

HE POU KAI ĀWHA

INSIGHT INTO KNOWLEDGE AND CONTEXT OF
HAPŪ-BASED AQUATIC CULTIVATION PRACTICE
AND FUNCTIONING SYSTEMS

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WHAKAIKA TE MOANA

WHAKATAKINGA

Whakaika Te Moana (Whakaika) is a project funded by the Sustainable Seas National Science Challenge to investigate traditional aquatic cultivation practice. The Whakaika project aimed to explore and revitalise Indigenous Māori aquatic cultivation practices through a deep understanding of mātauranga Māori and whakapapa (interconnected relationships and obligations). This project also sought to highlight new understandings of hapū-based economies and explore the barriers and opportunities that whānau, hapū and iwi face in reclaiming both knowledge *and* practice that supports those economies.

We worked alongside whānau from Ōeo Pā ahikā (Ngāruahine), Ngā Tāngata Tiaki o Whanganui, as well as Kanaka Maoli (Hawai`i) throughout the research to explore their practices, experiences and knowledge.

This is the first of three reports that will provide some of the key learnings and insights generated by the Whakaika project.

Purpose and scope

This infographic report **He Pou Kai Āwha** provides an overview of the context within which Māori aquatic cultivation practice sits. It sets the foundation understood by our tūpuna and retained by our whānau, hapū and iwi practitioners. We outline some of the mātauranga that grounds and guides the traditional cultivation practices and introduce the frame and core concepts dealt with through Whakaika, weaving together Māori knowledge, beliefs and practices using the 'Te Ao Tūroa' framework.

While Whakaika has provided a new lens for looking at aquaculture from an Indigenous Māori perspective, there is a long way to go to move through the many barriers identified in our research (see **He Poutokomanawa** report). Despite this our research reasserts the value and potential of mātauranga and practice in our approach to natural resources, and aquatic cultivation in Aotearoa into the future.

The interweaving of Māori knowledge, practice and beliefs, has helped us to describe in more detail, a Māori understanding of what sustainable aquatic cultivation, that is rooted in local ecosystems and driven by mātauranga Māori, could look like. Our research has also sought to bring focus to hapū-based and hapū-defined economics within Māori and marae-based community settings (see **He Pou Tuārongo** report).



AO TŪROA FRAMEWORK

Introduction

Te Ao Tūroa describes the relationship of Māori with the natural world. Embedded in this concept is the understanding and respect for natural systems, guiding principles and a set of considered practices that ensure we fulfil the responsibilities and obligations given through whakapapa to our atua, tūpuna and mokopuna. The Te Ao Tūroa framework explores the interconnectedness of nature, humans, and spirituality and has three pou (pillars) described below.

Ngā Pou o te Ao Tūroa

Wao Atua represents the origin of life energy or mauri that is only generated in the spaces where atua Māori are able to manifest naturally - in the taiao (environment). This idea emphasises that human life is entirely dependent on the natural world. In this context, the project highlights the significance of the source points of energy in the natural world.

Wao Tūpuna references mātauranga tuku iho (intergenerational knowledge), including the historical and spatial context of pre-European Aotearoa, and embodying the ancestral wisdom and accounts of practices of tūpuna Māori who fostered a harmonious coexistence with nature over millennia. This ancestral wisdom informs the contemporary understanding and application of kawa (protocols), tikanga (customs), and ritenga (ceremonial practices). The wao tūpuna holds both mātauranga handed down and knowledge being generated by whānau, hapū and iwi today.

Wao Tāngata speaks to the practice-based elements of our world view, implementing mātauranga and the deep relationship with wao atua and wao tūpuna as we interact with our natural world. Tāngata are dependant on wao atua and it is their responsibility to uphold the mauri and integrity of wao atua and wao tūpuna for all generations to come.

WAO
ATUA

WAO
TŪPUNA

WAO
TĀNGATA



Ki te ora ngā wao atua, ka ora hoki ngā mōhiotanga me ngā mātauranga Māori o te wao tāngata



WAO ATUA



He Kawa Ora

Our tūpuna identified kawa ora as fundamental to wao atua and Te Ao Tūroa. The understanding of kawa today is often related to a marae, or formal tāngata-centric processes. However, kawa stems from the life giving and vital processes that are fundamental to our existence. It is in an interconnected and unimpeded environment that we see kawa, and for this reason kawa must not be broken.

Kawa Atua

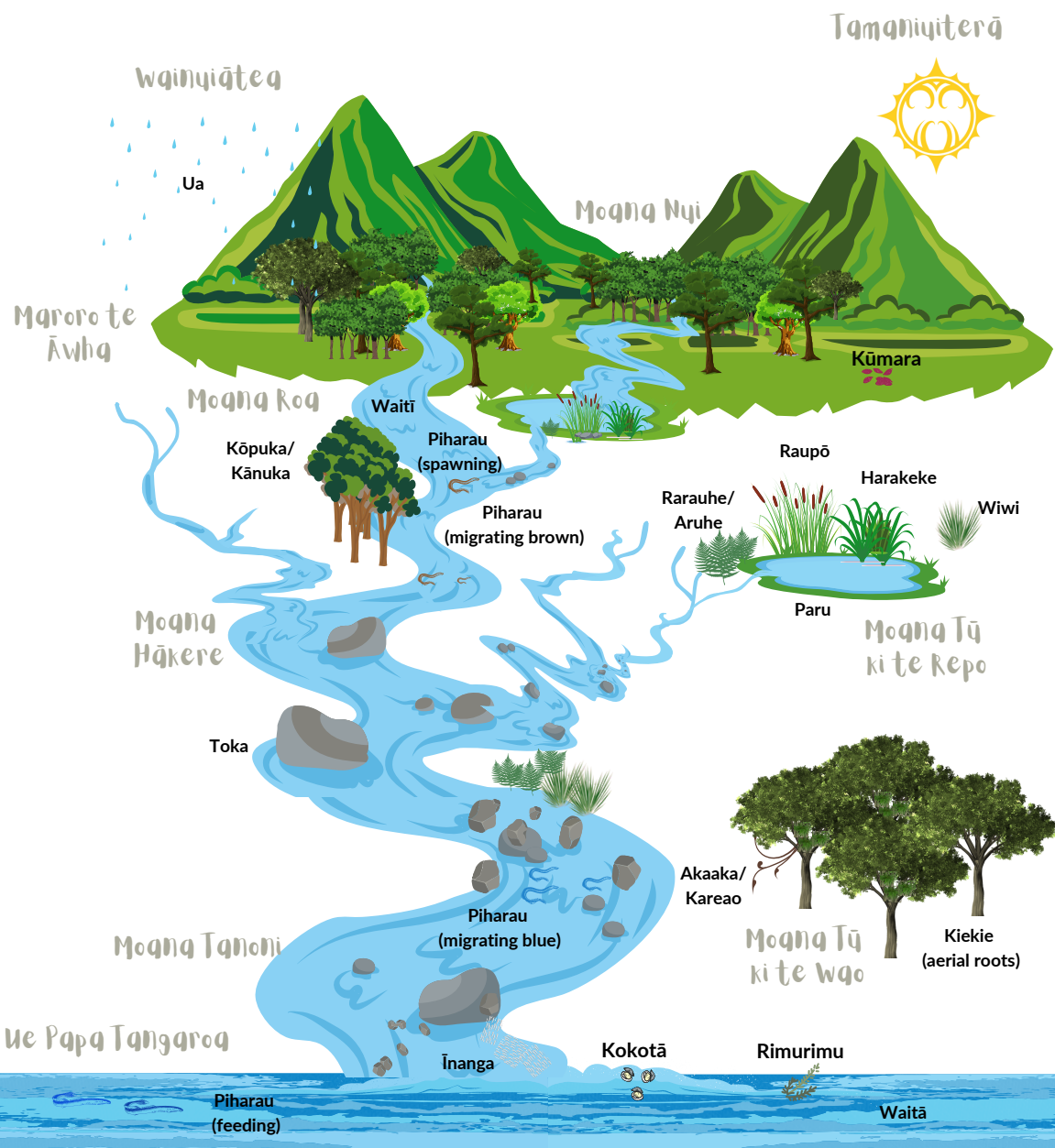
Kawa atua are the natural logical phenomena and processes that occur in wao atua as our atua manifest. Each of these kawa are the fundamental logic of our environment that makes up the basis for life on Papatūānuku. Kawa then set the foundation for a sustainable hapū economy by dictating when and where it is appropriate for resource extraction and usage without damage or imbalance. The observance of kawa ensures respect for the natural world and its spiritual and metaphysical aspects.

Kawa Tāngata

Kawa tāngata by extension of kawa atua, can be described as the unbroken protocols often applied in a tāngata setting. These ancestral protocols also underpin our interactions with natural resources.

“Hapū economies are circular and closed loop systems. Circular economy must include circular ecology.”

EXPRESSIONS OF KAWA



Whakaika explored many examples of kawa atua. These were expressed in various ways.

Tupua te Kawa

Tupua Te Kawa is the kawa ora that defines the relationship of the Whanganui River and all of its people. It centres Te Awa Tupua, which is recognised as an indivisible and living whole, comprising of the Whanganui River from the mountains to the sea, and all of its tributaries, physical and metaphysical elements.

*Ko te Awa te mātāpuna
o te ora
E rere kau te Awa nui
mai i Te Kāhui Maunga
ki Tangaroa
Ko au te Awa
ko te Awa ko au
Ngā manga iti, ngā manga nui
e honohono kau ana,
ka tupu hei Awa tupua*

He kawa ora o te moana

This kawa describes the vital, logical progressions of mauri ora (life-giving capacity) that water requires to support a healthy, life-giving aquatic system from the source to the sea. The interconnectedness of these progressions means when one is not functioning in an optimal state, the flow on impacts are felt in the realms of Tangaroa.

*Moana-nui,
Moana-roa,
Moana-Hākere,
Moana-Tāpoko,
Moana-Tuhatuha,
Moana-Uriuri,
Moana-Oruoru,
Moana-Waiwai,
Moana-tū-ki-te-Repo,
Moana-tū-ki-te-Wao,
Moana-Tānoni
Uea te papa a Tangaroa*

WAO TŪPUNA



Intergenerational wisdom

Wao tūpuna serves as an embodiment of ancestral wisdom and knowledge, carrying with it the knowledge of practices, insights, and understandings passed down through generations. It serves as a crucial connection point to our tūpuna and through wānanga and the exploration of te reo Māori (Māori language) it is able to provide access to their understanding of, and actions within, these intricate natural systems. This knowledge describes a time preceding European influence, a period marked by vast Māori exploration and innovation, supported by a balanced wao atua and abundant natural resources. This era witnessed flourishing Māori creativity and ingenuity, as whānau and hapū successfully managed, controlled, and developed Aotearoa, guided by their unique world view. It is in wao tūpuna that mātauranga Māori exists as a guide to the harmonious coexistence experienced by our ancestors within their natural world.

Tūpuna atua and tūpuna tāngata

Wao tūpuna includes our tuākana, the atua and all living forms they take, and acknowledges that they too, like our human ancestors, have lessons to teach us. It also identifies that there is no one way knowledge is stored and accessed (e.g. reo, whakairo, karakia, waiata, pūrākau, mahara, literature, historic writings) or contributed to by us. This means that the pursuit of knowledge is crucial, however, the other half of understanding comes only through practice.

Reclamation of wisdom

Wao tūpuna then becomes the link between what was understood of wao atua spaces by our tūpuna and what we know today. This wisdom was encoded in many forms, but is often fragmented or isolated from important context. Whakaika created intentional space for practitioners to explore aquatic cultivation practice through reconnecting, reclaiming and in some cases, rebuilding this knowledge.





EXPRESSIONS OF TIKANGA

Tikanga

Tikanga (which can be derived from both kawa atua and kawa tāngata) can be seen as the protocols and best practices that achieve optimal flow of mauri. Tikanga are an extension of kawa and are lessons and learnings our tūpuna provided in wao tūpuna and through generations, that identify what enables a flourishing Ao Tūroa. Tikanga are ways of implementing kawa, to keep humans in balance with the natural logic of taiao. The proper practice of tikanga ensures sustainable management of resources, to ensure the well-being of the hapū. It has many aspects to it that were observed during Whakaika and some are shared here.

Whakapapa

Whakapapa is pivotal to tikanga as a management system of interrelationships and genealogical connections between all things. From a wao tūpuna perspective, it provides a historical record and baseline of functioning Ao Tūroa. It contextualises the relationship between humans, natural resources, and the environment, tracing the lineage and interconnectedness back to the origins in wao atua. It holds the knowledge required to maintain, develop, and restore traditional aquatic cultivation practices in alignment with Te Ao Tūroa baselines.

Whakapapa connects the past with the present and also guides the future. It instils a sense of responsibility or kaitiakitanga, for humanity as part of this living system and not separate from it. Whakapapa confers not only the mana (authority) to harvest and manage resources to those with ancestral ties to the land but also the responsibility and obligation to maintain the balance of its wao atua and ecology. This obligation is observed as ahikā, a continuous occupation and unbroken responsibility to maintain the

integrity of the mauri of a place. This practice of whakapapa was the foundation set in wānanga aiming to grow the next generation of practitioners.

Mauri

The core component of mauri, as discussed in Whakaika, is the fertile life force that exists in all things. It underscores the interdependence of the physical and spiritual realms. Mauri is also what binds things in the natural world through the ways each life or form both contributes and utilises mauri within an environment, impacting on the overall mauri ora (well-being) of a particular wao atua. This transfer requires, and is facilitated by, water.

The potency of mauri can be seen by observing the fertility of a space, where the more māori (native/endemic) contributors of mauri, increases the potency of the mauri in a space (e.g. native forest as opposed to trees like pine or blue gum). As a tikanga, mauri helps us to understand when parts of the whakapapa are not right. The health of the hapū economy is intertwined with understanding how to maintain mauri in a natural environment.



Rules are in place for people who don't abide by kawa and tikanga



Tūranga wahine, tūranga tāne

A key feature of tikanga is the intention to maintain what is correct like the flow of mauri. Another intention is to ensure safety in wao tāngata. Whakaika whānau shared many tikanga for people in the practice of aquatic cultivation. Designated roles, restricted areas, flora and fauna, and separate harvesting practices were meticulously determined by tikanga, with specific roles assigned to ira wāhine (female elements) and others to ira tāne (male elements). These traditional role distinctions were not arbitrary, but intentional, reinforcing a balance that ensured both physical and spiritual safety at specific times. These kinds of tikanga highlight the balanced and intricate wisdom our tūpuna had with regards to the relationships of humans with nature.

Identifying takiwā

Takiwā boundaries are critical components of Māori environmental management, delineating the specific areas, under the responsibility of a hapū for gathering, fishing and other cultivation practices. These boundaries often determined by natural landmarks like rivers, are deeply rooted in whakapapa, marked ancestral territories, and helped to maintain a balance within wao atua. This tikanga was often discussed by whānau as integral to managing each other, our whakapapa responsibilities and determining who had the rights to certain places.

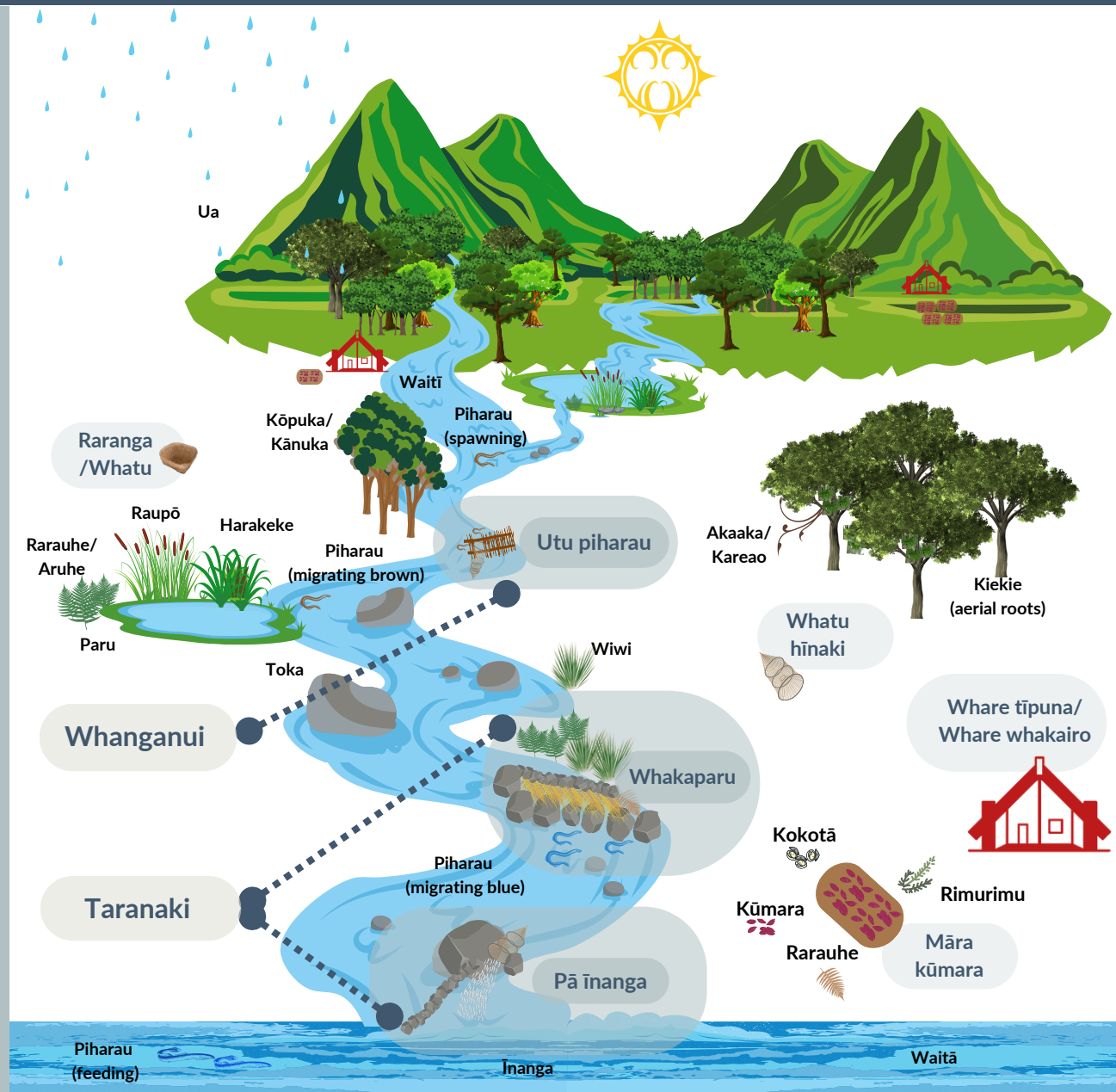
WAO TĀNGATA

Ma ka hana, ka 'ike
(In doing you learn)

This Hawaiian whakataukī (proverb) identifies one of the core elements of wao tāngata, which is practice. This not only includes ritenga, the formal ceremonies, rituals and rites, but also the everyday actions and practices that support a thriving hapū. These practices are integral today, not only in their regard for wao atua and alignment to the teachings of wao tūpuna, but in their ability to teach us once again how we can live in balance with our Ao Tūroa. While knowledge reclamation is an important part of mātauranga Māori, it is in the practice of knowledge that our understanding of Ao Tūroa is deepened.

Ngā mahi a ngā tūpuna

Whakaika has focussed particularly on exploring aquatic cultivation practices. While many were discussed, three practices were explored further, including utu piharau used in the Whanganui River, and both whakaparu and pā inanga used at Ōeo Pā. While these particular practices are discussed in more depth in the He Poutokomanawa report, below we discuss some of the other expressions of ritenga and practice observed and experienced throughout the project.



Huli ka lima i lalo... ma ka hana ka ike

Turn your hands down to the ground, through doing you learn



EXPRESSIONS OF RITENGA



Ritenga

Ritenga describe the key ceremonies, rituals, rites and practices that uphold kawa and tikanga. Often particular ritenga occur in alignment with different phases of the maramataka (e.g. hautapu during Pūanga and Matariki) and signify the importance of both knowledge and practice working together. These practices acknowledge the spiritual and physical connections to the environment, reinforcing natural processes, and the respect and care for natural resources.



Maramataka

Maramataka captures the natural rhythms and energy flows of the natural world. It knows optimal times for flora and fauna growth and fertility, and signals the most efficient times for human interaction with nature. Maramataka demands a nuanced understanding of the cycles of individual taonga species life history and behaviour. This knowledge was developed by our ancestors by attentively observing, interacting with and recording their wao atua over multiple human generations. Whakaika explored elements of maramataka in our research of wao tūpuna knowledge.



Rāhui

Rāhui are an essential conservation practice where a restriction is placed on an area or resource to protect and replenish it. The replenishing occurs through the spill over of mauri flow from surrounding areas. This practice reflects a deep understanding of ecosystem, by identifying the minimum carrying capacity that a space can maintain while remaining a productive ecosystem. Rāhui are implemented by whānau, through the guidance of ahikā practitioners, when a space is out of balance, to ensure the abundance and continual generation of mauri overflow into the wao tāngata and not just to limit take.

Pure-tai

Pure-tai (sometimes referred to as tai-ā-pure) is a management practice relating to cleansing and healing of the waterways and the sea and is enacted when ecological disruptions, illness, or pollution occur. The term pure-tai (literally 'to cleanse or flush to the sea') identifies the purpose of maintaining the purity, health and unimpeded flow of water from its source to the coast. The authentic concept of pure-tai goes beyond the regulation of fishing activity (as it has been reduced to today), and prioritises ecological balance, species protection and overall ecosystem health, while aiming to restore mauri, or life force to an area.

“It's more important to know how our tūpuna saw the world than what they saw...”

- P. Andrade, 2023

WORKING WITH OUR WHĀNAU

Wao Atua

Throughout our project, we identified numerous wao atua, embodying the sacred dimensions of the environment. These included the storied waters of the Whanganui and Ōeo Rivers, forest areas enveloping these awa, the myriad tributaries and streams, along with the expansive coastlines of Whanganui and South Taranaki. Moreover, we delved into the manifestations of atua through critical resources necessary for cultural practices, such as piharau, īnanga, tuna, kānuka/kōpuka, kiekie, akaaka, harakeke, toka, and both freshwater and saltwater.

In recognising these forms of atua, we ventured into understanding the essential lines of mauri flow from tūpuna maunga to the moana. This exploration was crucial in highlighting the requirements for a thriving hapū-based economy, and emphasised the inseparability of activities that benefit us as tāngata in the system, and our spiritual and natural environment.

Wao Tūpuna

Our whānau spent time talking to their kaumātua, hapū and iwi members as well as looking through archival material and kōrero tuku iho in order to gather the knowledge found in their unique wao tūpuna. This knowledge was recorded in ways determined by the whānau as their own researchers, including interviews, audio and video recordings, and transcripts. The inherited wisdom brought forth was further explored and unpacked in workshops and wānanga (intensive group discussions and deep dives), aiming to uplift the insights of the wao tūpuna and identify how these practices were once intricately intertwined with their unique hapū economies. This process enabled the whānau to identify the links of the wao atua spaces to the practices of pā īnanga, whakaparu and utu piharau, and look for ways to re-establish and embody this knowledge in the practices that they carry today.

One element of this tūpuna knowledge included the way whānau shared their connection to place. This was done by identifying the unique whakapapa narratives of the hapū, connecting them to their environment and reinforcing their roles as tāngata tiaki. In our wānanga, takiwā were often defined and identified by the streams that separated where one hapū or whānau would operate, with specific rules ensuring safe passage and appropriate use of resources. In other wānanga the importance of understanding your whakapapa to every place involved in the practice, was reinforced through the tikanga of taki whakapapa (to recite ones ancestors). It was in these elements of Whakaika that we explored the ways in which tūpuna knowledge is embedded in our practices.

WAO
ATUA

WAO
TŪPUNA

WAO
TĀNGATA

Wao Tāngata

The three key practices were explored by our two whānau research groups centred around the intimate knowledge of two key species, piharau and īnanga.

In Whanganui, the whānau focussed on the utu piharau which is a practice directing migrating piharau into hīnaki (fishing traps) utilising the poha (gathering nets) and specifically placed and lashed wooden weirs. This included the use of korotete (holding boxes) allowing a continual food supply.

In Taranaki, the whānau focussed on the pā īnanga and whakaparu. Pā īnanga are temporary fish trapping structures that utilise knowledge of tidal flows and manipulate natural tendencies of īnanga in order to fish. Whakaparu entail a practice of building desirable habitat sought by piharau during the initial stages of their migration from the moana to the awa.

These practices are discussed more in the **He Poutokomanawa** and **He Pou Tuārongo** reports.



WHAKAIKA TE MOANA

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Report:

He Pou Kai Āwha: Insight into knowledge and context of hapū-based aquatic cultivation practice and functioning systems

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