

4. NGĀ RONGOĀ O NGĀ REPO A WETLAND PERSPECTIVE

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Ka ora te whenua, ka ora te tāngata

If you heal the land, you heal the people

Kingi Tāwhiao Te Wherowhero (Waikato)

In pre-European Aotearoa New Zealand, repo (wetlands) were considered taonga (culturally important) and played a key role in people's lives as a major and reliable source of kai (food). Tuna (freshwater eels), kōura (freshwater crayfish), and many other indigenous fish species, as well as various bird species that lived and nested in and around lakes and wetlands were readily available. Native plant species such as raupō (bulrush), tī kouka (cabbage tree), and various berries and seeds provided sustenance, especially in times of scarcity. Repo provided building materials – raupō and toetoe for roofing and insulation, and harakeke (NZ flax) and kuta (giant spike sedge) for weaving, as well as paru (swamp mud) valued by weavers for dyeing properties. When needed, repo also provided rongoā (medicine) for treating wounds and injuries and the various sicknesses that afflicted people then.

Much changed when colonial settlers took control of the landscape in the early 19th century. Repo were no longer valued as taonga but instead natural resources to be developed. The new settlers brought other resources to grow and harvest, such as domestic animals (sheep, pigs, goats, and poultry) for agriculture and crops (including wheat, potatoes, maize, carrots, etc.), and it was no longer vital to rely on repo for the necessities they provided. The old way of living quietly disappeared.

Only 10% of repo throughout Aotearoa now remains, and many of these are far from pristine. Even where they remain it is difficult to access the kai, building and weaving materials, and rongoā they contain, particularly when repo are situated in reserves and on private or landlocked areas.

This chapter focuses on repo in the 21st century. They are still very important, but their place in the landscape and the services they provide are quite different. Most land is now farmed or cropped and now must cope with the extremes that climate change may bring.

Whānau Māori still look to repo to provide rongoā; in fact, for much of the motu (country), they are one of the few places where people can find the rākau rongoā (medicinal plants) they need for rongoā.

The main purpose of rākau rongoā used for rongoā is to heal the whenua. That is something to be kept firmly in mind when considering rongoā, including those that might be found in a repo. The knowledge of rongoā, however, has faded, along with the disappearance of many of the rākau rongoā that were once used. The challenge is to reclaim that knowledge, as people work to restore the resources the whenua (land) once provided.



A Raupō hut, location unknown 1905. Photo: Auckland Libraries Heritage Collections 2-V612, photographer H E Vaile

REPO HAVE MANY WAYS OF HEALING THE WHENUA

In these days of intensive farming, repo are of special importance. Their role in absorbing nutrients and toxins from adjacent waterbodies and associated catchments, makes it safer for all the life that belongs there. The past was very different. The pre-European landscape didn't have animals that polluted the land with their waste, as is the case with many of the domestic animals introduced to our landscapes since settlement. Nor were chemicals, such as fertilisers, used to optimise the productivity of the land. These are issues that should be considered when it comes to the use of rongoā.

Repo also mitigate the effects of flooding events by trapping debris and retaining silt and mud. These materials enrich the soils around the edge of the repo and provide habitat for a rich diversity of species, including many of the plant species sought for rongoā. At the same time, repo retain water and give it time to drain through the soils to feed the aquifers that feed puna (freshwater springs), which in turn allow life to thrive. Owing to repo drainage over the last 150 years and the poor state of remaining repo, many puna have disappeared, along with the whole network of native plants and animals they sustained.



Makomako, wineberry. Photo: Te Kawa Robb



Pate/patetē, seven finger.
Photo: Jamie Watson



Pukatea. Photo: Beverley Clarkson



Tutu, tūpākihi, *Coriaria arborea*.
Photo: Beverley Clarkson

Table 1. Native species introduced in this chapter

Plant or animal (Māori name and common name)	Scientific/ botanical name
Hangehange NZ Privet	<i>Geniostoma ligustrifolium</i>
Karamū Coprosma	<i>Coprosma robusta</i>
Kawakawa	<i>Piper excelsum</i>
Koromiko Hebe	<i>Veronica salicifolia, V. stricta</i>
Māhoe Whiteywood	<i>Melicytus ramiflorus</i>
Maire tawake, waiwaka Swamp maire	<i>Syzygium maire</i>
Makaka Marsh/saltmarsh ribbonwood	<i>Plagianthus divaricatus</i>
Makomako Wineberry	<i>Aristotelia serrata</i>
Mamaku Black tree fern	<i>Cyathea medullaris</i>
Mātātā NZ Fernbird	<i>Megalurus punctatus</i>
Mingimingi	<i>Coprosma propinqua</i>
Patē, patetē Seven finger	<i>Schefflera digitata</i>
Ponga Silver fern	<i>Cyathea dealbata</i>
Pukatea	<i>Laurelia novae-zelandiae</i>
Putaputawētā, kaiwētā Marbleleaf	<i>Carpodetus serratus</i>
Raupō Bulrush	<i>Typha orientalis</i>
Raurēkau, manono, kanono, kawariki	<i>Coprosma grandifolia</i>
Swamp daisy	<i>Olearia solandri</i>
Ti kōuka Cabbage tree	<i>Cordyline australis</i>
Tuna Freshwater eels	<i>Anguilla</i> spp.
Tutu, tūpākihi	<i>Coriaria</i> spp.
Whēkī Rough tree fern	<i>Dicksonia squarrosa</i>

Table 2. Native species featured in other chapters of *Te Reo o Te Repo – The Voice of the Wetland* (2017)

Plant or animal (Māori name and common name)	Scientific/ botanical name	Chapter references
Harakeke NZ flax	<i>Phormium tenax</i>	4.3 Harakeke – weaving our people together 7.2 Waitaki restoration Poster 3. Taonga classifications and species
Kahikatea	<i>Dacrycarpus dacrydioides</i>	Poster 3. Taonga classifications and species
Korimako Bellbird	<i>Anthornis melanura</i>	5.3 Ruru – he tangi na te ruru – conversations in the night
Kōura Freshwater crayfish	<i>Paranephrops</i> spp.	5.2 Kōura – the ancient survivor Poster 3. Taonga classifications and species
Kōwhai	<i>Sophora</i> spp.	5.5 Matamata – eating with our tūpuna
Kuta, ngawha, paopao Giant spike sedge	<i>Eleocharis sphacelata</i>	4.2 Kuta – the giant of freshwater habits
Mānuka Teatree	<i>Leptospermum scoparium</i>	Poster 3. Taonga classifications and species
Matipo, mapou	<i>Myrsine australis</i>	Pamphlet – Raakau preservation technique
Matuku Australasian bittern	<i>Botaurus poiciloptilus</i>	3 Toreparu Wetland – a research partnership journey 7.3 He whenua ora – Te Hākari Dune Wetland
Ponga Silver fern	<i>Cyathea dealbata</i>	3 Toreparu Wetland – a research partnership journey
Pūriri moth	<i>Aenetus virescens</i>	5.3 Ruru – he tangi na te ruru – conversations in the night
Ruru Morepork	<i>Ninox novaeseelandia</i>	5.3 Ruru – he tangi na te ruru – conversations in the night
Toetoe	<i>Austroderia</i> spp.	Poster 3. Taonga classifications and species
Tūi	<i>Prothemadera novaeseelandiae</i>	5.3 Ruru – he tangi na te ruru – conversations in the night
Wētā	<i>Rhaphidophoridae, Anostostomatidae</i> families	Poster 3. Taonga classifications and species

Kareaoahi is a small peat lake that is being enhanced by a community restoration group. Lake Cameron, Waipā District, Waikato.
Photo: Abby Davidson



REPO AS A SOURCE OF RONGOĀ

Repo are becoming increasingly important to whānau (family) who use rongoā Māori. In many places throughout Aotearoa, particularly in the urban centres where many people live, they are among the few places where rākau rongoā can still be found. This will increasingly become the case as landowners fence off their waterways and wetlands to help address urgent water-quality problems. Restoration plantings have led to little patches of new native bush where once very little remained. Many of the species used in these plantings are important as rongoā, although it is likely that few people engaged in wetland restoration are aware of the plants' medicinal properties.

Some important points

1. **The key role of rākau rongoā is not to heal us, the people, but to heal the whenua. We have to stop always putting ourselves in the centre of the picture.**

We need to consider all the other life that belongs there. In Te Ao Māori, rākau rongoā are all whānau, descendants of Tāne Mahuta (God of the forests and birds), and that includes us; and in that whānau we are pōtiki (the last-born child of Tāne Mahuta). To put ourselves and our needs ahead of te taiao (natural world) is against tikanga (cultural values and practices) and causes an imbalance that affects the whole living world.

2. **Rākau rongoā are for the most part found on the regenerating fringe of the ngahere.**

Their role is to help recreate the environment needed for the whenua to recover and, in time, to thrive. If you take special note of which plants establish first, and where, you will gain an insight into how they may help us as rongoā. Plants like koromiko (hebe), makomako (wineberry), mānuka (NZ tea tree), and tutu come up quickly after a fire or flood and cover the land to stop it from drying out and blowing away. This in turn establishes the environment that will help other slower growing and more permanent species to establish. These first plants are quickly followed by karamū (coprosma), swamp mingimingi, matipo, and many other species. If it is damp enough, mamaku and wheki will quickly appear, or in drier landscapes other tree ferns such as mamaku (black tree fern) and ponga (silver fern) will grow. Once there is sufficient shade, kawakawa, raurēkau, patetē (seven finger), and hangehange (NZ privet) may start to establish.

Similar processes occur in a repo: the rushes and sedges that first appear capture soil and build up the land so that shrubs and trees can follow if conditions are suitable.



Tūi feeding from a kōwhai tree. Photo: Manaaki Whenua

- This only happens naturally if there is a seed source nearby, and enough of the right bird species to bring the seed. Much of the whenua has lost the power to heal itself. There is little or no local seed source, and the birds that spread the seed have vanished. Even worse, plants like harakeke and kōwhai rely on birds such as tūi and korimako to pollinate their flowers. If these birds are absent from the environment, pollination may not be effective, and less seed will be produced to help the land recover.
- To make rongoā available again, much more than just planting trees must be done. We particularly need to look after the birds, which means taking care of animal pests that kill them, such as stoats, ferrets, and feral cats (among others). We must also work hard to control weed species. Trees like crack willow (*Salix fragilis*) and grey willow (*S. cinerea*) will take over the fringes of repo and exclude most native plants, including those used for rongoā. The whenua has been hurt so much that in many cases it cannot be restored unless we help. That's our special role as Tane's potiki.

Fast-growing, early successional plant species quickly form a protective fringe around the edge of the ngahere (bush). These plant species are usually the ones chosen for restoration projects, both because they are easy to propagate and grow, and have an ability to draw nutrients from the soil. In a wetland situation a range of more wet-tolerant plants will be included: trees like tī kouka, harakeke, swamp mingimingi, and various sedges and rushes, to be followed later with pukatea, māhoe, patetē, swamp maire, and other species that require shade to establish.

Always keep remembering the main role of rākau rongoā is to restore and heal the community of species that makes a healthy wetland community. Planting them enables the birds and invertebrates to return as they all play important roles in sustaining the health of the repo and all the species that belong there.

- A lot of chemicals are used in modern day agriculture and horticulture (e.g. fertilisers and sprays), and they can be harmful to human health. Sprays and chemicals are also used to clear the weedy vegetation as part of the restoration work, especially at the beginning. As they often remain in the soil, taking time to break down and become safe, the chemicals can be absorbed by the plants that grow there, and make them unsafe to be used as rongoā. A great example of this is explained in chapter 4.1 Wātakirihi – te huakita o te wātakirihi – bacterial quality of watercress.

3. We need to restore the natural biodiversity of repo, not just plants and trees.

Restoration plantings too often include only a few species, the ones that are easiest and cheapest to source, grow, and plant. This means the previous diversity of that whenua is often not restored, even if the riparian areas are well planted. Diversity is needed for the health of the whenua. For one thing, birds need it; the whenua should provide a continuous food supply throughout the whole year, as well as suitable and safe places to nest. Kairongoā (rongoā practitioners) remind us that sometimes the effectiveness of a rongoā may depend on the environment in which it is growing, and what it is growing with. We need to restore the networks, the world of connections that the whenua needs to be well and healthy, not just to plant trees and plants around repo to cover the fringes.

Increasingly, restored wetlands are places where whānau look to find their rongoā. But the rongoā from which we benefit most may not be the leaves and branches we prepare for ourselves; many people find even greater healing for themselves in helping to heal the whenua. This connects us to its mauri (life force), and is a greater source of healing than any rongoā wairākau (rongoā tea) – that healing reaches the deepest part of us.



Raurēkau. Photo: Te Kawa Robb

But there is a need to be wary!
Rākau rongoā growing in highly modified environments may not be safe to use as rongoā.

Harakeke (NZ flax), raupō (bulrush) and pūrekireki (swamp sedge) thrive at Otauria Wetland, Hannah's Bay, Rotorua. Raupō shows typical winter dieback. Photo: Beverley Clarkson



HOW TO RE-INTRODUCE RĀKAU RONGOĀ INTO THE REPO

The key is to work towards creating a welcoming environment for all the whānau (plants, animals and birds) of that whenua – not just for ourselves and our needs, but for the whole whānau of Tāne.

The first question to ask is: what does the whenua need to be well and healthy?

If we plant to heal the whenua, and the wai (freshwater) that gives it life, we will find the healing we need. The wellness of people depends on the wellness of the whenua and its wai. Water treated with chlorine and/or other treatments may be safe to drink, but it is not nearly as good as pure water straight from the whenua. Usually the land needs lots of healing before its water is safe to drink. We need to ask the whenua where we should start, rather than rely only on our own knowledge and the expertise of the people who advise us. In all cases, ensure that you source plant species appropriate for your rohe (region) – double check with your kaumatua (elders) and other members of the whānau with expertise, visit other repo nearby, and also look into historical plant records that also give some clues as to the landscape in and around your repo.

1. Focus especially on plant species that clean and heal the water.

A research project led by ESR (Te Whare Manaaki Tangata, Taiao hoki) based in Lake Waikare (Waikato Region) and Lake Wairarapa (Wellington Region) has demonstrated that mānuka has a special ability to remove pathogens from ground waters. These trials involve the participation of mana whenua (Indigenous people with primary rights and responsibilities) of these lakes to maintain and monitor the sites and build capability among the whānau. Raupō is good at absorbing toxins, as the dense stands act as an effective purifier. These stands function as barriers, restricting water flow and allowing sediments to drop out of the water column. Raupō roots provide habitat for microbes (microscopic organisms) that breakdown organic wastes, neutralising their toxicity. Raupō is being used in constructed wetland sites, specifically chosen for water purification purposes. A good guide of successful restoration is to look for native fish. If these fish start to come back it is a sure sign we are beginning to succeed.



Mātātā, NZ fernbird. Photo: © Oscar Thomas

2. Plant trees for native manu.

Manu (birds) rely on established habitat for kai and roosting. Native tree species such as karamū, swamp mingimingi, and makomako produce lots of berries, as well as being hosts for a range of insect species that supplement the birds' diet. Plant a range of species to ensure there is a food supply for birds throughout the whole year. Kahikatea are very important fruiting trees in repo. They may take some years to mature and fruit but once established they hold their fruit well into winter. Mānuka and putaputawētā are important for pūriri moths and wētā, which then feed ruru (morepork). Once these trees are well established the birds are more likely to stay and nest.

3. The birds also need secure nesting sites.

Makaka and some of the swamp daisies like *Olearia solandri* have dense vegetation that make it hard for stoats and rats to penetrate. The raupō, rushes, and sedges provide shelter for the very shy and special wetland manu such as the matuku (Australasian bittern), the mātātā (fernbird), and other species that have disappeared from much of the motu. When these manu return, we know the mauri of the repo is reviving.

4. Add any rākau rongoā that might be missing.

More than likely, most are already part of the mix, but some rākau need some protection and are best planted once initial trees are established. Kawakawa grows best with some shade, especially if it is to be used for rongoā, and raureka is most often found in the subcanopy, under the other trees. Once the initial plantings have become established, it is time to infill plant with species that need some protection to grow, especially those that we might need as rongoā.

HARVESTING RONGOĀ BEST NOT TO HURRY!

We must always ask the whenua before we start to harvest. If we harvest too soon after planting not only may we hurt or even kill the trees, but we may also miss out on much of the rongoā. Rongoā is not simply the preparation of the right leaves and branches, the place where the trees grow, and what other species they grow with are also very important. So too are the season and time of day. All of these factors affect rongoā.

We need to give our rākau rongoā time to settle into the whenua and make the connections that enable them to thrive. We must keep reminding ourselves that the main purpose of rākau rongoā is to heal the whenua and all the life that belongs there – they are not there just for our benefit. If we keep looking after our plantings and visiting them regularly, we will know when they are ready to give us rongoā.

We must always approach the whenua as healers not as harvesters. We share what it provides, not as owners but as part of the whānau, as pōtiki.

Dense stand of raupō reedland showing typical winter dieback
Waihi Scenic Reserve, South Taupō Wetland. Photo: Yvonne Taura

Ka ora te whenua, ka ora te tāngata

If you heal the land, you heal the people

This whakataukī gives us the guideline we must always follow. Caring for the whenua is the key to our own health and well-being. This applies particularly to ngā repo; they are truly the “kidneys of the whenua”.

Focusing only on our own health, harvesting rongoā when we need it, and ignoring it for the rest of the time will at best bring only short-term benefits. Our own physical ailments and limitations are not our greatest source of concern. Rather, we need to look to the hurting within us, our insecurities, our loss of the connections we need to be well, the paru that contaminates our minds and our hearts and stops us from seeing clearly and knowing how to care for ourselves and the world around us.

In going to a repo, let's not just look for the plants we need for rongoā, rather look for how the repo heals the whenua and cleans the wai – it does that by healing connections and sharing life. If we can learn that lesson we are on the road to good health.



WANT TO LEARN MORE?

Note: If you are having problems with the hyperlinks below try copying and pasting the web address into your browser search bar.

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Useful websites

Pa Ropata McGowan

- Queen's Service Medal 2020 – For services to Māori and conservation: https://www.nzherald.co.nz/bay-of-plenty-times/news/article.cfm?c_id=1503343&objectid=12335710
 - Loder Cup Award Winner 2018: <https://www.doc.govt.nz/news/events/awards/loder-cup-award/2018-winner>
 - Te Ahi Kaa: <https://www.rnz.co.nz/national/programmes/teahikaa/audio/201792503/rob-mcgowan-rongoa-practitioner>
 - Waka Huia: <https://www.youtube.com/watch?v=-MOTY38Shfk>
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Pokapū Akoranga Pūtaiao – Science Learning Hub Healing repo

<https://www.sciencelearn.org.nz/videos/2017-healing-repo>

Raupō

<https://www.landcareresearch.co.nz/science/plants-animals-fungi/plants/ethnobotany/weaving-plants/information-sheets/raupo>

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