

Waipara Catchment Environmental Flow and Water Allocation Regional Plan

Prepared under the Resource
Management Act 1991

Operative 16 June 2012



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I hereby certify this is a true and correct copy of the Waipara Catchment Environmental Flow and Water Allocation Regional Plan prepared by the Canterbury Regional Council, at its meeting on the 31st May 2012.

This document is a statutory regional plan prepared by the Canterbury Regional Council in accordance with the requirements of the Resource Management Act 1991.

This Plan will be publicly notified on 9th June 2012 and will become operative on 16th June 2012.

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



Bill Bayfield

Chief Executive

Canterbury Regional Council



Dame Margaret Bazley

Chair

Canterbury Regional Council



31 May 2012

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Part 1 – Introduction

Plan Structure

This Plan contains several parts:

- Part 1 is the introductory part. It contains the stated purpose, defines the scope, and outlines the structure of the Plan.
- Part 2 sets out the statutory basis of this Plan for the Waipara River Catchment. There are references to the legislative framework provided by the Resource Management Act 1991 (RMA), to the Canterbury Regional Policy Statement, the Canterbury Natural Resources Regional Plan, and to district, iwi and other regional plans.
- Part 3 describes the Waipara River Catchment and outlines the characteristics and resource values of the catchment.
- Part 4 outlines the demand for water from the Waipara River Catchment for different types of activities.
- Part 5 sets out the issues in relation to water allocation in the Waipara River Catchment.
- Part 6 sets out the objectives and policies for the Waipara River Catchment.
- Part 7 sets out the rules used in the Plan. This includes defining the amount of water to be retained in water bodies and how this is to be achieved, allocation of water to activities, the taking of groundwater and other matters relevant to resource consents.
- Part 8 outlines the anticipated environmental results.
- Part 9 defines the abbreviations and terms used in the Plan. All defined terms are underlined in the text of the Plan.

Plan Purpose and Scope

The purpose of this Plan is to promote the sustainable management of rivers, streams and groundwater in the Waipara River Catchment.

The Plan sets out the resource management issues and the objectives, policies and methods, including rules, for resolving the resource management issues related to water in the Waipara River Catchment. The Plan will sit within a planning framework for the three major North Canterbury catchments: Waiau; Hurunui; and Waipara. It is part of a two-pronged approach to managing water resources in catchments in North Canterbury.

This first part focuses on managing surface and groundwater resources in the Waipara River Catchment under current environmental

conditions. In this catchment, potential demand for water for irrigation is high and there is little additional resource available for abstraction without significant adverse effects on water resources and reliability of supply for existing abstractors. Therefore, the Plan focuses on maintaining the existing environment, maintaining existing in-stream values for surface water bodies, maintaining existing recharge rates for groundwater, and ensuring existing abstractors maintain a reasonable reliability of supply.

The Plan also provides for a limited amount of additional surface water abstraction through a B Block allocation on the main stem of the Waipara River. This allocation comprises water from freshes in the river, so would need to be managed as a take to storage, to provide a reasonable reliability of supply.

A second part of the planning framework in each catchment is to manage water resources should current environmental conditions alter; particularly if the potential amount of water available for abstraction increases substantially through augmentation, transfer or storage schemes. In such a case, the water and the potential effects of abstracting and irrigating with it need to be managed, including:

- A review of the environmental flow and allocation regime for surface water in the catchment, particularly if minimum flows have been kept below optimal levels for in-stream values, to maintain reliability of supply for existing abstractors;
- A review of the groundwater allocation limit, if more water is seeping into groundwater from irrigation; and
- Incorporating water quality and land use provisions.

Such a review would need to be undertaken by way of a plan change, and issues such as water quality, cultural values and ecological impacts would need to be addressed through that process.

Area to which the Plan Applies

This Plan applies to surface water within the Waipara River Catchment (the surface water catchment boundary is defined in Map 1a, 1b and 1c in Appendix 1) and to groundwater in the whole of the Waipara Groundwater Zone, including that part that extends beyond the Waipara River Catchment, and groundwater in the remainder of the Waipara River Catchment, except for that area that falls within the Culverden Basin Groundwater Zone (the groundwater zones and groundwater catchment boundary is defined in Map 2a, 2b and 2c in Appendix 1).

Part 2 – Legal Framework

Resource Management Act 1991

The purpose of the Resource Management Act 1991 (RMA) is to promote the sustainable management of natural and physical resources. Part II of the RMA establishes the purpose and principles, which have been the over-riding consideration in this Plan.

Sections 63 to 70 set out the relevant matters relating to the preparation of a regional plan. In particular, section 67 states that:

A regional plan must state—

- (a) the objectives for the region; and
- (b) the policies to implement the objectives; and
- (c) the rules (if any) to implement the policies.

For the purposes of a water allocation plan, section 30 sets out the relevant regional council functions, which include (relevant extracts only):

- (a) the establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the natural and physical resources of the region;
- (b) the preparation of objectives and policies in relation to any actual or potential effects of the use, development, or protection of land which are of regional significance;
- (e) the control of the taking, use, damming, and diversion of water, and the control of the quantity, level, and flow of water in any water body, including—
 - (i) the setting of any maximum or minimum levels or flows of water;
 - (ii) the control of the range, or rate of change, of levels or flows of water;
- (fa) if appropriate, the establishment of rules in a regional plan to allocate any of the following:
 - (i) the taking or use of water (other than open coastal water);
- (g) in relation to any bed of a water body, the control of the introduction or planting of any plant in, on, or under that land, for the purpose of—
 - (i) soil conservation;
 - (ii) the maintenance and enhancement of the quality of water in that water body;
 - (iii) the maintenance of the quantity of water in that water body;
 - (iv) the avoidance or mitigation of natural hazards;

- (ga) the establishment, implementation, and review of objectives, policies, and methods for maintaining indigenous biological diversity;
- (gb) the strategic integration of infrastructure with land use through objectives, policies, and methods;
- (h) any other functions specified in this Act.

A rule to allocate a natural resource established by a regional council in a plan under subsection (1) (fa) may allocate the resource in any way, subject to the following:

- (a) the rule may not, during the term of an existing resource consent, allocate the amount of a resource that has already been allocated to the consent; and
- (b) nothing in paragraph (a) affects section 68(7); and
- (c) the rule may allocate the resource in anticipation of the expiry of existing consents; and
- (d) in allocating the resource in anticipation of the expiry of existing consents, the rule may—
 - (i) allocate all of the resource used for an activity to the same type of activity; or
 - (ii) allocate some of the resource used for an activity to the same type of activity and the rest of the resource to any other type of activity or no type of activity; and
- (e) the rule may allocate the resource among competing types of activities; and
- (f) the rule may allocate water, or heat or energy from water, as long as the allocation does not affect the activities authorised by section 14(3)(b) to (e).

Environment Canterbury (Temporary Commissioners and Improved Water Management) Act 2010

The Environment Canterbury (Temporary Commissioners and Improved Water Management) Act 2010 (The “ECan Act”) was passed by Parliament on 1 April 2010. The ECan Act has two main functions:

1. the replacement of the elected councillors with government appointed commissioners; and
2. giving the Canterbury Regional Council new functions, powers and duties in relation to processing Water Conservation Orders (WCOs), imposing consent moratoria, and decisions and appeals on regional plans and policy statements.

Part 3 of the ECan Act gives the Canterbury Regional Council new powers, functions and duties in relation to resource management issues. Subpart 4 of the ECan Act introduces new powers and duties for the Regional Council in processing “proposed regional policy statements and plans.”

The ECan Act makes two significant changes to the way policy statements and plans are processed:

- Section 63 of the ECan Act requires the Council, in considering any proposed regional policy statement or plan, to have particular regard to the vision and principles of the Canterbury Water Management Strategy (CWMS), in addition to the matters relevant under the RMA, to its decisions made under Clause 10(1) of the First Schedule of the RMA.
- Section 66 of the ECan Act limits appeals on plans which are covered by sections 61 and 63, to appeals to the High Court on a question of law.

The vision of the CWMS 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.”

Within the “Primary principles” of the CWMS first and second order priority considerations are outlined. First order priority considerations are: the environment, customary uses, community supplies and stock water. Second order priority considerations are: irrigation, renewable electricity generation, recreation, tourism and amenity.

The full text of the CWMS vision and principles, as included in the ECan Act is included in Appendix 4 to this Plan.

Ngāi Tahu Claims Settlement Act 1998

The Ngāi Tahu Claims Settlement Act 1998 (the Settlement Act) gave effect to the Deed of Settlement signed by the Crown and Te Rūnanga o Ngāi Tahu in 1997, to achieve a final settlement of the Ngāi Tahu historical claims against the Crown.

The Settlement Act includes statutory acknowledgements, which recognise the special relationship of Ngāi Tahu with a range of areas in the South Island. Within the Waipara River Catchment, the Waipara River is a statutory acknowledgement area. The purpose of statutory acknowledgements is to ensure that the particular relationship Ngāi Tahu has with these areas is identified and Ngāi Tahu is informed when a proposal may affect one of the areas.

Part 12 of the Settlement Act sets out the provisions relating to statutory acknowledgements. In particular, the statutory acknowledgement is required to be recorded in any relevant regional plan. Canterbury Regional Council has been cognisant of the statutory acknowledgement in preparing this Plan for the Waipara River Catchment, and the full text of Schedule 74 of the Settlement Act, which relates to the Waipara River, is set out in Appendix 2.

Other Plans and Documents

Sections 66(2A) and 67(2)(a) of the RMA apply to the preparation of a regional plan. Section 66(2A) specifies that a regional council must take into account any relevant planning document recognised by an iwi authority and lodged with the council. Section 67(2) states that a regional plan must give effect to any national policy statement or any New Zealand coastal policy statement. Section 67(2)(a) states a regional plan must not be inconsistent with any water conservation order or any other regional plan in the region.

Iwi Management Plans

There are two iwi management plans that fall into the category of relevant planning documents recognised by an iwi authority (Te Runanga o Ngai Tahu) and lodged with the council. These are:

- Te Runanga o Ngai Tahu Freshwater Policy.
- Te Whakatau Kaupapa – Ngai Tahu Resource Management Strategy for the Canterbury Region.

New Zealand Coastal Policy Statement

As elements of water management will impact on the coastal environment, the provisions of the New Zealand Coastal Policy Statement, gazetted in 1994, have been considered where relevant. There is no other relevant National Policy Statement. However, it is recognised that there are impending changes to the Coastal Policy Statement and impending national policy statements on fresh water.

Canterbury Regional Policy Statement

The Operative Regional Policy Statement for the Canterbury region, in providing an overview of the resource management issues of the region, indicates the direction to be taken in regional plans. A regional plan must give effect to the regional policy statement and may not be inconsistent with any other regional plan in the region.

This Plan closely follows, and is consistent with, the framework of the water and river chapters of Canterbury Regional Council's Operative Regional Policy Statement. This plan has adopted the relevant issues, objectives, policies and methods of the Operative Regional Policy Statement but has modified them so that they are specific to the Waipara River Catchment and the particular circumstances within the catchment.

The Operative Regional Policy Statement sets out matters of resource management significance to Ngai Tahu. These matters include water quality, water quantity, harvesting of mahinga kai, consultation and process issues. These have been integrated into this Plan.

Canterbury Regional Coastal Environment Plan

The Regional Coastal Environment Plan was adopted in part on 11 December 2003. The Plan promotes the sustainable management of the natural and physical resources of the Coastal Marine Area and the coastal environment and its integrated management. It sets out the issues relating to protection and enhancement of the coast, water quality, controls on activities and structures and coastal hazards.

Land and Vegetation Management Regional Plan

The Land and Vegetation Management Regional Plan consists of three parts that address earthworks and vegetation clearance on the Kaikoura East Coast (Part 1), Port Hills (Part 2) and Land Management Fires in the Hill and High Country (Part 3).

Canterbury Natural Resources Regional Plan

The Natural Resources Regional Plan (NRRP) was notified in 2002 and includes sections on air, water and land. The NRRP applies to the whole of the Canterbury Region and addresses issues on a regional or sub-regional basis.

The provisions of the NRRP apply to activities within the Waipara River Catchment, which are not covered by this Plan, including water quality (and discharges), the draining of wetlands and activities in the beds of lakes and rivers.¹ The NRRP also contains provisions to manage the taking and use of surface and groundwater, but they do not apply in catchments which have their own river plans or water plans. In the event of any potential conflict between the provisions in the NRRP and this Plan for activities which are covered by this Plan, the provisions in this Plan will prevail with respect to surface water within the Waipara River Catchment and with respect to groundwater to the whole of the Waipara Groundwater Zone, including that part that extends beyond the Waipara River Catchment, and groundwater in the remainder of the Waipara River Catchment, except for that area that falls within the Culverden Basin Groundwater Zone.

While the provisions of the NRRP may not apply, the assessment methods and techniques developed under the NRRP are broadly applicable when considering whether to exercise discretion under this Plan. The Natural Resources Regional Plan was made operative on 11 June 2011.

Hurunui District Plan

The Hurunui District Plan was made operative on August 2003. The Hurunui District Plan is prepared by Hurunui District Council and controls subdivision and the effects of land use, including activities on the surface of the water, in the Hurunui District.

¹ At some time in the future, additional activities such as water quality may be encompassed into a Waipara specific plan, at which point the NRRP and this Plan will be amended accordingly

Part 3 – The Natural and Physical Resources of the Waipara River Catchment

Overview

The Waipara River Catchment is a relatively small foothills catchment running from the Double Tops Range to the sea just north of Amberley Beach. It has four main tributaries in addition to the Upper Waipara River: Weka Creek, Bobby Stream, Home Creek and Omihi Stream. The Waipara River Catchment encompasses an area of approximately 726km². It is located towards the northern end of the Canterbury Plains, extending some 40km from the Double Tops Range in the west to the Waipara Lagoon in the east. The Waipara Lagoon is intermittently open to Pegasus Bay in times of larger flows, typically in winter and spring.

The North Branch flows initially eastward from hill country and then flows southward across Masons Flat. The Middle and South Branches join below Masons Flat, and the mainstem then flows eastward through the Ohuriawa/White Gorge. Bobby Stream enters just below the White Gorge water level recorder (see Map 1a). Below White Gorge, the mainstem continues to flow eastward across the large alluvial basin of the Waipara Flats. Weka Creek flows into the mainstem approximately 10km downstream of White Gorge. A dam is located on Weka Creek at Anthills, at the south-eastern end of Weka Pass.

The predominantly spring-fed Omihi Stream flows in a south westerly direction at the northern end of the Waipara Flats. In its upper reach at Baxters Road Bridge, it is often dry in summer. Further down at the Vineyard Bridge it consists of a series of deep pools in open grassland bordered by vineyards. Groundwater springs contribute significantly to the flow in the lower Omihi Stream. Home Creek flows into the Omihi Stream prior to entering the Waipara just below State Highway 1. Where the Omihi flows into the Waipara River, the river bed is shingle and the stream is shaded by willow and broom. It is a very slow flowing ponded water body interspersed with minor slow-flowing riffles, thick willows on the margins and considerable pond weed. In some reaches, it flows through open pasture and some reaches are dry in summer.

Below the Omihi confluence, the Waipara River cuts through the coastal hills at Teviotdale Gorge, before exiting out and flowing across a narrow coastal plain to the Waipara Lagoon at the coast.

Water in the Waipara River Catchment provides essential drinking and stockwater supplies to township and community schemes and individual properties. It is also used for irrigation of some land within the Waipara River Catchment.

Natural Resources

Climate

Rainfall, mainly from southerly and easterly/north-easterly airflows, is the predominant source of precipitation. Precipitation in the Waipara River Catchment is strongly dependent on elevation, exposure to the main rain-bearing winds and the rain shadow effect of the surrounding hills.

The annual average rainfall is approximately 600mm. The catchment has its highest and most variable flows in winter and spring, and generally lower, more stable flow conditions in summer and autumn. It is natural for the river to experience very low flows and some drying reaches in late summer, if there has been little or no rain. Potential evapotranspiration is substantially greater than precipitation in the summer months, so the most significant runoff or infiltration to groundwater occurs during winter months (June to August) except for intense rainstorms at other times.

Landform, Geology and Land Cover

The Waipara River Catchment is located in the northern fringe of the Canterbury Plains, almost entirely within Hurunui District. The river flows from the eastern foothills of the Southern Alps to Pegasus Bay. In terms of the landscape classification of Hurunui District developed by Lucas Associates (1995), the landscape of the catchment includes “hard rock foothills”, “soft rock downlands”, “plains landscapes” and “inland basin floor landscapes”.

The main headwaters, the North, Middle and South Branches and Tommy’s Stream, rise in the eastern foothills of the Southern Alps, which are composed of sandstones and argillites (“greywackes”) of Triassic and Jurassic age. Vegetation cover is predominantly unimproved pasture, with regenerating indigenous shrubland common in gullies and south-facing slopes. Particularly in the South Branch, there has been extensive afforestation using radiata pine.

The North Branch flows out onto the southernmost extension of the Amuri Plain, which is a structural basin filled with Quaternary gravels, and then into complexly faulted and folded sedimentary rocks. The

landscape is mostly pastoral, with improved pasture and many windbreaks on the plain and terraces, and unimproved pasture (with some reversion to shrubland) on the south-western faces of Doctors Hills, overlooking the plain. Willows are common along the banks in many places; the North Branch, in particular, is heavily infested by willows in places.

After flowing through a trough cut into soft rock, the Waipara River then enters White Gorge, cutting through the limestone escarpments of South Dean and Mt Brown. The inner gorge is 100-120m deep, steep-sided and clad in re-generating shrubland in which exotic species are dominant. The surrounding hillsides are largely unimproved pasture, reverting shrubland, and recently planted pine forest. The river is again lined by willows. Between Ohuriawa Gorge (upstream) and White Gorge (downstream), and just before the Waipara breaks through the limestone escarpments to the west of South Dean, the river flows for about three kilometres through a depression that marks more erodible Cretaceous formations. The landscape is a mix of limestone escarpments, alluvial terraces, and steep rocky bluffs and cliffs. There is a varied mix of regenerating exotic shrubland, young pine plantations, nut tree orchard, improved pasture on the flats and downs and unimproved pasture on the steeper hills.

The White Gorge area is one of unique and internationally renowned geological significance. It contains the only exposed, continuous geologic sequence from the Cretaceous to the Miocene; and many examples of fossilised material from the Mesozoic and tertiary periods. It is one of the few sites where the Cretaceous-Tertiary (K/T) boundary is exposed.

The gorge area also contains spectacular landforms caused by the action of water on limestone, including the large, perfectly rounded stones known locally as ‘God’s Marbles’. The Weka Pass area also contains limestone outcrops and other formations. Both areas are identified in the Hurunui District Plan as outstanding landscapes and containing significant geological and natural areas.

The Waipara River, for much of its final 18-20km from its exit from White Gorge to the mouth, flows between terraces, below the general level

of the Waipara alluvial plain. For 5km between State Highway 1 and the sea, it is incised into the sedimentary rocks of the southernmost extension of the coastal hills. The Waipara alluvial plain is composed of terraces cut into Quaternary gravels, and is enclosed by hill country underlain by a complex arrangement of sandstone, limestone and siltstone formations. Omihi Stream, together with its major tributary Home Creek, drains the northern part of the Waipara alluvial basin, and the sedimentary formations that contain the basin. The landscape is predominantly pastoral, with arable cropping and a rapidly growing area of vineyards on the terraces of the basin.

The lower Waipara River area is heavily modified by human activity, particularly by windbreaks and vehicle tracking, and the vegetation cover is composed almost entirely of introduced species. Commercial gravel extraction operations occur in the riverbed, around and downstream of State Highway 1. The Waipara River mouth is a distinctive component of the “Amberley beach and plain” landscape unit, identified as a significant landscape by Lucas Associates (1995). There is no settlement at the river mouth and a rather difficult public access. The landscape surrounding the river mouth and lagoon is unmanaged shrubland, in which exotic trees, shrubs and grasses are predominant.

Water Resources

The Waipara River Catchment can be separated into two distinct parts. The Upper Waipara is foothill-fed, which means that water flow and yields are generally low in the late summer due to reduced rainfall. The Lower Waipara has higher and more consistent flow due to the inputs from the low-land, spring-fed waterways, Omihi Stream and Home Creek. The natural flow regime of the Waipara River is one of high flows and floods which mostly occur during winter months (but can occur at any time during the year) and generally long periods of low, stable flows during summer and autumn. Typical flow information for the Waipara River at White Gorge is:

Annual mean flow	2790 L/s
Median flow	887 L/s
Fre ³ flow	2661 L/s
7-day MALF	107 L/s
Fre ³ frequency	~17 per annum
Floods >8 cumecs	~4 per annum

The Waipara River flows to the sea at the far northern limit of Amberley Beach, close to the point where the Canterbury Plains give way to coastal hills. The river has a gravel/shingle bed almost all the way to the sea, with the last few tens of metres forming (at low flow) a still water lagoon with unstable gravels and bars between it and the sea. The lagoon is narrow and extends largely to the north of the river, immediately behind the beach. The lagoon is generally opened to the sea by freshes of 8-10 cumecs in the Waipara River and closes again when flow falls below 4 cumecs. Periodic opening of the lagoon mouth, particularly in spring time, is important to allow diadromous fish passage. The lagoon is of particular significance to Te Runanga O Tuahuriri as a source of mahinga kai, and access to the lagoon for this purpose is important.

The two hydrographs below show the flows for the last 5 years and the last 12 months in more detail. White Gorge has been selected, as it is less affected by abstractions. As can be seen, the River experiences significant peaks, up to several times per annum, with long periods of low flows, typically over summer. These hydrographs are of the last few years of record – they are not necessarily typical of earlier periods.

The known groundwater resources in the Waipara River Catchment are small, generally low-yielding aquifers in the clay-bound gravels of the Waipara alluvial basin. These aquifers are recharged principally by rainfall infiltration and some recharge from river and stream beds,

especially in Weka Creek and Omihi Stream. The aquifers are made up of buried meandering river channels, generally less than 10m thick, which are not laterally extensive and have low transmissivity. However, there is thought to be deep groundwater in the underlying Tertiary rocks.

Low rainfall, high evapotranspiration and the low permeability clay layers in the gravels all hinder rainfall infiltration and recharge rates for the shallow groundwater aquifers. The majority of groundwater is within the Waipara Groundwater Zone. The groundwater resources in this Zone are at or close to fully allocated at present², as 95% of the estimated groundwater resource, is allocated to abstraction consents and applications have been lodged to abstract a further 4%.

The Waipara River mainstem is not thought to be significantly connected to groundwater aquifers, except downstream of Greenwoods Bridge, where the river loses water rapidly. On the other hand, Weka Creek, Omihi Stream and their tributaries have significant exchanges with groundwater. In total, their flow losses average 0.17 cumecs during winter and 0.08 cumecs during summer, and losses from these channels provide a significant source of recharge to the aquifers. Omihi Stream consistently gains approximately 0.15 cumecs from springs (outflows from buried stream channels) downstream from the Home Creek confluence, and provides an important addition to the flow of the lower Waipara River.

Catchment Ecology

The Waipara River and its tributaries support a variety of life forms and ecosystems, including indigenous plants, birds, aquatic macroinvertebrates, and fish.

Indigenous Plants

Tributaries in the upper hill country and downlands generally are bordered by indigenous grassland and shrubland. There are a number of indigenous forest remnants along some streams that are identified as significant natural sites in the Hurunui District Plan, and a mix of indigenous and exotic shrubland is regenerating vigorously in many places.

In the Waipara alluvial basin, indigenous vegetation is sparse along the Waipara River and its lower tributaries, although four threatened species are present in the area: *Isolepis basilaris* (in serious decline, in the upper catchment), *Muehlenbeckia astonii* ((shrubby tororaro, wiggy-wig bush) nationally vulnerable, in the lower catchment), and *Heliobede maccaskillii* and *Gentianella calcis* subsp *waipara* both of which are nationally endangered.

Birds

Threatened bird species found in the catchment include banded dotterel, black-fronted tern, wrybill and bittern. The Waipara River and river mouth were rated in 1983 by the Department of Conservation (O'Donnell and Moore, 1983) to be of “moderate” and “moderate to high” value for wildlife.

O'Donnell (2000) ranks the river mouth as “High-3” (of national to international significance for threatened species), with the Waipara River as “High-6” (use by < 10% of the total population of the threatened species that are present). O'Donnell commented, with regard to the river, “Recently colonised by black-fronted dotterels. Only breeding site in New Zealand for red-capped dotterels” and with regard to the river mouth, “wintering habitat for all species characteristic of coast and rivers. Black-fronted and red-capped dotterels recorded”.

² As at May 2011

Aquatic Macroinvertebrates

The species that are characteristic of Canterbury braided rivers also are found in the Waipara (Sagar, 1986; Scrimgeour and Winterbourn, 1989; Scrimgeour et al., 1988). The most frequently sampled animals include; in the mainstem, mayfly (Deleatidium) and Elmidae larvae. In the tributaries, additional species that were sampled with some frequency included caddisfly (Aoteapsyche), midges (Chironomids), Oligochaetes, and a number of molluscs (Potamopyrgus and Gyraulus in particular) and shrimps (ostracods). Koura (Paranephrops planifrons) and freshwater mussels (Hyridella menziesi) have also been recorded in the catchment. However, the invertebrate community and habitat are graded as generally only poor to fair, with a tendency for the upstream sampling stations to receive higher gradings (Hayward et al., 2003).

Fish

The fish species found in the Waipara River Catchment are upland bully, bluegill bully, torrentfish, shortfin eel, longfin eel, common bully, black flounder, common river galaxias and brown trout. Richardson and Jowett (1994) observed eight native species, plus brown trout, and their more recent surveys have found a few black flounder, lamprey and koaro. NIWA records indicate that common smelt, Stokell's smelt and inanga are present. Of the native species, longfinned eels are at risk and declining nationally, along with bluegill bully, torrentfish and lamprey. Stockell's smelt have been classified as nationally uncommon, regionally rare. Jowett (2006) concludes that the Waipara River system is an unfavourable environment for trout, although it does provide a trout fishery that is of local significance.

Social, Economic and Cultural Characteristics

Significance to Ngai Tahu

The Waipara River reflects the whakapapa of the Te Ngai Tuahuriri who are a part of the modern tribe of Ngai Tahu. The Waipara River was a significant mahinga kai for Te Ngai Tuahuriri's economic, social and cultural well being. The importance of these mahinga kai values are reflected in the following reference from the Waipara River Statutory Acknowledgement (see Appendix 2 for full text):

"The river and associated coastline was a significant mahinga kai, with kai moana, particularly paua, being taken at the mouth. The Tupuna had considerable knowledge of the whakapapa, traditional trails and tauranga waka, places for gathering kai and other taonga, ways in which to use the resources of the river, the relationship of people to the river and their dependence on it and tikanga for the proper and sustainable utilisation of resources. All these values remain important to Ngai Tahu today."

Known nohoanga (traditional camping areas) for mahinga kai in the Waipara River Catchment include the Deans where moa remains have been found, the coastal area where paua, mussels and crayfish were caught, the lagoon where inanga were caught, and the river mouth. The river mouth was also the site of prolonged and sustained occupation with two pa sites on the northern side. Nohoanga provide all Ngai Tahu with an opportunity to experience the landscape as their tupuna did and to rekindle the traditional practices of gathering food and other natural resources (Zygadlo-Kanara and Te Runanga o Ngai Tuahuriri, 2004).

Representatives of Te Ngai Tuahuriri participated in a study of the Waipara River and the characteristics that contribute to its mauri in 2002 (Larking, 2002). A common factor identified by all participants was the importance of freshes and flood flows in maintaining mauri in the Waipara River. Te Ngai Tuahuriri has also identified the ability to gather mahinga kai from the lagoon as the most significant issue for them in the Waipara River Catchment. There are a number of wahi tapu and wahi taonga sites identified within the Waipara River Catchment.

These include:

- Ngati Wairaki, Ngati Mamoe and Ngai Tahu urupa along the river and associated coastline;
- Pa site at river mouth and coastal area with middens containing mussel, pipi and paua shells, pit/midden/ovens sites, cave shelters and rock shelters;
- Three rock shelter/art sites at Mount Donald Run;
- Several rock shelters/art sites in each area of Weka Pass, Timpendean and the old Sandhurst run, and one site each in North Dean, South Dean, and Pyramid Valley;
- Tauranga waka (traditional canoe landing) at the north end of the lagoon (Zygadlo-Kanara and Te Runanga o Ngai Tuahuriri, 2004).

The importance of the Waipara River and lagoon are reflected in the Statutory Acknowledgement under the Ngai Tahu Treaty Claims Settlement Act 1998.

Population and Communities

The predominant land use within the Waipara River Catchment is primary production. Traditionally the area relied on a high proportion of cash cropping to complement sheep and beef production. Over time, viticulture and other horticulture activities and lifestyle development has occurred in the area; and by the turn of this century the area had become a significant wine production region, accommodating numerous vineyards and wineries. Some cropping still occurs and pastoral sheep and beef farming is still the largest land use (by land area). Waipara led the way in rural irrigation schemes by opening its No. 1 Rural Reticulated Water Supply Scheme in 1886, which was the first water harvesting scheme in New Zealand.

The population within the Waipara River Catchment was 1143 people at the time of the 2006 Census. The only major settlement within the catchment is the township of Waipara which has its origins as a railway town, at the junction of the main trunk line and a line heading inland.

Recreation and Tourism

Local people use the Waipara river system for fishing, swimming, walking, horse trekking, camping and general amenity. There are commercial visitor accommodation and associated recreational facilities at Claremont, above White Gorge. The Waipara River mainstem from the State Highway 1 bridge downstream is a popular area for off-road motor vehicles and the Boy's Brigade camp on Georges Rd makes use of the river for a variety of activities, including establishing a swimming hole in the river each summer.

The Ohuriawa and White Gorges both have potential for water-based recreation, principally during high flows in August to November, though current use is light. Access to this area of the Waipara River is limited and several property owners have ad medium filum³ boundaries.

Minor use of the river mouth/lagoon for whitebaiting occurs when flows are suitable and one of the main priorities for Te Ngai Tuahuriri is better access to and management of the lagoon for mahinga kai. Richardson and Jowett's (1994) survey indicates that eels are present in the river and its tributaries, and could provide a minor recreational fishery. There are very few salmonids in the Waipara system.

Waipara is one of New Zealand's most rapidly expanding wine areas with daily wine tours, as well as personal excursions, and various hospitality and accommodation options.

3 This means that the property boundary with the riverbed has never been surveyed. Until that occurs, the property boundary is deemed to be the centre-line of the river.

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Part 4 – Demand for Water

Water plays various roles in sustaining the natural, cultural, economic and social values of the catchment. Each role requires differing amounts and timing of water. There is potential for increased demand for abstraction for rural and township water supplies and irrigation. There is demand for more water to remain instream to cater for ecological, recreational, cultural, amenity or other 'in-stream' values. The different flow requirements of these various uses and their relative importance are all matters which need to be considered as part of a water allocation and management plan for the Waipara River Catchment.

Physical Requirements of River Systems for Water

The natural flow character of the Waipara River is that of an ephemeral, foothills catchment, with periods of stable, low flow in summer and autumn and, during the other seasons, peaks of short duration freshes or floods followed by recessions. It is typical of such streams to experience drying reaches in the braided sections of the bed with little or no surface flow in late summer.

Variability of flows over different time-scales is important for both hydrological and ecological functioning of the catchment, with different aquatic species adapted to different flow conditions. A key role of water is the maintenance of the overall form and dimensions of the channel. The river's pattern, depth, width, bed material, bank stability and the functioning of the river mouth depend on the flow regime in the river. Floods are the major natural channel-forming mechanism, reshaping and refreshing the bed and riparian areas, and re-establishing a braiding pattern. Lower flows provide important physical conditions, particularly depth and width, and maintain connections between the main channel and adjoining habitats, such as pools or riparian margins.

Ecological Requirements for Water

Birds

The bird species of principal interest from the perspective of managing the hydrological regime in the Waipara Catchment are banded dotterel, wrybill, bittern and black-fronted tern. All of these species use the braided section of the Waipara River and the river mouth for feeding principally during late August to January/February.

The extent of bare gravel bars suitable for nesting is related to the frequency of floods large enough to cause lateral migration of braids and to wash over and rework the bars. Birds require river flows that include flood events, at any time of year, to maintain vegetation-free gravel bars for nesting, and to provide food producing and feeding areas during the nesting/breeding period (September to January/February). However, with a build up of exotic vegetation, particularly willows in the riverbed, the Waipara River Catchment is now unlikely to get a flood that is of sufficient velocity and duration to remove all the exotic vegetation and reclaim all the exposed gravel riverbed. Other riverbed vegetation management includes physical removal and herbicide control of pest plants.

Aquatic Macroinvertebrates

The invertebrate fauna of the Waipara River system is similar to that in other Canterbury Plains rivers, although not necessarily in terms of species abundance. The available data indicates that the aquatic biota in the Waipara River Catchment is characterised by species found in a naturally unstable flow regime with long periods of low flow and periodic high flows. Disturbance by periodic high flows tends to produce a faunal community which does not include species that require stable substrates and stable algal covers.

Fish

The Waipara River system is not a favourable environment for salmonids, however it does provide a fishery that has some value for locals for recreational fishing and mahinga kai. The highest diversity of species occurs in the lower reaches. Numerically, the fauna in the lower reaches is dominated by bluegill bullies, upland bullies and torrentfish. In the middle and upper reaches, upland bullies dominate. Shortfin eels are much more abundant in Omihi Stream and Home Creek. These fishes need water flows and levels that provide:

- Freshes so that the lagoon is open to the sea for the migration of native fish;
- Habitat conditions suitable for freshwater insects as a food source;
- River bank vegetation to provide shelter;
- Suitable turbidity, temperature and oxygen levels;
- Stable water levels to prevent eggs drying up or being disturbed once laid;
- Prevention of high levels of plant growth caused by prolonged low flows; and
- Passage between rivers, lakes and wetlands, and to and from the sea for diadromous species. Migration times vary but at least one species of fish is migrating up or down river at any one time.

Tāngata Whenua Cultural Requirements for Water

The Waipara River is subject to a Statutory Acknowledgements (Deed of Recognition sites under the Ngai Tahu Claims Settlement Act 1997).

Larking (2002) with assistance from Te Runanga O Tuahuriri undertook a case study of the factors that contribute to mauri for tangata whenua in the Waipara River. The case study concluded that while perceptions of mauri differed between individuals there were common factors that detracted from or contributed to the mauri of the river. These included:

- Loss of mauri when flows are very low;
- Flow variability is important to mauri especially flow variability with seasons;
- Water pollution and floating material reduces the mauri;
- Presence of exotic plant species & structures such as roads and bridges reduces the mauri;
- Adjacent land uses and farming affect the mauri; and
- The area of the Waipara River around and below SH 1 was identified as the part with the most degraded mauri.
- Larking (2002, p.11) also noted that the values Ngai Tahu wish to see protected when developing water allocation regimes are, in order of priority:
- Sustaining the mauri of the waterbody;
- Meeting the basic health and safety needs of humans, specifically the provision of freshwater for drinking water;
- Protecting traditional cultural values and uses (in addition to mauri);
- Protecting other instream values and uses (including indigenous flora and fauna);
- Meeting the health and safety needs of humans, with respect to water for sanitation purposes;
- Providing water for stock;
- Providing for economic activities including other abstractive uses; and
- Other uses.

Town and Community Requirements for Water

Township and community domestic and stock drinking water and supply to individual properties are drawn from both surface water and groundwater sources.

Community water supplies are drawn from the upper Waipara River; and Waipara Township gets its supply from a stream depleting groundwater bore, above the Omihi Stream confluence. This supply services over 100 consumers, largely the Waipara Township, vineyards, and lifestyle blocks west of the town. Low water cut out has been reported as occurring more frequently over the last few years. Additional storage may be necessary to minimise peak pumping rates and to meet the projected rural and township water supply requirements.

Hurunui District Council has been investigating a gallery intake on the Lower Waipara for a take of 20L/s, for the supply of Amberley.

Agriculture and Horticulture Requirements for Water

Current takes from the Waipara River and its tributaries are mostly for 'run of river' irrigation, but a number of takes are for winter storage (for irrigation) and some for frost-fighting. The most critical time for an irrigation abstraction is the October to April period.

The existing maximum rates of abstraction of consented surface water and hydraulically connected groundwater are shown in Table 1. The rate and amount of surface water able to be taken from most of the sub-catchments of the river varies from month to month, with some influenced by winter storage and others by higher summer demand for run-of-river takes.

Some existing systems in the catchment are significant, both in terms of their impact on natural flows and the amount of water made available for irrigation. For example, Weka Irrigators Limited hold consents to divert and take up to 1020L/s of water from Weka Creek, at Antills in the Weka Pass. The dam diverts water from Weka Creek into an irrigation system on the true left bank of the Weka Creek, which feeds properties to the north. The first 28L/s of flow is maintained in stream. Flows between 28L/s and 1048L/s are diverted into the Weka Creek irrigation scheme. Flows above 1048L/s spill over the dam and down Weka Creek. The mean flow of Weka Creek is only approximately 650L/s (Chater, 2002), so for most of the year the whole of the consented rate of take is unavailable and freshes and floods are harvested for storage. Depending on rainfall, Weka Creek may have surface flow for any distance from a few metres below the dam to its confluence with the Waipara.

The Waipara region has experienced considerable growth in viticulture and horticulture over the last twenty years. The area is now recognised as a significant producer of quality wines and horticultural crops such as olives, which have made a significant contribution to the local economy and employment. The growth in land use devoted to grape growing has increased, along with the demand for irrigation water, particularly over the peak of the summer season. Some vineyards are supplied by the Weka Irrigation Scheme and many vineyards outside the scheme have built on-farm storage because run of river irrigation from the Waipara River system is unreliable, especially in late summer, and particularly in the Waipara River Catchment above the Omihi confluence.

The groundwater in the Waipara River Catchment serves a wide geographic area, but is limited both in terms of the overall quantity available and its somewhat unpredictable spatial distribution. As noted above, groundwater in the Waipara Groundwater Zone is very near to being fully allocated.

Recreation and Tourism Requirements for Water

Recreational uses of water require flows and levels that:

- Provide access for recreational users;
- Are free of filamentous periphyton mats; and
- Are of suitable velocities, clarity and depths.

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

Commercial and Industrial

There is not a great demand for water in the catchment for commercial and industrial purposes currently. Increased agricultural and horticultural production is likely to require additional processing capacity. One of the impediments to establishing rural based industrial facilities in the area may be a lack of water.

Part 5 – Issues

This plan identifies and manages issues relating to the allocation and use of surface water and groundwater in the Waipara River Catchment. Issues relating to water quality and land uses are addressed in the NRRP.

Issue 1 – The Waipara is a water-short catchment

- 1.1 The catchment is naturally dry and the soil type suited to land uses which require water at strategic times of the growing season;
- 1.2 The need for abstraction for irrigation is usually greatest when water resources are lowest so reliability of supply is low; and
- 1.3 There is little additional water available for abstraction within the catchment relative to the potential irrigable land, and what is potentially available is costly to abstract.

The Waipara River Catchment is a low-land hills and coastal plains catchment reliant on southerly and north-easterly rainfall. There is low natural storage in the catchment because it has a relatively small catchment area where little snow accumulates. This leads to significant short-term and seasonal changes in water availability.

There is relatively high actual and potential irrigation demand in the catchment. The climate is naturally dry, particularly in summer and land uses in the area, especially viticulture, require water at key times; and demand for most irrigation water in the catchment is in summer usually when the water resources are naturally low. Therefore reliability of supply, especially for 'run of river' abstraction can be low over summer. Low reliability of supply can be exacerbated by granting further consents to abstract the resource, as the water available for abstraction has to be shared among a greater number of users. In addition, some water that is allocated for irrigation is not being used, or the technical or irrigation efficiency with which it is being used could be improved.

Demand for further water abstraction from within the Waipara River Catchment from both surface water and groundwater sources is potentially high. However, there is a high cost to accessing additional water, as most readily available surface and groundwater is now allocated. For surface water, the main option is to access water from floods and freshes and store it to improve reliability of supply.

Augmentation from out of catchment sources is an option but would require inter-catchment transfer and would need to be part of a larger scheme to be economically viable.

The Waipara Groundwater Zone is fully contained within the Waipara River Catchment and has an estimated availability of 10.7 million m³. As at May 2011, 95% of this source is already allocated to consent holders for abstraction, and a further 4% applied for. On this basis, it is expected that the resource will be fully allocated within months. Any additional groundwater, which is not stream-depleting, available in the Waipara River Catchment beyond that in the Waipara Groundwater Zone, is likely to be from deep groundwater aquifers, including some possibly stored at the base of the foothills or coastal hills. These sources are difficult to locate and costly to abstract.

Issue 2 – Abstraction has impacts on the in-stream values of the Waipara River

Water abstraction can have impacts on instream values, particularly during low flow periods where it can prolong or exacerbate low flow conditions. The in-stream values in the Waipara River system are based on a river system that naturally has dry reaches and low summer flows.

Abstraction within the Waipara River system is managed using minimum flow triggers at which most abstractions must cease, and surface flow will drop below this minimum naturally without rainfall. However, abstraction of surface or stream depleting groundwater has the potential to prolong or exacerbate these low flow conditions, by leaving the river flowing at or near its minimum flow conditions for longer periods than would occur without abstraction.

Taking water from freshes or flood flows to storage can help reduce the impact of abstraction on low flows but, in turn, has the potential to reduce flow variability, which is also important for the health of the river. Freshes and flood flows of differing velocities transport sediment and rework the bed, cool water temperature and restore fish passage, remove algal growth and other vegetation and open the lagoon mouth and allows diadromous fish passage in spring. They are important to allow ecosystems to recover from periods of low flow, and to reset the river.

Groundwater abstraction can also affect surface water flows within the catchment: both directly, through stream depleting groundwater takes; and indirectly, through lowering the water table which can affect surface water flow in springfed streams and streams that gain or lose surface flow to groundwater.

Issue 3 – Water resources in the catchment are inter-related

- 3.1 Surface and groundwater resources in the catchment are inter-related; and
- 3.2 Water takes, uses, damming and diversions upstream can affect water quantity and thus instream values and reliability of supply for abstractors, downstream.

Both surface and groundwater resources are a result of rainfall. In the Waipara area, the groundwater catchment is largely contained within a surrounding line of mountains and hills so is relatively confined. The effects of groundwater abstraction on surface flows are either direct, through stream depleting groundwater takes, or indirect, through lowering of the groundwater table and/or groundwater pressures, which affect springfed streams in particular. Further groundwater takes, in particular, can have effects on the reliability of supply for other ground and surface water abstractors, especially those that are short-term stream depleting takes or takes from shallow bores.

The consented and lawfully established groundwater abstractions in the Waipara Groundwater Zone are almost at the total estimated groundwater available.

The flow and allocation regime to manage surface and stream depleting groundwater abstractions in the Waipara River Catchment, is derived from hydrological data based on past and current flow conditions. This includes an assumption that all the water flowing into the streams at present will continue to do so unimpeded. Therefore, any activity, which involves the taking, use, damming or diversion of water, has the potential to affect flows and thus reliability of supply for abstractors, downstream. Such effects can arise from single, significant events such as a large-scale take or the damming of a major tributary; or from cumulative effects from several smaller-scale activities. Management of the Waipara River Catchment needs to recognise this interconnectedness of the water resources in the catchment and the potential for any new activity to affect both in-stream values and out-of-stream uses of the water resources in other parts of the catchment.

Issue 4 – Surface flows in the catchment are sensitive to land use changes

Vegetation change, particularly forestry in the upper catchment and increased willows along the course of the Waipara River, reduce the flows in the river either directly, through absorbing water, or indirectly, through intercepting rainfall run-off. The Waipara River Catchment is recognised in the NRRP as a water sensitive catchment. Controls over the planting of exotic, woody vegetation were introduced to help maintain surface water flow and reliability of supply for existing abstractors, by ensuring rainfall run-off is not significantly reduced through large-scale forestry planting.

The spread of willows in the beds and along the margins of waterways in the Waipara River can affect the amount of surface flow, through absorbing water. As an example of how much willows can absorb, Mosley (2000) estimated willows could be responsible for absorbing up to 28L/s in the Upper Waipara River. The spread of willows in gravel riverbeds also has the effect of colonising the gravel bars and altering the river from one of shifting, braided channels to an anastomosing one. This changes the habitat for aquatic invertebrate and bird species that depend on braided riverbed habitats.

Part 5A - National Direction

This section of the Plan contains provisions that have been incorporated into the Plan in accordance with directions in a national policy statement, national planning standard or other national direction.

Objectives

Objective 5A.1

The passage of fish is maintained, or improved, by instream structures, except where it is desirable to prevent the passage of some fish species in order to protect desired fish species, their life stages, or their habits.¹

Policies

Note: in addition to the definitions contained within this plan, the definitions contained within cl. 3.21(1) of the NPSFM 2020 apply to policies 5A.1 – 5A.5.

Policy 5A.1

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

application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.

5. Paragraph 2 of this policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2014 takes effect.²

Policy 5A.2

1. When considering any application the consent authority must have regard to the following matters:
 - (a) the extent to which the change would adversely affect safeguarding the life supporting capacity of fresh water and of any associated ecosystem and
 - (b) the extent to which it is feasible and dependable that any adverse effect on the life supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided.
2. This policy applies to:
 - (a) any new activity and
 - (b) any change in the character, intensity or scale of any established activity – that involves any taking, using, damming or diverting of fresh water or draining of any wetland which is likely to result in any more than minor adverse change in the natural variability of flows or level of any fresh water, compared to that which immediately preceded the commencement of the new activity or the change in the established activity (or in the case of a change in an intermittent or seasonal activity, compared to that on the last occasion on which the activity was carried out).
3. This policy does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management 2011 took effect on 1 July 2011.³

Policy 5A.3

The loss of extent of natural inland wetlands is avoided, their values are protected, and their restoration is promoted, except where:

- (a) the loss of extent or values arises from any of the following:
 - (i) the customary harvest of food or resources undertaken in accordance with tikanga Māori
 - (ii) wetland maintenance, restoration, or biosecurity (as defined in the National Policy Statement for Freshwater Management 2020)
 - (iii) scientific research
 - (iv) the sustainable harvest of sphagnum moss
 - (v) the construction or maintenance of wetland utility structures (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020)

¹ NPSFM 2020

² NPSFM 2014

³ NPSFM 2014

- (vi) the maintenance or operation of specified infrastructure, or other infrastructure (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020
- (vii) natural hazard works (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020); or
- (b) the regional council is satisfied that:
 - (i) the activity is necessary for the purpose of the construction or upgrade of specified infrastructure; and
 - (ii) the specified infrastructure will provide significant national or regional benefits; and
 - (iii) there is a functional need for the specified infrastructure in that location; and
 - (iv) the effects of the activity are managed through applying the effects management hierarchy;⁴ or
- (c) the regional council is satisfied that:
 - (i) the activity is necessary for the purpose of urban development that contributes to a well-functioning urban environment (as defined in the National Policy Statement on Urban Development); and
 - (ii) the urban development will provide significant national, regional or district benefits; and
 - (iii) the activity occurs on land identified for urban development in operative provisions of a regional or district plan; and
 - (iv) the activity does not occur on land that is zoned in a district plan as general rural, rural production, or rural lifestyle; and
 - (v) there is either no practicable alternative location for the activity within the area of the development, or every other practicable location in the area of the development would have equal or greater adverse effects on a natural inland wetland; and
 - (vi) the effects of the activity will be managed through applying the effects management hierarchy; or
- (d) the regional council is satisfied that:
 - (i) the activity is necessary for the purpose of quarrying activities; and
 - (ii) the extraction of the aggregate will provide significant national or regional benefits; and
 - (iii) there is a functional need for the activity to be done in that location; and
 - (iv) the effects of the activity will be managed through applying the effects management hierarchy; or
- (e) the regional council is satisfied that:
 - (i) the activity is necessary for the purpose of:
 - (A) the extraction of minerals (other than coal) and ancillary activities; or
 - (B) the extraction of coal and ancillary activities as part of the operation or extension of an existing coal mine; and
 - (ii) the extraction of the mineral will provide significant national or regional benefits; and
 - (iii) there is a functional need for the activity to be done in that location; and
 - (iv) the effects of the activity will be managed through applying the effects management hierarchy; or
- (f) the regional council is satisfied that:
 - (i) the activity is necessary for the purpose of constructing or operating a new or existing landfill or cleanfill area; and
 - (ii) the landfill or cleanfill area:
 - (A) will provide significant national or regional benefits; or
 - (B) is required to support urban development as referred to in paragraph (c); or
 - (C) is required to support the extraction of aggregates as referred to in paragraph (d); or
 - (D) is required to support the extraction of minerals as referred to in paragraph (e); and
 - (iii) there is either no practicable alternative location in the region, or every other practicable alternative location in the region would have equal or greater adverse effects on a natural inland wetland; and
 - (iv) the effects of the activity will be managed through applying the effects management hierarchy.⁵

Policy 5A.3A

Resource consent for activities set out in Policy 5A.3 subclauses (a)-(f), that would result in the loss of extent or values of a natural inland wetland will not be granted unless:

- (a) the council is satisfied that:
 - (i) the applicant has demonstrated how each step of the effects management hierarchy will be applied to any loss of extent or values of the wetland (including cumulative effects and loss of potential value), particularly (without limitation) in relation to the values of: ecosystem health, indigenous biodiversity, hydrological functioning, Māori freshwater values, and amenity values; and
 - (ii) if aquatic offsetting or aquatic compensation is applied, the applicant has complied with principles 1 to 6 in Appendix 6 and 7 of the National Policy Statement for Freshwater Management 2020, and has regard to the remaining principles in Appendix 6 and 7, as appropriate; and
 - (iii) there are methods or measures that will ensure that the offsetting or compensation will be maintained and managed over time to achieve the conservation outcomes; and
- (b) any consent granted is subject to:
 - (i) conditions that apply the effects management hierarchy; and
 - (ii) a condition requiring monitoring of the wetland at a scale commensurate with the risk of the loss of extent or values of the wetland; and

⁴ NPSFM 2020

⁵ NPSFM 2020 (amended 2022)

- (iii) conditions that specify how the requirements in (a)(iii) will be achieved.⁶

Policy 5A.4

The loss of river extent and values is avoided, unless the council is satisfied:

- (a) that there is a functional need for the activity in that location; and
- (b) the effects of the activity are managed by applying the effects management hierarchy.⁷

Policy 5A.5

Resource consents for activities set out in Policy 5A.4 subclauses (a)-(b), that would result in the loss of extent or values of a river will not be granted unless:

- (a) the council is satisfied that:
 - (i) the applicant has demonstrated how each step in the effects management hierarchy will be applied to any loss of extent or values of the river (including cumulative effects and loss of potential value) particularly (without limitation) in relation to the values of: ecosystem health, indigenous biodiversity, hydrological functioning, Māori freshwater values, and amenity; and
 - (ii) if aquatic offsetting or aquatic compensation is applied, the applicant has complied with principles 1 to 6 in Appendix 6 and 7 of the National Policy Statement for Freshwater Management 2020, and has had regard to the remaining principles in Appendix 6 and 7, as appropriate; and
 - (iii) there are methods or measures that will ensure that the offsetting or compensation will be maintained and managed over time to achieve the conservation outcomes; and
- (b) any consent granted is subject to:
 - (i) conditions that apply the effects management hierarchy; and
 - (ii) conditions that specify how the requirements in (a)(iii) will be achieved.⁸

⁶ NPSFM 2020 (amended 2022)

⁷ NPSFM 2020

⁸ NPSFM 2020 (amended 2022)

Part 6 – Objectives and Policies

Summary of Water Management in the Waipara Catchment

The objectives, policies and methods (including rules) in this Waipara Catchment Water Allocation Plan manages the allocation of surface water and groundwater in the Waipara River Catchment. A summary of the approach taken follows.

Key Characteristics:

- The Waipara Catchment is a naturally dry area with potentially high irrigation demand, and most ready available surface water and ground water is already allocated.
- The catchment has been modified through many years of water abstraction, including takes off the Waipara River Mainstem for over 50 years, and a dam on the Weka Creek for 30 years.
- Until such time as there is large-scale augmentation of water in the catchment, there is likely to be little significant change in water allocation.

Therefore, a six-pronged approach is taken to managing the catchment in this plan:

1. The importance of existing surface water and groundwater abstraction to the economic and social well-being of the community is recognised and existing abstractions are provided for to continue under their current conditions, until such time as additional water sources are introduced into the catchment (i.e. augmentation).
2. Groundwater and 'run of river' surface water resources are recognised as almost fully allocated, and there is little further allocation of these resources provided for (other than new consents that replace expiring consents for existing takes).
3. Opportunities to reduce the impact of abstraction on in-stream values particularly in periods of low flow, while maintaining reliability of supply for existing users are taken, through policies such as restricting the A Block to the amount of water currently used; not reallocating A Block water when a resource consent is surrendered, lapsed or cancelled; and promoting efficiency in water use through policies and rules around technical and allocative efficiency and metering of takes.
4. Providing for some additional surface water abstraction in the Waipara River Catchment, through a B Block allocation for takes to storage.
5. Should additional water become available for abstraction in the Waipara River Catchment through augmentation (or another method), to review the allocation regime for the Waipara River Catchment to reduce the impact of abstraction on instream values during low flow periods, while maintaining the reliability of supply for existing consent holders.
6. Recognising that in future the Waiau-Hurunui Zone Committee established under the Canterbury Water Management Strategy will establish zone implementation programmes that may affect the Waipara Catchment.

Objectives

Objective 1 The Waipara River Catchment is managed in an integrated fashion recognising the interconnectedness of surface and groundwater resources in the catchment, and the effects of land uses and vegetation changes on water resources.

Objective 2 The economic and social benefits of surface water abstraction from the Waipara River Catchment are recognised and provided for, while maintaining and where appropriate enhancing existing ecological, cultural, recreational and amenity values in the Waipara River and its tributaries.

Objective 3 The economic and social benefits of groundwater abstraction from the Waipara River Catchment are recognised and provided for, while avoiding any increase in adverse effects of groundwater abstraction on surface water bodies, seasonal groundwater recharge rates, or the reliability of supply for existing abstractors.

Objective 4 Water that is abstracted within the Waipara Catchment is used efficiently.

Objective 5 Any additional surface or ground water abstraction within the Waipara River Catchment is undertaken from sources and in ways which:

- (a) sustain the life-supporting capacity of the Waipara River and its tributaries;
- (b) maintain and where practical enhance the mauri, and ecological, recreational, cultural and amenity values of the Waipara River Catchment; and
- (c) maintain or improve reliability of supply for abstractors.

Explanation of Objectives

The water resources in the Waipara River Catchment are interconnected. The surface run-off in the upper catchment and the flow in tributaries affect the quality and quantity of water available in the larger tributaries and the Waipara River main stem; and land uses determine the quantity and quality of surface water run-off. Ground and surface water resources are also highly connected in many places. Some surface water bodies lose or gain water directly from groundwater, e.g. Weka Creek, while surface flows in springfed streams are highly dependent on the level of the groundwater table.

Objective 1

Recognises these interconnections and seeks to manage the catchment as a whole. Te Runanga O Ngai Tahu advocates for the concept of Ki Uta Ki Tai – ‘from the mountains to the sea’ - which recognises the interconnectedness of water resources in the catchment and water to the land. The Waipara River is an area of Statutory Acknowledgement in the Ngai Tahu Treaty Claims Settlement Act 1998, and embracing the principle of interconnectivity achieves the purpose of the RMA, and recognises and provides for Ngai Tahu’s relationship with water resources in this catchment.

There is always some tension between the need to recognise and manage interconnectivity and the need to keep plans simple enough to be easily understood and effectively administered. Managing surface and groundwater allocation together with other activities which may affect water quantity in the Waipara River Catchment, is considered to be an appropriate balance.

The available surface and ground water in the Waipara River Catchment is highly sought after, due to the water-short nature of the catchment. The amounts abstracted currently are very near the estimated available water in terms of groundwater and are at the maximum amount of surface water available for “run-of-river” takes while maintaining in-stream values. At the same time, the community and local economy are very dependent on the water that is currently abstracted.

Objectives 2 and 3

Balance the needs of water abstractors with in-stream values, by recognising existing abstraction as part of the environment but sending a clear signal that there is little scope to increase the amount of surface or groundwater abstraction without causing or exacerbating adverse effects on instream values or the reliability of supply for existing abstractors. This objective is achieved through policies which require any additional surface water abstraction in the Waipara River to be the part of a B Block allocation, unless and until such time as the quantum of water consented from the A Block allocation reduces to no more than 30% of 7DMALF. Until then, the only water allocated in the A Block is existing consents and new consents that replace expiring consents or expired consents that continue to be exercised in accordance with s124 of the RMA. Where that water is not required, e.g. the consent lapses, is surrendered or is cancelled, that water cannot be reallocated as part of the A block.

Objective 4

Seeks to maximise the use of the water which is available for abstraction in the catchment by ensuring it is used efficiently, and there is not wastage. The objective is achieved through policies which require: water allocations to match actual or reasonable use; water application rates to achieve at least 80% efficiency relative to the land use; and the use of irrigation infrastructure and technology to minimise leaking or wastage.

Objective 5

Recognises there may be potential for additional abstraction in the Waipara River should the current situation alter; for example through an increase in water flows in the catchment as a result of inter-catchment transfer or augmentation, or a large-scale community storage and irrigation scheme. The objective requires any such proposal to maintain or enhance the existing environmental conditions, including both ‘instream values’ and reliability of supply

for existing abstractors. If such augmentation or storage occurs, Policy 3.9 requires that the minimum flows for ‘run of river’ takes be increased in parts to the catchment where they are currently being held below the optimum minimum flow recommended for ecological values, in order to maintain reliability of supply.

Policies

The policy framework for managing surface water is contained in Section 1 and groundwater in Section 2. Policy Section 3 contains the general policies for catchment management, which includes policies for efficient use of water, metering and consent transfers.

Policy Section 1 – Surface Water Takes, Use, Damming or Diversion

Policy 1.1

To manage hydraulically connected groundwater takes as surface takes in accordance with the following:

- (a) Groundwater takes will be included in the allocation block for the relevant surface water body in the following circumstances:
 - i. for those with a direct degree of hydraulic connection to a surface water body, the average daily rate of take will be included in the allocation block for that surface water body;
 - ii. for those with a high degree of hydraulic connection to a surface water body, the stream depletion effect estimated over 150 days continuous steady pumping required to deliver the annual volume will be included in the allocation block for that surface water body;
 - iii. for those with a moderate degree of hydraulic connection to a surface water body, the stream depletion effect estimated over 150 days continuous steady pumping required to deliver the annual volume, provided this exceeds three litres per second, will be included in the allocation block for that surface water body.
- (b) The minimum flow set out in Table 1 will apply to groundwater takes in the following circumstances:
 - i. groundwater takes with a direct degree of hydraulic connection to a surface water body;
 - ii. groundwater takes with a high degree of hydraulic connection to a surface water body which have a stream depletion effect of more than three litres per second;

Explanation

Groundwater resources are at or nearly fully allocated in the Waipara River Catchment (see Policy Section 2). The only significant additional water available for abstraction under this plan is some additional surface water as a B Block take off the Waipara River mainstem or upper catchment tributaries. This policy recognises that where surface water is being abstracted via groundwater with a direct, high or moderate hydraulic connection, this can be managed as part of the surface water allocation. The degree of connectivity is calculated to ensure that the abstraction will not affect groundwater recharge rates or reliability of supply for other groundwater abstractors. For the purposes of the Policy, the degree of hydraulic connection is determined using Schedule WQN7 of the NRRP.

Policy 1.2

To ensure any take, use, damming or diversion of surface water or hydraulically connected groundwater in the Waipara River Catchment:

- (a) maintains residual flows in surface water bodies which are sufficient to maintain, or where practical enhance, existing in-stream values;
- (b) maintains flow variability and sediment transfer within the Waipara River and its tributaries;
- (c) complies with the environmental flow and allocation regime for the catchment as set out in Table 1;
- (d) allows freshes and floods to pass downstream with sufficient frequency and duration to maintain the ecological, recreational, cultural and amenity values of the catchment and 'reset' the riverine ecosystem; and
- (e) in the mainstem of the Waipara River, protects freshes of at least 1 cumec to scour periphyton build up and freshes of 8 cumecs to open the lagoon mouth, and
- (f) ensures that the reliability of supply to existing consent holders is protected from the effects of additional consents being granted.

Explanation

Policy 1.2 identifies the key hydrological features of the Waipara River Catchment which need to be protected when surface water or hydraulically connected groundwater is taken, used, diverted or dammed to sustainably manage the catchment. The policy should be read and implemented in conjunction with the more specific policies for taking, using, diverting or damming surface water in the catchment, below.

Policy 1.3

Notwithstanding Policy 1.2, to avoid any damming of surface water in the main stem of the Waipara River or in Home Creek or Omihi Stream.

Explanation

Home Creek and Omihi Stream are springfed streams so water flow is fairly constant and is a significant contributor to water flow in the Lower Waipara River. Therefore any damming of these tributaries or the main stem of the Waipara River has a significant potential impact on flow levels in the Lower Waipara, which will affect both in-stream values and reliability of supply for abstractors downstream of the confluence. Damming of the main stem of the Waipara River would also affect the ability of the river to carry freshes, floods and sediment downstream, which is vital to reset the river after periods of low flow and to open the lagoon. The most likely site for a dam on the main stem of the Waipara River is White Gorge. However, this area is so geologically significant internationally, that to dam it is unlikely to achieve the purpose of the RMA.

Policy 1.4

To ensure any taking or use of water in the Waipara Catchment complies with the environmental flow and allocation regime set out in Table 1; and prevent the taking or use of surface water or hydraulically connected groundwater in the Waipara River Catchment which, either singularly or in combination with any other activity, will:

- (a) reduce the river below the minimum flow for that sub-catchment specified in Table 1; or
- (b) extend the A or B Block above the maximum amount specified for that sub-catchment in Table 1; or
- (c) reduce the size of the gap between the A and B Block for that sub-catchment specified in Table 1; unless policies 1.5 or 1.6 apply.

Policy 1.5

Notwithstanding Policy 1.4 above, to allow the taking or use of surface water which does not comply with the environmental flow and allocation regime set out in Table 1, where the take or use is:

- (a) for reasonable domestic or stock drinking water needs; or
- (b) for emergency fire-fighting; or
- (c) a temporary take or diversion of water to allow for the maintenance, repair or replacement of infrastructure.

Policy 1.6

Notwithstanding Policy 1.4 above, to allow the taking or using of surface water that does not comply with the environmental flow and allocation regime, set out in Table 1, provided:

- (a) the take or use is for a non-consumptive use; and
- (b) the water is discharged back into the same surface water body from which it is taken at the same rate; and
- (c) the take or use does not adversely affect in-stream values or any other lawfully established water take or use; and
- (d) the take is temporary or seasonal in nature.

Explanation

Table 1 sets out an environmental flow and allocation regime (EFAR) for the Waipara Catchment, which applies to any take or use of surface water (or hydraulically connected groundwater) within the catchment. Policies 1.5 and 1.6 contain exceptions for when the taking or use of surface water does not have to comply with the EFAR in Table 1. The exceptions in Policy 1.5 relate to activities which are expressly provided for in section 14(3) of the RMA, or to the temporary diversion of water for the maintenance or repair of infrastructure.

Policy 1.6 deals with non-consumptive uses. This term is defined in section 9 of the plan; and covers activities which involve a temporary take and then discharge back of surface water. Examples of non-consumptive uses include: fish hatcheries, hydro-electricity generation, aggregate extraction, gravel processing and in the case of the Waipara River, the diversion of water for the Boy's Bridge swimming hole. While non-consumptive uses only involve a temporary take of surface flow, the quantum of the take, the duration for which it is held, and the location of the take and discharge points, can potentially affect both in stream values and reliability of supply for other abstractors. Therefore, water takes for non-consumptive uses require resource consents so these potential effects can be assessed and managed.

Policy 1.7

To limit the A block to water takes which were lawfully established on 17 April 2010, unless the A block allocation is less than or equal to 30% of the 7DMALF for that sub-catchment, in which case new consents may be granted.

Policy 1.8

- (a) The amount of water allocated in any new consent that replaces an expiring consent to take water within the A Block set out in Table 1, shall be no more than the previous consented rate and volume of take, and shall be limited to the rate and volume of water the applicant has actually taken and used under the previous consent, plus water required for development envisaged under the original consent which is already underway at 1 July 2011.
- (b) Any water allocated that exceeds the amount actually taken and used under the previous consent shall:
 - (i) have a lapsing period of no more than 5 years; and
 - (ii) only be used for the activity and in the location for which it was previously authorised.

Policy 1.9

To ensure that the water from any existing water take included in the A allocation block in Table 1, where the consent to take lapses, is surrendered or is cancelled, is not reallocated as an A allocation permit unless it complies with Policy 1.7.

Policy 1.10

To allow the conversion of a run of river irrigation take within the A Block to a take to storage or a take for frost fighting provided:

- (a) Where there is no increase in rate or volume of water taken from that previously actually taken and used, then the existing minimum flow on the consent applies.
- (b) Where the rate and/or volume of water taken to storage will be greater than that previously actually taken and used, then the minimum flow for the take is increased to that shown in Table 1 for a take to storage or frost-fighting.

Explanation

In establishing an EFAR for the Waipara River, Canterbury Regional Council has held the minimum flow near the current level for existing abstractors, though higher minimum flows were recommended in the Upper and Lower Waipara River from the ecological field work undertaken. In this case, the Council decided the effects on reliability of supply for existing abstractors of increasing the minimum flow did not achieve the purpose of the RMA. Rather, the Plan adopts an approach of avoiding any further adverse effects on in stream values by capping the run of river takes in this catchment at the existing, lawfully established takes under their current minimum flow conditions. If any of these takes lapse or are surrendered or cancelled under the RMA, the water must not be reallocated as part of any A Block, until the allocated A block is less than 30% of 7DMALF for that waterbody (including Boby Creek flows in the case of the Upper Waipara), as recommended in the draft National Environmental Standard for Ecological Flows for rivers of the size of the Waipara Catchment.

Any additional water abstraction in the Waipara River, other than new consents to replace expiring consents, must be provided for as part of a B Block at a higher minimum flow.

Policy 1.11

To ensure any additional takes of surface water or hydraulically connected groundwater are managed as part of the B Block as set out in Table 1, unless Policy 1.7 applies. Where no B Block is provided for that river in Table 1, there is no further water allocation available.

Explanation

Section 4 of this plan discusses water shortage in the Waipara River Catchment relative to potential demand, and that the only potential surface water source available for further abstraction for irrigation purposes is some B Block water in the Waipara River main stem. The B Block is additional water which flows in the Waipara main stem during reasonably regular freshes. The main source for these freshes is rainfall run-off from the Upper Waipara Catchment. Therefore, any additional takes, diversion, damming or use of water in the Upper Catchment need to be included in the B Block for the main stem, to maintain the reliability of supply for existing abstractors downstream and minimum flows for both the A and B Blocks.

Policy 1.12

To enable additional abstraction from the Waipara River above that provided for in the B Block in Table 1, or in the policies in this plan, through augmentation of water into the catchment or from a community-based storage and irrigation scheme; subject to the environmental flow and allocation regime, and in particular the minimum flows in Table 1, having been reviewed in accordance with Policy 3.9.

Explanation

As discussed in Section 4 of this Plan, any likely additional water for abstraction, over and above that provided for in the B Block on the Waipara River main stem, will need to come from 'out of catchment' sources; unless there is a significant surrender or lapsing of existing allocated takes. The Canterbury Water Management Strategy includes a proposal for augmentation of the Waipara Catchment, though this is not necessarily the only or preferred augmentation option.

The Waipara River also experiences freshes and flood flows at higher levels than the B Block calculated for this plan. This plan has not investigated the effects on instream values, the feasibility or the cost of storing some of that water for irrigation. Given the frequency of these flows and freshes, large-scale storage would be required with considerable filling time for a reasonably reliable supply; the scale of which would warrant a community-based scheme. This plan does not preclude the consideration of such a scheme and Objective 5 and policies identify the key in-stream values and out-of stream uses that would have to be protected or enhanced, as part of any such proposal. Policy 3.9 discusses the review of existing water flow and allocation management that will be required, should additional water be made available to the Waipara Catchment for irrigation beyond the B Block in this plan.

Policy Section 2 – Groundwater

Note: Groundwater abstraction which has a direct, high or moderate degree of hydraulic connection to a surface water body is managed as a surface water take in accordance with Policy 1.1 and the Definitions in Part 9.

Policy 2.1

To prevent any additional abstraction of groundwater within the Waipara River Catchment (except for that part of the Catchment contained within the Culverden Basin Groundwater Zone) except where:

- (a) The abstraction is a replacement of an existing, lawfully established take, at the same location, at the same or a lesser rate of take and the same or lesser total annual volume; or
- (b) The activity is to provide for domestic or stock drinking water; or
- (c) Policy 2.2 applies.

Policy 2.2

To enable additional abstraction of groundwater from within the Waipara Groundwater Zone only when the total amount of groundwater consented for abstraction, including that from the application(s) being considered:

- (a) Does not total more than 10.7 million cubic metres per annum; and
- (b) The take does not adversely affect the reliability of supply for existing abstractors; and
- (c) If the groundwater take has a direct, high or moderate degree of hydraulic connection to a surface water body that the abstraction, either singularly or in combination with all other surface and groundwater takes with a direct, high or moderate degree of hydraulic connection, maintains the environmental flow and allocation regime set out in Table 1 for the Waipara River in accordance with Policy 1.1.

Policy 2.3

To take a precautionary approach to the management of any deep groundwater resources in the Waipara River Catchment or any groundwater outside of the Waipara Groundwater Zone (except for that part of the Catchment contained within the Culverden Basin Groundwater Zone); and allow the abstraction of this water only where it can be clearly demonstrated that:

- the degree of hydraulic connection to other aquifers or surface water bodies is known and is acceptable; and
- it can be clearly demonstrated there will be no adverse effect on groundwater recharge rates in other aquifers, on surface water flows or on the reliability of supply for any existing abstractor.

Explanation

The groundwater resources in the Waipara Groundwater Zone have been estimated by the Canterbury Regional Council through several studies, most recently in 2006 (Aqualinc Research Ltd for Environment Canterbury 2005. Groundwater Allocation for the Waipara Groundwater Zone, Revision 1 and Addendum). Until such time as metering of all groundwater takes provides around 5 years of actual take and use data for groundwater abstraction, this is the best estimate of the state of the resource. The amount of groundwater able to be abstracted from the Waipara Groundwater Zone is restricted to this limit in Policy 2.2.

Based on these estimates and the calculation of reasonable use by abstractors the Canterbury Regional Council estimates that 99% of the groundwater resources in the Waipara Groundwater Zone have been allocated to consents for abstraction or applications made to take the water. In addition there will be some abstraction which is a permitted activity, e.g. domestic or stockwater. Therefore, Policies 2.1 and 2.2 limit further allocation of groundwater for abstraction within the Waipara Catchment. An exception is made for groundwater supplies for domestic or stock drinking water purposes. This exception reflects the provision in s14(3) of the RMA, which gives an individual rights to take water to meet their reasonable need for drinking or stockwater.

Policy 2.3 deals with the possibility of additional groundwater in the catchment from deep sources within Tertiary rocks or from groundwater sources outside of the Waipara Groundwater Zone. Very little is known about this potential resource or how it may or may not be connected to the shallower aquifers. While Policy 2.3 does not preclude the possibility of abstracting such groundwater, it does require a precautionary approach be taken to its management, whereby consent to abstract should only be granted where it has been clearly demonstrated that such abstraction will not affect the recharge rates of the shallow aquifers, surface water flows or reliability of supply for existing abstractors. This Plan does not apply to groundwater in that part of the Catchment contained within the Culverden Basin Groundwater Zone, which continues to be covered by the NRRP.

Policy 2.4

Where groundwater abstraction is provided for under Policies 2.1, 2.2 or 2.3, to ensure any bores and any associated groundwater abstraction are sited and operated to:

- (a) ensure adequate penetration of the aquifer;
- (b) other than for the replacement of existing lawfully established takes with no increase in rate and volume of take, to not cause drawdown in other lawfully established bores being used for groundwater takes of more than 0.1m and 20% of available drawdown; and
- (c) avoid landward movement of the saltwater/freshwater interface.

Explanation

The location and depth of groundwater bores can affect the efficiency of groundwater abstraction and zones of influence on other abstractors.

The NRRP contains a detailed methodology for how adequate aquifer penetration and zones of influence can be calculated. The Canterbury Regional Council will use these methods to establish potential effects and any appropriate resource consent conditions, unless it determines that a more appropriate method is required in a particular circumstance.

Policy Section 3 - General Catchment Management

Transfers

Policy 3.1

To allow the transfer or partial transfer of surface water takes provided:

- (a) The transfer is within the same sub-catchment area as shown on Planning Maps 1a, 1b and 1c and listed in Table 1; and
- (b) The transfer is for the same or a lesser rate of take.

Policy 3.2

To allow the transfer or partial transfer of groundwater takes within the Waipara River Catchment provided:

- (a) The take is for the same or lesser rate or annual volume; and
- (b) If the groundwater take has a direct, high or moderate degree of hydraulic connection to any surface water body the transfer is occurring within the same sub-catchment area as shown on Planning Maps 1a, 1b and 1c and listed in Table 1.

Explanation

Each sub-catchment area shown on Planning Maps 1a, 1b and 1c and listed in Table 1 has a separate A Block. Therefore, allowing transfers of surface water or stream depleting groundwater takes outside these sub-catchments would alter the total A Block for that waterway and affect the reliability of supply for other abstractors in that allocation block.

Water Efficiency

Policy 3.3

To work towards maximum efficiency in the taking and use of water in the Waipara River Catchment, including:

- (a) minimising any leakage in the design and operation of infrastructure used to take or convey water;
- (b) encouraging the surrender or transfer of unused water takes;
- (c) requiring at least 80% irrigation efficiency in the application of water;
- (d) requiring any water take to be for a specified use of the water and ensure the rate of abstraction is appropriate and reasonable to the proposed end use; and
- (e) requiring all resource consents to take water to include daily and annual volume limits.

Explanation

Waipara is a water-short catchment so an essential part of promoting sustainable management within this catchment is ensuring that what water resources are available for abstraction are used as efficiently as possible. This includes both technical efficiency, such as minimising leakage or losses in infrastructure, and allocative efficiency, by ensuring abstractors are taking an amount of water which is reasonable for the proposed use and applying that water at rates and under conditions which maximise its value to the crop being watered. This policy should not be interpreted as promoting a preference for land uses which are more water efficient, but ensuring that the water taken and used is done so efficiently for the land use to which it relates.

Metering

Policy 3.4

To require the installation and operation of water metering and data recording devices on the taking of water requiring consent under this plan, and provision of recorded data to the Canterbury Regional Council, in accordance with the following:

- (a) Takes for non-consumptive use do not require metering or recording.
- (b) Takes of groundwater with a consented volume of less than 100 m³ per day do not require metering or recording.
- (c) For all other takes, the volume of water taken is to be measured and recorded electronically and data provided to the CRC on request.
- (d) The need for telemetry of data will be considered on a case-by-case basis.
- (e) Requiring all resource consents to take water to include daily and annual limits.

Explanation

Metering of water takes is a useful tool to assist both the abstractor and the consent authority in ascertaining how much water a person is actually taking and using. This can help improve estimates of the quantum of water available as well as compliance with consent conditions. Under national regulations introduced by section 360(1) (d) of the RMA, it is a requirement that all consented consumptive freshwater takes greater than 5L/s are metered. The Regulations allow Regional Councils to impose metering requirements that are more stringent than those required under the Regulations. The requirements in Policy 3.4 are generally consistent with those applied across the rest of Canterbury and will apply to new or replacement consents when granted. Existing resource consents will be subject to the National Regulations⁴.

Partial Restrictions

Policy 3.5

- (a) To require the use of partial restrictions on any resource consent to take or use surface water or hydraulically connected groundwater from within the B Block as shown in Table 1; and
- (b) To consider undertaking a plan change to introduce partial restrictions on resource consents in the A block when and if a storage scheme is implemented, and/or external augmentation of the river occurs.
- (c) Where consents are subject to partial restrictions, the restrictions on takes may be achieved by sharing the available water between water permit holders within a Water Users Group, provided the total amount taken by any individual does not exceed the maximum rate and volume on their water permit, and the sum of the takes does not exceed the amount of water available for abstraction above the minimum flow.

Explanation

The EFAR for the Waipara Catchment includes minimum flows on surface waterways, below which all abstraction must cease except that for domestic or stockwater supplies. When surface flow is above the minimum flow for the B allocation block, B Block permit holders are placed on partial restrictions. That is, the amount of water they can abstract is rationed to ensure the surface flow is not drawn below the minimum. Partial restrictions are required on any B Block take for three reasons:

- Not having partial restrictions on the B Block will affect the reliability of supply for existing A Block abstractors;
- Not having partial restrictions on the B Block will potentially draw the river down to its minimum flow for much longer periods, as the 'gap' between A and B Blocks is eroded as the river flow falls; and
- The impact on abstractors should be less as B Block abstractors have to take to storage to ensure a reasonable reliability of supply; and takes to storage provide an opportunity to abstract more water at higher flows, than 'run of river' abstraction.

Existing A block abstractors in the Waipara River Catchment do not have partial restriction conditions on their water takes. This situation may change should one or more of the following events occur in future. The first of these is the establishment of a water storage scheme. The second is possible external augmentation of flows in the Waipara (e.g. from the Hurunui catchment). On these circumstances a plan change imposing partial restrictions will be considered.

Provision is also made for water sharing groups to be formed where partial restrictions are implemented.

Vegetation Management

Policy 3.6

To minimise the effect of the planting or spread of woody vegetation on the amount or rate of rainfall run-off into surface water bodies, or the rate of groundwater recharge in the catchment, including:

- (a) Avoiding the replacement of large areas of tussock or grass cover in exotic woody vegetation species; and
- (b) Reducing the spread of exotic woody vegetation within the beds of waterways or near their margins, except where those species are required for bank stability and flood protection purposes.

Policy 3.7

To encourage the removal of willows within the beds of rivers in the Waipara River Catchment.

Explanation

Waipara is a low rainfall, high water demand catchment as discussed in section 4. The planting or spread of exotic, woody vegetation within this catchment has the potential to affect surface flows within the catchment in two ways:

- Through the interception of and thus reduction in rainfall run-off, particularly from afforestation; and
- Absorption of water within the beds of rivers and streams.

The NRRP identifies the Waipara River Catchment as a 'water sensitive catchment' and has provisions to control the planting of exotic tree species.

The Waipara River Catchment is also characterised by the planting and spread of willow species along the banks and within the beds of the Waipara River main stem and several tributaries. In some cases, these willows were originally planted as part of flood protection works, but have spread into the waterways and their coverage is quite dense in places. As an example of how much willows can absorb, Mosley (2000) estimated that up to 28L/s of surface flow in the Upper Waipara River may be being absorbed by willows. The Canterbury Regional Council will investigate options for facilitating the removal of willows where they are not required for flood protection works in the catchment, including supporting community-based initiatives.

⁴ Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 (www.mfe.govt.nz/rma/central/measuring-reporting-water-takes.html)

Cumulative effects

Policy 3.8

To manage the cumulative effect of small takes in the Waipara River Catchment and their impact on ground and/or surface water resources.

Explanation

While the effect of individual small takes on surface and groundwater may not be significant, the cumulative effects of such small takes needs to be taken into account. This is particularly important for small groundwater takes that are hydraulically connected to surface water.

Priority of Use

Policy 3.9

As part of any proposal to provide additional water for irrigation in the Waipara River Catchment to review the environmental flow and allocation regime and groundwater allocation limits for the Waipara River Catchment, in particular the minimum flows set out in Table 1.

Explanation

The EFAR in Table 1 and the groundwater allocation limit set in Policy 2.2 are based on current environmental conditions and best estimates of allocation and use of water resources based on current data. Should environmental conditions alter in the future, for example, through an increase in water available for irrigation through augmentation of the catchment, these regimes will need to be reviewed. In particular:

- A substantial increase in irrigation from surface water abstraction may increase the groundwater allocation limit through increased surface recharge; and
- A review of minimum flows for surface and stream depleting groundwater takes may be appropriate in sub-catchments where the minimum flow is being held below that recommended by on-site ecological fieldwork in order to maintain existing reliability of supply.

Part 7 – Rules

Unless stated to the contrary in the policies or rules, the Objectives Policies and Rules in this plan are the only objectives, policies and rules that apply to the taking, diverting, damming and use of surface water within the Waipara River Catchment, as shown on Maps 1a, 1b, and 1c or the taking and use of groundwater within the area shown on Maps 2a, 2b and 2c, except for that area shown as the Culverden Basin Groundwater Allocation Zone.

Surface Water

Rule 1 – Permitted Activities

Rule 1.1

The taking, using or diverting of any surface water for emergency or fire-fighting purposes.

Rule 1.2

The taking, using or diverting of surface water from the Waipara River and its tributaries, for an individual's reasonable domestic or stockwater use provided it complies with all of the following conditions.

Conditions:

- The take or diversion shall not exceed 10 m³ per day per property; and
- Fish shall be prevented from entering the water intake.

Rule 1.3

The taking, diverting and use of surface water for the purpose of maintaining, repairing or replacing existing infrastructure, provided all of the following conditions are complied with:

Conditions for diversions:

- The water is not diverted out of the riverbed;
- Surface water flow remains continuous;
- The surface flow is not diverted away from the intake of any other lawfully established surface water take; and
- The diversion occurs for no more than 15 days.

Conditions for takes:

- The maximum rate of take shall be 10 L/s and the maximum volume shall be 40 m³/day;
- Fish shall be prevented from entering the intake;
- The take shall not occur for more than 60 days per annum; and
- The take shall cease when the take is at or below the minimum flow at the closest minimum flow site downstream of the take.

Rule 2 – Discretionary Activities (Restricted)

Rule 2.1

The taking, using or diverting of surface water for any non-consumptive activity, provided it complies with all of the following standards and terms:

Standards and Terms:

- The take, diversion or use is for a non-consumptive activity;
- The water is discharged back into the same surface water body from which it is taken at the same rate;
- The water is discharged back into the same surface water body within 250 metres of the point of take;
- The water is diverted for not more than four (4) months in any 12 month period; and
- Fish shall be prevented from entering the intake.

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

- The reasonable need for the quantities of water sought to be taken or diverted for the proposed activity;
- Any effects on in-stream values; and
- Any effects on any other lawfully established take, use or diversion of water within that waterway.

Rule 2.2

The taking or diverting and use of surface water in the Waipara River Catchment is a restricted discretionary activity, provided it complies with all of the following standards and terms:

Standards and Terms

- The take or diversion is not within the Waipara lagoon;
- The take or diversion is not within a wetland that has not been classified according to the criteria for classifying wetlands in Chapter 7 of the NRRP or has been classified as a wetland of moderate or higher significance in the NRRP;
- The take or diversion and use of water by itself or in combination with any other take or diversion:

- (i) When used for frost protection:
 - (a) is a new consent sought to replace an expiring or expired consent that is continuing to be exercised under s124 that authorises an existing take for frost protection, and the new consent is sought at no greater rate and volume;
 - (b) is a change of use of an existing A Block take and the used under the existing permit is no less than the minimum flow for frost protection in Table 1;
- (ii) When an existing A Block take is changed from a run-of-river take to a take to storage:
 - (a) the annual volume is no greater; and
 - (b) the minimum flow sought for any water that exceeds the water actually taken and used under the existing permit is no less than the minimum flow for A Block takes to storage in Table 1;
- (iii) For any other use:
 - (a) Complies with the minimum flow for that water body set out in Table 1;
 - (b) Does not exceed the allocation limit for that water body set out in Table 1; and
 - (c) Does not take water which is allocated to maintain a gap between A and B Blocks for that water body, as set out set out in Table 1; and
 - (d) The take and use of water from within any AA Block shall only be for rural and township water supplies and shall be taken downstream of the take for CRCO40492 or any replacement consent; and
 - (e) Fish shall be prevented from entering the water intake.

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

- The reasonable need for the quantities of water sought (including annual volume calculations in accordance with the NRRP Schedule WQN9 for irrigation of pasture), 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;
- The availability and practicality of using alternative supplies of water;
- The intended use of the water and the technical efficiency of the exercise of the consent;
- The effects the take has on surface water flows, including floods and fresh flows;
- The effect the take has on significant habitats of indigenous fauna;
- The effects the take has on any other authorised takes;
- The reduction in the rate of take in times of low flow;
- The collection, recording, monitoring and provision of information concerning the exercising of the consent.

Applications for consent under this rule to replace an existing take authorised under the General Authorisation for the Abstraction of Natural Water in the formerly operative Canterbury Transitional Regional Plan (1991), where there is no increase in the rate or volume of take, do not need to be publicly notified or have notice served on affected persons, unless special circumstances apply, in accordance with sections 95A and 95B of the RMA.

Rule 3 – Discretionary Activities

Rule 3.1

Any damming of the surface water in the Waipara River Catchment is a discretionary activity provided that the damming is not on the mainstem of the Waipara River, Omihi Stream or Home Creek.

Rule 4 – Non-complying Activities

Rule 4.1

Any take or diversion and use of water that is not a permitted activity under Rules 1.1, 1.2 or 1.3 or that does not comply with standards and terms for Rules 2.1, 2.2 or Rule 3 is a non-complying activity.

Rule 4.2

The damming of the mainstem of the Waipara River, Omihi Stream or Home Creek.

Rule 4.3

The damming, diverting, taking or use of water from the Waipara River lagoon.

Rule 4.4

The taking, using, damming or diverting of water from a wetland that:

- Has not yet been classified according to the criteria for classifying wetlands in Chapter 7 of the NRRP; or
- Has been so classified as a wetland with a moderate or higher significance in the NRRP.

Groundwater

Rule 5 – Permitted Activities

Rule 5.1

The taking and use of groundwater from the Waipara River Catchment, including that part of the Waipara Groundwater Zone that is outside of the Catchment, but excluding that part of the Catchment contained within the Culverden Basin Groundwater Zone, for an individual's reasonable domestic or stockwater use is a permitted activity provided the take or use shall not exceed 10m³ per day per property.

Rule 5.2

The taking or use of water from groundwater for the carrying out of bore development or pumping tests is a permitted activity provided it complies with all of the following conditions.

Conditions:

- (a) The bore from which the groundwater is to be taken shall have been lawfully established;
- (b) The extraction rate shall not exceed 100L/s;
- (c) The taking of groundwater shall not be for a continuous period of more than seven days and not more than once per year;
- (d) Records of 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. A copy shall be forwarded to Canterbury Regional Council within one month of completion of the pumping test.

Rule 6 – Restricted Discretionary Activity

Rule 6.1

The taking and use of groundwater from the Waipara Groundwater Zone is a restricted discretionary activity where it complies with all of the following standards and terms:

Standards and terms:

- (a) The taking is either:
- (i) a new consent sought to replace an expiring or expired consent that is continuing to be exercised under s124 of the RMA and the rate and annual volume of the take is the same or less than that which was previously granted; or
 - (ii) a new take where the volume of the proposed take, in addition to the existing consented takes and all prior applications to take groundwater does not exceed 10.7 million m³; and
- (b) Other than for the replacement of existing lawfully established takes with no increase in rate and volume of take, the take does not cause drawdown in other lawfully established bores being used for groundwater takes of more than 0.1m and 20% of available drawdown; and
- (c) If the groundwater take has a direct, high or moderate degree of hydraulic connection to any surface water body, as determined using Schedule WQN7 of the NRRP, the groundwater take, singularly or in combination with any other lawfully established take, complies with the environmental flow and allocation regime for that surface water body as set out in Table 1 as follows:
- (i) Groundwater takes with:
 - (a) a direct degree of hydraulic connection to a surface water body, the average daily rate of take will be included in the allocation block for that surface water body;
 - (b) a high degree of hydraulic connection to a surface water body, the stream depletion effect estimated over 150 days continuous steady pumping required to deliver the annual volume will be included in the allocation block for that surface water body;
 - (c) a moderate degree of hydraulic connection to a surface water body, the stream depletion effect estimated over 150 days continuous steady pumping required to deliver the annual volume, provided this exceeds three litres per second, will be included in the allocation block for that surface water body.
 - (ii) Groundwater takes with:
 - a direct degree of hydraulic connection to a surface water body will be subject to the minimum flow specified in Table 1;
 - a high degree of hydraulic connection to a surface water body which have a stream depletion effect of more than three litres per second will be subject to the minimum flow specified in Table 1;
- (d) The take and use of hydraulically connected groundwater from within any AA block shall only be for rural and township water supplies and shall be taken downstream of the take for CRCO40492 or any replacement consent.

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

- The reasonable need for the quantities of water sought (including annual volume calculations in accordance with the NRRP Schedule WQN9 for irrigation of pasture), 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;

- The availability and practicality of using alternative supplies of water;
- The intended use of the water and the technical efficiency of the exercise of the consent;
- For hydraulically connected groundwater, the effects the take has on surface water flows;
- The effects the take has on any other authorised takes;
- The reduction in the rate of take in times of low flow;
- The collection, recording, monitoring and provision of information concerning the exercising of the consent.

Applications for consent under this rule to replace an existing take authorised under the General Authorisation for the Abstraction of Natural Water in the formerly operative Canterbury Transitional Regional Plan (1991), where there is no increase in the rate or volume of take, do not need to be publicly notified or have notice served on affected persons, unless special circumstances apply, in accordance with sections 95A and 95B of the RMA.

Rule 7 – Non-complying Activities

Rule 7.1

Unless specified as a permitted activity or restricted discretionary activity, the taking and use of ground water from the Waipara River Catchment, including that part of the Waipara Groundwater Zone that is outside of the Catchment but excluding that part of the Catchment contained within the Culverden Basin Groundwater Zone, is a non-complying activity.

General

Rule 8 – Existing Consents

Rule 8.1

The transfer or partial transfer of a consent to take or use surface water wholly within one sub-catchment, as shown in Maps 1a, 1b and 1c, is a controlled activity, provided it meets the conditions listed below.

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;
- (b) The reliability of supply for any other lawfully established water take is not reduced.

Canterbury Regional Council will retain control over the following matters:

- 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;
- The technical efficiency of the exercise of the consent;
- The reduction in the rate of take in times of low flow or water levels;
- The collection, recording, monitoring and provision of information concerning the exercising of the consent;
- Compliance with any water quality standards in the NRRP;
- The method of preventing fish from entering any water intake.

Applications for transfer under this rule do not need to be notified or served on affected persons.

Rule 8.2

The transfer or partial transfer of a consent to take or use groundwater wholly within the Waipara Groundwater Zone as shown in Maps 2a, 2b and 2c is a controlled activity, provided it meets the conditions listed below.

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;
- (b) The take in the new location does not cause drawdown in other lawfully established bores being used for groundwater takes of more than 0.1m and 20% of available drawdown;
- (c) The bore proposed to be used for the take adequately penetrates the aquifer, as identified in Appendix 3; and
- (d) For hydraulically connected groundwater, the transfer is within the same surface water sub-catchment, as shown on Maps 1a, 1b and 1c and in Table 1, and the degree of hydraulic connection and the stream depletion effect is no greater in the transferred location than it is in the original location.

Canterbury Regional Council will retain control over the following matters:

- 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;
- The technical efficiency of the exercise of the consent;
- The collection, recording, monitoring and provision of information concerning the exercising of the consent;
- For hydraulically connected groundwater takes, the effect on surface flows.
- Compliance with any water quality standards in the NRRP.

Applications for transfer under this rule do not need to be notified or served on affected persons.

Rule 8.3

The transfer of a consent to take or use water that does not comply with Rule 8.1 or 8.2 is a discretionary activity.

Advice Note; The Canterbury Regional Council may review the conditions of a Resource Consent under Section 128(1)(b) of the Act after the WRP becomes operative.

Table 1 Environmental flow and allocation regime for the Waipara River and Tributaries

Sub-catchment	Min Flow Site	Min Flow	Allocation Limit												
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann. Vol.
Home Creek															
A Block	Kings Road Bridge	10													
Rate (L/s)			15	15	15	15	15	15	15	15	15	15	15	15	
Daily Volume (m³)			360	360	360	360	360	360	360	360	360	360	360	360	76,320
B Block	Kings Road Bridge	57													
Rate (L/s)			0	0	0	0	95	95	95	95	95	0	0	0	
Daily Volume (m³)			0	0	0	0	8,208	8,208	8,208	8,208	8,208	0	0	0	1,255,824
Lower Waipara															
AA Block	Teviotdale	150													
Rate (L/s)			20	20	20	20	20	20	20	20	20	20	20	20	
Daily Volume (m³)			1,728	1,728	1,728	1,728	1,728	1,728	1,728	1,728	1,728	1,728	1,728	1,728	630,720
A Block	Teviotdale	150													
Rate (L/s)			70	70	70	70	70	6	6	51	87	87	87	70	
Daily Volume (m³)			4,757	4,757	4,757	4,757	4,757	437	437	1,737	4,847	4,847	4,847	4,757	662,880
Weka Creek															
A Block	Downstream of dam	28													
Rate (L/s)			1,020	1,020	1,020	1,020	1,020	1,020	1,020	1,020	1,020	1,020	1,020	1,020	
Daily Volume (m³)			88,128	88,128	88,128	88,128	88,128	88,128	88,128	88,128	88,128	88,128	88,128	88,128	18,683,136
Omihi Stream															
A Block	Confluence	120													
Rate (L/s)			127	127	127	127	127	127	127	127	127	127	127	127	
Daily Volume (m³)			10,507	10,507	10,507	10,507	10,507	10,507	10,507	10,507	10,507	10,507	10,507	10,507	1,506,746
Upper Waipara															
A Block	White Gorge	50													
Rate (L/s)			166	166	166	166	185	214	214	214	200	181	172	172	
Daily Volume (m³)			14,195	14,195	14,195	14,195	15,905	18,384	18,384	18,384	17,208	15,568	14,765	14,765	3,553,850
B Block	White Gorge	415													
Rate (L/s)			183	183	183	183	183	183	183	183	183	183	183	183	
Daily Volume (m³)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Frost protection and A Block storage minimum flow: Lower Waipara = 200L/s,
Upper Waipara = 80L/s, Home Creek = 20L/s, Omihi = 120L/s (at confluence)

All rates, including minimum flows in L/s, daily and annual volumes in m³

Part 8 – Anticipated Environmental Results

1. Water is used to facilitate the greatest net benefit, providing the adverse environmental effects can be managed.
2. The area and quality of freshwater habitat for indigenous species, and particularly those that are rare or endangered, is maintained or enhanced.
3. The opportunities for the relationship of Ngai Tahu with water, sites, wāhi tapu and other taonga are enhanced.
4. The Waipara River and lagoon retain their mauri in terms of the Statutory Acknowledgement in Appendix 2.
5. The landscape and amenity values of water bodies within the catchment are maintained or enhanced.
6. Exotic vegetation is controlled in the catchment to maintain flows in the Waipara River.
7. The extent and density of willows along water courses in the catchment is steadily reduced over time.
8. There is no significant continuing long-term decline in mean annual groundwater levels.
9. The recreational value of the catchment is maintained.
10. Local people and communities have access to freshwater to provide for present and reasonably foreseeable needs.
11. Existing and potential resource consent holders are provided with certainty as to their priority of access to water when the amount of water available for taking or diverting is low.
12. Water users have a responsible attitude to their use of the water, and seek to continually improve the technical efficiency of their use of water.

Part 9 – Definitions

The words in this Plan have the same meaning as in the RMA, unless otherwise defined in this Plan or unless the context clearly requires otherwise.

A Block

Water permits which are granted to take surface water or hydraulically connected groundwater until the sum of the individual surface water takes, and the stream depletion effect of hydraulically connected groundwater takes, as specified in the definition of Allocation limit below, equals the allocation limit listed for the A block for that surface water resource in Table 1.

Allocation limit

For surface water, this means the total flow rate and daily and annual volume of water to be allocated via A and B Blocks. In the case of abstractions from hydraulically connected groundwater, the allocation limit applies to the stream depletion effect, as specified below:

- For groundwater takes with a direct degree of degree of hydraulic connection, the average daily rate of take will be included in the allocation limit.
- For groundwater takes with a high degree of hydraulic connection, the stream depletion effect estimated over 150 days continuous steady pumping required to deliver the annual volume will be included in the allocation limit.
- For groundwater takes with a moderate degree of hydraulic connection, the stream depletion effect estimated over 150 days continuous steady pumping required to deliver the annual volume, provided this exceeds three litres per second, will be included in the allocation limit.

Amenity planting

The planting of small areas (less than 1ha) with native or exotic plants, primarily for visual appearance, and usually associated with dwellings.

B Block

Water permits which are granted to take surface water or hydraulically connected groundwater once the allocation limit for the A block has been reached, until the sum of the individual surface water takes, and the stream depletion effect of hydraulically connected groundwater takes, as specified in the definition of “Allocation limit” above, equals the allocation limit listed for the B block for that surface water resource in Table 1.

Cumecs

Cubic metres per second.

Canterbury Regional Council

The Canterbury Regional Council (also known as Environment Canterbury and ECan).

Environmental flow and allocation regime (EFAR)

The allocation limits, minimum flows, gaps and flushing flows established by this Plan.

Flood

A large event that is sufficient to rework the gravel bed. Floods rework gravel bars and cause branch channels to cut laterally into banks and bars. Floods are needed to maintain the braided characteristic of a river and to remove vegetation growing in the riverbed so that open shingle habitat can be maintained.

Fresh

An increased flow, generally of short duration, which raises water levels and causes discolouration.

Gap

The interval in the flow regime between the top of one allocation block and the bottom of the next allocation block for a water resource identified in Table 1 for which no allocation is to occur.

Hydraulically connected groundwater

Groundwater which when abstracted causes a stream depletion effect on a surface water body. The degree of hydraulic connection is determined using Schedule WQN7 of the NRRP.

Irrigation efficiency

A measure of the amount of applied water that is stored in the crop root zone, as a proportion of the average depth of the water applied to the crop.

L/s

Litres per second.

m³

Cubic metres.

Mahinga kai

Food and other resources, the gathering of those resources and the areas that they are sourced from.

Mauri

Essential life force or principle; a metaphysical quality inherent in all things, both animate and inanimate.

Mean annual low flow (MALF)

The average, for a number of years, of the annual lowest daily flows. This is determined by selecting the lowest daily flow (average over 24 hours) for each year of record, summing those values and then dividing the total by the number of years of record.

Minimum flow

The flow at which the taking and diverting of water from a water resource authorised by a resource consent must cease. In the case where a river is dammed, inflows and outflows must be managed to maintain the minimum flow downstream.

Minimum flow site

The location(s) on the river of the gauging site maintained by Canterbury Regional Council at which the minimum flow is assessed.

Natural Resources Regional Plan (NRRP)

The Canterbury Natural Resources Regional Plan was made operative on June 2011 by the Canterbury Regional Council. See Part 2 – Other Plans and Documents, of this plan for details.

Ngāi Tahu

The collection of individuals who descend from the primary hapū of Waitaha, Ngāti Mamoe, and Ngāi Tahu, namely Kāti Kurī, Kāti Irakehu, Kāti Huirapa, Ngāi Tuahuriri and Kai Te Ruahikihiki.

Non-consumptive Uses

Non-consumptive uses are water takes or diversions where water is not removed from the water body or is removed and returned on a continual basis at or near the point of abstraction without significant delay so that instream values and the reliability of supply for downstream abstractors are not affected.

Property

Any contiguous area of land held in one, or more than one, ownership that is utilised as a single operating unit, and may include one or more titles.

RMA

Resource Management Act 1991.

Rural and township water supplies

Reticulated water supplies servicing rural, urban and rural-residential areas including all commercial and industrial premises and schools and other educational facilities located within the reticulated area, whether operated by a local authority or not.

Shelterbelt

The planting of native or exotic trees in a linear fashion and up to three rows deep to afford shelter to livestock or crops.

Stream depletion effect (SDE)

The calculated rate of impact of groundwater abstraction on surface water flow.

Sub-catchment

The Upper Waipara, Boby Creek, Lower Waipara, Home Creek, Omihi Stream and Weka Creek catchments as shown on Maps 1a, 1b and 1c.

Technical efficiency

Using a resource in a way that any given output is produced at least cost, including avoiding waste.

Waipara Groundwater Zone

That area shown in Maps 2a, 2b and 2c of Appendix 1.

Waipara River Catchment

That area shown in Maps 1a, 1b and 1c of Appendix 1.

Water resource

The rivers and streams listed in Table 1 and shown on Map 1.

Water Users Group

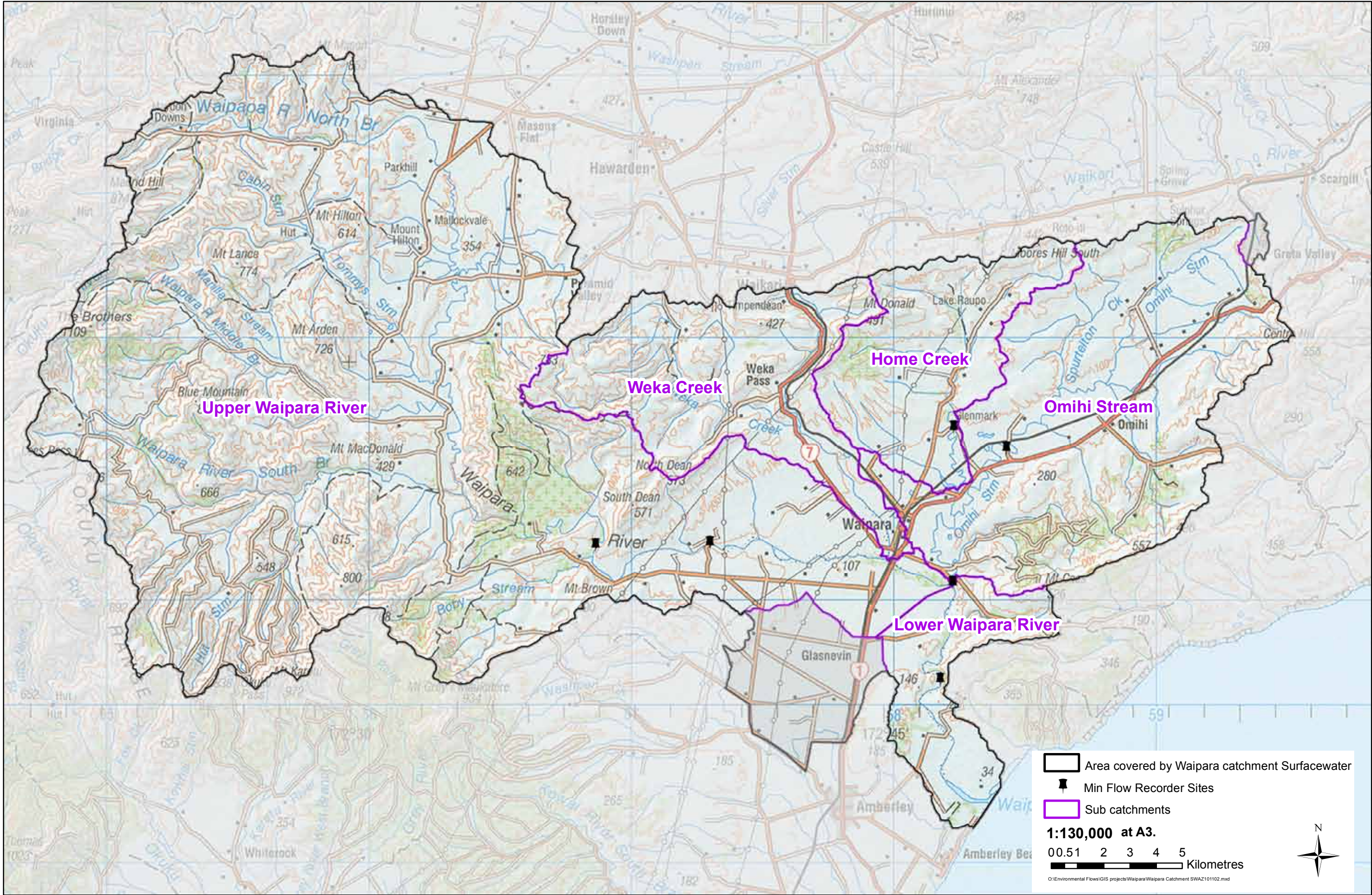
Is a group of users with existing authorisation to take water, grouped to achieve beneficial management of the water resource collectively allocated to them.

7DMALF (Seven day mean annual low flow)

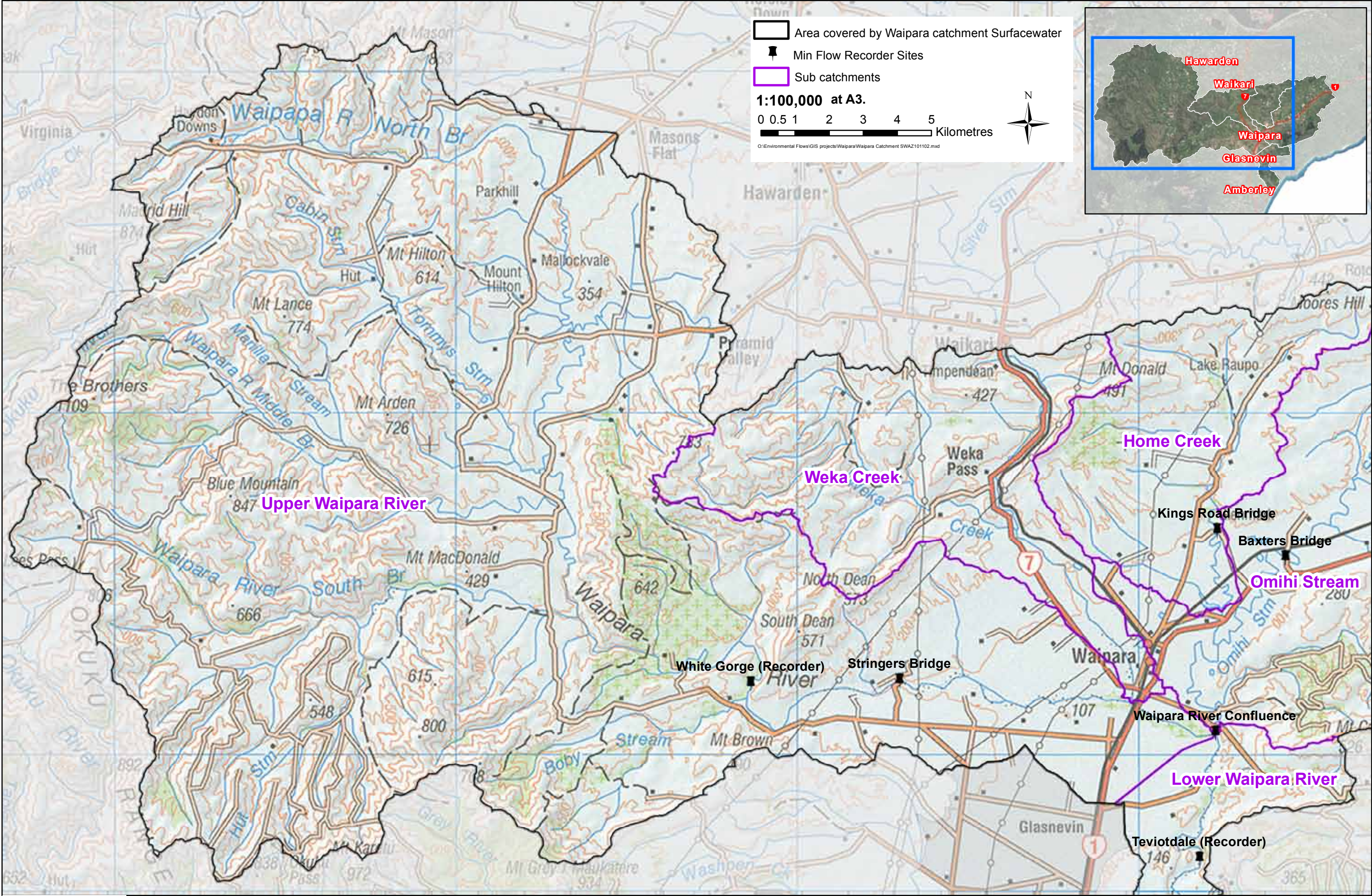
is the average 'seven day low flow' over a number of years. The 'seven day low flow' is the lowest average flow sustained over any seven consecutive days during each year.

Appendix 1 – Maps

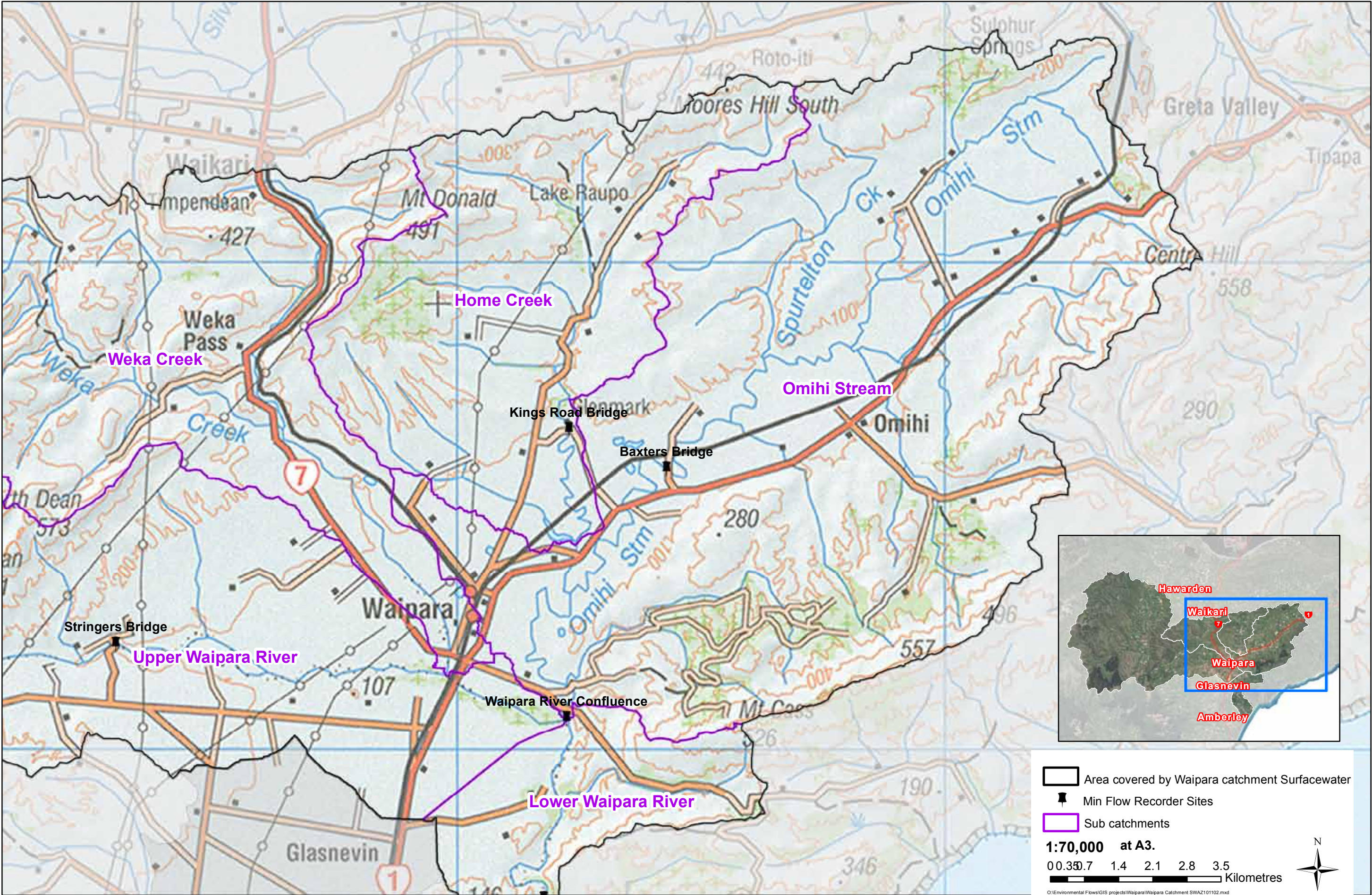
Map 1: Index Map: Waipara Catchment



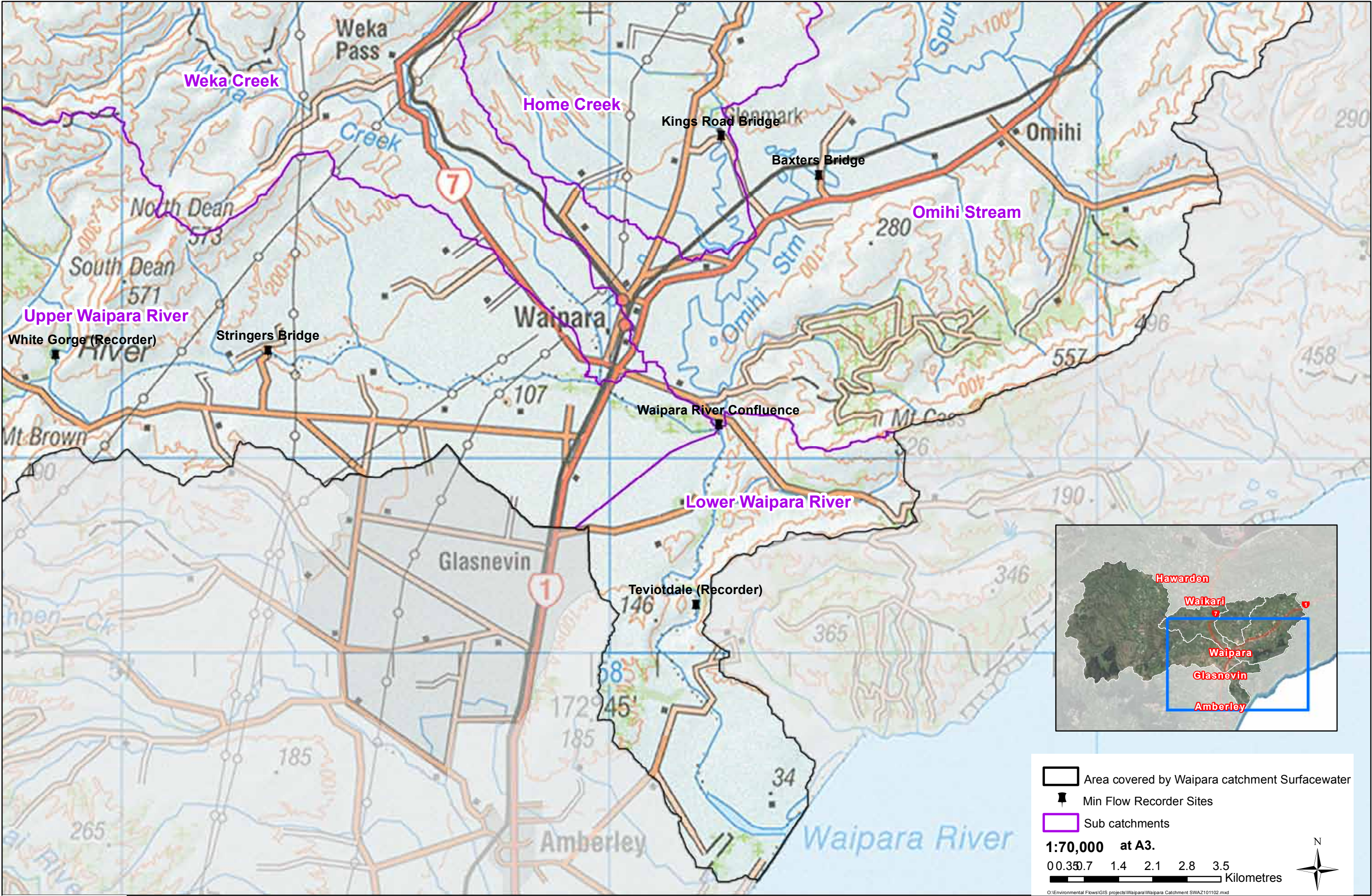
Map 1a: Waipara Catchment and Sub-Catchments



Map 1b: Waipara Catchment and Sub-Catchments

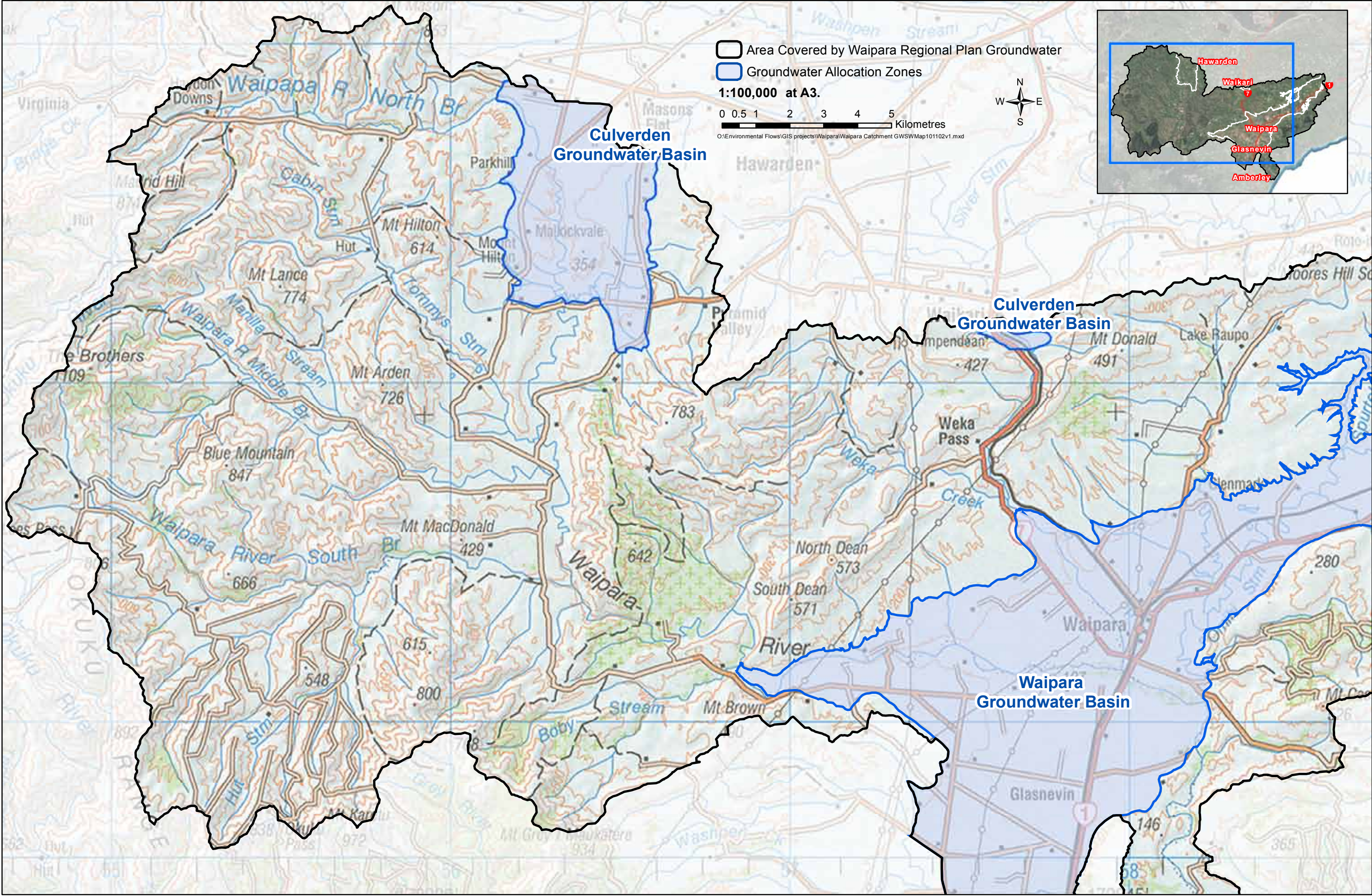


Map 1c: Waipara Catchment and Sub-Catchments



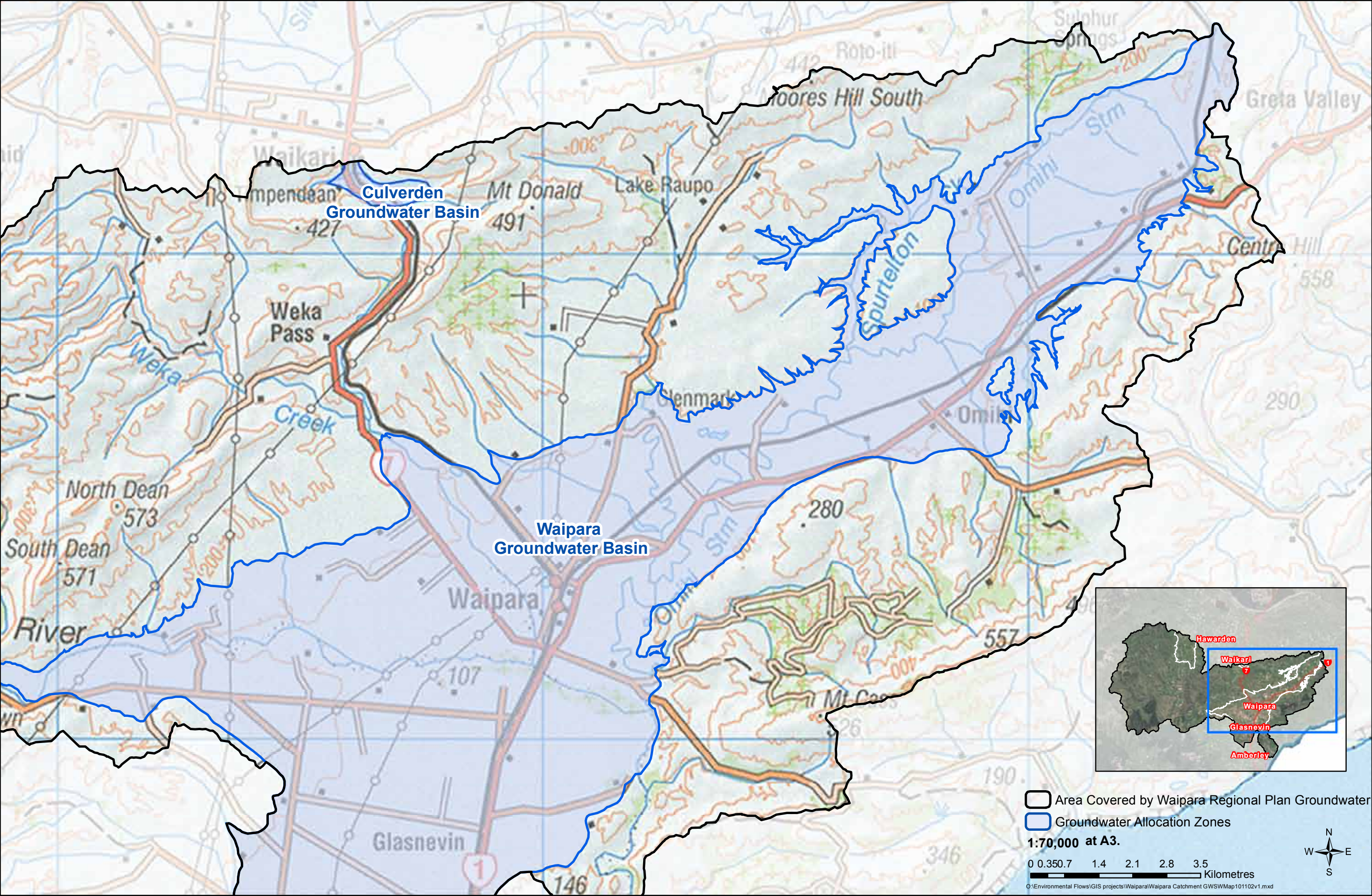
Map 1c: Waipara Catchment and Sub-Catchments

Map 2a: Waipara Catchment Groundwater Zone

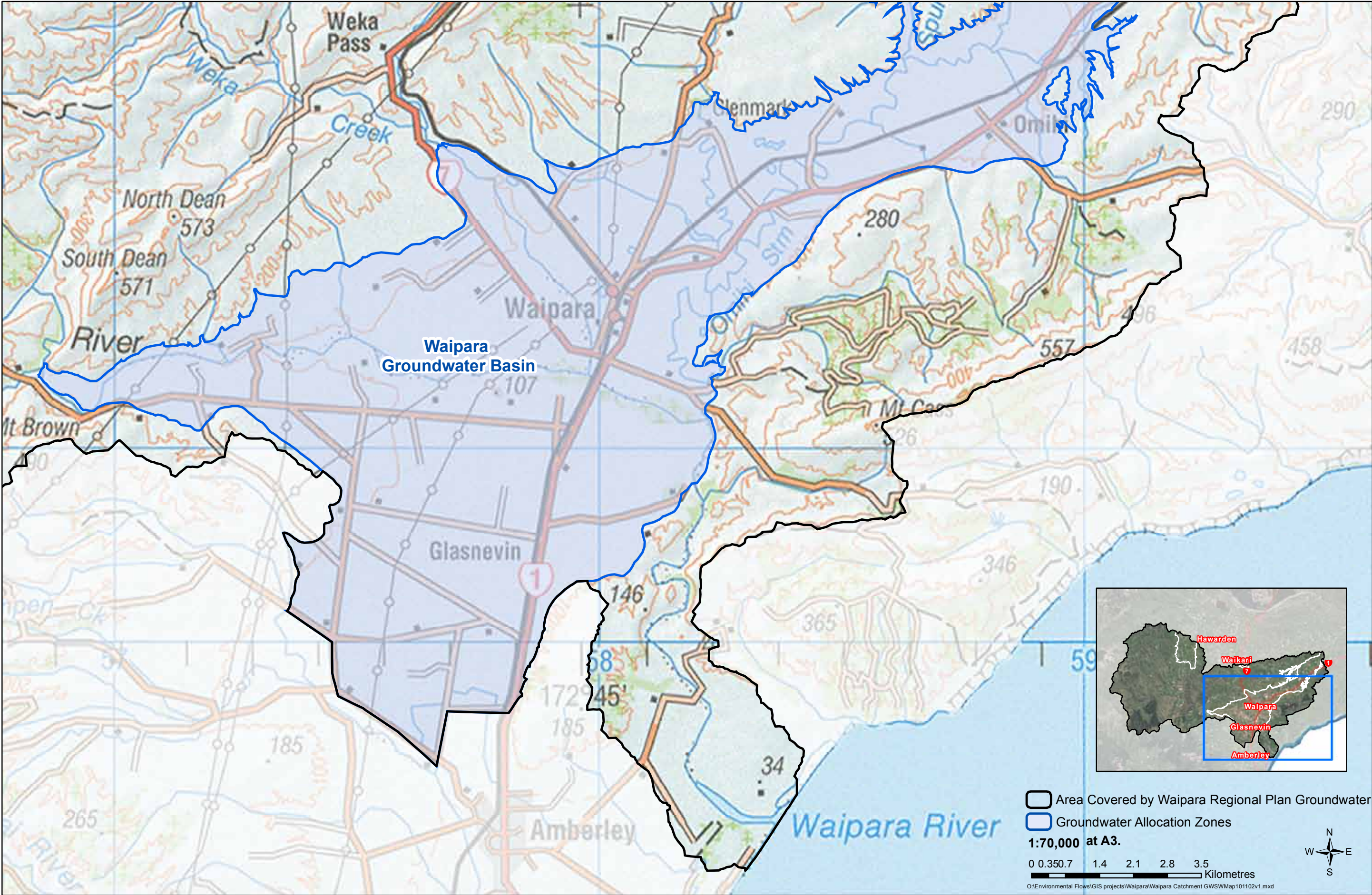


Map 2a: Waipara Catchment Groundwater Zone

Map 2b: Waipara Catchment Groundwater Zone



Map 2b: Waipara Catchment Groundwater Zone



Map 2c: Waipara Catchment Groundwater Zone

Appendix 2 – Waipara River Statutory Acknowledgment

(Copy of Schedule 74 of the Ngai Tahu Claims Settlement Act 1998)

Statutory Area

The statutory area to which this statutory acknowledgement applies is the River known as Waipara, the location of which is shown on Allocation Plan MD 113 (SO 19849).

Preamble

Under section 206 of the Ngai Tahu Claims Settlement Act 1998, the Crown acknowledges Te Runanga o Ngai Tahu's statement of Ngai Tahu's cultural, spiritual, historic, and traditional association to the Waipara River, as set out below.

Ngai Tahu Association with the Waipara River

Tradition tells of the duel between two famous rangatira (chiefs) which happened in this area. Tutewaimate, a Ngati Mamoe rangatira from Rakaia, found that the northward trade route that he sent his goods along was being disrupted by Moko, a rangatira of the Ngati Kuri hapu of Ngai Tahu who had been acting as a bandit along the route. Tutewaimate went to confront Moko, who lived in a cave at Waipara, but found him sleeping. Tutewaimate allowed Moko to awake before attacking him. Tutewaimate's sense of fair play cost him his life and is recalled in a tribal proverb.

For Ngai Tahu, histories such as this reinforce tribal identity and solidarity, and continuity between generations, and document the events which shaped Ngai Tahu as an iwi.

There are a number of Ngati Wairaki, Ngati Mamoe and Ngai Tahu urupa and wahi tapu along the river and associated coastline. Urupa are the resting places of Ngai Tahu tupuna and, as such, are the focus for whanau traditions. Urupa and wahi tapu are places holding the memories, traditions, victories and defeats of Ngai Tahu tupuna, and are frequently protected by secret locations.

The river and associated coastline was also a significant mahinga kai, with kai moana, particularly paua, being taken at the mouth. The tupuna 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 river, 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 Ngai Tahu today.

The mauri of the Waipara River 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 Ngai Tahu Whanui 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—

- to require that consent authorities forward summaries of resource consent applications to Te Runanga o Ngai Tahu as required by regulations made pursuant to section 207 (clause 12.2.3 of the deed of settlement); and
- 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 Waipara River, as provided in sections 208 to 210 (clause 12.2.4 of the deed of settlement); and
- to empower the Minister responsible for management of the Waipara 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
- to enable Te Runanga o Ngai Tahu and any member of Ngai Tahu Whanui to cite this statutory acknowledgement as evidence of the association of Ngai Tahu to the Waipara 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,—

- 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
- without limiting paragraph (a), no person or entity, in considering any matter or making any decision or recommendation under statute, regulation, or bylaw, may give any greater or lesser weight to Ngai Tahu's association to the Waipara 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 Waipara 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 Waipara River.

Appendix 3 – Aquifer penetration guideline

For a bore to adequately penetrate the aquifer, an adequate penetration depth shall be determined as follows:

- (a) either a depth below the calculated minimum water level, or below the level to which 50% of bores penetrating the aquifer are already established at the date of notification of this plan, whichever is the deeper; or
- (b) a depth determined by the application of the best available technical information and/or advice to be an adequate penetration depth.

Appendix 4 - Vision and Principles of the Canterbury Water Management Strategy

The Vision

What would success look like?

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.

If the strategy is successful, the following features should be evident within 10 years:

- People will feel they are being treated fairly and involved in decision-making
- Allocation decisions will be resolved in most cases without resorting to the courts
- There will be a high level of audited self management, and compliance action will be targeted on a minority of non-complying water users
- Ecosystems, habitats and landscapes will be protected and progressively restored, and indigenous biodiversity will show significant improvement
- Water quality will be protected and starting to return to within healthy limits for human health and ecosystems
- Opportunities to exercise kaitiakitanga¹ and rangitiratanga² will be operative, and increasing
- Opportunities for recreational activities will be returning and improving
- Water users will have access to reliable water, which will be used efficiently and productively
- Primary production and employment will be increasing, and the net value added by irrigation to the Canterbury economy and the national balance of payments will be increasing
- Opportunities for tourism activities based on and around water will be returning and improving, and the net value to Canterbury's economy from these activities will be increasing
- Efficiency in the use of energy will be improving
- Rural community viability will be improving and community cohesion will be maintained
- Understanding and empathy between rural and urban dwellers will be increasing
- The water management system will be better able to adapt to climate change in the future.

Paradigm shift needed in water management

There is a need for new paradigm in the way water is allocated and managed. There is capacity for further development but it will require existing users and new users to improve the way they use water.

The key changes will be:

- A shift from effects-based management of individual consents to integrated management based on water management zones
- Management of the cumulative effects of water abstraction and land use intensification
- Water allocation decisions that address sustainable environmental limits and climate variability

- Actions to protect and restore freshwater biodiversity, amenity values and natural character.

Regulatory action to deal with environmental problems will need to be complemented with incentive mechanisms that progressively drive efficiency in the use of water and responsible land management practices.

The key incentive mechanism to drive these changes will be the availability of reliable water from new storage and distribution infrastructure. However, this water must not be over- allocated for production purposes, as some water resources have been, but instead used to achieve balanced outcomes. In particular, protection of ecosystems, recreational and customary uses, and environmental conservation can no longer be seen as “add-ons” to development, but mainstream elements of a sustainable agenda.

Achieving the vision

Principles that must be met

Fundamental principles have been developed to underpin the strategy.

- First order priorities: environment, customary use, community supplies and stock water.
- Second order priorities: irrigation, renewable electricity generation, recreation and amenity
- Primary principles – sustainable management, regional approach, and tangata whenua
- Supporting principles – natural character, indigenous biodiversity, access, quality drinking water, recreational opportunities, and community and commercial use.

These are designed to ensure that our water resource is managed sustainably.

Targets

The strategy will focus on delivering a balanced set of quantified outcome targets by specified dates. The measurable outcome targets will be in the following areas:

- drinking water
- irrigated land area
- energy security and efficiency
- ecosystem health/biodiversity
- water use efficiency
- kaitiakitanga
- regional and national economic growth
- natural character of braided rivers
- recreational and amenity opportunities.

These targets will give the strategy a sense of direction and balance and ensure that all aspects of the solution are advanced in parallel. They will also enable progress with implementing the strategy to be monitored and measured over time. There will be further engagement with stakeholders before the targets are finalised by the end of 2009.

Everything is connected

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