any water taken, used or stored specifically for the purpose of fire control or fire fighting.</p> <p>It is recognised that the taking and using of water for fighting fires is not prohibited under section 14(3) of the RMA. However Rule 2.2 allows for the development of community and stock drinking water schemes. Water used for fighting fires may also be taken at the same</p>   |

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|   | time and a single consent issued.   |
| <b>m<sup>3</sup>/s</b>                          | See cumec   |
| <b>m<sup>3</sup></b>                            | Means one cubic metre   |
| <b>l/s</b>                                      | Means litres per second   |
| <b>Hydraulically connected groundwater</b>      | A groundwater take which has a stream depletion effect on a surface water body. Groundwater takes are assessed under 2 methodologies to assess their stream depletion effect. Those takes that are less than 30m deep and within River Zone R1 or R2 in the Hurunui and Waiau Regional Plan are considered to have a direct degree of hydraulic connection and in most cases will be managed as surface water takes. Groundwater takes outside of River Zone R1 or R2 will be managed as per the methodology outlined in Policy WQN7 of the Natural Resources Regional Plan.  |
| <b>Hurunui Waiau Zone or Waiau Hurunui Zone</b> | Means the area defined in the Canterbury Water Management Strategy as the Hurunui Waiau Zone or Waiau Hurunui Zone.<br><br>Note these terms have historically been used interchangeably; the Waiau Hurunui Zone is identical to the Hurunui Waiau Zone.   |
| <b>Industry Certification System</b>            | An Industry Certification System is a system approved by Canterbury Regional Council that identifies actions to be undertaken to actively manage the use of natural resources in order to achieve high standards of environmental management and optimise production from all properties within an industry class.<br><br>Any Industry Certification System must at a minimum, to the extent considered appropriate and corresponding to the scale and significance of the activities undertaken by that industry class, contain the elements identified in Schedule 2.   |
| <b>Infrastructure Development Plan</b>          | An Infrastructure Development Plan is a Plan submitted with a resource consent application that provides:<br><br>For irrigation takes:<br><ul style="list-style-type: none"> <li>• A description of the way that infrastructure will be developed to allow for the irrigation of up to 100,000ha of land in the Hurunui and Waiau Zone and enable future irrigation of the currently un-irrigated areas adjacent to the site of the development;</li> <li>• The location of any water storage reservoirs, and a description of: <ul style="list-style-type: none"> <li>(i) the size of these reservoirs;</li> <li>(ii) the operating rules;</li> <li>(iii) any recreational activities that these reservoirs could provide; and,</li> <li>(iv) any riparian management,</li> </ul> </li> <li>• A map and a description of the location of the point of take, any diversion(s) and any point source discharge(s);</li> </ul> |

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|  | <ul style="list-style-type: none"> <li>• A map and description of the location of any riparian planting or other biodiversity works to assist in managing water quality</li> <li>• A description of the properties that will be provided with water from the proposed scheme and the application rate that is proposed for each property.</li> <li>• A description of how any water will be distributed and used with maximum efficiency.</li> <li>• A description of how existing abstractors' reliability, within the command area, will remain the same or improve under the proposed development.</li> <li>• If the development is proposed in the Hurunui or Waiau River Catchments and involves the storage of more than 20,000,000m<sup>3</sup> a description will be provided as to how the river regime will be managed to achieve an increase in the Minimum Flow as shown on Table 1.</li> </ul> <p>For Hydro electric proposals:</p> <ul style="list-style-type: none"> <li>• A description of the way that infrastructure will be developed to allow for the irrigation of up to 100,000ha of land in the Hurunui and Waiau Zone and enable future irrigation of the currently un-irrigated areas adjacent to the site of the development.</li> <li>• A description of the points of take, diversion and discharge, if applicable.</li> <li>• The location of any out of stream water storage reservoirs, and a description of: <ul style="list-style-type: none"> <li>(i) the size of these reservoirs;</li> <li>(ii) the operating rules;</li> <li>(iii) any recreational activities that these reservoirs could provide; and,</li> <li>(iv) any riparian management.</li> </ul> </li> <li>• If the development is proposed in the Hurunui or Waiau River Catchments and involves the storage of more than 20,000,000m<sup>3</sup> a description will be provided as to how the river regime will be managed to achieve an increase in the Minimum Flow as shown on Table 1.</li> <li>• A description of how existing abstractors' reliability in the Waiau River Catchment will remain the same or improve under the proposed development.</li> <li>• A description of how existing recreational opportunities will be maintained.</li> <li>• A description of how fish migration and passage will be maintained in both an upstream and downstream direction.</li> <li>• A description of how flows in the river will be moderated, both</li> </ul> |
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|   | <p>throughout the affected reach and downstream of the discharge point to provide for the health and safety of river users and the life supporting capacity, including invertebrate populations.</p> <p>For all other uses:</p> <ul style="list-style-type: none"> <li>• A description of the way that infrastructure will be developed to allow for the irrigation of up to 100,000ha of land in the Hurunui and Waiau Zone and enable future irrigation of the currently un-irrigated areas adjacent to the site of the development;</li> <li>• A description of the points of take, diversion and discharge, if applicable</li> <li>• A description of the way in which any proposal could allow for full irrigation in the Hurunui / Waiau Zone.</li> <li>• A description of the location of any out of stream water storage reservoirs, and a description of: <ul style="list-style-type: none"> <li>(i) the size of these reservoirs;</li> <li>(ii) the operating rules;</li> <li>(iii) any recreational activities that these reservoirs could provide; and,</li> <li>(iv) any riparian management,</li> </ul> </li> <li>• If the development is proposed in the Hurunui or Waiau River Catchments and involves the storage of more than 20,000,000m<sup>3</sup> a description will be provided as to how the river regime will be managed to achieve an increase in the Minimum Flow as shown on Table 1.</li> <li>• A description of how existing abstractors' reliability, within the command area, will remain the same or improve under the proposed development.</li> </ul> <p>Note: the amount of detail provided in a Plan shall correspond to the scale and significance of the activity.</p> |
| <p><b>Irrigation Scheme Management Plan</b></p> | <p>An Irrigation Scheme Management Plan is a Plan approved by Canterbury Regional Council that identifies actions to be undertaken to actively manage the use of natural resources in order to achieve high standards of environmental management and optimise production from the land within the irrigation schemes command area.</p> <p>Any Irrigation Scheme Management Plan must at a minimum, to the extent considered appropriate and corresponding to the scale and significance of activities carried out within the irrigation scheme, contain the elements identified in Schedule 2.</p>   |
| <p><b>Lifestyle Block Management Plan</b></p>   | <p>A Lifestyle Block Management Plan is a Plan approved by Canterbury Regional Council that identifies actions to be undertaken to actively manage the use of natural resources in order to achieve high standards of environmental management.</p>   |

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|                                    | Any Lifestyle Block Management Plan must at a minimum, to the extent considered appropriate and corresponding to the scale and significance of activities carried out on the lifestyle block, contain the elements identified in Schedule 2.  |
| <b>m<sup>3</sup>/s</b>             | See cumec   |
| <b>m<sup>3</sup></b>               | Means one cubic metre   |
| <b>Mainstem</b>                    | <del>Has the same meaning as that in the Proposed Canterbury Regional Policy Statement 2014. In relation to braided rivers refers to that stem of the river which flows to the sea, and applies from the source of that stem to the sea, but excludes any tributary.</del>  |
| <b>Mauri</b>                       | <p>The elements of physical health which Ngāi Tahu use to reflect the status of mauri and identify the enhancements needed include:</p> <ul style="list-style-type: none"> <li>• Aesthetic qualities eg water clarity, natural character and indigenous flora and fauna;</li> <li>• Life supporting capacity and ecosystem robustness;</li> <li>• Depth and velocity of flow;</li> <li>• Continuity of flow from the mountains to the sea;</li> <li>• Fitness for cultural usage; and,</li> <li>• Productive capacity.</li> </ul>   |
| <b>Median Flow</b>                 | Means the most commonly occurring flow in the river averaged over the flow record.  |
| <b>Minimum Flow</b>                | <p>The flow at which abstractions from a water body must cease other than for a community water supply with an approved asset management strategy or water taken for an individual's reasonable domestic needs under section 14(3)(b) of the RMA.</p> <p>Table 1 shows a number of minimum flows for the mainstem of the Hurunui and Waiau Rivers. An A Block abstractor must stop taking water when the A Block minimum flow is reached. A B Block abstractor must cease taking water when the minimum flow for the B Block is reached, while a C Block abstractor must cease taking water when the C Block minimum flow is reached as provided for in Policy 2.1. Abstractors must also ensure that they reduce their rate of take to ensure that the minimum flow is not breached by reducing their take when the river approaches the minimum flow as provided for in Policy 2.3 and 2.4.</p> |
| <b>Nitrogen and Phosphate load</b> | The current year's level, in tonnes per year, of dissolved inorganic nitrogen and/or dissolved reactive phosphorus.   |
| <b>Non-consumptive activity</b>    | <p>Is an activity where water is taken and discharged back to the water body in the same or better quality and at the same or similar rate.</p> <p>This plan identifies that non-consumptive activities which take A or B Block water and discharge the water back to the same surface water body within 250m from where it is taken are subject to different</p>   |

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|   | restrictions of discretion than other non-consumptive activities.   |
| <b>Run of river</b>   | Run of river, when referring to a water take, means a take which is taken and used directly. For example a run of river irrigation take is where water is taken from the river and used to irrigate land. Run of river irrigation takes are vulnerable to low flows because when the minimum flow is reached the take must cease.   |
| <b>Stream depletion effect</b>                              | The calculated rate of impact or groundwater abstraction on surface flow. See hydraulically connected groundwater.  |
| <b>Seven Day Mean Annual Low Flow (7day MALF or 7dMALF)</b> | Is determined by taking the average of the seven consecutive lowest daily flows for each year of the flow record, summing those values and then dividing the total number of years of record. The 7dMALF will generally be calculated at the minimum flow site in any surface water allocation zone.  |
| <b>Telemetry</b>  | The equipment which can transmit data from a remote field station to a central base for immediate interpretation of real time information.  |
| <b>Water Supply Asset Management Strategy</b>               | A Water Supply Asset Management Strategy is a strategy prepared in accordance with Policy WQN18(8) of the Natural Resources Regional Plan that has been submitted to Canterbury Regional Council. It describes how water usage will be reduced at times of low flow to ensure that no more than 250 l of water is provided to each person per day and no more than the limits specified in Schedule WQN11 of the Natural Resources Regional Plan is provided to stock, when the flow in the surface water body is at or below the minimum flow specified in the Environmental Flow and Allocation Regime as shown in Table 1. |
| <b>Water Supply Authority</b>                               | Has the same meaning as networked supplier in the Health Act 1956.  |



### **Schedule 1: Catchment Nutrient Load Limits**

| Catchment                | Monitoring site location        | Nutrient Load Limits                        |   |
|--------------------------|---------------------------------|---|---|
|                          |                                 | Dissolved Inorganic Nitrogen (tonnes/ year) | Dissolved Reactive Phosphorus ( tonnes /year) |
| <b>Hurunui Catchment</b> | Mandamus flow recorder          | 40  | 3.6   |
|                          | State Highway One flow recorder | 693 <sup>7</sup>                            | 10.2  |

<sup>7</sup> Note: This limit is the 2005-2010 average annual tonnes per year of Dissolved Inorganic Nitrogen.  
~~Policy 5.3 provides for this limit to increase by 20% prior to 2017.~~

## **Schedule 2: Matter to be addressed in any System, Agreement or Plan in accordance with Rules 10.1 and 10.2**

Rules 10.1 and 10.2 require any land use in the area marked as a nutrient management area on Map 4 implement, on, or before 1 January 2017, one of either:

- an Industry Certification System; or,
- a Catchment Agreement; or,
- an Irrigation Scheme Management Plan; or,
- a Lifestyle Block Management Plan.

This schedule sets out the basic requirements that any one of the above Plans, Systems or Agreements ('The Programme') must contain and address for it to be approved by the Canterbury Regional Council.

### **~~1. Information about the 'Management System'~~**

~~The 'Management System' is the framework document from which implementation and auditing against performance is aligned. The 'Management System' sets out the goals and outcomes sought to be achieved in actively managing the use of natural resources in order to achieve a high standard of environmental management.~~

~~As a minimum the 'Management System' shall include:~~

~~(a) A description of the properties and landowners (and managers) and the geographic location and extent of these properties.~~

~~(b) A statement of the outcomes sought in relation to minimising and mitigating environmental effects, including the contribution to achieving objectives 5.1 and 5.2 and the nutrient load limits in Schedule 1 to this Plan.~~

~~(c) A statement of the outcomes sought in relation to the irrigation system(s)~~

~~Note:~~

~~1. Any Irrigation System's design should meet the 'Irrigation Code of Practice' and 'Irrigation Design Standards' and is appropriate for the soils, topography and proposed land uses.~~

~~2. For any new irrigation system a commissioning report should be carried out by the supplier using a Certified Irrigation Evaluator within 2 months of installation, or the beginning of the irrigation season, whichever is sooner, and a copy of this report is included with that year's audit report.~~

~~(d) A statement of the outcomes sought in relation to the efficient use of water.~~

~~Note:~~

~~1. Water use efficiency is required to be at a level of at least 80% application efficiency and achieve the requirements of Policy WQN16 of the Natural Resources Regional Plan.~~

2. ~~The application of water using real-time soil and water data is strongly encouraged to ensure water is used to match soil and production demands.~~
3. ~~A description as to the use of soil moisture monitoring technologies and similar devices to supply accurate information on moisture levels in soil profile is desirable.~~

## **2. Description of the Implementation Process**

~~The description of the Implementation Process outlines how the 'Management System' will be implemented at an individual property level. This must include how each Outcome identified in the 'Management System' will be aligned and given effect to through actions that in turn will be able to be audited.~~

### **1. An Environmental Management Strategy**

The 'Environmental Management Strategy' sets out the protocols and procedures that the Programme will follow in the development, implementation and maintenance of the Programme.

As a minimum the 'Environmental Management Strategy' shall include:

- (a) Details relating to the governance arrangements of the Programme.
- (b) A description of the Programme area including landuses, key environmental issues and risks, property boundaries and ownership details.
- (c) A statement of the outcomes sought in relation to minimising and mitigating the environmental effects of landuse on water quality within the Programme area.
- (d) A statement of the requirement for whole farm plans which demonstrate how land managers are actively managing the use of natural resources in order to achieve the management objectives as specified in sections 1(e) and 2 below. The whole farm plans shall include (where appropriate) sections relating to:
  - a. Irrigation management
  - b. Soils management
  - c. Nutrient management
  - d. Wetland and riparian management
  - e. Collected animal effluent management
- (e) Specified management objectives for each of the management areas.
- (f) A statement of the contractual arrangements between the Programme and individual land managers (the Members') who commit to the Programme.
- (g) A statement of the audit and compliance components of the Programme that the Members shall be required to adhere to.

### **2. Management objectives**

As a minimum all Members shall be required to meet the following management objectives for each of the specified management areas.

#### a. Irrigation management

To use water efficiently, minimising runoff and drainage in order to avoid, remedy or mitigate problems arising from:

1. Inefficient water application
2. Ponding of irrigation water
3. Excessive runoff of irrigation water
4. Excessive losses to groundwater

Note:

1. Water use efficiency is required to be at a level of at least 80% application efficiency and achieve the requirements of Policy WQN16 of the Natural Resources Regional Plan.
2. The application of water using real-time soil and water data is strongly encouraged to ensure water is used to match soil and production demands.
3. A description as to the use of soil moisture monitoring technologies and similar devices to supply accurate information on moisture levels in soil profile is desirable.

b. Soils management

To maintain or improve the physical and biological condition of soils in order to avoid, remedy or mitigate problems arising from:

- § Loss of topsoil by wind or water erosion
- § Movement of soils and contaminants into waterways
- § Damage to soil structure and health

c. Nutrient management

To maximise nutrient use efficiency while minimising nutrient losses in accordance with industry agreed benchmarks in order to avoid, remedy or mitigate:

- § Nitrogen and phosphorus losses through runoff and leaching to ground and surface waters.

To comply with any limits or targets set as set within the environmental management strategy

Note:

1. All land uses must meet the permitted activity requirements of Rule WQL19 of the NRRP or gain consent as a restricted discretionary activity status under Rule WQL19.

d. Wetland and riparian management

To protect the natural waterways and wetlands in order to avoid, remedy or mitigate:

- § Stock damage to banks causing sedimentation
- § Nutrient losses to waterways

Note:

1. All land uses must meet the permitted activity requirements of Rule WQL21 of the NRRP or gain consent as a restricted discretionary activity status under Rule WQL21.

e. Collected animal effluent management

To manage effluent systems to optimise the productive benefits of effluent while taking all practicable steps to avoid contamination of ground and surface waters in order to avoid, remedy or mitigate:

§ Contamination of ground and surface waters, especially faecal, N and P

**3. Description of the Audit and Reporting Process**

To ensure actions are undertaken to achieve the outcomes described in the 'management system' the actions shall be audited annually, by an independent body.

A description of the Audit Process shall include:

- The process for assessing performance against agreed actions and at an individual property level;
- ~~The use of onsite audits;~~
- The expectation and agreements around landowner and property record keeping for the audit purposes;
- An outline as to how the audit results will be feedback to individuals and also shared with the wider community; and,
- How issues of poor performance to implement actions and reach outcomes are to be managed.

The summary audit report will need to be submitted to the Canterbury Regional Council annually at an agreed timeframe.

## ***Schedule 3: Hoka Kura (Lake Sumner) and Hurunui River and Statutory Acknowledgements***

### ***Copy of Schedule 20 Statutory acknowledgement for Hoka Kura (Lake Sumner)***

#### **Statutory area**

The statutory area to which this statutory acknowledgement applies is the lake known as Hoka Kura (Lake Sumner), the location of which is shown on Allocation Plan MD 127 (SO 19854).

#### **Preamble**

Under section 206, the Crown acknowledges Te Rūnanga o Ngāi Tahu's statement of Ngāi Tahu's cultural, spiritual, historic, and traditional association to Hoka Kura, as set out below.

#### **Ngāi Tahu association with Hoka Kura**

Hoka Kura is one of the lakes referred to in the tradition of “Ngā Puna Wai Karikari o Rakaihautu” which tells how the principal lakes of Te Wai Pounamu were dug by the rangatira (chief) Rakaihautu. Rakaihautu was the captain of the canoe, Uruao, which brought the tribe, Waitaha, to New Zealand. Rakaihautu beached his canoe at Whakatū (Nelson). From Whakatū, Rakaihautu divided the new arrivals in two, with his son taking one party to explore the coastline southwards and Rakaihautu taking another southwards by an inland route. On his inland journey southward, Rakaihautu used his famous kō (a tool similar to a spade) to dig the principal lakes of Te Wai Pounamu, including Hoka Kura. The origins of the name “Hoka Kura” have now been lost, although it is likely that it refers to one of the descendants of Rakaihautu.

For Ngāi Tahu, traditions such as this represent the links between the cosmological world of the gods and present generations, these histories reinforce tribal identity and solidarity, and continuity between generations, and document the events which shaped the environment of Te Wai Pounamu and Ngāi Tahu as an iwi.

Hoka Kura was used as a mahinga kai by North Canterbury Ngāi Tahu. The tūpuna had considerable knowledge of whakapapa, traditional trails, places for gathering kai and other taonga, ways in which to use the resources of the lake, the relationship of people with the lake and their dependence on it, and tikanga for the proper and sustainable utilisation of resources. All of these values remain important to Ngāi Tahu today.

The mahinga kai values of the lake were particularly important to Ngāi Tahu parties travelling to Te Tai Poutini (the West Coast). The lake was an integral part of a network of trails which were used in order to ensure the safest journey and incorporated locations along the way that were identified for activities including camping overnight and gathering kai. Knowledge of these trails continues to be held by whānau and hapū and is regarded as a taonga. The traditional mobile lifestyle of the people led to their dependence on the resources of the lake.

There are a number of urupā and wāhi tapu in this region. Urupā are the resting places of Ngāi Tahu tūpuna and, as such, are the focus for whānau traditions. Urupā and wāhi tapu are places holding the memories, traditions, victories and defeats of Ngāi Tahu tūpuna, and are frequently protected by secret locations.

The mauri of Hoka Kura represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. All elements of the natural environment possess a life force, and all forms of life are related. Mauri is a critical element of the spiritual relationship of Ngāi Tahu Whānui with the lake.

### **Purposes of statutory acknowledgement**

Pursuant to section 215, and without limiting the rest of this schedule, the only purposes of this statutory acknowledgement are—

(a) to require that consent authorities forward summaries of resource consent applications to Te Rūnanga o Ngāi Tahu as required by regulations made pursuant to section 207 (clause 12.2.3 of the deed of settlement); and

(b) to require that consent authorities, the Historic Places Trust, or the Environment Court, as the case may be, have regard to this statutory acknowledgement in relation to Hoka Kura, as provided in sections 208 to 210 (clause 12.2.4 of the deed of settlement); and

(c) to empower the Minister responsible for management of Hoka Kura or the Commissioner of Crown Lands, as the case may be, to enter into a Deed of Recognition as provided in section 212 (clause 12.2.6 of the deed of settlement); and

(d) to enable Te Rūnanga o Ngāi Tahu and any member of Ngāi Tahu Whānui to cite this statutory acknowledgement as evidence of the association of Ngāi Tahu to Hoka Kura as provided in section 211 (clause 12.2.5 of the deed of settlement).

### **Limitations on effect of statutory acknowledgement**

Except as expressly provided in sections 208 to 211, 213, and 215,—

(a) this statutory acknowledgement does not affect, and is not to be taken into account in, the exercise of any power, duty, or function by any person or entity under any statute, regulation, or bylaw; and

(b) without limiting paragraph (a), no person or entity, in considering any matter or making any decision or recommendation under any statute, regulation, or bylaw, may give any greater or lesser weight to Ngāi Tahu's association to Hoka Kura (as described in this statutory acknowledgement) than that person or entity would give under the relevant statute, regulation, or bylaw, if this statutory acknowledgement did not exist in respect of Hoka Kura.

Except as expressly provided in this Act, this statutory acknowledgement does not affect the lawful rights or interests of any person who is not a party to the deed of settlement.

Except as expressly provided in this Act, this statutory acknowledgement does not, of itself, have the effect of granting, creating, or providing evidence of any estate or interest in, or any rights of any kind whatsoever relating to, Hoka Kura.

## ***Copy of Schedule 21 of the Ngai Tahu Claims Settlement Act Statutory acknowledgement for Hurunui River***

### **Statutory area**

The statutory area to which this statutory acknowledgement applies is the river known as Hurunui, the location of which is shown on Allocation Plan MD 112 (SO 19848).

### **Preamble**

Under section 206, the Crown acknowledges Te Rūnanga o Ngāi Tahu's statement of Ngāi Tahu's cultural, spiritual, historic, and traditional association to the Hurunui River, as set out below.

### **Ngāi Tahu association with the Hurunui River**

The Hurunui River once provided an important mahinga kai resource for Ngāi Tahu, although those resources are now in a modified and depleted condition. Traditionally, the river was particularly known for its tuna (eel) and inaka (whitebait).

The tūpuna had considerable knowledge of whakapapa, traditional trails and tauranga waka, places for gathering kai and other taonga, ways in which to use the resources of the Hurunui, the relationship of people with the river and their dependence on it, and tikanga for the proper and sustainable utilisation of resources. All of these values remain important to Ngāi Tahu today.

Nohoanga (settlements) were located at points along the length of this river, with some wāhi tapu located near the mouth. Wāhi tapu are places holding the memories, traditions, victories and defeats of Ngāi Tahu tūpuna, and are frequently protected by secret locations.

The mauri of the Hurunui represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. All elements of the natural environment possess a life force, and all forms of life are related. Mauri is a critical element of the spiritual relationship of Ngāi Tahu Whānui with the river.

### **Purposes of statutory acknowledgement**

Pursuant to section 215, and without limiting the rest of this schedule, the only purposes of this statutory acknowledgement are—

(a) to require that consent authorities forward summaries of resource consent applications to Te Rūnanga o Ngāi Tahu as required by regulations made pursuant to section 207 (clause 12.2.3 of the deed of settlement); and

(b) to require that consent authorities, the Historic Places Trust, or the Environment Court, as the case may be, have regard to this statutory acknowledgement in relation to the Hurunui River, as provided in sections 208 to 210 (clause 12.2.4 of the deed of settlement); and

(c) to empower the Minister responsible for management of the Hurunui River or the Commissioner of Crown Lands, as the case may be, to enter into a Deed of Recognition as provided in section 212 (clause 12.2.6 of the deed of settlement); and



(d) to enable Te Rūnanga o Ngāi Tahu and any member of Ngāi Tahu Whānui to cite this statutory acknowledgement as evidence of the association of Ngāi Tahu to the Hurunui River as provided in section 211 (clause 12.2.5 of the deed of settlement).

Limitations on effect of statutory acknowledgement

Except as expressly provided in sections 208 to 211, 213, and 215,—

(a) this statutory acknowledgement does not affect, and is not to be taken into account in, the exercise of any power, duty, or function by any person or entity under any statute, regulation, or bylaw; and

(b) without limiting paragraph (a), no person or entity, in considering any matter or making any decision or recommendation under any statute, regulation, or bylaw, may give any greater or lesser weight to Ngāi Tahu's association to the Hurunui River (as described in this statutory acknowledgement) than that person or entity would give under the relevant statute, regulation, or bylaw, if this statutory acknowledgement did not exist in respect of the Hurunui River.

Except as expressly provided in this Act, this statutory acknowledgement does not affect the lawful rights or interests of any person who is not a party to the deed of settlement.

Except as expressly provided in this Act, this statutory acknowledgement does not, of itself, have the effect of granting, creating, or providing evidence of any estate or interest in, or any rights of any kind whatsoever relating to, the Hurunui River.

***Map 1: Surface Water Allocation Zones Map Series***

***Map 2: Groundwater Allocation and River Zones Map Series***

***Map 3: Development Zones Map Series***

***Map 4: Nutrient Management Area Map Series***