

Mahaanui Kurataiao Ltd

Rūnanga Position Statement for Opawaho/Heathcote Stormwater Management Plan

May 2021

“Ki te kore he māra tī o te tangata, he tangata mate tēnā”

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Introduction

Ngāi Tahu have a historical relationship and pattern of use in the many catchments within Canterbury. The Crown formally recognised this significance recently with the enactment of the Te Rūnanga o Ngāi Tahu Act 1996 and the Ngāi Tahu Claims Settlement Act 1998. Te Ngāi Tūāhuriri Rūnanga are the kaitiaki Rūnanga for this area. They are responsible for assessing how any activity in their takiwā impacts upon their cultural values, beliefs and practices. Christchurch City Council (CCC) are expected to acknowledge the kaitiaki responsibilities of Te Ngāi Tūāhuriri Rūnanga when writing the Ōpāwaho / Heathcote Stormwater Management Plan (HSMP).

Christchurch City Council (CCC) have commissioned this CIA to document the concerns of Te Ngāi Tūāhuriri Rūnanga have with respect to the proposed Ōpāwaho/ Heathcote Stormwater Management Plan (HSMP).

1.1 Project Objectives

The objectives of this report are:

- To provide information on the nature and extent of cultural interests, in the area with respect to the south eastern Christchurch area including Heathcote / Ōpāwaho Stormwater Management Plan (HSMP).
- To identify the impacts associated with the proposal that are of concern to Te Ngāi Tūāhuriri Rūnanga; and
- To identify mitigation for impacts or issues identified by Te Ngāi Tūāhuriri Rūnanga.

1.2 The areas considered in this report

The focus of this report is the Ōpāwaho/Heathcote Catchment located in the south of Christchurch City (figure 1). However, we acknowledge that whanau value cultural landscapes ki uta, ki tai; from mountain to sea and therefore, take a holistic approach to catchment management.

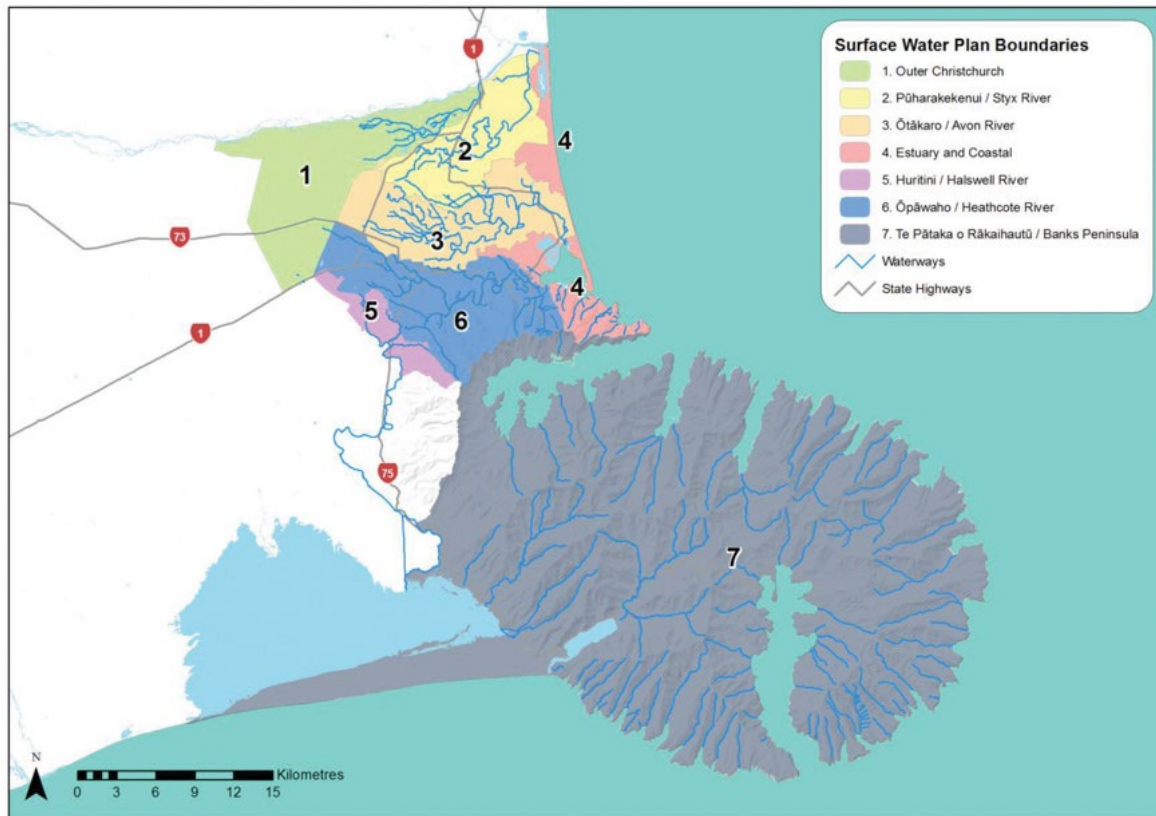


FIGURE 1: AREA COVERED BY THE COMPREHENSIVE STORMWATER NETWORK DISCHARGE CONSENT. OPAWAHO/HEATHCOTE CATCHMENT IS LABELLED 6 (ENVIRONMENT CANTERBURY, 2021)

1.3 Limitation of this report

This CIA represents best endeavours by the Te Ngāi Tūāhuriri Runanga to identify cultural effects of concern. They reserve the right, however, to oppose the proposal or pursue avoidance or mitigation of any subsequent impacts that are identified as a result of further site visits or further discussions with Christchurch City Council.

1.4 Consultation with Te Ngāi Tūāhuriri Rūnanga

Te Rūnanga o Ngāi Tahu (TRONT) is the tribal representative body of Ngāi Tahu Whānui (the tribal collective) and is a body corporate duly established on 24 April 1996¹. The Te Rūnanga

¹ Te Runanga o Ngai Tahu Act 1996, Section 6

o Ngāi Tahu Act 1996 (the Act) provides a detailed description of the takiwā (area) of Ngāi Tahu Whānui, which confirms that the proposal is within the rohe of Ngāi Tahu.²

The Act States:

- *Te Rūnanga o Ngāi Tahu shall be recognised for all purposes as the representative of Ngāi Tahu Whānui.*
- *Where any enactment requires consultation with any iwi or with any iwi authority, that consultation shall, with respect to matters affecting Ngāi Tahu Whānui, be held with Te Rūnanga o Ngāi Tahu.*
- *Te Rūnanga o Ngāi Tahu in carrying out consultation under subsection 2 of this section shall seek the views of such papatipu Rūnanga of Ngāi Tahu whānui and such hapū as in the opinion of Te Rūnanga o Ngāi Tahu may have views that they wish to express in relation to the matter ...³*

The Act therefore confirms TRONT's status as the legal representative of the tangata whenua, and the right of the Papatipu Rūnanga to express their own views on this development. The First Schedule of the Act lists the eighteen Papatipu Rūnanga.

The Te Rūnanga o Ngāi Tahu (Declaration of Membership) Order 2001 is supplementary to the Act and sets out the Papatipu Rūnanga and their respective takiwā. Te Ngāi Tūāhuriri Rūnanga is identified as a constituent Papatipu Rūnanga is therefore recognised by TRONT as the kaitiaki Rūnanga for the area affected by this proposal.

The location of the marae that is at the centre of each of the Rūnanga is shown in Figure 2.

² Te Runanga o Ngai Tahu Act 1996, Section 5

³ Te Runanga o Ngai Tahu Act 1996, Section 15(1) – 15(3)

Te Rūnanga o Ngāi Tahu **Ngā Papatipu Rūnanga Map**

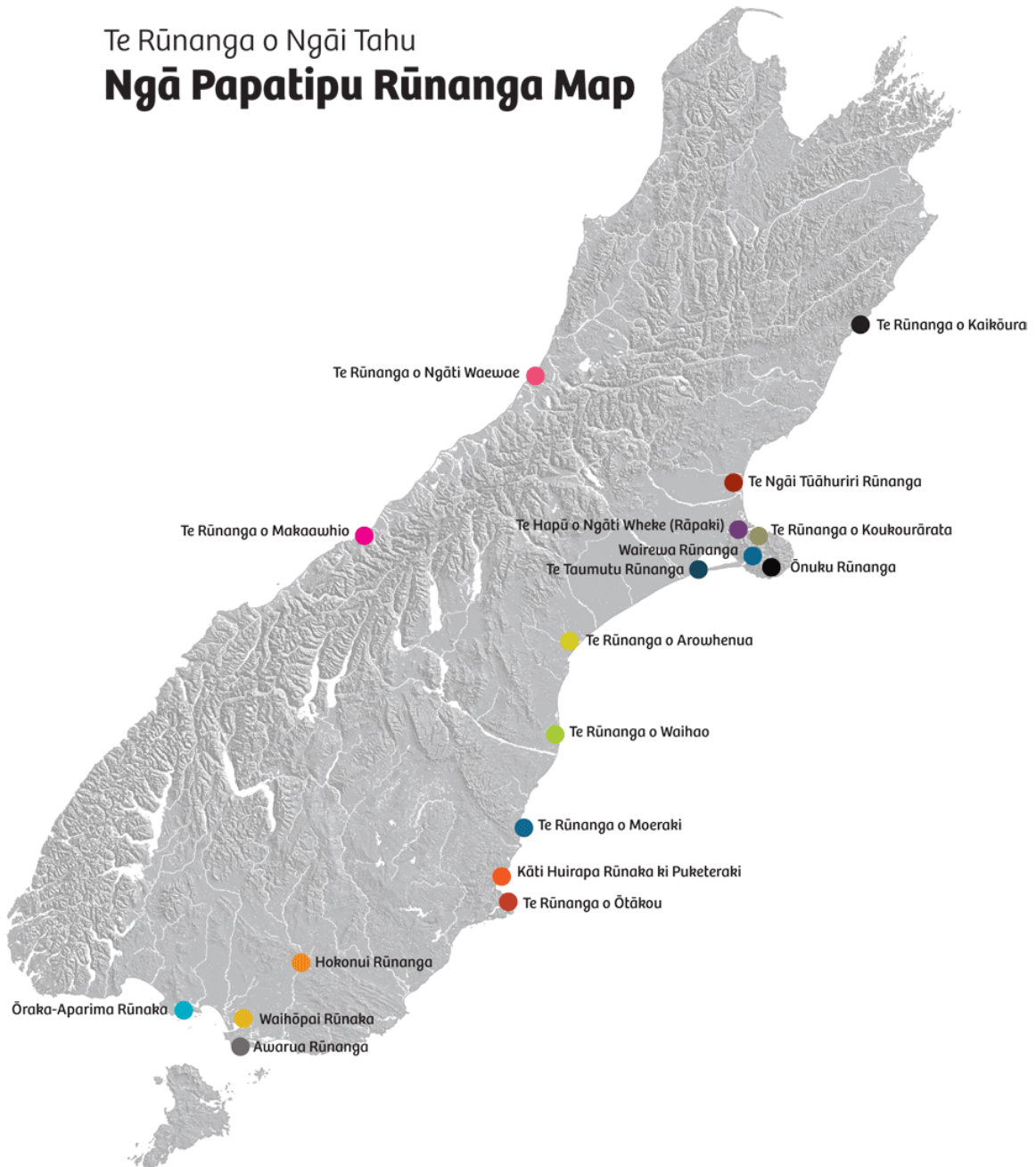


FIGURE 2: NGA I TAHU PAPANPU RUNANGA

The Proposal

The Christchurch City Council as part of their consent application (CRC214226) to discharge water and contaminants to land or water through existing or future reticulated stormwater network must create stormwater management plans for the seven catchments including the Ōpāwaho / Heathcote catchment (Figure 3). **The duration of the consent is 25 years.**

The stormwater discharge will occur in accordance with the stormwater management plans (SMP), which will set out environmental targets as well as specific objectives for each catchment. Currently, SMPs have been completed for the Avon, Styx and Halswell Catchments. For the Avon River SMP specifically a cultural impact assessment was carried out which made a range of recommendations. Some of which appear to have been implemented.

Alongside the Stormwater Management Plan the Christchurch City Council have proposed an Environmental Monitoring Programme to collect information to determine if the environmental targets are being met and the potential impacts of stormwater discharges. Within this environmental monitoring programme cultural monitoring (State of the Takiwā) has been proposed to be carried out in the future.

Historical State of the Takiwā reporting (2007 & 2012) also made a range of recommendations and conclusions on what Ngai Tahu would like to see addressed in the Ōpāwaho / Heathcote Catchment and these will be discussed in the context of the SMP. This cultural monitoring programme has been proposed to occur every five years, **but has yet to commence.**

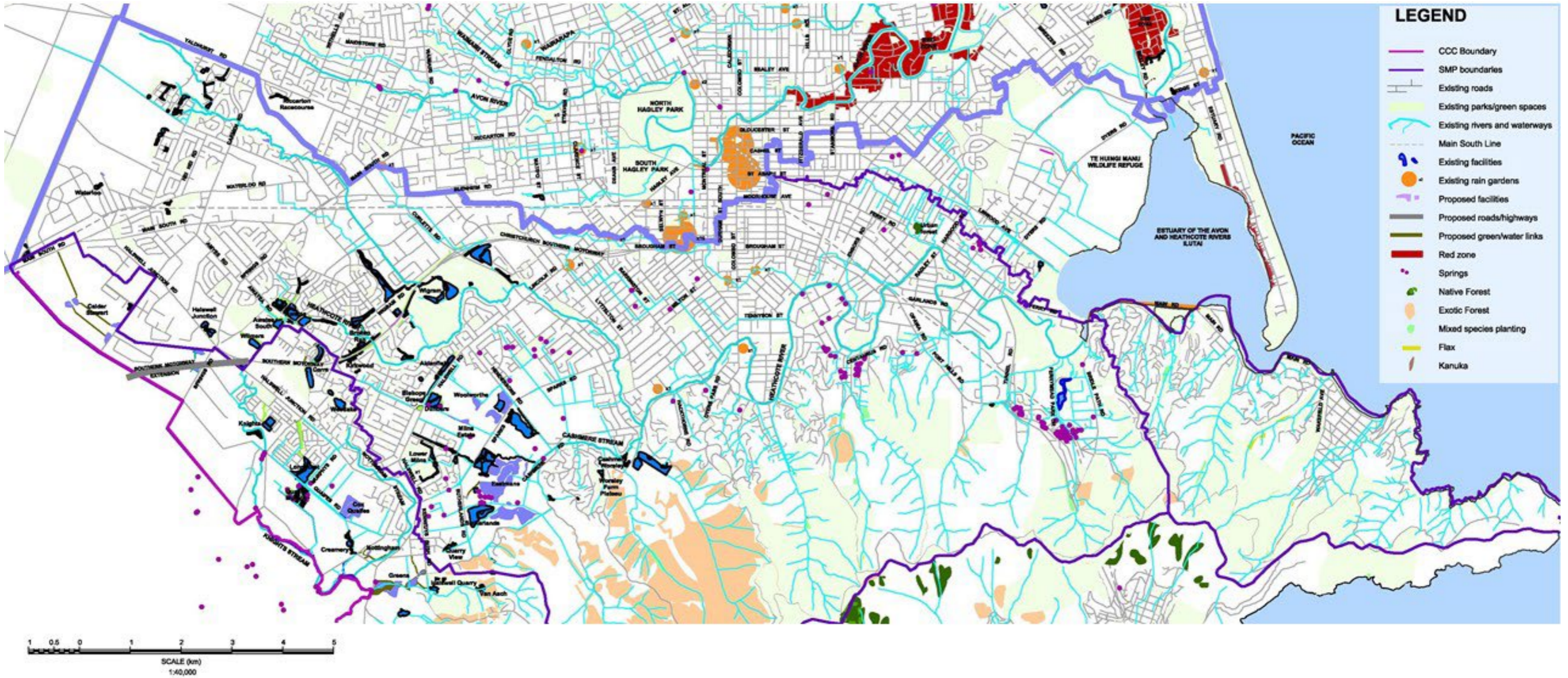


FIGURE 3: STORMWATER NETWORK FOR OPAWAHO CATCHMENT (CHRISTCHURCH CITY COUNCIL, 2021)

2.1 CRC214226 Consent conditions

Stormwater management plan

The consent holder shall, in consultation with Papatipu Rūnanga and the Christchurch-West Melton and Banks Peninsula Zone Committees (or successor organisations), develop and update as necessary, SMPs to meet the Receiving Environment Targets set out in the conditions of the consent. The purpose of the SMPs shall be to provide:

- a. Specific guidelines for implementation of stormwater management within the catchment to achieve the following objectives:
 - i. Improve ecosystem health,
 - ii. Improve water quality,
 - iii. Maintain flood storage and flow capacity,
 - iv. Enhance mana whenua values;
- b. A description of statutory and non-statutory planning mechanisms to achieve compliance with the conditions of this consent including the Receiving Environment Targets. These mechanisms may include (but are not limited to):
 - i. Relevant objectives, policies, standards and rules in the Christchurch District Plan,
 - ii. Relevant bylaws,
 - iii. Relevant strategies, codes, standards and guidelines;
- c. Mitigation methods to achieve compliance with the conditions of this consent including the Receiving Environment Targets. These methods may include (but are not limited to):
 - i. Stormwater mitigation facilities and devices,
 - ii. Erosion and sediment control guidelines,
 - iii. Education, awareness or site management programmes,
 - iv. Source control systems,
 - v. Prioritising effective stormwater treatment in catchments that discharge in proximity to inanga spawning sites;
- d. Locations and identification of Christchurch City Council water quality and water quantity mitigation facilities and devise;
- e. Identification of areas marked for future development;
- f. Identification of areas subject to known flood hazards;

- g. An interpretation of environmental and cultural monitoring and how this information has been used to develop water quality mitigation methods and practices;
- h. Results from and interpretation of water quantity and quality modelling;
- i. A cultural impact assessment and summary of outcomes resulting from any collaboration with Papatipu Rūnanga on the SMP; and
- j. An assessment of the effectiveness of water quality or quantity mitigation methods established under previous SMPs and identification of any changes in methods or designs resulting for the assessment.

The Christchurch City council intends for the development of SMPs to be a collaborative process, allowing Papatipu Rūnanga to review and comment on draft SMPs. Once finalised they will prepare and submit the SMP, along with supporting technical reports and a cultural impact assessment, to the Canterbury Regional Council for certification. Any amendments to SMPs may not replace the previous version until the amendments have been certified by the RMA Compliance and Enforcement Manager of the Canterbury Regional Council.

The SMPs will be reviewed against the requirements of Condition 4 of the consent by the Christchurch City Council on a 10-yearly basis from the date of certification by the Canterbury Regional Council.

Engagement with Papatipu Rūnanga

The consent holder shall engage with Papatipu Rūnanga:

- a. In the development and review of the SMPs required under Conditions 4 and 8 and the development of the Implementation Plan required under Condition 11 and 12 of the consent;
- b. At the concept design stage for the installation of stormwater treatment facilities and devices regarding wāhi tapu and taonga
- c. By providing quarterly reports to Mahaanui Kurataiao Ltd on stormwater developments, projects and monitoring under this resource consent;
- d. By the engagement required by Conditions 56 to 58 on responses to modelling;
- e. By providing the investigation report required by Condition 59 on responses to monitoring; and
- f. By holding an annual meeting with Mahaanui Kurataiao Ltd to discuss stormwater works under this resource consent, and Papatipu Runanga input predicted for the next 12-month period.

Implementation programme and records

An Implementation Plan shall be prepared by the consent holder through engagement with Papatipu Rūnanga and made available to Canterbury Regional Council and Papatipu Rūnanga on request within 12 months of granting of this consent. This plan shall be reviewed by Christchurch City Council every 3 years, concurrent with the Christchurch City Council Long Term Plan.

The Implementation Plan shall include, but not be limited to:

- a. A list and map of proposed stormwater mitigation methods and devices,
- b. A programme of stormwater works for Christchurch City Council and anticipated private development,
- c. A plan for regulatory, investigative, educational and preventative activities or programmes relating to stormwater discharges, including activities undertaken under conditions 39 and 40 and schedules 3 and 4,
- d. Details of budgets for capital works or resourcing that is linked to the Christchurch City Council Long Term Plan.

Environmental Monitoring and reporting

The Consent Holder shall implement the Environmental Monitoring Program (EMP) attached to this consent, with the purpose of monitoring whether the Receiving Environment Objectives and Attribute Target Levels are being met.

The Consent Holder may review and amend the EMP for the purposes of improved monitoring and/ or to better determine whether the Receiving Environment Objectives and Attribute Target Levels are being met.

The Attribute Target Levels in Schedule 7 for hardness modified copper, lead and zinc concentrations in Banks Peninsula surface water shall be calculated for each monitored waterway following the collection of one year of monitoring data.

The Attribute Target Levels in Schedules 7 and 8 for the Waterway Cultural Health Index, Marine Cultural Health Index and State of Takiwā scores, as well as the associated mana whenua values monitoring sites and methodology in the EMP, shall be developed in collaboration with Papatipu Runanga. Updated information shall be incorporated into the certified EMP as an amendment, in accordance with Condition 50, within 24 months of the commencement of this resource consent. Once these scores, sites and monitoring methods are confirmed, monitoring of mana whenua values shall commence.

The water quantity/flood model(s) for the Pūharakekenui/Styx, Ōtākaro/Avon, Ōpāwaho/Heathcote and Huritini/Halswell Rivers shall be updated as necessary to reflect changes in development patterns or modelling parameters at least every 5 years following the commencement of this resource consent. The results of model updates and a description of how they demonstrate compliance with Schedule 10 shall be included in the annual report required under Condition 61 on a 5-yearly basis following commencement of this resource consent.

2.2 Environmental Monitoring Programme – Manawhenua

Cultural Monitoring under this consent shall be based on the methodology and sites of the State of the Takiwā reporting. The State of the Takiwā monitoring system was developed by Te Rūnanga o Ngāi Tahu to facilitate tangata whenua to gather, store, analyse and report on information relevant to the cultural health of waterways within their takiwā. State of the Takiwā reporting was conducted in 2007 and 2012 and therefore provide a baseline both pre- and post- the Christchurch 2011 earthquake.

The proposed sites to be monitored are based on previous State of the Takiwā sites and overlap with other monitoring sites maintained by CCC and ECan (Table 1). Sites are to be sampled five-yearly in conjunction with surface water quality, instream sediment quality and aquatic ecology measurements.

Monitoring will include three State of the Takiwā monitoring methods⁴:

1. Takiwā general site assessment (waterway and costal sites)
2. Cultural Health Index (CHI) assessment waterway sites only
3. Marine Cultural Health Index (MCHI) assessment (costal sites only)

⁴ Tipa & Tierney, 2003; Pauling, 2004; Pauling et al 2007; Lang et al 2012; Schweikert et al 2012; McCarthy et al 2013

Site ID	Location Description	Cultural Importance
HEATH18	Ōpāwaho/Heathcote at Garlands Road Bridge	Traditional settlement and food gathering site
HEATH23	Ōpāwaho/Heathcote River downstream of Colombo Street	Mid-catchment reference
HEATH06	Ōpāwaho/Heathcote River at Rose Street	Significant recreational area – Public pool etc and the site of Kura Kaupapa Māori
HEATH08	Ōpāwaho/Heathcote River at Templetons Road	Significant source spring of Ōpāwaho river

TABLE 1: SUMMARY OF PROPOSED SITES TO BE MONITORED FOR MANA WHENUA IN THE ŌPĀWAHO CATCHMENT (DRAFT SMP ŌPĀWAHO CATCHMENT, CCC 2021)

2.3 State of the Takiwā 2004/2012

State of the Takiwā reporting was conducted in the Ōtākaro/Ōpāwaho catchments in 2007 and then repeated in 2012 to provide a post-earthquake baseline for the catchment. The 2007 State of the Takiwā report found that the cultural health of the Ihutai catchment was poor to very poor, with only three sites: Pūtarikamotu (Deans Bush), Te Karoro Karoro (South Brighton Spit) and Tuawere (Cave Rock/Sumner Beach) considered good enough to return to.

The factors associated with higher ranking sites and scoring included:

- the presence and abundance or remnant and or/restored native vegetation;
- the influence of freshwater springs or coastal waters; and
- the separation of the site from intensive urban or rural landscape.

The factors associated with lower ranking sites and scoring included:

- the absence of water or river flow;
- the influence of direct or visible stormwater inputs or wastewater discharges; and
- the occurrence of extreme sedimentation

Overall, the biggest identified influence on poor catchment health was the historical and continuing impacts of drainage and untreated stormwater. Generally, river sites, in particular

sites in the Ōtākaro catchment and the riparian margin of the Ōpāwaho catchment were found to be in better cultural health than the estuary and the coast.

The 2007 State of the takiwā report had extensive recommendations to remediate the poor cultural health of the Ihutai catchment, including:

1. That all waterways, including drains, are treated with the same standards and managed for shellfish/food gathering into the future.
2. Increased protection and enhancement of waterways in the catchment through the development of 'native riparian buffer zones' in all currently unplanted public/council owned areas, and increased advocacy for riparian planting in private land.
3. The development of stormwater treatment systems and identification of all stormwater inputs into the catchment.
4. The protection and enhancement of known spring sites.
5. Halting all direct stormwater and drainage inputs into Waikākāriki (Horseshoe Lake) by developing pre-input treatment wetlands/swales and/or diverting the current inputs directly into the Ōtākaro river.

Following the 2011 Canterbury Earthquakes Ngai Tūāhuriri Runanga and Mahaanui Kurataiao Ltd conducted State of the Takiwā monitoring between March and May 2012. This was to provide an indication of the post-earthquake state of these waterways in relation to Ngai Tahu values. The same methodology and sites were utilised as in the 2007 report, with the addition of hinaki (set nets) and drag nets to extend the fish survey.

The results from the 2012 State of the Takiwā report showed the Te Ihutai catchment to be in poor cultural health and, when compared to the 2007 report, little improvement in scores was evident with no sites surveyed scoring above a "poor". Despite this, modest improvements in the cultural health of some sites were apparent, with 16 sites returning improved scores. Improvements were most noticeable (very poor to poor) at sites where riparian restoration actions had been taken. An increase in *E. coli* contamination was also noted, which coincided with faecal contamination from damaged water infrastructure. Fish surveys conducted indicated a similar species presence and abundance as the 2007 report.

Overall, site and water quality in the Ōtākaro catchment were found to be healthier than in the Ōpāwaho catchment. However, native species abundance was found to be greater in the Ōpāwaho catchment, and poorest at the coastline and estuary sites. The major issues identified in the 2012 report were untreated stormwater, the loss of native vegetation, including wetlands, grasslands and lowland forests, and the decline of water quality within the catchment. This closely echoed concerns and recommendations raised by the 2007 report. Of

most concern, however, in the 2012 report was the widespread presence of elevated *E. Coli* levels within the catchment and antibiotic testing indicated that this was from both human and agricultural sources in the catchment.

To ensure the effectiveness of recent improvements and mitigation measures undertaken in the Ihutai catchment updated State of the Takiwā and Cultural Health Index monitoring must occur.

2.4 Ōpāwaho / Heathcote river health 2020

Monitoring of water quality, sediment quality and aquatic ecology in the Ōpāwaho catchment was undertaken by Instream consulting on behalf of the Christchurch City Council (Instream, 2020). There were 18 monitoring sites chosen for this study, of which five were closely located to State of the Takiwā monitoring sites (Figure 4). Most sites were found to have minimal riparian buffering and are poorly shaded.

Sediment concentrations of common stormwater contaminants exceeded consent targets at 14 of the 18 sites sampled. Zinc levels were exceeded at 13 of the 15 sites sampled and the Curletts Road appears to be the major contributor of zinc to the Ōpāwaho catchment. Lead levels were exceeded at 8 of the 18 sites sampled, however a lead sediment levels have declined on average 78% throughout the catchment since leaded petrol was banned in the 1990s. Copper levels were exceeded at four locations, of which the highest contributor is brake pads.

E. Coli levels in the catchment were tracked by the Christchurch City Council surface water quality monitoring program. Of the 14 sites monitored, 10 had concentrations above the acceptable limit. No *E. Coli* samples were associated with a recorded wastewater overflow event⁵.

The invertebrate community was found to be dominated by pollution-tolerant snails and crustaceans which are common and well established in Christchurch waterways. Four of the 15 sites sampled recorded pollution-sensitive taxa: caddisflies and craneflies. All catchment sites surveyed had MCI scores below 80, which is indicative of poor stream quality.

Kākahi have been discovered in the Ōpāwaho catchment and a survey of the Cashmere Stream indicates a stable population with good recruitment. Wai koura were caught at sites H24 and H26 (Figure 4). They were also observed in the Cashmere stream immediately

⁵ Trend in Water Quality Parameters by Site - *Escherichia coli* (*E Coli*)

Source: CCC , Surface Water Quality Monitoring Report for Christchurch City Waterways: Jan - Dec 2019

upstream of its confluence with Hoon Hay Valley Drain during a separate study conducted by Instream in 2020.

The fish survey found a total of 11 species, all of which were native except brown trout. Short fin eel were the most widespread species and were found at all the sites sampled. Longfin eels were also relatively widespread, being found at 10 of the 14 sites sampled, but in a lower abundance. Inanga were found at six of the 14 sites sampled. Bluegill bully were found at sites H23 and H26. A single juvenile lamprey was caught at site H23 during fish salvage work conducted for the bank stabilisation project.

The recommendations from the 2020 report include: increased riparian planting to increase waterway shade and reduce the need for aquatic weed removal; consider removal of metal-contaminated sediments in stormwater basins and waterways; a kākahi survey in the Ōpāwaho river and regular monitoring of kākahi in Cashmere Stream; trout spawning surveys; fish surveys and fish passage investigations in stormwater facilities.

2.5 Ōpāwaho/ Heathcote surface water quality

Monthly sampling of surface water quality is conducted within the Ōpāwaho catchment by CCC and the results are captured in the Surface Water Quality Annual Report (2020). The catchment was given an overall fair score for water quality and was rated the second worst, after the Huritini/Halswell catchment. Significant contaminants in the catchment were found to closely match the 2020 Instream consulting report, with high levels of zinc, copper, *E. coli*, sediments and phosphorous. The Curletts road stream was found to be the worst site throughout all catchments and was identified as one of four top priority sites for remediation. The annual report also showed that while there have been minor improvements in the levels of some contaminants within this catchment, the overall health of the Ōpāwaho catchment has not significantly improved since 2019. The recommendations from the report include:

- investigations on how to reduce faecal contamination within the catchment from waterfowl,
- erosion and sediment control measures to be conducted in the Ōpāwaho river,
- the development of the CCC Healthy Water Bodies Action Plan to achieve healthy water bodies city and Banks Peninsula wide, and
- dry weather discharge investigations to pinpoint pollution sources.

Mana whenua support these recommendations **in principle** and wish to be consulted in the development of these mitigations.

2.6 Stormwater facilities

The stormwater system in the Ōpāwaho catchment consists of roadside channels, sumps and pipes, waterways and treatment facilities, primarily detention basins. Stormwater treatment occurs primarily in the upper reaches of the Ōpāwaho catchment, with little facilities found east of Colombo street. In the lower reaches of the Ōpāwaho river do not undergo treatment beyond sediment removal (Figure 3). All new subdivisions in the catchment are required to treat stormwater within the development. No additional facilities were proposed in the stormwater management plan.

2.7 Proposed outcomes

The purpose of the Comprehensive Stormwater Network Discharge Consent is to drive planning and actions that will progressively improve the quality of stormwater discharges.

Actions the Council can take through the stormwater management plan must be accompanied by other actions if the Council's Community Outcome (Healthy Environment) and the Mahaanui Iwi Management Plan objectives are to be realised. Further actions, by the Council and others, include:

- Raise awareness and educate citizens on how to stop contaminants at source from entering stormwater
- Eliminate or reduce contaminants at source (e.g. by substituting for contaminating building materials).
- Remove contaminants from stormwater before they enter natural water.
- Restore waterway corridors to a natural state.
- Restore and plant riparian margins.
- Improve instream habitat by sediment removal, riparian tree planting (for temperature control, bank stability and shelter).
- Improve biodiversity to improve food sources for instream life.
- Performance monitoring of treatment facilities.
- Investigation into flood protection and flood management.

Activity	Motivation for the Activity
The Council regulating and acting under regulations to stop the discharge of contaminants	As required by conditions of CRC214226 (CSNDC)

<p>The Council investigating new means of controlling contaminants at source (e.g. by materials substitution or innovative means of treatment).</p>	<p>As required by conditions of CRC214226 (CSNDC)</p>
<p>The Council and others implementing new or improved contaminant mitigation practices</p>	<p>Through the proposed Surface Water Improvement Plan 2021 (referred to in section 2.1)</p>
<p>The Council and others making progressive environmental improvements such as restoring waterways and their corridors to a natural state</p>	<p>Community Outcome (Healthy Environment)</p>
<p>Citizen-based awareness and advocacy for clean water and improved biodiversity.</p>	<p>Kaitiakitanga</p>
<p>Advocacy by Ngāi Tahu for the mana of water and waterways</p>	<p>Kaitiakitanga. Kawanatanga. Mahaanui Iwi Management Plan</p>

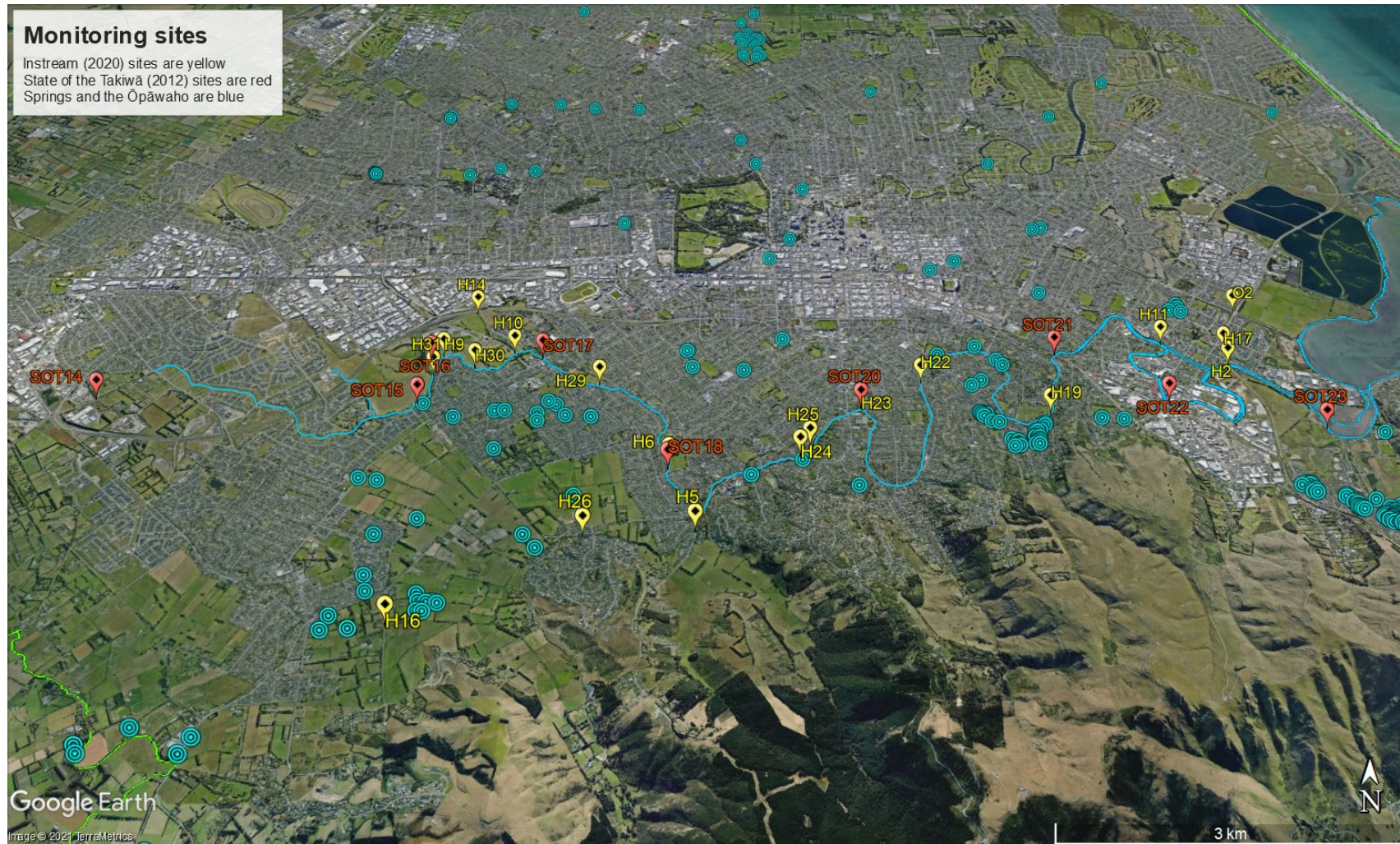


FIGURE 4: MAP SHOWING STATE OF TAKIWA AND CCC MONITORING SITES

The Statutory Context

3.1 Te Tiriti O Waitangi

In 1840, Te Tiriti o Waitangi was signed between the Chiefs of Aotearoa and Her Majesty the Queen of England, formalising an agreement to allow British subjects to settle in areas such as Te Waipounamu, under formal British colonial rule, and which guaranteed to Māori the protection of their taonga for so long as they wished. Such taonga included their waters⁶, land fisheries and mahinga kai.

Te Tiriti o Waitangi reaffirmed these rights thus:

Māori text:

“Ko te Kuini o Ingarani ka whakarite ka whakaae ki nga Rangatira, ki nga Hapu, ki nga tangata katoa o Nu Tirani, te tino rangatiratanga o rātou whenua o rātou kainga me o rātou taonga katoa. Otiia ko nga Rangatira o te Whakaminenga me nga Rangatira katoa atu, ka tuku ki te Kuini te hokonga o era wāhi whenua e pai ai te tangata nona te whenua, ki te ritenga o te utu e whakarite ai e rātou ko te kai hoko e meatia nei i te Kuini hei kai hoko mona.”

English Text:

“Her Majesty the Queen of England confirms and guarantees to the Chiefs and Tribes of New Zealand to the respective families and individuals thereof the full and exclusive and undisturbed possessions of their Lands and Estates, Forests, Fisheries and other properties which they may collectively or individually possess so long as it is their wish and desire to retain the same in their possession...”

The words “their lands and estates, forests, fisheries....” In Te Tiriti o Waitangi encapsulates the right to mahinga kai, to places where the resources are harvested, the activity and business

⁶ The Waitangi Tribunal has defined taonga value as including the value of the water itself, the resources living in the water and the resources sustained by the water.

of gathering kai and includes the type of resources that were caught or gathered. It was upheld by the Waitangi Tribunal that Māori fishing rights have endured to the present day.

3.2 National Policy Statement for Freshwater Management

The National Policy Statement for Freshwater Management (2020) requires that regional councils:

- Objective and Policy AA1 – include tangata whenua in engagement and discussion of Te Mana o te Wai;
- Policy CA2 – follow a process for developing freshwater objectives that includes discussion with tangata whenua;
- Policy CB1(aa)(v) – establish methods for monitoring that incorporate Mātauranga Māori;
- Objective and Policy D1 – provide for the involvement of iwi and hapū and ensure tangata whenua values and interests are identified and reflected in the management of fresh water.

3.3 Māori Principles for Sustainable Management

Traditional management was founded on a set of cultural values that arose from the Ngāi Tahu worldview. These cultural values include a set of principles upon which the relationship between people and the environment must be based in order to sustain the balance between the needs and demands of humans and the health of the natural world that sustains them. The following principles are significant elements of the Ngāi Tahu worldview which, when understood together, approximate the non-Māori concept of “sustainable management”.

Rangatiratanga: Rangatiratanga denotes chieftainship, autonomy, self-determination and rights to exercise authority. Recognition of the Rangatiratanga of assemblies of mana whenua and tangata whenua, such as at Papatipu Rūnanga, is as a requirement under the Treaty of Waitangi.

Tikanga: Tikanga Māori are the customs and traditions that have been transferred over generations. The first aspect of tikanga Māori is a set of principles, ideas and beliefs based

on traditional knowledge that has been passed down generation to generation from tupuna. The second aspect is the practice or operational usage of tikanga by a group or individual.

It is important to note that ideas a practices relation to tikanga Māori can differ between hapū and iwi. The concept of the base word 'tika' means to be correct or right.

Note: the entry of ngā wai a tūtae into a food gathering area goes against Tikanga Māori and is tantamount to an act of disrespect for a place, its kaitiaki, its atua, the species and habitats that reside there, and the people who gather resources from it.

Kaitiakitanga: The principle of guardianship over a rohe. This includes intergenerational responsibilities as resource caretakers and therefore kaitiaki have a responsibility to ensure that there are sufficient resources for future generations and that areas are in good ecological health. Kaitiakitanga also encompasses tohunga and kaitiaki whanau who preserve mātauranga and can interpret signs in the environment, acting as environmental monitors.

Note: the mana whenua views and positions expressed within this document is but one manifestation of exercising of Kaitiakitanga.

Whakapapa: The principle of cause and effect, descent and transmission: Sustainable management must be predicated on an understanding that all actions cause interconnected cascading effects. Whakapapa accounts for the way in which the universe, earth, sky, oceans, rivers, elements, plants, animals and humans have been created. Ultimately it is whakapapa that connects people to each other, to their ancestors, to their environment and natural resources. For Ngāi Tahu it is whakapapa that links the descent from the gods of creation

Note: the entry of ngā wai a tūtae into Ōpāwaho can be seen as having an effect on those entities (such as species, waters, atua) that are found on the whakapapa of mana whenua/tangata whenua, and therefore are entities with which there is a kinship relation.

Taonga Tuku Iho: The principle of generational continuity and responsibility: Present generations are one with those who have gone before us and those yet to be born. This applies to people and to generations or successive cycles of other species or natural phenomenon. Present generations have an overriding obligation to control the effects of their actions to ensure that resources are passed on to future generations in at least as healthy and productive a condition as they were inherited from the ancestors.

In the Ngāi Tahu worldview, all elements within the world are linked by mutual descent from the atua and the primeval parents, Rakinui and Papatūānuku. Thus, all parts of the environment are related to one another and exist within a mutually inter-dependent whole.

3.4 Resource Management Act 1991 (RMA)

The purpose of the Resource Management Act 1991 (RMA) is set out in Section 5(1) as ‘to promote the sustainable management of natural and physical resources.’ ‘Sustainable management’ is defined in Section 5(2) as managing the use, development and protection of natural and physical resources, and any adverse effects of activities on the environment are avoided, remedied, or mitigated. It is inclusive of the “cultural wellbeing” of people and communities. The RMA also recognizes the relationship between Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga as a matter of national importance (Part II s. 6(e)), including the protection of sites of significance to Māori, including wāhi tapu (s. 6(f) historic heritage). Section 7 of the Act identifies kaitiakitanga as a matter that particular regard must be given in relation to managing the use, development and protection of natural and physical resources, and section 8 establishes that all persons exercising functions and powers under the Act shall take into account the principles of the Treaty of Waitangi. The Canterbury Regional Policy Statement 2013 sets out policy recognising the appropriate tangata whenua entities that may seek to exercise the aforementioned provisions. It is the task of those who have duties in relation to the RMA ensure active protections towards improved outcomes for all parties.

3.5 Local Government Act 2002

Section 4 of the Local Government Act 2002 states:

“In order to recognise and respect the Crown’s responsibility to take appropriate account of the principles of the Treaty of Waitangi and to maintain and improve opportunities for Māori to contribute to local government decision-making processes, Parts 2 and 6 provide principles and requirements for local authorities that are intended to facilitate participation by Māori in local authority decision-making processes.”

These principles and requirements are intended to facilitate participation by Māori in local authority decision-making processes in order to give effect to the Crown's obligations under

Te Tiriti. The Local Government and Environment Select Committee in its report to Parliament on the Act clarified that:⁷

*“The ... clause makes clear that Treaty responsibilities lie with the Crown, which is the Treaty partner. **When powers are delegated to local authorities, requirements need to be put in place to ensure that the Treaty is observed.** The clause 12 principles and a set of mechanisms in Part 2 and Part 5 have been included in the bill in order to give effect to the Crown's obligations.”* [emphasis added]

This approach accords with the principle that the Crown cannot evade its obligations under the Treaty by conferring authority on some other body that is inconsistent with the Crown's Treaty obligations.⁸

3.6 Iwi Plans

Te Ngāi Tūāhuriri Rūnanga are the kaitiaki Rūnanga for this area. The following iwi management plans apply to this area:

- Tau Maire, Te. Goodall, A. Palmer, D. Tau, Rakihiia. (1990). *Te Whakatau Kaupapa – Ngāi Tahu Resource Management Strategy for the Canterbury Region.*
- Ngāi Tūāhuriri Rūnanga, Te Hapū o Ngāti Wheke (Rāpaki), Te Rūnanga o Koukourārata, Ōnuku Rūnanga, Wairewa Rūnanga, Te Taumutu Rūnanga. (2013). *Mahaanui Iwi Management Plan.*
- Te Rūnanga o Ngāi Tahu (1999). *Freshwater Policy*

Relevant policies from the Mahaanui Iwi Management Plan include, but are not limited to:

WM6.5 To require that water quality standards in the takiwā are set based on “where we want to be” rather than “this is the point that we can pollute to”. This means restoring waterways and working toward a higher standard of water quality, rather than establishing lower standards that reflect existing degraded conditions.

WM6.8 To continue to oppose the discharge of contaminants to water, and to land where contaminants may enter water.

⁷ Local Government Bill (191-2) (Select Committee report) at 18.

⁸ Waitangi Tribunal, “*Rangahau Whanui Overview Report*”, Vol. II, p 485 and “*Ngawha Geothermal Resource Report*”, Wai 304, Waitangi Tribunal. “*Treaty of Waitangi and Local Government*”, POL (01) 270, Cabinet Policy Committee, 1 October 2001, p 4.

WM6.9 To require that local authorities work to eliminate existing discharges of contaminants to waterways, wetlands and springs in the takiwā, including treated sewage, stormwater and industrial waste, as a matter of priority.

WM6.10 To require that the regional council classify the following discharge activities as prohibited due to significant effects on water quality:

- a) Activities that may result in the discharge of sewage (treated or untreated), stormwater, industrial waste, animal effluent or other contaminants to water, or onto land where contaminants may enter water.

WM6.21 To promote the monitoring of water quality and cultural health at hāpua, coastal lakes and river mouth environments, to monitor the health of catchments and assess progress towards water quality objectives and standards.

WM6.23 To ensure that economic costs do not take precedence over the cultural, environmental and intergenerational costs of poor water quality.

IH3.1 To improve water quality in the Ihutai catchment by consistently and effectively advocating for a change in perceptions of waterways.

IH3.2 To require that waterways and waterbodies (including Te Ihutai) are managed to achieve and maintain a water quality standard consistent with food gathering.

IH3.3 To require that local authorities eliminate sources of contaminants to waterways in the Ihutai catchment, primarily:

- a) Sewage overflows in the Ōpāwaho and Ōtākaro rivers;
- b) Stormwater discharges into all waterways, including small headwater and ephemeral streams, and drains; and
- c) Run-off and discharges into waipuna

IH3.4 To advocate for the following methods for improving water quality in the catchment:

- a) Avoiding the infiltration of stormwater into the sewage systems, which results in overflow discharges to the rivers and estuary;
- b) Protect and retain margins and set back areas along waterways, and ensure that these are of appropriate width and planted with indigenous species;
- c) Restoration of degraded springs and wetlands; and
- d) Requiring on site and closed stormwater treatment and disposal techniques (that do not discharge to water) for urban developments, public lands and parks.

IH5.1 To require that the waipuna in the catchment are recognised and managed as wāhi taonga, with particular attention to:

- a) Ensuring that waipuna are protected from the discharge of contaminants;
- b) Ensuring that there are appropriate and effective setbacks from waipuna, to protect from urban development or re-development;
- c) Restoring degraded waipuna; and
- d) Enabling flow to return to waterways in naturalised channels.

3.7 The Ngāi Tahu Claims Settlement Act 1998

The Ngāi Tahu Claims Settlement Act includes several provisions that are of relevance to the management of the freshwater resources of catchments, including:

- Inclusion of Statutory Acknowledgements where the Crown recognises the significance of certain areas to Ngāi Tahu;
- Recognition as Statutory adviser to Minister of Fisheries;
- Development of protocols and a closer working relationship with Department of Conservation;
- Identification of taonga species (in schedule 97 of the Act);
- Provision for nohoanga (campsites).

Mana Whenua Context and Concerns

4.1 Traditional History summary

The migration story of Ngāi Tahu from the east coast of the North Island to Canterbury is often told through the oral tradition of the accounts of Moki and his elder brother Tūrakautahi. Moki was the war chief of this expedition and the youngest son of Tūāhuriri, the senior Ngāi Tahu chief of the Ngāi Tūhaitara hapū (later to become Ngāi Tūāhuriri). Moki led the war party south to avenge the death of his father's wives at the hands of Tutekawa.

The arrival of Ngāi Tūhaitara/Ngāi Tahu around the late 17th/early 18th century saw the establishment of a network centred on Te Pa o Turakautahi/Kaiapoi Pā, established by Tūrakautahi. Tau (20XX) translates oral tradition about the dispersal of hapū of Ngāi Tahu to various areas of Canterbury, establishing mana whenua:

“...After a time.... the population increased and because of the ‘warrior like’ (ngākau toa) natures the people began to fight amongst themselves. Therefore, some of them decided to look for a better place. Turakautahi sent out the word that the people were to be separated into their (hapū) groups. Ngāti Hinekakai, Ngāti Hurihia (Urihia) separated to Tuahiwi here, to stay in their own Pā. Afterward the other people were separated, Turakipo to Opawaho, Manuhiri to Koukourārata right down to Whakaraupō. Makō went to Wairewa on the way to Whakaroa and Te Ruahikihiki together with his in-law, Kaweriri were sent to Taumutu. Te Ariki went to Arowhenua together with most of his people Kāti Huirapa....”

The Ōpāwaho Pa was an outpost (waho) of Kaiapoi and was an important mahinga kai site for tuna and kanakana. The name of the village at the Pa was Poho-areare, or “pigeon breasted” and was named after a chief. The upper part of the Heathcote river was known as the Ōmokihi or “The Place of Flax-Stalk Rafts”. The origin of this name was an ancient lagoon-swamp at the foot of the Cashmere Hills, which the river drained into ⁹.

4.2 Impacts on Ngā Wai, Mahinga Kai and Taonga Species

Several cultural values are associated with the discharge and treatment of stormwater within the Ōpāwaho catchment. Of particular concern to manawhenua are those probable effects of

⁹ Maori Folk-Tales of the Port Hills. Cowan, J. (1923)

stormwater contaminants on cultural values associated with Ngā Wai, Mahinga Kai and Taonga Species. These are described below:

Ngā Wai/Wai Māori – Freshwater

Māori see water as central to all life. It is a taonga cared for and passed on by ancestors to provide and sustain life. It is the present generations responsibility to ensure this taonga is in the same or an improved state for future generations.

The whole system approach to kaitiakitanga, ki uta ki tai, reinforces the need to address the impacts on the Ōpāwaho catchment as a whole, from the springs and headwaters, to Te Ihutai. Entry of untreated stormwater into this freshwater system must be avoided and bank stabilisation must occur to prevent sediment build-up. Additionally, waste-water overflow events must be mitigated to ensure the protection of wai māori.

Issue/Concern: *Current stormwater treatment methodologies are reliant on predominantly passive methods (eg. Rain gardens, Stormwater basins). Rūnanga are concerned with the efficacy of these treatment methods when it comes to the removal of contaminants and the management of sediment build-up.*

Issue/Concern: *Due to the design of the catchments wastewater system heavy rainfall events can result in wastewater overflowing into stormwater the stormwater discharge system/the Ōpāwaho river. Discharge of untreated wastewater into the Ōpāwaho catchment is unacceptable under the principles of kaitiakitanga and tikanga and has a direct adverse impact on wai māori. Updates to the wastewater network need to occur to prevent this from occurring, especially near wāhi tapu and spring sites.*

Issue/concern: *The impacts of climate change are of significant concern to mana whenua. Flood management practises within the catchment need to take into account both sea level rise and the increasing severity of weather patterns. Significant inundation events (like May 2021) have been shown to overwhelm the stormwater network and climate change is likely to exacerbate this.*

Issue/concern: *There are some concerns that areas set aside for mitigation may not be sufficient for water quality improvement, therefore, mana whenua would be interested know if the CCC has considered the addition of other methods to compliment treatment. These may include use of denitrifying bioreactors to support nitrate conversion, specifically in areas where nitrate levels exceeded ANZECC guidelines (Margetts & Marshall, 2020), shell bioreactors to assist with metal contamination reduction and/or mechanical devices such as EcolsoITM RSF 4000 solid pollutant filter and Jellyfish® membrane filtration systems.*

Taonga Species and Mahinga Kai

Mana whenua are supportive of mitigations that can improve the current environs and potentially attract recruitment of taonga species. The return of taonga species is in keeping with Ngāi Tahu values of kaitiakitanga; which states that we are the guardians of the land and have an intergenerational responsibility and we should therefore protect and restore it.

Manawhenua does recognise that greater receiving waterbodies such as the Ihutai/Estuary and ultimately Te Tai o Mahaanui are heavily degraded as the result of a variety of anthropogenic activities. Although these environs are heavily degraded, and have been for some time, this should not be used as rationale to allow for continuation or addition of procedures, processes or activities that could exacerbate current conditions. Manawhenua are concerned that the current regime could have detrimental implications for both native and endemic taonga in the wider ecology, and therefore would like reassurance that improvements will be considered wherever possible within the catchment.

Mahinga kai is defined in the Ngāi Tahu Claims Settlement Act 1998 as “the customary gathering of food and natural materials, and the places where those resources are gathered (s. 167). Mahinga kai includes birds, fish and shellfish taken for food. It also includes plants such as pīngao or harakeke, used for weaving or paru (mud) used for dyeing fibres and is therefore not confined to land cultivated. Therefore, the inclusion of taonga rākau species in riparian planting and stormwater basins is in keeping with mahinga kai values.

Mahinga kai practices require both a sustainable population of taonga species and water quality that is safe to collect from. The discharge of contaminants through stormwater into the Ōpāwaho catchment is therefore at odds with mahinga kai practices.

Issue/Concern: *Rūnanga are concerned that the water quality objectives stated in the CSNDC are not stringent enough to reduce containment levels to where it will be safe to collect mahinga kai within the Ōpāwaho catchment. The aspirational water quality levels should match those of groundwater/drinking water to ensure safety and point source contamination should be monitored for.*

Taonga species are native birds, plants and animals of special cultural significance and importance to Ngāi Tahu. Taonga species are largely treasured and prized in a contemporary sense as they link to traditions and whakapapa, and are customary food sources with varying degrees, as directed by statute and relative abundance. The Crown’s settlement with Ngāi Tahu (Ngāi Tahu claims Settlement Act 1998) included recognition of the special traditional

relationship that Ngāi Tahu have with taonga species (listed in schedules 97 and 98, see appendix 1 of this document).

The continuation of mahinga kai is of great significance to Ngāi Tahu, as it is intrinsically linked to the continuation and understanding of cultural practices. Mahinga kai was, and is, central to the Ngāi Tahu way of life, being an important social and economic activity and linked to the key principles of Manaakitanga, Kaitiakitanga, Tikanga, Rangatiratanga and Whanaungatanga. Traditional and modern mahinga kai sites associated with freshwater and coastal waters are of immense cultural significance as they represent some of the last remaining intact habitats where taonga species can be harvested by Ngāi Tahu whanau.

Historically the wetlands interconnected through the Ōpāwaho catchment provided Ngāi Tahu whanau located at Kaiapoi and Ōpāwaho Pa with a large variety of mahinga kai species. The springs and waterways would found throughout the catchment would have supplied kekewai/waikoura, tuna, kanakana, kākahi. The lower reaches of the Ōpāwaho contain inanga spawning sites. The wetlands surrounding the Ōpāwaho tributaries would have provided a habitat for Pukeko, Putangitangi, Parera, Weka and others. Around the margins of these wetlands Raupo, Harakeke and Tī kōuka flourished. Raupo could provide food or be used to make buoyant rafts, Harakeke providing strong fibres for clothing, baskets, nets and ropes while the carrot shaped roots and young stems of the Tī kōuka provided the delicacy kauru.

Adjoining these margins were woodlands and forest, providing an ample supply of timber, much of the area was covered in a mix of podocarp forest and swamp wetland. Matai and totara dominated the driest areas, with tarata (lemonwood) and, possibly kapuka (broadleaf). Kanuka was dominant on older disturbed sites, such as flood channels and riparian areas of rivers. Wetter forest areas (riparian edges) were dominated by kahikatea (*Dacrydium dacrydioides*), but the wettest areas supported areas of dense flax and raupo along with other species typical of fertile wetlands. The timber could be used for waka, whare and fortifications, while Kareo and Pirita were used to make hinaki and kupenga. These woodlands and forest contained various medicinal plants and provided habitat for a variety of bird species. In addition to these mahinga kai species, kumara was also cultivated to augment the diet and as an item for trade. Garden soils were manufactured using equal parts of charcoal, fine river gravels and leaf litter.

Many of the traditional and contemporary Mahinga kai species are regarded as taonga species. These are the native birds, plants and animals of special cultural significance and importance to Ngāi Tahu and these are listed below:

Ika species in the Ōpāwaho/Heathcote catchment area

Ingoa Māori	Common name	Scientific name
Pātiki/Mohoao	Black flounder	<i>Rhombosolea retiaria</i>
Pātiki	Yellow bellied flounder	<i>Rhombosolea leporine</i>
Kanakana	Lamprey	<i>Geotria australis</i>
Tuna heke/Tuna kuwharuwharu	Longfin eel	<i>Anguila dieffenbachii</i>
Tuna	Shortfin eel	<i>Anguila australis</i>
Tīpokopoko/Toitoi	Common bully	<i>Gobiomorphus cotidianus</i>
Tīpokopoko/Toitoi	Upland bully	<i>Gobiomorphus breviceps</i>
Koukoupapa/Tīpokopoko/Toitoi	Bluegill	<i>Gobiomorphus hubbsi</i>
Toitoi	Giant bully	<i>Gobiomorphus gobioides</i>
Īnanga	Inanga	<i>Galaxias maculatus</i>
Kātaka	Yellow-eyed mullet	<i>Aldrichetta forsteri</i>
Paraki/Kehakeha	Common smelt	<i>Retropinna retropinna</i>
Kākahi	Freshwater mussels	<i>Echyridella menziesi</i>
Kēkēwai	Freshwater crayfish	<i>Parenehraps. sp</i>

In addition to the aforementioned species, other organisms including migratory *Galaxias* sp. could benefit from improved water quality as a result of proposed mitigations such as retention basins and wetlands.

Taonga manu species in the Ōpāwaho/Heathcote catchment area

Ingoa Māori	Common name	Scientific name
Kōparapara/korimako	Bellbird	<i>Anthornis melanura</i>
Hiraka	Silver eye/wax eye	<i>Zosterops lateralis</i>
Tūī/kōkō	Tui	<i>Prosthemadera</i>
Pīwakawaka/pīwaiwaka	Fantail	<i>Rhipidura fuliginosa</i>
Kūkupa/Kererū	Kereru	<i>Hemiphaga</i>
Ruru koukou	Morepork	<i>Ninox novaeseelandiae</i>
Riroriro	Grey warbler	<i>Gerygone igata</i>
Kahu	Swamp Harrier	<i>Circus approximans</i>
Pūkeke/pākura	Australasian swamphen	<i>Porphyrio melanotus</i>
Pūtakitaki	Paradise Shelduck	<i>Tadorna variegata</i>

Tete/patete	Grey teal	<i>Anas gracilis</i>
Kuruwhengi/kuruwhengu	Australasian shoveler	<i>Anas rhynchos</i>
Pāpango	Scaup	<i>Aythya novaeseelandiae</i>
Kawau Paka	Little shag	<i>Phalacrocorax</i>
Kawau pango/māpua	Black shag	<i>Phalacrocorax carbo</i>
Kāruhiruhi	Pied shag	<i>Phalacrocorax varius</i>
Kawau tikitiki/koautai/pārekareka	Spotted shag	<i>Stictocarbo punctatus</i>
Matuku moana	White-faced heron	<i>Egretta novaehollandiae</i>
Kōtuku	White heron	<i>Ardea modesta</i>
kōtuku-ngutupapa	Royal spoonbill	<i>Platalea regia</i>
Kūaka/Karoro	Bar-tailed Godwit	<i>Limosa lapponica</i>
Tōrea pango	Variable oystercatcher	<i>Haematopus unicolor</i>
Tōrea	South Island pied	<i>Haematopus finschi</i>
Poaka	Pied stilt	<i>Himantopus himantopus</i>
Tūturiwhatu/pohowera/karuhiruhi	Banded dotterel	<i>Charadrius bicinctus</i>
Tūturiwhatu	Spur-winged/masked plover	<i>Vanellus miles</i>
Hākoakoa	Artic skua	<i>Stercorarius parasiticus</i>
Karoro/rāpunga	Southern black-backed gull	<i>Larus dominicanus</i>
Tarāpunga	Red-billed gull	<i>Larus novaehollandiae</i>
Tarāpuka	Black-billed gull	<i>Larus bulleri</i>
Kāhawa/taranui	Caspian tern	<i>Hydroprogne caspia</i>
Tara pirohe	Black-fronted tern	<i>Chlidonias albobriatus</i>
Tara	White-fronted tern	<i>Sterna striata</i>
Kōtare	Kingfisher	<i>Todiramphus sanctus</i>
Warou	Welcome swallow	<i>Hirundo neoxena</i>
Pīhoihoi	New Zealand pipit	<i>Anthus</i>

As the greater receiving waterbody for the Ōpāwaho/Heathcote catchment is Te Ihutai/ Avon - Heathcote Estuary, taonga waterfowl could potentially be affected by activities occurring within the catchment.

RĀKAU SPECIES IN THE ŌPĀWAHO/HEATHCOTE CATCHMENT AREA

Ingoa Māori	Common name	Scientific name
Kōwhai	Kowhai	<i>Sophora microphylla</i>
Kahikatea	Kahikatea	<i>Dacrycarpus dacrydioides</i>
Kānuka	Kanuka	<i>Kunzea ericoide</i>
Tōtara	Totara	<i>Podocarpus totara</i>
Mataī	Black pine	<i>Prumnopitys taxifolia</i>
Akeake	Akeake	<i>Dodonaea viscosa</i>
Houhi puruhi	Lacebark	<i>Hoheria angustifolia</i>
Tawhai	Beech	<i>Nothofagus spp</i>
Tī kouka	Cabbage tree	<i>Cordyline australis</i>
Koromiko/Korokio	Hebe	<i>Hebe sp</i>
Pokaka	Pokaka	<i>Elaeocarpus hookerianus</i>
Mākaka	Saltmarsh ribbonwood	<i>Plagianthus divaricatus</i>
Ongaonga	Native nettle	<i>Hoheria sixtylosa</i>
Harakeke	Flax	<i>Phormium tenax</i>
Toetoe	Toetoe	<i>Austroderia sp.</i>
Ngaio	Ngaio	<i>Myoporum laetum</i>
Mikimiki/Taupata	Mikimiki	<i>Coprosma sp.</i>
Tūtāe kōau	Native celery	<i>Apium prostratum</i>
Makura	Tussock sedge	<i>Carex secta</i>

Many of these rākau species form habitats for taonga species and therefore their presence in riparian margins and stormwater basins is necessary for the health of these populations. Additionally, many of the rākau listed above are used in rongoā and/or have other traditional uses and therefore their availability is necessary for the cultural health of the catchment.

Issue/Concern: *The lack of riparian planting and native habitats throughout the catchment limits the ability for taonga species to recover within the catchment.*

It should be noted that this is not a complete list of taonga species and there may be species that are or have been present in the catchment, but not recorded. The above-mentioned list are combined from records and evidence of Tau and Tau (nd.), Crow (2017), Jacob (2018) and Allingham (2005).

With increasing impermeable surfaces (roading, roofing, parking areas) the residential surfaces decrease the grassland and shrubland ecosystems that provide habitat for various waterfowl and bird species and terrestrial invertebrates. Residential development usually leads to significant increases in peak stormwater volumes delivered in shorter time frames with greater contamination loading and higher water temperatures. These events typically degrade the in-stream biota and habitat condition where such remain. The combination of a decline in habitat, biodiversity and water quality indicated the potential for the further decline or loss of taonga species.

The maintenance of the diversity of quality and quantity of resources especially mahinga kai, is important to Ngāi Tahu. In the Ngāi Tahu Claims Settlement Act 1998 mahinga kai refers to Ngāi Tahu interests in traditional food and other natural resources, and the sites where the resources are gathered.

The term mahinga kai, therefore, refers to the whole resource chain, from the mountain tops to the ocean floor. It encompasses social and education elements as well as the process of food gathering, including the way it is gathered, the place it is gathered from, and the actual resource itself.

Concluding Comments

5.1 Priorities of Ngāi Tūāhuriri Rūnanga

Priorities of Te Ngāi Tūāhuriri Rūnanga include the following:

- Supporting the stormwater management and stormwater control methods that are in tune with cultural values;
- Improving water quality and the associated cultural values of the Ōpāwaho/Heathcote catchment;
- Establishing or restoring native habitats of taonga species, including mahinga kai;
- Regular reporting of monitoring data from the Ōpāwaho catchment by Christchurch City Council in a suitable manner to rūnanga;
- Cultural monitoring supported by Te Ngāi Tūāhuriri Rūnanga is carried out and used in influencing decision making;
- Providing developers and/or the public with more information for education purposes on stormwater issues and controls as well.

5.2 Adverse effects to be avoided

Te Ngāi Tūāhuriri Rūnanga are committed to:

- Protecting the wāhi taonga or wāhi tapu present within the Ōpāwaho catchment area;
- Reducing the impacts of stormwater discharge within the Ōpāwaho catchment;
- Increasing and enhancing native plants species which creates native habitats for taonga species, provides cultural outcomes and increases the cultural landscape.

When assessing the impacts associated with the proposal Te Ngāi Tūāhuriri Rūnanga want to see the following adverse effects avoided:

- Any loss of habitats or life cycles of taonga species, especially mahinga kai species;
- Any direct or indirect negative impact on taonga species health or abundance, especially mahinga kai species;
- Any impact on wāhi tapu and wāhi taonga.

As is noted above, some of these issues can be addressed by consent conditions and monitoring. Others require ongoing discussions with Te Ngāi Tūāhuriri Rūnanga.

5.3 Mana Whenua Requirements

The Christchurch City Council will:

- 1 Engage with mana whenua prior to any proposed changes, enhancements, translocations and/or diversions as opposed to being consulted retrospectively.
- 2 Ensure mana whenua are able to implement their own management strategies which include practices such as rahui, or other customary tools and therefore is also in keeping with treaty principles.
- 3 Increase riparian planting throughout the catchment, especially including trees for shade cover to reduce macrophyte overgrowth;
- 4 Adopt alternative methods of weed control (eg. Shade trees) to prevent the need for manual in-stream weed removal;
- 5 Ensure that all waterways in the catchment are treated to the same standard and managed for mahinga kai collection in the future;
- 6 Conduct studies to investigate the effectiveness of current stormwater treatment facilities e.g. Stormwater basins;
- 7 Ensure the protection and enhancement of known spring sites;
- 8 Where stormwater treatment facilities can't be installed, ensure that stormwater is diverted into the wastewater system, especially in industrial areas;
- 9 Commence monitoring in Cashmere Stream of kākahi population;
- 10 Support State of the Takiwā reporting in the catchment; however this requires more sites than the four sites suggested in the stormwater management plan in order to capture ki uta, ki tai cultural values. An additional monitoring site should be added at Garlands Rd bridge as this is a traditional settlement and mahinga kai site.
- 11 Conduct a survey of stormwater basins to ensure fish do not get trapped in stormwater treatment facilities

Bibliography & Appendices

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11.2 Appendices

Appendix 1 – Taonga Species Schedule 97a Birds

Appendix 2 – Taonga Species Schedule 97b Birds

Appendix 3 – Taonga Species Schedule 97c Birds, Plants

Appendix 4 – Taonga Species Schedule 97d Plants

Appendix 5 – Taonga Species Schedule 97e Plants, Marine mammals

Appendix 6 – Taonga Species Schedule 97f Freshwater fish, Shellfish

Appendix 1 Taonga Species Schedule 97a Birds

Schedule 97 Taonga species

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Birds

Name in Māori	Name in English	Scientific name
Hoiho	Yellow-eyed penguin	<i>Megadyptes antipodes</i>
Kāhu	Australasian harrier	<i>Circus approximans</i>
Kākā	South Island kākā	<i>Nestor meridionalis meridionalis</i>
Kākāpō	Kākāpō	<i>Strigops habroptilus</i>
Kākāriki	New Zealand parakeet	<i>Cyanoramphus spp</i>
Kakaruai	South Island robin	<i>Petroica australis australis</i>
Kakī	Black stilt	<i>Himantopus novaeseelandiae</i>
Kāmana	Crested grebe	<i>Podiceps cristatus</i>
Kārearea	New Zealand falcon	<i>Falco novaeseelandiae</i>
Karoro	Black-backed gull	<i>Larus dominicanus</i>
Kea	Kea	<i>Nestor notabilis</i>
Kōau	Black shag	<i>Phalacrocorax carbo</i>
	Pied shag	<i>Phalacrocorax varius varius</i>
	Little shag	<i>Phalacrocorax melanoleucos brevirostris</i>
Koekoeā	Long-tailed cuckoo	<i>Eudynamys taitensis</i>
Kōparapara or Korimako	Bellbird	<i>Anthornis melanura melanura</i>
Kororā	Blue penguin	<i>Eudyptula minor</i>
Kōtare	Kingfisher	<i>Halcyon sancta</i>
Kōtuku	White heron	<i>Egretta alba</i>
Kōwhiowhio	Blue duck	<i>Hymenolaimus malacorhynchos</i>
Kūaka	Bar-tailed godwit	<i>Limosa lapponica</i>
Kūkupa/Kererū	New Zealand wood pigeon	<i>Hemiphaga novaeseelandiae</i>
Kuruwhengu/Kuruwhengi	New Zealand shoveller	<i>Anas rhynchotis</i>
Mātā	Fernbird	<i>Bowdleria punctata punctata</i> and <i>Bowdleria punctata stewartiana</i> and <i>Bowdleria</i>

Appendix 2 Taonga Species Schedule 97b Birds

Schedule 97	Ngāi Tahu Claims Settlement Act 1998	Reprinted as at 20 May 2014
Name in Māori	Name in English	Scientific name
		<i>punctata wilsoni</i> and <i>Bowdleria punctata candata</i>
Matuku moana	Reef heron	<i>Egretta sacra</i>
Miromiro	South Island tomtit	<i>Petroica macrocephala macrocephala</i>
Miromiro	Snares Island tomtit	<i>Petroica macrocephala dannefaerdi</i>
Mohua	Yellowhead	<i>Mohoua ochrocephala</i>
Pākura/Pūkeko	Swamp hen/Pūkeko	<i>Porphyrio porphyrio</i>
Pārera	Grey duck	<i>Anas superciliosa</i>
Pateke	Brown teal	<i>Anas aucklandica</i>
Pīhoihoi	New Zealand pipit	<i>Anthus novaeseelandiae</i>
Pipīwharau	Shining cuckoo	<i>Chrysococcyx lucidus</i>
Pīwakawaka	South Island fantail	<i>Rhipidura fuliginosa fuliginosa</i>
Poaka	Pied stilt	<i>Himantopus himantopus</i>
Pokotiwha	Snares crested penguin	<i>Eudyptes robustus</i>
Pūtakitaki	Paradise shelduck	<i>Tadorna variegata</i>
Riroriro	Grey warbler	<i>Gerygone igata</i>
Roroa	Great spotted kiwi	<i>Apteryx haastii</i>
Rowi	Ōkārito brown kiwi	<i>Apteryx mantelli</i>
Ruru koukou	Morepork	<i>Ninox novaeseelandiae</i>
Takahē	Takahē	<i>Porphyrio mantelli</i>
Tara	Terns	<i>Sterna spp</i>
Tawaki	Fiordland crested penguin	<i>Eudyptes pachyrhynchus</i>
Tete	Grey teal	<i>Anas gracilis</i>
Tieke	South Island saddleback	<i>Philesturnus carunculatus carunculatus</i>
Titi	Sooty shearwater/Muttonbird/ Hutton's shearwater Common diving petrel South Georgian diving petrel Westland petrel Fairy prion Broad-billed prion White-faced storm petrel Cook's petrel	<i>Puffinus griseus</i> and <i>Puffinus huttoni</i> and <i>Pelecanoides urinatrix</i> and <i>Pelecanoides georgicus</i> and <i>Procellaria westlandica</i> and <i>Pachyptila turtur</i> and <i>Pachyptila vittata</i> and <i>Pelagodroma marina</i> and <i>Pterodroma cookii</i> and <i>Pterodroma inexpectata</i>

Appendix 3 Taonga Species Schedule 97c Birds, Plants

 Reprinted as at
20 May 2014

Ngāi Tahu Claims Settlement Act 1998

Schedule 97

Name in Māori	Name in English	Scientific name
	Mottled petrel	
Tititipounamu	South Island rifleman	<i>Acanthisitta chloris chloris</i>
Tokoeka	South Island brown kiwi	<i>Apteryx australis</i>
Toroa	Albatrosses and Mollymawks	<i>Diomedea</i> spp
Toutouwai	Stewart Island robin	<i>Petroica australis rakiura</i>
Tūi	Tūi	<i>Prothemadera novaeseelandiae</i>
Tutukiwi	Snares Island snipe	<i>Coenocorypha aucklandica huegeli</i>
Weka	Western weka	<i>Gallirallus australis australis</i>
Weka	Stewart Island weka	<i>Gallirallus australis scotti</i>
Weka	Buff weka	<i>Gallirallus australis hectori</i>

Plants

Name in Māori	Name in English	Scientific name
Akatorotoro	White rata	<i>Metrosideros perforata</i>
Aruhe	Fernroot (bracken)	<i>Pteridium aquilinum</i> var <i>esculentum</i>
Harakeke	Flax	<i>Phormium tenax</i>
Horoeka	Lancewood	<i>Pseudopanax crassifolius</i>
Houhi	Mountain ribbonwood	<i>Hoheria lyalli</i> and <i>H. glabata</i>
Kahikatea	Kahikatea/White pine	<i>Dacrycarpus dacrydioides</i>
Kāmahi	Kāmahi	<i>Weinmannia racemosa</i>
Kānuka	Kānuka	<i>Kunzia ericoides</i>
Kāpuka	Broadleaf	<i>Griselinia littoralis</i>
Karaeopirita	Supplejack	<i>Ripogonum scandens</i>
Karaka	New Zealand laurel/Karaka	<i>Corynocarpus laevigata</i>
Karamū	Coprosma	<i>Coprosma robusta</i> , <i>coprosma lucida</i> , <i>coprosma foetidissima</i>
Kātote	Tree fern	<i>Cyathea smithii</i>
Kiekie	Kiekie	<i>Freycinetia baueriana</i> subsp <i>banksii</i>
Kōhia	NZ Passionfruit	<i>Passiflora tetrandia</i>
Korokio	Korokio Wire-netting bush	<i>Corokia cotoneaster</i>

Appendix 4 Taonga Species Schedule 97d Plants

Schedule 97	Ngāi Tahu Claims Settlement Act 1998	Reprinted as at 20 May 2014
Name in Māori	Name in English	Scientific name
Koromiko/Kōkōmuka	Koromiko	<i>Hebe salicifolia</i>
Kōtukutuku	Tree fuchsia	<i>Fuchsia excorticata</i>
Kōwahi Kōhai	Kōwhai	<i>Sophora microphylla</i>
Mamaku	Tree fern	<i>Cyathea medullaris</i>
Mānia	Sedge	<i>Carex flagellifera</i>
Mānuka Kahikātoa	Tea-tree	<i>Leptospermum scoparium</i>
Māpou	Red matipo	<i>Myrsine australis</i>
Mataī	Mataī/Black pine	<i>Prumnopitys taxifolia</i>
Miro	Miro/Brown pine	<i>Podocarpus ferrugineus</i>
Ngaio	Ngaio	<i>Myoporum laetum</i>
Nīkau	New Zealand palm	<i>Rhopalostylis sapida</i>
Pānako	(Species of fern)	<i>Asplenium obtusatum</i>
Pānako	(Species of fern)	<i>Botrychium australe</i> and <i>B. biforme</i>
Pātōtara	Dwarf mingimingi	<i>Leucopogon fraseri</i>
Pīngao	Pīngao	<i>Desmoschoenus spiralis</i>
Pōkākā	Pōkākā	<i>Elaeocarpus hookerianus</i>
Ponga/Poka	Tree fern	<i>Cyathea dealbata</i>
Rātā	Southern rātā	<i>Metrosideros umbellata</i>
Raupō	Bulrush	<i>Typha angustifolia</i>
Rautāwhiri/Kōhūhū	Black matipo/Māpou	<i>Pittosporum tenuifolium</i>
Rimu	Rimu/Red pine	<i>Dacrydium cypressinum</i>
Rimurapa	Bull kelp	<i>Durvillaea antarctica</i>
Taramea	Speargrass, spaniard	<i>Aciphylla</i> spp
Tarata	Lemonwood	<i>Pittosporum eugenioides</i>
Tawai	Beech	<i>Nothofagus</i> spp
Tētēaweka	Muttonbird scrub	<i>Olearia angustifolia</i>
Tī rākau/Tī Kōuka	Cabbage tree	<i>Cordyline australis</i>
Tikumu	Mountain daisy	<i>Celmisia spectabilis</i> and <i>C. semicordata</i>
Titoki	New Zealand ash	<i>Alectryon excelsus</i>
Toatoa	Mountain Toatoa, Celery pine	<i>Phyllocladus alpinus</i>

Appendix 5 Taonga Species 97e Plants, Marine mammals

 Reprinted as at
20 May 2014

Ngāi Tahu Claims Settlement Act 1998

Schedule 97

Name in Māori	Name in English	Scientific name
Toetoe	Toetoe	<i>Cortaderia richardii</i>
Tōtara	Tōtara	<i>Podocarpus totara</i>
Tutu	Tutu	<i>Coriaria</i> spp
Wharariki	Mountain flax	<i>Phormium cookianum</i>
Whīnau	Hīnau	<i>Elaeocarpus dentatus</i>
Wī	Silver tussock	<i>Poa cita</i>
Wīwī	Rushes	<i>Juncus</i> all indigenous <i>Juncus</i> spp and <i>J. maritimus</i>

Marine mammals

Name in Māori	Name in English	Scientific name
Ihupuku	Southern elephant seal	<i>Mirounga leonina</i>
Kekeno	New Zealand fur seals	<i>Arctocephalus forsteri</i>
Paikea	Humpback whales	<i>Megaptera novaeangliae</i>
Parāoa	Sperm whale	<i>Physeter macrocephalus</i>
Rāpoka/Whakahao	New Zealand sea lion/ Hooker's sea lion	<i>Phocarctos hookeri</i>
Tohorā	Southern right whale	<i>Balaena australis</i>

Appendix 6 Taonga Species Schedule 97f Freshwater fish, Shellfish

Schedule 98

Ngāi Tahu Claims Settlement Act 1998

Reprinted as at
20 May 2014

Schedule 98
Customary fisheries

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Part A
Taonga fish species

Name in Māori	Name in English	Scientific name
Kāeo	Sea tulip	<i>Pyura pachydermatum</i>
Koeke	Common shrimp	<i>Palaemon affinis</i>
Kōkopu/Hawai	Giant bully	<i>Gobiomorphus gobioides</i>
Kōwaro	Canterbury mudfish	<i>Neochanna burrowsius</i>
Paraki/Ngaiore	Common smelt	<i>Retropinna retropinna</i>
Piripiripōhatu	Torrentfish	<i>Cheimarrichthys fosteri</i>
Taiwharu	Giant kōkopu	<i>Galaxias argenteus</i>

Part B
Shellfish Species

Name in Māori	Name in English	Scientific name
Pipi/Kākahi	Pipi	<i>Paphies australe</i>
Tuaki	Cockle	<i>Austrovenus stutchburgi</i>
Tuaki/Hākiari, Kuhakuha/ Pūrimu	Surfclam	<i>Dosinia anus</i> , <i>Paphies donacina</i> , <i>Mactra discor</i> , <i>Mactra murchsoni</i> , <i>Spisula aequilateralis</i> , <i>Basina yatei</i> , or <i>Dosinia subrosa</i>
Tuatua	Tuatua	<i>Paphies subtriangulata</i> , <i>Paphies donacina</i>
Waikaka/Pūpū	Mudsnail	<i>Amphibola crenata</i> , <i>Turbo smaragdus</i> , <i>Zedilom spp</i>

The background is a solid teal color with decorative, lighter teal swirl patterns in the top-left and bottom-right corners. The swirls are composed of multiple overlapping, curved lines that create a sense of movement and depth.

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