TE RARAWA

Cultural Impact Assessment

Kaitaia Waste Water Treatment Plant | July 2021

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Acknowledgement:

This report could not have been written without mana whenua representatives, who gave their time to review, provide insight and give their endorsement on behalf of their hapū marae.

Contents

1. Introduction

1.1 This Cultural Impact Assessment (CIA) has been prepared on behalf of Te Runanga o Te Rarawa and its hapū constituents in response to the renewal of the resource consent for treated wastewater disposal into the Awanui River catchment. Discharges from the wastewater treatment plant are authorised by a resource consent. The resource consent sets out certain conditions, such as the requirement to regularly monitor the treated wastewater. There was three sampling points: at the plant outlet, upstream of the discharge to Awanui River, and downstream of the discharge to Awanui River. Manawhenua is particularly concerned with; 1) discharge of effluent to groundwater by seepage from wastewater treatment ponds, and 2) direct discharge of treated effluent to the surface waters of the Awanui River. The discharge of treated effluent and associated solids and sludges to land have also been considered. The author of this CIA recognises that Far North District Council is applying for a renewal for a 35-year consent term in August 2021.

2. Key aspects

2.1 Under the proposed consent, some aspects of the current system of discharging effluent to the Awanui river will remain, and some will change. The facets that will stay the same is the seepage from the base of the WWTP and sludge facilities, as well as the discharge of odour to air. The facets that will change, are the condition for the quality of the wastewater discharge will be much stricter than the current conditions.

2.2 The author of this CIA is aware that:

a) There is an opportunity to include conditions agreed between FNDC and Te Rarawa.
b) The initial consent was for a term of 35 years.
c) Changing the method for discharge from water to land may mean further increase in charges to the ratepayer.

3. Report Structure

3.1 Section 4 presents the approach that has been used to assess the impacts on Te Rarawa of the proposed resource consent.

3.2 Section 5 (supported by Appendix A) describes Te Rarawa's relationship with the Awanui River in the context of river pollution. It draws on Te Rarawa evidence that strongly suggests this relationship has been degraded by point source contamination from the Kaitaia Wastewater Treatment Station to the point where, in a practical sense, this relationship no longer exists.

3.3 Sections 6 and 7 presents tangata whenua connections and values associated with the river.

3.4 Sections 8 and 9 (supported by Appendix B) presents some science-based information about the state of the river, and the physical effects of the proposed discharge on the river. The purpose of these sections is to provide context for understanding the physical health of the river, and the impacts of the methods on the aspect of river health (supported by Appendix C).

3.5 Section 10 (supported by Appendix C) sets out the policy framework that is relevant to the application. There are five policies and other documents that make up this framework; The Resource Management Act 1991, National Policy Statement for Freshwater Management 2020, Te Mana o Te Wai proposed reforms, FNDC Treated Water Supply Bylaw, and Te Rarawa Land Claims Settlement Act 2015 – Statutory Acknowledgement for the Awanui River (supported by Appendix D).

3.6 Section 10 presents recommendations for Far North District Council.

4. Assessment Approach

4.1 The approach that has been used to assess the impacts to tangata whenua of the proposed discharge has involved six stages.

(1) Identifying tangata whenua concerns and values for the Awanui River Catchment, and their measurements for a healthy catchment that sustains them physically, spiritually, culturally, and emotionally.

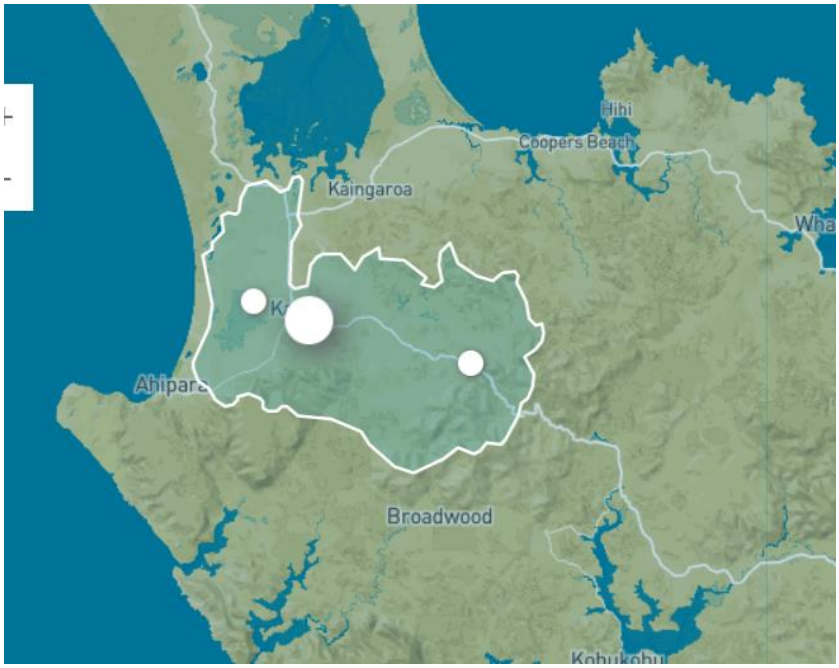
(2) In consultation with tangata whenua, understanding the state of their relationship using documents prepared by or for them.

(3) Understanding the current condition of the Awanui River catchment drawing on the state of the environment and other technical reports prepared by or for the Northland Regional and Far North District council.

(4) Comparing the impacts of the proposed discharge with the current discharge to assess whether there will be improvement, or not.

(5) Comparing the impacts of the proposed discharge to evaluate whether the new regime will meet Northland Regional Council's standards for sustainable river management.

5. Te Rarawa's relationship with the Awanui River Catchment



5.1 Although tribal histories differ from one manawhenua to another, there are fundamental beliefs and values associated with the natural environment which are similar or shared. These shared values are the basis of this CIA, reflecting the aspirations of manawhenua, who are also referred to as the "tangata whenua" throughout the report.

5.2 Te Rarawa is a confederation made up of 23 hapū marae. Te Rarawa and several associated hapū emerged as a confederation prior to the arrival of European in Aotearoa. Traditionally the hapū were part of a dynamic society with well organised social, cultural, political, and economic systems. These systems were built on a network of reciprocal relationships where the confederation of allied communities would come together, when necessary, to combine their resources as an Iwi. Te Rarawa and affiliated hapū established themselves in and around the Hokianga, Whangape and Owhata Harbours, Te Oneroa a Tohe, Tangonge and areas lying inland to the Maungataniwha ranges (Muriwhenua Report, 1997).

5.3 Te Rarawa's traditional systems of land tenure were based on mana tupuna (ancestral right) and ahi kaa roa (continuous occupants). These systems could accommodate multiple and overlapping interests and were responsive to complex and fluid customary land usages. Hapū held land rights. Rangatira controlled

land use, provided for whanau and hapū occupation and protected the resources for future generations. Hapū and whanau exercised those rights from occupation. Establishing and maintaining relationships were a key factor in this system. Outsiders could only enjoy rights given by the Rangatira including land usage. Such right depended on ongoing occupation and conformity to local tikanga.

5.4 From the early 1800's, Te Rarawa began to foster relationships with European sawyers, traders and missionaries. Te Rarawa wanted to expand their economic activities and take advantage of developing technological opportunities and allowed a number of these settlers to live on their land. During the 1820's the Hokianga Harbour became an important hub for the export of kauri timber and trade in pork, potatoes, and flax. In the following decade ship building became a key industry. Similarly, the Kaitaia district became an important area for early settlement and missionary activity. Te Rarawa extended hospitality to the new arrivals, many of whom intermarried with Māori, but expected them to adhere to tikanga.

5.5 Tāngōngē near Kaitaia, was once a significant lake and wetland area. It held perennial surface water that grew large plantations of taro. It was the rippling and swaying effect of the tall taro in the wind that led to the name Tāngōngē:

> "Ano te mara taro a Taiawarua, me nga koroi o Hotu, ka puhia te hau ka Tāngōngē noa." (Hongi 1930, Graham 1991)

5.6 Historically, Tāngōngē is regarded as one of the most important mahinga kai (food production area) of Te Hiku o Te Ika iwi. Several hapū used and managed the freshwater fishery, bird life, gardens and other natural resources contributing enormously to the local economies, health, and wellbeing of local ā for countless generations. Inanga (whitebait), kēwai (freshwater crayfish), and tuna (eel) were commonly fished along rivers and streams leading into Tangonge and at Lake Tangonge itself.

5.7 The collective vision of the iwi is to restore this taonga as a wetland and wai Māori fishery facilitating renewal through education, and research education that will rekindle the engagement with and usage of Tāngōngē by mana whenua and the local community. A Tāngōngē Restoration group has been formed to facilitate restoration action over the long-term.

5.8 Evidence suggests that for several years many Te Rarawa descendants do not use the Awanui river the way they use to. Council discharge practices and methodologies has meant a rahui (ban) to fish for inanga (whitebait) downstream from the sewage treatment plant and the Waihou floodgate, and this has remained in practice almost 40 years after treatment was first applied. In that time, two generations of Te Rarawa whanau have been practically alienated from the river and have not been able to use the river to provide either for themselves or for manuhiri (visitors). Not being able to exercise manaakitanga (hospitality) to manuhiri has been a source of embarrassment for marae elders.

5.9 Te Rarawa kaitiaki have also found that there is no access to their waahi taonga sites on the river because those sites are on private land. Most kaitiaki indicate they know where waahi taonga sites were but do not use the river because of pollution or restrictions imposed.

5.10 The ability to exercise tikanga in relation to the river relies on being able to use the river. The evidence suggests that apart from a very small number of people who use the river above Waihou floodgates, most Te Rarawa descendants do not use the river and have not used it for several decades.

5.11 Prof. Mason Durie (1998) defines kaitiakitanga as the burden incumbent on tangata whenua to be guardians of a resource or taonga for future generations. Local tangata whenua carry this burden, but

their ability to safeguard the Awanui River catchment for future generations has been severely diminished by pollution, and by not being able to control that pollution. In the context of the application for consent, such control is exercised by Northland Regional Council and Far North District Council.

5.12 For Te Rarawa today, fulfilling kaitiaki obligations is about two things: 1) restoring the health of the Awanui River catchment and the ability of future generations to use it, and 2) reclaiming some control over activities that affect the river. The Waitangi Tribunal (1985) has defined the authority to control as mana and rangatiratanga (p.70).

5.13 Restoring the health of the Awanui River catchment is not just about meeting all science-based targets, although to do so would be a significant step in the right direction. The cultural health of the river goes beyond physical parameters to also encompass spiritual, cultural, and emotional dimensions. These aspects might serve as additional criteria for assessing the proposed consent, and the mauri or life force of the river. For each criterion, indicators might be applied, and questions might be posed that enable the catchment to be assessed in finer detail e.g., Spiritual: is the river waahi whakamoemiti (a place of spiritual cleansing)? Cultural: is the river wai Māori (a freshwater supply)? Is the river mahinga kai (a traditional source of food supply)? Emotional: is the river a safe waahi takaro (recreational place) for children?

6. Tangata whenua values associated with the river

6.1 **Ancestral relationship.**

The way in which tangata whenua view wai (water) is culturally unique; this section gives an overview of some of these cultural values to raise Council awareness and understanding of key considerations in the management of waterways in the Awanui River catchment.

Te Tiriti o Waitangi promised Crown protection of Māori custom and cultural values – a right that extends to the protection of tino rangatiratanga. However, these rights have not been upheld by local council(s), and tangata whenua have gradually lost control over wai and the resources connected with waterways in the rohe. Despite this loss of customary right, wai remains an integral part of tangata whenua life. Wai is a taonga tuku iho – a resource, which is still integral to tangata whenua customs and traditions. Maintaining and enhancing the health and wellbeing of wai is an ongoing concern for ahi kaa (manawhenua).

Additionally, for tangata whenua, the Awanui River catchment were central to the wellbeing and survival of tūpuna (ancestors) living in the rohe (district). Rivers provided natural pathways for accessing inland areas, where many resources could be gathered. The whole catchment was important for harvesting resources – from the mountain streams and lakes, the river valleys, wetlands, waipuna (springs), ground water (aquifer) and the river mouths – where many of the permanent settlements were located. Customs and cultural values associated with wai (water) were an integral part of traditional life; maintaining the life supporting capacity of wai remains central to the lives of present day manawhenua. Rivers are important geological markers for manawhenua to explain where they come from – rivers provide a link between the past and the present.

Through their whakapapa (ancestral ties) and spiritual relationship with ngā atua kaitiaki, tangata whenua believe they have a duty to their ancestors (those living and those to come) to take care and protect wai and other taonga (treasures). Manawhenua members are the ahi kaa kaitiaki – a duty demonstrated in the practice of kaitiakitanga to this day. For tangata whenua, their spiritual and physical survival is dependent on their ability to safeguard resources as kaitiaki (guardians) of an area. The kaitiaki role is focused on making decisions about how to manage wai, using mātauranga (local knowledge), according to customary tradition and practices. Examples of customary practices kaitiaki use include acknowledging ngā atua kaitiaki before utilising resources connected with wai; working to enhance the health of waterways; using wai for cleansing purposes; maintaining mahinga mātaitai (food baskets); and looking after others using resources from wai catchments.

6.2 **Protecting the mauri of wai.**

As kaitiaki (guardians), tangata whenua are responsible for protecting the mauri (life force) and wairua (spirit) of the wai (water) flowing through the waterways and from springs across the rohe. Mauri gives being and form to rivers, streams, and other water bodies. Wairua is closely associated with the mauri, because the spiritual and physical elements of wai are joined together by the life force. Therefore, protecting the mauri and wairua of wai is the controlling management principal for tangata whenua. Tohu or environmental indicators are essential for measuring the health and well-being of wai (water).

From a Māori world view (te ao Māori), wai is a living taonga, classified under Article II of the Treaty of Waitangi. A sacred treasure, wai symbolises the spiritual link between past and present. The lifeblood of Papatuanuku and the tears of Ranginui, wai flows through the land via channels and waterways, creating wetlands, streams, and swamps on its path. Waterways connect the mountains with the sea. For tangata whenua, the spiritual and physical relationship with wai is intertwined – both elements are essential to life. On a spiritual level, wai and the life wai sustains, are treasures within the realms of ngā atua kaitiaki (spiritual guardians). Tangaroa is the spiritual guardian of wai and Tane Mahuta of the forests, trees and birds living along riverbanks and in the surrounding catchments. The origin of all things is reflected in the belief that everything has a mauri (life force) and a wairua (spirit). In recognition of the mauri and wairua that exists in all taonga, wai is considered sacred (tapū).

The health of a water body is also an indication of the health of ngā atua kaitiaki (the spiritual guardians) and tangata whenua. Where wai has been compromised by human activities, this has a negative impact on the spiritual guardians and people. **The discharge of human effluent in our wai, whether treated or not, is unacceptable.** In such cases, tangata whenua are concerned with enhancing the mauri (life force) to a level where physical and spiritual health of the water way can be sustained. Maintaining the integrity of wai is central to maintaining the cultural identity of tangata whenua. Protecting the mauri of wai is vital for ensuring wai can sustain everyone who lives in the rohe (district).

6.3 **Use of mātauranga and application of tikanga.**

The use of mātauranga and tikanga is fundamental in the management of wai (water). Healthy water

bodies sustain a diverse range of indigenous habitats and their inhabitants. The mātauranga associated with those habitats and indigenous species underpin the cultural identity of tangata whenua – this mātauranga forms the basis of tangata whenua tikanga. Loss of biodiversity is not only an affront to ngā atua of those taonga; it also results in the loss of cultural identity through the inability to apply mātauranga and tikanga connected with those resources.

The value tangata whenua attach to catchments is reflected in the use of waahi ingoa (names), whakatauki (proverbs), karakia (prayer) and waiata (song) to describe different parts of the landscape, including features relating to wai (water). Every mountain, hill, waterway, and valley connected with wai is named. Many names and whakatauki describe the value tūpuna (ancestors) placed on the state of the resources or relationships within a catchment.

6.4 **Maintaining customary use.**

The customary practice of gathering food and other resources from waterways in the Te Hiku rohe is part of tangata whenua life. Using resources is fundamental to being Māori. Traditionally, mahinga mātaitai (food gathering areas) associated with wai were used to sustain the spiritual and physical wellbeing of manawhenua. Although fewer mahinga mātaitai exist today, they are still an important part of cultural life. Tangata whenua continue to maintain core cultural values such as manaakitanga – providing hospitality to visitors, by offering local specialities from the area. If food baskets are healthy, this reflects on the mana (status) and wellbeing of the tangata whenua, and their ability to look after local resources as the kaitiaki (guardians) of the rohe (district). Customary use also relates to the use of flora and fauna and other materials for medicinal or building purposes.

6.5 **Protecting waahi tapū and waahi taonga associated with wai.**

There are numerous waahi tapū (sacred places and sites) associated with catchments across the rohe. Waahi tapū provide tangata whenua with a physical and spiritual link to their tupuna (ancestors). Places or sites become known as waahi tapū because of associations with tapū events, koiwi (human remains) or tapū objects. Waahi tapū can also signify ahi kaa roa (long-term residency) in an area – they are indicators of tangata whenua identity, confirmed and protected using tapū. As kaitiaki, tangata whenua are responsible for the protection of waahi tapū in their rohe. River valleys were used by manawhenua to access food and other resources. Remains of traditional camp sites used as a base from which to gather seasonal food and waka landing sites are widespread along waterways in the Te Hiku rohe. Sites are often found near wetlands or at the confluence of tributaries. Waahi tapū associated with river valleys include, but are not limited to, urupa (burial grounds), sites used for ceremonial purposes, mahinga mātaitai (food gathering areas), riu waka (landing sites), nohoanga (campsites), work areas and places for harvesting rongoā (medicinal plants).

7. Tangata Whenua connections with the river

7.1 For tangata whenua, wai is the source of all life. Life cannot survive without wai. Gravity brings forth the flow of wai from mountains and springs, through a network of tributaries to where freshwater meets the saltwater estuaries along the coastline.

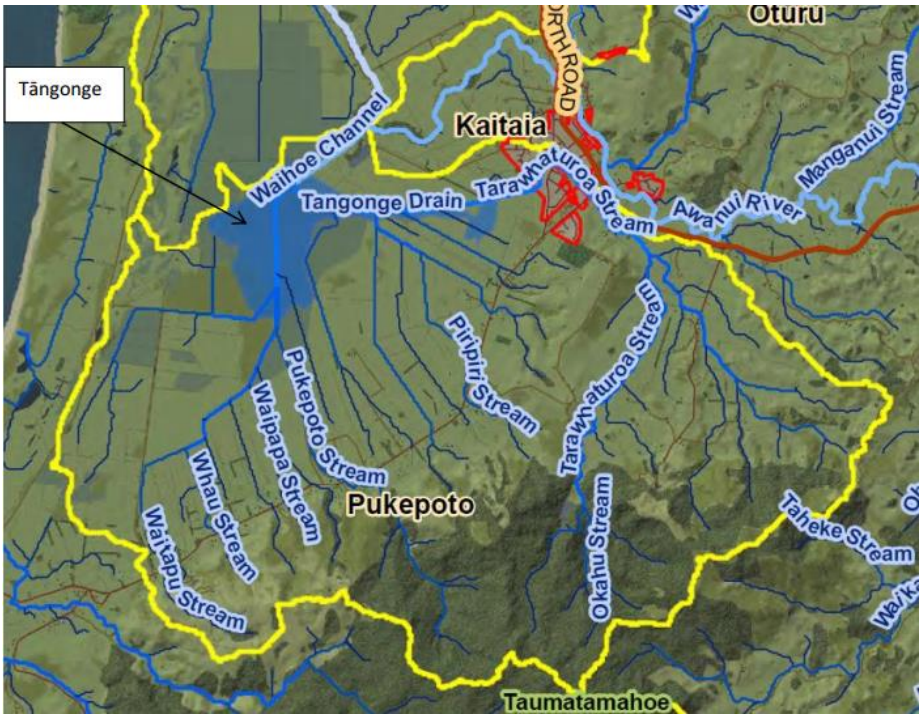
7.2 Hapū and whanau of Te Rarawa has had connections with the Awanui River catchment pre-European. Today, the most obvious physical evidence of Te Rarawa's relationship with the river and the surrounding lands is their marae and oral histories told by ahi kaa roa. There are three marae of Te Rarawa in close proximity and adversely effected due to the Kaitaia Wastewater Treatment Plant: Te Uri o Hina and Te Rarawa marae, along Pukepoto-Awaroa Road. The third is Pukemiro marae reserve near Okahu Road that currently does not have any buildings, and it has been like that for quite some time. The author of this CIA is aware there have been discussions amongst local hapū in the past to reinstate the site for marae purposes. There is marae of Te Rarawa who are interconnected to the Awanui catchment (mainly upstream of the Kaitaia Treatment Plant).

7.3 Evidence of the relationship of tangata whenua to the river also lies in their tribal pepehā, or proverb. Pepehā reinforce the connection between people and the lands and waters that form part of their territory, and to which they have an ancestral relationship. Te Rarawa identifies and defines Maungataniwha ranges and the Awanui River (with all its tributaries) as the defining landmarks of the people.

Ko Taumatamahoe ko Kokohuia ngā maunga Ko **Tāngōngē** te wai, ko **Tīpaki ko Wairoa** ngā awa Ko Te Uri-o-Hina, ko Ngāti Te Ao, ko Te Tahāwai ngā hapū Ko Te Uri-o-Hina te marae	Ko Taumatamahoe te maunga Ko **Tāngōngē** te wai Ko Ngāti Te Ao, Ko Te Tahāwai, Ko Te Uri-o-Hina ngā hapū Ko Te Rarawa te marae

Tangonge catchment

© Map: Ko Tāngōngē Te Wai: Challenges of Restoration and Management of a Flood Plain Lake, 2018.



7.4 Tāngōngē is a wetland ecosystem located within a low-lying peat basin on the alluvial plains of the Awanui River near Kaitāia, Northland, New Zealand. The Tāngōngē catchment (Figure 2) is approximately 7000 Ha (Cathcart 2005) of mainly agricultural pasture with forested upper slopes. The catchment is bordered by the Orowhana range (Herekino Forest) along the southern boundary, the extensive dune ridge of Te Oneroa- a-Tōhē (90-mile Beach) along the north-western boundary and the Awanui River along the eastern boundary. The Waitapū, Whau, Waipapa,

Pukepoto, Piripiri, Okahu, and Tarawhataroa (also referred as Tarawhaturoa) streams discharge into Tāngōngē via numerous irrigation drains. The outflow is discharged into the Awanui River via the artificial Waihou (also referred as Waihoe) Channel.

7.5 This remarkable ecosystem was severely modified over time; the people were removed; large irrigation channels were dug, and the land drained in a major government scheme in the 1930's to make way for Pakeha settlement. The land has slowly changed from wetland forest and vegetation to agricultural pasture. Today the Tāngōngē wetland system lies in a complex catchment that includes a major river, many stream tributaries, significant groundwater incursion, urban and agricultural runoff.

7.6 In one sense Tāngōngē owes its existence to 'stormwater'; seasonal inundations, particularly via the flood events of the Awanui river, which have over geological time established the lakebed. A tension between historical and current usage underlines a cultural divergence as to what constitutes 'stormwater' and is implicated in differing aspirations for resource management by manawhenua and settler populations.

7.7 The following components form the basis of the framework that has been used to assess the cultural impacts on Te Rarawa of the treated effluent discharge.

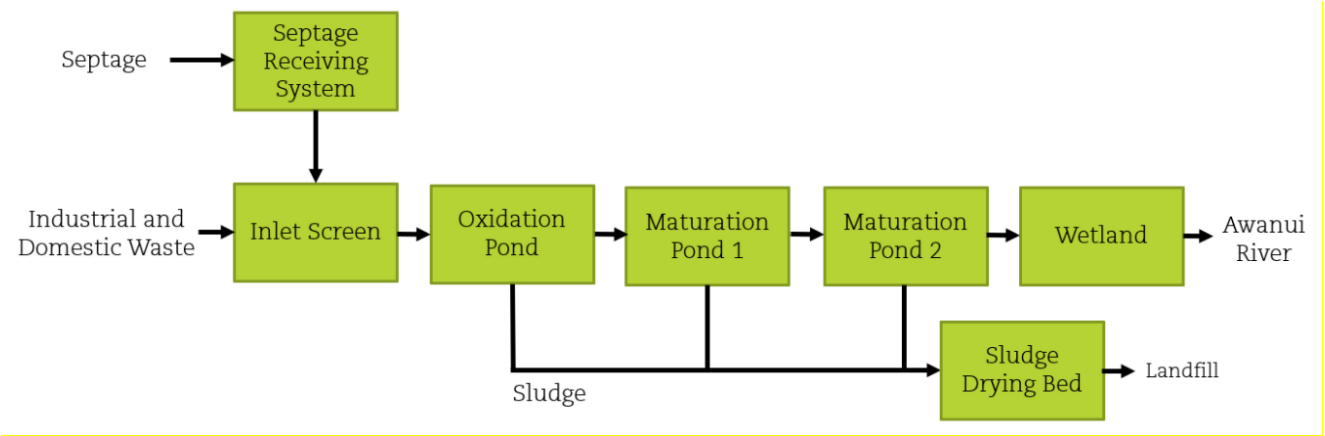
a. There are four broad concerns: 1) recreational prohibitions, 2) absence of fish life, 3) impacts on the cultural integrity of Te Rarawa, and 4) adverse effects to tangata whenua who rely on water quantity and quality for cultural and traditional activities.
b. There are three values: 1) culture, 2) nutritional and 3) spiritual.
c. There are five measurements: 1) recreational safety of children and adults, 2) abundant fish life, 3) culturally uncontaminated, 4) fulfilling our role and responsibility as kaitiaki, and 5) endorsement from other tangata whenua.

9. Kaitaia Waste-Water Treatment Plant

9.1 The Kaitaia Wastewater Treatment Plant (WWTP) is located on the south-east corner of Tāngōngē adjacent to Bonnets Rd. It receives wastewater via pressure mains from the townships of Kaitāia, and more recently, Awanui due to decommission of its ageing effluent disposal system in 2013. The WWTP consists of three existing oxidation ponds in series with a total surface area of 109,000m2 (Far North District Council 2013). The final effluent from the ponds is discharged directly into the Waihou channel (Northland Regional Council 2002). The Far North District Council is currently undertaking detailed design work of additional sludge dewatering facilities and storage areas to the immediate west of the Kaitāia WWTP.

9.2 Treatment currently consists of a septage receiving system, an inlet screen, an oxidation pond, two baffled maturation ponds, a floating wetland, and a sludge drying bed. The treatment process takes about 30 days. The treated effluent is discharged to the Awanui River.

© Diagram: Far North District Council Website, 2021



9.3 The existing ponds are located on top of natural ground. Hand augers completed in 2011 to the west of the ponds indicate a very stiff to stiff, plastic and moderately sensitive clay layer, typically 0.5-1.5m beneath ground level. Free water was approximately 0.9-1.2m beneath ground level. The clay layer extended approximately 1m and was determined to have a vertical permanent permeability of 1x10E-9 m/s (Opus International Consultants Ltd 2011). Despite this, there is some risk of leachate infiltrating through the pond base and into the groundwater.

9.4 Floodwater can enter the wastewater sewerage system when either the Kaitāia or Awanui townships are flooded, either from overflowing river water or stormwater trapped behind flood-gated outfalls (Cathcart 2005). This can lead to overflowing within the townships and overloading the WWTP, resulting in contaminated discharges to the Waihou Channel, Lake Tāngōngē, and the Awanui river. Tangata whenua do not accept human effluent, whether treated or not, released into our wai as an appropriate outcome as it conflicts with Māori values of tapū (sacred) and noa (common). It is also seen as culturally offensive and degrading of mauri.

9.5 The Awanui River catchment is most affected by the cumulative effects of effluent discharge or pollution, by non-point source contamination due to run-off from adjacent farms and point-source contamination from the Kaitaia sewage plant. For tangata whenua, wai (water) cannot be separated from other resources within a catchment. Wai links all taonga. The basis for this holistic view is the whakapapa between all living things, including people.

9.6 The tangata whenua approach is reflected in the practice of Integrated Catchment Management (ICM). ICM encompasses all the different approaches to the management of natural resources within the catchment and watershed boundaries. It is reflected in the Resource Management Act 1991, which requires Councils achieve integrated management of natural and physical resources.

9.7 The restoration of the Awanui River catchment is regarded as a long-term project that will require intense participation, a broad range of skills, and ongoing action – all will rely on strong relationships, ongoing support and working together with a shared vision.

10 Ngā Atua

10.1 At the centre of tangata whenua relationships are ngā atua (the spiritual guardians). These guardians are responsible for all aspects of life, including the health and wellbeing of people. Ngā atua form the

framework for the discussion of issues relating to the management of wai (water). Physical indicators of river health do not recognise and provide for Te Rarawa's spiritual values for the river.

11 Te Runanga o Te Rarawa (TROTR) Recommendations

11.1 TROTR recommendations are split into four parts. The first identifies recommendations for working together in relation to river management. The second focuses on recommendations for working towards a more integrated approach to Freshwater 'wai' management. The third identifies conditions Te Runanga o Te Rarawa would like placed on the wastewater treatment resource consent. The fourth focuses on recommendations for working towards an adaptation plan within our communities due to the impacts of Climate Change.

11.2 While there appears to be a genuine approach by FNDC to improve the current discharge conditions and reduce its physical impact on the Awanui River catchment, Te Runanga o Te Rarawa cannot support FNDC application for the discharge of treated wastewater for another 35 years. For reasons explained, the ongoing discharge of human effluent into the wai, whether treated or not, is unacceptable. It is apparent that Awanui River catchment has not been managed in a way that provides for the qualities that make it significant to tangata whenua. It is also obvious that the river catchment is neither physically or spiritually clean enough for iwi to use it for food gathering and ceremonies.

Part 1: Tangata whenua and Council working together.

The proposed consent to discharge treated wastewater in the Waihou channel is not clearly linked to key council responsibilities associated with improving water quality, protecting indigenous vegetation, and managing riparian margins and aquatic and terrestrial habitats/protecting biodiversity. Activities focused on the sustainable management of wai (water) and associated natural and physical resources within catchments are carried out by different council departments, community groups, landowners and other agencies on a voluntary basis or as independent initiatives. Although there is a great deal of information about water management, the application of that information is not apparent in the Councils approach to the discharge of effluent into waterways.

For the Council:

a. To recognise the unique and important role tangata whenua play as kaitiaki (guardians) of wai (water) and associated catchments through a mutual commitment to improve the Council-tangata whenua relationship based on regular and open communication and dialogue;

b. To investigate and create opportunities for tangata whenua to participate in the management of waterways including:

- Greater involvement in policy and planning processes;
- Holding annual workshops between tangata whenua and Council staff to.
  - Increase tangata whenua understanding of the nature of all proposed river work(s).
  - Increase Council understanding and awareness of tangata whenua worldview and approach to the management of waterways; and
  - Identify tangata whenua values associated with sensitive areas at an early stage.

c. To develop new protocols for tangata whenua and contractors to meet as a matter of course in relation to work being undertaken in sensitive areas; this recommendation recognises the importance of educating people working in the field of cultural values associated with waterways;

d. To develop a clear process for tangata whenua and Council staff to undertake annual site visits to look at work proposed in sensitive areas such as the lower reaches of waterways;

e. To develop new protocols between tangata whenua and the Council for dealing with waahi tapū (sacred sites) if they are uncovered because of river works;

f. To develop new protocols where Council and tangata whenua work together to investigate the use of precincts as triggers for greater tangata whenua involvement in the protection of waahi tapū (sacred sites) and mahinga kai (food gathering places):

- in relation to river works; tangata whenua may need time to gather information and have a site visit before work commences;

g. To ensure active protection of significant sites associated with waterways.
NB: There is still works to be done to ensure that significant sites recorded in the Far North District Plan are accurate and that there are buffers in place to protect areas from inappropriate activities.

h. To develop new protocols where tangata whenua shares cultural health monitoring information to contribute to the management of waterways;

i. To create opportunities for tangata whenua participation in fish recoveries for drains and streams in which mechanical clearance is required and in which tangata whenua have identified a particular interest, such as giant kokopū habitat, tuna (eel), kēwai (freshwater crayfish), kanae (mullet), kakahi (freshwater mussel) and inanga (whitebait);

j. To develop a clear process for contacting tangata whenua and working together in emergency situations.

Part 2: Towards integrated catchment management

For the Council:

a. To consider practical ways FNDC can meet its legal obligations and move towards a more integrated approach for managing water. An ICM approach recognises the inter-related nature of water ecosystems and the kaitiaki (guardian) role of tangata whenua in the rohe.

b. To focus on the relationship between activities carried out in water catchments and how an integrated management approach can improve the protection of tangata whenua values associated with water catchments.

NB: A good example of the application of the kaitiaki role is the development of a Cultural Health Index (CHI) for the Awanui River catchment and the establishment of monitoring sites. A programme of this nature will give opportunities for tangata whenua to carry out research on river catchments, using mātauranga Māori blended with scientific methodology. In addition, the programme will help tangata whenua to monitor changes in the health of catchments in their rohe (District).

Key initiatives should include:

a. To clearly link the resource consent objectives with an approach in keeping with the Resource Management Act 1991, National Policy Statement(s), Te Mana o Te Wai and Climate Change reforms, Te Rarawa Claims Settlement Act 2015, the Long-term Regional and District Plan(s);

b. For council managers from relevant departments to meet with tangata whenua to discuss practical steps towards managing water using a holistic approach – one that recognises iwi customs and traditions associated with wai;

c. To develop an action plan as an outcome of these discussions identifying tangata whenua involvement in the management of waterways. For example, Council and tangata whenua could work together to seek funding to extend the cultural health monitoring work undertaken in the Awanui River Catchment.

d. To identify ways to improve the protection of waahi tapū, rongoā and mahinga kai within the Awanui River catchment surrounding.
   - To ensure that actions developed through the above process are linked with other related research and projects, such as the Awanui River Catchment Programme, Cultural Health Indicator research, and a tangata whenua management planning process.

e. To identify opportunities for enhancing the river environment through the Awanui Flood Works scheme. This approach is one way to recognise the importance of enhancing the mauri (life force) and wairua (spirit) of water and to give something back to the environment. For example, the Council could prioritise the use of indigenous plants in riparian restoration, and work to enhance and extend habitats for indigenous species, such as birds, fish, and invertebrates. This will require a financial commitment from Council to support additional areas for restoration.

f. To commit funding to extend pest control work beyond classified sections of rivers.

Part 3: Kaitaia Wastewater Treatment Resource Consent

Although the resource consent "assessment of effects" identifies many statutory and non-statutory plans which emphasise the importance of integrated catchment management, the link between these documents and the Council's approach to river management and discharge of wastewater is unclear. The resource consent objectives reflect a 1980's ideology which is no longer relevant. The discharge of effluent, whether treated or not, directly impacts on the health and wellbeing of the catchment.

Dilution of pollution is not the solution and is unacceptable to tangata whenua. Tangata whenua has been consistent in advocating discharge to land, allowing Papatūānuku, through wetlands and riparian areas, the opportunity to filter and clean any impurities, to ensure that water is not contaminated. However, if discharge to land exceeds the carrying capacity of the land, then both the land and the water will be contaminated. Freshwater management must consider the relationship between the types of land use in the catchment (i.e., what land use activities are water abstractions supporting), and water quality.

Point source discharges, which Te Rūnanga o Te Rarawa opposes, are one source of impact on water quality. However, water quality is also a reflection of the way that flow, and water abstractions, are managed.

For the Council:

a. In the next 3 years, adopt two yearly reviews of the resource consent conditions in consultation with Te Runanga o Te Rarawa, to assess how well the conditions are operating:

- To investigate the feasibility and transition of human effluent discharge from water to land using a Cultural Health Index score: site status, mahinga kai (customary food gathering) status, and cultural water quality.
- To investigate options for upgrades and adaptation to the Treatment Plant in preparation for climate change reforms and associated climate hazards such as frequent inundated floods, drought, and low water flows, rising water temperature and sea levels, salination of groundwater, and or tsunami.
- To provide Te Runanga o Te Rarawa with monitoring information – both in terms of compliance, water quality monitoring, the monitoring of the flows at the Awanui river mouth and key sites further upstream, and sediment samples at Lake Tangonge for nitrogen and phosphorous overload, or biochemical oxygen demand.
- To identify areas where tangata whenua will need to be present to monitor all site works or river works.
- Focus on decarbonisation investments in parallel with adaptation investments, particularly in the transition to renewable energy.

Part 4: Freshwater and Climate Change Reforms

Societies have been adapting to the changing climate, but the pace and scale of adaptation will likely need to increase significantly. Key adaptation measures include protecting people and assets, building resilience, reducing exposure, and ensuring that appropriate financing and insurance are in place. Implementing adaptation measures could be challenging for many reasons. The economics of adaptation could worsen in some geographies over time, for example, those exposed to rising sea levels or water temperatures rising. Adaptation may face technical or other limits. In other instances, there could be hard trade-offs that need to be assessed, including who and what to protect and who and what to relocate.

While adaptation is now urgent and there are many adaptation opportunities, climate science shows us that the risk from further warming can only be stopped by achieving zero net greenhouse gas emissions. While all societies are affected by climate change, the poorest societies could be more exposed, as they often have climates closer to dangerous physical thresholds. They also rely more on outdoor work and natural capital and have lesser financial means to adapt quickly.

Understanding which part of tangata whenua operations are most at threat from the impacts of increased temperature, bushfire, flood, storm damage or climate related water restrictions will help societies plan their next move. It might be strengthening the resilience of existing assets, diversifying our supply chains to spread risk, or future proofing sites by investing in technology or other adaptation measures.

As well as examining the impacts of climate and risk of water shortage and assessing where our local businesses is most vulnerable, Te Runanga o Te Rarawa wants to identify opportunities to increase resilience, reduce green gas emissions and cut costs to landowners and ratepayers. Whether its employing technology

to slash water use, moving to renewable energy sources or even generating bioenergy from organic waste can help explore all possibilities.

For many local businesses using or reliant upon water resources, the biggest impact of climate change is on water supply. Reduced water allocation often means reduced production or output. Understanding the 'impact' a changing climate poses to the availability of water resources, can go a long way in improving overall enterprise viability. Assessing water risks and identifying alternative sources, options to improve water efficiency and increase recycling or reuse of process water to ensure 'investments' is supported by adequate water supply for all users (including our natural resources).

For the Council:

a. Hold annual hui with Te Runanga o Te Rarawa, focusing on any annual river works programme to discuss specific impacts on tangata whenua values from proposed river works.

NB: Key considerations include the potential adverse effects on waahi tapū and mahinga kai values arising from:

- *the construction of structure(s) in river channels;*
- *Gravel extraction;*
- *Riverbed disturbance;*
- *Water diversion;*
- *Open drain mechanical clearance; and*
- *All work associated with the river mouth and areas immediately upstream of the river mouth.*

b. Review the use of flap gates and consider alternative approaches to enable upstream migration of indigenous fish from the sea to freshwater stream(s);

c. Avoid the use of chemical sprays within fifty metres of a waterway.

d. Avoid riverbed disturbance in the wetted channel and consult Te Runanga o Te Rarawa where this is unavoidable, to ensure adverse effects on tangata whenua cultural values are mitigated or remedied;

e. Place clear and enforceable controls on river works to ensure that sedimentation of water is kept to a minimum and that mauri (life force) and wairua (spirit) of indigenous flora and fauna is maintained;

f. Rehabilitate river margins with indigenous species in preference to introduced species as a matter of course.

In working towards Climate Change reforms and zero green gas emissions:

a. Within the next 5 years, hold annual hui with tangata whenua to focus on renewable energy, biofuel, and waste conversion (trash and sewage) options, instead of **fossil fuels with massive carbon sequestration** to meet the liquid fuel demands our local businesses will still have. Things like long-haul aviation, shipping and cartage are difficult without a high-energy-density fuel, and the good news is that our food waste, sewage, and agricultural by-products are more than enough to produce diesel and gasoline type liquids for these purposes. We should accept that **deprivation and efficiency**, while useful in lowering total energy need, does not work as a net-zero carbon strategy and that it will distract 'capital' from the **replacement technologies needed**.

b. Understanding which part of community assets and operations are most at threat from the impacts of increased temperature, bushfire, flood, storm damage or climate related water restriction can help plan our next move. It might be strengthening the resilience of existing assets, diversifying our supply chains to spread risk or future proofing sites by investing in technology or other adaptation measures.

b. The old way of doing things is embedded in legislation and thinking everywhere: building codes that are not friendly to renewable or solar energy, electrical codes that artificially increase the cost of solar and vehicle electrification, net metering regulations, road/gasoline taxes, and landowner obligations. We will solve climate change if we do not let the bureaucratic crud and mental laziness of 100 years of writing regulations for a fossil fuel-based economy get in the way of a verdant decarbonized future for future generations. For most people, this last point is where people can make the biggest difference on climate change. A few driven tech nerds will make the electric cars, air conditioners and electric furnaces, solar power plants, and bioreactors of our future. For the rest of us, the best place to engage is by making sure our local regulations are compatible with solving climate change. Tangata whenua cannot deliver the change required on schedule if we are waiting for Council to issue us the permits.

For the Council:

By the end of year 2026:

a. Decommission Kaitaia Waste-Water Treatment Plant and sewage ponds at Bonnetts Road as contamination of our water or land is the greatest threat to Te Hiku district sustainability.

b. In consultation with tangata whenua, a District Adaptation Plan is assessed and opportunities to increase community resilience, reduce green gas emissions and cut costs to land/water rates and utility fees has been identified.

c. To investigate, with the assistance of scientists and engineers, a capital investment and viability in recycling sewage sludge and green waste (whether through steam drying the sludge, gasification of dry solids and methanol synthesis) into methanol biofuel, a viable alternative fuel and renewable energy. Methanol (which can be used to replace diesel fuel yet reduce tailpipe emissions) and its synthesis by-products can be sold to the consumer market which will generate revenue to repay the costs towards the district 'adaptation' plan, subsequently reducing costs to the ratepayer/taxpayer overtime, and still sustain local employment and economic opportunities in the district.

Appendix A: Issues associated with the Awanui River catchment

Freshwater management in the Awanui River catchment, as with other parts of Te Hiku o Te Ika, is of concern to Te Runanga o Te Rarawa. Concerns relate primarily to the cumulative impacts of water abstractions, the intensification of certain land use activities, depletion of underground aquifers to the north of the Awanui, and the need for a flow regime that preserves the ability of the river to maintain levels of biodiversity and ecological health. Table 1 describes tangata whenua concerns related to flow management, water quality, land use in the catchment, and activities in the beds and margins of waterways.

Table 1: Te Runanga o Te Rarawa concerns

Issue	Concerns
Flow management/water allocation	• High irrigation demands around Kaitaia and the Aupouri Peninsula. • Large scale irrigation schemes and demand for water. • Depletion of aquifers to the north of the Awanui. • Damage to waipuna through low flows. • Lack of provision for connections between surface and groundwater. • Water allocations to support more intensive agriculture practices. • Inappropriate (low) minimum flows. • Low flows and increased sedimentation in rivers. • Low flows and changes to river mouth environment. • Lack of understanding of cumulative effects. • Lack of robust monitoring regimes in freshwater management. • Lack of understanding of instream values in many areas. • Need to maintain ecological/hydrological balance (e.g., sea water/freshwater). • Loss of recreational values (e.g., over abstractions impact on habitat means less swimming activities or bird life to view). • Need to see all waterways as taonga, to be treated with respect and protected. • Maintenance of habitat through appropriate level and flow. • Potential impact of low flows on wahi tapū/wahi taonga. • Impacts on natural flow variability and thus natural character of the river. • Minimum flows as sustainable flows. • Need to consider future demands on water – lack of long-term thinking. • Need to match land use with natural water constraints and capacity. • Flow monitoring sites that are upstream of majority of abstractions. • Duration of water abstraction consents. • Lack of emphasis on water efficiency for water users. • Damming and diversions.
Water quality	• Contamination of water quality because of point and non-point source discharges.

	• Contamination of water because of unsustainable land practices, such as spray irrigation of effluent, over stocking and inefficient fertiliser application. • Treated waste-water disposal into the Waihou Channel. • High nitrogen levels. • Run off into the Awanui catchment (stormwater and irrigation by-wash). • Lack of recognition of dependence of water quality and water quantity. • Impacts on health, abundance, and diversity of native fish. • Impacts on health, abundance, and diversity of native waterfowl and other aquatic bird life. • Drainage of wetlands and subsequent loss of natural cleansing function. • Unnatural mixing of surface and groundwater because of irrigation, low flows, or rising sea levels.
Land uses within the catchment that affect water quality	• Overdevelopment along both banks by farming. • Inappropriate land use that does not reflect landscape. • Dairy conversion. • Unsustainable management of forestry plantations. • Degradation of natural environments. • Lack of long-term thinking in land use activities in many areas. • Need to support landowners who are doing good things. • Drainage/dewatering of wetland areas adjacent to the Awanui and its tributaries (and subsequent loss of natural cleansing function). • Large scale irrigation projects. • Unnatural “wet” lands.
Activities in the beds or on the margins of rivers	• Loss of riparian areas through unsustainable land practices. • River protection works that “lop” willows to increase density. • Use of willows as river protection works. • Riparian damage and/or erosion. • Activities that impact on the river’s natural course and ability to flood (the river is now so confined it can only burst its banks in some areas). • Stockpiling (e.g., stockpiling in the path of floods flows, that will then contaminate water). • Lack of monitoring existing activities and new applications.

Appendix B: Cultural Thresholds

The values described in this report underpin tangata whenua perspectives and policy on water resources management. They are what can be termed *cultural thresholds* – desired states or levels of acceptability that are determined through the need to protect, maintain, and in some cases enhance, values at levels that are acceptable to tangata whenua.

The identification of cultural thresholds, and desired outcomes related to variables such as flow and water quality (objective 2) is thus a reflection of the relationship between values and such variables, and even the sensitivity of such values to change. Examples of these relationships are provided in Table 2.

Table 2: Relationship of values to flow and water quality.

Value	Relationship to flow and water quality
Nga wai/Mauri	• Natural character and flow variability is part of the life essence of the river. • The river is more than a source of water flow for abstraction. • Maintaining water quality is part of respecting the river. • Point and non-point source discharges impact/erode mauri values. • Excessive abstractions adversely impact mauri values. • Link between water quality and water quantity. • Mixing of waters adversely impacts mauri values. • Dilution of pollution into our wai is unacceptable.
Wahi ingoa/place names	• Place names often describe the physical environment, such as specific characteristics or uses associated with a waterway. Such characteristics or use may be dependent on flow and water quality
Ara tawhito/trails	• Historically, flow may have determined safe river crossings. • How the river flows, looks, behaves is all part of the environment experienced by travellers, and would have determined to some extent the location of nohoanga (camping and food gathering sites) and other cultural important sites along the river.
Repo raupo/wetlands	• Reduced flows, land use and drainage have reduced the number of wetlands associated with river and tributaries. Adequate flows are needed to maintain any remnant wetlands. Wetlands are linked to water quality in their functions as filtering and cleansing water. They are the kidneys of the land.
Waipuna/springs	• In many places, river flows are directly linked to waipuna. At the Awanui river mouth and along Te Oneroa a Tohe, flow of waipuna (or lack of) is used as an indicator for flow and river health. High water quality can sustain valued waipuna, or conversely, poor quality can degrade them.
Riparian areas	• Healthy riparian areas, and the indigenous species associated with them, require good water quality and sufficient flow. Reduced flows can damage habitat for indigenous species, and result in encroachment of introduced plants (invasion) into a riverbed.

Mahinga kai/biodiversity, indigenous species	• Certain fish species will require certain levels of flow for migration and spawning. Temperature and water quality (and other ecological conditions) create distinctive habitats for species. • When water demand is highest is often when fish need the water the most.
Wahi tapū/wahi taonga	• Change in flow can either flood or expose wahi tapū such as pa sites, middens, ovens or urupa, or water burial sites. • The whole of the Awanui River catchment and its tributaries are considered wahi taonga and thus sufficient flow must be maintained, and water quality standards must be enhanced.
River mouth environment	• Flow conditions are directly related to the nature and extent of river flows into the sea (and the ebb of tides); and maintaining the mauri of freshwater saltwater mix. • Water quality is important to maintaining the nature of the Rangaunu Harbour environment.
Kaitiakitanga	• Ensuring that values associated with the river are protected is a key aspect of kaitiakitanga and the rights and responsibilities that characterise that relationship between tangata whenua and the Awanui River catchment and its associated tributaries. • Restoration of the ability of tangata whenua to effectively participate in freshwater resource management (in partnership with other agencies), is part of recognising and providing for kaitiakitanga.

Appendix C: Catchment Features and Cumulative Effects

Agricultural Pasture

A significant portion of the Awanui and Tangonge catchment consists of agricultural pasture and associated farming activities. Most connected waterways, natural streams and artificial drains has no riparian margins. Hence, runoff is currently discharged directly into the waterways.

The water quality of waterbodies within agricultural catchments has been unequivocally demonstrated to be significantly affected by farming practices (Wilcock et al. 2007, Larned et al. 2004, Wilcock et al. 1999). Potential adverse effects from surface water with high contaminant loadings can includes increased nutrient loadings promoting nuisance biological growth, high ammonia levels that are toxic to fish, microbial contamination of waterways rendering them unsuitable for drinking and contact recreation use, suspended solids resulting in the reduction of water clarity and smothering of aquatic life. Literature examined by Wilcock (2006) reported an estimated E. coli loading of 3.6x109 E. coli/Ha/day from cattle grazed pastures. Colins et. al (2004) reported overland flow transported to a head water stream flow during heavy rainfall events can containing between 2x105 – 6x108 E. coli/m2 from a hillside catchment. Total nitrogen loads entering streams associated with farming practices is typically >20kg/Ha/yr, whereas total phosphorus is typically >5kg/Ha/yr (Wilcock et al. 2007, Elliott et al. 2006). Farm dairy shed effluent treatment systems can also contribute to the increase in contaminant loading. It was estimated that 51% of systems discharged to land in 2002 and are by far the most numerous point source discharges to surface waters and land in Northland (Northland Regional Council 2002). Direct deposition of containments can also occur from stock wandering into un-fenced waterways.

It is anticipated that fencing and planting riparian margins along the waterways will provide a first line of treatment via filtration and plant uptake to diffuse contaminants from runoff whilst also preventing access to stock. Additional benefits include increased stream bank stability to protect stream and valuable productive soil, reduced water temperatures, reduced stock losses and therefore saving money on replacements and/or veterinary costs, and improved habitats for aquatic life. Potential challenges may arise from the monetary cost to undertake such work and obtaining upstream land-owner agreement and buy-in to implement new land practices. While some landowners can see the benefits of improving environmental outcomes and are keen to be involved with research and plans for Tāngōngē, others show disinterest and deny their role in contributing to environmental outcomes.

The Kaitāia township is situated on a floodplain between the Awanui River and Tarawhataroa stream. It is estimated that over 3000 people are living in a flood susceptible area of Kaitāia (Cathcart 2005). Urban land development and deforestation to pasture has increased the volume of runoff. This is due to a reduction in the ability to infiltrate into soils and be soaked up by vegetation through evapotranspiration. The Awanui River Flood Scheme (figure 2) is designed to ease the volume of floodwater within the Awanui River and prevent inundation of the township.

Tāngōngē is an important component of the scheme; providing significant temporary off-line detention aiding in the reduction of the river water levels (Cathcart 2005). The scheme diverts part of the peak floodwater flow, 31% of a 1:30 year flood event (Cathcart 2005), from the Awanui across State Highway 1, south of Kaitāia, into the Tarawhataroa and out into the artificial Tāngōngē Drain to Tāngōngē. Floodwaters are temporarily detained within the available storage of Tāngōngē by the Waihou Floodgate located at the outfall of the artificial Waihou Channel. Once the river levels have significantly subsided floodwaters are

discharged back into the Awanui River, north of Kaitāia, upstream of the Rangaunu Harbour. The Waihou Stop bank extends westwards from the Awanui river to prevent floodwaters stored in Tāngōngē spreading north across the developed peatland and along the Waipapakauri Outfall.

Extended detention of flood waters within Tāngōngē can lead to anoxic conditions due to decaying plant life. When this 'poison' is released into the Awanui, aquatic life can be significantly harmed or killed. Wetland restoration of Tāngōngē will require perennially raising of the water level. Consequently, this could lead to a reduction in the temporary storage volume during a flood event, which may impact the effectiveness of the Awanui River Flood Management Scheme.

Kaitaia Waste-Water Treatment Station

Tensions over the different understandings arose in many locations as evident in claims to the Waitangi Tribunal (2010) and ongoing kaitiaki restoration efforts (Henwood, Henwood 2011, Panelli, Tipa 2007, Harmsworth et al. 2003). Summarising the outcomes of such conflicts McDowall (2011) writes:

> "The draining of swamps and mitigation of flooding (operations that often-involved interference with rivers and lakes) to bring more land into agricultural production, was equated with the 'national interest'. The country's future lay in sheep and cattle, not eel and koura. … invariably the 'national interest' was identical to that of the Pakeha farming sector, and in conflict with the traditional Māori economic and land use practices".

For iwi, a holistic understanding supports a catchment wide approach (Tipa, Nelson 2008) to addressing waterway issues and emphasises the interdependence and interconnectedness of the environment (Selby et al. 2010). Environmental enhancement and restoration have become a platform for Māori engagement and cultural development in some areas; efforts by local hapū at Lake Whakaki for example are regarded as not only about environmental rejuvenation but are also a strategy of "indigenous politics of resistance and cultural recovery" (Selby et al. 2010).

Collaborations, and partnerships involving active participation and expert advice with schools, government agencies, research groups and mana whenua are at the core of the staged, community-led restoration. This long-term project has potential to achieve positive outcomes at a variety of levels. It will bring the community together for a common cause, offer all age groups opportunities to participate in some part of the restoration, provide an educational resource for the community that has an environmental and educational focus (all levels of learning), raise awareness of environmental issues with many people (those with local connections and the public), maintain whanau, hapū, iwi interest in ongoing learning and research.

It is important that restoration of the Awanui catchment and its tributaries is driven from a cultural basis if it is to make a positive difference to whanau, hapū and iwi of the area. However, it is widely understood that an integrated holistic catchment wide approach is required. This will require consideration of a range of factors based on a mix of local and technical knowledge, thorough research, and action.

Returning to where we began, is stormwater not a combination of the great tears of aroha, Ranginui sheds in grief and anguish at his being torn apart from his love, Papatuanuku? And the other elements of a storm, a reminder of the turmoil and continuing conflict between the couple's sons over this separation. The furious

winds of Tawhirimatea, who fled to the skies with his father, inflict discomfort on his brothers. Tangaroa, atua of the waters demonstrates his own ire in a storm. Tane must brace the ngahere against this rage and mourn as trees fall. And we humans as the descendants of Tumatauenga are caught up in all of this which serves as a reminder to us, to those who listen, of the precarious balance that exists between all.

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