

Mai te rangi ki te whenua, mai te whenua ki te rangi

A kaupapa Māori literature review identifying land-based values and actions to benefit freshwater systems

By Corey Ruha, Sylvia Tapuke, & Aneika Young



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Front and back covers: Tarawera

Abstract

Land, water, climate, and communities in Aotearoa New Zealand are part of a large web of interconnected systems undergoing significant change due to numerous events of natural and anthropogenic origins. With increasing frequency of disruption to these systems the adverse impacts to the physical and spiritual wellbeing of the environment are felt by the indigenous Māori people. This literature review was funded by Our Land and Water National Science Challenge to support the development of a free online tool that will record efforts to improve water quality. By applying kaupapa Māori methodology, this literature review identified 5 actions, as shown below, that support the wellbeing of land, water, and indigenous people from a uniquely Māori perspective.



Engage with tāngata whenua to incorporate their values into policies, plans, and decisions that affect land and water.



Strengthen the practice of traditional and contemporary tikanga (holistic methods) on the whenua.



Support opportunities to enhance kaitiakitanga.



Conserve and restore wāhi tapu (culturally significant sites).



Revitalise the use of traditional Māori place names.

The actions emerged from a range of literature including: journal articles, iwi hapū management plans, books, videos, and news stories. Issues and considerations surrounding the research and the findings explored: data sovereignty, inequitable treatment of indigenous Māori knowledge, communication issues, and limitations of this literature review. The resulting recommendations for all parties – from large entities to individual landowners – were made below to improve empathy and communication towards tāngata whenua (local indigenous Māori tribes) and to support the above actions:

- Engage with Māori groups and develop relationships through kanohi ki te kanohi (face to face interactions, formal or informal).
- Recognise which iwi or hapū have mana (authority) in an area and then engaging with them or building local capability with them to support the wellbeing of the land.
- Study Te Tiriti o Waitangi or attend a Treaty-based workshop.
- Provide support for iwi and hapū to share their aspirations and issues.
- Oppose the standardisation and contortion of Māori values and knowledge to apply nationally, regionally, or by bounds which solely fit the Western system and its regime.

These actions and recommendations, if explored further with genuinely good intent, are expected to benefit the land, water, and people of Aotearoa New Zealand.



Ranginui
Sky Father



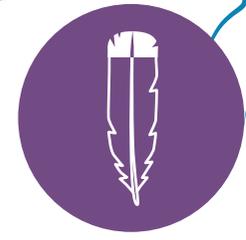
Papatūānuku
Earth Mother



Strengthen the practice of traditional and contemporary tikanga (holistic methods) on the whenua.



Engage with tāngata whenua to incorporate their values into policies, plans, and decisions that affect land and water.



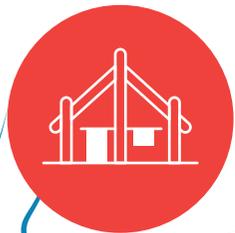
Support opportunities to enhance kaitiakitanga.

Mai te rangi ki te whenua, mai te whenua ki te rangi

How water connects earth and sky and the actions that aim to benefit freshwater systems



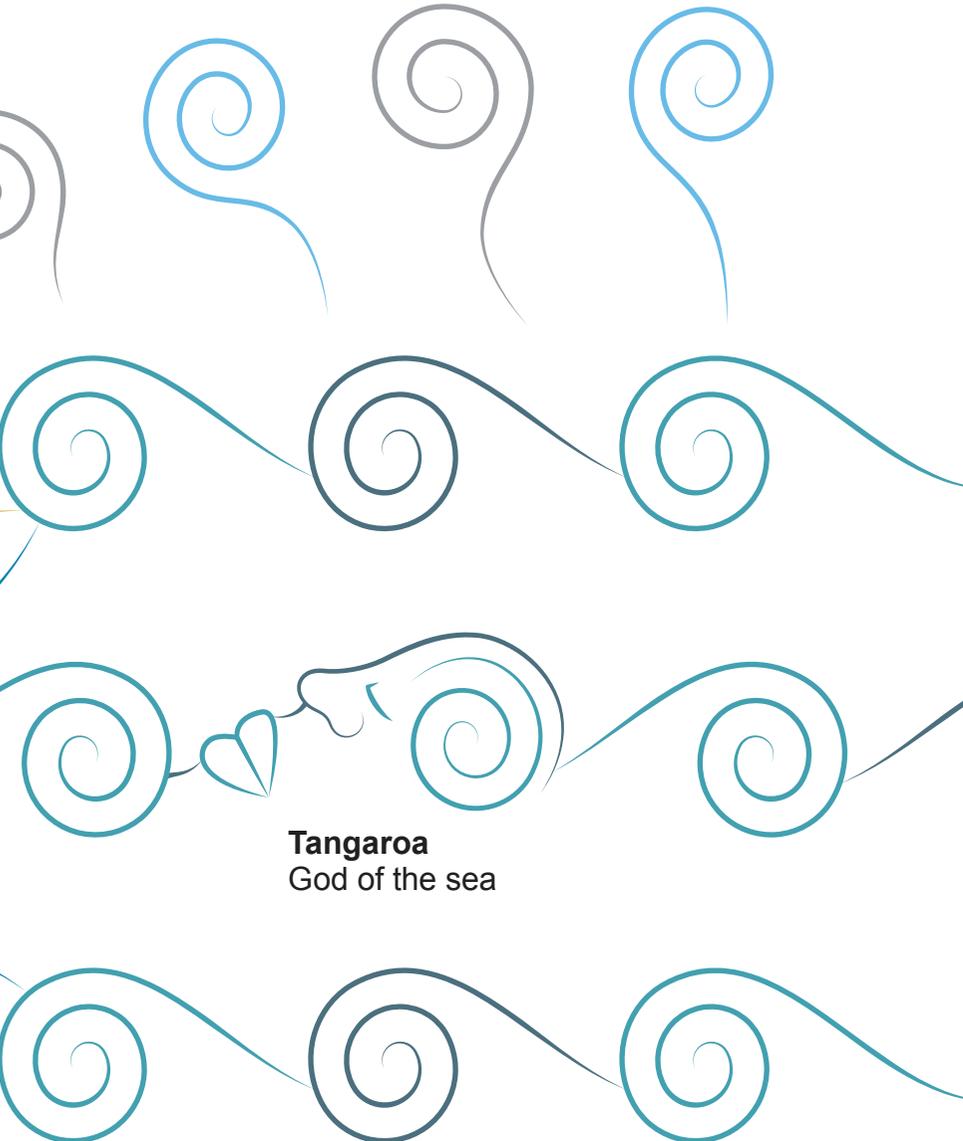
Tāwhirimātea
God of weather



Conserve and restore wāhi tapu
(culturally significant sites).



Revitalise the use of traditional
Māori place names.



Tangaroa
God of the sea

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Photo credits

Corey Ruha (author).

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Tui, tui, tui, tuia
Tuia i runga
Tuia i raro
Tuia i waho
Tuia i roto
Tuia i te here tangata
Ka rongō te pō
Ka rongō te ao.

*Bind and be united
Woven above,
Entwined below,
Enmeshed outside,
and weaved within
Tie together the cords of humankind
Let there be peace in death
And peace in life*

Tuia i te muka tangata
I takea mai i Hawaiki-Nui
I Hawaiki-Roa,
I Hawaiki-Pāmamao
Oti rā me ērā atu anō Hawaiki
Te hono a wairua
Whakaputa ki Te Whaiao
Ki Te Ao Mārama.
Tihei Mauri Ora!

*Intertwine the threads of humanity
Originating from the great homeland
From the far homeland,
From the remote homeland
And from all other ancestral lands
Merging with the spirits there
Then coming out into the Light
Into the World of Consciousness.
The living spirit is within us!*

Ko Paeroa te pae maunga
Ko Waikato te awa
Ko Ruha te tangata
He uri tēnei
He uri whakaheke nō Te Arawa
Heoi, he uri whakatupu nō Ahitereiria

*Paeroa is the mountain range
Waikato is the river
Ruha is the ancestor
I am a descendant
A descendant of the Te Arawa canoe
A descendant raised in Australia*

Introduction

Wai (water) is a fundamental element for the natural world to support life. While New Zealand's primary industries use large plots of land that greatly contributes to the country's economic interests, the environmental prosperity, social connectivity, and cultural welfare of the indigenous Māori people have been neglected. Awa (rivers) and roto (lakes) are experiencing unnaturally high levels of Nitrogen, Phosphorus, E. coli, and various other contaminants that are responsible for the degradation of the health of freshwater systems across the nation. Subsequently, this results in significant negative effects on interdependent ecosystems and the people who connect to them physically and spiritually.

This literature review has been delegated by Our Land and Water (OLW), one of the eleven National Science Challenges, with the aim to identify land-based practices that can improve the health of the land and water as defined by Māori. *Demonstrating efficacy of rural land management actions to improve water quality - How can we quantify what actions have been done?*, a literature review completed by Doehring, Young, & Robb (2020) was initially mandated by OLW. Later, a kaupapa Māori literature review was undertaken to provide a uniquely Māori perspective.

This review sought to answer 4 questions that were built around the aim of the overall project:

- Outline a kaupapa Māori perspective of the interconnected relationship between humans, land and water. What are the core values, mātauranga and tikanga that support these relationships?
- Applied to a range of catchment areas, critically review how tikanga and kaitiakitanga practices over land and water have evolved over pre-contact, post-colonial and contemporary times?
- Analyse and assess indicators of tikanga and kaitiakitanga practices suitable for a national register database.

- Discuss issues and considerations around embedding mātauranga Māori into a national register database system with specific references to tikanga and kaitiakitanga practices?

These questions were explored through the analysis of kaupapa Māori literature around the issues presented.

Understanding key terms

All things in te ao Māori (the Māori worldview) are linked, and the following terms below are no exception. These kupu (words) are multi-dimensional and share whakapapa (relative links) to one another in a hyper dynamic system, meaning that action involving one will incur reaction amongst all the concepts listed below and many more.

Mauri. Mauri is commonly regarded as the life-force or vital essence of a being, object, or entity, which has been passed down through whakapapa (genealogical ties) from Ranginui and Papatūānuku. It provides life to all animate phenomena and also the potential for inanimate phenomena to support life; a binding force that links both the physical and spiritual worlds. The declining health of a system – be it land, water, a person, or group of people – will subsequently result in the diminishment of its mauri (Afoa & Brockbank, 2019; Harmsworth & Awatere, 2013).

“National policy goal for water is ‘Te Mana o Te Wai’, in Auckland it’s rephrased as ‘Te Mauri o Te Wai’. That emphasis on mauri - or life force - is there because much of the city’s water network is still too degraded to think now about mana... We can’t even dream about talking ‘Mana o Te Wai’ in a Tāmaki context if we

haven’t addressed issues of mauri – or the ability of that water to provide sustenance and life... One precedes the other.”

Te Rangī, 2019

Tapu. Tapu is a state of sanctity which is regarded as being under the protection of an atua (environmental deity). Since all things originate from the spiritual realm, all things are under the protection of an atua and, therefore, inherently have tapu. This implies restrictions on interactions with places, people, and certain objects and acts depending on the degree of tapu. Either accidental or purposeful disregard of tapu can result in spiritual retaliation and harm. Being relieved of tapu, or in a state of noa, may be accomplished usually through karakia (incantations) and water (Durie et al., 2017).

Mana. Durie et al. (2017) cites Dame Anne Salmond stating that “*mana was understood as proceeding from the ancestor-gods*”. The privilege of mana is derived from whakapapa and, by that, all elements of the cosmos retain mana gifted to them through their predecessors. Each body will have a distinct mauri that manifests a unique mana. Additionally, mana can be influenced by the mauri and mana of other entities. For example, the Waikato River can influence the mana and mauri of any body or system linked to it, such as hapū profoundly connected to the river. Mana, mauri, and tapu are intrinsically sustained in their bond between tangata (humanity), whenua (Earth), and atua (spiritual and environmental essences) (Fox et al., 2017).

Tikanga. Tikanga is described by Durie et al. (2017) as a concept of customary law which Māori spoke of to be tika (right) – the desirable standards by which correctness, justice or rightness is maintained. Afoa & Brockbank (2019) add that once whakapapa (ancestry of oneself to the universe) of humanity to the spiritual and environmental essences is understood then tikanga, as a location-specific

practice, can be understood. In the context of this literature review it is most regularly defined as culturally-centred, culturally-derived practices and protocols.

Rangatiratanga. Rangatiratanga is believed by Kawharu (2000) to be a new term developed from the base word rangatira (chief), which may have been first introduced in a translation for the Lord's Prayer: *kia tae mai tou rangatiratanga*. Before the missionary interpretation, mana (authority) was used as there was sufficient conveyance of sovereignty with this term between Māori. However, rangatiratanga (chiefly authority) and tino rangatiratanga (self-determination) is commonly granted considerable use in modern contexts because it encapsulates values protected by Te Tiriti o Waitangi.

Kaitiakitanga. Kaitiakitanga is an organic worldview which derives its concept of nurturing and safeguarding the natural world from understanding connectivity and relationships within the cosmos. Understanding that Earth does not belong to humans but rather, humans belong to Earth (Paul-Burke & Rameka, 2015). Before Māori encountered Europeans, kaitiakitanga was maintained by various entities, such as hapū, and phenomena, such as taniwha, following tikanga (protocols) relative to the domains of an atua (deity of the natural world) to ensure environmental and spiritual protection (Durie et al., 2017).

Kawharu (2000) would argue in a modern context that *“kaitiakitanga also explicitly embraces customary values at the same time that it implicitly expresses contemporary processes of adapting to new political and legal opportunities.”* The concept of kaitiakitanga has grown momentum over time and morphed its definition and the inclusivity of actions within the role as the world has evolved. The political definition of the term has been set in policy under the RMA 1991, defined as:

“the exercise of guardianship by the tangata whenua of an area in accordance with tikanga Maori in relation to natural and physical resources; and includes the ethic of stewardship”

By this definition it leaves out the spiritual and physical components derived from mana, mauri, tapu, and a grand web of many other factors that form the foundations which uphold a Māori worldview. Kaitiakitanga is not a simplistic term solely meaning guardianship and must be understood on interdependent levels of philosophy, spiritual awareness, and everyday practice (Kawharu, 2000).

Mātauranga. Mātauranga is considered to be the ukaipō (source) of knowledge in Aotearoa (Hikuroa, 2017). Marsden is then cited by Hikuroa (2017) who defines mātauranga as, *“following a systematic methodology based on evidence and Māori values to apply knowledge and pursue a greater understanding of the cosmos”*. Māori ancestors brought their systems of knowledge and understanding to Aotearoa and since then it has been maintained through various formats transferred across numerous generations. One medium of transmitting mātauranga is pūrākau (profound narratives) which encapsulates data within a Māori worldview upheld by Māori values. One example below shows how mātauranga has enabled Māori to live in harmony with their environment in contemporary times.

“... regarding the Waitepuru stream refers to a taniwha in the form of a ngārara (lizard)...The base of the hiku (tail) starts as the stream flows out of the uplifted land onto the Rangitaiki Plains and is said to flick from side to side... Consideration of the taniwha was taken in account when selecting building sites for the four marae in Matata. Accordingly, when two debris flows smashed into Matata in 2005, although a number of houses were destroyed, not one of the four marae was impacted.”

Hikuroa, 2017

Experiential knowledge built, practiced, and taught over centuries is an invaluable epistemological approach that Māori

absolutely consider as a taonga. Governments and enterprises worldwide are also beginning to realise the invaluable potential of indigenous knowledge to positively contribute to world issues (Kitson, 2018; Kukutai & Taylor, 2016).



Kaupapa Māori research methodology

As Smith (1996) states, “*kaupapa Māori research is research by Māori, for Māori and with Māori.*” Undertaking kaupapa Māori methodology in research aims to privilege indigenous epistemology by withdrawing assumptions on what is deemed exclusively correct and logical. It is the resistance to reading, writing, speaking, and thinking comparatively to Western scientific paradigms and embracing uniquely Māori ways of knowledge sharing. In this way, Māori worldviews, values, and principles allow tāngata Māori (Māori people) to self-determine what are the most meaningful expressions of discourse (Bishop, 1999).

Māori orthography

The following literature review contains many words in te reo Māori (the Māori language) and the meanings of many of the words in this literary piece will change contextually. Although Māori words have multiple dimensions and meanings which span across tangible and intangible concepts, these definitions must also be considered as collectively synthesised where meanings are interchangeable. A literary piece supporting conventional formats for writing the Māori language called, Guidelines for Māori Orthography by Te Taura Whiri i te Reo Māori, was observed to support the grammatical convention of te reo Māori administered in this literature review. Spelling was affirmed by referencing the online tool, Māori Dictionary. Definitions throughout the text are next to most kupu Māori (Māori words) in brackets as previously exhibited, however, some words have not been translated due to their general use in modern contexts and their unchanging intended definition in this review. These kupu (words) have been listed below:

- Tāngata whenua (indigenous people of the land)
- Rohe (tribal territory)
- Hapū (tribe)
- Iwi (confederation of related tribes)

- Whānau (extended family group)
- Wāhi tapu (culturally significant site)
- Te Tiriti o Waitangi (the Treaty of Waitangi)

Defining kaupapa Māori literature

It was then necessary to determine what exactly kaupapa Māori literature might be and how it contributes to this literature review. As mātauranga can be transferred through a myriad of formats in the present day, there were no limits to the type of literature that could be reviewed. Whether the source is a kapa haka performance, a Facebook video, or a scientific article from an internationally recognised publisher, all are potentially seen as equally credible. This unleashes the potential of knowledge usually excluded by standards set in Western scientific paradigms, allowing a wider scope to account for more voices, therefore building a more genuine perspective of Māori values.

Literature legitimacy

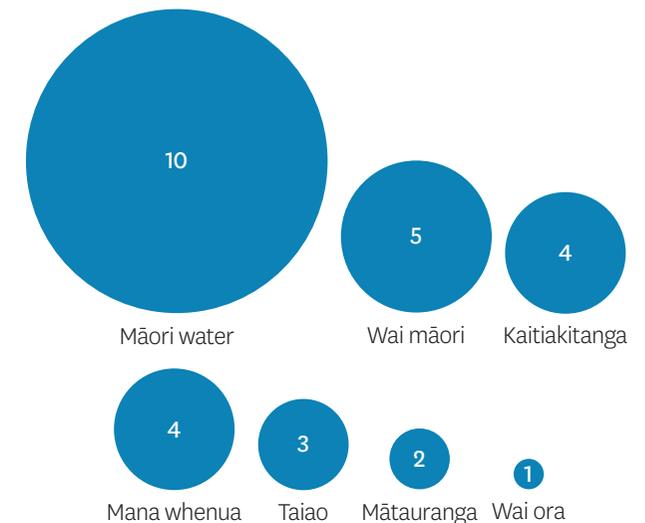
Legitimacy of a source was based on the fulfilment of one of these criteria:

- Authorship of the knowledge includes Māori
- The literature is authored by non-Māori but the writing is a direct record or account of Māori speeches or actions
- Where there was a lack of written accounts of the time (such as the times of Elsdon Best) the literature must link the elements of tāngata (people), atua (spirits and natural essences), and whenua (land and water)

These criteria highlight the intent that direct Māori inclusion was vital otherwise this exercise would simply be a literature review on Māori rather than a kaupapa Māori literature review.

Established keywords

Initially, keywords were elected to run through online search engines, databases, libraries, and catalogues. The number of keywords increased over time as the literature was reviewed. The keywords utilised were both in te reo Māori and numerous English equivalents and were used in various combinations as well as independently when searching. The following keywords were utilised online and yielded the highest numbers of relevant literature reviewed for this piece (the number of relevant sources found are shown below):



All other references were either suggested by members of the project team and other colleagues, found through citations within the various literature, or searched for specifically – as was the case for the iwi and hapū management plans.

Refining literature selection

There were 4 critical filters for all literature to progress through before they would be included in this report. To assess the relevance of each piece of literature, the following methods were employed:

1. Assessing the title of a piece for its suitability to the kaupapa (topic).
2. Reviewing abstract or finding the relevance for the keyword within the piece.
3. Reviewing the piece to determine whether it would be suitable to read or watch.
4. After further scrutiny through reading, watching, or listening to the piece, the relevance of the works to this kaupapa was assessed and then screened again. It should also be noted that during the fourth stage, due to time constraints, not all literature that made it through the final filter were able to be analysed.

As literature was being assembled from various databases with the established keywords, the pieces were compartmentalised in EndNote and an excel spreadsheet to note where the source was retrieved from, by which keyword, and retrieved by whom. Types of literature included:

- Journal articles
- Books
- Web pages
- Iwi Hapū Management Plans (IHMP)
- Videos
- Reports
- Audio files
- Teaching curriculum for youth

Harmsworth et al. (2016) notes that IHMP were developed in response to the RMA 1991 and are constantly evolving over time. As important as they are for articulating Māori issues and aspirations, iwi and hapū should be acknowledged for undergoing these processes to try and support their people through Crown processes. Ka nui te mihi (a great

acknowledgment) to whānau, hapū, and iwi that have undertaken IHMP or similar work across Aotearoa New Zealand as it takes a colossal amount of time, effort, collaboration, coordination, and passion to produce a document that encapsulates the iwi or hapū worldview, its values, and vision for the future.

Defining actions within the literature

Actions in this sense are related to land-based activities that influence the environment. For this literature review, actions were defined as:

Any process or activity that would contribute to the capability of tāngata whenua interacting with their ancestral land and water so that people, place and spirit move closer to a state of mauri ora (spiritual, physical, cultural health and prosperity which can only be determined by tāngata whenua).

Although the literature review carried out by Doehring, Young, & Robb identified numerous land-based practices, this review will not reiterate those actions in the hope that a kaupapa Māori approach will complement the results to date with alternative findings. This literature review identifies five actions that Māori have determined will invigorate environmental custodianship and reparation by supporting tāngata whenua to connect back to their whakapapa, back to Papatūānuku.



Maunganamu

Connection to all things

The creation story tells of how Ranginui (Sky) and Papatūānuku (Earth) were born of Te Kore (The Void) and, because of their love for each other, were clasped together in an embrace so tight that between them was Te Pō (The Darkness). Locked in Te Pō were their children in the form of atua (elemental essences) who sought to separate their parents and escape the blackness. It was Tāne Mahuta (essence of forests) that thrust the two apart to allow all within to be freed into the world and awaken in the light of consciousness. While Ranginui and Papatūānuku have since yearned for each other, many of their offspring still help them to ferry their expressions of love. These are the rising mists and vapours from the awa (rivers), roto (lakes), and moana (ocean) which are carried by the hau (wind) in the form of kapua (clouds) up to Ranginui and returned back to Papatūānuku as roimata (tears) in the form of ua (rain). The weeping of Papatūānuku for her lover emerges from the well-springs and flows across her body to join the great water cycle. These acts of eternal longing thus nourish their children who are all other beings and energies, both seen and unseen (Afoa & Brockbank, 2019; Best, 1976, 2005; Durie, Joseph, Toki & Erueti, 2017; Harmsworth & Awatere, 2013; Henwood et al., 2016; Hopkins, 2018; Morgan, 2006).

From sky to earth and sea, we all share a connection to one another and everything that surrounds us. A Māori worldview acknowledges humans as the descendants of primeval forces – the separation of Ranginui and Papatūānuku – hence all their offspring have a duty of care to the wellbeing of the cosmos through ancestral ties. Māori, and indeed many indigenous cultures, see the world through an all-inclusive lens that provides a framework for humans to relate to their environment. The linking of all beings and phenomena, both animate and inanimate, has been intergenerationally transferred through a range of customs including tikanga (holistic customary practices),

mātauranga (traditional knowledge systems), and whakapapa (ancestry and interconnectedness of all things). Intrinsic in Māori principles of what it means to be human, this understanding accordingly reflects their philosophies, practices, and values across a grand timeline that predates their arrival to Aotearoa – a traditional name for New Zealand which can be interpreted as long white cloud (Afoa & Brockbank, 2019; Best, 1976, 2005; Durie, Joseph, Toki & Erueti, 2017; Harmsworth & Awatere, 2013; Henwood et al., 2016; Hopkins, 2018; Morgan, 2006).



Afoa & Brockbank (2019) exhibit a version of whakapapa which shows the connection of all entities and systems including humanity.



Change of tikanga and kaitiakitanga over time

Pre-contact with Pākehā

Varying accounts of human history in Aotearoa predates the coming of Kupe and the following waka that migrated from across the seas (Gudgeon, 1893; Parata, 2017). The origins of the various inhabitants across time may vary but links to the great expanse of Polynesia are clear through numerous shared pūrākau which is defined by Whaanga et al. (2018) as “narratives that contain philosophical thought and worldviews”. One such pūrākau shared across Polynesia is of Rata felling a tree without asking permission through karakia (rite of acknowledgment).

...After lopping off the branches and peeling off the bark, Rata retired for the night. On returning the next day he found the tree standing erect with no trace of interference. Although mystified, he felled it again but hid himself in undergrowth nearby. Then came the creatures of the forest, the children of Tāne - divine owner of the tree. They surrounded the fallen tree and together were able to bring it back upon its stump, healed and whole. Rata emerged and asked why they would undo his hard work. The creatures replied that he had disrespected Tāne by not adhering to tikanga and asking for permission. Rata apologised sincerely for his ignorance and the creatures asked him to return to his village. The next morning, Rata awoke to find a freshly carved waka outside his home. The children of Tāne had forgiven Rata and gifted the waka made of his felled tree with the blessings of Tāne.

Parker, n.d.; Grace, n.d.

This pūrākau is known throughout Polynesia and, especially on small islands, reflects the critical importance of conserving taonga (treasured beings, objects, and phenomena) such as trees. The intention of utilising resources, working on land or water, should be done through humility and purpose while maintaining an understanding of whakapapa (interconnectedness to all things) and appropriate tikanga (cultural protocols) relative to any space (Parker, n.d.).

Upon arriving and inhabiting Aotearoa New Zealand, early Polynesian settlers spread throughout the motu and settled amongst lush native forest and clean water bodies while building relationships with their domains (King, Skipper, & Tawhai, 2008). Taonui (2008) distinguishes that as they established homesteads and territories, various features of the terrain were named and placed under the protection of the settled hapū who subsequently took on a role as kaitiaki (spiritual and environmental guardians) among other beings and phenomena caretaking for the whenua (land and water).

Hoki ki tōu maunga kia purea ai e koe ki ngā hau o Tāwhirimātea

Return to your mountain to be cleansed by the winds of Tāwhirimātea

Murray, 2016

Murray (2016) quotes a well-known whakataukī (proverb) above to illustrate the intrinsic connection between people and place on a metaphysical level dating back to primal Māori origins. By returning and connecting to ancestral lands, the environment can absolve troubles that negatively influence wairua (spirit), hinengaro (mind), and

mauri (life essence). Ensuring the wellbeing of the land and water is then reciprocated by tāngata whenua acting as kaitiaki (environmental and spiritual stewards) through the practice of tikanga (traditional protocols).

Post-colonial times

In the time between immigrating to Aotearoa, and first contact with Pākehā, tāngata whenua - literally meaning people of the land - had long formed an intimate bond with their surroundings (Henwood et al., 2016; Hikuroa, 2017). Māori not only see themselves of the land, but as the land. Hence the whakataukī (proverb):

*Ko au te whenua,
ko te whenua ko au*

*I am the land
And the land is me*

Afoa & Brockbank, 2019

Afoa & Brockbank (2017) further portray this connection by another whakataukī (proverb) below that profoundly links the wai (water) and whenua (land) of Papatūānuku (the mother Earth) to the process of childbirth. After the wai (water but also a term for amniotic fluid) flows and the child is born into the world, thereafter the whenua (placenta) is buried in the whenua (land). The connection between people and place is not only in tikanga (customs) and values but it is interwoven within the reo (language):

Tuatahi ko te wai,
Tuarua whānau mai te tamaiti,
Ka puta ko te whenua.

*When a child is born the water
(amniotic fluid) comes first,
then the child is born,
followed by the afterbirth (whenua)*

Afoa & Brockbank, 2019

Hapū had established tikanga (protocols) on how to interact with land and water in their regions based on mātauranga (experiential knowledge handed down) developed over numerous generations of knowledge sharing. Following the initial stages of Pākehā settlement in Aotearoa, an immense shift in culture was underway due to the introduction of Western renditions of religion, politics, law, economics, and lifestyles (Harmsworth, Awatere, & Robb, 2016). While Māori were intent on retaining their land and customs, the widespread settlement of Pākehā resulted in land confiscations and the division of hapū land into individual titles (Hutchings et al., 2017). For many, use of tikanga (cultural practices) waned as people were dispersed and dissociated from papakāinga (villages) held under hapū care for generations.

As British systems were enforced within a rising colony called New Zealand, Māori had to adapt their tikanga (cultural practices) to harmonise with the principles, values, and creeds of the Crown particularly through political regimes, legislation, and policies (Harmsworth & Awatere, 2013; Harmsworth et al., 2016). Lee (2009) discusses how the Native Land Courts - designed to individualise Māori land titles for speedy purchase of whenua by the Crown - witnessed Māori narrators purposely change the emphasis of their pūrākau. While in a traditional context, Māori would centre pūrākau on relationships, they shifted the focus of their narratives to occupation and land rights through a lens that Pākehā

could better relate to, and thereby, satisfy the judicial court processes (Lee, 2009; Parsonson, 2001). By amalgamating Pākehā values into the format of pūrākau (historical recounts), some Māori were able to retain land and maintain kaitiakitanga (custodianship).

Contemporary times

As the nation of Aotearoa New Zealand developed into what we know it as today, many Māori struggled to maintain strong ties to their traditions and their identity which was due to various factors, however, the eventual migration from papakāinga (ancestral homes) to larger towns and cities was a major component. Post-World War Two, only 26% of the Māori population lived in towns and cities and by 1956 this had increased to 35%. By 1986 nearly 80% of Māori lived in urban areas (Ngā Taonga Sound and Vision, 2019).

“Urbanisation, the changing employment pattern, and the rise of educational standards are throwing the Maori into closer association with European life than ever before,”

Schwimmer, 1959 cited in Morrow, 2014

Urban migration of Māori resulted from the state encouraging Māori to “achieve equality” with Pākehā through economic and cultural assimilation (Morrow, 2014). Subsequently, through the appeal of seeking opportunities of education and financial wellbeing as a means of becoming “successful”, many Māori began to leave their papakāinga (ancestral homes) for greater urban areas, or even moving abroad.

“... we have our rangatahi who are at the whare wānanga, there are our own tamariki mokopuna that are being raised in the cities

and then we have our tamariki and mokopuna that are being raised off-shore. Jim touched on it last night about how we would transfer that mātauranga and that information to them was by watching them growing up amidst us and on the marae. Then we would get an insight into just what are the skills and attributes that child has and where she would be strategically best utilised... to serve their people. Because we have a lot of our tamariki and mokopuna living in the cities and offshore that process is no longer as strong as it used to be.”

Waiwai, 2018 cited in Ataria et al., 2018

Since the mid-20th century, Māori had begun a cultural shift assimilating into a Western world with Western formats. Given that Māori sovereignty had been largely ignored by the Crown, Māori aspirations have been given more consideration and partnership roles taken more seriously in recent times (Clapcott et al., 2018).



Te Rotoruanui-a-Kahumatamomoe

Power through policy

Although many Māori were estranged from the holistic practices of their ancestors, key changes made through policy and legislation have helped to provide a platform for afflictions to Māori people, ancestral homes, and practices to be addressed. Policy is the most powerful tool for modern Māori as it amplifies the indigenous voice and supports the equitable empowerment of Māori to integrate their values into Aotearoa New Zealand (Durette et al., 2009; Harmsworth & Awatere, 2013; Hutchings et al., 2017).

When Te Tiriti o Waitangi was first signed in 1840, it provided the foundation for partnership in co-governing an upcoming nation, however, differences in interpretations of the Māori and English versions of the text have since been the focus of arduous debate (Afoa & Brockbank, 2019). Despite hoping that it would uphold rights to land, water, forests and taonga as Māori were adopted as British subjects and New Zealand citizens, history has witnessed great contentions such as the New Zealand Wars, the 1975 Land March, and the establishment of the Waitangi Tribunal to assist with historical grievances (Ataria et al., 2018). As the Crown obtained more land throughout Aotearoa, the influence of Māori values across the landscapes and waterscapes diminished. Māori were forced to experience the diminishing health of the land and water which compounded on the issues behind practicing tikanga (traditional customs) and kaitiakitanga (environmental and spiritual guardianship).

“One hundred and fifty years ago, a compact was signed, a covenant was made between two people... But since the signing of that treaty... our partners have marginalised us. You have not honoured the treaty... Since 1840, the partner that has been marginalised is me. The language of this land is yours, the custom is

yours, the media by which we tell the world who we are, are yours...”

Vercoe, 1990 cited by Ngā Taonga Sound and Vision, 2019

Following Te Tiriti o Waitangi were a number of key policies that have influenced Māori participation on the topic of freshwater research, planning, and management including: WAI262, Conservation Act 1987, Resource Management Act (RMA) 1991, Te Ture Whenua Māori Act 1993, National Policy Statement for Freshwater Management 2014, 2017 and 2020 (NPS-FM), and Te Awa Tupua (Whanganui River Claims Settlement) Act 2017. Steadily developing policy and legislation that encases Māori values over recent decades has been an integral constituent to enabling environmental justice.



Korokoro Falls

Four emerging themes

Initially, as the literature was studied, themes were defined to give clarification on what notions and philosophies were carrying the aspirations of Māori. To support the themes that have emerged from the literature, reference is made to the pūrākau (philosophical narrative) of Tāne who is traditionally known to have retrieved three kete (baskets of knowledge) from the highest reaches of the heavens as a gift for humanity. Kāretu (2008) would suggest that there is also a fourth kete that accounts for the additional dimensions of the modern world which ngā tūpuna (ancestors of present-day Māori) would not have been able to envisage. The four kete are known as:

- 1. Te Kete Tuauri.** The basket pertaining to the creation of the natural world, how everything interconnects through flows and patterns of energy, and the intangible link between people, place, and spirit.
- 2. Te Kete Tuatea.** The basket for everyday exercises to support humanity's survival including warfare, agriculture, woodwork, stonework, and earth work.
- 3. Te Kete Aronui.** The basket of peace, arts, incantations, literature, philosophy, and crafts that will benefit the Earth and all that reside there.
- 4. Te Kete Aroiti.** The basket of tolerance, compromise, mutual respect, and recognition of social, linguistic, and cultural differences to enhance the human mosaic.

By drawing parallels between the baskets of knowledge retrieved by Tāne and the emerging themes of the reviewed literature, the following themes were determined. These four themes were developed through thematic analysis of the aspirations of iwi and hapū across Aotearoa New Zealand indicated by the kaupapa Māori literature. The alignment to each of Tāne's kete (baskets of knowledge) and the whakapapa (links to origin) of each theme is exhibited below:



Whakapapa ki te Taiao

(interconnectedness of everything) – any matter referring to the spiritual and genealogical connection between ira tangata (human element) and te taiao (the universe).



Tikanga Tiaki

(conduct of care) – represents knowledge that is practiced to enhance the mauri (ability to support life) and mana (prestige) of the environment and people in unison, which is key to the wellbeing of Māori in contemporary times.



Taonga Tuku Iho

(treasures passed down) – all knowledge passed down through generations in various formats whether it be sung, spoken, carved, woven, or sensed. It focuses on knowledge forms that help Māori people, places, and spirits live harmoniously.



Ture

(laws) – policy, legislation, regulation, planning, communication, and imposition of international systems into te ao Māori (the Māori world). Together these form a newly established dimension that influences how tāngata whenua can interact with people and their ūkaipō (homelands). These new elements of Māoritanga (Māoridom) are now regular conditions of the post-colonial experience for contemporary Māori.

These themes emerged from ideologies that were highlighted within the studied literature. While they could be further refined into many more categories with explicit detail, for this study it was determined that it would not be necessary since a maximum of 5 actions were being assessed due to time constraints.



Hāwea

Actions from the literature

The following actions were determined by observing similar types of actions either practiced or strived for by Māori across the motu (North and South Islands). Due to whakapapa, all the actions below incorporated elements of all themes, which is represented by the coloured kete (baskets) next to each action. Themes that have a very strong connection to an action will have a bold dark ring around the icon rendering a clear indication of their relevance and influence in that space. A list of citations that support each action is shown in Appendix A.



Engage with tāngata whenua to incorporate their values into policies, plans, and decisions that affect land and water



Across several different contexts, from research articles to televised interviews with hapū and whānau, Māori have proclaimed the significance of being actively included in all matters which involve land or water within their rohe (tribal territory). Throughout a myriad of literature are quotes vividly capturing the connection between tāngata whenua and their whenua.

*Kaore nawe ngā taonga tuku iho,
Ka mau iui tea o wairua,
engari tea o tangata.*

Don't scar the treasures of our ancestors,

**the spiritual world will become ill,
therefore so will the world of man.**

Cowan, n.d.

*Toitū te Marae o Tane,
Toitū te Marae o Tangaroa,
Toitū te Iwi*

*If the domain of Tane survives to give sustenance,
And the domain of Tangaroa likewise remains,
So too will the people*

Afoa et al., 2019

“The creation story... tells that all the children of Rangi and Papa contributed a piece of themselves. Nā rātou i tākohā tā rātou, tētahi wāhanga o tō rātou ira ki a Hineahuone. So, every part of our indigeneity is made up of that creation story of the children of Rangi and Papa. So ... if anything is affecting me its gonna show up in that environment because I was created out of Tane Mahuta. I was created from Tangaroa, I was created from Tawhirimatea, I was created from Haumietiketike from Rongomātane, ngā tamariki katoa o Rangi rāua ko Papa kei roto I ahau nei—and if there is anything that is going to impact on me or on that environment its either gonna show up on me, in me, or out there.”

Waiwai, 2017 cited in Ataria et al., 2018

Fox et al. (2017) argue that a shift in political and legal context can open space for assertion of indigenous values, which may not only restore the health of an ecosystem but would

also repair the connection between humans and their environment. They go on to say that institutions should positively contribute to the capability of indigenous people to be present culturally and spiritually in their mahi (work). It's indicated that Māori ultimately wish to develop opportunities for “participation and inclusion in decision-making, to achieve multidimensional aspirational goals and desired indigenous outcomes” (Harmsworth & Awatere, 2013). Harmsworth et al. (2016) suggests that if meaningful relationships between the Crown and iwi/hapū were formed and strengthened over time, collaborating through tikanga-based frameworks would support co-governance and co-management – developing systems and processes in unison. As Hikuroa (2017) mentions, tāngata whenua have codified the history of their interactions and practices with their environment through mātauranga and while hapū are the experts in their respective domain, it would be wise to include them in all matters from the very beginning. As the whakataukī below suggests, if all parties bring their respective contributions then all people will prosper.

*Ma tāu rourou, ma tāku rourou,
ka ora te manuhiri.*

*With your contribution and my contribution,
the people will be well.*

Bay of Plenty Regional Council, n.d.

Following the intention of Te Mana o te Wai, each hapū should determine what values enhance the mana (prestige) of their respective region. If tāngata whenua (people of the land) see the whenua (land) as a part of themselves then in proper exercise of tino rangatiratanga (self-determination) as is stated in Te Tiriti o Waitangi, it would be vital that they play an integral part in establishing values around the health of water bodies within their rohe (tribal territory) and the

ecosystems that feed and flow from them. From Crown and business entities to individual landowners, all parties should look to engage local iwi and hapū when developing:

- Farm and land management plans
- Land and water schemes and developments
- New policy and changes to existing policy
- Business strategies

Doing so will ensure that the mana, mauri, and tapu are upheld to enhance the overall physical, spiritual, and cultural health of the land, water, and tāngata whenua.



Strengthen the practice of traditional and contemporary tikanga (holistic methods) on the whenua



Many IHMP and Māori land trusts have indicated their pursuance to re-establish traditional practices and tikanga to benefit the people and the environment. These have included:

- Rāhui (sacred prohibition on the use of an area)
- Karakia (acknowledgement in the style of incantation)
- Māramataka (aligning land and water-based practices with the moon phases)
- Rongoā (traditional healing)
- Understanding and knowing Pepehā (statement of key features of ancestral lands)
- Use of te reo Māori (the Māori language)
- Mahi kai (food gathering)
- Synthesis of Western science and mātauranga (utilising GIS, data storage and analysis, communication, web design, and other technologies to complement and better enable mātauranga in a modern context)

Most of these forms of interacting with the land have been widely used across the motu for centuries to ensure the mana, mauri, and tapu are balanced and maintained, however, it has been highlighted by iwi that these traditional tikanga (customs) should be revitalised while contemporary tikanga is encouraged. These practices are based on the mātauranga of tāngata whenua through connecting with the land in a physical and spiritual sense. There may be many more tikanga on the whenua that can be practiced, however, that would be for tāngata whenua to determine.



Support opportunities to enhance kaitiakitanga



Whether through businesses, events, or education, supporting the development of Māori in ways that enable them to connect with their whenua (ancestral lands) and their whakapapa (connection to the environment) is a key objective that emerged from the sources investigated. Aspirations to pursue this goal could be realised through the following undertakings noted from the literature:

- Immersion of Māori history and values into school curriculum
- Advocacy for artistic expressions such as toi whakairo (carving), toi raranga (weaving), toi whakaari (performing arts)
- Supporting Māori-lead sporting, recreational, or cultural events that are associated with the environment
- Iwi, hapū, and whānau training on resource management systems and cultural and environmental monitoring
- Allowing access to tāngata whenua who hope to reach areas of cultural significance on private land.

- Holding wānanga to pass on knowledge and discuss issues and aspirations

There have been a number of initiatives ventured by various groups which have supported the capability for mana whenua (Māori people with the authority to caretake for ancestral land and water) to grow and enact kaitiakitanga. Councils, trusts, and businesses have supported workshops to educate on practices, systems, and policies that are critical to sustainable environmental welfare. There is also the EnviroSchools “adopt a stream” programme that supports early childhood centres and schools that will commit to a long-term endeavour of sustainability by encouraging children and students to connect and explore the environment, then take action in collaboration with their community. It is essential that humanity are enabled to immerse in te taiao so they may connect back to Papatūānuku. Encouragement of tāngata whenua to undertake a journey of reconnecting through whakapapa (ancestral ties) to their whenua (lands), whānau, and hapū is crucial for the development of kaitiakitanga.



Conserve and restore wāhi tapu (culturally significant sites)



For Māori, wāhi tapu are any culturally significant locations based on mātauranga and historical accounts. As was mentioned earlier, all things have some spiritual connection meaning all things have tapu (a spiritual sanctity), however, a wāhi tapu should be specifically defined by tāngata whenua.

Some examples of wāhi tapu include:

- Urupā (burial grounds)
- Pakanga sites (old battle grounds)
- Pā (fortified village) sites
- Rāhui (sacred prohibition) sites

- Natural land or water features for historical or cultural reasons
- Places where tohi (blessings in water) are performed
- Any site where kōiwi (human remains) are located
- Dwellings of taniwha

Many hapū have clarified that the conservation and restoration of wāhi tapu is a paramount concern for the sanctity of the area and the spiritual safety of all people. This has even been recognised by the Ture Whenua Māori Act of 1993 which “*facilitates and promotes the retention, use, development, and control of Māori land as taonga tuku iho (a treasure passed down through generations) by Māori owners, their whānau, their hapū, and their descendants, and that protects wahi tapu*” (Hutchings et al., 2017).

Morgan (2006) recognises that dangers such as pollution, degradation, and damage to areas of significance to tāngata whenua would diminish the mauri, mana, and indeed the tapu of that whenua (land and water). Some methods of contributing to the well-being of culturally significant sites have been:

- Use of signs and information panels near wāhi tapu
- Sharing knowledge informally, formally, or culturally through wānanga
- Protection through planning and policy
- Advocating to maintain shape and course of waterways and to not mix water sources which would detriment the mauri of the system
- Training whānau, hapū, and iwi about cultural, spiritual, and historical significance
- Recognition through formal processes as a significant site
- Access for tāngata whenua to wāhi tapu

By conserving and restoring these areas, mauri, mana, and tapu will be protected for the whenua and tāngata whenua.



Revitalise the use of traditional Māori place names



*Toitū te kupu,
toitū te mana,
toitū te whenua*



*By upholding the language,
the prestige is established,
and the land is preserved.*

Kahui Kaumatua o Te Urupu, n.d.



History of pre-European Aotearoa is captured in the library of the Māori which differs from classical formats. Oratory, carved, woven, and sung accounts of great feats and devastating events have been passed down through generations to now link us from the present to the past through the words of ngā tūpuna (ancestors of present-day Māori).

*Titiro whakamuri,
haere whakamua*

*We look to the past,
As we move forward into the future*

Ataria & Brockbank, 2019

The prosperity of these poetic accounts for landscapes and waterscapes are all strongly linked to the restoration of place names which enhances their mauri and mana. To recognise and return the traditional Māori names to areas and features influences the mana and mauri pertaining to those places.

This should be supported both informally by correct pronunciation and recognition of place names, and also through formal recognition in documents, maps, and signs. Place names house the history of a domain through inherently linked taonga tuku iho in the form of:

- Te reo Māori me ōna tikanga (The Māori language and its protocols)
- Pūrakau (philosophical narratives)
- Kōrero tuku iho (knowledge passed down generationally)
- Pepeha (knowing ancestral places of belonging)
- Toi whakairo (carving)
- Haka (dance with actions)
- Waiata (songs)
- Raranga (weaving)
- Whakataukī (proverbs)
- Kīwaha (colloquialisms)
- Toi whakaari (performing arts)

The Māori library exists in these formats and encouraging their use can give an idea of the state of an area as it was historically, thus preserving the stories of an area for future generations. Rāhui Pōkeka, is the traditional Māori name for Huntly, which sits on the Waikato River and was named due to an event of kaitiakitanga told below.

A rangatira named Te Putu, placed a stake in the ground to signify a rāhui (restriction or ban) on fishing and eeling to protect food stocks. Each day he would strike the top of the stake and it would descend deeper into the ground. When the stake was fully embedded, Te Putu instructed for the initial fishing whānau to harvest some kai from the water and lay the catch at his feet. They did so and then spread the fish into equal amounts to feed the entire hapū; the fishing families and the non-fishing families.

Matatahi, 2020

Matatahi (2020) describes this as “*a story of kaitiakitanga, it’s a story of nationhood I suppose, of working together, of sharing and caring for the environment.*” It also provides a snapshot of a time when waters were capable of supporting fish species that could provide sustenance for a whole hapū (Carter, 2019). Revitalising traditional Māori place names helps connect tāngata whenua to their whakapapa (physical and spiritual ancestral ties) and their whenua (land and water).



Whakatipu-wai-Māori

Assessment of indicators

For the actions outlined above, indicators for each are sought to effectively demonstrate and measure their progression. Indicators may be seen in the Māori world as *tohu* - considered patterns and senses interpreted by *tāngata whenua* in response to experiences perceived from the environment, people, or spiritual phenomena that are transmitted generationally. Already, several Māori-led cultural monitoring approaches have been identified by Rainforth & Harmsworth (2019) to assist *whānau*, *hapū*, and *iwi* to qualitatively and quantitatively assess conditions using independent indicator sets.

Although these have been amazing resources for *hapū* and *iwi* to utilise, especially when interacting with external parties who may require tangible measurements, *tāngata whenua* are stating greatly varying indicators dependent on the *rohe*, the *tikanga*, and the current state of their area. Some indicators identified across various IHMP studied include:

- Official acceptance and acknowledgement of *mana whenua* (authority on the land).
- *Iwi* and *hapū* show knowledge and practice of *whakapapa*, *tikanga*, and *te reo*.
- *Wāhi tapu* are acknowledged, sustained, and unthreatened.
- Enhancement of *mauri* in the *rohe*.
- Engaging with schools, school programs, and scholarship opportunities to support the education of young *kaitiaki*.

The author was privileged to study numerous sources containing *mātauranga* (intergenerational knowledge) on indicators, however, it could not be determined which indicators would harmonise with each of the five actions that were found. *Hapū* from across the *motu* (North and South Islands) would specify differing indicators for their respective *rohe*. This is supported by the fact that some monitoring models have been designed to specifically account for self-determining criteria of cultural health such

as the *Mauri Model*, *Mauri Compass*, and *CHI*. Therefore, indicators for the previously stated identified actions will not be determined in this review and will be discussed below among other concerns.



Discussion of issues and considerations

Mātauranga compared with Western science

A common issue identified while incorporating Māori values, knowledge, and understandings within a modern context has been the miscommunication, misrepresentation, and misinterpretation of mātauranga in the scientific community. Mātauranga Māori is valid in its own right and, although it is a methodically developed body of knowledge, cannot be analysed or compared with tools from Western science (Ataria et al., 2018; Hikuroa, 2017). Similarly, many approaches to synthesising Māori knowledge systems with Western science has resulted in the manipulation and shaping of Māori values to fit a Pākeha framework. Although, since all undertakings are developed within a Pākeha system this is to be expected. The key is to be inclusive of Māori expertise from the beginning of any endeavour so that, at the very least, equitable and equal progression is made.

Developing relationships with tāngata whenua

Issues have also been identified through the interactions between hapū and parties wishing to undertake work that can affect a system's cultural and environmental integrity. Kanohi ki te kanohi is a widely preferred method of engagement, discussing issues and conflicts, and exchanging ideas. Ensuring that external stakeholders are aware of these tikanga (protocols) and are given the capability to learn them is key to strengthening those ties. However, engagement should stem from a sense of aroha (good intent) and manaaki (caring for others' wellbeing) from all parties.

Consideration should also be maintained towards all iwi and hapū being prone to engagement fatigue due to excessive consultation. Building more local whānau, hapū, and iwi capability through programmes that empower them as kaitiaki is one method of easing the strain. An example of supporting capability would be the Toi Moana Hunga Tiaki RMA Workshops rolled out by Bay of Plenty Regional Council which sought to deliver free workshops on the workings of the resource consent process (Bay of Plenty Regional Council, n.d.).

Māori data sovereignty

Some Māori voices also indicated that requests for insight into mātauranga, specifically environmental knowledge, embodies a contemporary form of colonisation (King, 2008). Resistance to sharing their taonga is due to distrust in incapable practitioners that, without context and understanding, will misuse the knowledge (Kukutai & Taylor, 2016). These points resonate within discussions and concerns over Māori ownership of mātauranga, and their data sovereignty. As Kitson et al. (2018) observes, while policies such as the Vision Mātauranga framework aims to unlock the innovation potential of Māori knowledge with a positive step towards a working Treaty relationship there is also potential for iwi, hapū, and whānau to lose tino rangatiratanga (control and sovereignty) over their data. With regard to this issue, the OLW Māori team for this project hope to draw upon the CARE principles highlighted by Carroll et al. (2020).

Indicator development

The CARE principles would likely be utilised when considering criteria for determining suitable indicators for the five respective actions identified previously from the

studied literature which would be suitable for a national database register. This is a contentious issue since it would be desirable that iwi and hapū would be consulted when determining indicators. Although, there was a gap in the reviewed literature pertaining to a consistent set of indicators that may be able to coherently represent the actions identified.

This reflects iwi and hapū autonomy, expressing through their mātauranga what a thriving ecosystem looks like in their rohe (tribal region). It would be culturally and practically inappropriate to standardise indicators spanning across multiple hapū, iwi, or regions, let alone on a national scale, therefore they have not been defined within this literature review.

Literature review limitations

Due to changes that took place within the OLW project team which included a shift in expertise, personnel, and scope of project to be inclusive of Māori voices, this kaupapa Māori literature review had a belated start. This has led to:

- Shorter time parameters to undertake the kaupapa Māori literature review compared to the initial literature review.
- Expertise limitations and lack of resourcing for wider collaboration and authorship.
- Framing much of the kōrero (oral knowledge) in a Western format of a lengthy report in almost entirely the English language which yields limitations on capturing the essence or true meaning of some pieces reviewed.
- Also, having the literature review in this format excludes many from reading it as it is not a widely digestible piece.



Waikaremoana

Recommendations and conclusion

Although actions have been identified within this literature review, they should be observed as a cultural indication for what some Māori have urged for within the socio-political realm of the past few decades. As the nation's political parties oscillate through government, their intent to consciously fulfil Te Tiriti o Waitangi obligations is not guaranteed. Therefore, it's necessary to proceed by considering these actions with the genuine aim of engaging tāngata whenua with pono (good faith) and aroha (good intent) in a rohe-based (tribal boundary-based) relationship that aims to determine respective goals and pathways to ensure te taiao ora (a prosperous environment).

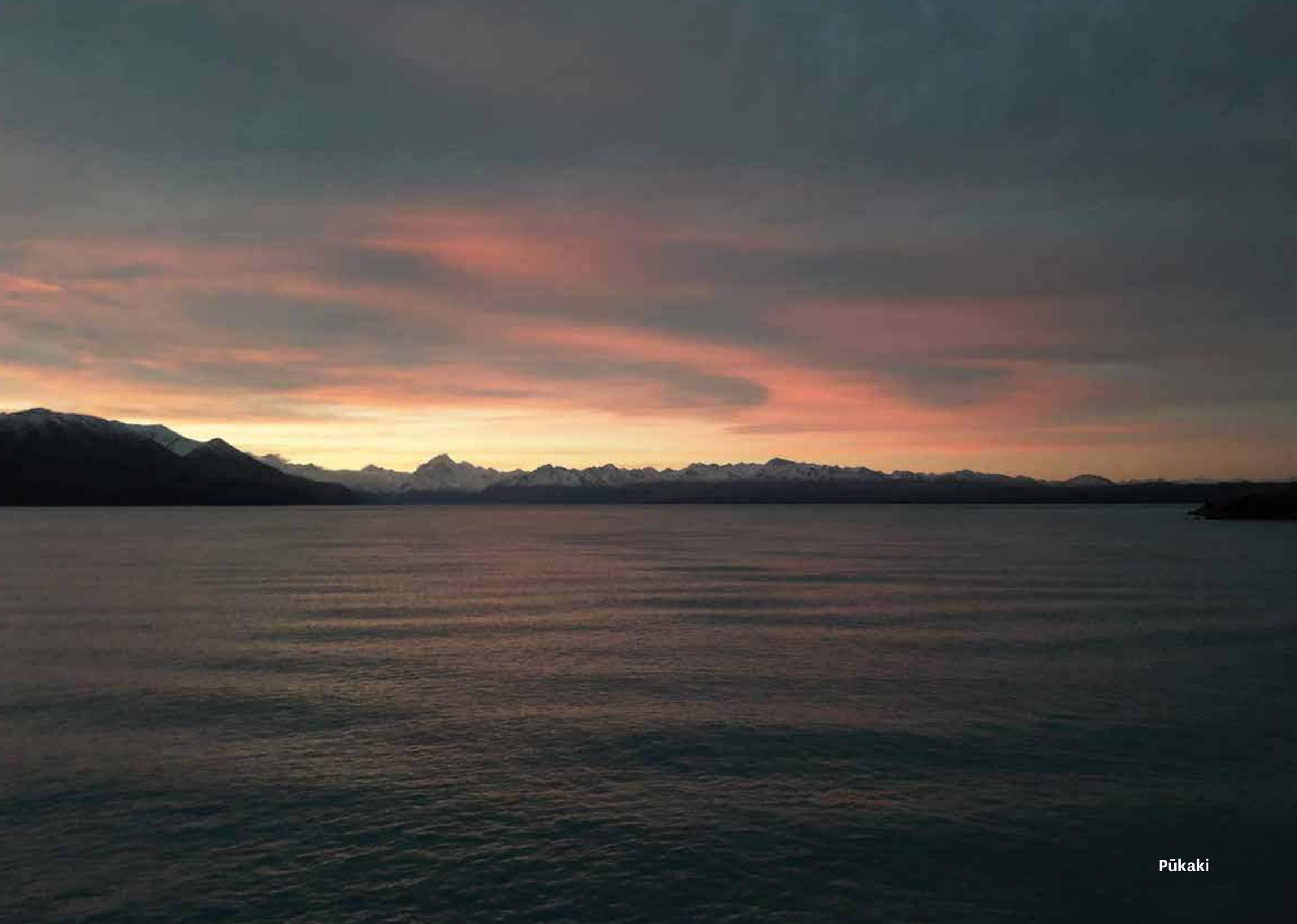
As this OLW research carries onward, the following general recommendations have been made in response to the issues highlighted above. The hope is to further develop a comprehensive understanding of the iwi voice and give mana (integrity) back to Māori people, Māori knowledge, and the domains in which they wish to enact kaitiakitanga (environmental and spiritual guardianship). The points below are proposed as starting points for the development of all agencies and individuals that would like to undertake the 5 actions:

- Engage with Māori groups and develop relationships through kanohi ki te kanohi (face to face interactions, formal or informal) with the genuine intent to work in partnership in a Tiriti context; an equitable platform where Māori aspirations, values, and mātauranga are equally as valid as their hegemonic counterparts.
- The 5 actions previously identified are actionable by all groups including Crown entities, industries and businesses, as well as individual landowners. The key is communication and, therefore, understanding which hapū have mana (authority) in an area and then engaging with them to support the wellbeing of the land.
- Study Te Tiriti o Waitangi or attend a Treaty-based workshop to seek understanding of the general Māori position and mamae (affliction) over historical and modern issues.

- If current parameters for iwi and hapū exclude them from contributing their voice then more support in whatever form should be considered to aid tāngata whenua in sharing their issues, values, and aspirations i.e. through IHMP or whatever format enables them to communicate their values best.
- Oppose the standardisation and contortion of Māori values and knowledge to apply nationally, regionally, or by bounds which solely fit the Western system and its regime.

Indeed, while degradation of the water and land is observed, due to the inherent connection between land and people, the Māori culture can never prosper. The reverse must also be the case where the natural world will never prosper while the people it sustains have no sense of their ancestry that's interwoven throughout their surroundings. This loss of identity in people, practices, and places are key issues of this kaupapa (agenda) and through engaging with tāngata whenua, co-developed and co-managed solutions for these problems can be implemented.

There is still a great journey ahead of Aotearoa New Zealand to work as a cohesive unit that cherishes and enables its indigenous people and culture to help steward their ancestral lands with those that now call these islands home. Meaningful relationships are key to driving this vision forward; a web of connections between humanity, land, water, and spirit. Only by trusting one another and through appreciation, love, and care for our surroundings will the land and freshwater prosper.



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Te Rotoruanui-a-Kahumatamomoe

Appendix: Citations to support each action



Engage with tāngata whenua to incorporate their values into policies, plans, and decisions that affect land and water.

Category	Citation
Research paper	<p>Afoa, E. & Brockbank, T. (2019). <i>Te Ao Māori & Water Sensitive Urban Design</i>. Building Better Homes, Towns & Cities National Science Challenge. https://www.buildingbetter.nz/publications/urban_wellbeing/Afoa_Brockbank_2019_WSU_D_Te_Ao_Maori.pdf</p> <p>Carter, L. (2019). He korowai o matainaka/the cloak of matainaka: Traditional ecological knowledge in climate change adaptation - te wai pounamu, New Zealand. <i>New Zealand Journal of Ecology</i>, 43(3), 3386</p> <p>Clapcott, J., Ataria, J., Hepburn, C., Hikuroa, D., Jackson, A. M., Kirikiri, R., & Williams, E. (2018). Mātauranga Māori: shaping marine and freshwater futures. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 457-466. https://doi.org/10.1080/00288330.2018.1539404</p> <p>Durette, M., Nesus, C., Nesus, G., & Barcham, M. (2009). <i>Māori Perspectives on Water Allocation. Report prepared for the Ministry for the Environment</i>. https://environment.govt.nz/publications/maori-perspectives-on-water-allocation/</p>

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Research paper	<p>Durie, E., Joseph, R., Toki, V., & Erueti, A. (2017). <i>Ngā Wai o Te Māori: Ngā Tikanga Me Ngā Ture Roia</i>. The Waters of the Māori: Māori Law and State Law. Paper Prepared for the New Zealand Māori Council. https://researchcommons.waikato.ac.nz/bitstream/handle/10289/11811/Report%20-%20The%20Water%20of%20the%20Maori.pdf?sequence=2</p> <p>Fox, C. A., Reo, N. J., Turner, D. A., Cook, J., Dituri, F., Fessell, B., Jenkins, J., Johnson, A., Rakena, T. M., Riley, C., Turner, A., Williams, J., & Wilson, M. (2017). "The river is us; the river is in our veins": re-defining river restoration in three Indigenous communities. <i>Sustainability Science</i> 12(4): 521-533. https://doi.org/10.1007/s11625-016-0421-1</p> <p>Harmsworth, G. & S. Awatere (2013). Indigenous Māori knowledge and perspectives of ecosystems. In Dymond, J. R. (Ed.) <i>Ecosystem services in New Zealand – conditions and trends</i>. (pp. 274-286). Manaaki Whenua Press.</p> <p>Harmsworth, G., Awatere, S., & Robb, M. (2016). Indigenous Māori values and perspectives to inform freshwater management in Aotearoa-New Zealand. <i>Ecology and Society</i>, 21(4), 9. https://doi.org/10.5751/ES-08804-210409</p> <p>Hikuroa, D., Clark, J., Olsen, A., & Camp, E. (2018). Severed at the head: towards revitalising the mauri of Te Awa o te Atua. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 643-656. https://doi.org/10.1080/00288330.2018.1532913</p>

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Research paper	<p>Hopkins, A. (2018). Classifying the mauri of wai in the Matahuru Awa in North Waikato. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 657-665. https://doi.org/10.1080/00288330.2018.1536670</p> <p>Hutchings, J., Smith, J., Roskrug, N., & Severne, C. (2017). <i>Enhancing Māori agribusiness through kaitiakitanga tools</i>. Our Land and Water National Science Challenge. https://ourlandandwater.nz/wp-content/uploads/2019/04/VM-Think-Piece-Enhancing-Maori-Agribusiness-July-2017.pdf</p> <p>Kawharu, M. (2000). Kaitiakitanga: a Maori anthropological perspective of the Maori socio-environmental ethic of resource management. <i>The Journal of the Polynesian Society</i>, 109(4), 349-370.</p> <p>King, D. N. T., Skipper, A., & Tawhai, W. B. (2008). Māori environmental knowledge of local weather and climate change in Aotearoa – New Zealand. <i>Climatic Change</i>, 90(4), 385. https://doi.org/10.1007/s10584-007-9372-y</p> <p>McClintock, R., McClintock, K., Boulton, A., Brown R., Wehipeihana, J., Morris, T., Tuinasau, T., Tito-Edge, T., Williams, V., & Hart, M. (2016). Ka taea e tātou, the Seventh Gathering sessions evaluation. <i>Journal of Indigenous Wellbeing</i>, 1(1), 97-110</p> <p>Morgan, T. K. K. B. (2006). An indigenous perspective on water recycling. <i>Desalination</i> 187(1-3), 127-136. https://doi.org/10.1016/j.desal.2005.04.073</p>

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Research paper	Murray, V. (2016). Hoki ki tōu maunga kia purea ai e koe ki ngā hau o Tāwhirimātea – a supervision model. <i>Aotearoa New Zealand Social Work</i> , 24(3-4). https://doi.org/10.11157/anzswj-vol24iss3-4id102
Business case study	Ahuwhenua Trophy. (2019). <i>Te Puni Kōkiri Excellence in Māori Farming Award 2019 Sheep and Beef</i> . Ahuwhenua Trophy Field Day Handbook. https://www.ahuwhenuatrophy.maori.nz/publications/fielddays Ahuwhenua Trophy. (2020). <i>Ahuwhenua Trophy Excellence in Māori Farming Award 2020</i> . Ahuwhenua Trophy Field Day Handbook. https://www.ahuwhenuatrophy.maori.nz/publications/fielddays
Iwi Hapū Management Plans	Gardiner, D., Meha-Rangitauira, R., Waugh, A., & Whata, W. (2015). <i>Te Taiao o Te Whatuoranganuku. Ngāti Tamateatutahi-Ngāti Kawiti Hapū Environmental Management Plan 2015</i> . Tapuaeharuru Marae Committee, Rotoiti, Bay of Plenty, New Zealand. https://cdn.boprc.govt.nz/media/424891/te-taiao-o-te-whatuoranganuku-ngati-tamateatutahi-ngati-kawiti-hapu-environmental-management-plan-2015.pdf Hessell, A., Watene-Te Haara, H., Wilkinson, G., Te Haara, T. A., Washbrook, D., & Klaricich, J. (2008). <i>Te Kahukura a Ngāti Korokoro, Ngāti Wharara me Te Poukākā. Ngā Hapu o Te Wahapū o Te Hokianga nui a Kupe, Hapū Environmental Management Plan</i> . https://docplayer.net/34341609-Hapu-environmental-management-plan.html

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Iwi Hapū Management Plans	Hooper, K. & Benson, M. (2018). <i>Remediation New Zealand Assessment of Cultural Effects - Uruti Facility – Renewal of Discharge Consents</i> . Landpro. https://www.trc.govt.nz/assets/Documents/Environment/Consent-applications/Remediation2019/June2020Revisions/APS-June2020.PDF Lant, M. & Peneha, K. (2012). <i>Hapu/Iwi Management Plan Of Nga Ariki Kaiputahi</i> . Gisborne District Council. https://www.gdc.govt.nz/council/kaupapa-maori/iwi-and-hapu-joint-management-plans Maniapoto Māori Trust Board. (2018). <i>Ko Tā Maniapoto Mahere Taiao: Environmental Management Plan</i> . https://www.horizons.govt.nz/HRC/media/Media/Iwi%20and%20Hapu/Maniapoto-Environmental-Management-Plan-REDUCED-SIZE-(2).pdf McArthur, K., Black, M., Apatu, M., Huata, N., Brown, J., & Tiuka, N. (2016). <i>Ngaruroro Values and Attributes Report</i> . Hawke's Bay Regional Council. https://www.hbrc.govt.nz/hawkes-bay/projects/the-tank-plan/tank-reports-and-resources/details/7508 Ngāti Hau Resource Management Unit. (2016). <i>Ngāti Hau Hapu Environmental Management Plan</i> . http://old.wdc.govt.nz/PlansPoliciesandBylaws/Plans/DistrictPlan/Documents/Ngati-Hau-HEMP-Plan-2016.pdf Ngāti Tahu - Ngāti Whaoa Runanga (2018). <i>Rising above the mist - Te aranga ake i te taimahatanga : Ngāti Tahu - Ngāti Whaoa Iwi Environmental Management Plan</i> . http://www.tahu-whaoa.iwi.nz/wp-content/uploads/2019/10/IEMP-Revised-Edition-2019_min.pdf

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Iwi Hapū Management Plans	Ngāti Tūwharetoa Māori Trust Board. (2003). <i>Ngāti Tūwharetoa Environmental Iwi Management Plan</i> . https://www.waikatoregion.govt.nz/assets/PageFiles/21886/Ngati_Tuwharetoa_Iwi_Environmental_Management_Plan_2003.pdf Raukawa Charitable Trust: Te Poari Manaaki o Raukawa (2015). <i>Te Rataki Taiao a Raukawa. Raukawa Environmental Management Plan</i> . https://rauakawa.org.nz/rct/wp-content/uploads/sites/2/2015/07/Raukawa-Environment-Management-Plan-2015b.pdf Te Arawa Lakes Trust (2019). <i>He Mahere Taiao mō ngā Wai o Te Arawa Te Arawa Lakes Environmental Plan</i> . https://tearawa.iwi.nz/wp-content/uploads/2019/08/draft_TALT_IMP_21-June-2019.pdf Te Kaahui o Rauru. (2016). <i>Ngaa Rauru Kaitahi Puutaiao Management Plan</i> . http://www.rauru.iwi.nz/mt-content/uploads/2017/03/emp-review_final_sm.pdf Te Rūnanga o Kaikōura. (2007). <i>Te Poha o Tohu Raumati: Te Rūnanga o Kaikōura Environmental Management Plan Te Mahere Whakahaere Taiao o Te Rūnanga o Kaikōura</i> . https://ngaitahu.iwi.nz/wp-content/uploads/2013/08/Te-Runanga-o-Kaikoura-Environmental-Management-Plan.pdf Te Rūnanga o Ngāi Tahu. (2018). <i>He Rautaki Mō Te Huringa o Te Āhuarangi Climate Change Strategy</i> . https://ngaitahu.iwi.nz/wp-content/uploads/2018/11/Ngai-Tahu-Climate-Change-Strategy.pdf Te Runanga o Ngāti Whakaue ki Maketu. (2018). <i>Te Rautau: Te Rāhui Taketake Ngāti Whakaue ki Maketu Hapū Management Plan</i> . https://atlas.boprc.govt.nz/api/v1/edms/document/A3336067/content

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Iwi Hapū Management Plans	<p>Te Runanga o Toa Rangaitira Inc. (2017). <i>Upāne ka upāne whiti te ra</i>. http://www.ngatitoea.iwi.nz/sitecontent/images/Folders/Files/DRAFT-Nga%CC%84ti-Toa-Strategy-3-Aug-2017.pdf</p> <p>Te Runanganui o Ngati Porou. (2014, April 30). <i>The Waiapu River Restoration</i>. https://ngatiporou.com/article/waiapu-river-restoration-o</p> <p>Te Uru Taumatua. (2017). <i>Te Kawa o Te Urewera</i>. https://www.ngaituhoe.iwi.nz/te-kawa-o-te-urewera</p> <p>Waikato-Tainui Te Kauhanganui Incorporated. (2013). <i>Waikato-Tainui Environmental Plan</i>. https://www.waikatoregion.govt.nz/assets/WRC/Community/Iwi/Waikato-Tainui-Environmental-Plan.pdf</p>
News/media	<p>Te Ao. (2020, November 4). <i>Locals of Motu river set out rules for those wanting to fish</i>. [Video]. Facebook. https://www.facebook.com/TeAoMaoriNews/videos/locals-of-motu-river-set-out-rules-for-those-wanting-to-fish/1358144387910964/</p> <p>Maihi, T. T. R. (2020, June 20). <i>Te Kaitiaki O Ngā Tikanga Toi Raranga</i>. The Pantograph Punch. https://www.pantograph-punch.com/posts/Te-Kaitiaki-O-Nga-Tikanga-Toi-Raranga</p> <p>Te Wai Māori. (2020, October 20). <i>He reo tō te manga</i>. [Video]. Facebook. https://www.facebook.com/tewaimaori/videos/he-reo-t%C5%8D-te-manga/710856786443231/</p>

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Strengthen the practice of traditional and contemporary tikanga (holistic methods) on the whenua.

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Research paper	<p>Afoa, E. & Brockbank, T. (2019). <i>Te Ao Māori & Water Sensitive Urban Design</i>. Building Better Homes, Towns & Cities National Science Challenge. https://www.buildingbetter.nz/publications/urban_wellbeing/Afoa_Brockbank_2019_WSU_D_Te_Ao_Maori.pdf</p> <p>Ataria, J., Mark-Shadbolt, M., Mead, A. T. P., Doherty, J., Waiwai, J., Ashby, T. & Garner, G. O. (2018). Whakamanahia te mātauranga o te Māori: empowering Māori knowledge to support Aotearoa's aquatic biological heritage. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 467-486. https://doi.org/10.1080/00288330.2018.1517097</p> <p>Carter, L. (2019). He korowai o matainaka/the cloak of matainaka: Traditional ecological knowledge in climate change adaptation - te wai pounamu, New Zealand. <i>New Zealand Journal of Ecology</i>, 43(3), 3386.</p>

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Research paper	<p>Clapcott, J., Ataria, J., Hepburn, C., Hikuroa, D., Jackson, A. M., Kirikiri, R., & Williams, E. (2018). Mātauranga Māori: shaping marine and freshwater futures. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 457-466. https://doi.org/10.1080/00288330.2018.1539404</p> <p>Durette, M., Nesus, C., Nesus, G., & Barcham, M. (2009). <i>Māori Perspectives on Water Allocation</i>. Report prepared for the Ministry for the Environment. https://environment.govt.nz/publications/maori-perspectives-on-water-allocation/</p> <p>Fox, C. A., Reo, N. J., Turner, D. A., Cook, J., Dituri, F., Fessell, B., Jenkins, J., Johnson, A., Rakena, T. M., Riley, C., Turner, A., Williams, J., & Wilson, M. (2017). "The river is us; the river is in our veins": re-defining river restoration in three Indigenous communities. <i>Sustainability Science</i> 12(4): 521-533. https://doi.org/10.1007/s11625-016-0421-1</p> <p>Harmsworth, G. & S. Awatere (2013). Indigenous Māori knowledge and perspectives of ecosystems. In Dymond, J. R. (Ed.) <i>Ecosystem services in New Zealand – conditions and trends</i>. (pp. 274-286). Manaaki Whenua Press.</p> <p>Harmsworth, G., Awatere, S., & Robb, M. (2016). Indigenous Māori values and perspectives to inform freshwater management in Aotearoa-New Zealand. <i>Ecology and Society</i>, 21(4), 9. https://doi.org/10.5751/ES-08804-210409</p> <p>Hikuroa, D., Clark, J., Olsen, A., & Camp, E. (2018). Severed at the head: towards revitalising the mauri of Te Awa o te Atua. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 643-656. https://doi.org/10.1080/00288330.2018.1532913</p>

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Research paper	<p>Hopkins, A. (2018). Classifying the mauri of wai in the Matahuru Awa in North Waikato. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 657-665. https://doi.org/10.1080/00288330.2018.1536670</p> <p>Hutchings, J., Smith, J., Roskrug, N., & Severne, C. (2017). <i>Enhancing Māori agribusiness through kaitiakitanga tools</i>. Our Land and Water National Science Challenge. https://ourlandandwater.nz/wp-content/uploads/2019/04/VM-Think-Piece-Enhancing-Maori-Agribusiness-July-2017.pdf</p> <p>Kawharu, M. (2000). Kaitiakitanga: a Maori anthropological perspective of the Maori socio-environmental ethic of resource management. <i>The Journal of the Polynesian Society</i>, 109(4), 349-370.</p> <p>King, D. N. T., Skipper, A., & Tawhai, W. B. (2008). Māori environmental knowledge of local weather and climate change in Aotearoa – New Zealand. <i>Climatic Change</i>, 90(4), 385. https://doi.org/10.1007/s10584-007-9372-y</p> <p>Kusabs, I. A. & Quinn, J. M. (2009). Use of a traditional Maori harvesting method, the tau kōura, for monitoring kōura (freshwater crayfish, <i>Paranephrops planifrons</i>) in Lake Rotoiti, North Island, New Zealand. <i>New Zealand Journal of Marine and Freshwater Research</i>, 43(3), 713-722.</p> <p>Maniapoto Māori Trust Board. (2018). <i>Ko Tā Maniapoto Mahere Taiao: Environmental Management Plan</i>. https://www.horizons.govt.nz/HRC/media/Media/Iwi%20and%20Hapu/Maniapoto-Enviro-nmental-Management-Plan-REDUCED-SIZE-(2).pdf</p>

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Business case study	<p>Ahuwhenua Trophy. (2019). <i>Te Puni Kōkiri Excellence in Māori Farming Award 2019 Sheep and Beef</i>. Ahuwhenua Trophy Field Day Handbook. https://www.ahuwhenuatrophy.maori.nz/publications/fielddays</p>

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School curriculum	os/he-reo-t%C5%8D-te-tuna/784888898939265/Kāpiti Coast District Council. (2012). He tāonga te wai - water is precious. https://www.kapiticoast.govt.nz/media/3102
Kapa haka	9/he-taonga-te-wai-water-is-a-precious.pdf Koti, T. (2019, February 21). Te Ahikaaroa promote 'water consciousness'. Te Ao. https://www.teaomaori.news/te-ahikaaroa-p



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Research paper	<p>Morgan, T. K. K. B. (2006). An indigenous perspective on water recycling. <i>Desalination</i> 187(1-3), 127-136. https://doi.org/10.1016/j.desal.2005.04.073</p> <p>Murray, V. (2016). Hoki ki tōu maunga kia purea ai e koe ki ngā hau o Tāwhirimātea – a supervision model. <i>Aotearoa New Zealand Social Work</i>, 24(3-4). https://doi.org/10.1157/anzswj-vol24iss3-4jd102</p>
Business case study	<p>Ahuwhenua Trophy. (2019). <i>Te Puni Kōkiri Excellence in Māori Farming Award 2019 Sheep and Beef</i>. Ahuwhenua Trophy Field Day Handbook. https://www.ahuwhenuatrophy.maori.nz/publications/fielddays</p> <p>Ahuwhenua Trophy. (2020). <i>Ahuwhenua Trophy Excellence in Māori Farming Award 2020</i>. Ahuwhenua Trophy Field Day Handbook. https://www.ahuwhenuatrophy.maori.nz/publications/fielddays</p>
Iwi Hapū Management Plans	<p>Hessell, A., Watene-Te Haara, H., Wilkinson, G., Te Haara, T. A., Washbrook, D., & Klaricich, J. (2008). <i>Te Kahukura a Ngāti Korokoro, Ngāti Wharara me Te Poukā. Ngā Hapu o Te Wahapū o Te Hokianga nui a Kupe, Hapū Environmental Management Plan</i>. https://docplayer.net/34341609-Hapu-environmental-management-plan.html</p> <p>Hooper, K. & Benson, M. (2018). <i>Remediation New Zealand Assessment of Cultural Effects - Uruti Facility – Renewal of Discharge Consents</i>. Landpro. https://www.trc.govt.nz/assets/Documents/Environment/Consent-applications/Remediation2019/June2020Revisions/ApS-June2020.PDF</p>

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Iwi Hapū Management Plans	<p>Maniapoto Māori Trust Board. (2018). <i>Ko Tā Maniapoto Mahere Taiao: Environmental Management Plan</i>. https://www.horizons.govt.nz/HRC/media/Media/Iwi%20and%20Hapu/Maniapoto-Environmental-Management-Plan-REDUCUED-SIZE-(2).pdf</p> <p>McArthur, K., Black, M., Apatu, M., Huata, N., Brown, J., & Tiuka, N. (2016). <i>Ngaruroro Values and Attributes Report</i>. Hawke's Bay Regional Council. https://www.hbrc.govt.nz/hawkes-bay/projects/the-tank-plan/tank-reports-and-resources/details/7508</p> <p>Ngati Tahu - Ngati Whaoa Runanga (2018). <i>Rising above the mist - Te aranga ake i te taimahatanga : Ngāti Tahu - Ngāti Whaoa Iwi Environmental Management Plan</i>. http://www.tahu-whaoa.iwi.nz/wp-content/uploads/2019/10/IEMP-Revised-Edition-2019_min.pdf</p> <p>Ngāti Tūwharetoa Māori Trust Board. (2003). <i>Ngāti Tūwharetoa Environmental Iwi Management Plan</i>. https://www.waikatoregion.govt.nz/assets/PageFiles/21886/Ngati_Tuwharetoa_Iwi_Environmental_Management_Plan_2003.pdf</p> <p>Raukawa Charitable Trust: Te Poari Manaaki o Raukawa (2015). <i>Te Rataki Taiao a Raukawa. Raukawa Environmental Management Plan</i>. https://rauakawa.org.nz/rct/wp-content/uploads/sites/2/2015/07/Raukawa-Environment-Management-Plan-2015b.pdf</p> <p>Te Arawa River Iwi Trust. (2015). <i>Te Arawa River Iwi Trust - Environmental Management Plan</i>. https://www.waikatoregion.govt.nz/assets/WRC/Community/Iwi/TARIT-Environmental-Management-Plan-2015.pdf</p>

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Iwi Hapū Management Plans	<p>Te Arawa Lakes Trust (2019). <i>He Mahere Taiao mō ngā Wai o Te Arawa Te Arawa Lakes Environmental Plan</i>. https://tearawa.iwi.nz/wp-content/uploads/2019/08/draft_TALT_IMP_21-June-2019.pdf</p> <p>Te Kaahui o Rauru. (2016). <i>Ngaa Rauru Kītahi Puutaiao Management Plan</i>. http://www.rauru.iwi.nz/mt-content/uploads/2017/03/emp-review_final_sm.pdf</p> <p>Te Mana o Ngāti Rangitihui Trust. (2011). <i>Ngāti Rangitihui Iwi Environmental Plan</i>. https://ngatirangitihui.iwi.nz/wp-content/uploads/2017/06/Iwi-Environmental-Management-Plan.pdf</p> <p>Te Rūnanga o Kaikōura. (2007). <i>Te Poħa o Tohu Raumati: Te Rūnanga o Kaikōura Environmental Management Plan Te Mahere Whakahaere Taiao o Te Rūnanga o Kaikōura</i>. https://ngaitahu.iwi.nz/wp-content/uploads/2013/08/Te-Runanga-o-Kaikoura-Environmental-Management-Plan.pdf</p> <p>Te Rūnanga o Ngāi Tahu. (2018). <i>He Rautaki Mō Te Huringa o Te Āhuarangi Climate Change Strategy</i>. https://ngaitahu.iwi.nz/wp-content/uploads/2018/11/Ngai-Tahu-Climate-Change-Strategy.pdf</p> <p>Te Runanga o Ngati Whakaue ki Maketu. (2018). <i>Te Rautau: Te Rāhui Taketake Ngāti Whakaue ki Maketu Hapū Management Plan</i>. https://atlas.boprc.govt.nz/api/v1/edms/document/A3336067/content</p> <p>Te Runanga o Toa Rangatira Inc. (2017). <i>Upāne ka upāne whiti te ra</i>. http://www.ngatitoa.iwi.nz/sitecontent/images/Folders/Files/DRAFT-Nga%CC%84ti-Toa-Strategy-3-Aug-2017.pdf</p>

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Iwi Hapū Management Plans	<p>Te Runanganui o Ngati Porou. (2014, April 30). <i>The Waiapu River Restoration</i>. https://ngatiporou.com/article/waiapu-river-restoration-o</p> <p>Waikato-Tainui Te Kauhanganui Incorporated. (2013). <i>Waikato-Tainui Environmental Plan</i>. https://www.waikatoregion.govt.nz/assets/WRC/Community/Iwi/Waikato-Tainui-Environmental-Plan.pdf</p>
News/media	<p>Te Ao. (2020, November 4). <i>Locals of Motu river set out rules for those wanting to fish</i>. [Video]. Facebook. https://www.facebook.com/TeAoMaoriNews/videos/locals-of-motu-river-set-out-rules-for-those-wanting-to-fish/1358144387910964/</p> <p>Maihi, T. T. R. (2020, June 20). <i>Te Kaitiaki O Ngā Tikanga Toi Raranga</i>. The Pantograph Punch. https://www.pantograph-punch.com/posts/Te-Kaitiaki-O-Nga-Tikanga-Toi-Raranga</p> <p>Te Ao. (2019, November 22). <i>#OMANAIA</i>. [Video]. Facebook. https://www.facebook.com/TeAoMaoriNews/videos/omanaia-battling-water-supply-and-water-quality-issues-isnt-a-new-problem-for-ru/747245232461714/</p> <p>Te Ao. (2019, September 3). <i>Fresh Water protection discussed at Wai Māori Conference</i>. Te Ao. https://www.teaomaori.news/fresh-water-protection-discussed-wai-maori-conference</p> <p>Te Wai Māori. (2020, September 22). <i>He reo tō te tuna</i>. [Video]. Facebook. https://www.facebook.com/tewaimaori/videos/he-reo-t%C5%8D-te-tuna/78488898939265/</p>

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School curriculum	Kāpiti Coast District Council. (2012). <i>He tāonga te wai - water is precious</i> . https://www.kapiticoast.govt.nz/media/31029/he-taonga-te-wai-water-is-a-precious.pdf
Kapa haka	Koti, T. (2019, February 21). <i>Te Ahikaarua promote 'water consciousness'</i> . Te Ao. https://www.teaomaori.news/te-ahikaarua-promote-water-consciousness



Conserve and restore wāhi tapu (culturally significant sites).

Category	Citation
Research paper	<p>Harmsworth, G., Awatere, S., & Robb, M. (2016). Indigenous Māori values and perspectives to inform freshwater management in Aotearoa-New Zealand. <i>Ecology and Society</i>, 21(4), 9. https://doi.org/10.5751/ES-08804-210409</p> <p>Hikuroa, D., Clark, J., Olsen, A., & Camp, E. (2018). Severed at the head: towards revitalising the mauri of Te Awa o te Atua. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 643-656. https://doi.org/10.1080/00288330.2018.1532913</p> <p>Hopkins, A. (2018). Classifying the mauri of wai in the Matahuru Awa in North Waikato. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 657-665. https://doi.org/10.1080/00288330.2018.1536670</p>

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Research paper	<p>Hutchings, J., Smith, J., Roskrug, N., & Severne, C. (2017). <i>Enhancing Māori agribusiness through kaitiakitanga tools</i>. Our Land and Water National Science Challenge. https://ourlandandwater.nz/wp-content/uploads/2019/04/VM-Think-Piece-Enhancing-Maori-Agribusiness-July-2017.pdf</p> <p>Kawharu, M. (2000). Kaitiakitanga: a Maori anthropological perspective of the Maori socio-environmental ethic of resource management. <i>The Journal of the Polynesian Society</i>, 109(4), 349-370.</p> <p>King, D. N. T., Skipper, A., & Tawhai, W. B. (2008). Māori environmental knowledge of local weather and climate change in Aotearoa - New Zealand. <i>Climatic Change</i>, 90(4), 385. https://doi.org/10.1007/s10584-007-9372-y</p> <p>Morgan, T. K. K. B. (2006). An indigenous perspective on water recycling. <i>Desalination</i> 187(1-3), 127-136. https://doi.org/10.1016/j.desal.2005.04.073</p>
Business case study	Ahuwhenua Trophy. (2020). <i>Ahuwhenua Trophy Excellence in Māori Farming Award 2020</i> . Ahuwhenua Trophy Field Day Handbook. https://www.ahuwhenuatrophy.maori.nz/publications/fielddays
Iwi Hapū Management Plans	Gardiner, D., Meha-Rangitaurira, R., Waugh, A., & Whata, W. (2015). <i>Te Taiao o Te Whatuoranganuku. Ngāti Tamateatutahi-Ngāti Kawiti Hapū Environmental Management Plan 2015</i> . Tapuaeoharuru Marae Committee, Rotoiti, Bay of Plenty, New Zealand. https://cdn.boprc.govt.nz/media/424891/te-taiao-o-te-whatuoranganuku-ngati-tamateatutahi-ngati-kawiti-hapu-environmental-management-plan-2015.pdf

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Iwi Hapū Management Plans	<p>Hessell, A., Watene-Te Haara, H., Wilkinson, G., Te Haara, T. A., Washbrook, D., & Klaricich, J. (2008). <i>Te Kahukura a Ngāti Korokoro, Ngāti Wharara me Te Poukākā. Ngā Hapu o Te Wahapū o Te Hokianga nui a Kupe, Hapū Environmental Management Plan</i>. https://docplayer.net/34341609-Hapu-environmental-management-plan.html</p> <p>Hooper, K. & Benson, M. (2018). <i>Remediation New Zealand Assessment of Cultural Effects - Uruti Facility - Renewal of Discharge Consents</i>. Landpro. https://www.trc.govt.nz/assets/Documents/Environment/Consent-applications/Remediation2019/June2020Revisions/APS-June2020.PDF</p> <p>Lant, M. & Peneha, K. (2012). <i>Hapu/Iwi Management Plan Of Nga Ariki Kaiputahi</i>. Gisborne District Council. https://www.gdc.govt.nz/council/kaupapa-maori/iwi-and-hapu-joint-management-plans</p> <p>Love, M. T. W., Tutua-Nathan, T., Barns, M., & Kruger, T. (1993). <i>Nga Tikanga Tiaki i te Taiao: Māori Environmental Management in the Bay of Plenty</i>. Bay of Plenty Regional Council. https://cdn.boprc.govt.nz/media/781525/nga-tikanga-tiaki-i-te-taiao_-maori-environmental-management-in-the-bay-of-plenty.pdf</p> <p>Maniapoto Māori Trust Board. (2018). <i>Ko Tā Maniapoto Mahere Taiao: Environmental Management Plan</i>. https://www.horizons.govt.nz/HRC/media/Media/Iwi%20and%20Hapu/Maniapoto-Environmental-Management-Plan-REDUCUED-SIZE-(2).pdf</p>

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Iwi Hapū Management Plans	<p>McArthur, K., Black, M., Apatu, M., Huata, N., Brown, J., & Tiuka, N. (2016). <i>Ngaruroro Values and Attributes Report</i>. Hawke's Bay Regional Council. https://www.hbrc.govt.nz/hawkes-bay/projects/the-tank-plan/tank-reports-and-resources/details/7508</p> <p>Ngati Hau Resource Management Unit. (2016). <i>Ngati Hau Hapu Environmental Management Plan</i>. http://old.wdc.govt.nz/PlansPoliciesandBylaws/Plans/DistrictPlan/Documents/Ngati-Hau-HEMP-Plan-2016.pdf</p> <p>Ngati Tahu - Ngati Whaoa Runanga (2018). <i>Rising above the mist - Te aranga ake i te taimahatanga : Ngāti Tahu - Ngāti Whaoa Iwi Environmental Management Plan</i>. http://www.tahu-whaoa.iwi.nz/wp-content/uploads/2019/10/IEMP-Revised-Edition-2019_min.pdf</p> <p>Ngāti Tūwharetoa Māori Trust Board. (2003). <i>Ngāti Tūwharetoa Environmental Iwi Management Plan</i>. https://www.waikatoregion.govt.nz/assets/PageFiles/21886/Ngati_Tuwharetoa_Iwi_Environmental_Management_Plan_2003.pdf</p> <p>Raukawa Charitable Trust: Te Poari Manaaki o Raukawa (2015). <i>Te Rataki Taiao a Raukawa. Raukawa Environmental Management Plan</i>. https://rauakawa.org.nz/rct/wp-content/uploads/sites/2/2015/07/Raukawa-Environment-Management-Plan-2015b.pdf</p> <p>Te Arawa Lakes Trust (2019). <i>He Mahere Taiao mō ngā Wai o Te Arawa Te Arawa Lakes Environmental Plan</i>. https://tearawa.iwi.nz/wp-content/uploads/2019/08/draft_TALT_IMP_21-June-2019.pdf</p>

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Iwi Hapū Management Plans	<p>Waikato-Tainui Te Kauhanganui Incorporated. (2013). <i>Waikato-Tainui Environmental Plan</i>. https://www.waikatoregion.govt.nz/assets/WRC/Community/Iwi/Waikato-Tainui-Environmental-Plan.pdf</p>



Revitalise the use of traditional Māori place names.

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Research paper	<p>Carter, L. (2019). He korowai o matainaka/the cloak of matainaka: Traditional ecological knowledge in climate change adaptation - te wai pounamu, New Zealand. <i>New Zealand Journal of Ecology</i>, 43(3), 3386.</p> <p>Harmsworth, G., Awatere, S., & Robb, M. (2016). Indigenous Māori values and perspectives to inform freshwater management in Aotearoa-New Zealand. <i>Ecology and Society</i>, 21(4), 9. https://doi.org/10.5751/ES-08804-210409</p> <p>Hikuroa, D., Clark, J., Olsen, A., & Camp, E. (2018). Severed at the head: towards revitalising the mauri of Te Awa o te Atua. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 643-656. https://doi.org/10.1080/00288330.2018.1532913</p> <p>Hopkins, A. (2018). Classifying the mauri of wai in the Matahuru Awa in North Waikato. <i>New Zealand Journal of Marine and Freshwater Research</i>, 52(4), 657-665. https://doi.org/10.1080/00288330.2018.1536670</p>

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Business case study	<p>Ahuwhenua Trophy. (2019). <i>Te Puni Kōkiri Excellence in Māori Farming Award 2019 Sheep and Beef</i>. Ahuwhenua Trophy Field Day Handbook. https://www.ahuwhenuatrophy.maori.nz/publications/fielddays</p>

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Category	Citation
News/media	<p>Wilson, C. (2019). <i>Whenua #1 - The meaning of whenua</i>. Che's Channel Te Paepae Waho. [Podcast]. https://podcasts.apple.com/nz/podcast/che-s-channel-te-paepae-waho/id1471754442</p> <p>Wilson, C. (2019). <i>Whenua #2 - The meaning of whenua</i>. Che's Channel Te Paepae Waho. [Podcast]. https://podcasts.apple.com/nz/podcast/che-s-channel-te-paepae-waho/id1471754442</p>
School curriculum	<p>Kāpiti Coast District Council. (2012). <i>He tāonga te wai - water is precious</i>. https://www.kapiticoast.govt.nz/media/31029/he-taonga-te-wai-water-is-a-precious.pdf</p>

He huahua te kai? E, he wai te kai.

