

This report has been compiled for ChrisP Ltd by:

Christopher Alan Pairama and Te Rangitākuku Kaihoro;
for the purpose of a “final report”, for:

Ministry for Primary Industries Work Authorisation 17990 Rongoā Selection & Engagement Framework.

- **A Kawanga Engagement Framework that will assist western research scientist, government officials and consultants to engage with mana whenua.**
- **A number of rongoā that are expected to significantly benefit kauri as well as the process in creating rongoā.**

Preamble

This contract is a legacy contract from 2016, which was not activated because of procurement difficulties, experienced within the ministry. The contract has experienced its own difficulties because of shifts in the Kauri Dieback Programme resulting in the inability to present to the Tangata Whenua Roopū, in a timely manner. That presentation took place within the first quarter of 2019, thus leading to this final report.

Please read this report in conjunction with these documents previously supplied:

- Te Mauri o Papakauri - A wānanga held at Mātai Whetū Marae-Hauraki rohe.
- Te Mamai o Kauri - A wānanga held at Whiti te Rā o Reweti Marae-Kaipara rohe.
- The presentation to the TWR.

Section One

Synopsis of Te Mauri o Papakauri – Hauraki rohe:

Brief: As this was the first roll-out of the Kawanga Engagement Framework, as a ‘proof of concept’, it is necessary to extrapolate all the following key features which describes the ‘modus operandi¹’ through which engagement was achieved.

The Kawanga Engagement Framework utilised these key features:

KEF (Protocol & Etiquette Guidelines)				
Theme	Content	Purpose	Actions	Comments
Mauri²	Key tenets ³ : <ul style="list-style-type: none"> • Acknowledgement of: <ul style="list-style-type: none"> ○ iwi world view ○ spiritual / religious beliefs ○ iwi status ○ marae protocol ○ language conventions 	Main themes: <ul style="list-style-type: none"> • create a self-sustaining relationship(s) • foster goodwill & prosperity • promote transparency • be accountable to iwi through relationship 	Pre-activity: <ul style="list-style-type: none"> • develop, initiate & inform of intent of programme within a te reo Māori framework • identify key contact(s) and do a face to face meet, preferably using te reo rangatira where appropriate • pre-prior informed consent protocol initiated Marae based activity: <ul style="list-style-type: none"> • maintain kawa & tikanga protocols • use of te reo rangatira Post-activity <ul style="list-style-type: none"> • develop research themes into drop down menu activities that are inclusive of mana whenua • maintain constant communication / activity 	Note to self: <ul style="list-style-type: none"> • due to being te reo focused this unit is often left off the engagement list by non-reo speaking researchers / engagement personnel, however this is the preferred SOP⁴ method going forward • Where there is agreement to continue in the absence of te reo engagement is entirely up to the mana whenua to concede, however it is advisable to seek a kaumatua for pōwhiri, kawa and tikanga protocols.

¹ Method (n.): formula (Dictionary form), technique (Dictionary form), way (Dictionary form), protocol (Dictionary form), procedure (Dictionary form), approach (Dictionary form), plan (Dictionary form), practice (Dictionary form), means (Dictionary form).

² **Mauri** (noun) life principle, life force, vital essence, special nature, a material symbol of a life principle, source of emotions - the essential quality and vitality of a being or entity. Also used for a physical object, individual, ecosystem or social group in which this essence is located.

³ Creeds (n): doctrines, canons, beliefs, views, code of belief (Dictionary form), system of belief (dictionary form); Principles (n): theories, beliefs, precepts, rules, opinions, views, ideologies, ideas, assumptions, doctrines, dogmas, dogmata.

⁴ Standard Operating Procedure(s)

Mana⁵	<p>Engagement principles:</p> <ul style="list-style-type: none"> • kanohi ki te kanohi: <ul style="list-style-type: none"> ○ preferred communication is face to face • rae ki te rae: <ul style="list-style-type: none"> ○ relationship is nurturing, and; ○ sustained • ihu ki te ihu: <ul style="list-style-type: none"> ○ shared values explored ○ development of long-term relationship 	<p>Mana whenua:</p> <ul style="list-style-type: none"> • follow due diligence • acknowledge terrestrial kaitiakitanga <p>Mana moana:</p> <ul style="list-style-type: none"> • aqua-phic effects to the sea • flow-on effects in relation to research <p>Mana tangata:</p> <ul style="list-style-type: none"> • opportunities for capability building • shared knowledge ventures 	<p>Identify opportunities to engage with mana whenua to their mutual benefit, by:</p> <ul style="list-style-type: none"> • identify key activities, action plans • develop into meaningful platform of exchange • shared knowledge activity increases understanding & defines relationship 	<p>Inclusive of Iwi centric aspirations incorporating specific engagement tools and frameworks, such as:</p> <ul style="list-style-type: none"> • identifying key content, purpose, actions that enhance mana • provide clarity of purpose and expectations on both sides of engagement • indicate underlying ethical framework as a work in progress to be built by engagement with iwi / hapū / whanau / individual kaumātua etc
Whakawhāiti⁶	<p>As the initiator of KEF:</p> <ul style="list-style-type: none"> • humility is paramount • check on language usage to optimise clarity through humility • never presume, ask? • transparency of operations • be inclusive • treasure integrity: <ul style="list-style-type: none"> ○ values ○ ethics ○ norms ○ beliefs ○ praxis 	<p>To promulgate TRUST:</p> <ul style="list-style-type: none"> • propagate honesty • be direct about intentions • ensure intellectual property rights infringements mitigated • prioritise iwi over research goals to foster good will where possible 	<p>Accountability through:</p> <ul style="list-style-type: none"> • sharing the activity in an iwi centric methodology • shared leadership / co-governance decision-making 	<p>Having a 'Statement of Intent' clarifies one's intentions for the get go, therefore:</p> <ul style="list-style-type: none"> • effort put in, is effort rewarded • do not sell yourself short in this endeavour, be generous to a fault, it will be rewarded in-kind

⁵ Mana (n.) prestige, authority, control, power, influence, status, spiritual power, charisma - mana is a supernatural force in a person, place or object. Mana goes hand in hand with tapu, one affecting the other. The more prestigious the event, person or object, the more it is surrounded by tapu and mana. Mana is the enduring, indestructible power of the atua and is inherited at birth, the more senior the descent, the greater the mana. The authority of mana and tapu is inherited and delegated through the senior line from the atua as their human agent to act on revealed will. Since authority is a spiritual gift delegated by the atua, man remains the agent, never the source of mana. This divine choice is confirmed by the elders, initiated by the tohunga under traditional consecratory rites (tohi). Mana gives a person the authority to lead, organise and regulate communal expeditions and activities, to make decisions regarding social and political matters. A person or tribe's mana can increase from successful ventures or decrease through the lack of success. The tribe give mana to their chief and empower him/her and in turn the mana of an ariki or rangatira spreads to his/her people and their land, water and resources. Almost every activity has a link with the maintenance and enhancement of mana and tapu. Animate and inanimate objects can also have mana as they also derive from the atua and because of their own association with people imbued with mana or because they are used in significant events. There is also an element of stewardship, or kaitiakitanga, associated with the term when it is used in relation to resources, including land and water.

⁶ Whakawhāiti (v.) (-hia,-tia) to put into a small space, compress, pack, catalogue; (n.) inclusion, involvement, accumulation, collection, accrual, amassing; see also Māhaki (v.) to be inoffensive, mild, meek, calm, quiet, placid, humble, tolerant. Ngākau māhaki (n.) pleasant person, mild mannered.

Tau-utututu⁷	<p>Reciprocity⁸ in-kind:</p> <ul style="list-style-type: none"> • identify key interchange themes & develop into meaningful platform of exchange • opportunities for coaching, mentoring, development of key competencies of mana whenua • investigate: <ul style="list-style-type: none"> ○ intergeneration knowledge planning ○ succession planning 	<p>Benefit sharing:</p> <ul style="list-style-type: none"> • to maintain open relationship • to foster a 'local' approach • to encourage understanding of localised issues • to be sensitive to kawa & tikanga values • to be willing to adapt to iwi prioritisations through 'informed prior consent' 	<p>Open & adaptable to change, by:</p> <ul style="list-style-type: none"> • using dialogue consistent with marae protocol • solution orientated communication / hui • consensus decision-making 	As abovementioned
Pūkengatanga⁹	<p>Develop interface protocols:</p> <ul style="list-style-type: none"> • maintain key competencies / knowledge of project(s) • reflective inputs are shared / discussed • ensure integrity of sensitive information • develop protocols for genetic data storage & access • develop protocols for meta data storage & access 	<p>Valuing skills & knowledge exchange promotes 'walking the talk' by:</p> <ul style="list-style-type: none"> • identify key interface themes where Western Science meets Mātauranga Māori i.e. who are knowledge holders, are they recorded, how is their knowledge held, how is that knowledge transferred, is that knowledge able to be maintained for prosperity and so on... 	<p>Marae based hui promote iwi values by:</p> <ul style="list-style-type: none"> • adhering to protocols and etiquettes' • allowing free speech by participants in a controlled marae environment facilitated by iwi / marae kaumatua elders • acknowledgement that these kaumatua bring a range of skills and engagement wisdom to benefit the hui 	<p>Often referred to as soft outcomes, the opportunities available through identifying future iwi, hapū and whanau members available and passionate about research / science is quickly becoming the next biggest industry in information technology and education, i.e. iwi based / centric scientists. Iwi post settlement are quickly becoming a new force in environmental and science frontiers as strategic decision makers and legislators defining a new paradigm in emerging iwi evolution and iwi politics that are adding value and re-shaping our nation and Aotearoa New Zealand</p>

Outcomes:

This is measured by referring to the **Terms of Reference** within the WA 179990 identification, selection Rongoā. Herbage samples were identified, selected and wai-rākau extracts made using the rongoā process which is describe herein. Due to the use of boiling apparatus and filtering equipment it was not practicable to set-up these facilities during the wānanga in order to mitigate risks and maintain our OSH safety. As discussed, the master rongoā practitioners prepared extracts of rongoā samples, from locally sourced material for use and this guided our deliberations within the wānanga forum. This is extensively covered in the report under the heading Ngā Putanga – Outcomes. There are six one litre bottles of wai-rākau samples of extracts which are available upon request should they need to

⁷ (n.) speaking procedure where local and visiting speakers alternate; reciprocity

⁸ Mutuality (n.): exchange, trade, tradeoff, interchange, switch, mutual benefit (Dictionary form), isolation (Antonym)

⁹ Skill sets (n.):

be useful. The Mātai Whetū marae community and its mana whenua participants were heartily engaged in both the site visit to Tairua and the wānanga kōrero about this research into rongoā Māori in terms of Kauri Die Back. Their unqualified resolve though was to express a concern about what was being done within their tribal footprint, their own individual rohe (papakainga / homeland) towards identifying hotspots as well as protecting those ‘clean areas’ of kauri forests. How to safeguard those areas either through ‘rāhui’ (a cultural practise) or ‘aukati’ (forest closures) as a first measure and then follow-up with a pragmatic approach to plan the mitigation before operationalising into a complete work programme. This includes for example the re-formation of the tracks system and cleaning stations. Information about the PA-KDB programme is still required to inform best practise and for the application of effectively cleaning down equipment and shoes etc, these are an on-going exercise. There were new expressions of interest in KDB through the emergence of PA consultation hui since this wānanga, regarding identifying mana whenua personnel who could apply for ‘kaitiaki roles’ within the programme, who would qualify, how can they become qualified and what would be their reporting status back to mana whenua? In all, there was a perceived need and an end result, but how did this activity under the new KDB agency charged with the new 50-year plan for the National Pest Management Plan operate for the benefit of iwi as mana whenua?


Recommendations:




These were the recommendations that came out of the research activity from Mātai Whetū marae:




- Me pēwhea ana te reo o te kainga ki te whakapāaho atu ēnei momo āhuetanga ki ngai taua te iwi māori?
- How do we socialise our response using te reo rangatira about this disease?
- Mei whakatika te tuātahi tou ake hara, i mua rānō ki te āwhina atu ki tētehi kei waho o te kainga.
- As a first response action, we must work inwardly before striking out to help the world.
- Whakaaro ake mo ngā reanga tamāriki mokopuna e pa ana ki wā rātou whai huarahi, whai mahi kei roto i tēnei mahi papai rawa, hei whai tūranga ki te mahi mo te kauri.
- How do we socialise this amongst our young adults / grandchildren, in order for them to be comfortable to train, to become educated and even retain employment within this Kauri Die Back response?
- Kei te tika ngā kōrero “ma te ngahere, i whakapaingia te nga here”.


- The comment was made loud and clear, “that the forest, will heal the forest”.

In terms of this WA 17990, this project has reached the conclusion that the rongoā extracts and processes to extract the key values of the rongoā Māori, accompanied by korero and karakia has been awesome, but... Where to from here? The suggestion of using massive amounts of extracts to be used to identify novel probiotic properties that we could use to mitigate PA-KDB was played down when a senior member of the iwi participating simply made the statement above. To qualify this statement the wānanga deliberated on methods of distributing the extracts into the forest however the common point of discussion was to from then on, they only talked about planning the growth of native trees from seed gathering, plant propagation and planting out, to mitigate PA. These are the native tree species which were sampled for extraction and discussion:

Identification by Māori name	Botanical name	Rongoā	Process used to extract remedy
<p>Kūmarahou</p> 	<p>1. (n.) <i>kūmarahou</i>, <i>Pomaderris hamiltonii</i> pale-flowered - a rare shrub to 4m tall with soft oval pointed leaves which have prominent veins on the underside and sprays of pale cream flowers.</p> <p>2. Genus endemic to Kaiaua Leaves 5-6.5cm long by 2-3cm wide, tip pointed, with white star-shaped hairs underneath. Fruit dry, small.</p>	<ul style="list-style-type: none"> • Blood cleanser • Circulation (blood / lungs / kidney) ailments • Promotes / stimulates white blood platelets body's natural immune system (i.e. anemia & asthma). • Breast cancer, chest ailments, colds / coughs, cramps & heart burn. • Prostate problems & constipation • Diabetes, kidney problems, overweight, rashes, rheumatism & sores. • Milk flow (to increase) 	<ul style="list-style-type: none"> • simple decoction for respiratory conditions and digestion. Wairākau (decoctions) • Dry gathered kūmarahou leaves removing dust and grime, strip individual leaves from main stem, place into boiling water in a stainless-steel pot. • Boil off excess water until water is coloured, usually twenty minutes or so then cool and strain into glass / plastic bottles. • All rongoā must be dated at processing date, batch info, name of rongoā, amount of rongoā to be taken (consumed) and either with (after) food or no food. • Store rongoā in a dark, dry cupboard so it's shelf-life will be longer however always have an expiry date.

<p>Koheriki</p> 	<p>1. (n.) koheriki, <i>Scandia rosifolia</i> - prostrate or scrambling shrub with woody stems at the base and 2-5 pairs of leaflets arranged along each side of a midrib. Leaflets have no stem, distinct veins and are finely serrate. Flowers numerous and have white petals. Found north of Taranaki and Napier.</p> <p>2. (n.) koheriki, kohepiro - <i>gingidium montanum</i> - Maori anise, an herb</p> <p>This variety has the same habit of growth but the leaves, which also come in opposite pairs from the base of the plant, have a lavender-blue sheen.</p>	<ul style="list-style-type: none"> • Plant when extracted as a diuretic flushes' organs and blood through kidneys. • This belongs to the carrot family - a small plant only twelve inches high with flowers in umbels, fifteen inches tall, and the leaves come from the base. • This variety, which grows as a mat, is mostly found on riverbeds of the North Island. • Both varieties have a strong anise scent. The leaves are used as a diuretic and the liquor was drunk by early settlers for dropsy (Colenso). 	<ul style="list-style-type: none"> • Colenso wrote this of it: "The aromatic leaves are used as a diuretic and remedial in syphilitic cases." • Processed as for Kūmarahou
<p>Kanuka</p> 	<p>1. (n.) Kānuka, white tea-tree, <i>Kunzea ericoides</i> - leaves similar to <i>mānuka</i> but soft to touch. Taller than <i>mānuka</i>. Has small white flowers. Leaves are soft, unlike <i>mānuka</i> leaves which are prickly.</p>	<ul style="list-style-type: none"> • Antiseptic, antihistamine • Wounds • When made up as a vapor rub using menthol & camphor for muscle massage • Bronchitis • Back pain • Sinus problems, asthma, skin problems, burns & sores • Joints (stiff) & insect bites 	<ul style="list-style-type: none"> • Process as per above, however the extract produces an oil derivative that can be filtered off into sampler i.e. small, bottles. As this rongoā can be used externally for use in massage / mirimiri etc. Kānuka oil can be taken orally (2-3 drops/per litre) when added to fresh water for strep throat and bronchial conditions.
<p>Raukawa, Mānono</p> 	<p>1. (n.) Raukawa, Mānono: leaves have aromatherapy application.</p>	<ul style="list-style-type: none"> • Anxiety, bladder problems, broken bones, bruises, • Used as an Iodine extract • Skin conditions / eczema. Scrape bark or roots to see yellow colouration indicating presence of tantin / used as antiseptic sterilizer for external use for scraps, cuts and cleaning agent. • Scabies, sores, sprains, itchiness, rashes, 	<ul style="list-style-type: none"> • Decant leaves, bark and roots extract tantin yellow. • Used in the of fibres a bright yellow with a mānuka extract mordant to colour fast.

<p>Tāwhero</p> 	<p>1. (n.) <i>tāwheowheo</i>, <i>Quintinia serrata</i> - a small bushy tree of the North Island with pointed oval leaves. The mottled leaves have wavy, shallowly serrated margins. Favours shady places, steep slopes and banks. See also tāwheowheo & tāwhereo</p> <p>2. (n.) <i>Weinmannia racemosa</i>:</p>	<ul style="list-style-type: none"> • Taken orally for stimulating the body's natural immune systems • Bronchial complaints • Tāwhero is taken after harakeke tonic is administered, three times a day • Tāwhereo – stomachache & abdominal pain 	<ul style="list-style-type: none"> • Extract wai-rākau as described above for kūmarahou.
<p>Matipō</p> 	<p>1. (n.) <i>Matipō Suttonia australis</i>:</p>	<ul style="list-style-type: none"> • Used as a flusher / diuretic by working on capillaries around heart to improve circulation • Blood vessels problem & heart problems • Red matipō - Rheumatism, ringworm, skin problems, • Tooth ache, varicose veins 	<p>Wai-rākau of Matipō is extracted by boiling leaves in water, stirring and prepping into bottles when cool. Store in dark as per rongoā Māori. Date and name containers with expiry date shelf-life</p>
<p>Taraire</p> 	<p>Taraire is one of three endemic <i>Beilschmiedia</i> species in New Zealand. Taraire only occurs in the North Island north of 38°S latitude. It is most common north of Auckland and Thames at about 37°S. However, scattered populations of the tree occur on the west coast between Port Waikato and the Kāwhia Harbour, and inland at Pukemokemoke. On the east, it occurs in scattered locations to East Cape.</p>	<ul style="list-style-type: none"> • Coughs, throat (sore) • Hormonal problems • Menstrual problems • Varicose veins 	<ul style="list-style-type: none"> • Wai-rākau extract as for Kūmarahou • Taken internally in 30 / 60 mm doses every evening x 10 days • Leaves used in sauna to open pores of skin and excrete toxins in-conjunction with Tutu or Tūpakihi leaves.

<p>Kohekohe</p> 	<p>1. (noun) Kohekohe - <i>Dysoxylum spectabile</i>, Mahogany family (Meliaceae). Boiling the bark in water and drink it as a tonic.</p>	<ul style="list-style-type: none"> • Used for weight loss and reduce cholesterol • Commonly used as a It has medicinal properties of a flusher / diuretic • Kohekohe is a popular tonic with properties similar to quinine. • Kohekohe is also combined with manakura bark (<i>Melicytus micranthus</i>), puawānanga vine (<i>Clematis paniculata</i>) and kōrare stalk (<i>Phormium tenax</i>) and mānuka leaves (<i>Leptospermum scoparium</i>) for female haemorrhage, bleeding piles and blood disorders, kidney troubles and skin eruptions. • Infusions of the bark or the leaves are taken internally for stomach-ache and by invalids. It is also used to relieve the lungs in irritating coughs. 	<ul style="list-style-type: none"> • Boil herbage in stainless steel pot, filter and cool. 60 mm dose for 10 days every morning. • All parts of this tree are highly astringent. The boiled leaves taken from the side of the tree facing the sun are applied as a poultice for skin ailments. The solution obtained from boiling the leaves is used to clean wounds and sores and to stop bleeding and is also useful as a gargle for sore throats; the vapour was used to treat asthma, colds and fevers. • A decoction of the bark or the leaves is also used to stop the flow of milk when applied to the breast.
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These native plant types are identified as Hauraki typical species of known rongoā content and usage i.e. genus of kūmarahou unique to Hauraki / Kaiāua rohe. As the extracts have a shelf life should examples of these be requested please contact the writer of this segment: Te Rangi Kaihorō at kaihorō@icloud.com or, cell: 02102308005

Closing Comments:

As previously stated in the Te Mauri o Papakauri Report, it was discussed by rongoā practitioners and wānanga participants that information regarding Rongoā Māori and its praxis should remain in Māori domain. It was clearly stated again in the TWR hui where these two reports were tabled and fully discussed that mātauranga Māori knowledge should be used in the context of the culture and held within language speakers and rongoā experts, therefore when it comes to rongoā extracts only competent rongoā practitioners should be involve in the dispersal component in field trials or other such endeavour. Further some participants argued for another method to be used rather than extracts hitherto not discussed as a possible solution to identifying, selecting and using pro-biotic rongoā extracts on **PA-KDB**. In short they were adamant to identifying, selecting, growing and planting of said varieties of native trees in infected forest sites and elsewhere to enhance the microbial chances to healing the forest, ‘ma te ngāhere hei whai oranga mo te ngāhere...’, “Let the forest heal the forest..” There is ample opportunities for further research in Mātauranga Māori particularly in the identification, selection and learning the processes of rongoā Māori for use in this PA-KDB space.

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Section Two:

Synopsis of Te Mamai o Kauri – Kaipara rohe:

The Kawanga Engagement Framework utilised, to bring together the three-day wānanga at Whiti te Rā o Reweti Marae in the Kaipara rohe, began during kōrero with Te Kahuiti Morehu, kuia of our marae and the lead for Eke Pū Nuku, the environmental protection unit of our marae. Kahuiti is in fact a learned rongoā person having been inducted at an earlier age due to a skin condition which saw her having years of treatment to cure her condition. This put her in a position of knowing first-hand the hapū / iwi practitioners, their specialist methodologies and preservation techniques. These days though you can count rongoā practitioners on one hand with a few fingers missing, to the extent that it was stated that our remaining Tohunga rongoā, comes from one of our whanaunga marae of Kaipara ki te Tonga, Te Kia Ora Marae, Kākānui.

In August of 2018, we attended the marae trust meeting to inform those whanau of our intended September wānanga and kōrero for the support and presence of matua Pene Paraone, Tohunga Rongoā, in our takiwā. Matua Pene is an aged man who hosts regular rongoā hui at the marae. Unfortunately, he did not attend the trust meeting, but the trustees did support his involvement and attendance. Matua Pene had been invited to attend and was informed of the pending wānanga at Whiti te Rā o Reweti Marae. He agreed to attend.

A local couple Lizzy and Nicholas Travis, of Waimauku, were approached and agreed to host our group of rongoā representatives on their property. This property was visited earlier by me and two rongoā and native plant specialists from Ngāti Whātua, Charmaine Bailee and Tracey Te Paa. The mature stand of native ngāhere which included several mature Kauri was deemed highly suitable for our purposes.


On the second day of the wānanga we all visited the School Road property. Karakia were recited and suitable rongoā plants were identified. It may be noted, that matua Pene was unable to attend due to poor health and both Tracey and Charmaine needed to leave at the end of the day because of family commitments. Hone Ratana, a rongoā practitioner who works closely with matua Pene, attended on behalf of him and shared both native plant whakapapa and rongoā practise knowledge freely at our wānanga. However, with the ongoing non-availability of our three specialists, the collection and preparation of rongoā was not successful.





The success of the wānanga can rest in the interaction between rongoā practitioners and our invited Western scientists, who enlightened us all of the scientific advances in identifying native tree species as possible probiotic mitigation for eliminating either oospores and or zoospores of the PA-KBD.



In conclusion the engagement model was successful, however the collection and preparation fell short due to participants having to juggle their timetables to come to Waimauku and also fulfil other commitments and whanau. Hone invited us to view Matua Pene producing wairākau rongoā extracts at their facility in the Te Puea Marae Hauora Clinic in Mangere. There they use a plant identification & selection process, before they boil the leaves / herbage and sometimes the roots and bark to extract the principal key rongoā essential oils / extracts. Various rongoā strengths are then dated, labelled and bottled for use as diuretics to release toxins for the body by passing water / other bodily fluids / solids etc. Hone has developed a rongoā code for each extract commonly used across the Māori Health Sector recognised via the Kāhui Rongoā (National Trust).

These same processes are used by many other iwi rongoā practitioner to manufacture rongoā wairākau as ‘flushers and workers. Flushers rid the bloodstream of toxins, disease and infections etc whereas, workers heal the internal organs, muscles, nervous systems as well as the skin.

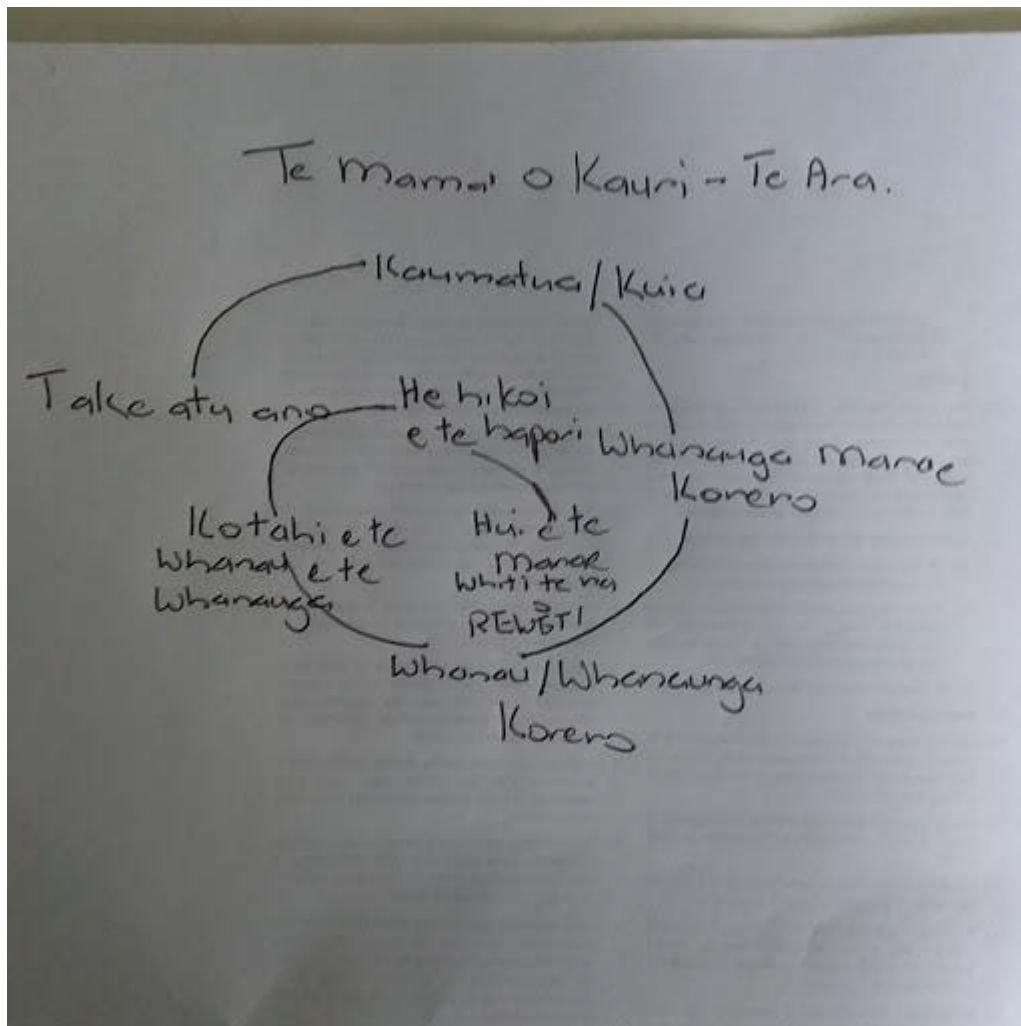
Given the time constraints of the participants it was easier to discuss these processes as described herein and concentrate on identifying specific rongoā species. To this end the following tables highlights the species most predominately used in the Kaipara rohe:

Identification by Māori name	Botanical name	Rongoā	Process used to extract remedy
<p>Kūmarahou</p> 	<p>1. (noun) gum diggers' soap, golden Tainui, kūmarahou, <i>Pomaderris kumeraho</i> - a native shrub with alternating, blue-green leaves on top and undersides pale with protruding veins. Flowers are creamy yellow in large, fluffy clusters. The whole plant is covered in a soft mat of hair. Found north of Bay of Plenty and Kāwhia.</p>	<ul style="list-style-type: none"> • Circulation (blood / lungs / kidney) ailments, anemia & cancer • Promotes / stimulates white blood platelets, blood cleanser & breast cancer • Asthma, bladder problems, chest ailments, coughs & colds • Cramps, diabetes, heartburn, 	<ul style="list-style-type: none"> • Dry gathered kūmarahou leaves removing dust and grime, strip individual leaves from main stem, place into boiling water in a stainless-steel pot. • Allow to boil off excess water until water is coloured, usually twenty minutes or so. • Allow to cool and strain into glass / plastic bottles.

			<ul style="list-style-type: none"> • All rongoā must be dated at processing date, batch info, name of rongoā, amount of rongoā to be taken (consumed) and either with (after) food or no food. • If rongoā has a shelf-life an expiry date, whether
Mānuka 	2. (noun) mānuka , tea-tree, <i>Leptospermum scoparium</i> - a common native scrub bush with aromatic, prickly leaves and many small, white, pink or red flowers.	<ul style="list-style-type: none"> • Antiseptic, antihistamines • Sore throats • Skin disorders, massage oils 	<ul style="list-style-type: none"> • Process as per above, however the extract produces an oil derivative that can be filtered off into sampler i.e. small, bottles. As this rongoā can be used externally for use in massage / mirimiri etc. Mānuka oil can be taken orally (2-3 drops) when added to fresh water.
Harakeke 	1. (noun) New Zealand flax, <i>Phormium tenax</i> - an important native plant with long, stiff, upright leaves and dull red flowers. Found on lowland swamps throughout Aotearoa/New Zealand. It has straight, upright seed pods. This is a general name for the <i>harakeke</i> leaf and the plant itself, but each different variety has its own name.	<ul style="list-style-type: none"> • Skin conditions / eczema • Flusher / diuretic • Used in tandem with other extracts to act as conduit for healer extracts 	<ul style="list-style-type: none"> • Same process as for Kūmarahou to extract wai-harakeke. Harakeke sap may be also harvested during the appropriate months, when the new seed stake is growing. • There is a red indicator that is in the sap at certain times of the year, indicating when it is ready to use as a rongoā for skin ailments / blood disorders.
Tawapou 	Tawapou - <i>Planchonella costata</i>	<ul style="list-style-type: none"> • Taken orally for stimulating the body's natural immune systems • Used to treat cancer 	<ul style="list-style-type: none"> • Extract wai-rākau as above for kūmarahou • Taken internally in 30 / 60 mm doses every evening x 10 days
Kawakawa 	Kawakawa - <i>Piper excelsum</i> , commonly known as kawakawa, is a small tree of which the subspecies <i>P. excelsum</i> subsp. <i>excelsum</i> is endemic to New Zealand; the subspecies <i>P. e. subsp. psittacorum</i> is found on	<ul style="list-style-type: none"> • Used in oral hygiene, gum problems & asthma • Common tea-leaf plant • Used as a wrap when heated in hot water, compressed over pain area it can stimulate 	<ul style="list-style-type: none"> • Wai-rākau extract as for Kūmarahou • Individual leaf or group two leaves shiny side together used as hot compress to relieve pain / read symptoms

	Lord Howe Island, Norfolk Island and the Kermadec Islands.	<ul style="list-style-type: none"> • Cancer, colds, constipation, bladder problems & bronchitis • Insect bites, itchiness • Kidney problems, neuralgia, rheumatism & ringworm • Sciatica, skin problems, • Teething babies (with loosened bowels) • Toothache, worms & wounds 	
Tātārāmoa 	1. (noun) bramble, lawyer, bush lawyer, <i>Rubus cissoides</i> , <i>Rubus australis</i> , <i>Rubus squarrosus</i> and <i>Rubus schmidelioides</i> - native hook climbers with hand-shaped, toothed leaves and white, heavily scented flowers. Fruit is yellowish-red, shaped like a small blackberry. The branchlets and backs of the leaf stalks are covered in hooked thorns. Found throughout Aotearoa/New Zealand.	Muscle relaxant, aides sleep apnoea	<ul style="list-style-type: none"> • Wai-rākau extract as for Kūmarahou • Taken internally in 30 / 60 mm doses every evening x 10 days • Leaves used in sauna to open pores of skin and excrete toxins
Horopito 	1. (noun) horopito, pepper tree, <i>Pseudowintera axillaris</i> and <i>Pseudowintera colorata</i> - native shrubs with leaves often having large red blotches. Flowers greenish yellow and fruit orange-red or black	For typhoid fever Commonly used a 'crazy salt' tastes of pepper, hence also called the NZ pepper tree. It has medicinal properties of a flusher / diuretic	<ul style="list-style-type: none"> • <i>Mō te taipō pīwa: Me whāngai te tūro ki te harakeke i taua wā tonu, ā ka whāngai ki te wai o te horopito i konatutia, ā ka pāera i roto i te wai, ka hoatu hei inu e toru inumanga i te rā, i muri tata tonu iho o te mutunga o te mahi a te harakeke (TTT 1/12/1929:1957).</i> • For typhoid fever: The patient should be fed flax juice at that time and feed her with the juice of horopito which has been stirred and boiled in water. Give it as a drink three times a day immediately after the flax juice has taken effect.

Kaipara relationship Model:



This illustration shows the relationship pathway followed to attain the desired outcome, being in this case, a hui at Whiti te Ra o Reweti Marae.

This hui was not only to interact, following the events of the day, but to relate with scientists whom not only journeyed with us on the day, scientists whom shared relevant contemporary knowledge together with future “proposed educative plans/models”.

These plans have now come to fruition via our mobile container classroom known as “lab in the box”, and now in our case, “Te Kura o Kauri”.

This rollout will occur on Whiti te Ra o Reweti Marae and possibly on the subject property of the Travis whanau, during late October and early November 2019.

The relation build has occurred not just over recent years but certainly for the last decade Whiti te Ra o Reweti Marae, the closest ancestral marae to the hardest hit area of mamai, for kauri, the Waitakere Ranges. Through successive ministry funding, we have presented at a number of marae and schools, thereby promoting “local knowledge and awareness”.

Each footstep of this journey was carefully planned, collaboratively, reflective of our tikanga and residing values of our marae.

Conclusions of these conjoint take mahi.

Together these outings have provided an initial, and it is believed, valuable outcome for the ministry. Our tasks were challenging from the onset. Delays years previous, as we navigated a landscape of kauri infection/response which carried many unknowns both logistically and scientifically.

With the initial panel, whom first supported this project in April 2016, it was stated that the budget should be doubled from twenty-five thousand to fifty thousand for it to be effective. Delays prevailed because of procurement issues within the ministry however, the joint desires of the two marae, have been realised by practioner willing to build and endure testing relationship challenges, on all fronts, to produce this reported outcome.

If there is any take home message, it would be that this project uncovered many obstacles which were endured by willing and capable participants. Such people, in our opinion would not be easy to find.

We believe that through this, many of those involved, will be well equipped to continue the journey to “Protect Our Kauri”.

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