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# **Cultural Impact Assessment of the Tukituki Proposed Water Storage Dams**

## **Final Report**

**Prepared for the**

**Hawke's Bay Regional Council**

**Te Manga Māori  
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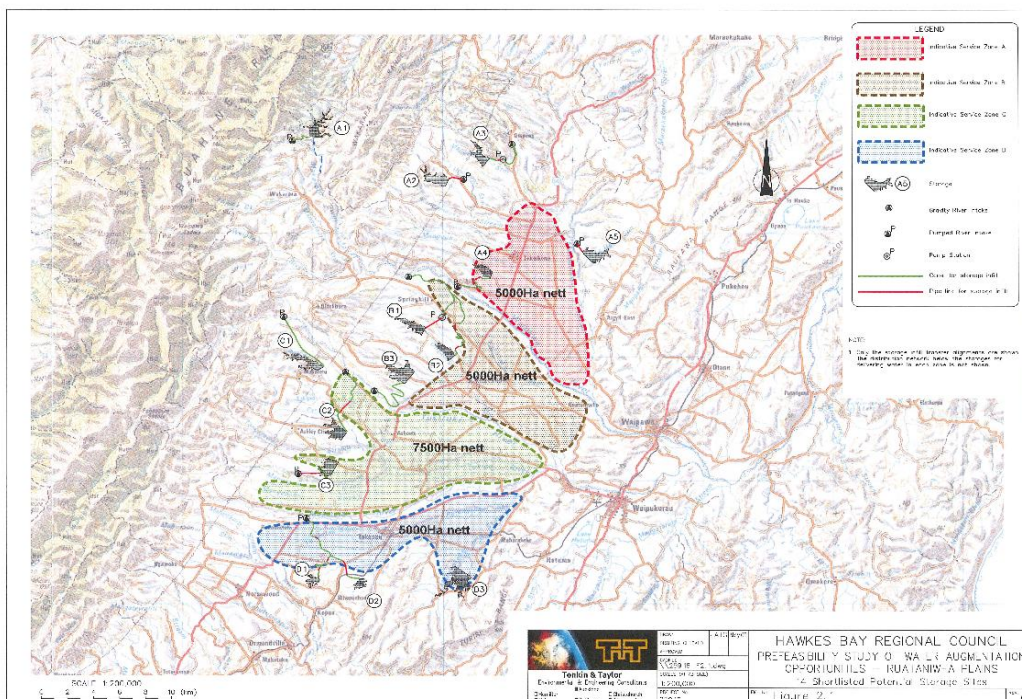
## Section One: Overview

### 1.0 Background

The Ruataniwha plains lie to the west of Waipukurau in Central Hawke's Bay. Following early European settlement and clearance of the vast tracts of indigenous forest, this area has historically been used for pastoral farming with some cropping where soils proved suitable. With the advent of irrigation from surface water and ground water, farming has gradually become more intensive. The main source of irrigation from surface water has been the Tukituki River and its numerous tributaries. In recent years the Tukituki has become over-allocated in terms of the regional plan. In addition, there is conclusive evidence of a high level of interaction between ground water and surface water, with ground water abstraction affecting the flows of the Tukituki River and its main tributary, the Waipawa River, where they exit the Ruataniwha plains through the Turiri Range, before flowing east and northeast to the sea. Further development of the plains through land use intensification is effectively on-hold, as water storage options are investigated. Reliable water storage can potentially open up thousands more hectares of land for irrigation, and boost the local and regional economy.

Hawke's Bay Regional Council (HBRC) has undertaken a pre-feasibility study and identified 14 potential sites within the Ruataniwha plains for large scale water storage (see Figure 1.0 below). The feasibility study has a shortlist of eight dam sites and their potential distribution areas. As part of the feasibility study, the HBRC has recognised the importance of undertaking a cultural impact assessment (CIA) to identify the potential benefits and issues for tangata whenua as a result of the proposed development of these eight sites (see Appendix One for location map).

**Figure 1.0: Location of the Original 14 Sites Proposed**



## 1.1 Purpose

The CIA will provide technical information from a tikanga tangata whenua perspective that will focus on identifying any areas of cultural significance on specific sites of the proposed water storage and irrigation scheme. There will be a description of cultural values and traditional relationships with ancestral lands, water, sites, wāhi tapu and other taonga associated with the Tukituki catchment. The focus on a 'catchment' incorporates all the tributaries, wetlands, beds and margins associated with the Tukituki River. The CIA will also investigate any environmental issues of concern in terms of their relationship to cultural values such as, the mauri (life giving capacity) water quality and cumulative effects of land use intensification and other concerns.

## 1.2 Objectives

The objectives of the CIA are to:

- Assess eight specific dam sites and areas where the storage dams and irrigation zones are located to identify any wāhi tapu, wāhi taonga and other areas or natural resources of cultural significance, and the cultural values associated with them within the traditional boundaries of the hapū/ marae of the Ruataniwha plains.
- Assess the cumulative effects on the health state of the Tukituki River and tangata whenua in terms of the relationship to values, mauri, water quality, indigenous biodiversity, and other concerns within the upper Tukituki catchment.

## 1.3 Limitations in the Scoping of the CIA Study

The Tonkin and Taylor report produced for the pre-feasibility study on 'water augmentation opportunities for the Ruataniwha plains' recommended an assessment of cultural values of sites, taonga survey and effects of land-use intensification (2009). The CIA study has been able to assess cultural values in relation to the proposed sites and to identify taonga species within the Ruataniwha region. However, providing a more comprehensive gap analysis on the effects of water take and land-intensification is limited by the information that is available at this time. For example, it is difficult to assess the nature and extent of effects on cultural values of any water takes additional to those already granted. The Tonkin and Taylor report gives two options for taking water:

...Taking water during winter high-flow periods only...taking water during winter high-flow periods plus during significant rainfall events during the summer (2009:25).

This raises important questions on whether to augment flows in the main stem of the river or to ascertain how low the minimum-flow limits might be in the river? The report provides information on water quality best practice guidelines for land management in the hope that these will mitigate adverse effects of land-use intensification. The Environmental Management Committee of the HBRC have also been discussing the Tukituki water quality which has been adversely affected by point source discharges and non-point sources derived from agricultural activities (2008).

The same report acknowledges that the true effect of any land use change could take many years to manifest itself in changes to ground water or river water quality. Further, little is known on how ground water take affects the surface water flows, either directly through the spring flows or reduced base flow (2008). There are also the discharges of treated domestic and industrial wastewater from the oxidation ponds at Otane, Waipawa and Waipukurau in particular discharging into the Tukituki River. All these issues are still unresolved and until more information is available, it will be difficult to accurately assess their impacts on tangata whenua values.

The Ministry for the Environment and the Parliamentary Commissioner for the Environment have both identified land-use intensification as a primary source of water quality decline, particularly in lowland rivers and streams (PCE, 2004). The HBRC are still not clear on the nature or extent of the effects of increased land use intensification on the hydrology and surface water quality, ground water recharge, or potential contamination within the Ruataniwha aquifer, and other variables. Further, the council have not been able to effectively regulate present land-use activity sufficiently to prevent loss of water quality, particularly in the smaller tributaries on the Ruataniwha Plains (HBRC, 2004). The council is currently investigating these issues in more depth.

The CIA is part of a larger feasibility study that involves other technical reports to address a range of issues. As new information has evolved (ie, through the geology reports produced) some of the six sites were no longer viable while others from the original 14 sites were re-considered. The CIA has now focussed on eight sites with additional changes made in size, location, engineering and other features.

**Recommendation:** That the HBRC will consult with marae/ hapū directly on any changes, updates and technical reports produced. This will ensure tangata whenua are able to fully participate in decision making, monitor changes, mitigate any potential adverse effects on the ecological health of the waterway and re-assess potential impacts on cultural values as new information is made available.

#### 1.4 Tangata Whenua, Mana-Motuhake

The term tangata whenua literally means people of the land who, in this context were the Māori, first inhabitants of Aotearoa. Through a long association with Aotearoa, Māori have established their turangawaewae – meaning the foot stool of traditional knowledge, cultural identity and belonging to a particular takiwa or area. Human identity is “literally grounded” (Durie, 2003:89). People reaffirm their turangawaewae to an area through naming landscapes after ancestors of great mana or prestige, such as paramount mountains, rivers, rocks, trees, waterfalls and other features. The environment determines the people bringing together Hapū understanding with Ira Atua (spiritual realm) so that a place and its knowledge are inseparable.

The principle of mana-motuhake refers to having autonomy, self sufficiency and authority. The mana-motuhake of whanau or family was sustained through whakapapa connections and protected under the mantle of the Hapū.

Te Taiwhenua Ki Tamatea is the governing body that represents a significant place in the cultural and historical heritage of Ngāti Kahungunu Iwi. The Taiwhenua is

currently restructuring to increase opportunities for marae/ Hapū participation to achieve their aspirations for self-determination in education, health, social, environmental, economic and political development. The Taiwhenua is re-establishing their Environmental Group and representatives are currently part of the Tukituki stakeholder group.

Table 1.0 (below) provides details on the various marae/ Hapū within the Ruataniwha plains and the representatives on the governance board of Te Taiwhenua Ki Tamatea.

**Table 1.0 Marae/ Hapū Representatives for Taiwhenua Ki Tamatea**

<b>Marae</b>	<b>Representative</b>	<b>Hapu</b>
Pukehou Marae	Liz Graham	Ngāti Pukututu Ngāi Te Rangitekahutia Ngāi Te Hurihangaiterangi Ngāi Te Whatuiāpiti
Mataweka Marae	John Rata	Ngāi Te Whatuiāpiti Toroiwaho Rangitane Te Hauapu
Tapairu Marae	Catherine Pekepo	Ngāti Mārau
Pourerere Marae	Jill Munro	Ngāi Te Oatua
Rongo o Tahu Marae	Roger Maaka	Te Aitanga o Whata Rangitane Ngāi Tahu Ngāi Toroiwaho Ngāi Te Kikiri o Te Rangi
Te Poho O Whatuiāpiti (Rakautatahi Marae)	Frank Kotua	Ngāi Te Whatuiāpiti Ngati Kikirioterangi Toroiwaho Rangikahutia Rangitotohu Ngāi Tahu Rangitane
Rongomaraeroa Marae	Marama Kani	Ngāti Kere Ngāti Manuhiri Ngāti Pīhere
Waipukurau Community Marae	Jenny Smith	Nga Hau E Wha Ngāi Te Rangikoianake

**Recommendation:** That the HBRC will continue to consult with Te Taiwhenua Ki Tamatea and marae/ hapū which will acknowledge tangata whenua values within the Ruataniwha plains environment and taonga species. This will strengthen our sustainable relationship into the future.

### **1.5 Relationship to He Toa Takitini Claimant Group**

In 2003, the “umbrella” statement of claim for the Heretaunga and Tamatea Inquiry District (Hastings and Central Hawke’s Bay Districts) was lodged with the Waitangi Tribunal. The claims are represented by He Toa Takitini on behalf of the claimant

group bringing together several claims concerned with breaches to the Treaty of Waitangi 1840 with regard to:<sup>1</sup>

- Land base and resources;
- Rivers and waterways (including the Tukituki catchment);
- Old land claims;
- Waipukurau transaction (and in particular Lake Whatuma);
- Failure to provide alternatives to sale;
- Crown purchase transactions, methods (such as the Gwavas Forest Park); and,
- Other grievances lodged alongside individual claims (Bassett & Kay, 2006).

The claim concerning “environment” refers to the failure of the Crown to recognize Hapū rights to exercise their tinorangatiratanga (self determination) and kaitiakitanga responsibilities. Much of their traditional lands were destroyed or changed such as many of the traditional habitats (ie, bush, rivers, swamps, wetlands, lakes). Hapū access to indigenous flora and fauna for cultural harvesting was severely impacted and the introduced exotic flora and fauna were not adequately controlled, causing further degradation and depletion of mahinga kai resources. The claim also highlights the destruction to wāhi tapu sites of significance such as ‘Ngā Kai Hinaki a Whata and Mahinata Kahukura Takapau.’ Other specific areas of concern have included the overflow from oxidation ponds in and around Waipukurau which have contributed to pollution of surrounding land and waterways within the Tukituki catchment in particular.

The HBRC will need to carefully consider the implications of these pending Waitangi Tribunal claims in terms of: the specific location of the water storage dams; participation of tangata whenua in the governance and management of the irrigation project; mitigating past, present and future effects on the ecological health state of the Tukituki catchment and other areas of concern.

**Recommendation:** That the HBRC will continue to consult with He Toa Takitini Group to ensure an update on the progress of the various Tamatea Tribunal claims in particular and to continue discussions on the implications of Treaty settlement in relation to specific sites proposed, negotiation of partnerships in the water management of the Tukituki catchment and other relevant concerns.

## 1.6 Relationship to Ngāti Kahungunu Ki Uta, Kahungunu Ki Tai

The Iwi has been facilitating a series of wānanga to be held throughout the Kahungunu rohe which is due to end in March 2011. The focus is on the development of hapū rohe moana, awa, waiū management plans. The HBRC will need to carefully consider the potential implications of Hapū management plans being developed within the Ruataniwha plains and in particular, the management of freshwater fishery and other taonga species.

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1 (Bassett & Kay, 2006)



**Recommendation:** That the HBRC will establish a process to consult with marae/hapū within the Ruataniwha plains to discuss the development of marae/hapū management plans and any potential implications for the proposed water storage scheme.

## 1.7 Regard to the Resource Management (RMA) Act (1991) and Amendments

The RMA is the mechanism under which the natural and physical resources of New Zealand are to be managed. Part II of the RMA provides for tangata whenua considerations. Section 5, 6, 7 and 8 set out key requirements for what must be considered when exercising functions under the RMA.

### *Section 5: Purpose*

*(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.*

*(2) In this Act, “sustainable management” means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well being and for their health and safety while -*

*(a) Sustaining the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations;*

*(b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*

*(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment, and*

*(f) The protection of historic heritage from inappropriate subdivision, use, and development.*

The consideration of cultural wellbeing implies a requirement to protect anything important to tangata whenua and includes spiritual and traditional relationships within the Ruataniwha plains. Marae/ Hapū of the area are enabled to provide for their social and cultural wellbeing.

The duties and the obligations the RMA imposes are for all people who exercise functions or powers under the Act in relation to the use of natural resources.

*Section 6: Matters of national importance - In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:*

*(e) The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga.*

There needs to be some definition of natural character (ie, health state of ecosystems, rivers, streams) and some guidance provided on the point at which the cumulative effects of water take and land intensification interferes with the natural character of water flows, water quality and so forth. The HBRC and other local Authorities are obliged to both recognise and to provide for tangata whenua values and traditional relationships with their ancestral lands, water, sites, wāhi tapu and other taonga which are deemed to be of **national importance**.

*Section 7: Other matters - In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to –*

*(a) Kaitiakitanga...*

The concept of kaitiakitanga invokes stewardship, involvement in decision making, equal partnership and participation in the management of taonga tuku iho (ie, rivers and water quality, the intrinsic values of ecosystems and environmental quality). The HBRC and other local Authorities will need to have particular regard to the concept of kaitiakitanga when fulfilling the functions under the RMA. Tangata whenua exercising their kaitiaki responsibilities require knowledge and focussed information gathering on environmental quality and understanding of the characteristics of natural taonga potentially affected by water take, land intensification and other concerns.

The HBRC have stated their commitment to developing a more effective partnership with Māori, with full regard to the ethic of kaitiakitanga:

...a mutually beneficial partnership arrangement and a proactive role in Treaty settlement negotiations. Fuller incorporation of Māori values associated with water is a critical issue in relation to building and maintaining relationships.<sup>2</sup>

*Section 8: Treaty of Waitangi - In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).*

The HBRC and other local Authorities are obliged to take into account the principles of the Treaty of Waitangi when fulfilling functions under the RMA and includes the protection of taonga, mauri of rivers, streams and water quality, wāhi tapu and other tangata whenua values. It is reasonable for the HBRC and other local Authorities to ask tangata whenua for guidance and direction of what these values are.

**Recommendation:** That the HBRC and other local Authorities are required to have regard to tangata whenua marae/ hapū within the Ruataniwha plains when exercising functions under Section 5, 6, 7, and 8 of the RMA.

## **1.8 Methods: Kaupapa Māori Philosophy**

The term Kaupapa Māori is widely recognised and applied across a wide range of disciplines including resource management and ecological health (Smith, 1999), resulting in greater acceptance of Māori cultural norms, practices and preferences (Durie, 1998). Kaupapa Māori provides a dynamic framework for honouring Māori cultural values and research practices while informing the qualitative methods used in this project.

A key principle underpinning the philosophy of Kaupapa Māori is the concept of Tino Rangatiratanga. This is defined as self determination, autonomy, and independence.

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<sup>2</sup> HBRC Environmental Management Committee 11 November, 2009: Agenda Item 9.

Māori were guaranteed under the Treaty of Waitangi to have control over their political, cultural, environmental, economic and social destiny. The transformative nature of Kaupapa Māori theory seeks to strengthen the rights of Māori to determine for themselves their cultural values in particular.

Kaupapa Māori philosophy provides the context for the qualitative methods used in this report and are outlined below:

#### Literature Review

Sources included: District and Regional council reports, historical Hapū and Iwi records on any wāhi tapu areas of significance; reports produced from government agencies such as the Department of Conservation and Waitangi Tribunal; historical documents and other publications and sources. The literature review provided background information on the relationship of tangata whenua to the Ruataniwha plains. They also provided insight into understanding the cumulative effects on the mauri, water quality and ecological health of taonga species, biodiversity within the Tukituki catchment.

#### Interviews with Tangata Whenua

Consultation hui was initially held with Te Taiwhenua Ki Tamatea to gain consent and access to marae and hapū members for focus group and one-on-one interviews. These interviews discussed tangata whenua values and their relationship to the area. They also sought to identify and provide insights into issues of concern and potential benefits of the proposed water storage scheme dams. Transcripts were circulated for feedback, amendments and additional information gathered. A draft of CIA findings was presented to the Tamatea Taiwhenua before the final CIA report was submitted.

Tangata whenua visits to each of the eight proposed sites were also arranged where marae/ Hapū members had an opportunity to ask questions with local farmers, HBRC member and other environmental managers. An information pack was provided to marae/ Hapū members and included location maps, a video recording of each proposed site, power point presentation and hand outs.

#### Analysis Framework

The Haumanu Taiao Ihumanea model incorporates cultural and spiritual values into ecological health management and the sustainability of taonga. There is a clear process for gathering information and for assessing the cumulative effects on the ecological health state of the Tukituki catchment (Wakefield, 2008). The conceptual framework describes four health states outlined below:

**Te Pito Health State:** The first health state represents the authentic, original and optimal health state of taonga. Tangata whenua inter-connections with their ancestral lands, water, sea and all living things are dynamic and vibrant. Ecosystems have the capacity to restore the balance of health to the mauri life force of taonga. For the purpose of this CIA, tangata whenua values outline the ancestral relationship with the environment and the various taonga species of cultural significance from ki uta ki tai – mountain to the sea.

**Parirau O Te Mauri Wai:** This state represents the transitional phase of historical and contemporary causes and effects altering the life force. It reduces the capacity to regenerate and restore the vibrancy and vitality of the taonga to its former authentic health state. Within this health state the taonga at most risk are prioritized. In the context of the CIA, the water flow and quality of the Tukituki River, streams and tributaries and the health state of taonga species are assessed. For example, historical causes and effects can continue to have an impact on the health of taonga species in more contemporary times such as effluence in the waterways from years of agricultural farming run-off.

**Hohourongo O Te Mauri Wai Health State:** This health state represents the restorative action phase and involves mitigating and addressing any potential impacts of the proposed water storage dams on tangata whenua values. This will be achieved through the various recommendations identified in the CIA for the HBRC to carefully consider.

**Mai Oho Health State:** This health state represents a phase of changes and a shift towards recovery and restoration. Progress on any changes will need to be monitored and assessed to measure improvements in the ecological health of the bio-environment and the health of people.

The framework is outlined in Table 1.1 below.

**Table 1.1 Outline of the Four Health States within the Framework**

State	Te Pito	Parirau O Te Mauri Ihumanea	Hohourongo O Te Whenua, Tangata	Mai Oho
Description	<ul style="list-style-type: none"> <li>- Tangata whenua values and inter-connections with their lands, water, sea, taonga species are vibrant and dynamic</li> <li>- The eco-systems have the capacity to restore taonga to its authentic health state</li> </ul>	<ul style="list-style-type: none"> <li>- There is a change in the authentic health state of the taonga</li> <li>- The cause of the changes is identified</li> <li>- The effects on the mauri, life capacity of the taonga are assessed</li> </ul>	<ul style="list-style-type: none"> <li>- There is an integration of mātauranga, tikanga practices with western knowledge and practices</li> <li>- Collaborations are formed to manage the health risks</li> </ul>	<ul style="list-style-type: none"> <li>- Measures are identified to monitor the restorative actions</li> <li>- Milestones are set and followed-up, adjustments are made and the health risks are reviewed</li> </ul>
Process for developing the Indicators	<ul style="list-style-type: none"> <li>- Traditional knowledge on taonga is collected to produce the traditional indicators</li> </ul>	<ul style="list-style-type: none"> <li>- The most critical health risks to the environment, waterways, taonga species are prioritized to produce the ecological health indicators</li> </ul>	<ul style="list-style-type: none"> <li>- Restorative action plans are developed to produce the restorative indicators</li> </ul>	<ul style="list-style-type: none"> <li>- Measures to improve the health state of taonga and the health of people are identified to produce the monitoring indicators</li> </ul>

## Section Two: Tangata Whenua Values in the Tukituki Catchment

### 2.0 Introduction

This section provides a general description of tangata whenua cultural values and traditional relationships with ancestral lands, water, sites, wāhi tapu and other taonga associated with any waterway within the Tukituki catchment. The catchment area includes all the rivers and tributaries eventually connecting up to the Tukituki River (before merging with the Waipawa River and tributaries) and is listed below:

- The rivers include: Tukituki, Tukipo, Mangatewai and Makaretu.
- The streams include: Kahahakuri, Porangahau, Maharakeke, Ngahape and Mangaroa.
- The Waipawa catchment includes: Mangaonuku stream, Waipawa River and Makaroro River.
- The various streams connecting within the lowland areas of the Tukituki catchment such as the Mangatarata, Waiwhero, Mangamahaki, Papanui and Makara.

Although the scoping of this report is focused primarily on the Ruataniwha plains of the Tukituki catchment, the other rivers and tributaries connecting to the Tukituki - headwaters to the mouth – will have an influence on the overall ecological health of the river. Therefore, these tributaries are considered in terms of their relationship to cultural values and the cumulative effects on the ecological health state of the Tukituki catchment.

The values described here relate to the concept of holistic ecological health of the land, water, sea and all living things in general that are inextricably inter-connected with the well-being of tangata whenua.

### 2.1 Te Ao Māori: World View

Te Ao Māori world view provides an explanation and understanding of the inter-relationships between people and their tūrangawaewae, whenua or traditional lands. A central principle of the Māori world view is the concept of whakapapa or genealogy that is literally translated as laying one thing upon another (horizontal links) or the genealogical descent of all living things. The idea of whakapapa-ranga extends the layers and connections to the inter-generational lineage (vertical linkage) of all life in particular. Marsden (1975) describes the world as entirely connected or interrelated. Through whakapapa-ranga the Māori is related to everything - the gods, people, land, mountains, rivers, sea, water, sky, plants, birds, reptiles, fish, vertebrates, eco-systems, animate and inanimate life forms. Whakapapa establishes the inter-connections between people and their whenua that are inter-dependent on each other for their survival.

## **2.2 Papatuanuku: Earth Mother**

The nature of the inter-relationships between people and Papatuanuku or earth mother is reflected in the following whakatauki or proverb, '*Ko te whenua, te wai-ū nō ngā uri whakatipu*' - meaning mother earth, through her placenta provides nourishment and sustenance for her offspring being all of humankind, future generations. The Māori view is holistic seeking to ensure Papatuanuku, the ancestral mother earth and human activities are managed in harmony and balance acknowledging a natural world that is dynamic, fragile and finite. Papa is viewed as a living organism with her own biological systems and functions, infrastructural support networks – all sustaining the vibrant unifying life forces, mauri of all living things through the nourishment of the whenua. The children of Papa (I've deleted Papa's children to avoid anglicizing Papa by adding an s, are described as "facilitating the process of ingestion, digestion, excretion; the streams [and rivers, lakes, tributaries and ground water] of water representing her arteries bringing the life giving waters for Papa to imbibe and to share with her offspring," namely people and all living things (Roberts et al, 1995:68). There is a spiritual and cultural connection to all waterways and to fresh water in general which is of primary importance when considering tangata whenua values associated with the Tukituki catchment.

## **2.3 Kaitiakitanga: Guardianship, Stewardship**

Kaitiakitanga refers to the act of guardianship although the translation does not fully express the depths and nuances of meaning inherent in the term. Tangata whenua have an important responsibility as the kaitiaki of their ancestral lands, waters and other taonga to ensure the mauri of all living things is healthy and sustainable for future use. The wise management of taonga resources within the Tukituki also ensures the mana of the tangata whenua is upheld. This is reflected in the capacity of marae/ Hapū to provide the best bounty of the fruits in season and might include patiki, inanga, tuna, manu and other delicacies.

## **2.4 Kaitiaki Atua: the Elements of Nature**

The inter-connections between tangata whenua and their natural world are expressed through mātauranga Māori me ona tikanga (traditional knowledge) that is authentic to each Hapū. This knowledge articulates an intimate understanding of the elements of nature and how they might communicate with each other. These include the Kaitiaki Atua or spiritual guardians representing the elements of nature which underpin the authentic health state of a waterway, land and sea. This knowledge was passed down through the generations (whakapapa-ranga in practice). Understanding the linkage was reflected in how well the Hapū could engage in their relationship with the elements to utilize and to retain traditional knowledge on the authentic health state of their traditional lands, sea, waterways to harvest and manage taonga wisely.

## **2.5 Ki Uta Ki Tai: From the Mountains to the Sea**

The Tukituki river flows *ki uta ki tai* – from the mountains to the sea – from its headwaters in the Ruahine Ranges, downstream through the Ruataniwha plains and lowland mouth and coastline at Haumoana. Tangata whenua perspectives related to their role as kaitiaki to sustainably manage all taonga species within the Tukituki

catchment are often expressed through the cultural value of mauri that seeks to enhance and to maintain healthy ecosystems. The exercise of kaitiakitanga strengthens identity and a deeper sense of connection with tūrangawaewae, whenua, water and people.

## **2.6 Ruahine Ranges: Headwaters**

The Tukituki is one of five main rivers in Hawke's Bay with its headwaters in the Ruahine Forest Park. The Ruahine ranges are characteristically steep and rugged with unstable landforms. There are many fault-lines and skeletal soils subject to high rainfall events and strong winds – which combine to cause a high rate of natural erosion. At higher altitudes the ranges consist of shattered and contorted greywacke, limestone, sandstone and silt-stone particularly in the northeast. The river valleys are generally steep and deeply incised. These ranges are geologically young, extensively faulted and still being uplifted (Department of Conservation, 1994).

The Ruahine ranges were not extensively settled by Māori who preferred the lowlands and coastal areas. In pre-Pakeha settlement times and perhaps for over 1,000 years, the visits were short, seasonal expeditions and included tribes from Ngāti Kahungunu, Ngai Tahu, Ngāti Apa and Rangitane. Several ancient tracks across the ranges were used to gain access to inland Pātea and the central plateau. For example, there is the ancient trail of Te Parapara which crosses the range via Makaroro Te Atua Mahuru, with the last recorded war party (in 1828) using the trail. Māori occasionally used these tracks to gain refuge from raiding parties such as in the 1600s when Whatui Āpiti (Chief of Rangitāne and Kahungunu descent) fled the mountains west of Takapau (DOC, 1992).

## **2.7 Ruataniwha Plains**

According to Māori narratives and oral history, the plains were once covered by a large lake which was the lair of two enormous taniwha (guardians) described as water dwelling creatures who regarded the Māori living around the lake as a source of food:

One day a plump little Māori boy unfortunately fell from a cliff on the eastern side of the lake, near where the Tukituki and Waipawa now flow. The two taniwha quarreled and a fierce fight took place between them for this appetizing food. The wild lashing of their tails cut through the eastern hills and the lake poured out forming the Waipawa and Tukituki rivers of today. (Parsons, 1999:7).

The original taniwha hole at Ruataniwha can still be seen from the eastern side of Speedy Road near Takapau and is considered highly tapu. Another tradition concerning the taniwha which survives to this day is a howling noise from the taniwha which rises in the Ruahine ranges beyond Rakautatahi. When this phenomenon is heard to the west, a strong wind usually arrives in Waipukurau within a short period of time and is likened to the surviving taniwha crying for its mate (Parsons, 1999).

In geological terms, the Ruataniwha plains were formed through extensive deposition of alluvial gravels moving through the Tukituki catchment in particular. The landscape is soft and eroding, with deeply entrenched streams in the hill country and braided rivers meandering through the plains. It is interesting to note the relationship

with Lake Whatuma which was once connected through a tributary of the Tukituki River known as Kiripara, an outlet which may have served as an overflow when the Lake was too high.

Prior to Māori settlement, almost the entire area and hill country would have been covered in dense forests rich in birdlife. Ngāti Rangitāne was one of the earlier tribes to settle in the Ruataniwha plains but was eventually pushed south past the Manawatu River by an invading tribe led by the Ngāti Kahungunu chiefs Taraia and Rakai-hikuroa in about the 1500s. The marae/ Hapū of the present time have whakapapa connections to both Ngāti Kahungunu and Rangitāne.

Modification of the vegetation cover started with early Māori and continued with the arrival of Pākehā settlement. The earliest recorded fires in the 1880s occurred on the northern slopes, and in the Tukituki river headwaters down to the heads of Makaretu (DOC, 1994).

Flooding was a regular occurrence on the Ruataniwha plains from early times caused by natural erosion, periodic storms and further accelerated with deforestation. One of the reports commissioned by the Crowns Forestry Rental Trust to provide the Heretaunga-Tamatea environmental overview for the Waitangi Tribunal claims acknowledges flooding was a regular occurrence and that Māori:

...coped with these calamities by planning for them and moving to higher ground, an option which they did not have later when much of their land was acquired and they were confined to small reserves (Armstrong et al, 2010:101).

Little remains of the original forests and other natural habitats and wetlands which covered most of the plains. These have greatly diminished as the land has been modified. For this reason the remnants of native forests and reserves in the modern day are considered of high cultural importance for tangata whenua and must be protected and preserved.

Most of the fertile and accessible land has been converted into agricultural and horticultural farmlands. Land-use over the Turiri range south of Waipukurau is predominately extensive pastoral farming and exotic forestry.

## **2.8 Lowlands of the Tukituki River**

Much of the lowlands including the Ruataniwha plains used to be covered in podocarp with an abundance of native plants, ferns and vines. Some of the vegetation was cleared for Māori occupation and with Pakeha settlement there was subsequent logging, farming and forestry. There are tiny relics of forestry but few in near original condition and most are surrounded by highly modified lands. There are a scattering of indigenous trees on farmlands such as cabbage trees. Totara, titoki, maire, karaka and the lowland forests dominated by manuka, kanuka and bracken (DOC, 1994).

There is evidence of a rich Māori heritage of at least 7 – 8 centuries of occupation, one of the earliest periods of settlement in Aotearoa Māori history (DOC, 1992). The lowland area was an ideal location for settlement with good climate, fertile soils, bush lands in the hills, large valleys, with abundant land and sea resources (mahinga kai).



There are a number of registered archeological sites (ie pā sites, urupā or burial sites, wāhi tapu and other significant areas of cultural importance) showing a heavy concentration of settlement along the coast and mouth of the Tukituki River.

## 2.9 Taonga Tuki Iho: Ngā Wai

All waterways, their associated tributaries, wetlands, lakes and springs, and aquifers are considered significant taonga to tangata whenua. Kaitiaki responsibilities for these water resources have been passed down through the ages with the responsibility to ensure they are sustained and protected for future generations.

General values associated with the Tukituki catchment are outlined below.

The various states of wai:

- waiora (purest form);
- waimāori (normal state);
- waikino (debased or spoilt);
- waimate (dead, damaged or polluted);
- waitai (sea, surf, or tidal). (Patrick, 1987)

Sensory Observations:

- sight (ie, clear, murky, visible flow, presence of sediments, stagnant or dried up, white, polluted);
- smell (ie, unpleasant odors, fresh water has a distinctive smell);
- touch (ie, greasiness, grittiness and temperature);
- listen (ie, noise, whistle of birds, water sounds);
- taste (ie, kai has an exacting flavor). (Wakefield, 2008)

Other Values include:

- Maunga headwaters as the source of mauri
- Maintaining the natural flow variability
- Ecology and character of estuarine areas
- Protection of base flows
- Repo raupo (wetlands)
- Native fisheries (mahinga kai)
- Healthy riparian areas
- Healthy springs, aquifers, ground water
- Inter relationship between surface and ground water
- Continuity of flow ki uta, ki tai - from the mountains to the sea
- Indigenous fauna and flora
- Healthy vertebrates and other eco systems
- High standards of water quality are sustained
- Maintaining the natural course of waterways
- Health of streams and tributaries
- Nohoanga, wāhi tapu, wāhi taonga and other taonga
- Relationship between people and their traditional lands

➤ Inter-connections between water quantity and water quality  
(HBCB & RWB, 1987, 1988; DOC, 1997; ECan, 2004)

## **2.10 Mahinga Kai, Biodiversity Values and Ecosystems**

Māori are connected through whakapapa-ranga to all living things and through the exercise of kaitiakitanga, are responsible for the protection of biodiversity values. Many of the ecosystems are irreplaceable and their sustainability is vital to the over-all health state of mahinga kai resources within the Tukituki catchment. Historically, the Tukituki catchment from ki uta ki tai had an abundance of mahinga kai resources (see Appendix Two for a more detailed description of the various taonga species of cultural significance tangata whenua are currently working to complete). Tangata whenua had access to an abundant variety of food sources and are still harvesting some of these to the present day and includes natural resources from: the whenua (native trees, mountains), the ngahere (forest, native plants), the wai (rivers, streams, ground water), and the moana at the mouth of the Tukituki.

## Section Three: Relationship of Tangata Whenua Values to Flow Regime and Water Quality

### 3.0 Introduction

The cultural values of tangata whenua described in the first sections of this report stress the importance of protecting, maintaining and enhancing the holistic health state and mauri of the Tukituki catchment. This includes the flow and water quality within the whole river ki uta ki tai. Flow characteristics are a result of physical and climatic features that influence the flow of a river. The unique way that it flows changes from day-to-day, season to season dependent on climatic conditions, and helps define the character of a river including how liable it is to flood or to long periods of low flow, extreme high flows and flow recession. Table 3.0 outlines the relationship between tangata whenua cultural values with river flows and water quality.

**Table 3.0 Relationship of Values with Flows and Water Quality**

Cultural Value	Relationship between tangata whenua values, river flows and water quality <sup>3</sup>
Headwaters/Mauri	<ul style="list-style-type: none"> <li>- A source of mauri that sustains life supporting capacity of the river.</li> <li>- Natural character and flow variability, natural energy, respecting the river, understanding the link between water quantity and water quality.</li> <li>- Stream invertebrates provide important links in aquatic food webs and abundance can vary considerably at a particular location impacting on mahinga kai species which might be restricted from changes in geological landscape such as narrower river channels where fish might become stranded where they evolved such as kokopu and koaro. Fish species may migrate long distances inland from the sea mouth to the headwaters which is an important factor influencing native fish distribution.</li> </ul>
Waipuna/Aquifers	<ul style="list-style-type: none"> <li>- River flows are intrinsically linked to rainfall, aquifer recharge and discharge. Waipuna emanate from the aquifer and are used as an indicator for ground water and river health, sustaining or degrading the mauri (ie, through contaminants affecting ground and surface water quality).</li> </ul>
Riparian Areas	<ul style="list-style-type: none"> <li>- Healthy riparian areas provide shading for waterways and interaction between terrestrial and aquatic species.</li> </ul>
Mahinga Kai/ Biodiversity Taonga Species	<ul style="list-style-type: none"> <li>- Certain fish (ie, galaxids kokopu) require sufficient flow for optimal habitat migration and to access cooler tributaries for spawning and food supply during drought/low flow events.</li> <li>- Short-jawed kokopu are a threatened species and a taonga.</li> <li>- Temperature and water quality (and other ecological conditions) create distinctive habitats for species. If access to these habitats is restricted the species health and abundance will be adversely impacted.</li> <li>- Native fish seem well suited to fluctuations in flow but their populations are still strongly impacted by floods and droughts.</li> <li>- Flood events are part of a natural hydrological sequence and are important for maintaining vegetation.</li> </ul>

<sup>3</sup> (Sources: Macgregor, 1970; Graynoth, 1973; Rayliss, 1975; NWSC, 1985; Patrick, 1987; Parrish, 1988; DOC, 1992; DOC, 1994; Maculay & Macaulay, 1998; MFE, 1998; MOE, 1998; Burt et al, 1999; HBCB & RWB, 1999; HBRC, 1999; 2003; Parsons, 1999; Basher, 2003; ECan, 2004; Harding et al, 2004; Scarsbrook et al, 2004; Winterbourne, 2004; Young et al, 2004; Bassett & Kay, 2006; Te Aute & Pukehau Historic Trust, 2006; Armstrong, 2007; Dewson, 2007).

Table 3.0 Relationship of Values with Flows and Water Quality (Continued)

Cultural Value	Relationship between tangata whenua values, river flows and water quality
Wahi tapu/Taonga	- Changes in water flow can either flood or expose wāhi tapu such as pa sites, middens, ovens, urupa or water burial sites and other culturally significant areas.
River Mouth Environment	- Flow conditions are directly related to the nature and extent of river flows into the sea and to maintaining the balance of freshwater/ saltwater mix which can affect spawning patterns of whitebait, and other fisheries. For example, the navigation processes of eels spawning in the western subtropical Pacific Ocean and returning to inhabit river systems.
Kaitiakitanga	- Kaitiaki are charged with ensuring the mauri – life giving capacity of the waterways is protected and maintained. Tangata whenua must be able to participate in the decision making, governance and management of the Tukituki Catchment.

**Recommendation:** That the HBRC will consider tangata whenua values to water flow and water quality in relation to the proposed water storage schemes and potential increase in water extraction for land intensification. The HBRC will actively work in partnership with tangata whenua to remedy, mitigate and to monitor any changes in water quality and to ensure minimum flows are maintained to sustain the ecological health of taonga species and other values.

## Section Four: Proposed Sites and Tangata Whenua Values

### 4.0 Introduction

The HBRC has identified eight possible water storage dam sites and their potential distribution areas. This section outlines each of the proposed sites to identify registered and unregistered wāhi tapu/ wāhi taonga sites, potential impacts on tangata whenua values and ecological health of taonga species and other concerns.

#### 4.1 Registered and Unregistered Wāhi Tapu Sites

Historically wāhi tapu sites, urupa, wāhi taonga and other areas of cultural significance for tangata whenua have continued to be highly tapu regardless of whether land was ceded to the Crown or sold to Pakeha settlers since at least the 1850s as part of the Waipukurau purchase. Many wāhi tapu sites were discouraged from being part of agreed reserves at the time as, “it would complicate and impede Pakeha settlement” (Armstrong et al, 2010:229). Māori most likely expected that the Crown and Pakeha settlers would respect their wāhi tapu and, “did not anticipate their relationship with these sites would be limited or severed” (Armstrong et al, 2010:230). The Crown made no effort to protect wāhi tapu sites and it would not be until the 1980’s that wāhi tapu sites on privately owned or Crown alienated land would be protected. Prior to this the ability of Māori to protect wāhi tapu was largely reliant on the good will of land owners, local body or relevant Crown agency. Consequently many wāhi tapu sites were desecrated, decimated and others destroyed completely. In the last few years there have been wāhi tapu registered with local authorities and the two main sources used within this CIA report are:

- a) Central Hawke’s Bay District Council Plan (2003: Maps 4 and 12), and
- b) Tukituki Catchment: Water and Soil Resource Management Plan (1988:7).

In the main, tangata whenua marae and hapū within the Ruataniwha plains have continued to be wary, suspicious and generally mistrustful of revealing too much information on the actual location and nature of wāhi tapu sites within their rohe. A hui held at least eight years ago in the Takapau region discussed the issue of whether to register wāhi tapu sites and the Kaumatua attending made a decision not to register wāhi tapu sites with the local authorities. Unfortunately in some instances, information on wāhi tapu was not passed down to the next generation and there have been some loss of knowledge and desecration observed on some unregistered wāhi tapu sites in the area.<sup>4</sup>

Gathering information on the unregistered wāhi tapu/ wāhi taonga sites was obtained from personal communication with marae/ hapū members participating in the interviews. There was an agreement that specific information on the location and nature of wāhi tapu would be kept general and non specific. It must also be understood that most of the marae/ hapū members were still reluctant to reveal this information. Others did raise a concern for what would happen if the proposed water storage schemes went ahead and in the construction of the dams, wāhi tapu (ie Ko iwi and other artefacts) might be unveiled.

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<sup>4</sup> Personal Communication with Kaumātua, August 2010.

Table 4.1 below lists the registered and unregistered wāhi tapu/ wāhi taonga for each of the eight proposed sites.

## 4.2 Wāhi Tapu and other Values for each Site

Urupa	Pa	Physical Location	Site	Notes	Source
	unnamed Pa	Makaroro River	A1	Remnants of native forest	PC* (1998:7)
	Hakuru Pa	Gwavas Forest	A2		PC and (1998:7)
	Kihiao Pa	Gwavas Forest	A2	Unregistered wahi taonga/ wahi tapu sites in the general location	PC and (1998:7)
				Both sites are likely to be part of the Gwavas claim	(2009, 2010)
	Te Whiti o tu Pa	Glenalvon Road	A4	Located in the general area	CHBDC M 4, and (1998: 7)
237		Glenalvon Road	A4	Located in the general area	CHBDC Map 4
238		Makaroro Road	A4	Located in the general area	CHBDC Map 4
239		Makaroro Road	A4	Located in the general area	CHBDC Map 4
		Upper Ngaruru	B1	No known wahi tapu	
		Lower Ngaruru	B2	No known wahi tapu	
		Sherwood	C2	No known wahi tapu	
		Ashley Clinton Road	C3	No known wahi tapu	
	169	Hinerangi Road	D3	Pa with pits and midden	CHBDC Map 12
	175	Hinerangi Road	D3	Pa with pits and midden	CHBDC Map 12
246		Hinerangi Road	D3	Located in general area	CHBDC Map 12
				Unregistered Pa site and other wahi tapu in the area and also part of the Waipukurau claim	PC

(NB: \* PC = Personal Communication with marae/ hapū)

Table 4.1 reveals there are no known wahi tapu sites registered or unregistered specifically located within any of the eight proposed water storage site. However, sites A1, A2 and D3 are included in the Waitangi Tribunal claims under He Toa Takitini claimant group and the HBRC needs to continue consulting with the Group. The general location areas around Sites A2, A4 and D3 have historically been where tangata whenua hapu have settled within the Ruataniwha plains. While there are wahi tapu Pa sites, pits and middens registered, the areas have unregistered wahi tapu sites in the general area and the knowledge is closely protected by the local marae/ hapū. There are no known wāhi tapu within sites B1, B2, C2 and C3. Should these sites be selected for a water storage dam, the HBRC and other local authorities need to ensure that sufficient protocols are in place for any accidental discovery of wahi tapu/ wahi taonga.

**Recommendation:** That the HBRC and other local authorities need to ensure there has been sufficient consultation with tangata whenua to develop accidental discovery protocols for wahi tapu/ wahi taonga.

### 4.3 Values and Ecological Health of the Rivers and Taonga Species

Each of the eight proposed sites will be assessed to determine any potential impacts on tangata whenua values in terms of the overall health and mauri of taonga species, the rivers, stream or estuary and any other concerns.

Figure 4.1: Site Location A1: Dutch Creek

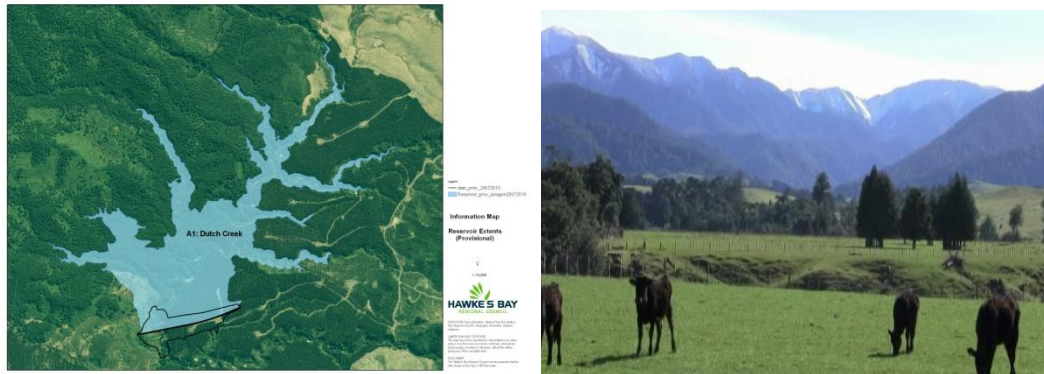
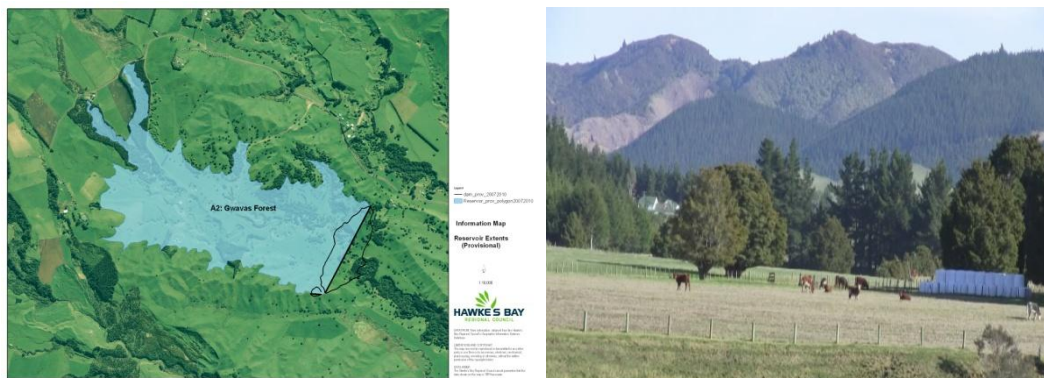


Figure 4.2: Site Location A2: Gwavas Forest



Tangata whenua are concerned about the location of both sites A1 and A2 within an area where there are still remnants of native forestry, native plants and “where puna (wellspring) are located that are still pure and clear.”<sup>5</sup> There is also concern for the construction of pipes and other works that will further desecrate an area which some whanau expressed was reasonably untouched (A1). There were fears that a water storage dam would most likely attract more people for recreational purposes which was a positive benefit but also a negative cost in terms of a potential increase of rubbish and foot and vehicle traffic impacting adversely on the aesthetic and natural character of the area.

Tangata whenua expressed other concerns including:

- The headwaters experience some intense weather extremes.
- At the heads of the Tuki are the bigger inanga...another delicacy...they went from whitebait to inanga or smelt...the dam will affect their spawning.

<sup>5</sup> Personal Communication with Kaumatua, August 2010.

- What about gravel build-up which is likely to happen from time to time?
- There might be a loss of biodiversity values such as impacts on fish passage because this site (A1) is actually located at the headwaters of the river.
- The Makaroro River has tuna and other native fish and trout which used to be fatter but now the numbers have dropped so how will the dam increase the numbers and will we still have access?
- How will the dam affect spawning of native fisheries and the other fish species?
- Isn't this area part of the Gwavas forest claim and if so, shouldn't they be talking with Hapu before any decisions are made?
- Ngāti Marau is the Ruahine, the Ruahine and the Guavas or the Kereru it's called. Kereru is really the name of the Guavas. I'm not too fond of that (A1), because the means behind damming a thing is shifting the whole environment of our tuna and of all our food. If you do that, you're actually stopping an area that has been used for many years. Not so much trout but that's where the Mōteo are...you start upsetting the Mōteo abode we're going to run out of those big eels...actually they're the filters...the eels were that big and that plentiful that up until 10 years ago...the cocky about 10 years ago changed from fat lamb to cattle, from there on I haven't seen those eels because of the pollution.
- The loss of the seventy mile bush has been devastating for tangata whenua which is why the remaining native bush in the area is precious and needs to be protected.

Overall neither of these sites were favored by any of the tangata whenua marae/ hapu whanau interviewed as a potential location for water storage dams.

Figure 4.3: Site Location A4: Glenalvon Road



Figure 4.4: Location Site B1: Upper Ngaruru





Figure 4.5: Location Site B2: Lower Ngaruru

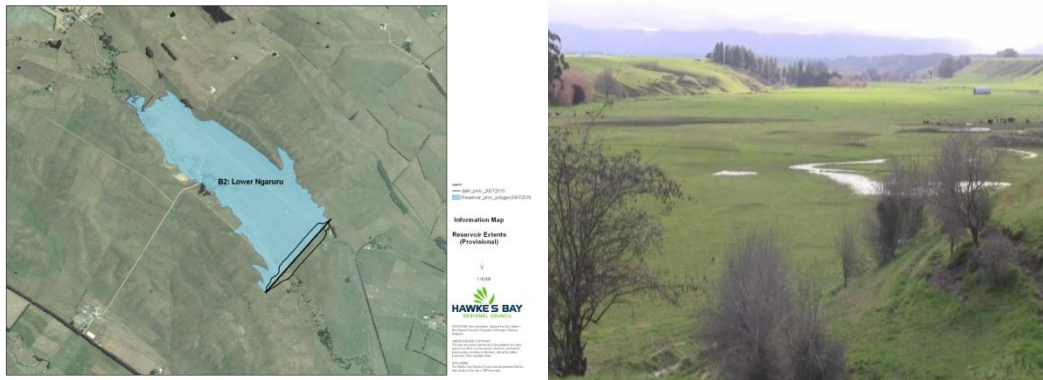


Figure 4.6: Location Site C2: Sherwood



Figure 4.7: Location Site C3: Ashley Clinton Road



Figure 4.8: Location Site D3: Hinerangi Road



As stated earlier, Tangata whenua have not settled in the areas of sites A4, B1, B2, C2 and C3 since the 1850s when the lands were ceded to the Crown and then sold into private ownership. Three reserves were excluded from the Waipukurau sale for Tangata whenua who settled in Takapau (and surrounding areas of site D3), Pukehou, Waipukurau, Waipawa and other areas within the lower areas of the Tukituki River within the central Hawke's Bay in particular. For marae/ Hapū their spiritual relationship and reciprocal Kaitiaki responsibilities are still strongly connected to all the areas where the eight proposed water storage sites are located.

All the lands surrounding the proposed sites are mainly utilized for intensive agricultural (ie, dairy, sheep, deer, horticultural crops etc) farming (and forestry) and there are large scale irrigation demands. Tangata whenua have accessed mahinga kai from the many streams and tributaries within the Ruataniwha plains and have noted a significant decline in all taonga species (ie, size, numbers and age of tuna in particular). The whanau attribute the decline in taonga species to agricultural runoff, pollutants impacting on the water quality and the over allocation of water take which has resulted in many of the small streams drying up. The flows have been very low and are considered "well below what is sustainable for our tuna and other taonga to survive and thrive."<sup>6</sup>

Tangata whenua have also been concerned at the cumulative effects of these issues for the Waipawa River which has been, "degraded, polluted and these farming activities are impacting down - stream along with other issues from the oxidations ponds – we suffer the consequences of all these issues in our back yard."<sup>7</sup>

The increasing demand for irrigation is by far the highest abstractive demand on the Tukituki catchment. Within the Ruataniwha plains there has been significantly degraded land and in-stream values, with little protection afforded to small tributaries, creeks and streams. There is sufficient evidence historically to indicate that tangata whenua have not participated sufficiently in district and regional council planning and decision-making, which has resulted in cultural values being largely ignored (Bassett & Kay, 2006).

**Recommendation:** That the HBRC needs to consider how the over allocation of water extraction can be monitored to ensure water flows are at an acceptable level to restore and assist in the recovery and sustainability of taonga species and to enhance other cultural values.

#### 4.4 Potential Effects on Cultural Values

Tangata whenua responses to the question of what the potential effects on cultural values might be from the proposed water storage schemes are outlined below:

- When we were kids back home in Takapau we used to walk down the old stock route down into the stream there and fill our nanny's billy up with fresh water crayfish, we can't do that anymore. The council just up from the stream decided to put the local dump there, so all that crap seeps out into the stream and then kills our kai from our awa.

<sup>6</sup> Personal Communication with Kaumātua, July 2010.

<sup>7</sup> Personal Communication with Kaumātua, July 2010.

- Low flows can increase contaminant concentrations and cause cloudy water that does not suit fresh water koura.
- What I'd like to know is what are the other options instead of building a dam? Can't they recycle the water or do something else? They'd have a contingency wouldn't they?
- Waipawa river dries up every year above the confluence with the Mangaonuku. A proposed dam site close to the Mangaonuku could increase the duration, extent and frequency of dry riverbed.
- Ground water around the Takapau, Ongaonga and Tikokino areas are especially over allocated through all the boars which must be having a negative impact on water quality and standards but how well is the water take being monitored?
- Runoff and seepage from the agricultural land occupying the plains has increased the nutrients downstream causing algal growth which is probably leaching into the aquifer as well.
- One particular year a farmer ran an electric fence from his land straight into the watering hole where our kids swam and fenced it off so that his cows could run along his land and into the river to drink. I had a huge problem with that.
- The effects of algal blooms on trout and native fish habitat have impacted on their life cycle and health.
- There has been some damage to natives and other plants in the riparian strips along some of the streams such as Ongaonga, Tukipo and Waipawa River which needs to be protected from stock in the streams.
- Do we really understand the cumulative effects of surface water and groundwater take?
- These large irrigation schemes have wasted water through leaky and faulty machinery.
- Over the years the natural flow and course of the rivers have been changed to reduce flooding. Taonga species have also been affected and now the numbers of tuna has been depleted compared to just ten years ago when there was an abundance of kai available.
- Well altering the natural flow of water that has to impact species that live in the water. They know where to go and spawn, where they always get kai and then one day they go there and it's not there, all of a sudden it's been altered, so they move.
- It's like all things aye, these things [taonga species] need to replenish themselves naturally. If they're not given that chance, again what kind of hope is there?
- Even if water from the storage dam is released in the summer months to keep the rivers at a minimum flow, what is preventing the farmers from increasing their water take especially when some Farmers still continue to take water illegally from the streams by putting their pumps directly into the water. Who is monitoring these activities?
- More water means more cows and more cows means more pollution in the streams.
- Well there's a swamp up above Rakautatahi and you can see it from the main road because you drive through it, Te Repo. There are several streams that start from out of there. It's all dry now because of dairy farming and agriculture. They're ploughing that country now where they never used to be able to because it used to be so wet. The plant life, the tuna, there used to be fresh water mussels, they're gone. I think there's only one stream left at Rakautatahi with those mussels that kind of kai is going. All those streams used to run down through here at Takapau and they would always be running even in the summer even if it was just a trickle, it was still moving, but you don't get it now. The cows have got a lot to answer for.
- When I was a kid we used to get fresh water crayfish, trout both brown and rainbow, but mainly brown. There was a few silver belly eel but mainly mud eel. Mōteo was our one, they would be

the biggest ones found around, huge, horns, and they never went back out to sea...we used to get yellow and red-faced eel...but now...the numbers are nothing like they used to be...

- Our marae Rakautatahi, you got to cart water in there. There's a lot of our marae in that situation. Tapairu is one, Pukehou is one. We don't even have access to water for our marae. The council are putting in a huge proposal like this for cows, for economic development...it's going to cost us thousands of dollars to bore a hole at Rakautatahi to get water. That's what we've got to do to access our own resource, our own water.

#### 4.5 Potential Benefits or Costs

Tangata whenua responses to the question of what any potential benefits or costs for the proposed water storage schemes might be are outlined below:

- The council needs to address the large amounts of water taken for irrigation causing very low flows in many of our streams which has seriously affected the health of our native fishery...the pollution in the Waipawa River caused by the oxidation ponds...the leachate from the landfill...all these issues require urgent attention...instead of putting money into water storage dams which will only benefit a few...the council needs to clean up our streams first and foremost...
- ...they have ignored our issues for many years and now they want to consult with us, for what, more cows causing more pollution in our rivers?
- I can see there could be more employment from the growth of dairy farming and more crops growing in the area but then how many of our rangatahi actually work in agriculture now...most live in the cities and are unlikely to come home...no.
- I looked at D1 and how they were going to pump water up the Makeretu up to D1, which actually ran up past our place. All this water going up into this water bank and I was wondering how Rakautatahi could tap into this for our marae. I did see some gain for us. At it's closest the pipeline would've been 300 meters to the marae.
- We need more jobs that last longer than a season so I hope that happens for our communities.
- The only people to benefit from the water storage dam are the farmers who own the land and there are not many Māori farmers here so not sure how we [tangata whenua] are going to reap any benefits.
- What about the costs involved in building the water courses and pipes coming from the dams – who pays for this and if the farmers do then I'm not sure whether the investment will reap any rewards for years.
- Money made from selling the water back to the farmers could be used to clean up the rivers which would be a definite benefit!
- Tangata whenua are the Kaitiaki and have tinorangatiratanga over all our lands, water, sea, taonga tuku iho and the Council needs to be talking to us directly about this scheme to work out how we might benefit from the dams.
- I don't have a problem with the water banks provided there's no wāhi tapu there or doesn't impede us in any way culturally and if there's a benefit there, then that's good. What I can't see changing unless there's some kind of law where dairy farmers are limited to the number of cows that they have, that there's always going to be that impact from dairy farmers on our wai. I think maybe the answer is Māori have to get a strong lobby group.
- No nothing, unless they're pumping that fresh water to us. That's the only benefit that I can see. There's no benefit for our hāpu or our future generations, they're just going to be suffering more than us. We're not suffering; we've just seen the damages.

- If they're going to sell or put a tab on the usage of the water coming from those dams then the benefits should come back to tangata whenua. Not just the Regional council but tangata whenua...what I'm talking about is co-management...we could benefit and address some of the concerns that we'll be faced with like the possibility of having no water.
- The water comes from the sky and when it drops onto where ever, it's got to go somewhere and if you're going to dam it up and restrict it from where ever it goes, it's not going to go to those places whether its down a river or where ever, it's going to be dammed and used for only one particular person, business, purpose.
- What I'm frightened of, is the purpose of the dams is for economic development. If we think about that, what's economic development? It's bringing in more cows, bringing in more dairy farmers. What kind of impact is that going to have on our lands? Then they'll want more dams. I think they have to look more at conserving what we have then...

Overall the tangata whenua interviewed were cautious and uncertain on what the potential benefits might be for Māori. There was a significant issue with the lack of consultation that did not occur with marae/ Hapū during the pre-feasibility study. Tangata whenua would like the HBRC to visit each marae directly to follow-up on this CIA report and to discuss how the council proposes to address the issues and concerns raised.

**Recommendation:** That the HBRC will visit each marae/ hapū directly to follow-up on the issues and concerns highlighted in the CIA study and to continue consulting with tangata whenua on any further developments.

## Section Five: Summary of Recommendations

### 5.0 Summary

Limitations in the scoping of the CIA study:

**Recommendation:** That the HBRC will consult with marae/ hapū directly on any changes, updates and technical reports produced. This will ensure tangata whenua are able to fully participate in decision making, monitor changes, mitigate any potential adverse effects on the ecological health of the waterway and re-assess potential impacts on cultural values as new information is made available.

Relationship with Te Taiwhenua Ki Tamatea:

**Recommendation:** That the HBRC will continue to consult with Te Taiwhenua Ki Tamatea and marae/ hapū which will acknowledge tangata whenua values within the Ruataniwha plains environment and taonga species. This will strengthen our sustainable relationship into the future.

Relationship with He Toa Takitini group:

**Recommendation:** That the HBRC will continue to consult with He Toa Takitini group to ensure an update on the progress of the various Tamatea Tribunal claims in particular and to continue discussions on the implications of Treaty settlement in relation to specific sites proposed, negotiation of partnerships in the water management of the Tukituki catchment and other relevant concerns.

Hapū/ Marae management plans:

**Recommendation:** That the HBRC will establish a process to consult with marae/ hapū within the Ruataniwha plains to discuss the development of marae/ hapū management plans and any potential implications for the proposed water storage scheme.

Regard to the Resource Management Act:

**Recommendation:** That the HBRC and other local Authorities are required to have regard to tangata whenua marae/ hapū within the Ruataniwha plains when exercising functions under Section 5, 6, 7, and 8 of the RMA.

Tangata whenua values to water flow and water quality:

**Recommendation:** That the HBRC will consider tangata whenua values to water flow and water quality in relation to the proposed water storage schemes and potential increase in water extraction for land intensification. The HBRC will actively work in partnership with tangata whenua to remedy, mitigate and to monitor any changes in water quality and to ensure minimum flows are maintained to sustain the ecological health of taonga species and other values.

Tangata whenua values of wāhi tapu/ wāhi taonga:

**Recommendation:** That the HBRC and other local authorities need to ensure there has been sufficient consultation with tangata whenua to develop accidental discovery protocols for wāhi tapu/wāhi taonga.

Over allocation of water extraction to be monitored:

**Recommendation:** That the HBRC needs to consider how the over allocation of water extraction can be monitored to ensure water flows are at an acceptable level to restore and assist in the recovery of and sustainability of taonga species and to enhance other cultural values.

Direct follow-up visits to marae/ hapū on the CIA report:

**Recommendation:** That the HBRC will visit each marae/ hapū directly to follow-up on the issues and concerns highlighted in the CIA report and to continue consulting with tangata whenua on any further developments.

## Section Six: Conclusions

### 5.0 Conclusions

This report has sought to provide a broad description of tangata whenua cultural values and their relationship to the Tukituki catchment in particular and has included: Te Ao Māori world views; Papatuanuku earth mother; Kaitiakitanga responsibilities; the elements of nature; ki uta ki tai – Ruahine ranges: headwaters, Ruataniwha plains and the lowlands of the Tukituki river mouth; Taonga Tuki Iho of Ngā wai and the biodiversity values and mahinga kai resources within the Ruataniwha plains of importance to tangata whenua.

There has been an assessment of the potential cumulative effects on the overall health state of the Tukituki catchment. The relationship of cultural values to water flow regime and water quality focussed on the headwaters as the source of mauri, waipuna/ aquifer and the effects of land use intensification activities, Riparian areas, mahinga kai/ biodiversity and indigenous species, river mouth environment and the role of kaitiakitanga.

There are no known wāhi tapu sites registered or unregistered specifically located within any of the eight proposed water storage site. However, sites A1, A2 and D3 are included in the Waitangi Tribunal claims under He Toa Takitini claimant group and the HBRC needs to continue consulting with the Group.

Potential issues associated with the proposed Tukituki water storage dams outline particular concerns with water flow management and water allocation, water quality, land use activities and effects on water quality and water bed and river margins.

Overall the tangata whenua interviewed were cautious and uncertain on what the potential benefits might be for Māori. There was a significant issue with the lack of consultation that did not occur with marae/ hapū during the pre-feasibility study. Tangata whenua would like the HBRC to visit each marae directly to follow-up on this CIA study and to discuss how the council proposes to address the issues and concerns highlighted in the report.

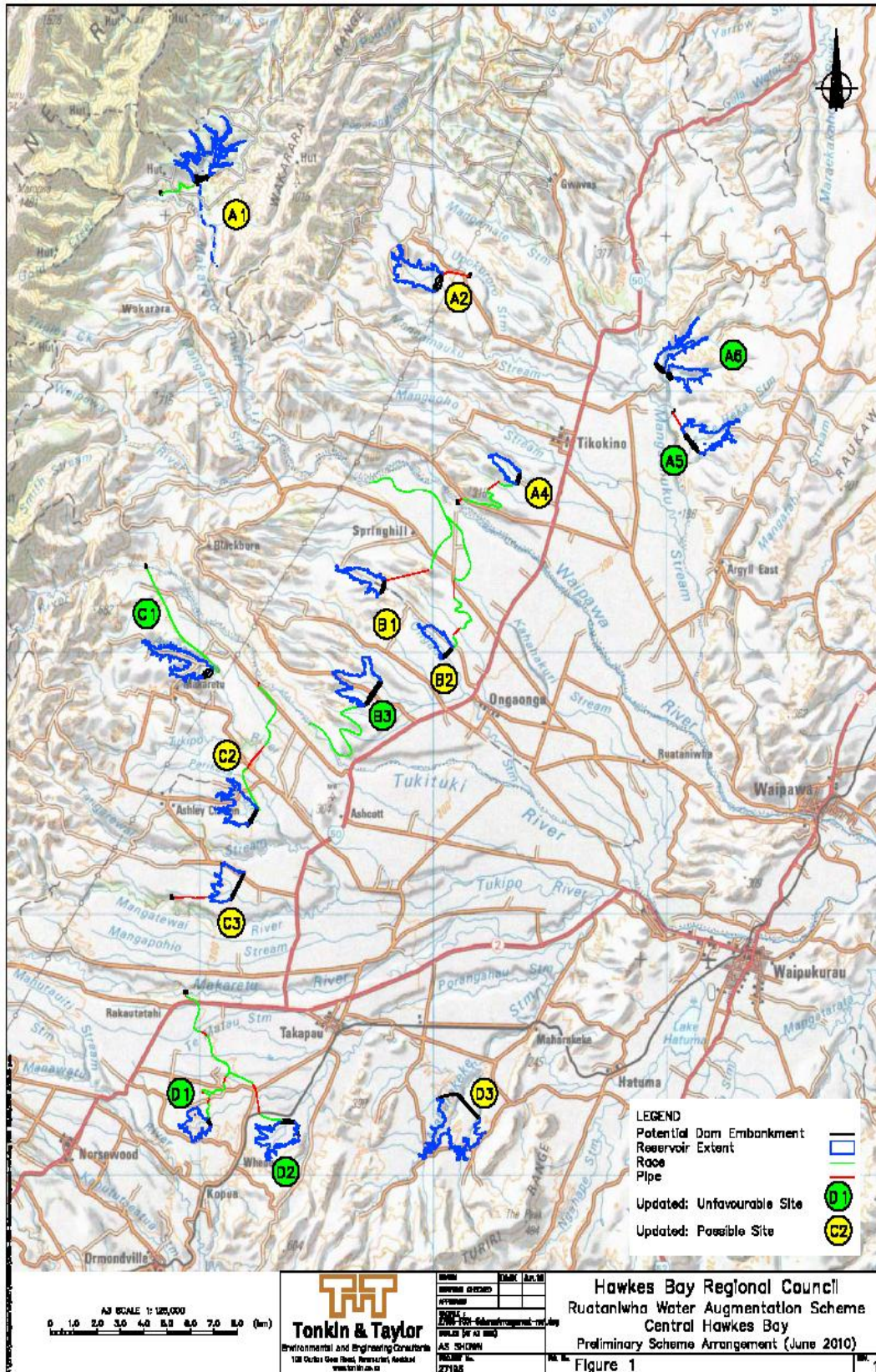


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## Appendix One The Eight proposed Sites (in Yellow)



## Appendix Two: Taonga Tables

### Ngahere – Manu

Māori Name	Common Name	Scientific Name
Kaka	Kaka	
Kākāriki	Red Crown Parakeet	
Kārearea	New Zealand falcon	Falco novaeseelandiae
Karoro	Southern Black Backed Gull	
Kawau / Kōau	Black Shag	Phalacrocorax carbo
Kawaupaku	Little Shag	
Kereru	New Zealand Pigeon	
Koekoeā	Long-tailed Cuckoo	Eudynamys taitensis
Koitareke	Marsh Crake	
Kōmiromiro	Tomtit	
Kōparapara / Korimako	Bellbird	
Kōtare	New Zealand Kingfisher	
Kōtuku	White Heron	Egretta alba
Kōtuku-ngutupapa	Royal Spoonbill	
		Hymenolaimus
Kōwhiowhio / Whio	Blue Duck	malacorhynchos
	Black Billed Gull	Larus bulleri
Mātātā	Fernbird	
Matuku	Bittern	
Morepork	Morepork	
Pāraera	Grey Duck	Anas superciliosa
Pāteke	Brown Teal	Anas aucklandica
Pererū	Banded Rail	
Pīhoihoi	New Zealand Pipit	Anthus novaeseelandiae
Pīpīwharau	Shining Cuckoo	Chrysococcyx lucidus
Pīwakawaka	Fantail	
Pukeko	Pukeko	
Pūtangitangi	Paradise Duck	
Riroriro	Grey Warbler	Gerygone igata
Tarā nui	Caspian Tern	
Tarāpunga	Red Billed Gull	
Tauhō	Silver Eye	
Tētē	Grey Teal	Anas gracilis
Tītiti pounamu	North Island Rifleman	
Tokoeka	Brown Kiwi	
Toutouwai	North Island Robin	
		Prothemadera
Tūi	Tui	novaeseelandiae
Tuturiwhatu	Banded Dotterel	
Tuturiwhatu	Black Fronted Dotterel	
Weiweia	Dabchick	
Weka	North Island Weka	
	Black backed gull	
	Black fronted fern	
	Blackbird	Turdus merula
	Mole Crickets	
	NZ dabchick	
	South Island	Pied
	Oystercatcher	

## Ngahere – Tipu

Māori Name	Common Name	Scientific Name
Apetala Tainui	Apetala Tainui	Pomaderris
Aruhe	Fernroot (bracken)	Pteridium esculentum (local cultivars)
Harakeke	Lowland flax	Phormium tenax (local cultivars)
Hinao	Hinao	
Kahikatea	White pine	Dacrycarpus dacrydioides
Kaikawaka	Kaikawaka	
Kamaha	Kamaha	Weinmannia racemosa
Kānuka	Kānuka	Kunzia ericoides
Karaka	Karaka	Corynocarpus laevigatus
Kawakawa		Macropiper excelsum
Kiekie		Freycinetia baueriana subsp. banksii
Kohuhu	Heart-leaved	Pittosporum obcordatum
Kowhai		
ngutukaka		
Kakabeak		Clianthus puniceus
Kutakuta	Bamboo spike-sedge	Eleocharis sphacelata
Mahoe		
Maire		
Mānuka /Kahikātoa	Tea-tree	Leptospermum scoparium
Mataī	Matai/Black pine	Prumnopitys taxifolia
Mawhai	Native cucumber	Sicyos australis
Miro	Miro/Brown pine	Podocarpus ferrugineus
Pīngao	Pīngao, Golden sand sedge	Desmoschoenus spiralis
Pirirangi, Pikirangi, Pirita	Red mistletoe	Peraxilla tetrapetala
Pirita, Piriraki	Yellow/Golden mistletoe	Alepis flavida
Pirita, Piriraki	Scarlet mistletoe	Peraxilla colensoi
Pua reinga, Pua o to reinga	Dactylanthus	Dactylanthus taylorii
Rātā		Metrosideros umbellata
Rimu	Rimu/Red pine	Dacrydium cypressinum
Taapia, Pirita	Green/Brittle mistletoe	Tupeia antarctica
Tī rākau/ Tī Kōuka	Cabbage tree	Cordyline australis
Tītoki	New Zealand ash	Alectryon excelsus
Toitoi		
Tōtara	Tōtara	Podocarpus totara
Wharariki	Coastal flax, Mountain flax	Phormium cookianum (named cultivars)
	Sand tussock	Atriplex billardierei agg.
	Epiphytic orchid	Austrofestuca littoralis
	Coprosma	Bulbophyllum tuberculatum
	Coprosma	Coprosma
	Coprosma	Coprosma aff. parviflora, C "violacea", C. sp. (v)
	Shore milkweed/spurge	Deschampsia caespitosa var. macrantha Tufted hair grass, Wavy hair grass
	Cook's scurvy grass	Euphorbia glauca
		Gratiola nana
		Lepidium oleraceum
		Iphigenia novae-zelandiae

## Ngahere – Tipu

<b>Māori Name</b>	<b>Common Name</b>	<b>Scientific Name</b>
	Dwarf musk	Mazus novaezeelandiae Myosotis Saxosa Myosurus minimus subsp. novae-zelandiae
	New Zealand mousetail	Myriophyllum robustum
	Stout water-milfoil	
	North Island Hector's tree daisy	Olearia hectorii
	Adders tongue	Ophioglossum petiolatum Pimelea aridula agg.(two entities)
	Small native daphnes	Pittosporum obcordatum
	Small fern of limestone outcrops	Pleurosorus Rutifolius
	Hooded orchid species	Pterostylis aff. graminea
	Swamp green hood	Pterostylis micromega Sebaea ovata Senecio sterquilinus Sphagnum Stellaria elatinoides
	Large-leaved milk tree	Streblus banksii Turepo, Tetrachondra hamiltonii Teucrium parvifolium Thismia rodwayii Urtica linearifolia
	Swamp nettle	
	Bracken	
	Broadleaf	
	Bush Lawyer	
	Halls Totara	
	Leatherwood	
	Mountain beech	
	Pepper Tree	
	Pink pine	
	Red beech	
	Red Tussock	
	Silver Beech	
	Snow Grass	
	Tree ferns	
	Water ferns	

## Ngahere – Kararehe

<b>Māori Name</b>	<b>Common Name</b>	<b>Scientific Name</b>
Kiore		Rattus exulas

Māori Rat  
Long tailed bats  
NZ Brown Kiwi  
Flat worms

## Ngahere - Pēpeke

<b>Māori Name</b>	<b>Common Name</b>	<b>Scientific Name</b>
	Catepillar	Epichorista emphanes Nascioides enysii Platypus gracilis
	White scale Looper caterpillars	Anoplaspis metrosideri Selidosemg suavis Pyromata

## Wai – Ika

<b>Māori Name</b>	<b>Common Name</b>	<b>Scientific Name</b>
	Grey Mullet	
Inanga	Yellow Eyed Mullet	
Koaro	Brown Trout	
Banded Kokopu	Eels	
Kahawai	Rainbow Trout Whitebait	
Kōkopu/Hawai	Giant Bullies Smelt	

(NB: This list of Taonga Species represents the first phase of Te Pito: a taonga survey of base line data. Tangata whenua are currently working to complete this list of traditional indicators. Phase Two: Parirau o te Mauri Taonga represents an assessment on the cause and effects that have detrimentally impacted on taonga species habitats and other influences leading to their eradication, depletion and mauri being seriously affected. The third phase: Hohouronga o te Mauri will identify taonga that can be recovered, restored and mauri revitalised by developing action plans and then, to monitor progress in phase four: Mai Oha and to record positive changes in the mauri of taonga and to re-assess taonga that can be restored in the future.)