

Cultural Values for Wairarapa Waterways Report

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For Greater Wellington Regional Council**

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Acknowledgements

This project is a piece of work that relied on many people who share the common interest of ensuring that the waterways of the Wairarapa valley are preserved and protected for future generations. The work could not have been done without the support and partnership between The Community Irrigation Fund and Greater Wellington Regional Council. There are a number of Council staff who provided endless support for the project including, Ted Taylor, Mike Thompson, and Mike Grace. You are all dedicated workers with real vision and heart for our region.

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To you all, a massive thank you.

Na

Caleb Royal

Table of contents	page
Acknowledgements	4
Executive summary	6
Introduction	8
Te Tiriti o Waitangi	8
Resource Management Act	9
Kaitiakitanga	11
Ruamahanga River	12
Waipoua River	24
Kopuaranga River	30
Makoura Stream	39
Waingawa River	45
Parkvale Stream and Booths Creek	48
Taueru (Tauweru) River	55
Waiohine River	61
Makahakaha Stream	67
Huangerua River	72
Abbots Creek	80
Stonestead (Dock) Creek	85
Tauherenikau River	89
Summary of findings	94
References	101

Executive Summary

The Cultural Values for Wairarapa Waterways Project (CVP) has been made possible through the collaboration of Greater Wellington Regional Council (GWRC), the Community Irrigation Fund, Ngati Kahungunu ki Wairarapa and Rangitane o Wairarapa. The project focus was to identify sites of significance to iwi Maori, and to determine specific values connected to each site. The project relates directly to instream flow assessment work being undertaken by GWRC to support the review of policies around water allocation and minimum flows. Instream flow assessments generally include cultural, recreational, and ecological values. It is anticipated that the cultural values identified from this project will assist in determining minimum flow levels and the creation of policies that recognise and provide for iwi Maori values when allocating water resources.

The CVP covers a large area spanning from the northern end of Wairarapa Moana (Lake Wairarapa) to the upper reaches of the Ruamahanga River, and includes 14 waterways. The waterways in the project ranged from small urban streams to large rivers flowing through native forest and pastoral land. Although there is significant diversity in the characteristics of the waterways, the Maori values associated to the waterways maintained consistent themes. These themes are the foundation of a Maori cultural identity and are centred around the reliance of a Maori community on their river or stream to provide nourishment for their mental, spiritual, and physical wellbeing.

Maori values associated to a particular river, place, or community, are most commonly generated through the occupation of an area, and the cultural requirement to behave in a manner consistent with kaupapa Maori (foundation of cultural normalities). The values identified in this project include;

- Wairua (spiritual) - Tohi rites, removal of tapu associated with war/death, baptisms and blessings of people and items.
- Tinana (physical body) – washing after child birth or menstration, water for cleaning and cooking, collection of food and weaving resources, preserving/storing food.
- Hinengaro (mental wellbeing) – collection of rongoa (healing plants), drinking water (mental clarity), teaching and learning (education), meditation.
- Whanau – transportation (waka), recreation, gathering of building resources, positioning of Pa, manaaki (sharing) the bountiful resources.

In addition to the themed values of; wairua, tinana, hinengaro, and whanau, there were values identified that recognise the ecological importance of the Wairarapa waterways. Iwi identified the concepts of; ki uta ki tai (mountains to the sea), mauri (life essence), and habitat protection as key values for the future management of the water resource.

The project attempted to establish minimum flow volumes required to maintain Maori values. This work was difficult due to the lack of flow data on specific river catchments,

and the inability of various waterways to provide for Maori values owing to their highly modified and polluted state.

The project relied heavily on previous work undertaken by both Ngati Kahungunu ki Wairarapa and Rangitane o Wairarapa to identify specific sites of significance and the associated values attributed to that site. In addition to this a series of field visits with representatives from each iwi were conducted, as were interviews with tangata whenua. A survey was distributed and attendance at hui also helped inform the contents of the report.

The project found that Maori values attributed to the rivers and streams throughout the Wairarapa Valley are consistently being compromised through low flows and poor water quality. There is a distinct difference between minimum flow values determined from a GWRC perspective and a iwi Maori perspective. The report affirms that minimum flow volumes from GWRC are based almost exclusively on the 'Mean Annual Low Flow' which should provide for the ecological values associated with the waterway. Conversely, Maori values, whilst acknowledging the value of ecology of the waterway, also attribute significant value on a waterways ability to nourish the spiritual, mental, and community wellbeing. When discharges of pollutants, algal blooms, and flood protection works compromise these values, raising the minimum flow is unlikely to address the problem determined by Maori. There is an expectation from iwi Maori that the rivers and streams which once provided this nourishment for their community should be available to support their cultural identity.

Introduction

The cultural values expressed in this report have been compiled to reflect the importance that waterways in the Wairarapa district had and still have for iwi Maori living within this geographic area. The values expressed are not exhaustive of the cultural values attributed to each of the waterways and additional work would reveal values and occupational stories that have not been widely expressed in this report.

The aim of the Cultural Values for Wairarapa Waterways project was to determine the values associated with Wairarapa streams and rivers, and to quantify the amount of water required to conserve, maintain and enhance the values identified.

A limitation to the project was encountered as there was limited flow data on a number of rivers and streams in this project. Whilst some streams and rivers had nearly no flow data, most of the remainder of the waterways had their flow data based on a single monitoring point which was often many kilometers from the sites of significance identified by iwi Maori. In addition, the strong interactions with surface water and groundwater was a regular feature throughout the study area. This means that a number of the recommended low flow volumes are a first attempt to predict what is required to sustain iwi values.

As iwi Maori have occupied the wider Wairarapa area for over 1000 years, it is easy to appreciate that the many changes to the rivers and surrounding landscapes have eroded their values for many years. Vast tracts of land were sold through legitimate and illegitimate sales agreements which ultimately resulted in the land being cleared for farming purposes. Rivers were straightened, lakes were drained, and streams were channelised to better represent a drainage system. The net result is that iwi Maori can no longer undertake many of the traditional activities experienced by their tipuna. The majority of our rivers are no longer safe to exercise tohi rites and the cleaning of a woman after child birth. Many of the streams and creeks are loaded with algae and Maori feel that it is unsafe to gather food from places such as this.

This project hopes to seek a new balance, where the values of iwi Maori find greater prominence in determining how much water must remain in the channels of our waterways to provide an opportunity for our people to live under kaupapa maori.

Te Tiriti o Waitangi (The Treaty of Waitangi)

Maori values and their relationship with water has been well documented throughout our history, but that relationship was recognized by the Crown and Rangatira Maori with the signing of Te Tiriti o Waitangi (Maori version of the Treaty of Waitangi). Within Te Tiriti o Waitangi it clearly stated that maori would exercise tino rangatiratanga (absolute authority) over their collective taonga (treasure).

“Ko te Kuini o Inganari ka wakarite ka wakaae ki nga Rangatira ki nga hapu ki nga tangata katoa o Nu Tirani te tino rangatiratanga o o ratou wenua o ratou kainga me o ratou taonga katoa”¹

“The Queen of England agrees to protect the Chiefs, the subtribes and all the people of New Zealand the unqualified exercise of their chieftainship over their lands, villages, and all their treasures.”²

Sir Hugh Kawharu continued to explain that ‘taonga’ refers to all dimensions of a tribal group’s estate, material and non-material – heirlooms and wahi tapu (sacred places), ancestral lore and whakapapa (genealogies), etc. Given the expansive scope for defining what a taonga is, it comes as no surprise to see that the English translation of Te Tiriti o Waitangi has been amended to include some generic taonga.

“Her Majesty the Queen of England confirms and guarantees to the Chiefs and Tribes of New Zealand and to the respective families and individuals thereof the **full and exclusive and undisturbed possession of their lands and estates, forests, fisheries and other properties** which they collectively or individually possess so long as it is their wish and desire to retain the same in their possession.”³

The Treaty of Waitangi has provided iwi maori with a vehicle for empowerment. There is no doubt that water – Waiora, Waimaori, Wairua; played a significant role as a taonga. It is a line of thought shared by many Maori around the country. Water is most deffinitely a taonga, it was never sold so it must remain in principle with iwi Maori. The ownership of water is a hotly debated topic and as iwi Maori move into post Treaty settlement management roles, it is clear that this will continue to remain on the radar for a number of years to come.

Resource Management Act 1991

The Resource Management Act (RMA) is clear in its intent. The purpose is to promote the sustainable management of natural and physical resources⁴. Sustainable management has been defined further to mean; managing the use, development and protection of natural and physical resources which enables people (and communities) to provide for social, economic, and cultural well-being, whilst sustaining resources for the foreseeable needs of future generations, safeguarding the life supporting capacity of our environment, and mitigating adverse effects on the environment from our activities⁵.

The role of the Crown (and Her agents) to govern New Zealand was granted from Iwi Maori through the signing of Te Tiriti o Waitangi and as a consequence of this provision

¹ First Schedule of the *Treaty of Waitangi Act, 1975*

² Ibid. *Sir Hugh Kawharu*

³ Ibid. *English version of the Treaty of Waitangi*.

⁴ Resource Management Act 1991 (as at dec 2010) section 5(1).

⁵ Ibid, section 5(2)

for iwi maori have been included in the Resource Management Act. In section 6, *Matters of National Importance*, there are two references for people administering the Act to recognize and provide for Iwi maori and their customs.

The first is section 6(e) which states that those exercising the law must recognize and provide for '*the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, Waahi tapu, and other taonga*'. This section of the resource management act is similarly worded to Article 2 of The Treaty of Waitangi which refers to the estates, forests, fisheries and other properties.

The second reference in section 6 is made in subsection (g) and recognizes the role that local and regional authorities have in '*recognising and providing for the protection of recognized customary activities*'. This reference has been included in the RMA as a consequence of the Foreshore and Seabed Act 2004 for iwi who have proven to the courts their exclusive and undisturbed possession of an area used for customary purposes.

Further provisional references for maori are included in the RMA which include;
Section 7(a) 'managers' shall have particular regard to Kaitiakitanga.
Section 8, 'managers' shall take into account the principles of the Treaty of Waitangi⁶

Within the RMA Iwi Maori and/or the mandated Iwi authority is mentioned a number of times which are additional ways in which Iwi Maori are able to become engaged with the management of our natural resources.

As district and regional authorities have incorporated the sections of the RMA into their Regional and District Plans, there has often been the opportunity for Iwi maori to advance some of their aspirations in relation to the management of our natural resources.

It is very important to note here that many Iwi assert that as many of our natural resources were never ceded to the Crown, and nor were they sold, that the current management regime has been assumed by the Crown. Iwi continue to assert that they have '*exclusive and undisturbed possession*' of their rivers, beaches, and lakes which were guaranteed under Article two of the Treaty. The current management regime is therefore unlawful and in breach of the Treaty of Waitangi, and its principles.

Whether this is the case it is not the intent of this report to speculate forthcoming decisions from the courts which will determine this is the future. What can be acknowledged is the obligation placed on District and Regional Councils to behave in a way and to make decisions which do not undermine the values and customary activities that iwi Maori have exercised with their waterways.

⁶ This refers to the Waitangi tribunals interpretation of the Principles of the Treaty of Waitangi.

Kaitiakitanga

Kaitiakitanga is included in the RMA in section 7 (a), and is translated as ‘guardianship or stewardship’. This narrow interpretation of Kaitiakitanga has been supported further with the inclusion of section 7 (aa) ‘the ethic of stewardship’ in December 1997. This definition does not recognise the world view of Maori and is inappropriate and an over simplification of a complex Kaupapa (foundation principles).

The following quote has been taken from ‘*The Woven Universe, Selected Writings of Rev. Maori Marsden*’.

“The term tiaki, whilst its basic meaning is ‘to guard’ has other closely related meanings depending on the context. Tiaki may therefore also mean, to keep, to preserve, to conserve, to foster, to protect, to shelter, to keep watch over.

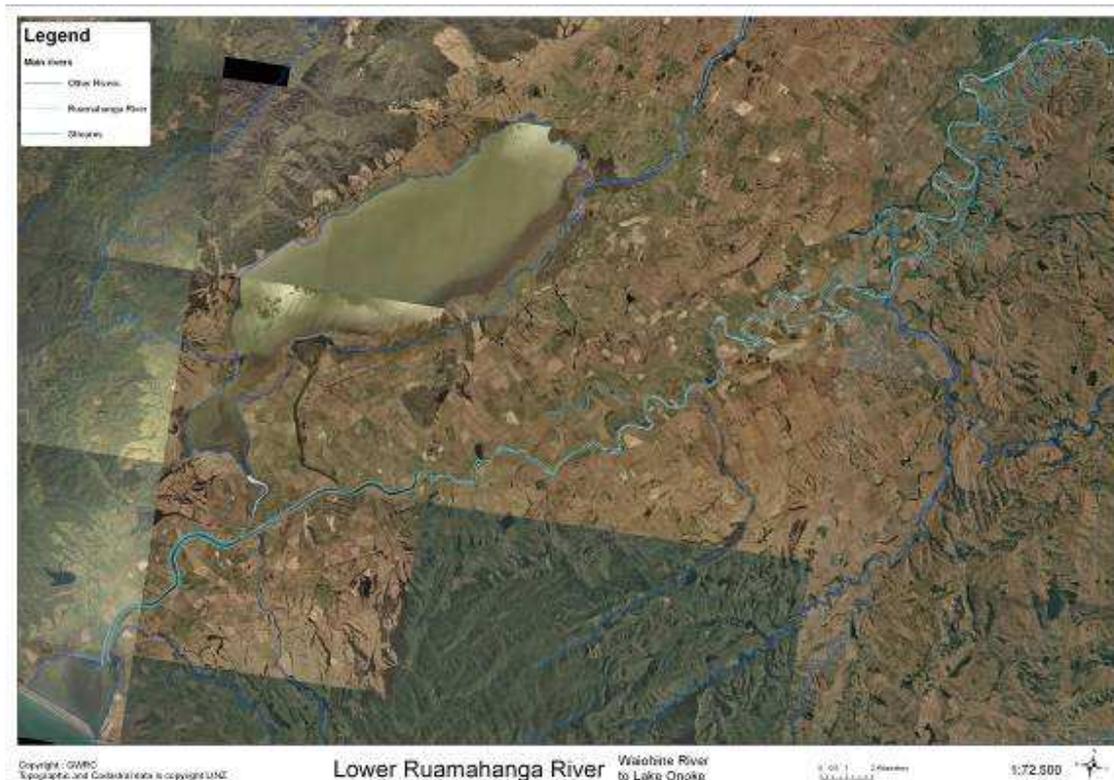
The prefix ‘kai’ with a verb denotes the agent of the act. A kaitiaki is a guardian, keeper, preserver, conservator, foster-parent, protector. The suffix ‘tanga’, when added to the noun, transforms the term to mean guardianship, preservation, conservation, fostering, protecting, sheltering.

‘Kaitiakitanga’ is defined in the Resource Management Act as guardianship and/or stewardship. Stewardship is not an appropriate definition since the original English meaning of stewardship is ‘to guard someone else’s property’. Apart from having overtones of a master-servant relationship, ownership of property in the pre-contact period was a foreign concept. The closest idea to ownership was that of the private use of a limited number of personal things such as garments, weapons, combs. Apart from this all other use of land, water, forests, fisheries, was a communal and/or tribal right. All natural resources, all life was birthed from Mother Earth. Thus the resources of the earth did not belong to man but rather, man belonged to the earth. Man as well as animal, bird, fish could harvest the bounty of mother earth’s resources but they did not own them. Man but had ‘user rights’”⁷

⁷ Marsden, M. 2003. pg 67

Ruamahanga River

The Wairarapa Valley catchment is a significant feature on the topographical view of the lower north island of New Zealand. The specific catchment under investigation for this project is essentially defined by the Ruamahanga River. The Ruamahanga River is the largest and longest river in the Wellington Region and forms the primary lifeline to the sea for all of the streams and rivers in this study. A diagram below illustrates the significance of the Ruamahanga River and the extent of its various catchment tributaries.



The Ruamahanga River via lake Onoke provides the sole migrational pathway for our native fish species for the Wairarapa valley river system. This dependence on the Ruamahanga River and the opening of Lake Onoke to the sea underpins the essential value of ‘ki uta ki tai’ (from the mountains to the sea) which is of paramount importance to Iwi Maori. All stream and river systems within the scope of this project rely on this physical connection of the Ruamahanga River to provide the migrational highway for our native and sometimes endemic species to complete their lifecycle.

“One important characteristic of our freshwater fish fauna that needs to be understood is that half of the species spend a significant part of their life histories in the sea.”⁸

⁸ McDowall, R. M. 2000, pg 13

The significance of the migrational pathway that the Ruamahanga River plays is crucial with 19 of 35 native fish species identified by McDowall requiring the connection with the sea to complete their lifecycle. This is increasingly significant when 14 of the 35 are not found within the Wairarapa rohe (district) and 1 is extinct (Grayling). With these exceptions considered into the Wairarapa situation, **95% of the native freshwater fish species rely on this connection to the sea.** If the connection to the sea ceases to exist, so to will the native fish species found in the waterways of Wairarapa.

The connection to the sea relies on sufficient water remaining in the rivers to support the migrational movements of these native species, hence the significance in the determination of a minimum flow which supports these movements.

The Ruamahanga River system, from the Waiohine confluence upstream, has a total catchment area of 1560 sq km. This catchment is made up of sub-catchments consisting of the Ruamahanga above Mount Bruce, and the Waipoua and Waingawa rivers which flow from the eastern side of Tararua Range, and the Kopuaranga, Whangaehu and Tauweru rivers which are sourced from the eastern Wairarapa hills.

The main river channel from Mount Bruce downstream to the Waiohine is 58 km in length, characterised by a semi-braided form in its upper reaches changing to a single thread in the lower reaches.⁹

Iwi Values with the Ruamahanga River (Upper)

The naming of the Ruamahanga River comes from the famous ancestor from the Kurahaupo waka, Haunuihanaia. As he traveled the lower half of the north island looking for his wife, Wairaka, he named many of the mountains, rivers, and streams. As it is told in 'Wairarapa Korero', Haunuihanaia named the Ruamahanga River after he found two birds snared in the fork of a tree.

“In the fork of the tree was a bird snare/pae. A couple of birds were trapped in the pae and they provided him with the sustenance to help him to continue his journey home. Because of that, he named the river Ruamahanga, Rua meaning two, referring to the two birds and mahanga meaning twin, the fork of the tree.” (Kawana, M. 2004. pg 15)

Since the time of Haunuihanaia the people of Ngati Kahungunu ki Wairarapa and Rangitane o Wairarapa have continued to live and associated closely with the Ruamahanga River and her tributaries. Ultimately the source of the Ruamahanga is the Tararua Ranges. Both Iwi maintain their ancestral connection with these maunga (mountains) which are a reminder of the Atua and Maui, who is responsible for 'fishing up' the North Island. The headwaters of rivers were considered to be spiritually energized and in possession of rejuvenating mauri (life force). It was for this purpose that people would travel into the headwaters to meditate and to rejuvenate.¹⁰

⁹ <http://www.gw.govt.nz/ruamahangariver/>

¹⁰ J. Potangaroa, H. Rimene. July 2005

One such place of significance is known as Te Hapuakorari which is located near the headwaters of the Ruamahanga River.

“Hapuakorari was said to have been a place of unparalleled beauty, a sacred place shrouded in mysticism. For a start a legendary bird, the Hokio, lived by the lake in the company of the Kotuku (white heron), Huia, Kereru, and Kaka. Living between beautiful beech and huge Rimu trees were a variety of rare plants, all surrounding a pebbled beach on the water edge. Within the crystal clear waters massive two headed eels swam.

There are certain points around the Wairarapa that transmit powerful energies that can be utilised by the people versed in the appropriate ways to communicate with Atua (the Gods). Hapuakorari was one such place that was used as a retreat by Tohunga [spiritual expert] who would go to the lake in order to commune with the Atua, gather plants for medicinal purposes and to draw upon the energies of the lake.” (Potangaroa and Rimene, 2005. Pg 44, 45.)

The headwaters of the Ruamahanga River are essentially still in a natural state, albeit the diversity of native species being somewhat reduced through the introduction of pest animals, habitat destruction, and through the effects of hunting. The interesting components in this korero which could be applied today would be the presence of a Kotuku at Te Hapuakorari. The Kotuku or White Heron is a wading bird that feeds almost exclusively on fish. This would suggest that the migrational pathway for native fish in the headwaters of the Ruamahanga River should be maintained by species such as Tuna, Bullies, and Koaro. These species could sustain a Kotuku.

To the south of the bridge crossing the Ruamahanga River on state highway two (by Bruces Hill) there was a village named Rua Taniwha. The village was sited down by the river terraces.¹¹ With any such village located so close to the Ruamahanga River in those times, it would have been used for washing, tohi rites, drinking, gathering and storage of food, transport (waka), and recreation. The water quality of the Ruamahanga at this section of the river is still very good. It appears to be clean and clear and would be safe for drinking most of the time. Up stream from this site the catchment is predominantly native forest with only a small proportion of the area used for farming purposes. There is one discharge into the river above the Rua Taniwha village, but there are no water use permits which would suggest that the quantity of water in the river is relatively unchanged from the past. However, the values at this site, such as mahinga kai are dependant on the connection of the Ruamahanga River with Lake Onoke, and the sea.

Downstream of Rua Taniwha there were a number of substantial papakainga (villages). The largest and most well known is Te Tirohanga a Hineteorangi which is commonly know as the Hidden Lakes. This Pa was destroyed in the earthquake of 1855 with the occupants of the Pa being consumed by the large landslide. At the base of the hill below the Hidden Lakes there is a Tauranga waka (canoe landing and securing site) which was used to store waka when they were not in use. On the opposite site of the river from the

¹¹ J. Potangaroa, H. Rimene. July 2005. Pg 34

Hidden Lakes there is an unnamed kainga site with associated cultivation areas¹². Again, this concentrated area of occupation would have relied on similar uses of the river as the Rua Taniwha village. At this site there is still limited activity which would affect the quantity and quality of the water in the Ruamahanga River. There are however growing agricultural pressures in the catchment but as the river is bounded in the west by the Waipoua, and in the east by the Kopuaranga, the burden is shared and would currently have a minor effect of the Ruamahanga River.

Downstream from Te Tirohanga a Hinetearangi the occupation sites, historical use, and current demand pressures for water continue to intensify. A well known and frequented site today is commonly known as 'Double Bridges'. The site is approximately 7kms north of Masterton township and is accessed off the Opaki Kaiparoro Road. This is a site that has historically been used for swimming and many local people still travel to swim here because the water is clean with deep pools. Coincidentally it is downstream from Double Bridges that groundwater abstraction and waste discharges increase substantially.

The Double Bridges are located at the base of the maunga (mountain) named Tirohanga. It was here that an un-named Pa was located which is why it was a common place for swimming and bathing in the past. Downstream of the bridges the Ruamahanga River would flow against the limestone cliffs at the base of Tirohanga. It was here that two caves were the homes of Taniwha. The Taniwha were Tuere or blind eels which lived in the caves. The tuere in the southern cave was not dangerous, but the one in the northern cave was a mischevious tupuna. Swimmers and bathers were required to be protected by kaumatua who would perform karakia to keep those in the waters safe. After the European authorities began altering the river the tuere moved away.¹³

The korero from Double bridges about Tuere is interesting when dealing with the setting of minimum flows. The Tuere is more commonly known as the Hagfish (*Heptatretus cirrhatus*) or the blind eel. Blind eels are also known as Kanakana or Piharau (Lamprey). Lamprey are parasitic fish that live most of their life in the sea and come into freshwater rivers to reproduce. Their reproduction commonly occurs in the gravels of the river bed, similar to trout. Iwi Maori recognized the limited swimming ability of Lamprey and used to catch them in constructed weirs, and other areas of sheltered waters, such as underwater caves. The Tuere taniwha found in these caves in the past could be whanau to the blind eels found in other rivers.

Approximately 2km south of the Double bridges there was a kainga named Mokonui. The kainga was strategically located to provide as a meeting and resting point for people migrating through the area from pa in the north, east into the Kopuaranga valley, or south to Kaikokirikiri Pa (and others). Mokonui is remembered in Ngati Hamua history for the fire that swept through the valley in a time of severe drought. Eels had been drying at Mokonui when a strong northwesterly wind caused the fire to spread rapidly, and out of

¹² J. Potangaroa, H. Rimene. July 2005. pg 34.

¹³ Ibid. pg 50.

control.¹⁴ As a central kainga, eels were gathered from around the site, which included the small streams and wetlands that are tributaries of the Ruamahanga River.

Another strategically placed Pa was Matapihi, which is located on the opposite side of the Ruamahanga River from Rathkeale College. Matapihi Pa is well known for its association with Tuna (eel) which were dried by the fires down by the river, but also for inanga. Large quantities of immature inanga could be caught migrating upstream in early winter and spring, while adult inanga were caught heading downstream to spawn in late summer and Autumn. Both species of fish provided an excellent source of protein, and the eels were particularly important for their rich oils.

As with other Pa, the people from Matapihi Pa used the Ruamahanga River and her tributaries such as;

- Tohi or birth rite,
- Bathing after giving birth,
- Removing of tapu after doing battle,
- Removing tapu around death and burial,
- Blessing and/or baptism.
- Transportation,
- Food gathering and storage.

The association of the Ruamahanga River was not only physical but relied on a spiritual connection to the river and her places.

At the current site of Rathkeale College there are a number of Waahi tapu where tupuna were buried. One such place is located at the entrance to the school where a large tree marks the location of a Waahi tapu site.



Matapihi Pa site

¹⁴ Ibid, pg 51.



Wahi Tapu site

At the intersection of Matapihi and Black Rock roads was another Pa named Pahauhau. The Pahauhau Pa was sited on the hills adjacent to the intersection and was well known as a site for mahinga kai (food gathering). The wetland area south of Matapihi Pa and north of Pahauhau Pa was fed by the Mangaotawake stream. The name of the stream is an indication of the significance of the area. The name means, the 'stream of Tawake' (Tutawake). Tutawake was a respected warrior and the association of his name to a place or person was to imbue that entity with the mana of that tupuna.

This Whakatauki (maori proverb) exhibits this association;

E whakatu taane, no Tutawake, e toa

The making of a man comes from Tutawake (Tutawake was a courageous Ngati Kahungunu warrior)

This wetland area was used for the collection of tuna, koura, birds eggs, kokopu, and various weaving and construction materials.

The area now known as Black Rock (Mairirikapua) is a popular swimming spot where whanau from Te Ore Ore Marae often travel to recreate. It used to be a favoured place to catch tuna, trout, koura, and also for swimming. The flow of the Ruamahanga River would swing down and follow eastern bank thus creating a deep channel which had overhanging willows. The deep channel and subsequent holes were ideal for fishing and recreational activities.

Under the current management regime the river has been altered to have a central channel which has denuded the area of both fishing and recreational areas. As there are limited

numbers of deep channels or pools that have overhanging vegetation there is also very limited habitat for the species collected from the area. It also appears that excessive amounts of gravel have been removed from the river, which has caused the water to move through faster, and has left parts of the main channel with a clay base.



Exposed clay in the rapid



Channel realignment work attempts to maintain central alignment

Two kilometers downstream from Black Rock there is Te Ore Ore Marae. This is the main marae in the Upper Ruamahanga Valley and its proximity to the Ruamahanga River is no accident. A little history about Te Ore Ore marae is contained below from the Rangitaane o Wairarapa website.

Te Ore Ore Marae - Te kata o te oriori o Hine Matakī (The hearty laugh of Hine Matakī)

The Te Ore Ore area got its name when the Whatuiapiti hapū of the central Hawkes Bay were visiting what was to soon to be called Te Ore Ore. At the time a young woman named Hine Matakī lived with her parents in a raupō hut. A Whatuiapiti warrior heard of her beauty and decided to visit her uninvited. Hine was asleep while her parents were out front by the fire. The young man slipped unnoticed underneath the wall of the raupo hut where Hine lay. The next thing her parents heard was “Ti Ori Ori” (a hearty laugh) coming from the room. It was Hine!

This marae was established in the early 1880s under the guidance of the prophet Paora Potangaroa. There were a number of other marae in the immediate district, perhaps the best-known being Kaitekateka, on the eastern hills in the block known as Okurupatu.

The wharenuī at Te Ore Ore was built under the mana of the chief Wi Waaka, with two prophets instrumental in starting the carving, Paora Potangaroa, of Ngati Hamua and Te Hika a Papauma, and Te Kere, from the Wanganui area.

Shortly after work commenced the two men fell out and Te Kere moved away, telling Potangaroa “E Kore e taea te whakamutu I te whare I mua atu I nga tau e waru” – it will not be possible for you to built this house in eight years.

This spurred the carvers on and when the whare was completed within a year Potangaroa called the house Nga Tau e Waru, a reminder of Te Kere’s failed prophecy¹⁵

The wider area around the confluence of the Waipoua and Ruamahanga Rivers is a place of intensive occupation of Ngati Kahungunu ki Wairarapa and Rangitaane o Wairarapa.

Some of the many places in this concentrated area include;

Hawaikiraunui Pa¹⁶ – located at the site of the Oldfields aggregates plant. This is on the north east side of the Ruamahanga bridge on the Masteron Castlepoint Road. Baptisms have occurred in this area both pre and post European settlement. To the south of this Pa there was a taniwha lair. This taniwha last appeared as a giant crayfish.

Henley Lake¹⁷ – a kainga was located in the reserve grounds with the lake and wetland areas used as a mahinga kai site. Eels and koura were abundant in the lake. Downstream from where Henley Lake enters the Ruamahanga River there were large trees which

¹⁵ <http://www.rangitane.iwi.nz/education/index.php/e/the-eight-year-house>

¹⁶ J. Potangaroa, H. Rimene. July 2005. Pg36

¹⁷ ibid

overhung the river. The trees were perched upon a steep bank where numerous children would swim. This site is not as well frequented in modern times with the outlet for Henley Lake seen as 'paru' (dirty), and the high banks (and trees) used for diving removed.

Tukuwahine Pa¹⁸ – Tukuwahine pa was above the east bank of the Ruamahanga River, south west of the end of Olivers Road and the gravel track that goes down to the river (opposite Henley Lake).

Potaerau Pa¹⁹ - The Masterton municipal dump on Nursery Road was built on the site of Potaerau Pa. A stream to the north has retained this name.

The Te Whiti Rd bridge, locally known as Wardell's bridge. Upstream from the bridge, close to the confluence of the Makoura Stream and the Ruamahanga River was a place where Tohi rites would occur. At this site, women would return to this place to wash after giving birth and sever the tohi (umbilical cord) from the whenua (placenta). It was also a place for baptism.

“There are many subsets of mauri especially in our waterways. At the point of discharge is a traditional waitohi that families in these current times, who are trying to change their lives for the better wish to use. For some families who have traditional connections with this site recovering from the murder of children has been difficult. In setting their lives to the future, they have turned to cultural roots and have come across the tohi ritual, as explained by Hirini Mead in his book Tikanga. Mead takes his knowledge from an ancient priest who was from Wairarapa, who held a school of tertiary learning along the river, downstream from the discharge point. The whanau are unable to carry out these rituals because their traditional waters now receive treated human effluent. Mauri that might have been used for healing spirits through the blessing of children has not been realised.” (Rawiri Smith, 2009. Wastewater disposal submission)

Although the discharge of wastewater directly into the Makoura Stream has ceased the desecration of spiritual site will most likely not be rectified. This is increasingly likely as the boarder dyke option for sewage disposal is still not considered as appropriate given the sensitive connection to the site. This was acknowledged in the Masterton District Council consent hearing where iwi submissions noted Councils knowledge on the offence it causes maori:

we accept that iwi submitters consider that any discharge of wastewater (treated or not) into surface water will lead to the degradation of the mauri of that water. We accept that these are adverse effects that are unable to be avoided, remedied or mitigated. (cited in Wastewater disposal submission 2009 – Rawiri Smith)

¹⁸ ibid

¹⁹ ibid

The continued degradation of iwi values and the subsequent erosion of water quality is recognized with signage warning people not to enter the water, or to gather food from the area.



Warning sign at Te Whiti – Wardells Bridge

Approximately 4-5km south of Te Whiti is a site known as ‘the cliffs’. The site is accessed from East Taratahi Road. This is a popular swimming place, although local maori prefer not to swim here due to the contamination caused from the sewage discharge into the river. It was once a favoured place for swimming but as stated earlier, maori families now prefer to drive north of Masterton to avoid the pollution in the river. At the base of the cliffs there is a puna that was used by women after childbirth to wash and cleanse themselves. Across the river and slightly north there is an urupa (name unknown) close to the river.

Upstream of the confluence of the Tauweru and Ruamahanga River there is a series of cliffs on the Ruamahanga River. It is within these cliffs that a protective Taniwha lives. It is uncertain at the time of writing whether the cliffs referred to here are the ones approximately 1km north of Hurunui-o-rangi Marae, or ‘the cliffs’ as mentioned above.

South of Gladstone the occupation sites and wahi tapu continue to be numerous but are outside the scope of this report. The specific kai gathered in and around Hupenui (Greytown) and Gladstone include;

Patiki – flounder, Inanga – Whitebait, Kokopu – Galaxid sp, Piharau – Lamprey, Tuna – Eel, Kakahi – Mussels (freshwater), Koura – Crayfish (freshwater), Watercress, and even Kanae – Mullet (yelloweyed).

As with the upper reach of the Ruamahanga River there are also Taniwha connected to various areas which play an important role in the interaction of maori and the environment. Below is a short reference to one of those Taniwha found in the lower reaches of the Ruamahanga River.

“Rakairuru was a large totara log that could be seen drifting silently on the surface of Lake Wairarapa. He was the guardian of Wairarapa Moana who also caused Lake Onoke to close. Just before the great eel migration was about to occur each autumn, Rakairuru would journey out to sea with the mouth of the lake closing behind him.

Rakau such as Rakairuru were found all around the country and were called tipua. Tipua were possessed of a spirit that gave them mysterious powers. Rakairuru was seen by people in the water or occasionally lying on the banks of the lake. If anyone tried to touch it, it would disappear on the following day.

Rakairuru was sometimes seen floating along the Ruamahanga River or was even known to visit Lake Ellismere in the South Island.”²⁰

Summary

The Ruamahanga River is the most significant system in the Wairarapa Valley and its ability to provide for the continued occupation of people regardless of creed or colour is of paramount importance. The relationship that Iwi Maori have with this area extends well over 700 years and the values held with this river system are still held today. The volume and quality of water in the river are determinants of the practices and activities that Iwi Maori are able to conduct on the river in a safe manner. Due to this an accurate knowledge of these two key factors are critical for informing the decision making process.

During the course of this project the Ruamahanga River was visited on a number of occasions and at a variety of sites. The flow data relating to these visits is limited to two sites on the Ruamahanga River. These are Wardells Bridge, and at the Gladstone Bridge.

On the 10th of February a number of sites were visited and some conclusions about how appropriate the flows were in providing for maori values. At Te Whiti (Wardells Bridge) the flow on the 10th of February was approximately 9 cubic metres per second. At a flow of 9 cumec at Te Whiti it was clearly expressed that there was not enough water in the river at Black Rock. Comments were made like; ‘the river looks boney’, ‘the water is racing away due to the lowering of the bed’(gravel extraction/movement), ‘the trees are not connected to the river’. There were feelings that there was not sufficient water to create and maintain the valued swimming holes in this area.

²⁰ <http://www.rangitane.iwi.nz/education/index.php/r/rakairuru>

An increasingly concerning factor of these comments are, that during the middle of January and late November and early December the flows at Wardells bridge were approximately 3 to 7 cubic metres for prolonged periods of time.

Concerns were raised that by having such a minimal amount of water(9 cumecs) in the Ruamahanga River with its wide gravel beds, that it would become extremely warm and present significant risks to the animals living in the water. The warm nature of the river also stimulates excessive algal growth which compromises cleansing and spiritual values associated with the river.

This report does not assume to determine a direct relationship with the flow recorded at Wardells bridge and Black Rock as the influence of the Waipoua, Kopuaranga, Makoura, Whangaehu, and various other small streams have combined at this point. However, the fact that the combined flows of these rivers only equates to 9 cubic metres of water (or less) at Wardells bridge, directly compromises and undermines the Maori values of the Ruamahanga River.

The flow data provided from the Gladstone bridge is unsuitable for use in this project as it is inaccurate due to the site being used as a flood flow monitoring site. For this reason it should not be used.

In setting minimum flows on the Ruamahanga River the following recommendations are made;

1. That a minimum flow of no less than 10 cubic metres be set at the Wardells bridge recording site. Iwi recognise that this is in the 60th percentile but contend that it can be achieved over time with increased activity in catchment re-vegetation programs.
2. That low flow recording sites or spot gauging sites are developed at 'Double bridges', Te Ore Ore Road bridge, and at the Gladstone Bridge.
3. That Iwi monitors are employed to monitor these sites on a weekly basis between November and April, for two years to establish further baseline low flow values data.

Waipoua River

The Waipoua River like so many of the other rivers in the Wairarapa received its name from Haunuiananaia. In 'Wairarapa Korero', Kawana explains that when Haunuiananaia came to the river he tested its depth with his tokotoko or walking stick²¹. Another term for a tokotoko is pou, hence the use of the word pou in Waipoua. The name Waipoua therefore means water-stick, in reference to the use of the walking stick to test the depth of the water.

The need to check the depth of the river before crossing is just as relevant now as it was when Haunuiananaia was traveling the Wairarapa. The Waipoua is a large river which services a significant catchment to the north and north-west of Masterton. This means that significant floods will be experienced in the river, but it should also maintain reasonable flows through dry periods. The story of Haunuiananaia testing the depth of the river with his tokotoko suggests that his experience with the river required him to be cautious due to the volume of water. It appears that the Waipoua River has historically maintained a good flow with the photograph below dating back to 1924, which illustrates the Waipoua and is described as being in 'normal flow' during December.²² The photograph was taken behind Blair Street (Lansdowne) where the river channel appears to be wide and flowing cleanly, which suggests a reasonably good flow. Unfortunately the photograph does not provide any evidence around the depth of the water.



The flow of the Waipoua River in December 1924 is quite different to what was experienced on the 28th of December 2010 when the amount of water recorded at the Mikimiki bridge was just 223 L/s, this was the minimum flow for the 2010 calendar year.

The lowest flow recorded in the Waipoua River, at Mikimiki, for the 2011 year to date is just 212 L/s (16.1.2011). The photographs below were taken on the 2nd of February when the flow in the river was approximately 1000 L/s.²³ It is hard to comprehend or visualize

²¹ M. Kawana. 2004. 'Wairarapa Korero'. Pg14

²² <http://bones.mstn.govt.nz/cgi-bin/spydus.exe/ENQ/ARC/COMB?RN=97-106/4-7b.digital>

²³ GWRC flow data

the river illustrated below with less than a quarter of the water shown in the pictures. At one quarter of the flow shown in the pictures, the Waipoua River would be a small stream. It would not be necessary to test the depth of the river when crossing. It is clear that the ‘normal flow’ observed in December 1924 is quite different to the dry seasonal flows experienced in December 2010. This could be attributed to seasonal variability, as December 2010 and January 2011 were exceptionally dry months, however, it does not diminish the effects the conditions are having on the river and its cultural values.



Waipoua at Mikimiki Bridge



Waipoua at Railway Crescent

The area between the Waipoua and Ruamahanga Rivers has always been very important to the tangata whenua. This is especially evident in the lower reaches of the Waipoua River with settlements such as Ngaumutawa, Akura pa, Matua pa, and then across the river to Kaikokirikiri pa. Downstream of these two pa sites there was a swampy area of land between the two rivers mentioned above. This was a very important mahinga kai area where food, fibre, building materials, and medicines were collected.²⁴ The photograph²⁵ below illustrates the swampy area in the 1930's which is now the Mawley Park site.



²⁴ Rawiri Smith. 2011

²⁵ Wairarapa Archives, reference 03-192/22. DIGITAL

The picture depicts a very wet area that is covered with dense vegetation. It is clear that the site was resource rich which would have supported the mahinga kai and resource values identified by Smith.

The true value of both the Waipoua River and the associated wetlands and tributaries to iwi Maori is extremely hard to determine, and it would be easy to underestimate their significance without a knowledge of Te Ao Maori (Maori world view). An outstanding symbol of how important the area was for Maori was the citing of Kaikokirikiri Pa close to both the Waipoua and Ruamahanga Rivers. In *Tawera to Te Whiti*, Potangaroa and Rimene refer to Kaikokirikiri as the main pa of the Masterton area, and also note that the Waipoua used to flow at the foot of the pa.

The proximity of the pa so close to the Waipoua River implies that the wider surrounding environment would have been regularly frequented and used for cultural practices. This would have included but not been limited to;

- Supplying drinking water
- Gathering of fish – eels, lamprey, whitebait, flounder, trout (later)
- Gathering of other foods – birds, koura, kakahi, fern roots, berries
- Cultivation of crops – hue (gourds), kumara, corn, potatoes
- Harvest of materials – carving and building wood, flax, raupo, kiekie, punga
- Tohi rites, baptisms, cleansing or removal of tapu
- Washing or cleaning areas
- Recreation
- Transportation via waka (canoe)

The ability of people to survive within Te Ao Maori required all of the cultural practices (mentioned above) and the associated values from these practices were satisfactorily met. They would have been pre-requisite requirements for a place before a pa as substantial as Kaikokirikiri would have been established. It is therefore suggested that the quantity and quality of water coming from the Waipoua River should be able to support and sustain the cultural practices as it has done in the past.

There is little doubt that the condition of the Waipoua River has seen a number of changes over the past seventy to eighty years. In *Tawera to Te Whiti* kaumatua make a number of statements about how the river has changed. Nahu Haeata refers to the Waipoua as being ‘polluted to hell’, while Winirau Edmonds states ‘the river has changed a lot over the years, there are no more descent swimming holes in the area. My moko’s have to go to double bridges or the recreation centre.’. Noel Wyeth who’s family homestead was located by Mikimiki school talked about the river being a playground and the number of swimming holes.

‘When we were kids the river was our playground. There were heaps of swimming holes, there would be rapids then a swimming hole then more rapids and another

*swimming hole. It was like that all the way down, some of the holes were well over 6 feet deep.*²⁶

It appears that the pollution in the Waipoua River has also been recognised by a senior officer from the Fish and Game Council of NZ who stated in the Wairarapa Times-Age ‘*the Waipoua near the confluence with the Ruamahanga River is disgusting*’²⁷. This statement was made in reference to the accumulating rubbish and the dumping of young animals in the river. Fish and Game staff also recognise that fish stocks were low in 2008 compared with other years in the Waipoua and attributed this to the low flows and drought conditions experienced.²⁸ These views are consistent with Maori values who have clearly stated that the river is polluted and low flows are affecting the fish and wellbeing of the river.

A particularly important change in the species of fish in the river, and the values Maori have with the Waipoua River is the reference to Patiki or flounder. The following has been taken from the Rangitane o Wairarapa website and relates to a taniwha which would present itself as a giant flounder.

*“In his book Early History of the Wairarapa, Charles Bannister relates the tale of the taniwha hole. The location of the hole is given as Kaikokirikiri which would mean somewhere near the Mahunga Golf Course in Masterton. The occupant of the said hole was a giant flounder or patiki. Maori it seems would avoid the place, especially in the evenings because to see the patiki was a bad omen that would more than likely lead to death. Nowadays there are no deep holes or patiki along the indicated stretch of the Waipoua in fact the only things you are likely to find behind Mahunga are lost golf balls.”*²⁹

From the account from Bannister there did appear to be a taniwha in the form of a patiki present in the lower reaches of the Waipoua River. Although some people would suggest that this is merely a story about mythical creatures, Maori would argue that their purakau (traditional creation stories) are not ‘just stories’ and contain carefully hidden messages and detail to the way in which people should behave and respect the environment and powers greater than ones self. The fact that the taniwha appeared as a patiki strongly suggests that patiki would have once occurred naturally in the Waipoua River. The chances of this being true is quite real with Patiki mohoao (black flounder) being recorded more than 100km inland in some rivers.³⁰ In addition to this the Patiki mohoao is known to exist in the lower reaches of the Ruamahanga River.³¹ If the stories and the scientific evidence suggests that patiki could live in the Waipoua, they would make an excellent indicator of the health and wellbeing of the river.

²⁶ cited in *Tawera to Te Whiti*, pg63

²⁷ Wairarapa Times-Age, 6th March 2008

²⁸ Wairarapa Times-Age, 6th March 2008

²⁹ <http://www.rangitane.iwi.nz/education/index.php/p/patiki>

³⁰ Te Wai Maori, 2006. pg42

³¹ www.niwa.co.nz/our-science/freshwater/tools/fishatlas

Other species taken from the Waipoua River include koura, eels, trout, and water-cress. These four species can still be found in the Waipoua River but they are all becoming increasingly scarce. The small streams where the rugby clubrooms are now, used to be a 'hot spot' for koura and large eels. The middle reaches were known to provide good eels and numerous trout. As stated earlier in this report, the fishery productivity of the Waipoua River is negatively affected by low flows and drought conditions. The health and wellbeing of the Waipoua River relies on sufficient water being available during periods of low flow and drought.

Summary of values

The specific values associated with the Waipoua River include;

1. Supplying drinking water – when there were infrastructure failures such as water pumps, water was collected for drinking and washing purposes as late as 1935.
2. Gathering of fish – eels were a highly prized and extremely valuable resource. To a much lesser degree lamprey, whitebait and trout were also collected. It is also mentioned that patiki/flounder were present in the Waipoua River.
3. Gathering of other foods – Oral histories provide anecdotal evidence that birds, koura, kakahi, fern roots, and berries were gathered from the wider Waipoua River environment.
4. Cultivation of crops – The provision of food has always been crucial for survival and the cultivation of hue (gourds), kumara, corn, and potatoes on the fertile lands adjacent to the Waipoua River was a requirement for sustained settlement.
5. Harvest of materials – Materials used for carving and building was provided by the forests adjacent to the river, whilst flax, raupo, kiekie and punga were often gathered from the expansive wetlands connected to the Waipoua River
6. Tohi rites, baptisms, cleansing after association with death or the removal of tapu from other activities required waiora (pure water filled with life potential)
7. Washing and cleaning – General cleaning and washing areas were required with the concentration of people in the wider Masterton area. This needs waimaori (normal water – free from pollution that is safe to drink/use) to be in plentiful supply.
8. Recreation – the Waipoua River is remembered fondly as a place with numerous swimming holes that was a playground for children.
9. Transportation via waka (canoe) – The main pa, Kaikokirikiri was accessible through the use of waka. Waka need adequate water to navigate up and down the river.

Recommendations

The following recommendations are being made based on the information provided in this report, and from the conversations held between tangata whenua and the writer of this report. In addition to this, various reports have been referenced and historical records connected to the Waipoua River have been utilised.

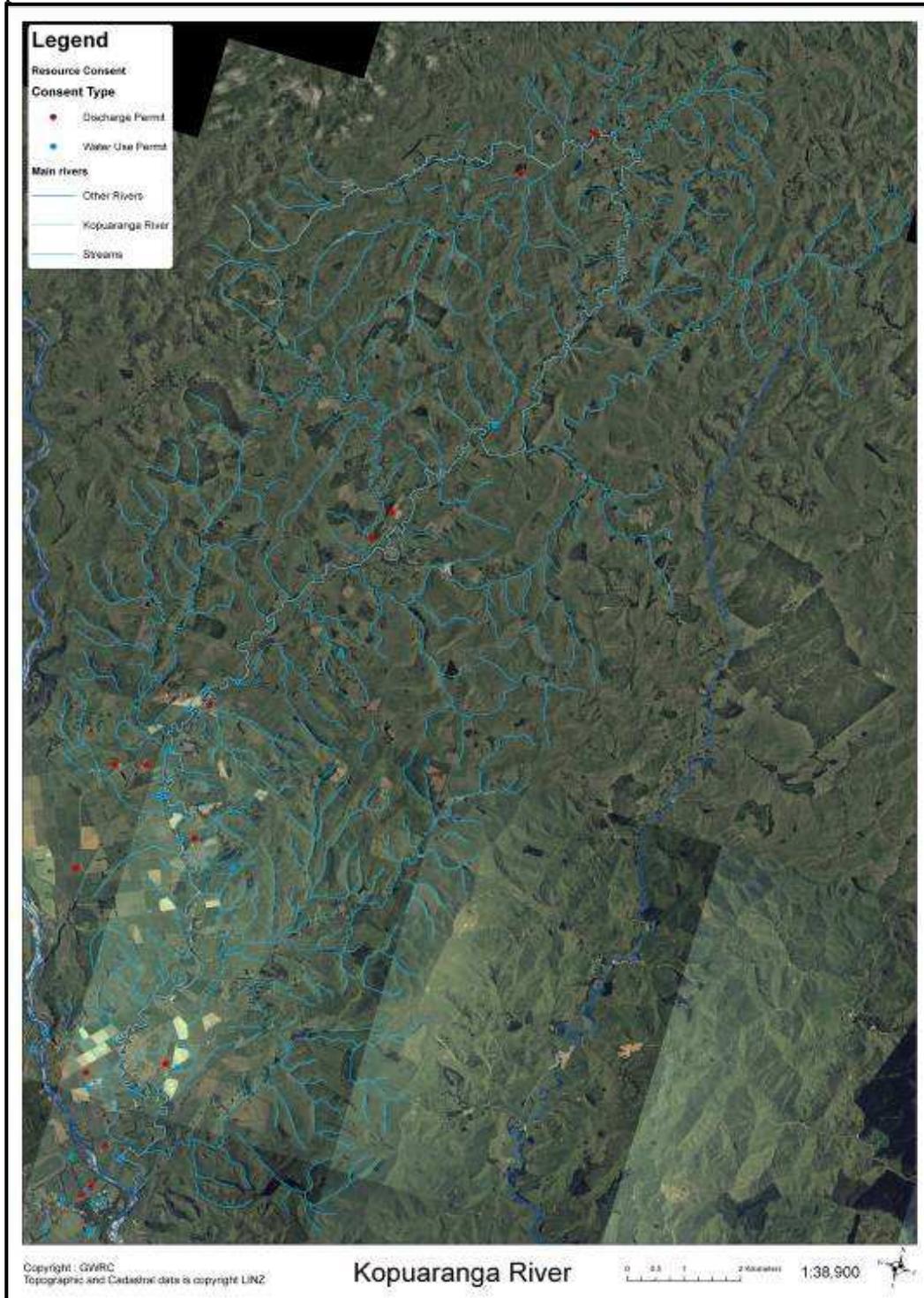
There is limited data available to measure low flows of the Waipoua River. All low flow data is measured at the Mikimiki bridge which means that actual flows experienced and observed in the lower reaches of the river are not recorded. This also means that water abstraction effects on the river downstream of the Mikimiki bridge are not being recorded. This is a serious limitation for this report. Although the hydrological relationship between the river and shallow groundwater may be well understood, there is no data present to help inform the quantity of water required to provide for Maori values. Due to this lack of information, a far greater emphasis on anecdotal evidence is required in determining the flow rates to provide for Maori values.

1. A monitoring/gauging station is established in the lower reaches of the Waipoua River which will identify the relationship between low flows observed at the Mikimiki site and the lower reach of the Waipoua River.
2. That monitoring of the Waipoua River requires the establishment of Maori quality and quantity measures. This would include species indicators such as patiki, koura and tuna, as well as cultural and recreational measures such as swimming holes, water is safe for swimming and free from algal blooms. This monitoring should be developed and conducted by iwi concurrently with recommendation(1) low flow gauging work.
3. A comprehensive fish survey is conducted on the Waipoua River in partnership with tangata whenua.
4. A river maintenance program is established to remove rubbish from the river.
5. That the first step down level be elevated from 300L/s to 800L/s and the 'cease take' level be changed from 250L/s to 500L/s.



Kopuaranga River

The Kopuaranga River is a significant river system which drains the north-eastern valleys of the Wairarapa plains. An illustration of the Kopuaranga catchment is illustrated in the picture below.



The Kopuaranga River is well known for its deeply incised sides and well defined channel. As a consequence of the well formed channel it is often deep with steep grass covered banks. The bed of the river is variable, with the long deep river pools and runs³² dominated with a covering of fine silt, and the shallower riffle (rapids) generally having a mixture of gravels and larger rocks.

The catchment of the Kopuaranga River is largely used for agricultural purposes and is sparsely populated. The river flats are suitable for dairy farming and due to the high financial returns the industry is generating; this is the dominant agricultural activity on the flats. Given the high demand for lush pasture required for dairy production, a large percentage of the river flats are irrigated using a range of methods.

The hill country is mainly sheep and beef farming. The hill country still maintains a small amount of native vegetation which is dominated by Manuka and Kanuka. Within the gullies there is often a more diverse assortment of native plants which provide habitat for a growing population of Kereru (Wood Pigeon) and Tui.

The Kopuaranga River is a significant river system that reaches a long way to the north from Masterton and was route used to travel in this direction, or to access Rangitumau. At the confluence of the Ruamahanga and Kopuaranga Rivers is the Matapihi pa site. There are oral records of tuna being prepared for smoking at the southern end of Matapihi pa.

The flat land to the north west of where the rivers join is called Te Wao o Kairangi. The literal translation for this place would be something like ‘the esteemed forest’. Literal translations are often taken out of context to how a place was named. It could also mean ‘the unsettled (or wandering) forest’, in reference to people and their movements. It could also mean ‘the forest of Kairangi (a person and/or place)’.

The site is however well known for the gathering of food from both the forest and the rivers. “People that were procuring food from the forest would also catch fish from the Kopuaranga and Ruamahanga.”³³

The lower reaches of the Kopuaranga River would provide excellent conditions for the procurement of fish. Its deep calm waters would be ideal for fishing for whitebait, and the proximity to the Ruamahanga River would mean that the passage of fish to the site was always available. The abundance of the various whitebait species also meant that the Tuna (eel) fishery was rich with well fed resident tuna. The shape and character of the Kopuaranga River is well suited to maintain large quantities of tuna which have numerous refuge places beneath the many logs and deep holes which seem to appear on every bend. The banks consist of soft substrate (sand/clay/soil mixture) which also allow for burrows and holes to be made into the banks, thus creating additional refuge points.

Opposite the place where Matapihi Pa once stood, and downstream from Te Wao o Kairangi, is the site of Rathkeale College. The grounds of the college provide evidence of the wetland environment which once existed in the area. Large mature Kahikatea are scattered around the campus. The large buttresses on the trees suggest a wet and dynamic environment once existed at the site. In other places on the campus large mature Matai

³² Technical term for a stretch of river where the water is gently moving through, ie not a rapid or a pool.

³³ Joseph Potangaroa – Personal comment

enjoy the moisture and essentially flat riparian area. A small stream continues to flow through the college and supports nice clustered growths of Watercress.

The significance of the site is not restricted to the abundance of kai found in the area but is also acknowledged by the positioning of two recognised Waahi tapu in the college grounds

“The site of Rathkeale College of which the Ruamahanga forms the northern and eastern boundaries was once very wet and used for resource gathering. There are also a couple of waahi tapu and significant sites on Rathkeale.”³⁴

In an attempt to assess the condition of the tuna population at this site (Matapihi) which relates directly to maori values a hinaki (baited) was set on the Tuesday the 1st of February 2011 and retrieved the following day. The resultant catch included 20 long finned tuna and one short finned tuna. Two of the long finned tuna were medium sized which are suitable for eating. The remaining tuna, which included the short finned, were quite small and would be considered too small, or inappropriate to be taken for eating.

Although 21 tuna is a reasonably good catch in today’s terms, the quality of the tuna is sub-standard given the traditional use at this site and the prestige bestowed upon Te Wao nui o Kairangi. The quantity and quality of the water needs to be examined further to determine specific rationale, explaining why the quality of tuna in the Kopuaranga at this site is sub-standard.

A number of photographs are included below to illustrate the catch of tuna, and the habitat in which the hinaki was set.

³⁴ JP ibid



Hinaki set underneath the Willow on the right hand side of the picture



The catch on the 2nd February 2011

The main track north from the southern end of Te Tapere Nui o Whatonga (the forty mile bush) followed the Kopuaranga Valley. As a migrational route it was a popular place to rest and eat within the valley whilst moving north. Evidence supporting the significance of the area can be found to the north east of the Opaki Kaiparoro Road bridge.

“To the north east of this site [bridge] is what older locals call the ‘Maori paddock’, while some pits and earthworks can be found off Dorsetts Road approximately 2 kilometres further north.”³⁵

Kaumatua describe how tupuna utilised the Kopuaranga River in this area for fishing. Not incidentally Kopuaranga means fish in a deep or dark pool. The native fish likely to be caught in these deep and dark pools include – Tuna, Banded Kokopu, Giant Kokopu, and Inanga. Although Brown Trout are an introduced species they too are known to be present in reasonable numbers in the areas identified as being significant. Also of significance at this site are the Kakahi (freshwater mussel) and Koura (freshwater crayfish).

Kakahi shells have been found recently beside the bridge at this site. There has also been a willow clearance scheme that occurred approx three years ago (2008). As a consequence it is thought that the abundance and health of Kakahi would be a good cultural health indicator at this site.

To examine the health of the of river, an exploration dive and hinaki monitoring exercise was undertaken on the 19th January 2011 upstream from the Opaki Kaiparoro Road bridge. It was on this occasion that approximately 18 Kakahi were found during a 30 minute exploration dive. Most of the Kakahi were mature adults, whilst only one juvenile Kakahi was found.

During the dive at this site a number of other observations were made which include; a large Koura that had recently shed its shell, a nice sized brown trout was also sited, and numerous common bullies were seen in all areas.

The Hinaki (eel trap) secured 27 long finned tuna and 2 short finned tuna. There were no large tuna caught (over 2kg), and only three or four medium sized tuna. The vast majority of the catch was made up of small long finned tuna. When the Hinaki was set a plume of fish oils from the bait excited a shoal of Inanga which broke the surface of the water and swam in to investigate the scent in the river.

Below are a series of photographs to help demonstrate the environment in which the Hinaki was set and the explorative dive was conducted.

³⁵ Joseph Potangaroa



Seven mature Kakahi and one Juvenile on the far right



Diving for Kakahi in the deep slow moving water



The catch; note medium sized tuna in the upper left section of the Hinaki.

Current Condition

The Kopuaranga River is in a reasonable condition and is able to provide an environment for Iwi taonga species to subsist. Whilst numerous species were located during this project and sampling exercise, it is clear that they are under environmental pressure and some relief is required if they are to flourish once more.

The Kakahi are an important find, especially given their ability to filter sediments from the river flow, and bind them into a more stable state. It appears however that the Kakahi population has a strong bias toward large mature adults with very few juvenile Kakahi recruitment occurring to replace the adults. This could be due to a number of reasons including the heavy reliance Kakahi have on native fish to complete their lifecycle. The health and wellbeing of Kakahi requires further monitoring work to establish rejuvenation protocols.

The Tuna found in the Kopuaranga River are generally in good health. This statement is made on the abundance and general condition of the Tuna. There are concerns around the size of Tuna as the vast majority are small too medium in size. This means there are very few Tuna available which are of a culturally appropriate size used in traditional preparation techniques. Historical information recognizes that Tuna were being dried, or

Pawhara, at the Matapihi Pa site. During our monitoring there were only one or two medium sized tuna that could be used for this preparation technique. The reasons for having mainly small Tuna are numerous but the reasons are likely to be one of the following;

- Over fishing in the area (likely to come from commercial fishermen)
- A lack of food, (small fish like bullies and inanga) to accelerate the growth rate of the Tuna

The answer to this question will only become apparent through further research and monitoring.

The low flow coupled with the natural character of the Kopuaranga River means that there is limited habitat suitable for substantial algal growth. Where there is a cobbled bed available the algae tends to do very well.



Picture illustrating algae growth

The predominant soft substrate is more suited for large weed growths (macrophytes) but the aggressive flooding nature of the river means that these growths are often short lived, and are flushed from the system.

Recommendations for Low Flow Requirements

The flow rate of the Kopuaranga River on the 19th January 2011 when the diving exploration was carried out was 0.439 cubic metres per second. At this flow rate it appeared that the basic requirements for Iwi values at these sites were being met. However, the species found were obviously under some stress with some incidents of finrot observed on the tuna, and the Kakahi recruitment being an issue which suggests poor water quality could be a factor to consider in the management of the river. It is felt that by providing a slightly higher minimum flow than what was observed on the 19th of January that the native fish will find the river system more inviting, thus providing for the lifecycle of the Kakahi.

Therefore, it is recommended

1. That a cease take flow rate of 0.6 cubic metres per second be designated for the Kopuaranga at the Palmers Bridge gauging site.
2. That a riparian restoration project is established to help reduce the sun warming the water, and to shade out the growth of algae/weeds.
3. That two cultural monitoring sites are established on the Kopuaranga River and annual low flow monitoring undertaken at these sites.(see site below)

Two sites have been proposed as sites of significance on the Kopuaranga River which are detailed below.

Proposed site 1: The Confluence of the Kopuaranga and Ruamahanga Rivers
40 53 40.73S 175 41 35.03E

Significance of site: Matapihi pa and Kairangi Pa

Cultural monitoring measure: Tuna numbers and health.

Proposed site 2: Beside Road Bridge on the Opaki Kaiparoro Road
40 48 36.87S 175 40 49.36 E

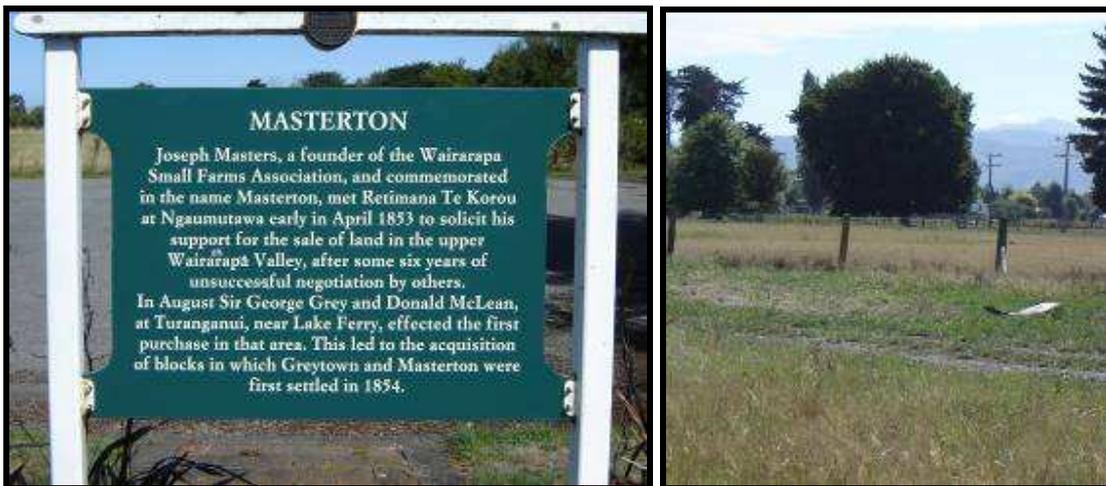
Significance of site; Migrational route and resting place (maori paddock)

Cultural monitoring measure: Tuna numbers and health, Kakahi abundance

Makoura Stream

The Makoura Stream begins as a series of springs in the north western area of Masterton. The stream flows from the area known as Ngaumutawa through part of the western industrial area. Ngaumutawa was the name of a Maori village located at this site and refers to the many earthen ovens (Nga umu) used for the cooking of Tawa berries. Ngaumutawa is no longer characterized by the many Tawa trees and the ovens used to cook their berries and is now best described as industrial farmland. It is an understatement to say that the environment in this area has changed dramatically over the past century.

The source of the Makoura is very significant to both Maori and Non-maori in Masterton as it was adjacent to its banks that the creation of the township was born. It was at Ngaumutawa that the negotiations for the establishment of Masterton took place. A sign has been erected to help identify the site, and affirms the historical importance of the site for the district. An Oak tree was planted at the site of the Ngaumutawa village which is symbolic of the negotiations which took place there.



The clean waters of the Makoura stream was of extreme importance to the village of Ngaumutawa. The siting of the village at the source of the Makoura stream provided the occupants with an endless supply of clear and perfectly clean water which was both convenient and of strategic importance (if attacked). It was here that women would be cleansed after giving birth to a child, so the requirement for pure water free from contaminants was critical to the health and wellbeing of the mother and child.

The present appearance of the stream beginnings is anything but pure and free of contaminants. A long ditch/drain has been created to capture and divert surface waters away from the Makoura stream and into the Waipoua River. This diversion and the nature in which it has been constructed is of particular offence to iwi Maori. The pictures below show the drainage channel which currently divert the water to the Waipoua River, and the proximity this drain has with the historic Oak tree which is between the stands of pine trees in the picture on the right.



Drainage channel



Channel with Oak in the Background

From Ngaumutawa the Makoura runs through a long reach of urban residential land before leaving the Masterton urban zone and entering rural lands to the south east. The flow of the Makoura Stream is increased by the Mangaakuta Stream which is highlighted in yellow in Figure 1.

Although the Makoura is a small stream, it has a long and rich history. As the name suggests it has a strong association with Koura, or crayfish. The freshwater crayfish is often referred to as Koura or Kourawai and they are typically caught in lakes and small streams that are easily navigated such as the Makoura. The catching of koura has always been, and still remains a favorite pastime of young children. The Makoura continues to provide a local 'hunting ground' that is physically safe for children to collect this delicacy and to develop the skills required to capture a tasty meal. Unfortunately, due to the discharging of stormwater, and the vicinity of a contaminated site next to the stream, it is no longer safe or appropriate for Koura to be collected for eating from the Makoura. This is supported by the Greater Wellington Regional Council which refers to the small urban stream as 'one of the most polluted in the region'.

The marine crayfish is also known as Koura, and the Wairarapa coastline is world famous for the abundance with which it is endowed. Prior to refrigeration, maori would often store their shellfish and various food stuffs in freshwater pools and clean flowing streams. The Makoura was perfect for this purpose due to being springfed which reduced the likelihood floodwaters washing away the food supplies. Due to being sourced from a spring (or a series of springs) it consistently ran clear and was less likely to embed sand, mud and/or grit into the food in the stream. Marine Koura were also stored in the stream

for eating at a later date. This was a delicacy known commonly as Koura pirau – or rotten crayfish.

The ‘Ma’ at the beginning of Makoura is likely to be in reference to **manga**, or stream. Ma can also mean white or clear/clean and could also be in reference to the clean spring water which feeds this stream and its tributaries. The tangata whenua have stories about white koura being in the stream, hence the name Ma-koura. Unfortunately, due to the discharges going into the stream this word association is no longer consistent with the name of the Makoura Stream.



Water discharge into stream



Restoration of contaminated gas works site

Although the Makoura stream is no longer the pristine waterbody it once was, there is restoration activity on a number of sites to help reinstate the aesthetic and environmental values of the stream. Pictured below is a sign which has been erected on the restoration site of the old gas works.

The site is defined as contaminated by members of Rangitaane and Ngati Kahungunu. The Ministry for the Environment states that similar gas work activities would include contaminants such as ‘PAHs, phenolics, BTEX, metals (arsenic, lead, copper, chromium), cyanide compounds, sulphides and sulphates, thiocyanates, ammonia, nitrates, and coke’.³⁶ Given the long list of potential contaminants it is clear why both Iwi consider the site as contaminated.

The Makoura Stream remains iconic for the people of Masterton. Adjacent to the stream there is the Makoura School, and the Cameron and Soldiers Memorial Park provides a place for the local people to visit the small stream. As the stream meanders into Homebush and meets with the Mangaakuta there is an old Papakainga located between the two streams. Without drawing too many assumptions it is only logical to recognise that the lower reaches of the Makoura was used extensively for the collection and storage of kai by the whanau who lived in this Papakainga. A stone monument has been erected to mark this place which is special to the whanau from this area.

³⁶ <http://www.mfe.govt.nz/issues/hazardous/contaminated/hazardous-activities-industries-list-scheduleb.pdf>

Approximately two kilometers downstream from the Homebush area, the Makoura flows past the Masterton Waste Water Treatment Plant (MWWTP). It is here that the final discharge renders the stream unfit for human contact. The MWWTP collects all of the municipal sewage from Masterton and treats it before discharging into the Makoura Stream. The act of discharging sewage into the river is of particular offence to Maori and this has been consistently reaffirmed for generations.

‘The council needs to do a lot more to enhance the rivers and the environment. They need to move the sewage ponds away from the river and to stop discharging treated sewage to the river.’ (Jim Rutene in ‘Tawera to Te Whiti’ 2005 pg 62.)

The discharge of sewage into the Makoura Stream occurs (occurred as it has now ceased) less than 500m upstream of the confluence with the Ruamahanga River. It is this discharge into the Makoura, and the newly formed land application adjacent to the river that causes significant offence to Maori.

Slightly below the confluence of the Makoura with the Ruamahanga was a place where women would return to birth their children. There is a Whakatauki (Maori proverb) that acknowledges the esteemed warrior, Tutawake, which was associated with the birthing of children and is connected to this wider area

“e whakatu tane, no Tutawake, e toa”

The making of a man comes from the strength of Tutawake

Women would return to the place of Tutawake to endow their child with his strength. It is in the stream and river here that women would be cleaned after giving birth and where tohi rites (baptisms) would occur. It was essential that the waters would need to be of sufficient quality to allow these activities to occur.

The values associated with the Makoura include;

1. mahinga kai – gathering of food
2. storage of kai
3. drinking
4. washing
5. cleansing
6. blessing

Unfortunately there is no flow data available for the Makoura Stream. It would appear that the minimum low flows would be less than 1 cubic metre per second and probably less than 200-300 L/s in the lower reaches.

The two values that associate most closely with flow rates would be mahinga kai and the storage of kai in the Makoura Stream. The more water there is in the stream (during low flows) the larger the habitat available for taonga species such as Tuna, Koura, and Kokopu. The increased flows would also result in greater aeration of the water which is critical in maintaining ecosystem health and reduces the physical stresses that these species would endure if the oxygen levels in the stream fall too low.

The storage of kai in the Makoura also relies on stable base flows in the stream. This would require sufficient water flow to maintain concentrated numbers (in excess of 40 per square metre) of Tuna within a holding box. This would mean that there is a need for some pools to be maintained in the physical structure of the stream, and that the water is flowing at a rate which replenishes the dissolved oxygen and is of sufficient flow to prevent oxygen related diseases in the tuna held in the box.

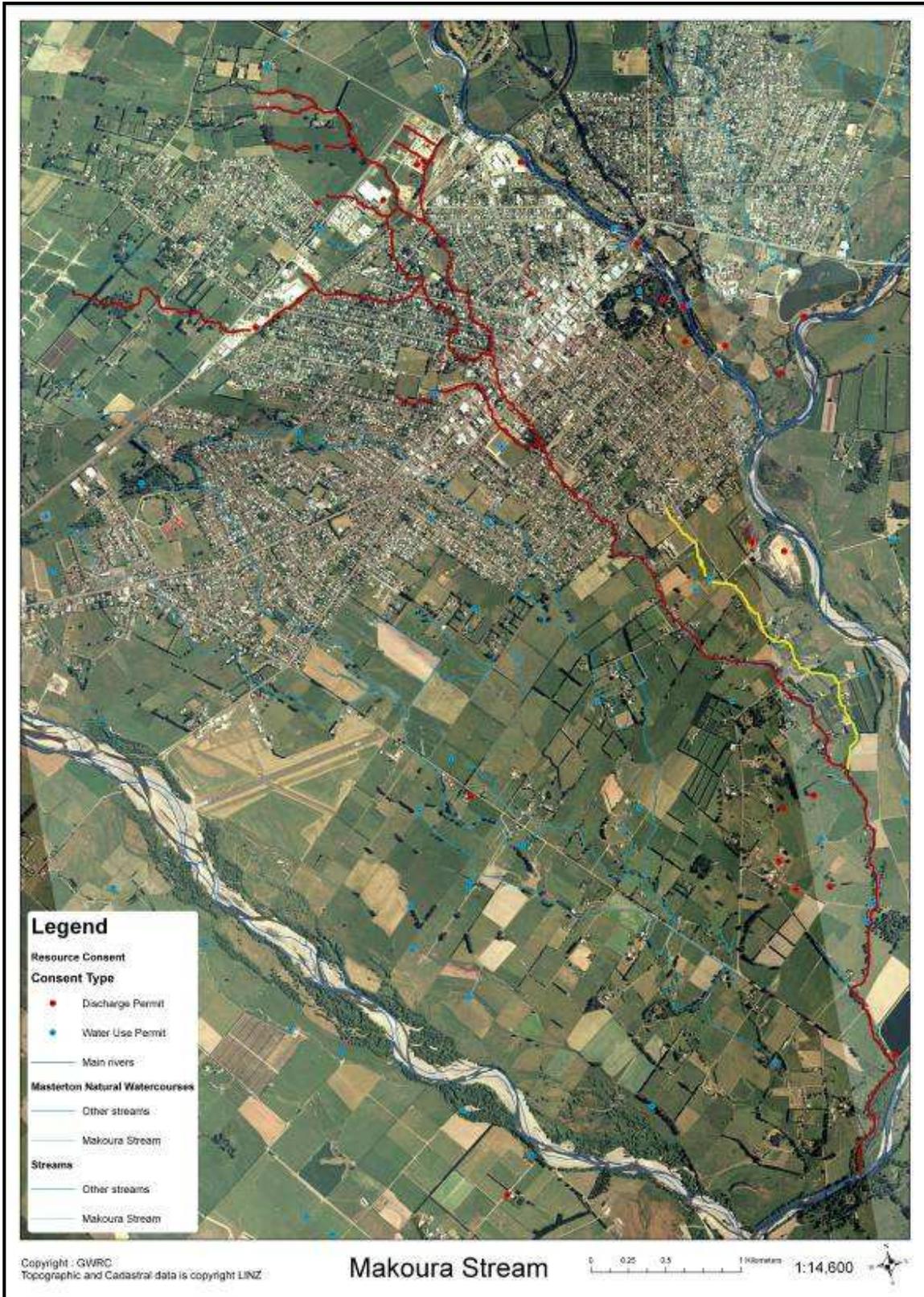
Other kai stored in the stream could include, Kanga pirau, Koura pirau, Tawa and Kararka kernels. These four types of kai all require cool, clean flowing waters to allow for their treatment and storage. As both of the values relate to kai, the quality of the water needs to be safe for contact and acceptably clean.³⁷

The remaining values of ‘drinking, washing, cleansing, and blessing’ all require water of a high quality. The quality of the water used for these activities must be clean and free from impurities that could do harm. It would no longer be safe physically for a woman who has recently given birth to go to the Makoura Stream to bath and cleanse herself. This cultural value has been undermined through the activities which have been occurring around the stream, and the pollutants and waste which in being disposed of into the stream. The current condition of the Makoura Stream means that any general contact with the stream is potentially harmful.

Recommendations;

1. Discharges into the Makoura are inappropriate and should cease.
2. Constructed drains at the Ngaumutawa area are contributing to poor water quality and reducing base flows in the stream. The natural course of the stream in this area should be reinstated.
3. The Ngaumutawa area is significant to Maori and non-maori in Masterton. The springs and stream should be recognized as such and restored to a natural state to help improve the quality of water flowing from this site.
4. Restoration efforts and drainage works along the Makoura Stream should be managed closely with mana whenua Maori. This is particularly important in the Ngaumutawa area.
5. A monitoring program based on Maori values needs to be established to further evaluate the health of the Makoura Stream. This would also include scientific monitoring such as flow data, temperature, and dissolved oxygen levels to help quantify the flow rate required to sustain these values.

³⁷ ‘Acceptably clean’ is a subjective social value and not a ministry defined term.



Waingawa River

It was Haunuiananaia who gave the Waingawa River its name. The river was windy with lots of bends and appeared to go in all sorts of different directions. He named it Waiawangawanga which means troubled or uncertain waters³⁸. Like many traditional names the Waiawangawanga river has been shortened to Waingawa for easy of pronunciation.

It was in fact the wandering nature of the Waingawa River which provided such important values for iwi Maori. As the river moved and shifted across the plains, some sections of river channel were left isolated. Over time these isolated river channels developed into wetland areas that were valuable for mahinga kai. These values were recognised by Ngati Kahungunu ki Wairarapa and Rangitane o Wairarapa who established two pa beside the Waingawa River.

Both pa are identified in the Waitangi Tribunal Wairarapa ki Tararua Report, and they are Punanga and Te Whiti-o-Tu. According to a Department of Conservation website the inland pa named Punanga was a refuge pa when there was significant intertribal warfare between Ngati Toarangatira and Ngati Kahungunu. It is also understood that people from Ngati Hamua, Ngati Moe and Ngati Aomataura were living at the Pa and are acknowledged as the keepers of the pa.³⁹

One site of refuge, Punanga Pā near Holdsworth roadend, was built by Kahungunu fugitives from the invading Te Rauparaha.⁴⁰

The other pa, Te Whiti-o-Tu was located by the confluence of the Waingawa River and the Ruamahanga. It has been said that this pa would never be taken, such was its strength. Below is a map to illustrate the positioning of the pa, but more so to show the numerous channels created through the movement of the river.



³⁸ Kawana, M. 2004. pg9

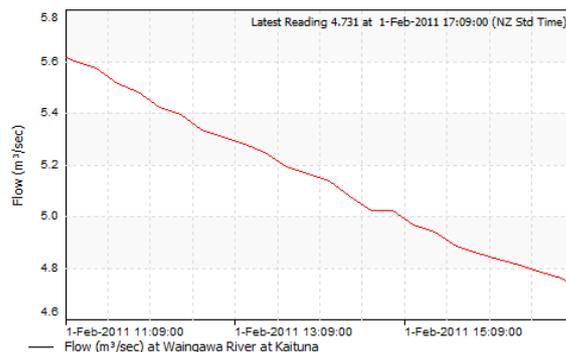
³⁹ Potangaroa, J. 2011. Personal comment.

⁴⁰ <http://www.doc.govt.nz/parks-and-recreation/places-to-visit/wairarapa/wairarapa/tararua-forest-park/features/history/>

In the mid section of the picture there are dozens of old channels which have now dried up. It is however these old channels that would have remained with water to create sections of wetlands which were easily harvested. On the right hand side of the picture about half way up there is the Masterton sewage ponds. These have been located close to where the original Te Whiti-o-Tu settlement was established.

There were numerous other wetlands that were fed from the Waingawa River which were important for mahinga kai. On state highway 2, close to the industrial area there are still some remnants of the wetlands that once existed in this area. Watercress, harakeke, and tuna would have been prolific in these areas, as would have been the birds which nested in the diverse arrangement of wetlands.

An important factor when considering the setting of a minimum flow for the Waingawa River is the strong interaction the river has with both the Parkvale Stream and Booths Creek. As the river feeds significant groundwater sources through channel losses it is important to insure a sufficient amount is left in the river to provide for ecosystem services, recreation, and mahinga kai. The photograph below illustrates the appearance of the river at the end of Upper Waingawa Road. Next to this is a graph illustrating the flow recorded at the Kaituna gauging station at the time.



It is estimated that at the time there was approximately 5000 L/s flowing past the Kaituna monitoring station. The GWRC suggested minimum flow is 1590 L/s (for one day) which is approximately a third of what was in the river on the 1st of February 2011. There is an assumption that one third of the flow depicted in the photograph would not be sufficient to maintain iwi values and could potentially put values at risk. Given the significance of the river to supply Masterton with drinking and washing water a more precautionary approach should be adopted.

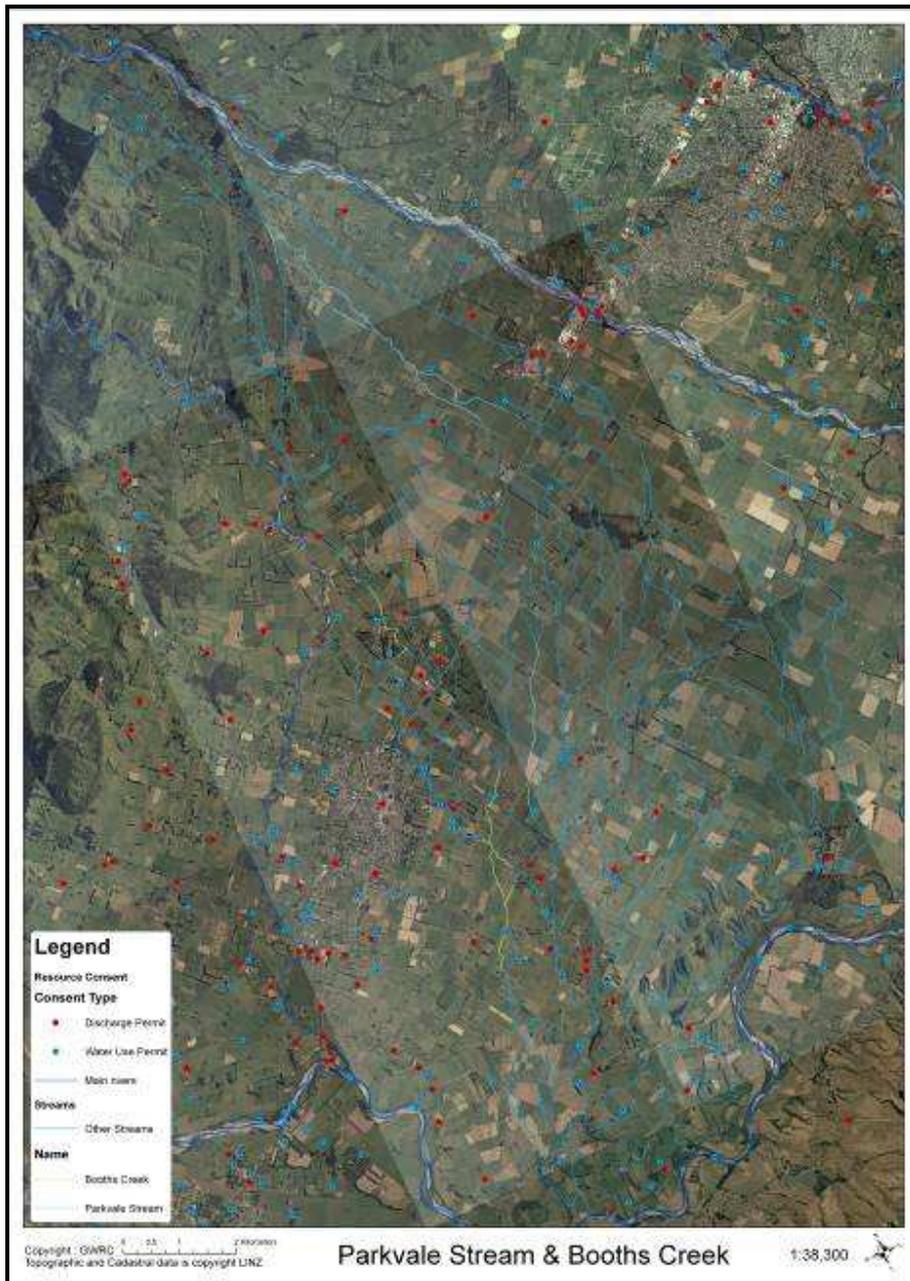
It is recommended that the cease take level of 2500L/s should be adopted, with a concession made for the water supply take for Masterton. This should insure that recreational values, specifically swimming and fishing, are maintained and the relationship with the Parkvale Stream and Booths Creek can be upheld.

Recommendations

1. That further investigation work is undertaken to determine the relationship between the Waingawa River, Booths Creek, and the Parkvale Stream.
2. That low flow cultural monitoring is conducted in partnership with iwi and GWRC staff in the lower reaches of the Waingawa River when low flows are experienced.
3. That the 'cease take' flow of 2500 L/s is adopted for the Waingawa River, with a concession made for the Masterton Water Supply consent as a precautionary approach to sustaining maori values.

Booths Creek and Parkvale Stream

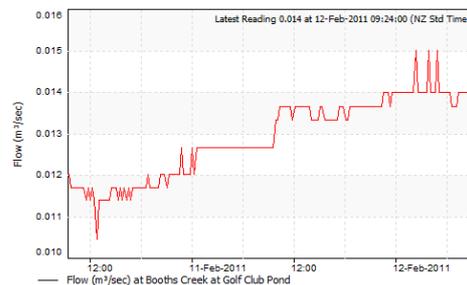
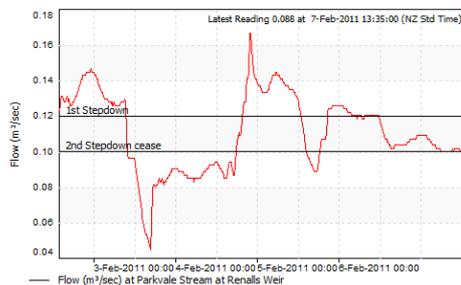
Booths creek and the Parkvale stream provide a complex drainage and water-race network on the plain between the Waiohine and Waingawa rivers. There are a number of water use consents and discharge permits that relate directly to the two waterways which are illustrated in the map below.



Booths creek and the Parkvale stream are very similar in their location, flow regime, and environmental pressures exerted upon them. Although one is called a stream and the



The flow data generated during the times the streams were visited (2nd and 10th of February 2011) both exhibit water abstraction pressures and highlight the need to manage residual minimum flows to protect ecological and cultural values. Below are two graphs that have been generated from the Wellington Regional Council website over a period when the streams were observed.



The graph from the website demonstrates that the flow in the Parkvale stream is adversely affected by water abstraction. The minimum flow volume of 100L/s is being regularly undermined by water users and requires further investigation work. There are a limited number of water use consents (less than 10) within a close proximity to the site that would create such a pronounced affect of the flow regime which should make identifying the person(s) responsible relatively easy.

The effects from water abstraction can be easily seen in the graph generated from the Carterton golf club monitoring site. The volumes recorded at the site are very low which makes the effects of water abstraction more pronounced.

A series of photos are provided below to help illustrate the appearance of the streams during these periods of low flow.



Parkvale on Para Rd



Parkvale on Francis line



Booths at Golf Course



Booths on Park Road (bend)

As the pictures illustrate the water in the streams maintain steady flows and support extremely large quantities of watercress. The streams are best described as glorified farm 'drains' and appear to be valued by landowners for the irrigation and stock watering qualities they provide. At all sites visited there was almost no riparian vegetation present. The lower reach of the combined streams was an exception to this and the stream flowed beneath a thick canopy of willow. Although the reach below the confluence of the two streams appears to be quite barren, during a twenty minute visit to the area two brown trout and a scattered shoal of inanga were observed.

The stream appears to be able to support tuna as these were observed in Booths creek whilst watercress was being harvested. There is a distinct change in the bed substrate from the upper reaches when compared to the lower reaches. The bed in the lower reach maintains significant amounts of sediment in the channel so people entering the stream sink, sometimes over a foot, into the substrate. Conversely, the upper reaches have gravel beds that are predominantly free from sediment accumulation. It would appear that the

streams would benefit significantly by being exposed to higher base flows and flushing events to carry sediments and pebbles downstream. The photographs below illustrate the thick willow canopy, the tangle of tree limbs, and the sediment accumulation occurring in the lower reaches.



Tangled mat of willow limbs



Sediment accumulation

Maori values

The Parkvale stream and Booths creek are both highly valued by Kahungunu ki Wairarapa and Rangitane o Wairarapa. As the Papawai stream is fed through the underground rivers from the Waiohine, the Parkvale stream and Booths creek is fed from the Waingawa river and Mangatarere stream. Evidence of these connections continue to exist today through the wetland remnants located behind the industrial area on state highway 2. The water once flowed from the Waingawa river into these wetlands and on to the Parkvale stream and finally into the Ruamahanga. Although these connections no longer appear to occur naturally, the water still follows this same path beneath the surface gravels.

This abundance of fresh water which was constantly being replenished through Waipuna (freshwater springs) was utilised by the tangata whenua who constructed Pa in the immediate area north-west of the confluence of the two streams.

Pahikatea pa is about three miles north-east of Papawai.⁴¹ Pahikatea was a Pa of the reknown Ngati Kahungunu fighting chief Nuku-pewapewa. This was a strongly fortified Pa which was never 'taken' by invading war parties. Given the general location of 3 miles north-east of Papawai, the Pa would have been located close to the Riversdale road and the western end Para Road.

Strategically this was an exceptionally well placed Pa with the confluence of Booths creek and Parkvale stream approximately 2km south, the Waiohine river less than 2km west, and the Ruamahanga river 3km south from the Pa. Kai awa (river food) would have been in plentiful supply, and the rivers would have provided the necessary escape routes

⁴¹ <http://www.rangitane.iwi.nz/education/index.php/life/tupuna-biographies/tupuna-biographies>

if they were required. The positioning of a fortified Pa in this location suggests a lot about the resources that were available from the surrounding environs.

It has been reported that in the past the Mangatarere Stream confluence and surrounding area was of particular significance. This is because the founding chief, Tawhirimatea Tawhao Ngatuere, settled in the area. At that time eels were plentiful as were freshwater crayfish and whitebait. Lampreys and flounders were also available, and freshwater mussels were transported from Lake Wairarapa and established in the area. As these species were found in the lower Waiohine catchment it is totally reasonable to assume that these same species were available in both Booths Creek and the Parkvale Stream, particularly in the lower reaches.

It has already been stated that both streams support substantial amounts of watercress. This continues to be valued by the tangata whenua who harvest significant quantities from the streams.

Tuna continue to be harvested from the streams but in quantities much smaller than what has been experienced in the past. Catches of 6 to 10 tuna are typical, but as with most waterways around the country, they are often small with only 2 or 3 suitable for eating.

In addition to the mahinga kai values attributed to the area, there were the educational values also connected to the wider Carterton district. There are two examples of this. The first is the establishment of Hikurangi College along Francis Line, next to the Parkvale stream. The college received its name from the esteemed rangatira Tamahau Mahupuku who drew the name from the ancestral homeland of Hawaiki. Hikurangi translates as 'a place from which light and learning springs'. The positioning of Hikurangi College was deliberate, it was close to Papawai Marae the site of the first Maori Parliament, commonly referred to as the Kotahitanga movement, and it was anticipated that young Maori leaders would spring from Hikurangi to fill the seats in the Maori Parliament. Unfortunately this was not to be the case as the college was destroyed by wind, fire and earthquakes over a period of ten years from 1932 – 1942.

The second educational reference to the area comes from the stories of Nuku-pewapewa who firstly hid in a whare to learn the lore of the whare wananga, but who then established his Pa close to the confluence of the two streams. In addition to this, there is the name of Taumata Island. Taumata translates as 'level, or pinnacle' but it is almost exclusively used in connection to ones understanding or level of learning. Although no specific references to Taumata Island being connected to a place of higher learning, there is no doubt that the wider district has a prominent history in mana motuhake (autonomy, self determination) and education.

Recommendations

1. That minimum flow rates of 60L/s at Old Mill on Booths creek⁴², and 150L/s at Renall's weir on the Parkvale stream are adopted.

⁴² Consistent with Keenan. L. Nov 2009. Pg 18

2. That remote monitoring sensors are installed in both streams so compliance staff are notified immediately when minimum flows are breached.
3. That both streams are included into the 'Streams Alive' program or some other similar council program that promotes and subsidises riparian restoration.
4. That an educational river/stream monitoring program is developed and delivered from Papawai Marae which supports the values of tangata whenua (mahinga kai, education, mana maori).

Taueru River

The Taueru River, sometimes called the Taueru River, is a river in the Wairarapa region of New Zealand's North Island. It drains from the pastoral eastern highlands of the Wairarapa and joins the Ruamahanga River just north of the Gladstone Road bridge, southeast of Carterton. The river's name is Maori for "hanging in clusters" and named after it is the town of Taueru, located along the middle reaches of the river east of Masterton.⁴³

The Taueru River valley was once a primary migrational route connecting the inland settlements with the rich coastal fisheries. The township of Taueru is approximately 11km east of Masterton so provided a natural resting point on the journey to the coast. This migrational route was recognised as an easily navigated route with the construction of the Masterton Castlepoint highway which follows the traditional path.

The Taueru township was also a natural resting point due to the geographical resources in the area. The elevated terraces provided a flat dry platform to construct housing that was safe from rising river levels and good for cultivation of crops. Below the terraces there was the river plain which provided clean flowing water and wetland swamp areas. Behind the terraces there were hills covered in native bush and small streams that provided easy access to fresh drinking water.

The general occupational site of Taueru has been recognised by Potangaroa and Rimene who recorded the following.

‘When entering Taueru from the west there are several low-lying paddocks to the south of the Masterton Castlepoint Road. The Taueru River swings from west to northwest around this land. The locals have known this area as [the] Maori swamp for generations. This was a mahinga kai site while on the southwest terraces on the opposite side of the river there were gardens. There are kainga and burial sites on the land above the swamp but these were above any influence of the river.’ (J. Potangaroa and H. Rimene. 2005. pg39)

The Maori swamp site is illustrated below but its use as a mahinga kai site it has been compromised through the land becoming dry which has been mentioned by Tom Lett, a fourth generation farmer of the area.

‘Our paddocks to the west of Taueru in between the main road and the river are what we refer to as the Maori swamp. I guess this was a place where local Maori used to gather food and other materials. The paddocks are pretty dry most of the time now but it used to be very swampy indeed.’ (T. Lett, cited in Potangaroa and Rimene 2005.)

As suggested by Lett the Taueru River and its surrounding environs were used for the gathering of food and materials. In addition to this the river was used for the storage of

⁴³ http://en.wikipedia.org/wiki/Taueru_River

food. As mentioned earlier, the Taueru was an important migrational pathway to and from the coast. Kai moana (seafood) gathered from the coast was often dried and preserved as a winter food, but sometimes it was carried back to traditional settlement areas 'fresh'. A preservation technique used to keep the kai fresh was to place it in clean free flowing water. The Taueru River was used to keep both Koura (crayfish) and Paua for later use by this method. The storage of Paua was referred to as Wai-Paua.⁴⁴

Eels were commonly caught in the Taueru River and in the adjoining streams and associated wetlands. Although these are still caught in the area the quantity and quality of the eels are decreasing. Some people attribute these changes to the annual visits of commercial fishermen who frequent the river system.

Around the Taueru township, Kakahi were collected from the river bed and were typically found in the deep holes where the flow of water was slow and sediment would settle. The Kakahi played an important role in removing the sediment from suspension in the river, and filtered the water to keep it clean. Tom Lett provides further comment on the increased sedimentation of the river, and also suggests the cause of the problem.

'The course of the river has never changed but other aspects of it have. The bottom used to be all shingle but now there is about 6 feet of silt. Dad used to drive the tractor through the river behind our woolshed but you can't do that now because you will get stuck. When you are putting in fence strainers you notice the silt build up. Most rivers are silted up through agricultural work.'

Although Kakahi can still be found in the Taueru River, they are becoming increasingly scarce and ongoing monitoring of the health of this fishery needs to be undertaken.

The Taueru River and particularly its tributaries are well known for the abundance of Koura (freshwater crayfish) found in the waters. This was especially evident in the hill country to the northwest and to the southeast in the lower twelve kilometers of the Taueru River. The area was so abundant with koura places such as Kourarau were named after the plentiful food source. Kourarau, literally translates to – Koura (freshwater crayfish) Rau (Hundreds or numerous). The steep mountainous streams and numerous small lakes in the hills provided excellent habitat for koura. Children would spend 'days on end' catching Koura from this area and they would provide a substantial meal from their efforts.⁴⁵

The Taueru valley is well known for its limestone hills. This base substrate is well utilised with a quarry located to the west of Taueru township which supplies lime based products to the region. It is due to the limestone and the weathering action of water that various caves exist in the Taueru valley. Cavellands road is named after this physical attribute.

The caves were utilised by Maori who would place the koiwi (bones) of their ancestors in the caves to be safe from molestation. The lower reaches of the Taueru River valley is

⁴⁴ Rawiri Smith, Personal comment 10th February 2011

⁴⁵ Francis Smith, Interview December 2010.

still used as a burial area with the Hamuera urupa located at the lower end of Caveland Road. On the hill opposite this urupa there are other burial sites that are not as prominent as the main Hamuera urupa.⁴⁶

The caves are significant to Maori not only for the provision of special resting places for their tipuna, but also for purakau (traditional stories) that are specific to the Wairarapa valley. The purakau of the taniwha named Ngarara Huarau is directly connected to both the limestone caves in this area and the Kourarau Stream, a tributary of the Taueru River. Particular reference in the story is made to the lair of Ngarara Huarau which is located by the Kourarau Stream. This important purakau is attached as appendix 1 and further detail can be obtained there.

The lower section of the Taueru River is renowned for its fishery value. The deep pools house good sized trout which feed on the shoals of inanga. Like the trout, numerous eels also feed on the inanga in the Taueru River. The proximity of Hurunui-o-Rangi Marae to the Taueru River is also testament to the valued fishery area it provided.

Although the Taueru River has provided an invaluable fishery in the past, it is a mere shadow of its former self. The quantity and quality of the water in the river is a concern which undermines the values held by both Ngati Kahungunu ki Wairarapa and Rangitaane o Wairarapa. Some of the values currently compromised include;

1. The Maori Swamp and its associated food gathering and material harvesting potential.
2. The abundance of Kakahi in the Taueru River, particularly around the Taueru township.
3. The abundance of Koura in the small mountainous streams and associated wetland areas.
4. Gathering of watercress from the river and associated tributaries.
5. The ability to store corn and sea food in the river.
6. The presence of a gravel river bed and deep swimming holes.
7. The ability to gather kai in an appropriate quantity and quality to supply the tables at Hurunui-o-Rangi Marae.
8. Recreational and spiritual activities require water that is not contaminated by algae blooms.

There are problems with determining a cultural minimum flow value that is linked to flow values recorded in the Taueru River as it appears that readings are only taken from the Te Whiti Road bridge. However, if the flow of the river on the 10th of February was around 450 L/s, and the 'cease take' value set for the river is 100 L/s, a number of cultural concerns need to be raised.

Below is a photograph taken on the 10th of February at the Te Whiti Road bridge when the flow is more than quadruple the volume of the 'cease take' value which prohibits any further water take from the river. In the photograph there is a small channel no wider than 2 metres which connects the large upper pool from the lower pool section in the shot. The

⁴⁶ Rawiri Smith, Personal comment February 2011.

river is filled with algal slimes that cover an estimated 95% of the bed of the river, and long filamented algal is a dominant feature on the surface of the water and against the banks of the river.

If the flow recorded at this site is accurate and this is used to gauge whether the Maori values discussed in this report are being provided for, the answer must surely be no.

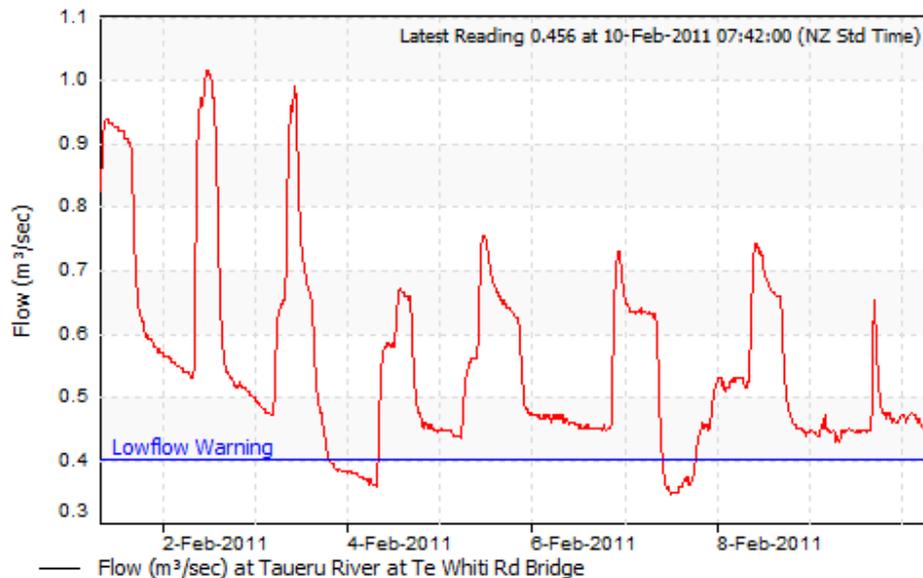


The picture provided illustrates a river that would not be suitable for the following Maori values;

1. Recreational and spiritual activities.
2. The quality of kai gathered in this area would be questionable and could not be trusted as being safe – Tuna, Inanga, Watercress, Kakahi.
3. Food such as corn, seed kernels, paua, and koura (ocean) could not be stored or kept in these waters.
4. The bed of the river is smothered and the banks are coated with decaying algal mats.

Essentially, at the flow rate of 450 L/s the Maori values associated with the Taueru River are totally compromised. Knowing this, it would be totally inappropriate to maintain the 100L/s 'cease take' limit. It is suggested that the 'cease take' limit should be increased to at least 600L/s to provide the river with a chance to cleanse itself and to provide for Maori values.

There are other matters that complicate this scenario further when examining Regional Council data. Below is a graph illustrating the flow rates in the Taueru River at the Te Whiti bridge. There is a distinct peak and trough pattern shown in the flow profile of the Taueru River which appears to be caused from water abstraction. However, this peak and trough pattern is caused through the discharge of water from the Kourarau Dam hydro-scheme which creates the large variation of flow.



Although the dam is not a direct water abstraction from the Taueru River it does significantly effect the flow regime of the Kourarau Stream and subsequently the Taueru River. This occurs through the hydro-scheme retaining flow from the stream, and then pulsing it through during the day. This activity presents a unique challenge for the river.

The flushing release of water provides a pulse of water which could potentially dislodge excessive algal growth from both the river substrate which is a positive aspect to the activity. However, it does not appear that the flows required to achieve this are occurring which is supported by the photographs in this report.

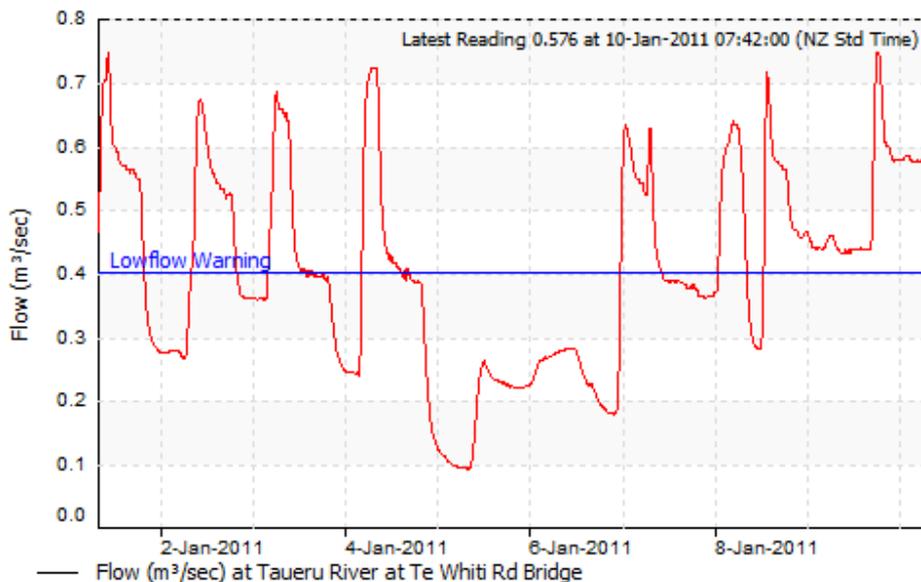
In addition, the retention of water from the Kourarau Stream means that low flows experienced in the Taueru River are exacerbated from the hydro-scheme. Examples of this can be seen on the 4th and 7th of February where the low flow warning levels are triggered. If the flow from the Kourarau Stream was not being stored in the dam, this warning level may not have been triggered.

The arid nature of the Taueru River combined with water being retained for the hydro-scheme means that on one occasion less than 100 L/s of water flowed through the river channel⁴⁷. At flow rates such as this it would mean that large pools and significant reaches of the Taueru River would essentially be stagnant with long residence times in

⁴⁷ Wellington Regional Council flow data 5.1.2011

the lower Taueru River. Given the prolific algal growth at these times of low flow, it is thought that the dissolved oxygen in the Taueru River will plummet in the early hours of the morning. This is a regular occurrence during algal blooms and these low dissolved oxygen levels will correspond directly with the low flows in the river system. With the dissolved oxygen content in the river very low, coupled with the extremely low volumes of water flow/replenishment, it is only logical to assert that aquatic species will suffer from these conditions.

This is recognised by Wellington Regional Council staff who have photographed eels suffering from a lack of oxygen⁴⁸. In 'Tuna Kuwharuwharu', Potangaroa refers to eels as 'truly a gift from the gods'. Knowing the value of eel and the stress that low flows are placing of this taonga (treasure), the 'cease take' flow in the Taueru River must be increased substantially.



Recommendations

1. That the 'cease take' flow for the Taueru River is increased to 600L/s which includes the retention of water on the Kourarau Stream.
2. That remote sensors are installed on the gauging station and alerts are sent directly to council staff and iwi when low flows occur so consent holders can be notified.
3. An intensive hill country and riparian planting program is initiated to provide habitat for fish and to reduce sedimentation of the river.

⁴⁸ J. Potangaroa. 2010. Pg21 – photographed by Alton Perrie

Waiohine River

The Waiohine River has long been associated with the descendants of the Kurahoupo and Takitimu waka. The river gets its name from the famous Maori ancestor, Haunuihanaia. The following account has been taken from 'Wairarapa Korero, as told by Mike Kawana of Rangitane o Wairarapa'.

"One day Haunuihanaia returned from fishing with his catch to discover his wife Wairaka had run away with another man. Haunuihanaia was deeply upset and set off to search for her. His search took him all over the lower half of the North Island.... Finally Haunuihanaia found his wife on the far side of Wellington with the other man whom she had fallen in love with." (Kawana, M. 2004. pg 3)

After finding his wife, Haunuihanaia decided to leave her with her new love and to travel home to Heretaunga via the east coast. Along the way he named many of the lakes, rivers and streams. He gave the Waiohine her name after seeing his wife's face in the currents of the waters.

"He had found her [his wife, Wairaka] and she had fallen in love with someone else so he was in a sad mood. He was constantly thinking about all this as he made his journey home. When he looked into the water of one river he saw the reflection of his wife's face. It felt as though the river reflected his mood. It brought up feelings of sadness and thoughts of his wife. He named the river the Waiohine from wahine meaning wife." (Kawana, M. 2004. pg 9)

Since the naming of the river by Haunuihanaia the Waiohine has been long associated with the iwi of the Kurahoupo and Takitimu waka. This association is particularly significant to nga iwi o Rangitane o Wairarapa me Kahungunu ki Wairarapa. This association with place is crucial in maintaining the identity of tangata whenua which has been summarized by the Waitangi Tribunal.

"A vital strand of Maori identity concerns a physical, emotional, and spiritual connection with the natural world. In times when tribes occupied and owned their tribal territory, they knew it intimately, and named all its features. Occupation and ownership of tribal lands by its ancestral owners is largely historical. But the connections with mountains, rivers, habitats, creatures, and plants survive. As the waiata (songs) say: Ka mowai tonu te whenua e tokoto e; Toitu te whenua. (The people live and die, but the land goes on.) The ancestral connections continue, generation after generation." (Waitangi Tribunal; The Wairarapa ki Tararua Report. Introduction; volume 1 page V)

The history of Maori occupation is clearly visible on the topographical maps purchased from hunting and fishing shops today. Just north of Hupenui (Greytown), there is Ahikouka and Ahikouka road. Both of these names are connected to Te Paparu Pa, the birthplace of Ngatuere Tawhirimatea Tawhao. Ngatuere also strived to maintain lands on the northern side of the river which is also easily recognizable with Waihakeke road running from state highway 2 to Taumata.

In the 1930s the largest section of Maori land remaining in this area was the Hikawera block. The Hikawera block was the remains of lands associated with Ngatuere Tawhirimatea Tawhao. Ngatuere held the land between the Black Bridge (near the current State Highway Two Waiohine River bridge) and Taumata. (Iwi Summary Statement of Freshwater Values – Waiohine River)

He [Ngatuere] consistently opposed the agents of the Crown who were seeking to buy land, and was able to hold on to his own interests when others were losing theirs. While others failed to protect themselves, he was able to prevent the settler B. P. Perry from occupying a section of the Taratahi block, and to remove C. B. Borlase from his Waihakeke run. (Dictionary of NZ Biography)

The legacy of Ngatuere has been maintained with his descendants continuing to live and occupy lands adjacent to the Waiohine River. He and others have been buried upon the banks of the river and will ensure their connection to their river is never forgotten.

Ngatuere Tawhirimatea Tawhao died on 29 November 1890 and was buried near Waiohine, for he could certainly not be buried at his place of birth, Te Paparu pa on Te Ahikouka; that land was forever lost to him and his people. (Iwi Summary Statement of Freshwater Values – Waiohine River)

It is from these longstanding associations with the Waiohine River that a series of interconnected and interrelated iwi values have been developed.

Iwi Values of the Waiohine River

Iwi values pertaining to the Waiohine River are both site specific and generic in nature. The generic values such as *Ki uta ki tai* tend to focus on a holistic catchment approach where the river (and the land) is a dynamic and ever changing entity. Iwi maori recognize and accept that sediments which fill and create river deltas are sourced ultimately from the Tararua Ranges. These river deltas are rich fishing grounds and provide a niche environment of high productivity within the wider ecosystem. It is also these same sediments that fill and choke our slower moving streams and cause a stench to erupt when we enter to set our nets.

Iwi maori understand the benefits of a naturally resilient system that is rich and productive, and are acutely aware of the mud and weed infested systems that harbor disease and risks to the fish and people exposed to the environment. The connection from the mountains to the sea has been observed by tangata whenua for centuries and the rhythmical pulse of nature's seasons noted throughout our histories. The migrational movements of our many fish species from the rivers to the sea, and then back again, was but a simple cycle that needed to be treated with respect and required protection.

Site specific values such as Pa sites, urupa, and fishing areas exist today within an evolving context. An example of this on the Waiohine River would be the urupa located close to the confluence of Mangatarere and Waiohine River. The urupa is increasingly

threatened by flooding in the Waiohine River. Tangata whenua do not believe that their tipuna would bury their people where flooding was an issue.

An Urupa (Burial Ground) is located in this area adjacent to the State Highway, and is subject to occasional damage from floodwaters. The local Tangata Whenua are of the view that their Elders would not have established the Urupa in a flood prone site, and that the flooding has been caused by changes in land use. (Iwi Summary Statement of Freshwater Values – Waiohine River)

The fact that the land-use activity within the catchment has changed since the establishment of the urupa is clear. The changing needs and demands on the ‘gravels works’ upstream of this site is also changing the scope and measures required to protect this site.

The following is a list of iwi values that can be applied generically and/or specific to the sites of significance on the Waiohine River.

Ki Uta ki Tai (from the mountains to the sea).

Water bodies are viewed holistically and cannot be distinguished from the surrounding land and their catchments. Water provides cultural and spiritual sustenance, is viewed as the source of life with life giving properties and is regarded as a taonga. Wairarapa, whānau, hapu and Iwi whakapapa to the Ruamahanga River. The health and future of the Waiohine River relies on the health and connection that the Ruamahanga River has with the sea.

Mauri – (life principle)

Iwi try to protect the mauri (life force) which flows through all waterways. Iwi have concerns regarding flood protection. The main area of concern in the Waiohine flood affected area is the urupa at the road bridge. This has been flooded in the past, affecting the graves by knocking the headstones over and causing the foundations to sink. The Tangata Whenua of the area are of the opinion that their elders would not have established an Urupa in an area which normally flooded. Therefore any flooding which has occurred since establishment is the result of changing land management practices.

The Anglican Maori Church owns a block of land near the confluence of the Waiohine and the Ruamahanga Rivers. This is farmed as a trust farm with the profits going toward education of the owners and their children. At a meeting it was discussed whether this farm should be eligible for rates relief or exemption from payment for capital works (flood banks). This issue will need to be worked out by the Council with the Trust Board notified prior to any works being undertaken.

Waahi Tapu - (a place of sanctity)

There was general agreement at the meeting that there were few culturally important sites up the river. The point was raised that sometimes when a member of a food gathering group died whilst away from the Pa he would be buried on site.

The Waiohine was an important food gathering area. Consequently there may be skeletons in the riverbanks. If skeletal remains were discovered when any construction work was occurring then the Tangata Whenua should be notified immediately. They will make arrangements for reinternment. (Iwi Summary Statement of Freshwater Values – Waiohine River)

Indigenous species Flora and Fauna

That the water body is able to sustain a range of indigenous species and these are of a quality and available in quantities sufficient for the use of kai (food) and rongoa (medicine).

Habitat

That the water body has sufficient plant life to support a healthy habitat for native species and this habitat is protected from stock.

Water quality

That the water is clear and is free from odour and discolouration.

Specific Values associated with Instream Flow rates

The specific values associated with the river and the minimum flow requirements relate directly to the resources and facilities that the Waiohine would have provided when Te Paparu Pa was located on the banks of the river. This provision would have also included not only the area opposite Te Paparu Pa but also the lower reaches of Beef Creek, Mangatarere, and the Waiohine River. Iwi expect that when establishing minimum flow levels for the Waiohine River the following site specific values are provided for;

Recharge of groundwater

The ability of the water body to recharge aquifers. (Iwi Summary Statement of Freshwater Values – Waiohine River) This is increasingly significant as the Waiohine is undoubtedly connected to the underground aquifers that feed the Puna (freshwater springs) of the Papawai Stream.

Swimming

That the water body is of sufficient quality to enable safe swimming, and sufficient quantity to provide deep pools and sheltered backwaters (or shallow gentle runs) which are safe for children.

Washing

The water is expected to be clean and safe for contact and people are able to cross the rocks without slipping due to excessive algal growths. The water should also be suitable for cleaning women after their 'mate' (menstruation) and child birth.

Drinking

The water must have been suitable for drinking and this should be an aspiration for the water quality within the river.

Mahinga kai - (the gathering and processing of food)

The waterways are used for mahinga kai; the gathering of food such as birds, eels, fish and plants which enable tangata whenua to provide manaakitanga (hospitality), a symbol of tribal mana.

The Waiohine and its tributaries have traditionally been a rich food source for the Tangata Whenua. Flood protection works, channelization, and the removal of vegetation have detrimentally affected that source of food. For traditional food sources to return there needs to be backwaters and deep slow pools for eels and inanga to live in. The backwaters also serve as a breeding ground for whitebait, another indigenous food source. There used to be freshwater crayfish and mussels in the river and its tributaries. These no longer live there due to a loss of habitat. The fast flowing water and lack of vegetation have compromised the insect population both in and around the river. This means less food for the fish. There used to be a lagoon opposite Bicknells farm in the lower reaches of the river. This has been filled in or drained for farmland. The lagoon used to be a rich source of eels.

The Mangatarere Stream/Beef Creek confluence and surrounding area is of particular significance. This is because the founding chief, Tawhirimatea Tawhao Ngatuere, settled in the area. At that time eels were plentiful as were freshwater crayfish and whitebait. Lampreys and flounders were also available, and freshwater mussels were transported from Lake Wairarapa and established in the area.

The fishery value to local Tangata Whenua has deteriorated over the years, perhaps due to river management, drainage, and land development activities. Backwaters shaded by vegetation, deep pools, and lagoon areas are required to reinstate the habitat necessary for traditional food sources. (Iwi Summary Statement of Freshwater Values – Waiohine River)

Within the vicinity of the specified sites, the minimum flow should not threaten the survival of any of the species within the mahinga kai values.

Tuna

That the water body sustains a healthy tuna population which are rarely observed with disease. This means that water levels are maintained which ensures there is sufficient oxygen available so eels like that observed in '*Tuna Kuwharuwharu*' (pg21) by Joseph Potangaroa are not found.

As the top predator in the river system, a healthy tuna population also means a range in the size classes caught. This requires having an ecosystem which can provide the necessary habitat for refuge in times of low flows. It will also mean that there is a requirement for the river flow to support the fish and insects upon which the various size classes of tuna consume.

Pollution

That the water body is protected from all pollution whether chemical, human or animal waste. Diffuse pollution presents significant threats to the values mentioned above and all possible steps must be taken to remove any existing point source discharges. There must be sufficient flow in the Waiohine River and her sister tributaries to ensure that the concentration of environmental pollutants do not exceed recreational contact guidelines of ANZECC. However, these guidelines do not super cede the other values identified as significant for the Waiohine River.

Recommendations

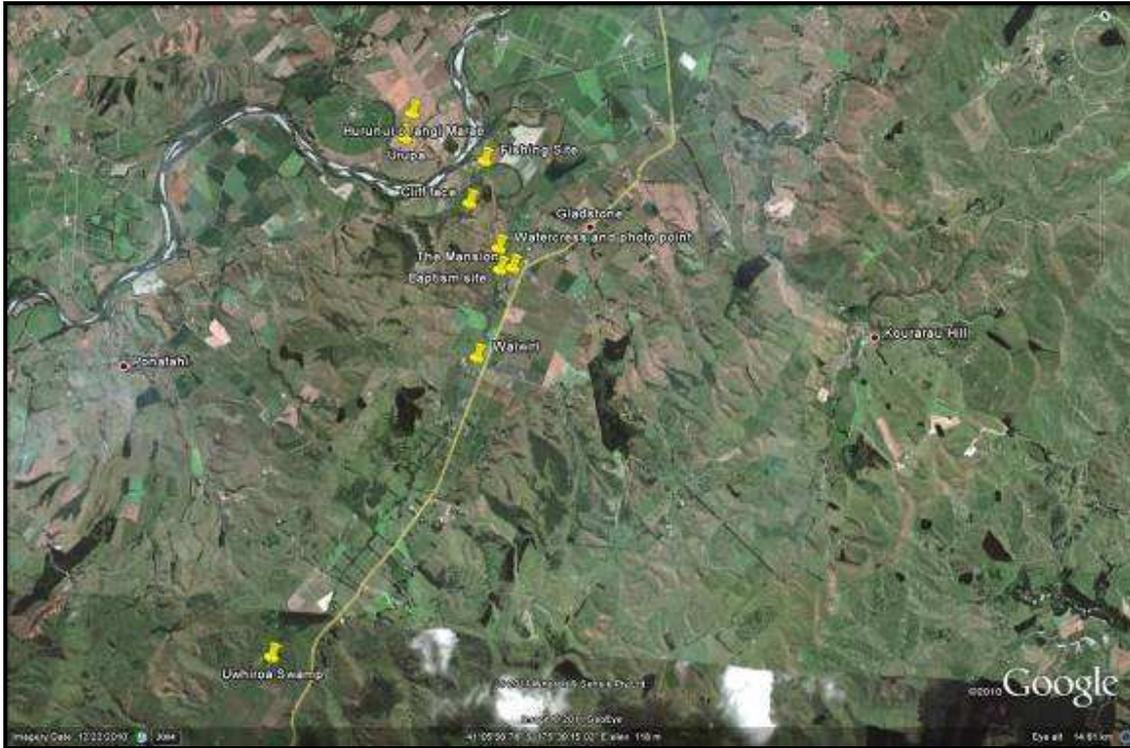
1. Develop and initiate a monitoring program which includes fish life, flood protection work and habitat assessments to determine the health of the Waiohine River and tributaries.
2. Develop a riparian planting program that will help protect sites of significance from flooding and erosion.
3. Invite ancestral whanau and hapu (Papawai Marae) living in close proximity to the sites to participant and conduct low flow monitoring.
4. That the low flow volume of 3570 L/s⁴⁹ at the gorge monitoring site be adopted and further monitoring is established in the lower reaches to determine the relationship between the gorge flow and the flow observed in the lower reaches.

⁴⁹ Consistent with 7 day low flow estimate by Keenan, L. Pg 19.

Makahakaha Stream

The origin for the name of the Makahakaha Stream is unknown to the author of this report. However, the prefix 'Ma' is often used as an abbreviation for 'Manga' which translates as stream. The word 'kaha' translates to strength and the double use of the word is often used to emphasize the subject of the word. There are however other meanings to 'kahakaha'. One translation is waistcoat, and another is the name for an epiphytic plant (*Collospermum hastatum* or *Astelia solandri*) used for making snow sandals. The actual meaning of the name could be any one of the three suggestions or something quite different.

The Makahakaha Stream does find its place in purakau (traditional stories) of the hau kainga (home people). One such story is the battle of Tupurupuru and the taniwha Ngarara Huarau. After the taniwha had sustained grievous injuries it fled from Tupurupuru and his warriors who were in hot pursuit. The taniwha had fled from the Kourarau valley toward the eastern end of Gladstone Road. From here it traveled up the valley where the Makahakaha Stream flows. Ngarara Huarau was finally killed in Uwhiroa swamp which is located at the south western corner of the intersection of Longbush and Millars Road. It could be the heroic efforts of Tupurupuru and his warriors which gave rise to the naming of the Makahakaha Stream, or maybe the strength that Ngarara Huarau exhibited. A map below illustrates the location of Uwhiroa swamp and some other significant places.



North of Uwhiroa Swamp there is a place named Waiwiri. The name of the place suggests a lot about the area and the values associated to the sites. Waiwiri translates to ‘trembling/shivering water’ or ‘eel shoal water’. Given the large wetland area known as Uwhiroa swamp was upstream from this site it is highly likely that Waiwiri got the name due to large shoals of eel during the Tuna Heke (eel migrations) to the sea. These values are well supported with other purakau which describe the Parakawhara (Gladstone) area as being a place of waimaori (clean useful water) where pa tuna (eel weirs) were constructed. One such story contained information not only about the pa tuna located in the area but the cultivations which were below the terraces and on the main floodplain of both the Ruamahanga and Taueru Rivers⁵⁰.

The wider Gladstone area which includes the Makahakaha Stream has a rich history with taniwha. As mentioned earlier the menacing taniwha named Ngarara Huarau was killed in the valley. Another taniwha named Parakawhiti lived in the cliffs south east of the Gladstone store and of Te Hurunui-o-Rangi Marae. The cave was known as Te Ana o Parakawhiti – the cave of Parakawhiti. Parakawhiti was the sister of Ngarara Huarau. The cliffs to the south east of Gladstone have a stream that runs close to its base. This stream is the Makahakaha Stream.

Another purakau associated to the area is the story of Tangata tuna (eel man). In this traditional story a young women gives birth to a deformed child. Stricken with panic and grief she drowns the baby and disposes of its body in the stream where it was drowned. A

⁵⁰ Potangaroa and Rimene, 2005. Pg55, 56

few months later the men emptying their hinaki from their pa tuna discover a tuna with the face of a baby. In shame the young mother ran away and was never seen again. The tangata tuna was returned to the pa tuna and released. The tangata tuna was looked after by the people for generations, and the whole stretch of the stream was declared tapu to prohibit future fishing.

It is clear that all of these purakau have a strong connection to the Makahakaha Stream and also place a particular importance on the lower reaches of the stream. They relay a strong sense of wairua and tikanga associated to the stream which suggests that caution should be exercised if entering the area. The best advice for this area would be to leave it for those taniwha who reside there.

The wairua or spiritual aspect of the Makahakaha Stream is not restricted to the purakau discussed but includes the use of the stream for iriiringa (baptisms). This practice occurred for many years and has only ceased in the last one or two generations. One such site where baptisms occurred was by the bridge over the Makahakaha Stream close to the Longbush Rd and Gladstone Rd. This is where some of the Smith whanau grew up and was known fondly as 'the mansion'. The specific area referred to is the paddock located opposite the Gladstone Church. There are a number of old buildings in the area with the Makahakaha Stream running at the rear of the properties.

It was here in the Makahakaha Stream that Baptisms occurred. Rawiri Smith's family is testament to this with both his grandfather and mother being baptised in the Makahakaha Stream. The current condition of the Makahakaha stream during the summer months means that even if the hau kainga wanted to use the site for baptisms it would be unsuitable. The algal growth which included the long brown and bright green types of algal meant it should not be used for spiritual purposes. The stream also had a musty smell which further diminished the quality of the water. Although the stream was not suitable for spiritual activity it was still considered satisfactory for the collection of kai, such as tuna or watercress.⁵¹

⁵¹ Smith, R. Personal comment 10th February 2011



Both tuna and watercress were still available in the Makahakaha Stream. In the picture above there is a small bunch in the top left corner. A hinaki was set next to the Gladstone Sports complex in early February. The stream was well shaded by the numerous willow trees so the water ran freely and free from thick algal growth. The stream had very low banks and ran in a deep channel with the sides of the channel being made up mainly of willow roots and soft fine sediment. The soft sediment meant that as one approached the stream they would sink 20cm or deeper into the soft low banks. The area appears to be excellent tuna habitat with a good quantity of water in the main channel. Small shoals of adult inanga were also observed moving from pool to pool in the slow moving channel.

The hinaki was baited with sardine flavoured cat-food and left overnight. The catch consisted of;

- 7 Longfin tuna – 2 with finrot on their pectoral fins and,
- 1 Shortfin Tuna

Two of the eight tuna caught exhibited fungal growth on their pectoral fins which is a sign of stress and connected to low flows with low dissolved oxygen levels. This represented 25% of the catch which is too high. Below are photographs of the tuna being released back into the stream, and the place in which it was set.



The tuna were medium sized and would have been suitable for eating if that was the purpose of their capture, although the tuna with fungal disease would be avoided. This area used to be a kai basket for the people of Hurunui-o-Rangi and the low number of tuna caught suggests that the accessibility of the area means it is fished quite regularly.

It is hard to determine the volume of water flowing in the Makahakaha Stream on the visit date on the 10th of February as there is no data available. If an estimate was required, it would be estimated to be around 30-40L/s. This estimate is based on the flow values observed in Parkvale Stream and Booths Creek at a similar time and relative to the low flow recorders and the appearance of the small streams.

It is clear that 30 – 40 L/s is below the volume required to sustain cultural values. The water volume sustains both inanga and tuna; however the tuna are showing signs of stress. The watercress is suitable for harvest which is good.

The major issue with the current low flows experienced is the growth of algal and subsequent musty smell which makes it undesirable and quite unsuitable for the use of baptisms.

Due to these values the following recommendations are made.

Recommendations

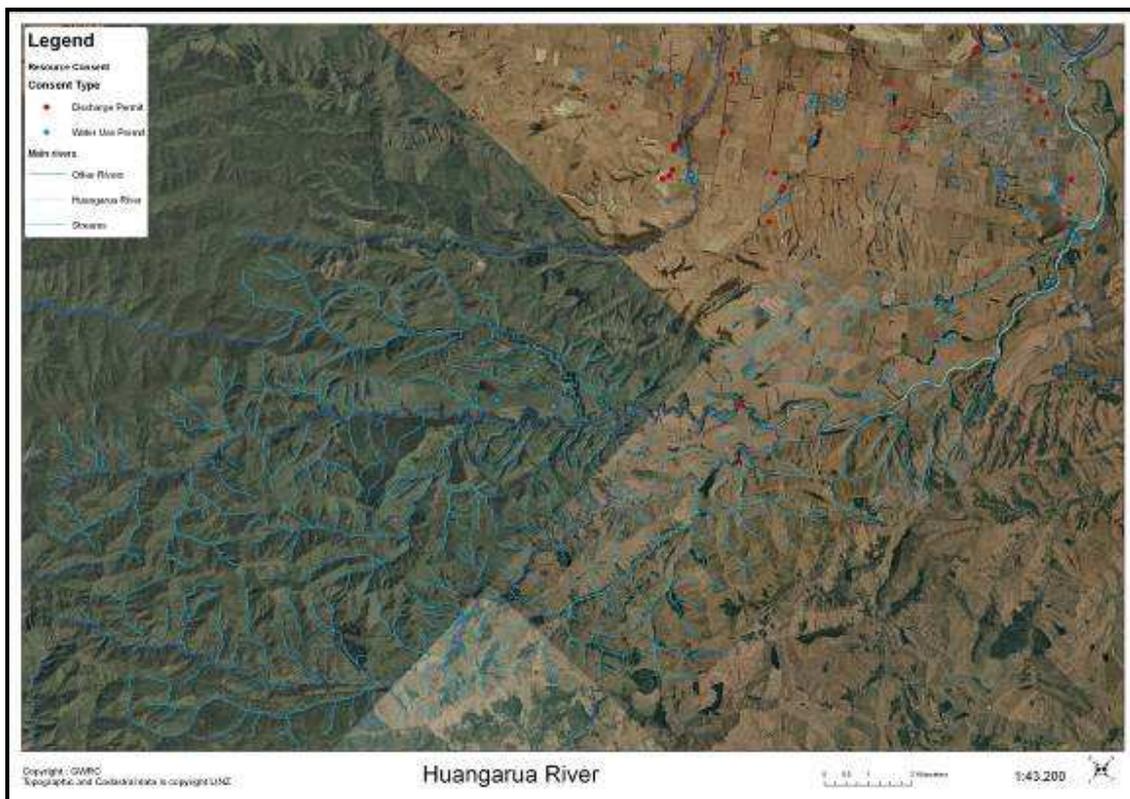
1. A low flow gauging station is established at the Gladstone Road bridge at the Te Whiti end of the road.
2. That riparian planting is undertaken to reduce the amount of algae growing in the sections where the stream maintains a gravel bed.

3. That some summer monitoring by iwi members is established to examine the flow in the stream and to determine how it provides for iwi values.
4. That a precautionary minimum or 'cease take' flow of 80L/s is adopted until further work can be undertaken to measure flow volumes.

Huangerua River

The nearest village to Martinborough was north of the modern town beside the river of the same name.

The Huangerua River catchment lies to the East and South-east of Martinborough. Its catchment is dominated by steep hill country but still contains some highly productive river plains which are extensively used for cropping. An outstanding feature of the landuse is the viticulture industry. To the northeast of Martinborough there are a number of vineyards very close to town and the Huangerua River. This 'Wine Estate' theme extends south-east on Martins road and through to the exclusive Te Muna road which supports major grape production. There can be little doubt that the horticultural industry relies heavily on the water resources in the valley to keep the productivity of the area high. The reliance on the river and the associated ground water can be seen in the aerial map below which illustrates not only the greater catchment of the Huangerua River but also the water use and discharge consents.



The Huangerua River begins in the Aorangi Range (also known as the Haurangi Range) as the Ruakokoputuna River. The naming of the rivers is interesting and provides some insight into the values associated with the catchment and waterways themselves.

The name Hua-nga-rua translates as 'the two fruits' or something similar. This in itself doesn't really provide any clear idea of the 'two fruits' the name is in reference to. However, the origin of the Huangerua comes from the Rua-kokopu-tuna River. The name

of this river identifies two taonga species for Iwi Maori; Kokopu and Tuna. This would suggest that the name of the Huangarua River is derived from the values it has around Kokopu and Tuna. Kokoputuna is also a Wairarapa name for a really big eel, so maybe the Ruakokoputuna was renowned for having exceptionally large eels.

Given the proximity of the Huangarua to the Ruamahanga River and Wairarapa Moana it is clear that the river would have once teemed with life. The naming of the river and its clear association with Tuna and Kokopu strongly suggests that this river was once the home of many Tuna and Kokopu. This statement is supported by the value and significance placed on Wairarapa Moana, and as the evidence by Whatahoro Jury to the Royal Commission of Inquiry in 1891 reports.

The importance of the lake to the Natives was the fish that was obtainable – such as eels, flounders, white-bait, and kokopu. They also procured ducks and paradise-ducks. These are the description of food we used to procure from December to May. . . . It was owing to the advantages alluded to that the Natives did not desire to dispose of the lake and the fishing rights pertaining to it.⁵²

Significance

The significance of the Huangarua River is substantiated further with the siting of the Huangarua (Rawiri Smith) Pa at the junction of the Huangarua and the Ruamahanga Rivers. The hapu in this area is Ngati Hikawera who have ancestral ties to the Rangatira Tamahaumahupuku.

The approximate location of the Pa was; S 41⁰ 11'59.5" , E 175⁰27'49.0"

The location of the Huangarua Pa presumes that ordinary daily activities would have been occurring in the Huangarua River. This would have included activities such as washing, recreation, transportation, food storage, food harvesting, and drinking water.

The productivity of this site relies heavily on the Ruamahanga River and Wairarapa Moana as species migration is dependent on the connection with the sea. Wairarapa Moana is also significant to the Huangarua River as it provided the river system with a species replenishment pool.

Species of significance for this site include; Tuna, Kokopu, Inanga, and Flounder. Each of these species are taonga in their own right, and having all of these species available highlights this site as being highly productive, and a place of importance.

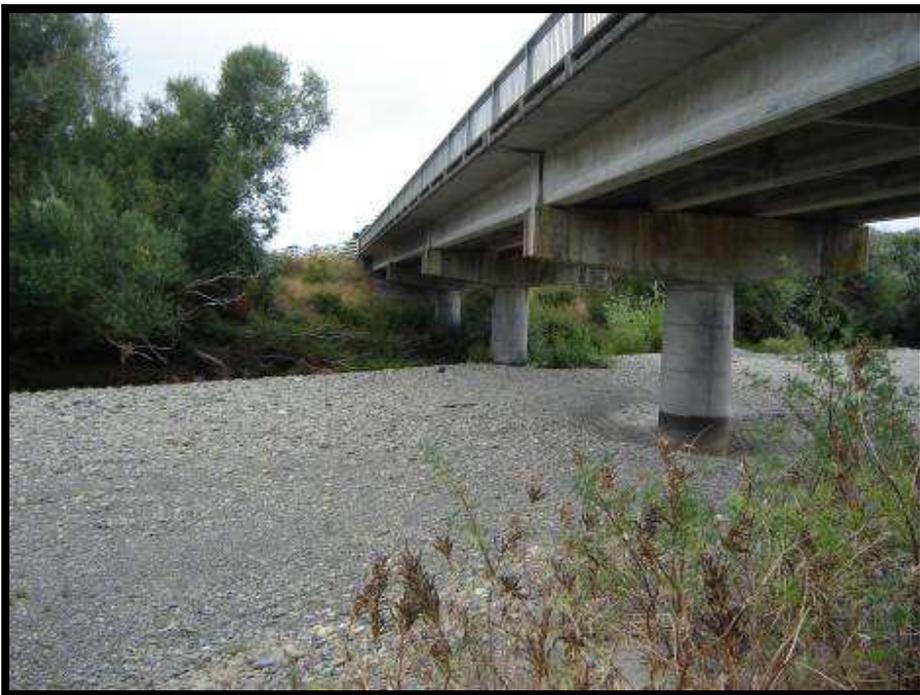
Current Situation

During the course of this project the Huangarua River was visited on three separate occasions at various sites. The most eastern of these sites was at Hautotara which marks

⁵² Waitangi Tribunal report, 2010

the end of the Huangarua River and the beginning of the Ruakokoputuna River. The most western site visited was the bridge on Ponatahi Road, slightly north of Martinborough and in close proximity to Huangarua Pa.

On the 19th of January 2011 a day trip to Hikawera, on Hinakura Rd revealed some disturbing sites. The first striking observation was the enormity of the bridge in relation to the 'river'. The 'river' was able to be crossed by simply finding a slightly elevated point, and jumping. The photograph below illustrates the significant bridge structure. The Huangarua River is flowing against the far bank in the photograph but it is small enough in this photo to go unnoticed.



A small walk upstream from this point revealed additional observations which undermined cultural values. The river appeared to have almost 100% algal cover across the bed substrate. This largely consisted of the black/brown Cyanobacteria mats in the areas where the water was moving swiftly and the yellow sludge/slime in the slower moving water. The photograph below illustrates what was observed over the 300 plus metres traversed.



A little further upstream the culturally inappropriate thick algal mats had taken their toll in conjunction with a water abstraction point. It is unclear if this water use is consented or not, but it is clear that it is impacting negatively on the aquatic species. Pictured below is a pipe leading into the Huangarua River which is used to abstract water. On the end of the pipe a vegetation baffle is attached to prevent weed, gravel, debris, and aquatic species from entering and blocking the pipe. Also pictured is a dead tuna observed in the water, and also a photograph of the tuna once it has been removed from the water.



The pipe leading into the river is clearly visible, as is the dark Cyanobacteria algal growth on the rocks.



The pictures above show where the tuna was located (next to my foot) and the size of the tuna once removed from the river. It was clear to the monitors that the flow in the Huangarua River on the 19th of January 2011 was insufficient to support cultural values.

The observations made on the 19th of January were similar at Hautotara, and at Martinborough. The following are a series of photos illustrating the condition of the river. What cannot be expressed well through the pictures is the feeling the field visit had on the monitors. The river smelt musty and was difficult to walk in due to the algal growth. Chunks of festering algae were constantly dislodging from the rocks and floating downstream which further reduced the aesthetic qualities of the river.



Hautotara Green Algae



Hautotara Algae

The Martinborough site on Ponatahi Road was similar in appearance with minimal flow in the river, and a stream bed which was covered with thick algal mats. Below is a photograph of the river which illustrates not only the minor channel flowing out of the 'constructed pool' but also the minimal amount of water in the river with the bridge foundations becoming exposed.



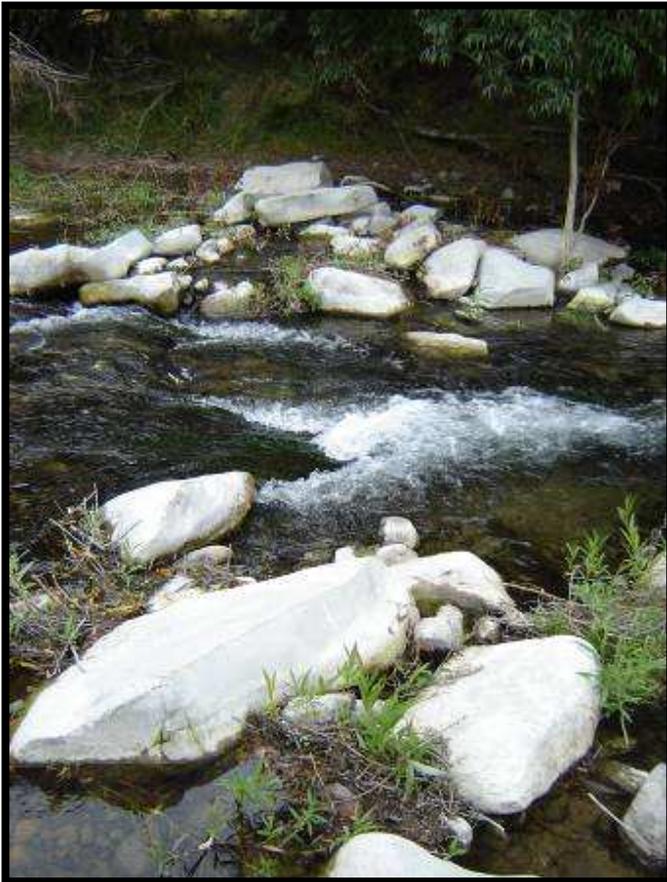
A visit to the Huangarua River at the Ponatahi Road site was repeated on the 10th of February and the Iwi monitor had the following comments and observations;

1. There are thick algal mats;
2. 21 pied stilts were noted on the opposite bank;
3. The river smells, it is a strong musty smell and probably from the algae;
4. There is not enough water, the river is shallow, and it is warm;
5. The river is paru(dirty) and must be nutrient enriched;
6. It would be inappropriate to take kai from here, if you could get it!
7. The river appears dead;
8. The river was never like this as a child growing up in this area.

After spending some time examining the river it was clear that the Huangarua River in its current state was not suitable to provide for Iwi values. The photograph below has been included to illustrate the condition of the Huangarua River at the time of the visit. It shows the bed of the river to have approximately 100% algal cover.



Unfortunately there is no low flow gauging stations on the Huangarua River which means that the flow will need to be estimated and related back to Iwi values. The photograph below was taken at Hikawera on the 19th of January 2011 at one of the narrowest points.



The depth of the river at this point was approximately 30-40cm, but as depicted in the photograph it is quite swift. It is probably 1-2m wide and moving at about 1-2m/sec. Given the above observations, it is estimated that the river at this point is flowing at approximately 1 to 1.5 cubic metres of water per second. It is important to note here that this flow rate is considered to low to provide for Iwi freshwater values.

Recommendations

1. That a low flow gauging station site is established on the lower Huangarua River and some hydraulic modeling undertaken to establish the relationship between flows observed at Hautotara and Martinborough
2. That the 'cease take' flow set for the Huangarua River be 2 cubic meters per second measured at the Hikawera bridge.
3. A catchment scale riparian revegetation program is developed in partnership with iwi to assist in improving water quality, and to mitigate effects from seasonal low flows.

Abbots Creek

Abbots Creek is the main stream that follows the descending eastern route of the Rimutaka Range. The surrounding area in the range is steep and covered almost exclusively in regenerating native bush. The source of the stream is found near the summit of the Rimutaka Range which marks the boundary between the western and eastern iwi. Abbots Creek would have provided a clearly identifiable route between the eastern and western side of the ranges. Parties moving across the range would often rest or camp the night on this journey and Abbots Creek afforded travelers with small clearings and the possibility of catching a few eels for a meal.

The name Abbots Creek is generally applied to the stream when it is in the ranges and as it passes through Featherston. Once out of the township it appears to be called the Otairua Stream. It is the Otairua Stream that flows from Longwood West Road to Lake Wairarapa. Approximately 3km south of the Featherston township is the confluence of the Otairua stream and Donald creek. This is a major tributary and in periods of low flow there is significantly more water in Donald creek than in Otairua/Abbots creek. This could be due to the discharge of Featherston's sewage to Donald creek but the actual sewage discharge volumes are not included in this report.

The stream flows through three quite different zones before entering Lake Wairarapa and each of these different areas were visited to gain an appreciation of the environmental conditions the stream is exposed to. A map is shown below which illustrates the location of various photo-points on both the Otairua/Abbots creek and Donald creek.



The flow observed from the Rimutaka Road site to the South Soldiers site appeared very different at each of the sites. At the Rimutaka Road site the creek was flowing strongly as it traveled toward Featherston. The creek appeared to be clean with no foul odours or algal growth to cause concern about its condition. Two photos have been included below to illustrate its appearance.



Three kilometres downstream from the Rimutaka Road site the creek was observed at the Western Lake Road bridge. Again the creek appeared to be clean and clear but the volume of water in the creek was considerably less than the site upstream. There is no flow data available for the creek but the author would estimate that the flow would be around a third of that observed at the site upstream. The pictures below clearly depict the change in the volume observed.



Although the reduction in flow was easily perceived, the most significant change was noticed at the Longwood West Road site. At this site no water could be found in the stream channel. Even after walking 3-400m upstream, and then approximately the same

distance downstream, no water could be found in the bed of Otairira/Abbots creek. In stark contrast to this absence of water, the dairy farm opposite the dry river bed had dozens of high pressure irrigation sprinklers in operation. The contrast is best illustrated by the pictures below.



The final site observed was at the northern end of Soldiers Settlement Road (south). This site is below the confluence of Donald creek and once again there was water in the stream channel. The nature of the stream had changed considerably from the other sites. At the lower end there were stop-banks constructed on both sides of the river to a height of approximately 3m above the stream bed. The stream bed was made up of predominantly pebbles with much fewer large rocks and boulders, and the substrate was almost entirely covered in a mat of brown algae. The area was explored for places suitable to set a hinaki, but there were no sites with sufficient depth of water to undertake this activity. The shallow and clearly engineered channel can be seen below.



As stated earlier in this report, the sewage from Featherston is discharged into Donald creek. However, this is not the only activity which is compromising the quality of the water found in both Donald's and Otairira/Abbots creek. It appears that storm-water from the town is being discharged into the stream, and stock freely enter the small waterway as it meanders toward the lake. The two pictures below illustrate the affect that stock can have on a small stream such as Donald creek and a large stormwater outlet in the picture on the left. The photograph on the right shows the difference between the area being grazed and a fenced area.



From the observation of the Otairira/Abbots creek and its tributaries it is clear that this waterway is being exploited for; the provision of water for irrigation, the discharge and removal of sewage, the discharge and removal of stormwater, and as a trough for farm stock to access.

Maori Values

As stated earlier, Abbots creek was used as part of a migrational pathway used by both Maori and early Europeans moving between the east and west coasts. The route is acknowledged in the journeys of Haunuihanaia who descended from the Rimutaka summit via this route.

There are three Maori occupational sites that will be briefly discussed in this report which have an association to Abbots Creek/Otairira Stream. The first is Paetumokai which refers to an area just south of the Featherston township. The area received its name through an incident that involved the pet of a chief. The particular pet was a bird that one day went missing. He eventually found his beloved bird caught in a pae (bird snare). The chief named the area around where it was caught Paetumokai meaning, the snare which caught my pet bird.⁵³

⁵³ <http://www.rangitane.iwi.nz/education/index.php/places/maori-placenames/details/2/2/68>

Tauwharerata was another occupational area near modern day Featherston. Its exact location is not known to the author. The third is called Tarureka which is at the southern end of Featherston and very close to Otairira/Abbots creek.

As with all Maori occupational sites, access to Waiora (pure life-giving water) and waimaori (safe, useful water) is a prerequisite for settlement. The water flowing from the Remutaka range would have undoubtedly provided this water in abundance.

In pre-european times and before the drainage work of Lake Wairarapa, the lower reaches of the Otairira creek was once a vast wetland, locating specific sites within the current environ is not practical. What is of greater importance is recognising the values associated to the area. Lake Wairarapa and her people were world famous in Aotearoa for the abundance and quality of eel. Inanga and patiki were of considerable value with seasonal migrations up and down the river. Water fowl and their eggs were also gathered from around the swampy margins. Historical occupational sites would have been restricted to 3 or 4 km inland from the ranges. In this context, the entire length would have been highly important.

The current activities occurring around Otairira/Abbots creek have almost entirely compromised iwi values associated with the waterway. The discharge of sewage into waterways has been opposed by Maori across the country, but still it happens.

“Iwi/hapu are kaitiaki of their environment. Lake Wairarapa and its tributaries have a spiritual and economic association for iwi/hapu in the district. The Maori cultural demand for the maintenance of pure water streams makes despoliation a cultural offence, and a desecration, thus damaging the mauri of the waterway and the mana of the people.” (Lake Wairarapa Wetlands Action Plan 2000-2010, pg 16)

The discharging of stormwater and allowing unrestricted stock to access the stream is causing further harm to the quality and quantity of water found in the waterway.

The ‘stream’ has no water in the channel through large sections of its course which severely reduces instream habitat and restricts the movement of fish seeking areas for refuge. It also appears that there is no monitoring or restrictions imposed for limiting the quantity of water abstracted, or a set minimum flow to maintain ecological values.

Recommendations

1. A water gauging station is installed at the Western Lake Road bridge to establish the flow volume required to maintain a continuous stream from the bridge to the confluence of Donald creek.
2. That the flow volume determined in recommendation 1 is adopted as the minimum flow.
3. That the sewage discharge to Donald creek is removed and irrigated to land.
4. An annual spotlighting monitoring exercise is undertaken at the four sites identified in this report to help determine species recovery in this ‘creek’

Stonestead Creek

Stonestead creek is located east of the Tauherenikau River in the lower Wairarapa valley. The course of the creek closely follows the Tauherenikau River and they are only separated by 1-2km of farmland between its source and its final exit point into Lake Wairarapa. The creek emerges from the foothills between the Tauherenikau and Waiohine Rivers. The creek is made up from two main branches that flow on the terraces above the aforementioned rivers. The creek itself is very small whilst on the terraces and gets progressively bigger as it approaches the lake. The photograph below illustrates the size of the creek as it passes beneath state highway 2, east of Featherston.



Stonestead creek is the old river bed of the Tauherenikau River and as such is directly affected by the residual flows in that waterway. The connection between the Tauherenikau River and Stonestead creek was reported by Te Whaiti.⁵⁴

‘The Otukura Stream is significant to hapu of Ngati Kahungunu ki Wairarapa. The Otukura Stream comprises part of the original Tauherenikau River bed and water from the Tauherenikau still flows into the Otukura Stream via the original bed renamed Dock (Stonestead) Creek. JK Donalds wildlife reserve which takes water from the Otukura through a weir was originally called the Roto Lagoon. The Otukura (and its tributary, Dock Creek) flow directly into Lake Wairarapa, which has enormous value to Ngati Kahungunu ki Wairarapa, and during low flows the water body must have high significance for the lake’⁵⁵

⁵⁴ Cited in Watts, L. 2008. Greater Wellington Regional Council.

⁵⁵ Te Whaiti, H. 2007

The significance of Stonestead creek, the Tauherenikau River, and the Otukura Stream is evident with the statements made by Te Whaiti. Within the report of iwi values produced by Te Whaiti a number of significant values are identified. Although the report was written in direct reference to the Otukura Stream, the physical connection between the waterways means that these values can also be applied to Stonestead creek.

Maori Values

The specific iwi values identified by Te Whaiti and included in the Watts report are included below;⁵⁶

1. Mauri

‘Mauri’ refers to the ‘essence’ or the ‘life-force’ of the waterbody. Important indicators of mauri that Ngati Kahungunu ki Wairarapa have identified are:

- The capacity to renew groundwater flow and surface water stocks. The Otukura Stream has important connections with groundwater and also with Lake Wairarapa.
- Maintaining mahinga kai species and freshwater habitats, including passage for migratory fish species.
- Flow variability including floods so that the river “cleanses” itself.
- Continuity of flow from the source to the sea.
- Naturalness of water quality.

2. Waahi tapu

Waahi tapu sites (sites of special spiritual significance) in the Otukura catchment have not been specifically identified.

3. Mahinga kai

The Otukura Stream and Battersea Drain have been important to Ngati Kahungunu ki Wairarapa in the past as a source of food, particularly tuna (eels) and watercress, but also included flounder, inanga and kōkopu. However, in recent years the mahinga kai value of these streams has declined due to low eel numbers and poor water quality. The iwi would particularly like to see the restoration of the Wairarapa eel fishery (Te Whaiti 2007 pers. comm.). Wairarapa Moana (Lake Wairarapa) is used extensively by tangata whenua for food gathering. As previously mentioned, the Otukura Stream and its tributary Dock (Stonestead) Creek are important for providing water to Wairarapa Moana. The Otukura catchment was historically an important area for growing harakeke (flax), but this is no longer the case. Relatively high groundwater levels are required for growing strong harakeke.

These values must be attributed to Stonestead creek as it is the matua (parent) stream of the Otukura. The Otukura is a tributary to Stonestead creek with the flow in Stonestead creek exceeding six times the measured flow in the Otukura stream at their confluence.⁵⁷

⁵⁶ Iwi values of Mauri, Waahi Tapu, and Mahinga Kai – Cited and copied from Watts, L 2008. GWRC

⁵⁷ Watts, L. 2008. GWRC. Pg 8.

The value of the water bodies to iwi Maori in the general area described cannot be underestimated. The significance of both Stonestead creek and the Otukura stream is consolidated with the positioning of the traditional occupation site Te Rae o Rakaiwhakaari close to the confluence of the two waterways.⁵⁸ Maori culture demands access to waiora (pure water) for their social and spiritual wellbeing, so the location of this site infers that this was readily available from the waterways discussed.

There were other Maori settlements such as Te Whaka-aapaaua and Kaiwaiwai (Kaiwaewae) located to the east-northeast from the head of Lake Wairarapa. These settlements provide further evidence of the importance these streams have to iwi Maori.

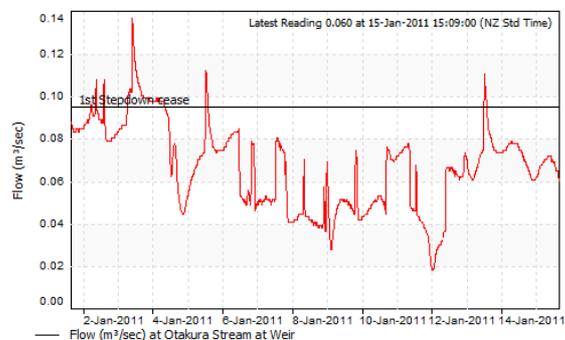
Determining minimum flows for Stonestead Creek

There is currently no flow data available for Stonestead creek to assist in determining minimum flows. As a consequence, the report from Watts (2008) will be extensively used to assist in providing an estimate for the stream. Monitoring by Watts in a period of low flow determined that the flow in Stonestead creek was in excess of six times of that measured in Otukura stream. Watts determined the following in suggesting a minimum flow of 95L/s at the Kahutara Road monitoring site;

‘A flow of 95 L/s in the critical reach of the Otukura Stream (at the Greater Wellington flow monitoring site) is predicted to maintain daily minimum dissolved oxygen above the 6 mg/L threshold for long-term protection of aquatic life.’

The report from Te Whaiti (2007) clearly expressed an understanding of the connection between the two waterways, and the flow from Stonestead creek underground into the Otukura stream. Given this information a minimum flow of six times greater than that suggested for the Otukura is recommended.

The minimum flow for the Otukura stream appears to be 95L/s, however it is unfortunate to see in GWRC flow data records that there is obvious water abstraction occurring when the cease-take volume is reached which is compromising the ability of the stream to provide for aquatic life. The graph below clearly illustrates this occurring.



⁵⁸ Waitangi Tribunal. The Wairarapa ki Tararua Report. 2010. Chapter 1 pg5.

Recommendations

1. That a minimum flow of 570L/s upstream of the confluence of Stonestead creek and Otukura Stream is adopted for Stonestead creek.
2. That revegetation riparian planting work is undertaken on Stonestead creek to reduce the affects increased water temperatures have on instream aquatic life.
3. That a fish survey is undertaken on the lower, middle and upper reaches of Stonestead creek to determine the present fish communities.
4. Further flow investigation work is undertaken on Stonestead creek to determine the hydraulic relationship between the Tauherenikau River, Stonestead creek, and the Otukura stream.
5. That recommendations 2, 3, and 4, are undertaken in partnership with iwi.
6. That a water use investigation is conducted on surrounding water takes to identify persons responsible for abstracting water in times of low flow.

Tauherenikau River

Like so many rivers in the Wairarapa the Tauherenikau received its name from Haunuihanaia. After climbing the Rimutaka (Remutaka) Range and giving the name Wairarapa to the area, he descended into the valley below. He soon came to a river which had numerous small huts scattered along its banks. He then named the river and the area, Tau-whare-nikau after the huts which were made from the large nikau palm leaves.⁵⁹

This is the earliest account of occupation in the area and demonstrates that the river once fed a good number of people. The current location of the small settlement of Tauherenikau is likely to be close to the original small huts encountered by Haunuihanaia. However, it is possible that this area could have easily been part of Lake Wairarapa, and it is only dry now due to the significant drainage works which have occurred over the past 100 years. It is estimated that only 40 – 47% of the wetlands remain in the lower Wairarapa since early European settlement.⁶⁰ It is more likely that the original 'whare-nikau' stood on the elevated terrace approximately 2km north of the present settlement.

There is little information available to inform the author about the settlements which would have been located adjacent to the Tauherenikau River, but it is clear that the route to and from the Wairarapa to Kaitoke was well traveled by Maori and early European settlers. The importance of the area was highlighted by Te Manihera Rangimatara a well known Rangatira from the area. On the 30th October 1948 Manihera wrote to the Kawana (Crown/Government) protesting the sale of land near the Tauherenikau⁶¹. In his letter he states that the surrounding land had not been sold and it is the only remaining land for some of his people. He also mentions the value the land has for gathering kai, although no species are stated. He goes on to invite the Kawana to visit so a conversation around the sale of the land can be discussed.

It is important when considering sites of significance to Maori that the entire lower valley system would be inundated from time to time due to flooding events and the closure of the Lake Onoke to the sea. Lake Wairarapa would have extended significantly further north from its present location toward Featherston and Tauherenikau. There were numerous occupational sites on the eastern side of the lake which extended from Kaiwairua (state highway 53) down to the sea. From the former lake edge the Tauherenikau River would have only traveled approximately 5km before entering the Tararua Ranges.

The upper reaches of the Tauherenikau River are located deep into the Tararua Range and were not extensively used by early Maori. However, it is recorded in Waitangi Tribunal reports that the upper Tauherenikau River was navigable by waka.

⁵⁹ Kawana, M. 2004. Pg 7

⁶⁰ DoC. Lake Wairarapa Wetlands Action plan. 2000 – 2010. Pg 3

⁶¹ National Library of NZ, object ID 1031426

‘Waka could also be dragged across the sand bar to Lake Ōnoke, then paddled up the lower Ruamāhanga River to Wairarapa Moana : the upper Ruamāhanga and Tauherenikau Rivers were navigable in the years before the 1855 earthquake.’⁶²

As the river emerged into the foothills and plains it was a favorable place for the harvest of forest birds, this area was known as Te Ururoa. Once on the Wairarapa plains the Tauherenikau was a food basket full of fish species and water fowl. The closer to Wairarapa Moana the river gets, the greater the abundance of fish and bird life.

The Tauherenikau River delta is a place rich in both plant and animal diversity. The river is teeming with cock-a-bullies, juvenile and mature patiki, inanga, and tuna. All of these species are taonga to iwi Maori in the Wairarapa. The importance of these species were recognised in the Lake Wairarapa action plan which made the following statement.

“Lake Wairarapa is the defining entity for the people of the Wairarapa. For centuries Lakes Wairarapa and Onoke and the associated wetlands have been a vital food source (he kaiwairua) for Maori of the Wairarapa. While various species of whitebait, flounder, fin fish and water fowl were taken, it was tuna that were historically most important to Maori. This significance extended beyond just the subsistence of those living near the lake as eels were an important commodity traded with groups both further north and in the South Island.” (Lake Wairarapa wetlands action plan. 2000. Pg 27)

Both Maori and European settlers relied on the provisions of the waterways and the surrounding environment. A quote from the journals of William Workman who lived at Te Kopi had the following recollections of not only the fisheries but also the wild food utilised by communities.

“We had plenty of fish, wild pork, kumaras, wild duck, woodhens [Weka]. There was no beef or mutton. Sometimes we had flour and sometimes bread was made of crushed fern roots after the Maori fashion. I have often seen my mother beating out the root after drying it in the sun. There was also quantities of eels to be got out of the Wairarapa Lake and the creeks and the streams in the surrounding country. As far as I remember we had no European food at all, while a boy. It was all native provisions.”⁶³ (William Workman 1846)

Workman makes an interesting reference in his journal to the fern roots used to make breads and other starch products. The fern-root is known as the *aruhe* or *rahurahu* as it is sometimes called. Interestingly, to the north west of the Tauherenikau settlement, on the opposite side of the river is an area known as Taha Aruhe. Taha translates as ‘side’ and Aruhe is ‘fern’, the obvious translation is fern-side. This strongly suggests the area was used for the collection of fern roots as food provisions.

⁶² Waitangi Tribunal. The Wairarapa ki Tararua Report. 2010. Pg8

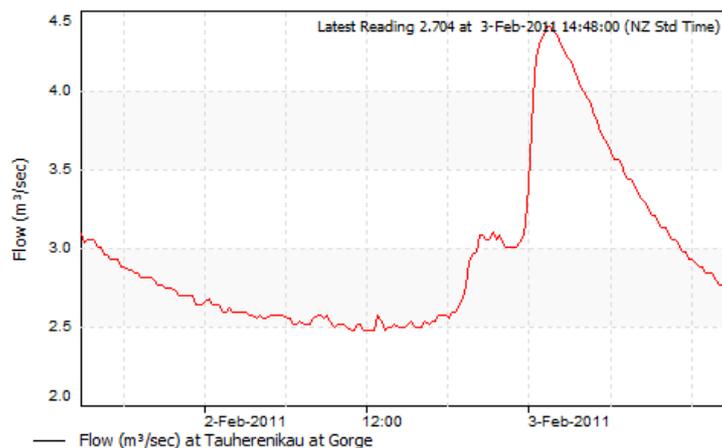
⁶³ <http://freepages.history.rootsweb.ancestry.com/~julesw/workman/william.html>

The values associated with the Tauherenikau River are intimately connected to Lake Wairarapa. The Tauherenikau relies on Lakes Wairarapa and Onoke, and the Ruamahanga River to provide an essential connection to the sea. It is this connection that allows for the migrational passage of fish to and from the mountains to the sea. In order to protect the fishery values of the Tauherenikau, the Ruamahanga River and the lakes need to be of an appropriate quality. It is this lake quality that is causing some concern for local iwi. In February, local Maori leader Haami Te Whaiti expressed his concerns about the condition of Lake Wairarapa and described part of the problem.

“Mr Te Whaiti said the lake had been steadily declining in vigour since post-1960s river diversion schemes began sluicing waterways north of the Tauherenikau River into Lake Onoke and not Lake Wairarapa. ‘That has kept refreshing waters and vital nutrients from entering the big lake and today about 90 per cent of the water in there is what you could call old, or stagnant. The only turbulence for the big lake now is the wind.’”⁶⁴

With this in mind, the greatest threat to the values associated with the Tauherenikau River comes from the lake that supplies it with thousands of juvenile fish. The fish species occupying the Tauherenikau catchment include, tuna, koaro, inanga, kokopu, trout, patiki, kanae (mullet), bullies, and piharau (Lamprey). Each of these species have their own niche requirements and reside only in some reaches of the river. As an example; the koaro, trout, piharau, and longfin tuna would have been more prolific in the middle and upper reaches of the river. Kanae, patiki, and inanga were in far greater in abundance in the lower reach of the river, and would not be found in the upper reaches of the river at all.

In order to maintain maori fisheries values there is a requirement to have a reasonable flow in the main channel of the river from the headwaters to the confluence with Lake Wairarapa. A series of visits to the Tauherenikau River offer the following insights.



The picture above was taken at approximately 12pm on the 2nd of February 2011. The corresponding flow rate at that time was 2.5m³. Even at this flow the channel was very

⁶⁴ Wairarapa Times-Age, 16th February 2011.

narrow in places and was less than 4m wide. This narrow channel with swift moving water would have been difficult for fish to migrate upstream against but it would have been possible.

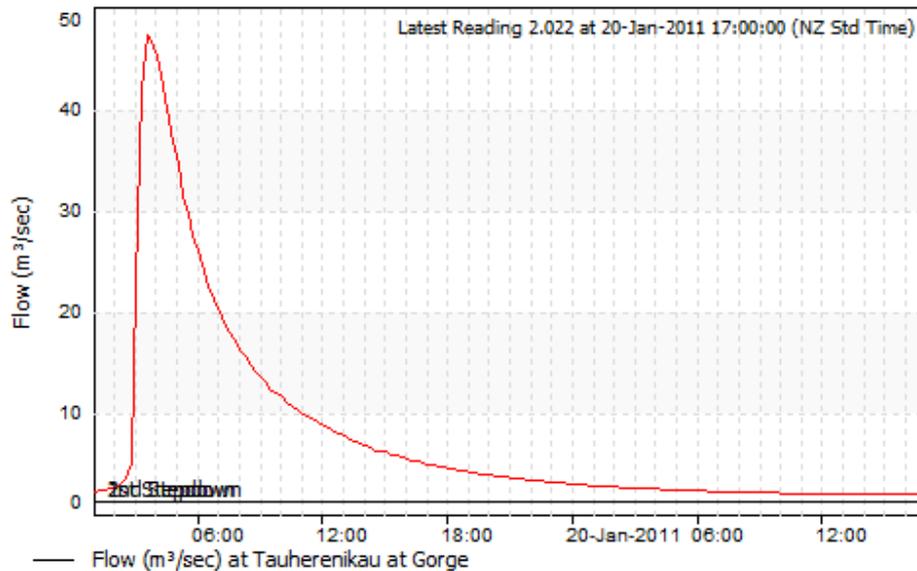
It appears that the first step down level on the Tauherenikau River is 1.35m³ which is close to half of what was observed on the 2nd of February. The appearance of the river was absolutely clear with only minor algal growths. Walking on the rocks was easy with no slipping due to algal growth, and the appearance of the water was enticing for recreational use.

The river was visited previously on the 19th and 20th of January 2011. Again the river was clean looking and the appearance would not deter people from entering the water. The river was examined at two different sites, the first was at the state highway 2 bridge and the second was at the southern end of Donalds Road.

It was clear that at the bridge site there was considerably less water in the channel than at the southern site. It is assumed that as the water passes over the gravels east of Featherston a considerable amount is lost to groundwater. As the river approaches Lake Wairarapa the higher water table forces the water back to the surface and a greater volume of water is observed. Below are two photographs. The picture on the left is the bridge site and the picture on the right is the located closer to the lake.



Unfortunately the river had a fresh through it on the 19th January 2011 early in the morning. The Tauherenikau however quickly drops back to its base flow and at the time of observation it had fallen back to approximately 2m³. The graph below illustrates the flow data in the Tauherenikau River on the 19th and 20th of January.



From the observations made on the two separate occasions the Tauherenikau River appears to be in good health and maintaining good water quality. As stated previously the greatest threat to the Tauherenikau River, its ecology and Maori values appear to be maintained at the river levels observed.

Recommendations

1. That the 1st step-down level of 1.35m³ is adopted as the new cease-take level for the Tauherenikau River.
2. A fish survey is undertaken in the headwaters of the Tauherenikau to determine the species present and the importance of the migrational connection to the sea.
3. A cultural monitoring program is developed to be implemented in the middle and lower reaches of the Tauherenikau River and one of the measures is the ability to navigate the river using waka.

Summary of findings

The primary role of the Cultural Values for Wairarapa Waterways Project was to identify Maori values associated with 14 waterways found in the Wairarapa Valley. These values will then be used to help inform the development of minimum flow volumes for the identified waterways.

An outstanding theme that developed through this project was the high number of traditional occupational sites which were located either next to or close to all of the waterways investigated. This finding provides the greatest insight into the Maori values connected to the waterways being investigated in the study. The importance of occupational pa, marae, and kainga cannot be undervalued as each of these sites relied on the surrounding environment to provide for all of their fundamental requirements. The environment was required to provide resources which supported a kaupapa Maori worldview (foundation of cultural normalities). This required the nourishment of the peoples; wairua, hinengaro, tinana, and whanau. Within these themes there were various activities which required water of various quantities and qualities.

Table 1. Themes and activities

THEME	ACTIVITIES
Wairua (spiritual)	Tohi rites, removal of tapu associated with war/death, baptisms and blessings of people and items.
Tinana (physical body)	Washing after child birth or menstration, water for cleaning and cooking, collection of food and weaving resources, preserving and storing food.
Hinengaro (mental wellbeing)	Collection of rongoa (healing plants), drinking water (mental clarity), teaching and learning (education), meditation.
Whanau	Transportation (waka), recreation, gathering of building resources, positioning of Pa, manaaki (sharing) the bountiful resources

The themes and activities included in Table 1 are no different to the essential services and infrastructure provided in almost all settlements that we see today. The difference is that these services were provided from the environment surrounding the occupational area. This is nothing like what we experience today. People wanting to nourish their spiritual wellbeing (Wairua) visit churches and others house's of religion and prayer. People nourishing their physical wellbeing (Tinana) go to the supermarket for food, their bathroom to wash, and building suppliers for goods. Our mental wellbeing (Hinengaro) is provided for by the doctors surgery, schools and universities, and our water is chemically treated to make it safe to drink. People celebrate each other (whanau) through the network of roads that link us, gather for sporting events, and share food and resources during times of celebration. Traditional Maori occupation sites had all of the services

mentioned above provided for by the rivers/streams and environs which surrounded them. In order for a Maori community to survive, the activities associated to the themes in Table 1 were a prerequisite. If a site and its environs failed to provide for the wellbeing of its people it would not have been suitable as a place for occupation. This is the same as a town without a supermarket or general store, without doctors, roads, schools, or churches – the place does not survive as a community.

It is due to the prerequisite nature of the four themes discussed, that it is assumed each of the occupational sites identified in Table 2, met these requirements. Owing to this, the shaded spaces in the matrix represent the basic theme requirements from Table 1, as being met. Where there is text in cell spaces, this identifies the particular emphasis for which the site was well known.

Table 2. Summary of values

River	Occupation History	Wairua	Tinana	Hinengaro	Whanau
Ruamahanga River	Rua Taniwha Pa Te Tirohanga a Hinetearorangi Pa (Hidden Lakes) Double Bridges Pa Mokonui Kainga Matapihi Pa Pahauhau Pa Te Ore Ore Marae Hawaikiraunui Pa Tukuwahine Pa Potaerau Pa	Te Hapuakorari Tuere Taniwha and wahi karakia. Urupa. Tohi rites. Rakairuru taniwha	Tuna, inanga, koaro, kokopu, patiki, koura, kanae, kakahi, piharau. Food storage Washing areas Weaving resources	Drinking water Collection of rongoa	Tauranga waka at Hidden Lakes Swimming, waka transport, Numerous Pa - hui
Waipoua River	Kaikokirikiri Pa Matua Pa Akura Pa Ngaumutawa Pa Matawera kainga	Patiki taniwha Tohi rites	Tuna, koura, patiki, trout, watercress	Collection of rongoa Drinking water	Swimming, Kiriwhakapapa migration route
Kopuaranga River	Matapihi Pa Te Wao nui o Kairangi 'Maori Paddock' off Dorsetts road (Kohekutu)	Urupa. Access to Rangitumau maunga	Kakahi, koura, tuna, kokopu, inanga, trout. Te Wao nui – forest resources	Rongoa collection	Migrational route, deep swimming holes
Waingawa River	Puunanga Pa Kaituna		Tuna and koura. Resources from wetlands	Drinking water	

Makoura Stream	Ngaumutawa Pa Manga-a-kuta Pa	Tohi rites, women cleaned after child birth below Ngaumutawa Pa	White Koura, Kanga pirau, karaka and tawa steeping. Tuna.	Lore of wananga shared at Ngaumutawa Puna for drinking water	Playground
Booths Creek and Parkvale Stream	Pahikatea Pa	Removal of tapu, tohi rites.	Watercress, wai puna(springs), tuna, kakahi, patiki, trout, inanga, koura, piharau. Washing areas, weaving resources	Hikurangi College Papawai and Kotahitanga movement. Drinking water and rongoa collection	Streams were a playground. Kotahitanga
Taueru River	Taueru Pa Ti Kouka	All aspects of wairua. Taniwha – Ngarara Huarau. Urupa and ana koiwi.	Maori swamp, tuna, kanga pirau, wai paua/koura, koura, inanga, trout, watercress	Taumataraiia whare wananga	Swimming holes, migrational route
Huangularua River	Hangarua Pa		Large tuna – kokoputuna, inanga, patiki		Migrational pathway to the coast
Waiohine River	Te Paparu Pa at Ahikouka. Waihakeke and Urupa - north bank of river.	Urupa on the banks of river and unmarked graves.	Tuna, inanga, piharau, patiki koura, and kakahi. Washing places.	Rongoa in lowland reaches lower end	Waka transportation
Makahakaha Stream	Hurunui-o-Rangi Marae west of the stream. Poupourangi Pa was close to the stream	Uwhiroa swamp – resting place of Ngarara Huarau. Te Ana o Parakawhiti Baptisms	Pa Tuna – eel weirs, koura, watercress, inanga. Wai maori – for washing and blessings	Purakau provide lessons around behaviour. Drinking water.	Whare whanau – birthing house, cultivation areas
Stonestead Creek	Te Rae o Rakaiwhakairi		Tuna, inanga,		

	(associated) Kaiwaiwai (Kaiwaewae)		kokopu, patiki, watercress. Harakeke and raupo		
Tauherenikau River	Tauherenikau		Tuna, inanga, birds, patiki, kanae, harakeke, raupo, aruhe(rahurahu),		Waka transportation
Abbots Creek	Tauwharerata kainga Paetumokai		Wai maori, birds, tuna		Migrational route

In order to maintain the values expressed in both Tables 1 and 2 there is a water quantity and quality requirement. The quality required to provide for specific values such as Tohi rites or baptisms is a subjective value. These values are based around the wairua of an area and appearance of the water is critical for this to occur. At sites such as the Makahakaha Stream the proliferation of algae and the murky appearance of the water immediately meant that this area was no longer suitable for baptism's in its current state. It is important to recognise that for various Maori values, it is the quality of the water which is often more important than the quantity of water. It is more valuable to have a small flowing stream of excellent water quality than a large river of extremely poor quality. This is a very important note because the minimum flow volumes included in Table 3, are based on the quantities required to support fish life and improve aspects such as recreational value.

Table 3. Summary of flow recommendations

Waterway	GWRC minimum flow value Regional Freshwater Plan	Suggested minimum flow to support Maori values
Ruamahanga River	2400L/s at Wardells 8,500 L/s at Waihenga	10,000L/s at Wardells
Waipoua River	250 L/s at Mikimiki	500L/s 'cease take' limit (Mikimiki)
Kopuaranga River	270 L/s at Palmers Bridge	600L/s 'cease take' limit (Palmers Bridge)
Waingawa River	1100 L/s at Kaituna	2500 L/s 'cease take' limit (Kaituna). NB concession made for Masterton water supply
Makoura Stream	No value set	To be determined – lack of data
Booths Creek and Parkvale Stream	No value set	Parkvale 150L/s (Renalls weir) Booths 60L/s (Old Mill)
Taueru River	No value set	600L/s 'cease take' limit (Te Whiti rd bridge)
Huangarua River	No value set	2000L/s 'cease take' limit (Hikawera)
Waiohine River	2300 at gorge	3570 L/s (Gorge)
Makahakaha Stream	No value set	80L/s 'cease take' limit (Gladstone Rd bridge – Te Whiti end)
Stonestead Creek	No value set	570 L/s (Otukura confluence)
Tauherenikau River	1100L at gorge	1350L/s 'cease take' limit (gorge)
Abbots Creek	No value set	To be determined – lack of data

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