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# Te Mana me te Mauri o te Wai: A Discussion Document for Te Tai Tokerau



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# Te Hari o Ngāpuhi

*Ka nukunuku, ka nekeneke,*

*Ka nukunuku, ka nekeneke,*

*Titiro ki ngā wai o Tokerau e hora nei*

*me he Pipiwharaua ki tua,*

*Takoto te pae! Takoto te pae!*

*Whiti, tata!*

*Whiti, tata!*

*He ra taua ki tua,*

*Takoto te pae! Takoto te pae!*

*Tihei wā mauri ora*

On December 25th 1814, over 400 Māori led by Ruatara are said to have performed this hari in response to a sermon delivered by Rev Samuel Marsden at Oihi. This hari refers to the coming of the Pipiwharaua, traditionally the harbinger of spring, and the waters spreading out across of Te Taitokerau as seen by this gracious manu/bird. Metaphorically, this hari speaks to the need for change in how we view and acknowledge water. It is a constant reminder of our responsibilities and obligations to protect, tiaki, and manaaki ngā wai o Tokerau for the present and future generations.

## Disclaimer

This discussion document has been prepared by Awatea Organics under contract to the Northland Regional Council (NRC), with the support of the Tai Tokerau Māori and Council Working Party (TTMAC), for the NRC's Tāngata Whenua Water Advisory Group (TWWAG).

This document has been prepared during the stage 1 works of the TWWAG workplan to summarise the reviewed literature, mātauranga/knowledge, and kōrero of wai/water in Te Taitokerau. Information in this document was discussed by TWWAG within workshops and wānanga. The document sets out the cosmological worldviews of Tāngata Whenua in relation to water and makes suggestions regarding vision, values, environmental outcomes, states, attributes, and tools.

It is envisaged the document will provide a foundation of knowledge of wai/water in Te Taitokerau and assist in engaging Te Taitokerau on the Freshwater Plan change and the realisation of Te Mana me te Mauri o te Wai.

This document is in no way a full and complete account of the richness of tangata whenua and the relationships we have with water but is intended to assist with public engagement.

It is not official NRC guidance, and:

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# Contents

|   |    |
|---|----|
| <b>Te Hari o Ngāpuhi</b> .....  | 2  |
| <b>Disclaimer</b> .....   | 3  |
| <b>Background</b> .....   | 7  |
| <b>Te Tai Tokerau Water Cosmologies</b> .....   | 10 |
| Maru – Guardian of the Waters of the Three Heavenly Realms (Maru & the Heavens of Water, Sunshine & Wind) ..... | 12 |
| Ngaroto – the 3 <sup>rd</sup> Heaven .....  | 12 |
| Wakamaru – the 2 <sup>nd</sup> Heaven .....   | 12 |
| Kikorangi – the 1 <sup>st</sup> Heaven .....  | 13 |
| Te Hurihanga Wai & The Dynamic Hydrological Nature of Water .....   | 14 |
| Tane Te Waiora – Tane the Light/Life-Giver .....  | 16 |
| Parawhenuamea – Personification of Water that springs forth from the Earth .....                                | 16 |
| Hinepūkohu / Hinekohu – Personifies Mist & Fog .....  | 16 |
| Hine Te Repo – Wetlands & Swamps .....  | 16 |
| Hinewai – The Goddess of Light Misty Rain .....   | 16 |
| Hine Te Etoeto – The Goddess of Evaporation .....   | 16 |
| Tangaroa – Guardian of the Sea .....  | 17 |
| Tane Mahuta – Separator of Heaven & Earth/God of the Forest .....   | 17 |
| Hineahuone – the “First Woman Created from Clay” .....  | 17 |
| <b>He Tirohanga Matakite – Long Term Visions</b> .....  | 18 |
| <b>The Origins of Te Taitokerau</b> .....   | 19 |
| <b>The Anatomy of Colonisation</b> .....  | 20 |
| Rangatiratanga .....  | 20 |
| The Land Wars .....   | 20 |
| Industrial Agriculture & Land Confiscations .....   | 20 |
| Police State .....  | 20 |
| <b>Nga Uara - Values</b> .....  | 21 |

|   |    |
|---|----|
| Hierarchy 1 - Ecosystem Health & Threatened Species .....   | 21 |
| Atuatanga – Honouring Atua as expressed in Te Hurihanga Wai - The Hydrological Cycle of Water ..... | 21 |
| Wairuatanga - Spirituality .....  | 21 |
| The Healing Properties of Water .....   | 21 |
| Kaitiakitanga – Guardianship and Protection .....   | 22 |
| Ngapuhi Kowhaorau. Ngapuhi Taniwharau .....   | 22 |
| Ngāti Hine Pukepukerau, He Puke He Rangatira, He Puke He Taniwha - Tuna Paea .....                  | 25 |
| Maramataka .....  | 26 |
| Hierarchy 2   Human Health .....  | 27 |
| <b>Ngapuhi Taniwha Rau   Environmental Outcomes</b> .....   | 28 |
| Water Quality Plan Change – Values & Objectives .....   | 28 |
| Other Outcomes .....  | 35 |
| <b>TW-WAG Attribute States &amp; Criteria</b> .....   | 38 |
| The Current State of Te Mana O Te Wai in Te Taitokerau .....  | 38 |
| <b>Attribute States</b> .....   | 41 |
| Key Attributes .....  | 41 |
| Ruawai/Puru Tuna – Underground Wetlands .....   | 41 |
| Hine Te Repo – Swamps & Wetlands .....  | 42 |
| Koroma .....  | 42 |
| Pupu Harakeke .....   | 42 |
| Poraka .....  | 42 |
| Tunatuna .....  | 43 |
| Kahikatea Swamp & Forest .....  | 43 |
| Waiora .....  | 43 |
| WaiMaori .....  | 44 |
| Waipuke .....   | 45 |
| <b>Tools for Assessing Impacts on Freshwater Values</b> .....                                       | 46 |

|  |           |
|--|-----------|
| Existing Models in Te Taitokerau ..... | 46        |
| Global Tools.....                      | 46        |
| Tools for Assessing Impacts.....       | 47        |
| <b>Bibliography .....</b>              | <b>51</b> |

# Background

The National Policy Statement on Freshwater Management 2020 (NPS-FM) (Ministry for the Environment, 2020), national environmental standards and regulations, as well as other related initiatives show that central government envisages a significant change in how freshwater is managed, with central government setting a hierarchy of priorities for water (first for ecosystems; second for human health; and then after these all other uses) as well as strengthening and elevating provisions relating to engagement and involvement of tangata whenua<sup>1</sup>, protection of Māori values, and specifying when tangata whenua and communities are to be engaged in implementing the NPS-FM. The NPS-FM also requires council to actively involve tangata whenua in its decision-making processes.

The NPS-FM sets the timeframes by which the NPS-FM must be implemented, investigate with tangata whenua use of mechanisms that may enable tangata whenua to be actively involved in resource management and more specifically, freshwater management<sup>2</sup> (Ministry for the Environment, 1991), as well as specifying the specific clauses that must be included in plan changes<sup>3</sup>, and an integrated approach. Te Mana o te Wai (Te Kahui Wai Maori, 2022), to some extent is itself recognition that tangata whenua have argued for a long time that they have not had enough participation and engagement in decision-making processes, with the obligation for increased involvement of tangata whenua. The Regional Policy Statement for Northland (Regional Policy Statement for Northland, 2016) includes provisions of relevance including policies under:

- Section 4.1 integrated catchment management; 4.2 region-wide water quality management; 4.4 maintaining and enhancing indigenous ecosystems and species; and 4.7 supporting management and improvement.
- Section 8.1 relating to tangata whenua participation in decision-making, plans, consents, and monitoring; 8.2 Iwi and hapū management plans; and 8.3 Māori land and returned Treaty settlement assets.
- The *Proposed Regional Plan* includes various provisions relating to water management.
- The draft *Te pae tawhiti Waimāori mo Te Taitokerau Northland Freshwater Strategy* outlines key aspects that affect how council will approach freshwater management over the next three decades. The draft strategy highlights the information and tools needed for Te Taitokerau to better manage freshwater and to protect and enhance the mauri of water and to ensure that relationships and partnerships with Māori are meaningful with an uncertain future. The draft strategy acknowledges that Māori and council have different values frameworks or 'world views', and that there is a need to balance council's usual 'western science' approach with Te Ao Māori and the strong desire that Māori must be involved in Council's decision-making. The draft strategy lists various actions needed over time to: deepen our understanding of the state of our freshwater; provide a clearer picture of future land use options, water demand and impacts of climate change; to adopt smarter and more strategic, locally appropriate approaches to water allocation, achieve improved water quality and sustainable use of land and water resources, as well as meaningful engagement with Māori and strong enduring partnerships.

Several of the Statutory Acknowledgments included specify mentions of various water bodies including:

- Arapaoa, Otamatea, Oruawharo, Wairoa, and Whakakei rivers as well as Kaipara and Mangawhai harbours and lakes within Pouto stewardship area and Te Uri o Hau Kaitiakitanga o Te Wai (Te Uri o Hau Claims Settlement Act 2002) (Te Arawhiti - the Office of Maori Crown Relations, 2002)
- Mangawhai harbour (Ngāti Manuhiri Claims Settlement Act 2012) (Ministry of Justice and Hapu Members, 2012)

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<sup>1</sup> Informal advice received from MfE is that councils must take a more nuanced approach and not limit engagement to iwi or hapū authorities, but also include whanau, Te Ture Whenua trusts and incorporations.

<sup>2</sup> E.g., RMA s.33, s.34, s.36B; and Mana Whakahono a Rohe.

<sup>3</sup> I.e., in relation to natural inland wetlands, rivers and fish passage.



- Awanui and Whangatane rivers, and Waikaramu, Rotoroa, Heather, and Ngatu lakes (Ngai Takoto Claims Settlement Act 2015) (Ministry of Justice and Hapu Members, 2015)
- Awaroa, Awanui, and Takahue rivers, and Wairoa Stream, Herekino, Hokianga and Whangape harbours. The importance of rivers for mahinga kai is specifically recognised including species: tuna, karawaka, inanga and watercress (Te Rarawa Claims Settlement Act 2015) (Ministry of Justice and Hapu Members, 2015)

Through engagement with its Māori Technical Advisory Group (MTAG) and Te Taitokerau Māori and Council working party (TTMAC), Council members have sought advice from tangata whenua representatives as to the extent to which they wish to be involved in both the overall strategy as to how council will implement the NPS-FM and specifically in relation to developing the freshwater quality plan change. The feedback and advice received was to set up a Tangata Whenua Water Advisory Group (TW-WAG)<sup>4</sup> as the main vehicle to lead development of the freshwater plan change component of the NPS-FM; and MTAG and TTMAC continue to be involved in the development of council's overall approach<sup>5</sup>.

TW-WAG will collaborate with council in developing the proposed plan change as well as commissioning targeted research on issues of relevance to tangata whenua (e.g., Māori values assessment).

Council will continue to engage with Iwi leaders through the Iwi and Local Government Chief Executives Forum (ILGACE) and its Wai Māori Group, and Council's Māori relationship team will continue to engage with MTAG and TTMAC on matters relating to decision-making, representation and Mana Whakahono a Rohe (MWaR). Issues relating to water ownership and rights is a matter still being discussed by tangata whenua and the Crown and how such issues are addressed is yet to be determined.

Broader engagement with tangata whenua will be part of each relevant process, e.g., through submissions and further submissions in plan change processes based on advice from TW-WAG and TTMAC.

Giving effect to Te Mana o Te Wai is a complex and wide-ranging obligation involving numerous tasks over time. It involves specified tasks relating to development of plan changes and action plans, it includes freshwater accounting, monitoring, and reporting. Plan provisions in themselves do not achieve the concept of Te Mana o Te Wai.

#### **Regulatory:**

- Freshwater plan changes (RPS and PRP) – water quality and quantity
- With tangata whenua, investigate transfer of powers & functions, joint management agreements and MWaR and representation in council's decision-making<sup>6</sup>
- Consents application processing, enforcement & compliance of PRP rules and National Regulations (e.g. stock exclusion)

#### **Non-regulatory:**

- Action Plans/Farm Plans
- Improvement Programmes
- Awareness raising/outreach
- Capacity enhancement/Internships/Scholarships/Leverage funding & human resources
- Research/SoE monitoring and reporting

<sup>4</sup> The Tangata Whenua Water Advisory Group met for the first time in January 2021.

<sup>5</sup> Te pae tawhiti Waimāori mo Te Taitokerau Northland Freshwater Strategy

<sup>6</sup> Council has appointed three TTMAC members to its freshwater planning workshops, who are also on TW-WAG.

- Lobbying central Government

(the bullet points above are an extract from Giving Effect to Te Mana o Te Wai) (Ngata, Wai Maori: a Maori perspective on the freshwater debate, 2018)

## Te Tai Tokerau Water Cosmologies

The prestigious status of water is deeply rooted in tangata whenua spirituality and metaphysical worldview. There are three origin sequences of the world for tangata whenua. The transition from darkness and nothingness to light and something; the separation of earth and sky; and the creation of the natural world. At each stage, water was a critical actor.

Genealogical charts express the organic processes of the beginning of time, such as that recorded by Reverend Maori Marsden whereby the beginning is described as the germination of a seed (Marsden, *The woven universe: Selected Writings of Rev. Maori Marsden*, 2003):

*Te Pu - the shoot*

*Te More - the taproot*

*Te Weu - the laterals*

*Te Aka - the rhizome*

*Te Rea - the hair root*

*Ko Te Waonui - the great forest*

*Te Kune - the conception*

*Te Whe - the consciousness*

*Te Kore - the nothingness*

*Te Po - the night*

*Ki ngā tangata Māori na Rangī raua ko Papa - and to the people of the sky and earth*

*Ko tenei te timatanga o te Ao - this is the beginning of the world of light*

It is without a doubt that creation required water as an essential supporter of life on earth. At the completion of the separation of Ranginui (sky father) and Papatuanuku (earth mother), Ranginui cried tears of love for Papatuanuku to help her to grow plant life to cover and protect her. (Ngata, *Wai Maori*. In: M. Joy, ed. *Mountains to sea: Solving New Zealand's Freshwater Crisis*, 2018)

Water is an expression of love between Ranginui and Papatuanuku. Te Ihurangi is The Sacred First Teardrop and the beginning of the hydrological cycle known to Māori. It was the union of Tāne te Waiora and Hinetūparimaunga, the goddess of mountains, that brought about Parawhenuamea, personification of freshwater on land. (Marsden, *The woven universe: Selected Writings of Rev. Maori Marsden*, 2003)

Water is a spiritual, living, intelligent being, which responds to people according to their energy and relationship to the water. Water has a memory of its own and changes its form according to the energy it encounters. Water is a superorganism – considered as different atua through the water cycle. (Best, 1924)

Figure 1 below is a chart we've put together compiling texts from multiple reports, studies, and literature (Calman, 2021) (Keane, 2006) (Best, 1924) (Marsden, God, man and universe: A Maori view, 2003) (Marsden, The woven universe: Selected Writings of Rev. Maori Marsden, 2003) (Ngata, Wai Maori. In: M. Joy, ed. Mountains to sea: Solving New Zealand's Freshwater Crisis, 2018) (Phillips, n.d.) (Waimata school, n.d.):

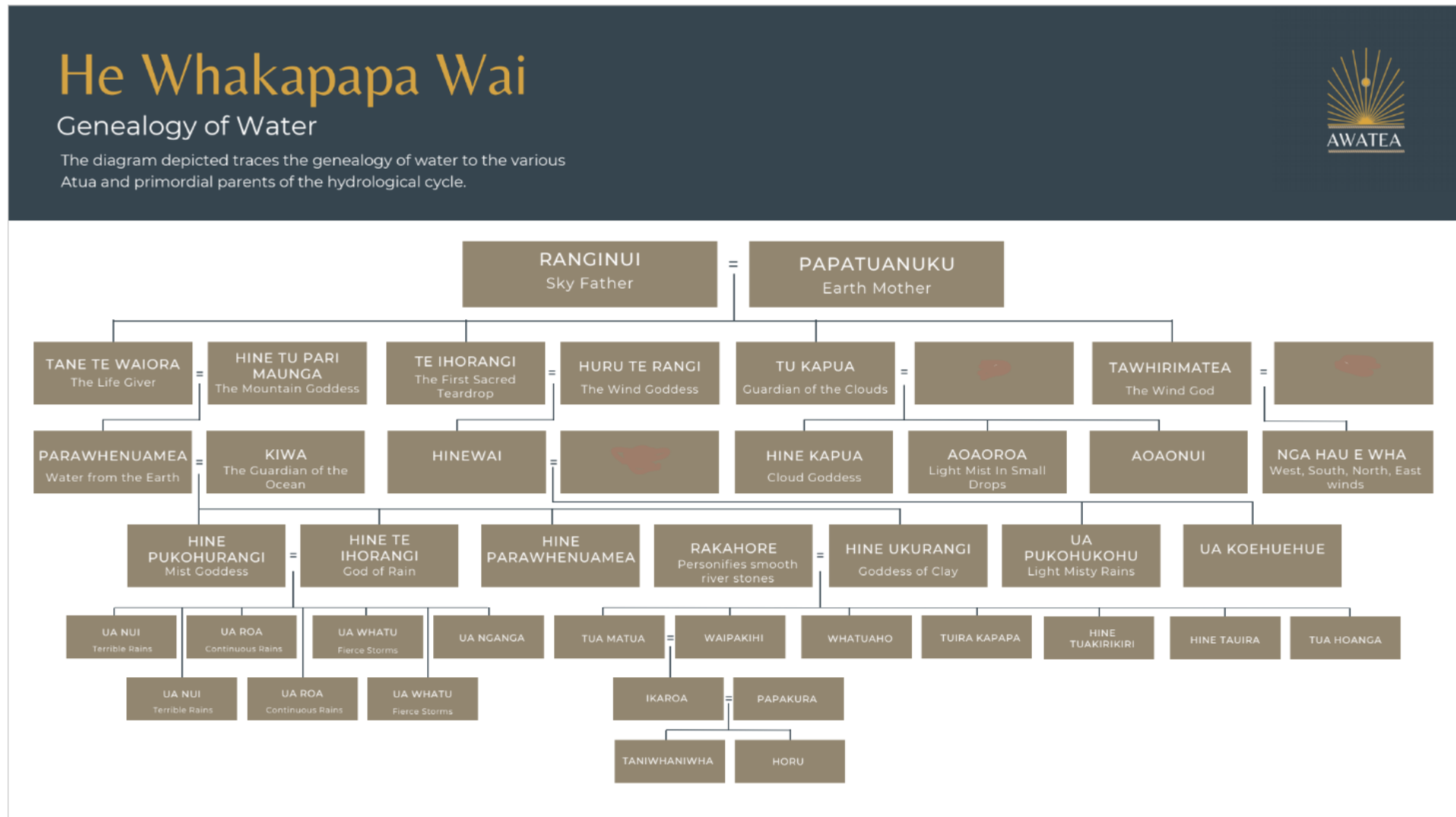


Figure 1: He Whakapapa Wai

## Maru – Guardian of the Waters of the Three Heavenly Realms (Maru & the Heavens of Water, Sunshine & Wind)

Maru is the atua whom resides over these three heavens and is known as the guardian of water. He is called on to protect the people. These are the heavenly realms where the dynamic system of precipitation originates.

Below is a chart of the heavens as told by publications by A. W. Reed (Calman, 2021). Of the multiple heavens, the first three are of the most significance to tangata whenua in Te Tai Tokerau region as these heavens relate to water, sunshine & wind.

| GREAT ATUA | NGA RANGI TUHAHA – THE HEAVENS | GUARDIAN                  | REALM OF   |
|------------|--------------------------------|---------------------------|--|
| RANGINUI   | 9 WAIRUA                       | REHUA                     | NAHERANGI  |
|            | 8 AUKUMEA                      | REHUA                     | SPIRITS  |
|            | 7 AUTOIA                       | REHUA                     | HUMAN SOULS  |
|            | 6 NGA ATUA                     | TAWHAKI                   | GODS   |
|            | 5 NGA TAUIRA                   | TAWHAKI                   | SPIRITUAL BEINGS   |
|            | 4 HAUORA                       | TAWHAKI<br>TANE TE WAIORA | NEWBORN SPIRITS  |
|            | 3 NGAROTO                      | MARU                      | LAKES – THE SPRAY SPLASHING<br>OVER TO BECOME RAIN           |
|            | 2 WAKAMARU                     | MARU                      | TAMANUITERA<br>TE IHORANGI<br>HURUTERANGI<br>SUNSHINE & RAIN |
|            | 1 KIKORANGI                    | TOIMAU                    | TAWHIRIMATEA<br>THE WINDS                                    |

### Ngaroto – the 3<sup>rd</sup> Heaven

Ngaroto the third heaven is of Lakes. Where the spray splashes over to become rain. Although he is the overseer of the first three heavenly realms, Ngaroto is the heaven where Maru resides.

### Wakamaru – the 2<sup>nd</sup> Heaven

Te Ihorangi (the first sacred raindrop) resides here with his wife Huruterangi (one of the goddesses of wind). They begat 12 children being the types of cold precipitation including ice, snow, frost, and hail. Te Ihorangi is also known to some as the father of tuna and other eels. Which are also believed to have come from this second heaven. (Calman, 2021) Tamanuitera also resides in this realm.

The following are potential further Atua who can also be explored in the following reports on environmental outcomes, states, and attributes:

- Hineteihorangi – goddess of precipitation
- Hinewai – goddess of light misty rain

- Hineteiwaiwa – procreation, the rhythms of life. This includes things like navigation, fishing, gardening etc.
- Ua nui – personifies terrible rain.
- Ua roa – is the personification of continuous rain.
- Ua whatu – personifies fierce storms.
- Ua nganga – the personification of hail.
- Uwhiuwhitaua – personifies showers.
- Tarariki – is the personification of persistent showers and cannot be mistaken for that of Uwhiuwhitaua.
- Makerewhatau – is the signal of thunder.

### *Te Ihorangi (the First Sacred Teardrop)*

Te Ihorangi, the first sacred teardrop, is a mischief maker that forever seeks an opportunity to pull the plug on Tū-kapua in order to release rain. Whenever he succeeds the water returns in the form of tears which contains the love of Ranginui for Papatuanuku and returns to the guardianship of Hine-parawhenuamea. It was the union of Tāne-te-waiora and Hine-tū-pari-maunga, the goddess of mountain ranges; hence the streams seen descending from the great ranges, that brought about Parawhenuamea. She is the origin and personification of the waters of the earth. She also personifies the deluge or floods that flush out the para or silt from the land out into the ocean. (Best, 1924) (Ngata, Wai Maori: a Maori perspective on the freshwater debate, 2018)

### *Tamanui Te Ra – Sunshine or The Sun*

The primary celestial being, Tamanui te Ra (known as Ra in many other Pacific islands) who's wives were Hine Takurua (the goddess of winter) and Hine Raumati (the goddess of summer). (Best, 1924) Hine Takurua resides in the ocean and is connected fishing. Hine Raumati dwells on the land and supports the growing of kai. Tangata whenua aligned to the seasonal configurations of the sun and the star family including solstice and equinox. Of particular significance are Takurua, Puanga, Pipiri, Rehua and many others for Te Tai Tokerau. Each of these celestial beings have tohu for tangata whenua (Best, 1924).

### *Kikorangi – the 1<sup>st</sup> Heaven*

Tawhirimatea lives here. He assists Tu Kapua, guardian of the clouds in cloaking Ranginui with different colours and shapes every day.

Te whanau puihi or the wind children, including the four winds, also reside here. Paraweranui resembles the South wind. While Tahumakakanui is the West. Tahumawakenui is known to be the East wind whilst Te Marangai is the North. (Calman, 2021).

### *Tu Kapua – Guardian of the Clouds*

The clouds are a sacred gift from Papatuanuku, the Earth Mother, to her husband Ranginui, the Sky Father. It is the duty of Tū-kapua and Tawhirimātea, the guardian of winds, to arrange that sacred cloak upon Ranginui. Each time we look skyward, the cloak takes on a different form and colour. This is carried out in the first and second heavens.

## Te Hurihanga Wai & The Dynamic Hydrological Nature of Water

Kōrero tuku iho (stories that has been passed down through generations) and oral traditions provide us an insight into the creation of water from a Māori worldview. It is without a doubt that creation required water as an essential ingredient for life.

One kōrero, speaks of the first manifestation of water by Wainuiātea during a time when everything was water. Wainuiātea was the first wife of Ranginui (sky father), and from this union came the great expanse of water, the oceans, and the gathering of all waters. The tamariki of this union are said to include: Moananui (the great ocean), Moanarua (the long ocean), Moanahakere (the gloomy ocean), Moanapotango (the dark ocean), Moana tu-i-te-wao (the oceans flowing towards the forest), Moana tu-i-te-repo (the oceans flowing towards wetlands).

Another kōrero speaks of Ranginui and his second union with Papatūānuku (Earth mother). This was at a time where Ranginui and Papatūānuku were locked in embrace, sandwiched together during the time of darkness – Te Pō. During this time these deities had many children, some accounts name over 70 children, and they lived between their parents in the dark. These children were unhappy with living in the gloomy, damp and dark, and hatched a plan to separate their parents. One of their sons Tāne Mahuta (Deity of the forest and birds), also known as Tāne te Waiora (Deity of the life giving waters) decided that he had had enough and pushed his parents apart, separating them, and thus creating the world we live in today, Te Ao Marama - the world of light. From these deities, water was given life.

At the completion of the separation, our tūpuna Ranginui and Papatuanuku wept for each other, they continue to do so every day. We acknowledge their weeping as Ngā roimata o ngā atua (the tears of Ranginui and Papatūānuku). From the sky father are the tears of rain – the tears of love for Papatuanuku to help her to grow plant life to cover and protect her. The tears from the earth mother are the weeping springs that come out of the land. The deities are joined in embrace on misty days when the water is felt by both. From their tears, they create and add to the vast waterways and oceans we have today. The water ways are known as the blood lines, the capillaries and veins of earth mother, with water land being toto or blood – the blood of Papatūānuku. On the land you will find wetlands – Papatūānuku's kidneys that filter out the contaminants. And it is no coincidence that we refer to a significant accumulation of water as a 'body of water', and that 70% of our bodies are made up of water.

That first sacred teardrop became the offspring of Rangi and Papa. He married Huru-te-rangi and together they begat twelve children, who personify different types of cold: snow, ice, frost, and hail. Maui called upon Te Ihorangi to aid him when he was assailed by fire after requesting fire knowledge from his grandmother Mahuika. He is also the parent of Tuna, the freshwater eel. In one tradition, the frost fish, river eel and conger eel are said to have sprung from Te Ihorangi and to have come down from the heavens to earth. (Best, 1924).

Figure 2 below provides one visual expression of Te Hurihanga Wai and connection between the atua and their realms. The following sections provide a summary of atua within Figure 2.

# TE HURIHANGA WAI

## The Hydrological Cycle

The hydrological cycle is an expression of love between the heavens and earth, and each stage is a critical component. The Atua who control these elements are in charge of condensation, evaporation, collection and precipitation.

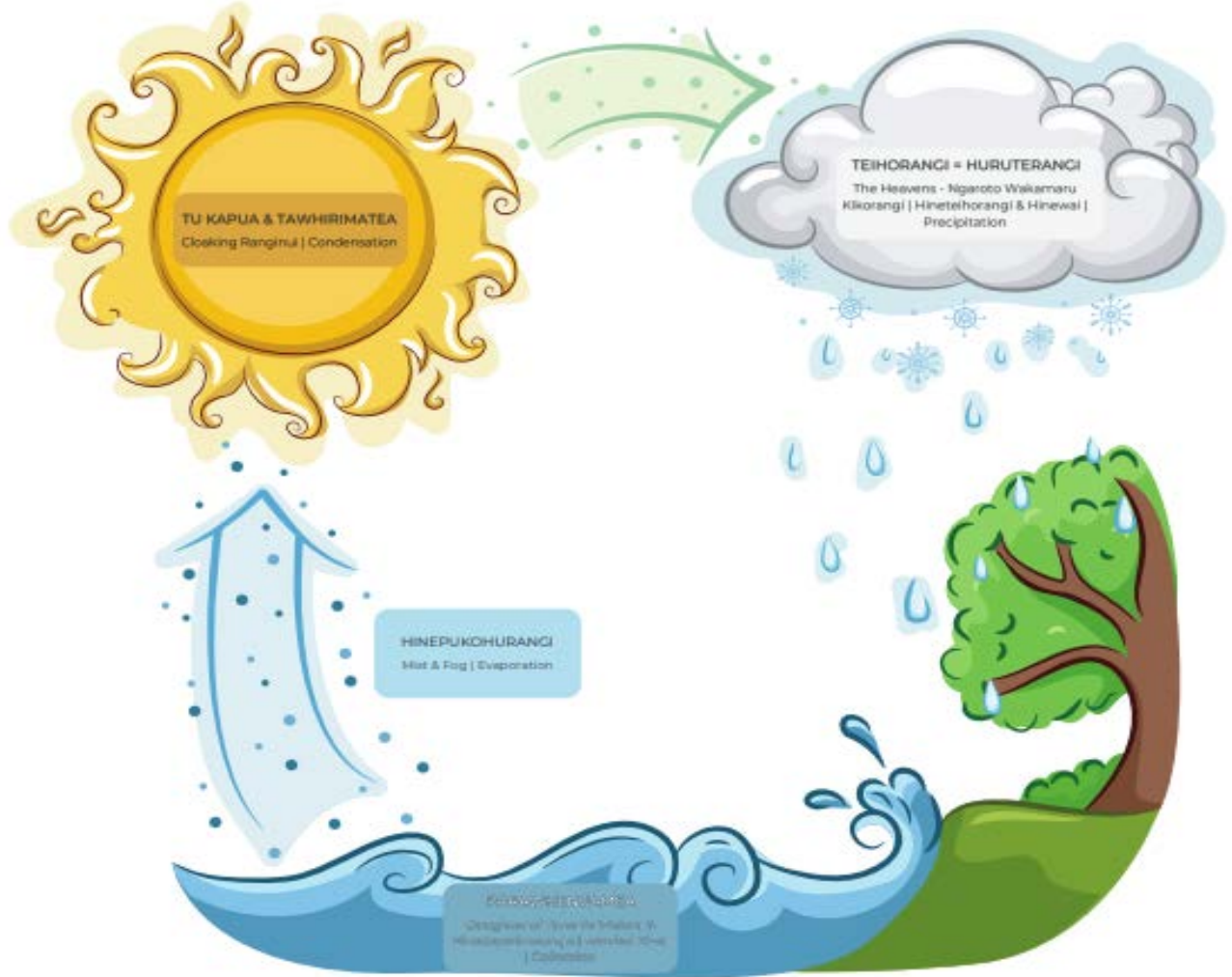


Figure 2: Te Hurihanga Wai / The Water Cycle



## Tane Te Waiora – Tane the Light/Life-Giver

Tane te waiora, is water absorbed by the trees which feeds into the rivers. Tane te waiora married Hinetuparimaunga and they begat Parawhenuamea.

## Parawhenuamea – Personification of Water that springs forth from the Earth

Parawhenuamea is the origin, personification, and parent of water on earth (including flooding). Parawhenuamea married Kiwa (the ocean) and begat Hinekohu.

Parawhenuamea is known as "the parent" of water, as shown in the following statement—"Na ko Parawhenuamea koia te matua o te wai." She was born of the Mountain Maid as most streams are. One recital shows her as the mother of Rakahore, who is the personified forms of rock. In the following line taken from a song we have the personified forms of mist, rain, and water: "Ka heke koe i a Hine-kohu, i a Hine-te-ihorangi, ka tau ana koe ko Hine-parawhenuamea." (Te Pae Tawhiti, 1991).

Parawhenuamea is the wife of Kiwa; guardian of the ocean, which is known as the great ocean of Kiwa, who personifies the ocean and estuaries. This is considered to be the shared domain where the couple meets (Heke, 2013; Williams, 2006). From their union, begat three daughters, Hine-kohu, Hine-te-ihorangi and Hine-parawhenuamea who represent other forms of water such as the rains and mists (Waka Huia, 2016; Heke, 2013). Parawhenuamea is a spiritual, living, intelligent being, which responds to people according to their energy and relationship to the water. Water has a memory of its own and changes its form according to the energy it encounters. In this respect we must remember that waterways are superorganisms - one river, with all its abundant species, living in harmony as one inter-connected as a whole.

## Hinepūkohu / Hinekohu – Personifies Mist & Fog

Hinekohu is the mist and fog. She is the personification of Papatuanuku releasing evaporation that eventually reaches the house of Tū-kapua, who is the guardian of clouds.

## Hine Te Repo – Wetlands & Swamps

Hine Te Repo is the personification of all wetlands and swamps and everything that inhabits these areas.

## Hinewai – The Goddess of Light Misty Rain

The female personification of light misty rain is Hinewai. Light rain was described as: uapukohukohu – misty rain, ua koehuehu – light mist falling in small drops, uwhiuwhi taua – a shower, tarariki – persistent showers. Everything has its male and female element. Lacking one element means nothing could survive as they depend on each other to acquire form, vitality, and growth. (Best, 1924) (Keane, 2006)

## Hine Te Etoeto – The Goddess of Evaporation

Hine-te Etoeto is the personification of evaporation - representing when water becomes a gas or vapour from its liquid form, that is, when water is heated, it evaporates and rises into the atmosphere as molecules of water vapour. Once water evaporates, it also helps to form clouds. Evaporation is the primary pathway whereby water moves from the liquid state back into the water cycle as atmospheric water gas or vapour. Hine-te Etoeto expresses the importance of her mauri in our water cycle, her mana in forming vapour from water, her ora to provide continuity for wai creation. Hine-te Etoeto is connected to her sister Hinepūkohu, both work together as an expression of the

tears of Papatūānuku which bubble up from the earth in the form of freshwater springs, rise and are warmed by the sun sitting within Ranginui and lingers as sighs of sadness as the soft mist or clouds that hang over her valleys.

## Tangaroa – Guardian of the Sea

Related to fish and tides. And one of many Guardians of the ocean.

## Tane Mahuta – Separator of Heaven & Earth/God of the Forest

“Kaua e wareware, kia tuhono ra ano te matua, te whaea, te tuakana me te teina, a Ranginui, Papa-tu-a-nuku, Tawihirimatea ratou ko Tangaroa, katahi ano ka hua te wai. Koina te mana o te wai, ehara na te Atua Māori kotahi noa iho. I timata te tapu o te wai I te wehenga o Ranginui raua ko Papatūānuku. Ka hua ake te wai I nga roimata o Ranginui ki tana hoa rangātira e takoto tahanga ana I raro iho I a ia. Ka ruia te whenua ki ana roimata ka hora ki te whenua katoa, waipuke rawa hei huna I a ia. Ko tona matenga, u, huha hoki anake I ihu puta ki runga ake I te wai. Ki aua wahi ka tupu te tini o Tane, tae noa ki te aitanga a Tiki, ki te moana ko te tini o Tangaroa. I hua katoa ai enei tini I te whakapapa mai I a wai. Koia e tapu nei te wai”. (Members, 2008)

## Hineahuone – the “First Woman Created from Clay”

Water is also explicit in the origin story of Hineahuone, the first human woman, who was shaped by Tane Mahuta and gifted elements from each of the gods. Tumatauenga (the god of war) gave her stomach. Tawhirimatea (the god of wind) her lungs. Tangaroa the water to flow through her body... and ours.

(the explanations above were extracted from multiple documents, including Iwi and Hapu Environmental Management Plans and Literature. (Calman, 2021) (Best, 1924))

## He Tirohanga Matakite – Long Term Visions

The inter-relationship of indigenous peoples with water, along with the inter-acting relationships of birds, plants, water, and insects is a deep understanding of system dynamics and is common amongst indigenous customary law. Practises of environmental management are multi-species focussed with a particular concern for riparian habitat known to ensure the wellbeing of Tangaroa. Wetland water levels are managed locally. Decisions are made communally on their protection by communities surrounding the wetlands. Traditional knowledge informs the actions taken to release and hold water according to the optimum health of the plant life, animal life such as eels and other fauna living within the wetlands.

Māori have the ability to 'commune' with water, to listen, smell, taste, and observe the waters and understand what each variation means. The wellbeing of Tangaroa demonstrates the ability to work together, to care for the riches of nature, to remember and retain the skills that the ancestors refined over thousands of years, and to honour responsibilities to Atua (the gods and spirits). All of these practices reward Māori with abundant kai (food), and that in turn increases mana.

Most names of waterways were imparted after great ancestors who were often the first to inhabit the area. Waterways illustrate the communities' identity and stories of origin. The formal way of introducing oneself as Māori begins with the name of our ancestral mountain and follows with the name of our ancestral waterway. The river is a symbol of life and our whanaungatanga. Water is not just an ingredient but an active participant in the making of life and the enjoyment of life. Water is 80% of all living things (Water Science School, 2019). Organisms absorb many essential nutrients from water. For all of these reasons, it is commonly known that Māori have an abhorrence for waste to be discharged directly to water (Simmonds, K., Austin, D., Madison, M uplifted from waternz.org.nz).

Ancient indigenous wisdom and shared ideologies across all indigenous peoples of the Pacific can influence our vision for Te Tai Tokerau<sup>7</sup>.

The expression of a long-term vision is required for the Freshwater Plan change. Long-term visions are usually short, comprising a few words or a sentence. The Ministry for the Environment requires that the vision meets time requirements of NPF-FM, similar time frame as Northland's vision, includes the word 'resilient' that incorporates a climate change element, and covers Te Mana o Te Wai (protecting the mauri of the water) and its hierarchy of obligations. (Ministry for the Environment, 2020). The following has been suggested by the Northland Regional Council:

*"In 30 years' time, Northland's freshwater ecosystems are healthy and resilient, the mauri of the water is protected, and our clean and secure water supplies support thriving communities"*

The Tangata Whenua Water Advisory Group has considered several whakatauki and atua who encapsulate a tangata whenua vision for Te Tai Tokerau. For discussion purposes, they are as follows:

1. Kia whakanuia te mana o Te Ihorangi, the first sacred teardrop
2. Kia whakanuia te mana o Parawhenuamea me Kiwa
3. Kia whakanuia te mana o Maru, Atua of the Water Heavens.

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<sup>7</sup> Te Urewera is ancient and enduring, a fortress of nature, alive with history, its scenery is abundant with mystery, adventure, and remote beauty. Te Urewera is a place of spiritual value, with its own mana and mauri. Te Urewera has an identity in and of itself, inspiring people to commit to its care.

## The Origins of Te Taitokerau

After the separation, during the third evolutionary period, Rata, son of Tawhaki, used the first adze to build a waka. Rata was the son of Hinetuahoanga, the Goddess of Sandstone. Thereafter we began the first settlements of the Pacific Islands of Te Moananui a Kiwa. Setting forth beyond horizons to discover tiny dots of islands amidst the largest ocean on earth, travelling back and forth again and again, meeting other thriving cultures in Africa, Asia, Turtle Island and beyond. Sharing food and knowledge and returning to settle in these islands. By 1500BC we had fully explored Te Moananui a Kiwa. First contact was made by Maui the great demi-god and navigator who named our island Te Ika a Maui. Hina was his companion goddess. When early European sailors entered the Pacific around 1600AD, 3000 years later, they noted that the Pacific was of one culture. The Polynesian triangle, known as the country of Polynesia, is made up of 10 countries of Pacific nations including Tokelau, Tuvalu, Rarotonga, Hawaii, Tahiti, Noumea, Niue, Samoa, Fiji, Tonga, Aotearoa, Rapanui, and French Polynesia with 1000 scattered islands over 10,000,000 square miles with one shared common language and spirituality.

Kupe, the great voyager is known by all of Polynesia as a great chief of Hawaiki who settled in the Polynesian islands. His mother was from Rarotonga. And his wife, Kuramarotini, was the guardian of Maui's fishhook which she kept in her home. She is known to have given instructions to Kupe. He landed around 500BC, his journey circumnavigating and settling around Aotearoa are well known by tangata whenua today. Shortly after he returned to Hawaiki. The whakatauki provided below is believed to be what Kupe explained to Nukutawhiti, his grandson, on how to return to the lands of Aotearoa:

*"Waiho ki te taha katau o te ra, o te marama, o Kopu, rere ai" (At the break of light in the morning, hold your waka to the left of Kopu and set sail.)*

Ruanui, kaihautu of Mamari was Nukutawhiti's brother-in-law. "Ko nga waka I mauria mai ai tenei ingoa I Hawaiki ko Ngatokimatawhaorua raua ko Mamari" This is the beginning of settlement by Ngāpuhi of Te Tai Tokerau 1500 years ago. All of the descendants of Ngāpuhi, descend from Rahiri, whose mother, Tauramoko, was a descendant of Nukutawhiti.

# The Anatomy of Colonisation

## Rangatiratanga

**1642** – early Europeans first sight of many Pacific islands

**1772** – Hongi Hika was born

**1814** – Hongi travels to Sydney. At this time, missionaries and early settlers on trade ships in the BOI

**1818** – Hongi's campaigns south. And trade in not only firearms and ammunition but also agricultural tools which allowed for the agricultural revolution of Ngāpuhi. They experimented with different crops and grew huge amounts for the markets.

**1819** – Marsden recorded an increase in agriculture 10-fold.

**1820** – The first plough was imported and spades by Hongi Hika. He visited England and bought back muskets.

**1830s** – Exporting goods to Australia and beyond

**1835** – The signing of the He Whakaputanga document and the agreement to the common flag to be flown on international ships. Potatau te Wherowhero, The King of Tainui at this time, had agreed to put aside our differences and signed this declaration with us.

**1840** – Te Tiriti o Waitangi was signed.

## The Land Wars

**1845 – 1846** – the Northern land wars – Kororareka, Ohāeawai, Ruapekapeka (11 March 1845 to 11 Jan 1846)

**1856** – The NZER referred to Māori as landholders, farmers, graziers, seamen, shipowners, labourers, and artisans.

**1852** – The NZ Constitution Act established the New Zealand government

**1852 - 1872** – The Southern wars began. During this time Ngāpuhi sent warriors to the Southern tribes to help in warfare against the British.

## Industrial Agriculture & Land Confiscations

**1858** - The Wastelands Act 1858 allocated millions of hectares of land to settlers for farming and made 1000s of Māori refugees in their own country. This was the origin of colonial water management and the dream to make Aotearoa the new England. Contributing to today's water crises.

**1865** - The Native Lands Act and the opening of the Māori Land Court establishing the legal fragmentation and theft of Māori land.

## Police State

At the close of the Land Wars many soldiers set up police stations by court houses to enforce the new laws. These were stationed in Rawene, Whangārei, Tāmaki Makaurau, and other areas

**1878** - Harbours Act was introduced

**1898** - The Dog Tax war in Hokianga began

Since the Land Wars, tangata whenua of Te Taitokerau have called for the respect of their indigenous wisdom and ways of life. All Iwi and Hapū Environmental Management Plans refer to a vision of returning to living in harmony again with Mother Earth and the ability to pursue our spiritual aspirations in regard to our relationship to water.

# Nga Uara - Values

## Hierarchy 1 - Ecosystem Health & Threatened Species

### Atuatanga – Honouring Atua as expressed in Te Hurihanga Wai - The Hydrological Cycle of Water

In all IHEMPs tangata whenua value their spiritual relationship and responsibilities to the Atua of water. They have distinct systems, customs, and beliefs regarding their relationship to the land and water. These lands hold stories, traditions and laws that have regulated the human and environmental relationship for 1000s of years. All IHEMPs have sought to place a Māori understanding of the world at the forefront and our responsibilities as tangata whenua.

As demonstrated through the many pūrākau, these atua have always had personalities to tangata whenua and the New Zealand government has now designated and recognised the need for protection through legal personality, including rights, powers, duties and liabilities (Te Urewera). We value how ecosystems function and the importance of aligning to the cycles of water through the understanding of water as an ancient intelligent being(s), which has both physical and spiritual elements. Water has memory, that responds to energy, karakia, whangai hau. The way we interact is with regard and with an ethic that the taonga (treasures)<sup>8</sup> of nature will be returned with interest.

### Wairuatanga - Spirituality

When Hineahuone was fashioned with earth and gifted elements of the Atua, a part of the heavens was also placed within her. This is why Māori believe so deeply in their spirituality because of their foundations are from the heavens and the universe. Spiritual principles include,

- kotahitanga (oneness & unity),
- The law of duality – the balance of the feminine and the masculine,
- the law of ngāhere - Strength in diversity, and multiplicity, and
- the law of whangai hau or returning the spirit to the Atua to ensure the return and the whangai hau is always given back with interest.

Wairuatanga is expressed in ceremonies beside springs and within rivers, it is celebrated in the songs, mantra & identity of the local peoples. Guided by our tohunga and healers. The relationship with waterways provides gifts for the health and wellbeing of both parties, including both sustenance and healing.

### The Healing Properties of Water

The importance of water is reflected in the multitude of many names for water: Waiunu or Waimaori refers to drinking water; Waipukepuke is water that has been whipped by the wind to form peaks; Waihuka is frothy water; Manowai is water that has deep, strong undercurrents; Waiwhakaika refers to the specific ceremonial waters for the embedding of knowledge; Waiariki refers to healing or curative waters, often hot springs. At the other end of the scale, we have Waiparu, clouded waters; Waipiro, odorous waters; Waikino, polluted waters; Waikawa, rancid, slow-moving waters; and Waimate, stagnant, dead or death-inducing waters, to name a few.

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<sup>8</sup> As also guaranteed in Te Tiriti o Waitangi

Our ability to interact with these many forms of water appropriately depended upon our ability to 'commune' with the water, to listen, smell, taste and observe the waters and understand what each variation meant. Water has intelligence, comprised of its nature and the multitude of life forms within it that respond to various stimuli. Water communicates its needs to us, and our comprehension depends entirely upon the intimacy of our relationship with it. The maintenance of this relationship sits at the heart of kaitiakitanga – our principle of care and protection.

The relationship with waterways provides gifts for the health and wellbeing of both parties, including both sustenance and healing.

Traditional knowledge of the lunar and solar cycles which impact on water have been developed over many generations. It is well known amongst Māori that the maximum impact of planetary energy affects the water and ourselves. Traditionally planting and gathering food aligned to this maramataka and there are many versions in existence still followed today. Ceremonial times of prayer, fasting and advancing the inner journey are held during first quarter on the day named Hune, on full moons and new moons, to balance ourselves. The moon enhances energy, if you are peaceful, you will become more peaceful.

## Kaitiakitanga – Guardianship and Protection

Water communicates its needs for us, and our comprehension depends entirely upon the intimacy of our relationship with it. The maintenance of this relationship sits at the heart of kaitiakitanga (principle of care and protection) (Ngata, T. Te Wai Māori uplifted from <https://thespinoff.co.nz/atea/06-11-2018/wai-maori-a-maori-perspective-on-the-freshwater-debate>). Kaitiakitanga is based on traditional Māori world views and includes the conservation, replenishment, and sustainability of the environment ([sciencelearn.org.nz](http://sciencelearn.org.nz)). Kaitiakitanga is integrated with the spiritual, cultural, and social life of tangata whenua; is holistic across land and sea; includes people as a descendant and integral part of the environment; is locally defined and exercised; does not focus on ownership, but on authority and responsibility; kaitiakitanga, a sacred obligation to protect Papatuanuku; and is concerned with both sustainability of the environment and the utilization of its benefits. ([environmentguide.org.nz](http://environmentguide.org.nz)).

Traditionally, kaitiaki were known as plant life and animal life. Birds were kaitiaki who brought messages from the natural world. Trees were considered to be kaitiaki of mother earth, holding her intact and sheltering all of the life around them. But in a modern context, and particularly since the 1991 Resource Management Act, Māori have taken on the role as a need to manage the health of the environment more actively from an indigenous perspective. Whilst not yet fully supported by government, Māori have embraced this responsibility and have expressed their rights to guardianship throughout the country. In practicing kaitiakitanga individuals may have specific roles, these are all exercised in terms of a collective responsibility determined through whakapapa (genealogy) and tikanga (custom). Collective decisions to take action to improve the wellbeing of waterways are made during community meetings held at marae, the central ceremonial gathering place of the community. Local knowledge is shared and discussed at length and when decisions are made, they are validated by closing prayers and a feast of the food of the local waterways and cultivations. Their care for water supports the sacred relationship to traditional crop varieties, wild foods, medicinal plants and other taonga.

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## Ngapuhi Kowhaorau. Ngapuhi Taniwharau

This whakatauki (*Ngapuhi Kowhaorau. Ngapuhi Taniwharau*) refers to the diversity of Ngāpuhi and relates to the many hapū within Te Whare Tapu o Ngāpuhi. This was often used to describe the northern people. One interpretation of Nga Puhi kowhao rau is Nga Puhi of a hundred caves. This is a reference to the taniwha who live in caves

and great chiefs are referred to as taniwha. Therefore, there were hundreds of great chiefs in Nga Puhī and when it is applied it is generally to highlight the fierce independence that each chief and hapū adhered to.

Taniwha are the supernatural guardians who protect the oceans, rivers, lakes and caves. Their forms and characteristics can vary from all types of things. For example; humans, dragons, and serpents. Others were often perceived as things like reptilians and sometimes logs floating along the river. They hid in lairs of caves, dangerous waterways, and pools were always to be avoided. They were often called on for things like strength protection and courage. The many Taniwha of Te Tai Tokerau shaped the cultural landscape of the region. Some came with waka. Listed below are their stories.

### *Pokopoko*

The great dragon of the Kaipara was Pokopoko (apparently a deified or taniwha-fied hero of olden days) who dwelt in a cave under a half-tide rock at the western head of the Kaipara River, close to which the white man's steamers pass. Not far away is Shelly Beach, a native settlement, and in its vicinity are the vestiges of a cliff on which once stood the great Okāka Pa. This was Pokopoko's hunting-ground. Here he was wont to assemble his army of sea-monsters, of gamboling taniwha and marakihau; they would gather here and perform their singular evolutions before the dread cavernous eyes of their sea-lord. And he would place his sacred brand on their backs, a mark in kokowai (red ochre), and the wonderful inspection parade of the Māori Tritons would be dismissed. The only taniwha, say the Northerners, who would not bow before Pokopoko and submit to the sea-god's earmark were Niua and Arai-te-uru, who now dwell under the Heads of Hokianga Harbour. Possibly the sea-creatures of Pokopoko's marine parade were a school of blackfish, or of porpoises, or a herd of the vanished sea-lions, which would readily become taniwha to any Māori of a reasonably imaginative mind. <http://nzetc.victoria.ac.nz/tm/scholarly/tei-CowYest-t1-body-d1-d18-d3.html>

Seven generations ago Pokopoko destroyed the Okaka Pa and all its inhabitants. A tohunga named Mawe, who cherished a grudge against the Ngāti Whātua people of the Kaipara, journeyed here from the Bay of Islands and invoked the assistance of the Lord of the Taniwha. He performed his makutu ceremonies and repeated his incantations and called upon Pokopoko to rise and destroy the Pa which stood on the cliff top. And the monster, responding, roused himself in his salt-sea cave, hung with waving masses of kelp. He raised his voice like the rolling of thunder, and burrowed under the cliff face, and the winds and the waves came at Pokopoko's call, and lightnings flashed and thunder crashed, and in the turmoil of the elements the Pa collapsed, the hill crumbled, tottered, and crashed down into the furious surf, carrying with it the people and their dwellings. All perished, and what a feast was Pokopoko's when Okāka fell!

### *Āraiteuru*

Āraiteuru travelled from Hawaiki, the mystical homeland of many Māori tribes. Some accounts have Āraiteuru traveling before the waka, Mamari, and other accounts say that she escorted the waka Mamari on its voyage to its new home. Another source claims that Kupe, a famous traveller, left Āraiteuru who was one of his pets, to guard the harbour as the south head.

In whichever manner Āraiteuru arrived at the new island, she made her home in the area which is known today as the Hokianga Harbour. She arrived at her new home pregnant, and she gave birth very shortly after her voyage. She had eleven taniwha sons, all of whom turned out to be rather competitive in nature. Her eldest, Waihou, boasted that he could burrow farther than any of the others. Upon hearing his claim, she asked all her children to go and see the country in which they lived, burrowing as far as they could. Then, they were to report what they had seen. Each of her sons made a journey, but not all of them returned to tell the tale. However, they each left behind essential aspects of the Hokianga Harbour and surrounding geography as part of their borrowing quests.

Today, Āraiteuru lives in a cave to the south of Hokianga Harbour, where any passer-by can see the heavy surf breaking across the bar. She is the guardian taniwha of the region, companioned with another taniwha named Niua / Niwa / Hiwa, who lives to the north of the harbour. Locals make sure not to bother or anger Āraiteuru, for she has



been known to raise storms or even wreck traveling water vessels on the bar over her cavern in response to provocation. The sons of Āraiteuru featured in this story are listed in the following:

- Mangamuka
- Motukauri
- Ohopa
- Omanaia
- Orira
- Utakura
- Waihou
- Waima
- Wairere / Waireira
- Wairupe
- Whirinaki

### *Niua/Niwa/Hiwa*

According to local legend, the north and south heads of the Hokianga Harbour were once giant taniwha. These Taniwha were Āraiteuru and Niua, who became the guardians of the entrance to the Hokianga harbour, where they materialise in many forms to this day, including rocks and waves. Their job is to lash out with their powerful tails and stir the waters into such frenzy that invading waka would be swamped and rendered helpless in the sea. Stated below is a whakatauki or proverb from Ngāpuhi:

*"Kotahi ki reira ki Āraiteuru, kotahi ki reira kotahi ki Niua, ā homai he toa, he kaha e aua taniwha ki Ngāpuhi – One there is Āraiteuru, another there is Niua; may those taniwha bring courage and strength to Ngāpuhi". – Tāhuhu Kōrero (2008)*

### *Takauere*

Historical accounts tell of Kareariki, an ancestress of the local Māori, who discovered the hot springs in the late 1600s. Kareariki later killed some of her female slaves who thereupon became taniwha in a nearby lake, collectively taking the form of a kauri log known to this day by the name Takauere.

The springs, streams, rivers, and lakes are all a part of his body; Lake Omapere being his heart and belly, Ngawha his eye and head, with his major limbs being the Waitangi River to the east and the Utakura and Waima rivers to the west. The numerous springs throughout the north are regarded also as indications of his presence. The Utakura and Orukiruki waters find their way to the Hokianga and the Waipapa waters find their way to Waitangi – and wherever the waters flow, the relationship of tangata to whenua and of tangata to tangata is implicit. Thus the presence of Takauere unifies nga hapū of Ngāpuhi-nui-tonu.

## Parawetā

Parawetā is an important taniwha and kaitiaki for ngā iwi o Muriwhenua, especially around the of the west coast of te hiku o te ika. According to kōrero tuku iho, Ngāti Ruanui onboard the Mamari waka brought wetā with them on their journey to Aotearoa. One of the kaitiaki onboard, Karu-tahi, took a liking to the wetā and looked after them on the journey. As the Māmari arrived near Te Oneroa a Tohe, the people onboard started to clean the waka, and started to throw the droppings from the wetā overboard. Unbeknown to Karutahi, the wetā also ended up in the ocean. Karutahi was full of rage once he released what had happen and he jumped into the ocean full of rage. He cursed the people on the waka and turned himself into a taniwha "Parawetā" (wetā excrement) forever patrols the western seaboard and the waterways flowing along Te Oneroa a Tōhe (90 Mile Beach) including Wairoa, Waimimiha & Tāngonge. Within the Wairoa Parawetā is said to reside at certain times at Te Puta o Paraweta, a lair located on the rivers bend. Parawetā is said to return the bodies of those drowned at sea, but not before taking one of their eyes.

## Ngāti Hine Pukepukerau, He Puke He Rangatira, He Puke He Taniwha - Tuna Paea

A long time ago there were no rivers near Otiria. Further up the valley, there was only a lake and near this deep murky lake, lived a hapū. One day the chief and his warriors decided to go eeling in the lake. It was a marvellous day for it, and they were catching multitudes of eels. The chief reclined in his waka and dangled his foot in the cool waters. Unknown to him, beneath the murky waters lay Tunapaea, an enormous eel, who had come from Hokianga and who was beginning to feel hungry. Suddenly from the depths of the lake rose Tunapaea, and with one almighty chomp, he bit the chief's leg off and quickly returned to the bottom of the lake to finish his meal.

The chief cried out in pain and the warriors rushed to his aide. The warriors quickly returned the chief to their marae to get help. The entire hapū had vowed to capture this great tuna. Meanwhile Tunapaea began to worry that the warriors would return to hunt and kill him. So that night he began to plan his escape and early the next morning he lifted his enormous body out of the lake and began forming the Orauta River. He dragged himself across the land to Maungarangi, here he rested and as he did, he formed a swamp. He rose the next day and travelled towards Tuhipa. There stood Tuhipa, Tuhipa the strong, Tuhipa the proud. Tunapaea spoke to Tuhipa.

*"Move aside o tall one!"*

*"Kahore" was the reply from Tuhipa.*

*"Move aside o proud one or we will do battle!" Said Tunapaea.*

*"Kahore" was the reply again from Tuhipa.*

Tunapaea tried to move around Tuhipa, but Tuhipa was too quick and cut him off. Tunapaea tried to trick Tuhipa; he dodged to the other side. But again, Tunapaea was too quick, cutting him off. Tunapaea was now angry, he bit into the side of Tuhipa, Tuhipa was enraged, and he started hurling huge rocks at Tunapaea. His aim was true, and he bombarded Tunapaea. Tunapaea turned away in pain. But Tuhipa continued his volley of rocks and Tunapaea fell off the cliff. Where he landed, a lake was formed and even today the splashes he made can be seen when the sun shines and rainbows appear (known as Te Rere Aniwanianiwa). Tunapaea was now injured and very fatigued, as he continued his journey. So, he laid down to rest his head (this resting place is now call Taiakiaki). Tunapaea was so fatigued he no longer knew what he was doing, causing him to fall into Taikirau (the stream near Pokapu which comes from Motatau). Tunapaea went back to Taiakiaki. Tereawatea was formed as he struggled to get back across the valley. Once again becoming fatigued he lay in the river causing the water of the bank to back up and another waterfall was formed where the railway bridge is now. Tunapaea went down Waipuna, helped by the water which pushed him down. This is how the Kawakawa River was formed. He continued down to Taumarere and out to sea.

## Maramataka

This collates to the cycles of the moon and celestial beings including, Tamanui te Ra. It is also connected to the local environment of tangata whenua who guide their way of daily life and through the cycles which produce abundant nutritious foods. The Maramataka also connects to seasonal indicators of all types of climatic events, from the migrating of birds, fish and whales to the flowering of certain trees, to the position and appearance of celestial beings.

Hine Te Iwa controlled the rhythms of life related to gathering food, hunting, medicine, weaving, wananga, navigation, guided by the phases of the moon, configuration of the stars and seasonal weather patterns of Tawhirimatea.

## Hierarchy 2 | Human Health

*"He huahua te kai? A he wai te kai" "Are preserved pigeons the chief's food? No. It is water" – Ngāti Rehia IHEMP 2014*

All-natural water has value and sustains some form of life. Water is a sacred resource to Ngāti Hine, to be given the highest level of protection.

Water, in all its many forms – rain, springs, wetlands, streams, lakes, estuaries and the sea itself – is central to our existence as Ngāti Hine. It is used to feed kaumatua, sustain, transport, cleanse and purify all those that inhabit our ecosystems including people.

Social - Significant puna are named, some are tapu, some associated with pa, and some are associated with gardens. Ngāti Hine history, strength, and mana stems from water – waterways are a sacred resource and a taonga. There is no aspect of water ignored.

Mahinga kai– areas and locations where food or any sort is gathered, grown, or hunted, including forests, swamps, lakes, rivers, cultivatable soils, etc. "Some of the food we eat out of our waterways are, Torewai – freshwater pipi, Watercress, Mussels (Gradual decline), Mohi (whitebait), Kewai – freshwater crayfish, Short jaw Kokopu (At Risk), Tunatuna (juvenile eels), Tuna kuwharuwharu - Longfin eel (Chronically Threatened so not so much is eaten at the moment), etc." (Shortland, 2012, p. 28)

The Ngāti Hine diet is comprised of many animals that make their home in or around water. Fish, shellfish, reptiles, amphibians, birds, and insects are all resources Ngāti Hine use for sustenance. Wetlands also supply plants of cultural significance like harakeke, raupo, toetoe for weaving, kuta for carving and to make tools and other plants used to make traditional medicines.

Water itself is the primary component of many Ngāti Hine medicines. Ngāti Hine utilize it for a number of health benefits including, drinking water, hot and cold compresses, showers, short "dunks", long baths for detoxifying, foot baths, hand baths, herb & medicated baths, packs, sponging, steams and teas with infused herbs and/or perspiration inducing. Some of these are carried out or administered in rivers or beside springs but many are prepared in the home where the waiora is taken to.

Early laws were known as Kupe's laws, which included; Whanaungatanga, Mana, Tapu, utu, muru and kaitiakitanga;

- WHANAUNGATANGA – Relationships, whakapapa, the glue holding the world together, the centrality of kinship.
- TIKANGA – The behavioural guidelines for living and interacting with others.
- AHUWHENUA & HUA PARAKORE – Traditional livelihoods and occupations, creating abundance, of the highest order particularly those related to food and medicine. The favoured livelihoods as referred to above were as landholders, farmers, graziers, seamen, shipowners, labourers, and artisans. The use of rivers and estuaries for travel, and trade was extremely important.
- MANA & MAURI – Status, honour, and life essence.
- TAPU – Sacred prohibition – Rahui (temporary prohibition, restricting access to taonga)
- UTU & MURU – The law of return, reciprocity, and fines for breaches (tool?)
- RANGATIRATANGA – Te Tiriti, ahika, mana whenua mana moana – Kiwa, Puhikiaiariki etc
- MANAAKITANGA – Understanding our sustainable cultural foodscapes. The ability to foster others with seafood, vegetables nutritious and pleasing.

# Ngapuhi Taniwha Rau | Environmental Outcomes

## Water Quality Plan Change – Values & Objectives

The table below compares the suggested Freshwater Values and Environmental Outcomes with the Iwi Planning Documents lodged with the Northland Regional Council.

| Giving Effect to Te Mana me te Mauri o te Wai   | Nga Uara - Freshwater Values   | Objectives (Environmental Outcomes) <sup>9</sup>  | IHEMPS – 18 lodged with council almost 30 years ago Extracts which will be articulated further in the Rules section   |
|---|--|---|---|
| <p>1 Mana Atua, Mana Whenua</p> <p>Ecosystem health</p> <p>The ecosystem of water from a tangata whenua perspective is a dynamic system of inter-related living spiritual higher beings. It</p> | <p>ATUATANGA</p> <p>We hold sacred the law of utu, of return, reciprocity, balance, harmony and equilibrium. The need to ensure the water cycle ever flows. That the rain falls from Ranginui and is revered as coming from the heavens, caught by Tane Mahuta who feeds Hine Te Repo, the goddess of the wetlands, who then flows to the ocean.</p> <p>The need to close the water cycle – water must be seen and managed in an integrated holistic way as per its cycle (Ngātiwai)</p> | <p>The acknowledgement, protection and restoration of the mauri of the Atua including taonga species</p> <p>The divine water cycle in its entirety is respected and supported:</p> <p>The three sisters who are all forms of water.</p> <ol style="list-style-type: none"> <li>1. Hine Te Ihorangi – rain (Hinewai – light misty rain – supports fungi)</li> <li>2. Hine Kohu – rising mist, estuaries, greets rangi and papa at first light and bridges their separation. Low clouds, mist or fog. She is also of the kapua family.</li> <li>3. Hine Parawhenuamea – water on earth</li> </ol> <p>THE RELATIONSHIP OF SOIL, WATER &amp; STONE</p> <p>Rakahore – smooth river stones</p> <p>Hineukurangi – clay...</p> <ol style="list-style-type: none"> <li>1. Hinetuakirikiri – gravel</li> <li>2. Hinetuahoanga – sandstone</li> <li>3. Hinetauira – flint</li> </ol> | <p>Patuharakeke (incl years) calls for stringent and enforceable controls on the following activities given the risk to water quality:</p> <ol style="list-style-type: none"> <li>1. Intensive rural land use</li> <li>2. Subdivision and development adjacent to waterways; and</li> <li>3. Discharge to land activities associated with industry</li> </ol> <p>They also call for all aquifers to be protected from contamination and over-allocation and that all puna and repo are protected from inappropriate use and development.</p> <p>Ngātiwai in 2007 articulated 39 methods for water management (refer appendix)</p> <p>Whakatakoto Kaupapa mo te Hapu o Ngāti Kuta ki re rawhiti 5<sup>th</sup> Edition calls for water quality</p> <ul style="list-style-type: none"> <li>• The high quality of water for food sources extracted from our waterways will be kept in a consumable state at all times</li> <li>• A high quality environment for all freshwater and marine wildlife and that all waterways are maintained and sustained at all times</li> <li>• A high quality suitable for human recreational purposes is to be maintained.</li> </ul> <p>Others included the following:</p> |

<sup>9</sup> High-level generic objectives based on a 'Northland' FMU. Covers all water bodies (rivers, lakes, groundwater, wetlands). Used Proposed Regional Plan objectives for water quality and quantity and indigenous ecosystems and biodiversity as a start point. Includes water quality and water quantity. Considers the concept of integrated management. Considers climate change.

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| <p>includes the entire water cycle from a cosmological view and the atua reside not only on earth but also in the celestial space.</p> |  | <p>Hine Te Repo – wetlands</p> <ol style="list-style-type: none"> <li>Oceanic climatic cycles of Kiwa are understood and supported the embodiment of his relationship with his hoa rangatira is that the freshwater flows out into estuaries and into the oceans and influences freshwater species. Hinemoana and Tawhirimatea</li> </ol> <p>Makerewhatu – heavy rain sign of thunder: normal part of northland ecosystem, tuna heke, rejuvenates aquifers, tane te waiora, Uapukohukohu – misty rain<br/> Uakoehuehu – light mist falling in small drops<br/> Uwhiuwhi taua – showers<br/> Tarariki – persistent showers</p> <ol style="list-style-type: none"> <li>The role of Tane te Waiora and the forest are supported</li> </ol> | <ul style="list-style-type: none"> <li>Need to hold water in the soil and refresh aquifers. Soil needs vegetation to hold humidity. (Ngātiwai)</li> <li>No hierarchical values will be placed on water (Ngātiwai)</li> <li>The prohibition of draining of swamps, discharging human remains and untreated sewage into waterways (Ngātiwai)</li> <li>Water conservation must take a holistic view and have a focus on soil.</li> <li>Deeper values for water as a living entity with rights inform governance and entrenched in local decision making can be actioned as follows: <ul style="list-style-type: none"> <li>Ownership of water and the role of local communities shall be articulated in local water policies and regulations.</li> <li>Engagement processes/frameworks with iwi/hapū that encourage meaningful relationships with councils are required. Respect for indigenous environmental governance and decision making structures, including what Free Prior Informed Consent is to a community and how traditional knowledge is protected, is essential for the future management of Aotearoa. Decision-making, management and use of water, management and use of cultural resources, achieving the right governance arrangements, co-management of freshwater incl. mahinga kai, kaimoana, māhinga mātaitai sites (standards, quality, condition) and the maintenance of water bodies (and access to) for customary practice and use.</li> </ul> </li> <li>Support for climate change adaptation through traditional knowledge, innovations and practises, should be considered.</li> <li>Provide for activities which embody the customary laws of the territory could be adopted as policy. These include: the remapping and reversion to native names of places and organisms, providing for hands on community interventions and restoration; intergenerational conservation and observation practices with youth and elders of different genders at culturally important sites, etc. Protecting/sustaining/enhancing habitats, ecosystems and species (e.g., taonga fish spp., tuna, shellfish, plants, birds, significant or iconic species etc.), mahinga kai. Water quality – Provide meaning and definitions around mauri (setting cultural standards, limits, thresholds, benchmarks) based upon indigenous practice but will help other forms of decision making.</li> </ul> |
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|  |             |   | <ul style="list-style-type: none"> <li>• Research, freshwater research, Māori led projects, recognition and use of traditional knowledge.</li> <li>• Ensure that other dimensions to life are respected other than just physical and chemical properties but the wider spiritual values of water too.</li> <li>• Indigenous techniques - Micro irrigation, wetland water quantity management, riparian planting, etc.</li> <li>• The role of rural Māori women requires investigation, value and enhancement.</li> <li>• The price of sanitation and water services must be affordable for all without compromising the ability to pay for other essential necessities guaranteed by human rights such as food, housing and health care.</li> <li>• Community and micro - irrigation requires agency support and financial institutions support</li> <li>• Conversion to indigenous agroecological and organic farming can turn the tide on the extreme pollution suffered by water today.</li> </ul> <p>Newell<sup>10</sup> - Common goals include:</p> <ul style="list-style-type: none"> <li>- Exercise of rangatiratanga and kaitiakitanga over water, including use of mātauranga Māori, rahui and other cultural management tools</li> <li>- Recognition of and provision for relationships of hapū and iwi with their culture and traditions</li> <li>- Protection and enhancement of mauri for future generations</li> <li>- Protection and enhancement of water bodies and riparian margins to ensure that productivity of coastal waters and ocean is sustained</li> <li>- Joint development of integrated catchment management strategies</li> <li>- Joint management agreements for management and protection of water bodies and wetlands under s.36B of RMA</li> <li>- Resourcing to support active participation of tangata whenua in resource management processes</li> </ul> |
|  | WAIJUATANGA | The spiritual connection of water is revered and restored through<br>1. The increase in waiora designations |   |

<sup>10</sup> Newell (2021) 'Giving effect to Te Mana o te Wai – reweaving the korowai' unpublished.

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|  |  | <p>2. The increase in cultural practises related to ceremony, tohi, whangai hau, and utu</p> <p>Utu – the law of return, reciprocity, balance, equilibrium, the maintenance of balance, gift exchange</p> <p>Whangai Hau – hau is the spirit of the gift. Mauri can be the physical talisman etc, the basis that nature is a gift and her sacredness requires whangai hau for her abundance.</p>   |   |
|  | KAITIAKITANGA  | Kaitiakitanga is restored and taniwha are respected and monitored.   | Ngātiwai and particular policy around protecting taniwha.2007 |
|  | <p>MARAMATAKA</p> <p>Traditional knowledge of the lunar and solar cycles which impact on water have been developed over many generations. It is well known amongst Māori that the maximum impact of planetary energy affects the water and ourselves. Traditionally planting and gathering food aligned to this maramataka and there are many versions in existence still followed today. Ceremonial times of prayer, fasting and advancing the inner journey are held during first quarter on the day</p> | <p>The respect and understanding of the role of</p> <ol style="list-style-type: none"> <li>1. the moon,</li> <li>2. celestial beings</li> <li>3. Tamanuitera,</li> <li>4. Hine Takurua</li> <li>5. Hine Raumati seasonal cycles are observed</li> </ol> <p>Makerewhatu – heavy rain sign of thunder: normal part of northland ecosystem, tuna heke, rejuvenates aquifers, tane te waiora,</p> <p>Uapukohukohu – misty rain</p> <p>Uakoehuehu – light mist falling in small drops</p> <p>Uwhiuwhi taua – showers</p> <p>Tarariki – persistent showers</p> |   |



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|  | <p>named Hune, on full moons and new moons, to balance ourselves. The moon enhances energy, if you are peaceful, you will become more peaceful.</p>   |   |   |
|  | <p>NRC:<br/> <b>Ecosystem health (Compulsory):</b> This refers to the extent to which an FMU or part of an FMU supports an ecosystem appropriate to the type of water body (for example, river, lake, wetland, or aquifer).<br/>         There are 5 biophysical components that contribute to freshwater ecosystem health<br/>         -Water quality<br/>         -Water quantity<br/>         -Habitat<br/>         -Aquatic life<br/>         -Ecological processes</p> <p>There are biocultural components of freshwater health, and they are<br/>         Threatened species (Compulsory)</p> | <p>NRC:</p> <ul style="list-style-type: none"> <li>• the mauri, life-supporting capacity, ecosystem processes and indigenous biodiversity (including threatened species) of freshwater bodies, and their habitats are safeguarded and improved where needed</li> <li>• freshwater ecosystems are healthy and resilient to climate change</li> <li>• prevent the introduction of new freshwater pests into Northland, and reduce the spread of existing pests and eliminate where feasible</li> <li>• there is no further loss of natural inland wetland and river extent</li> <li>• water quality is at least maintained, and improved where it does not meet river, lake, groundwater, or wetland national or regional water quality standards and guidelines</li> <li>• the taking, use, damming and diversion of water is managed so that the natural variations in water levels and flows (including flushing flows) are maintained</li> <li>• water quality and use does not adversely impact on receiving environments</li> </ul> |   |
|  | <p>NRC - Wai tapu<br/>         Wai tapu represent the places in an FMU or part</p>  | <ul style="list-style-type: none"> <li>• Additional Te Mana o te Wai Objectives</li> </ul>  | <ul style="list-style-type: none"> <li>•</li> </ul> |

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|  | <p>of an FMU where rituals and ceremonies are performed, or where there is special significance to tangata whenua.</p>                        |   |  |
| <p>Hierarchy (b) human health<br/>Mana Tangata</p> | <p>Whanaungatanga<br/>Tikanga<br/>Ahuwhenua &amp; Hua Parakore<br/>Tapu<br/>Utu &amp; Muru<br/>Mana &amp; Rangatiratanga<br/>Manaakitanga</p> | <p>Relationships whakapapa, the glue holding the world together, the centrality of kinship across cultural landscapes of Te Tai Tokerau</p> <p>Ancestral practises of behavioural guidelines for living and interacting with others are adhered to.</p> <p>Traditional livelihoods and occupations, creating abundance, of the highest order particularly those related to food and medicine. The favoured livelihoods as referred to above were as landholders, farmers, graziers, seamen, shipowners, labourers, and artisans. The use of rivers and estuaries for travel, and trade was extremely important. Increase in nature positive production – ngahere food and medicine forests, maara encapsulating indigenous agroecology. Advancement of equitable livelihoods particularly of indigenous peoples. Building resilience to vulnerabilities (tools, sharing resources, and kaitiakitanga methods through wananga. Hua para kore</p> <p>Sacred prohibition – rahui (temporary prohibition, restricting access to taonga)</p> <p>The law of return, reciprocity and fines for breaches (tool?)<br/>Status honour, Te Tiriti, ahika, mana whenua mana moana – kiwa, puhikaiariki etc</p> | <p>Mahinga kai - high water content foods are the most important for subtropical diet.</p> <p>Engagement!!</p> |

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|  |  | <p>Understanding our sustainable cultural foodscapes. The ability to foster others with seafood, vegetables nutritious and pleasing.<br/>Ensure access to safe, nutritious and healing water and food</p> <p>Supporting efforts to restore traditional foodways<br/>Understanding our cultural foodscapes<br/>Shift to sustainable consumptive patterns aligning with the lunar calendar and traditional methods of Customary Sustainable Use</p> <p>Food sovereignty indicators:</p> <ul style="list-style-type: none"> <li>• Access to, security for and integrity of traditional lands, territories, natural resources, sacred sites and ceremonial areas used for traditional food production, harvesting and/or gathering and related cultural and ceremonial purposes</li> <li>• Abundance, scarcity and/or treats to traditional seeds, plant foods and medicines, and food animals as well as cultural practices associated with their protection and survival</li> <li>• Use and transmission of methods, knowledge, language, ceremonies, dances, prayers, oral histories, stories, and songs related to traditional foods and subsistence practices, and the continued use of traditional foods in the daily diet as well as in relevant cultural/ceremonial practices</li> <li>• Capacity by Ips for adaptability, resilience and/or restoration of traditional food use and production in response to changing conditions including migration, displacement, urbanisation, and environmental changes</li> <li>• Ability of Ips to exercise and implement their rights including self-determination and FPIC as</li> </ul> |  |
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|   |  | well as their self-government structures, to promote and defend their food sovereignty and related aspects of their development   |  |
| <b>Hierarchy (c) other including economic</b> | NRC - Animal drinking water<br>Irrigation, cultivation, and production of food and beverages<br>Commercial and industrial use<br>Hydro-electric power generation | <ul style="list-style-type: none"> <li>water available for animals, food production, commercial use and hydro-electric power is reliable and of a suitable quality</li> </ul>   |  |
|   | NRC - Natural form and character<br>The FMU or part of the FMU has particular natural qualities that people value.   | <ul style="list-style-type: none"> <li>the significant values of outstanding freshwater bodies and the natural character of wetlands, lakes and rivers and their margins are protected and improved where degraded</li> </ul> | <ul style="list-style-type: none"> <li></li> </ul> |

## Other Outcomes

Other outcomes identified by tangata whenua of Te Tai Tokerau through their planning documents or through the report by Volkerling, are:

- Need to hold water in the soil and refresh aquifers. Soil needs vegetation to hold humidity. (Ngātiwai)
- No hierarchical values will be placed on water (Ngātiwai)
- The need to close the water cycle – water must be seen and managed in an integrated holistic way as per its cycle (Ngātiwai)
- The prohibition of draining of swamps, discharging human remains and untreated sewage into waterways (Ngātiwai)
- Mahinga kai - high water content foods are the most important for subtropical diet.
- Water conservation must take a holistic view and have a focus on soil
- Deeper values for water as a living entity with rights inform governance and entrenched in local decision making can be actioned as follows:
- Ownership of water and the role of local communities shall be articulated in local water policies and regulations.
- Engagement processes/frameworks with iwi/hapū that encourage meaningful relationships with councils are required. Respect for indigenous environmental governance and decision-making structures, including what Free Prior Informed Consent is to a community and how traditional knowledge is protected, is essential

for the future management of Aotearoa. Decision-making, management and use of water, management and use of cultural resources, achieving the right governance arrangements, co-management of freshwater incl. mahinga kai, kaimoana, māhinga mātaimai sites (standards, quality, condition) and the maintenance of water bodies (and access to) for customary practice and use.

- Support for climate change adaptation through traditional knowledge, innovations, and practises, should be considered.
- Provide for activities which embody the customary laws of the territory could be adopted as policy. These include the remapping and reversion to native names of places and organisms, providing for hands on community interventions and restoration, intergenerational conservation and observation practices with youth and elders of different genders at culturally important sites, etc. Protecting/sustaining/enhancing habitats, ecosystems, and species (e.g., taonga fish spp., tuna, shellfish, plants, birds, significant or iconic species etc.), mahinga kai. Water quality – Provide meaning and definitions around mauri (setting cultural standards, limits, thresholds, benchmarks) based upon indigenous practice but will help other forms of decision making.
- Research, freshwater research, Māori led projects, recognition and use of traditional knowledge.
- Ensure that other dimensions to life are respected other than just physical and chemical properties but the wider spiritual values of water too.
- Indigenous techniques - Micro irrigation, wetland water quantity management, riparian planting, etc.
- The role of rural Māori women requires investigation, value, and enhancement.
- The price of sanitation and water services must be affordable for all without compromising the ability to pay for other essential necessities guaranteed by human rights such as food, housing, and health care.
- Community and micro - irrigation requires agency support and financial institutions support
- Conversion to indigenous agroecological and organic farming can turn the tide on the extreme pollution suffered by water today.
- Exercise of rangatiratanga and kaitiakitanga over water, including use of mātauranga Māori, rahui and other cultural management tools
- Recognition of and provision for relationships of hapū and iwi with their culture and traditions
- Protection and enhancement of mauri for future generations
- Protection and enhancement of water bodies and riparian margins to ensure that productivity of coastal waters and ocean is sustained
- Joint development of integrated catchment management strategies
- Joint management agreements for management and protection of water bodies and wetlands under s.36B of RMA
- Resourcing to support active participation of tangata whenua in resource management processes

Whakatakoto Kaupapa mo te Hapu o Ngāti Kuta ki re rawhiti 5<sup>th</sup> Edition calls for water quality:

- The high quality of water for food sources extracted from our waterways will be kept in a consumable state at all times
- A high-quality environment for all freshwater and marine wildlife and that all waterways are maintained and sustained at all times
- A high quality suitable for human recreational purposes is to be maintained.

Patuharakeke calls for stringent and enforceable controls on the following activities given the risk to water quality:

- Intensive rural land use
- Subdivision and development adjacent to waterways; and
- Discharge to land activities associated with industry

They also call for all aquifers to be protected from contamination and over-allocation and that all puna and repo are protected from inappropriate use and development.

Ngātiwai in 2007 articulated 39 methods for water management (refer directly to doc) and particular policy around protecting taniwha.

## TW-WAG Attribute States & Criteria

### The Current State of Te Mana O Te Wai in Te Taitokerau

The recent IPCC report states that our region will experience more droughts and fires.

Nationally, our lowland rivers, lakes and wetlands are in a poor state and declining<sup>11</sup>. Half of our waterways (by length) exceed nitrate/nitrogen guidelines. 76% of our native fish and more than 26% of assessed freshwater invertebrates were threatened with or at risk of extinction (2017) and the once common native fish NZ Grayling went extinct (between 2013-17). Introduced fish species made up over 80% of fish species<sup>12</sup>. Culturally significant taonga species which are threatened with or at risk of extinction include: four of five whitebait species, lamprey, longfin eel, Stokell's smelt, South Island freshwater crayfish and two of three freshwater mussels. Almost a third of assessed native freshwater plants were threatened or at risk (20% being "nationally critical") and one native chickweed became extinct (between 2013-17). 66% of native birds were classed as threatened or at risk in 2016, and eleven freshwater birds are extinct<sup>13</sup>.

About one third of our original native forest remains and approximately 90% of New Zealand's wetland habitats, particularly swamps, have been drained since human settlement, and at least 214 individual wetlands (1,247 ha) were lost between 2001 and 2016, and 60% of remaining wetlands are moderately to severely degraded. Of the 7% of lakes greater than 1ha which are monitored<sup>14</sup>, 36% were in a "poor" condition, 31% in a "moderate" condition and 34% in "excellent" or "high" ecological condition. Of the 573 river sites monitored between 2008-17 using macroinvertebrate community index (MCI), 38% had worsening trends, 37% indeterminate trends and 26% showed improvement.

Of New Zealand's rivers, 94% of river lengths (urban land-cover), 76% (pastoral), 27% (exotic forest) and 5% (native vegetation) were not suitable for activities such as swimming (2013-17). In terms of our aquifers, of the 364 sites where untreated groundwater is monitored, 68% failed to meet drinking water standards.

The impact of climate change is predicted to exacerbate these trends, having "far reaching consequences for the health and distribution of species and ecosystems", extreme weather events "likely to increase pollution, erosion and sedimentation in our waterways" and more frequent and intense droughts "likely to increase the demand for water to irrigate land and increase competition for this resource".

In addition to the state of our waterbodies, academics also note that "regional authority processes are most often dominated by well-resourced and funded agricultural industry lobby groups, and then independent scientific advice and submissions from environmental care groups weakened to the point where ecosystem health is not protected" (Joy & Canning, 2020). Concern has also been expressed over changing 'baselines', with MCI indices being used as an example<sup>15</sup>.

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<sup>11</sup> See for example Joy M and Canning A (2020) Shifting baselines and political expediency in New Zealand's freshwater management Marine and Freshwater Research October 2020, and MfE and Stats NZ (2020) New Zealand's Environmental Reporting Series: Our freshwater 2020 <https://www.mfe.govt.nz/publications/environmental-reporting/our-freshwater-2020>

<sup>12</sup> Observed at 925 river sites between 1999-2018 (MfE & NZ Stats, 2020)

<sup>13</sup> MfE and Stats NZ (2020) ibid.

<sup>14</sup> Only 295 lakes out of 3,820 lakes greater than 1ha are monitored using a submerged plant index (SPI) which is a measure of ecological health.

<sup>15</sup> Water quality based on MCI scores below 100 has changed from being considered as "grossly polluted" to "fair" in national environmental reporting and policy thresholds as noted by Joy & Canning (2020).

Land, Air, Water Aotearoa (LAWA) annual study<sup>16</sup> in 2020 reported, as expected, that water quality was worst in urban waterways and that a large percentage of rivers in rural catchments are under pressure, and that the sites with the best water quality were surrounded by native bush. The report found that at a national level there had been no improvements in overall state (E.coli, MCI, ammonia toxicity and DRP) in the last 10 years, despite the increase in efforts (such as riparian planting) to improve water quality, reflecting the time needed for impacts of such efforts to be felt.

MfE<sup>17</sup> has identified vulnerable catchments in Te Taitokerau including: the Awaroa, Kaiwaka, Topuni, Waiora, Waipu, Wairau rivers; Kai iwi, Muriwai, Nukuroa, Te Ope, Ureti streams; and Awakino, Awatehe, Owairangi, Stony, Tara, Tauhara, Te Mateotetawa creeks.

Water quality analysis and modelling<sup>18</sup> for Te Taitokerau found that of the 67 sites regularly monitored by council:

Ammonia and nitrate toxicity - when compared against New Zealand's national water quality standards (NPS-FM 2020), the majority of water quality monitoring sites in Northland are in the A and B band

Dissolved reactive phosphorus (DRP) - 30% of sites are in the A and B bands, 37% in band C and 33% in band D. Too much nitrogen and phosphorus along with other factors such as warm water temperatures and high light levels, can stimulate excessive periphyton and plant growth with detrimental effects on freshwater ecosystem health. However, excessive periphyton and plant growth does not appear to be a widespread problem in Northlands River systems, most likely a result of low nitrogen concentrations and streams that are frequently flushed out during high rainfall events.

For suspended sediment (water clarity is the indicator), 70% of the sites are in the A and B bands with the remainder in bands C (14%) and D (16%) (below the bottom line).

MCI - most of the water quality monitoring sites (50% or greater) are in the D band for these aquatic invertebrate indices.

*E. coli* - only 2 sites were in the A or B band and both were in native forest. 40% of the sites were in the C or D band and 57% were in the E band. *E. coli* concentrations tend to be higher in the erosion-prone areas of Northland that are in agricultural land-use and in low-lying poorly drained areas such as floodplains.

In terms of climate change, the national trend over time<sup>19</sup> is increasing temperatures (2016 was 1°C hotter than in 1909) and there is 95% confidence level that this trend will continue. Recent studies show we are following the track of the "worst case scenarios"<sup>20</sup>.

NIWA's recent assessment of climate change vulnerability of ten taonga freshwater species<sup>21</sup> found that seven have 'high' or 'very high' vulnerability, with only yellow-eye mullet having 'low' vulnerability, with existing multiple pressures such as habitat loss and decreasing population sizes and range being associated with higher extinction risk.

Whilst there have been improvements in freshwater policy in recent years, research shows that there is a "freshwater policy implementation gap whereby jurisdictions struggle to move from policy development to on-the-ground action" (Kirk et al, 2020)<sup>22</sup>. Multiple actors being involved in policy development while "potentially holding different values and perceptions" and the considerable time taken make for a complicated process. Key barriers to implementing freshwater policy include: 'long chains of

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<sup>16</sup> The LAWA River Water Quality National Picture Summary (2020) [https://www.lawa.org.nz/explore-data/river-quality?utm\\_source=Media+Mailing+List&utm\\_campaign=063ad77eda-EMAIL\\_CAMPAIGN\\_2020\\_09\\_24\\_09\\_16&utm\\_medium=email&utm\\_term=0\\_2e5a9f54b5-063ad77eda-213828685](https://www.lawa.org.nz/explore-data/river-quality?utm_source=Media+Mailing+List&utm_campaign=063ad77eda-EMAIL_CAMPAIGN_2020_09_24_09_16&utm_medium=email&utm_term=0_2e5a9f54b5-063ad77eda-213828685)

<sup>17</sup> As part of the Freshwater Improvement Fund allocations <https://data.mfe.govt.nz/layer/53523-vulnerable-catchments/data/>

<sup>18</sup> NIWA and LW&S (2020) draft reports prepared for Northland Regional Council yet to be finalised.

<sup>19</sup> [http://infoshare.stats.govt.nz/browse\\_for\\_stats/environment/environmental-reporting-series/environmental-indicators/Home/Atmosphere-and-climate/temperature-time-series.aspx](http://infoshare.stats.govt.nz/browse_for_stats/environment/environmental-reporting-series/environmental-indicators/Home/Atmosphere-and-climate/temperature-time-series.aspx)

<sup>20</sup> <https://www.theguardian.com/environment/2021/jan/25/global-ice-loss-accelerating-at-record-rate-study-finds>

<sup>21</sup> NIWA (2020) Climate change vulnerability Assessment of selected taonga freshwater species Technical Report. Te Wai Māori Trust. [https://waiMāori.Māori.nz/wp-content/uploads/2020/09/2020073CH\\_Report\\_FINAL\\_15April-Technical-Report.pdf](https://waiMāori.Māori.nz/wp-content/uploads/2020/09/2020073CH_Report_FINAL_15April-Technical-Report.pdf)

<sup>22</sup> Kirk, N. et al (2020) *Exploring the barriers to freshwater policy implementation in New Zealand*. Australasian Journal of Water Resources <https://doi.org/10.1080/13241583.2020.1800332>



command' (i.e. between the policy decision makers and the 'on the ground' implementers there can be 'veto points'). Collaborative approaches during policy development are identified as one way of overcoming such implementation barriers. Lack of resources to keep pace with changes in national level policy (on multiple competing issues including biodiversity, planning standards, etc) leads to decisions being made on what to prioritise – "overlapping national policies create confusion with competing local priorities". Lack of human and financial resources to implement policy is also a key challenge, with costs not being equally geographically distributed (for example large difference in costs for fencing on flat versus hill country) and lack of human capacity (both within councils but also tangata whenua and community organisations). Other barriers include mismatch between local issues and national priorities, lack of human and financial capacity, and competing and sometimes conflicting national policy.

The following are potential further atua who can also be explored in following reports:

- Rangianiwaniwa – Rainbows.
- Whatitiri – Thunder.
- Hikohiko te uira – Lightning.

## Attribute States<sup>23</sup>

| Values        | Objectives                    | Performance Measures/Tools                | Management variables  |
|---------------|-------------------------------|---|---|
| Kaitiakitanga | Guardianship and protection   |   |   |
| Mauri         | Restoration standards defined | Vitality                                  | Flows, stock exclusion, pest management, nutrient management, clarity, habitat & catchment restoration, groundwater |
| Mahinga kai   |                               | Abundance/condition of cultural resources |   |

The freshwater management categories identified in this study are:

- crystal clear water;
- fish stocks – including existing and former stocks – an abundance of these stocks is dependent on healthy habitats;
- tuna – which have many issues in common with other fish stocks but some specific issues;
- repo – drainage, restoration, access to resources for food and weaving, nursery habitats;
- safe swimming, safe fishing, safe drinking water.

In the Ngāti Hine Pukepukerau catchment management programme report from 2015, they state these key attribute states:

### Key Attributes

#### Ruawai/Puru Tuna – Underground Wetlands

Also referred to as “ruawai”, puru tuna are underground wetlands that are the homes of eels. Eels use underground wetlands to migrate and hibernate in. The locations of puru tuna are fiercely protected by Ngāti Hine families as some rely on them for sustenance outside of the koroma migratory period. Perhaps due to the secretive nature of puru tuna there is very little published in New Zealand regarding them. They are extremely vulnerable ecosystems which once destroyed cannot be restored. They are located throughout Ngāti Hine and can be located by experts who maintain knowledge of them. The indicators for underground wetlands include but are not limited to:

- Ground movement
- Signs early in the morning or at night
- Internal view
- Fungi and bacteria, snails, insects, crustaceans, beetles, weta, spiders, harvestmen, centipedes, and glow worms, etc.

<sup>23</sup> Primarily based on compulsory attributes in the NPS-FM 2020 and additional attributes in the Proposed Regional Plan or considered important for Northland

<sup>21</sup> Attribute state based on the most recent data available

- Internal temperature
- Volume of water inside puru tuna
- Earthworks

## Hine Te Repo – Swamps & Wetlands

Repo are communally owned areas. “Our association with repo (swamps) is well known and recognized. The repo has a very special spiritual quality as well as its cultural and traditional significance. Such links could be an abode of a taniwha, a burial place, or a place utilized for its resources. Repo contain kai (tuna, kēwai, taro, and watercress), dyes (paru –black mud which is used for dyeing flax) and weaving materials (raupo, harakeke, kōrari, kuta).” Once utilised for the trading of muka for fibre and to make raupo bread; repo are now mostly used for storing koroma (a type of long-fin eel) outside of the migratory months. Ngāti Hine knowledge of how to store tuna for an entire year until the next tunawhakaheke (migration of sexually mature eels to the Pacific) is a significant practice that must be maintained to ensure culture and livelihoods.

## Koroma

Repo are wetlands high in nutrients and when healthy they can sustain our koroma held in boxes for an entire year until the next customary harvest during the annual migration. Some of the primary Indicators for Koroma include:

- Flow sufficient to store koroma
- Quality sufficient for elvers
- Passage for elvers and sexually mature migrants
- Adequate food Also refer to Nga Kete Tangariki report for more info on monitoring eels.

## Pupu Harakeke

Pupu harakeke are of great importance as a medicine and indicator of ecosystem health and is considered to be vulnerable to environmental toxins and pollutants. The primary indicator for Pupu Harakeke is:

- Abundance, diversity, and health

## Poraka

The research team expressed a concern for a lack of presence of frogs in and around waterways particularly as these are known to be a primary indicator of pollutants. The primary Indicators for Poraka are listed below:

- Abundance, diversity, and health
- Spatial extent Repo

## Tunatuna

Tunatuna Juvenile eels or tunatuna are an indicator of the diversity of tuna in a catchment. Priority Indicator for Tunatuna:

- Finding an abundance within certain areas of the repo
- Status and trends
- Spatial extend
- Threats

## Kahikatea Swamp & Forest

Kahikatea forest trees such as kahikatea, pukatea, and cabbage trees (ti kouka). The main primary indicators for Kahikatea consist of:

- Spatial extent
- Water flow
- Abundance and health

## Waiora

Primary Indicators of Waiora:

- Water clarity
- Abundance, diversity, and health of vulnerable species such as pungaweriweri, kokopu, tangariki and mussels

Water itself is subjected to different rankings based on its source and related activities. This also determines what Ngāti Hine will see as a suitable use for it. Waiora is the purest form of water; it is the spiritual and physical expression of Ranginui's (sky father) long desire to be re-united with Papatuanuku. Waiora is known as healing water. Traditional water could only remain pure without being mixed and was protected by ritual prayer. Traditionally waiora had the potential to give life, sustain wellbeing, and counteract evil.

Waiora is healing water that has touched the deities and imbues the healing power on those who connect with it. Wai has the function of imbuing mauri (life essence) and mana, of committing any one thing or person to a sacred purpose, of consecrating places, objects, and people. It can transition you from the restrictive spiritual state of tapu to the common state of noa, and back again. Wai is present at the most sacred rites of passage – that of birth, and that of death. Waiora transmits purity and holiness, it also transfers, transports, and transforms impurities. In the process of obtaining spiritual purity, Māori have a regular practise of pure or cleansing ceremonies which require immersion in river water.

Water responds to your mauri (life energy) substance. Vibrations change the molecular structure of water, in the form of touch, thought, emotion, sound, prayer/mantra, and meditative presence. Water is a medium of consciousness. How we treat water changes the way in which the water interacts with us. Water charges the wellbeing of

living beings. The reverberation of water, conducting within us and around us can change our mauri. With certain control over our energies, Māori believe that we can influence the memory of water and of our physical bodies immensely, to a point where everything about them can change.

Even within sacred water forms, distinctions existed for the use of wai tapu, which could be used for the cleansing of corpses, and waioira, which could be used for healing and giving life. Particularly for wāhine, as the carriers of the birth waters, wai is a potent reminder of the ability to give life and to oversee the transition to death. Water ceremonies include the use of water for infusing and imparting medicine through compresses, baths, steam, and other applications. Water is a known restorative tonic used to relieve pain, for minor burns, reducing fever, inducing perspiration, as a diuretic and an eliminative. Water is an antiseptic, a laxative, a stimulant, an anaesthetic, a sedative, antispasmodic, relieves thirst, is an emetic, and can raise body temperature.

## WaiMaori

Waimaori water is used for drinking and does not have any particularly sacred associations. Waimaori is often used to describe water that is running, unrestrained, or to describe water that is clear or lucid. He wahanga ano o te awa hei tikinga wai inu, ko raro atu hei koukou, raro tata atu hei horoi kakahu, he wahanga ano o te taha awa hei horoi tupapaku. Primary Indicators for WaiMāori:

- Drinking water
- Water quality for teaching babies to swim
- Flow, depth, and clarity
- Abundance, diversity, and health of vulnerable freshwater species
- Riparian planting

Ngāti Hine kaumatua Kevin Prime referenced Pera Prime planting the waterways when she recovered cleared lands below:

- Access to, security for and integrity of traditional lands, territories, natural resources, sacred sites and ceremonial areas used for traditional food production, harvesting and/or gathering and related cultural and ceremonial purposes.
- Abundance, scarcity and/or treats to traditional seeds, plant foods and medicines, and food animals as well as cultural practices associated with their protection and survival.
- Use and transmission of methods, knowledge, language, ceremonies, dances, prayers, oral histories, stories, and songs related to traditional foods and subsistence practices, and the continued use of traditional foods in the daily diet as well as in relevant cultural/ceremonial practices
- Capacity by Ips for adaptability, resilience and/or restoration of traditional food use and production in response to changing conditions including migration, displacement, urbanisation, and environmental changes
- Ability of Ips to exercise and implement their rights including self-determination and FPIC as well as their self-government structures, to promote and defend their food sovereignty and related aspects of their development

## Waipuke

Waipuke is water in flood. Flooding is a way of life for Ngāti Hine. Ngāti Hine communities such as Pipiwai, Matawaia, Motatau & at times Moerewa and Otiria, are often isolated from the rest of the world due to flooding at least once a year during the end of summer floods. At times flooding can last between two days and one week depending on the extent of rainfall and the community road system. This has contributed to the self-sustainability of communities. Flooding is an important climate for migratory tuna however the flow of water can be better managed by Ngāti Hine. Primary Indicators for Waipuke are listed:

- Flooding status and trends
- Whanau and community access to health and education services
- Sedimentation
- Mitigation techniques such as re-establishing swamps, bunding, swaling and terracing
- Impacts on whanau housing and marae, and infrastructure

Inside the Patuharakeke 2014 IHEMP they have stated that they request statutory authorities to:

- ensure that water quality standards in our rohe are set based on the elevated standard we want to achieve rather than establishing a minimum lower standard that we can degrade to. ii. ensure that when water quality issues arise, the source of the problem must be addressed rather than adopting “band aid” solutions (e.g. find new ways to treat water, mangrove removal in estuaries as opposed to addressing sedimentation and pollution in the upper catchment etc). iii. promote and provide incentives for the rehabilitation, enhancement and protection of waterbodies and margins; iv. ensure that appropriately sited, purpose-built wetlands are used for sewage systems. We object to the use of repo of any size being used for sewage systems.
- prohibit drainage of naturally wet areas or wetlands including draining adjacent land; vi. ensure that no chemical pesticides, fertilisers, or contaminants are used where they can potentially affect any waterbody; vii. ensure that no liquid waste (e.g. stormwater, sewage and farm effluent) is discharged into a waterbody; viii. ensure that unrestricted stock access to waterbodies is prevented and nitrogen caps are imposed on farms; ix. ensure that resource consents for works stipulate regular cultural health monitoring by resourced kaitiaki as part of compliance monitoring. Where data shows that there is an adverse effect on water quality then activities must cease; x. ensure that riparian margins are as wide as possible and planted in locally sourced indigenous plants; xi. ensure that when structures are placed in waterbodies, provision is made for indigenous migratory species; and xii. provide free riparian management plans for farms (NRC).

Water Quantity/Allocation e) PTB will advocate for appropriate water allocation strategies and request NRC ensure that water permits are granted for a maximum 15-year duration. In addition, permits must include consent conditions that take into account the following matters: i. the level of existing knowledge about the resource; ii. the risk to the resource; iii. the type of the activity supported by the take and use of water; and iv. justification for volume applied for. f) PTB will oppose the granting of water permits to take and use water from waterways where there is insufficient information about flows, including flow volume and variability (e.g. small tributaries). g) PTB will advocate for monitoring, reporting and effective and enforceable penalties for non-compliance, including revoking resource consents and enforced environmental remediation. h) The underlying land titles of which the Pukekauri Dam area is comprised (taken under Public Works and later declared surplus to requirement) be returned to Patuharakeke ownership promptly.

## Tools for Assessing Impacts on Freshwater Values

Tangata whenua have been calling for the recognition and support for Mātauranga Māori in environmental monitoring and assessment tools. Patuharakeke identified the need for councils and agencies to support them to compile base line data and assess the state of freshwater resources, including but not limited to, cultural audits, GIS mapping of waterways and mahinga kai, cultural health index and the use of customary management tools for protecting freshwater values.

Cultural indicators designed and monitored by local communities give a more holistic outlook of wellbeing. Indicators have been developed throughout the county. The water allocation process does not account for the complexity of the relationship that iwi and hapū have with water and for this to be reflected in the policy and planning. Water must be set aside and allocated to Māori land and land returned as part of Treaty settlements. concerns about the impact of trading and the availability of water especially in terms of their Treaty settlements. Water allocation (water quantity limits) – response to increasing competition for the allocation of rights to water

An example of a customary law commonly found in Aotearoa is **Rahui** - a traditional Polynesian customary system of temporary prohibition on the use of an area or particular species, continue to be a common practise amongst Māori and should be supported by local and central government.

**Wananga** was also a consistent tool for water management. Wananga are an opportunity for the sharing of knowledge and the development of knowledge. They allow for tangata whenua to gain a full picture of the needs of their communities and the indicators of wellbeing that they are experiencing. There is a lack of accurate knowledge of the state of freshwater, water security and sovereignty. Kororareka Marae Hapu Environmental Management Plan 2009, identifies wananga as a tool, “advocate and participate in Kororareka Marae wananga initiatives that promote the sustainable management of the water resource in accordance with Ngapuhi nui tonu tikanga.”

### Existing Models in Te Taitokerau

| Existing model and location | Structure & agreement  | Examples of co-governance   |
|-----------------------------|--|---|
| IKHMG – Kaipara Harbour     | Agreement between iwi, Kaipara community, crown agencies, local government, and NGOs | Co-management and some co-planning established in 2005 to promote integrated management, kaitiakitanga and use of mātauranga Māori for monitoring |
| Waimamaku                   |  |   |
| Nga Kaitiaki o Te Wai Māori |  |   |

### Global Tools

The Convention on Biological Diversity, traditional knowledge, and customary use of biodiversity indicators are described as the following:

- Status and trends of linguistic diversity and numbers of speakers of indigenous languages
- Status and trends in land-use change and land tenure in the traditional territories of indigenous and local communities
- Status and trends in the practice of traditional occupations
- The full and effective participation of indigenous peoples in the implementation of the National Biodiversity Strategy

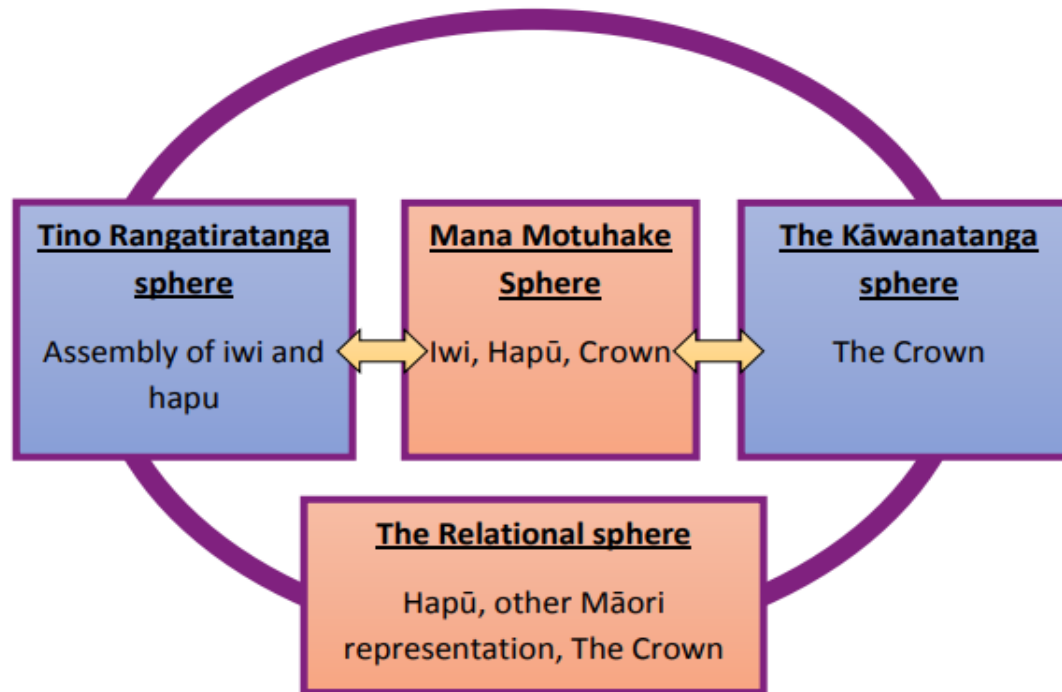
Inside the NRC tangata whenua freshwater values report 2015, the key processes identified in this study are:

- Rāhui – a temporary or permanent restriction on use of a resource, can be targeted at a specific resource and/or species but can require broader restrictions. Rāhui is an expression of values such as mana and kaitiakitanga.
- Monitoring – includes use of tangata whenua indicators as well as participation in standard environmental monitoring. Monitoring is a practical expression of kaitiakitanga.
- Duration of water take consents – this concern arises from consideration of property rights which, in turn, are derived from the Treaty of Waitangi and from values such as mana and rangatiratanga.
- Appropriate disposal of wastewater – low-impact discharge to land is supported; and discharge to fresh water or the marine environment is opposed.
- Eco system indicators have always been a tool for assessment within Indigenous communities. In Te Ao Māori, we measure these things in many ways; We observe the Puru Tuna and its growth which indicates how cold or warm the Awa may be. Using the words Rohe – Awa in this context, instead of the use of the word catchment, to acknowledge whakapapa connections and allow diversity.
- The underground wetlands are also home to many species and help Repo and Koroma thrive. They also provide passage, nutrients, and health for the many species living within the Repo (Swamp).
- There was mention of someone speaking to a Hydrology person at the Mangawhai bridge project. This person stated that there is no more tele metrics being used throughout the Ngātihine area.
- In the Matike Mai report, they talk about spheres of influences. The relational sphere in the diagram from the Matike Mai report shows us that we are the medium.

## Tools for Assessing Impacts

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SOURCE: Matike Mai - <https://nwo.org.nz/wp-content/uploads/2018/06/MatikeMaiAotearoa25Jan16.pdf>

| MANA         | VALUES       | ENVIRONMENTAL OUTCOMES  | ATTRIBUTES   | TOOLS  |
|--------------|--------------|---|--|--|
| MANA ATUA    | ATUATANGA    | <p>The protection and restoration of the mauri of the Atua.</p> <p>The protection and restoration of the water cycle and its entirety – Tane Te Waiora.</p> <p>The Oceanic cycles of Kiwa, Hinemoana and Tawhirimatea (highs, lows, trade winds) are respected and understood.</p> <p>The restoration of Taonga.</p> <p>By 2040 the restoration of all ecosystems</p> | <p>I PEHEA NGA MAUNGA, AWA, KOAWAAWA I PAOROORO AI? IN WHAT WAY DO THE RIVERS, STREAMS AND MOUNTAINS ECHO? WHATITIRI...</p> <p>NGĀTI HINE INDICATORS; Parawhenuamea – ensuring nature of prohibition of swap draining. Holds waita in soil to refresh aquifers. Maunga and awa close the water cycle</p> | <p>Wananga<br/>Tohi<br/>Karakia<br/>Rongoa</p>                                       |
|              | WAIUATANGA   | <p>The protection and restoration of sacred places and ceremonial areas.</p> <p>The reverence for the healing powers of water</p> <p>The respect and restoration of Kaitiakitanga including Taniwha Kaitiaki.</p>   | <p>Waiora, waiariki.</p> <p>Tena te wai no kokohuia, te inumia ra o te kokopu.</p> <p>Taniwha are seen across the natural landscape – Ngāti hine pukepukerau, takauere, tuna paea, aria te uru, pokopoko etc...</p>  | <p>Whangai hau – spirit of the gift ensures return and abundance<br/>Kotahitanga</p> |
|              | MARAMATAKA   | <p>Respect and understanding of the rhythms of the heavens and earth – Tama nui te Ra, Hine Takurua, Hine Raumati ratou ko Te Marama.</p> <p>Shift to sustainable consumption patterns – lunar calendar/traditional methods of CSU</p>  | <p>Nga whetu maraama – puanaga, piripi, takurua, hine ruihi – the quality of light at dawn waterways</p>   | <p>reverence for the turning of cycles<br/>Karakia</p>                               |
| MANA TANGATA | TIKANGA      | <p>The respect, understanding and reverence of ancestral practices</p> <p>The respect, acknowledgement and Understanding of the Law of balance, reciprocity and return - utu</p>  |  | <p>Tapu<br/>Rahui<br/>Utu<br/>muru</p>   |
|              | MANA         |   |  |  |
|              | MANAAKITANGA | <p>Ensure access to safe and nutritious water and food supplies (food sovereignty indicators: seed famine, access issues, pollution)</p>  |  |  |

|               |                   |   |   |   |
|---------------|-------------------|---|---|---|
|               | AHIKA/MANA WHENUA | By 2030 100% mana whenua water collectives managing ture whenua lands and waterways with adapted action plans<br>By 2025 establishment of regional and mana whenua water entities.  |   |   |
| MANA MOTUHAKE | AHU WHENUA        | The respect and understanding of the value of occupations of the highest order<br>Increase in nature's positive production (ngahere food and medicine forests. Indigenous agroecology)<br>Advance equitable livelihoods particularly indigenous minorities and rural people<br>By 2050, zero pollution. Waiora and wai Māori; kia papapounamu te moana, indigenous agroecology, soil restoration, closed water cycle and wetlands | He kai kei aku ringa<br>He kakano ahau I ruia mai I rangiatea | Te tiriti Māori water collectives<br>Adapt action plans |
|               | HUA PARAKORE      | Safe and nutritious food and water supplies.<br>supporting efforts to restore traditional foodways<br>Understanding our cultural foodscapes   |   |   |
|               | RANGATIRATANGA    | Building resilience to vulnerabilities – tools, sharing resources, kaitiaki methods, wananga and collective knowledge sharing.  |   |   |

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