Örākei Basin Reserve Guide

Much of the shoreline of Ōrākei Basin has been a public reserve since 1934. Recent additions of board walks, bridges and pathways has made this reserve a very popular recreational facility.



Where to start

It is suggested that walkers might like to commence their visit from the Ōrākei railway station that is served by the eastern line train services at 20 minute intervals. As well there is a 781 Bus from Mission Bay and Newmarket. There are at least three cafes close by at Ōrākei Village to satisfy your hunger and thirst before or after your walk.

From the railway station, take the overbridge and turn right to the pathway which runs under the Ōrākei Road Bridge beside the railway and follow the map above. There are many important things to see in this area. Scanning the QR code at the entrance sign will access the online Ōrākei Basin Trail Guide to inform visitors as they walk around the basin. The recreational facilities of the basin include water skiing, boating, small yacht and model yacht sailing and swimming. A detailed history of the basin is given in the 2010 Ōrākei Basin Management Plan.¹

Extracts from this document have been used to compile this guide. Descriptions of native birds to see and the more common planted and regenerating native trees are pictured and described by numbers under "Points of Interest and Native Trees to look for."

Geological History

Ōrākei Basin erupted 120,000 years ago, ejecting ash showers over surrounding areas.² Three Ōrākei Basin boreholes drilled to between 81 and 105 metres in depth, have revealed more about the geological history of Ōrākei Basin which is considered to be a "geological site of national importance".^{3,4}

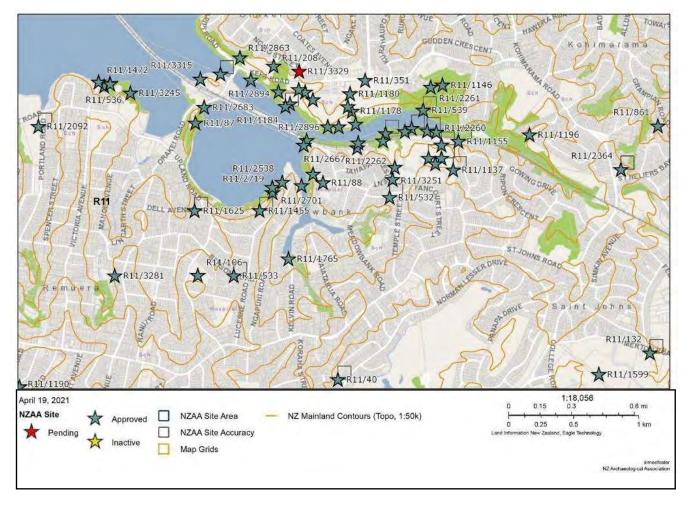
Significant quantities of rhyolitic tephra that erupted from the Taupo Volcanic Zone between 15,000 and 45,000 years ago have accumulated in Ōrākei Basin. (Rhyolite is the fine grained silica material erupted in large quantities from volcanic eruptions, particularly from the Taupo Volcanic Zone. Tephra is the fragmented material produced by a volcanic eruption.)

After it erupted, the crater became a freshwater lake and then a swamp as it filled with mud from Pourewa Creek over the next 75,000 years. When the sea level rose 9,000 years ago, Ōrākei Basin became a salt water lagoon and filled with sandy mud. In the 1920s the railway was built across the basin shutting it off from the tidal flows.

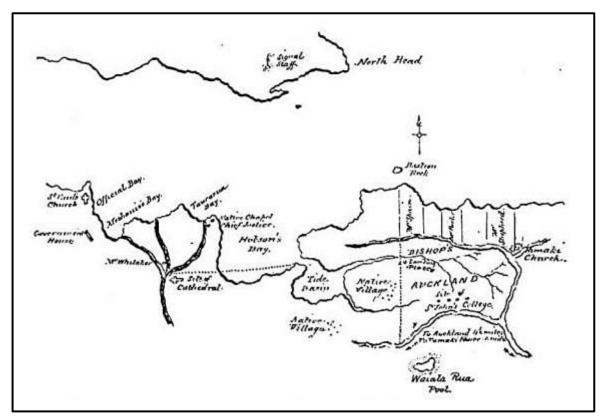
Archaeological Sites

There are at least 14 archaeological sites close to Ōrākei Basin that have been identified and investigated. The area is of great importance archaeologically and extra care must be taken not to disturb sites, many of which are ancient shell middens left by early Māori. It is an offence under the Historic Places Act 1993 for anyone to modify, destroy or damage any site without prior agreement from Heritage New Zealand.

Please note the map below contains data sourced from the New Zealand Archaeological Association ArchSite. The New Zealand Archaeological Association Incorporated gives no warranty in relation to the data (including accuracy, reliability, completeness or suitability) and accepts no liability (including, without limitation, liability in negligence) for any loss, damage or costs relating to any use of the data.



NZ Archaeological Society map of known archaeological sites in Pourewa Valley

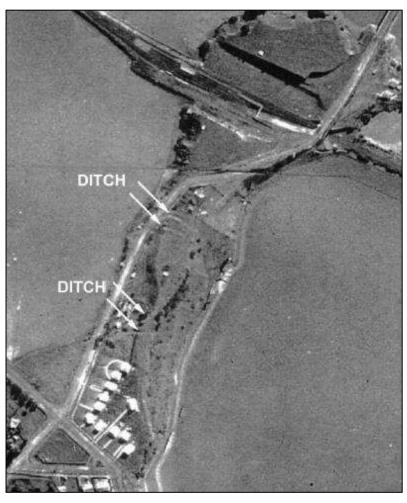


1854 William Bainbridge sketch showing Native Villages close to Ōrākei Basin Bishop's Auckland was the name given to Bishop Selwyn's St John's College farm Auckland Council Ōrākei Basin Management Plan P 58

Ōrākei Peninsula, pictured here, is the narrow strip of land between Ōrākei Road and Ōrākei Basin, south of Ōrākei Railway Station.

It is an important Māori Pā site known as Ōrākei Pā.

Ownership of the land was returned to Ngāti Whātua Ōrākei and leased back to Auckland Council as part of the Ōrākei Basin Reserve.¹



Archaeological investigation of Ōrākei Pā siteAuckland Council Ōrākei Basin Management Plan P 59

History of Land purchases

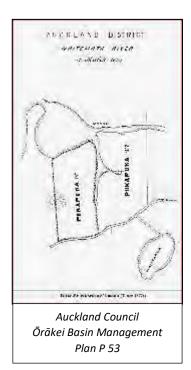
Pukapuka No 1 and 2 blocks were sold to the Crown in 1854, Pukapuka being the Māori name for Ōrākei Creek.

No 1 block of 180 acres was sold by Te Hira Te Kawau, (Āpihai Te Kawau's son) and a few days later Pukapuka No 2 Block was sold by Ngāti Whātua leader, Pāora Tūhaere.

[Āpihai Te Kawau was the Ngāti Whātua Chief who signed the Treaty of Waitangi in 1840 and soon after made 3,000 acres of land available to Governor Hobson for the new settlement of Auckland on the Waitematā Harbour].¹

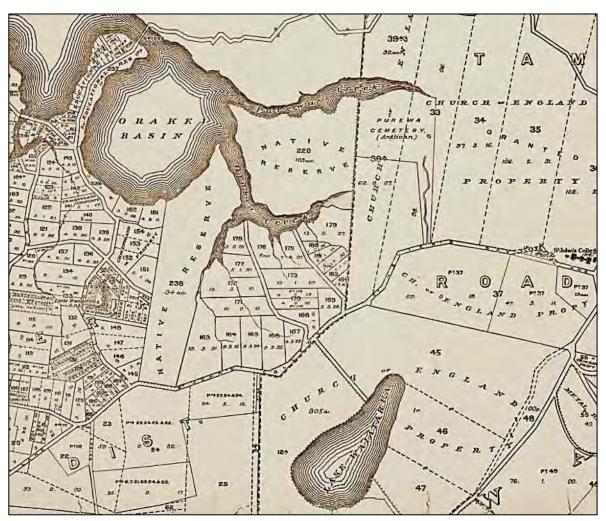
After intervention by Governor George Grey, 94 acres from Pukapuka 1 Block was designated as "Native Reserve 238" which was then leased to James Williamson and Thomas Crummer.⁶

The original Pukapuka No 2 Block was set aside as "Native Reserve" for Ngāti Whātua leader Pāora Tūhaere in 1864 as "Crown Grant 220".6



These two Native Reserves were located on the sites of the Native Villages shown on the William Bainbridge 1854 sketch on the previous page. Bishop Selwyn commented on the villagers being his neighbours, providing him with confidence and goodwill.

The St John's College block is shown as "Bishop's Auckland".



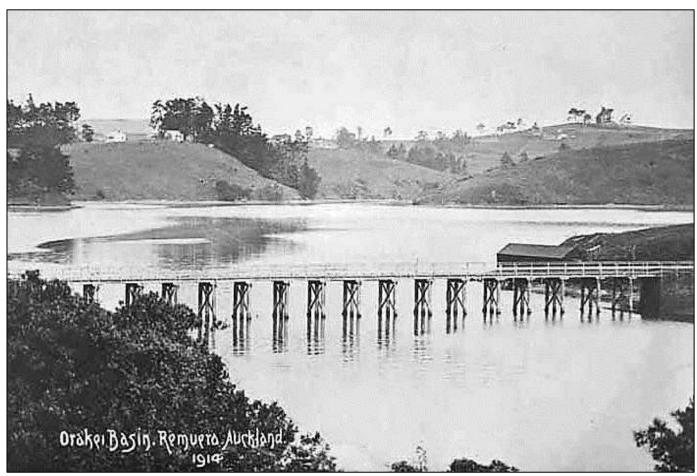
1892 Map showing Native Reserves (Pukapuka 1 & 2) and Educational ReserveAuckland Libraries Heritage Collection NZ Map 4793

Pāora Tūhaere wanted to provide for Ngāti Whātua Ōrākei housing and development programmes from the sale and lease of Māori land. He leased his Pukapuka No 2 Block to local farmer, Methodist Minister and developer Thomas Cheeseman in 1864, who then purchased the land in 1868 for £500.⁶

After the Crown had purchased Māori land, it was then on-sold to European purchasers. Ōrākei Peninsula however was retained initially as a "Sheep Quarantine Reserve" and in 1872 it became "Land for educational purposes".1

At that time, the Government retained 10% of the property sale money to establish Māori schools and hospitals. This fund was not used until 1862, when part of it was taken, not for hospitals or schools, but to build a bridge across the Pourewa Creek between Ōrākei and Remuera.

The Crown met with Ngāti Whātua in 1874 to discuss the allocations made from the fund which included retrospective charges for the Ōrākei Bridge and fund administration. The land designated for "Educational Purposes" was never used in that way!^{6,7}



The first Ōrākei Road Bridge across Pourewa Creek in 1914 before the railway was built

Auckland Libraries Heritage Collections Reference 7-A11221

There were many disputes over the ownership of the land. Ownership of Pukapuka No 1 Block was complex and disputed at an 1890 Māori Land Court hearing. It was determined that the land had been given in 1836 to the Māori King, Te Wherowhero in recognition of his sheltering of Ngāti Whātua people from Ngāpuhi invasions and therefore his descendants were entitled to the ownership.⁸

Although the Ōrākei Peninsula was retained by the Crown "for educational purposes," in 1923 the Railways Department took the northern end for railway construction. It wasn't until 1971 that the railway land was transferred to Auckland City Council who then returned it to Ngāti Whātua as a reserve under a perpetual lease.

The land around the southern shore of Ōrākei Basin was taken as a road reserve in 1934 under the Public Works Act.¹



Ōrākei Basin in 1921 showing mangroves on the southern shoreAuckland Libraries Heritage Collections Record ID 4-5696 J D Richardson photo

On 29 October 1929 control gates were completed near Meadowbank railway station and in August 1930 Auckland City Council leased Ōrākei Basin from Auckland Harbour Board for 50 years. The objective was to turn the basin into an aquatic park allowing for periodic flushing. At that time there was no adequate road access to the basin and the southern shore was covered by a wide stretch of mangroves. As part of a beautification project in 1932, depression relief workers removed mangroves and built a 90m long rock jetty for the use of model boat owners who had a very strong club through the 1930s and 1940s. The grassy picnic area was reclaimed at this time and a 2 kilometre walking track was built around the basin to the 1924 bathing sheds on private property below Lucerne Road. 1



1940 Retrolens aerial picture of the beach and bathing sheds below Lucerne Road¹⁰

Odour problems from Ōrākei Basin

When the railway embankment closed off the basin and gates were installed, natural flushing at each tidal cycle ceased and sediment with organic material from time to time became anoxic (devoid of dissolved oxygen) releasing obnoxious odours. Through the 1940s there were many complaints about odours caused by decomposing algae. The basin became unsafe for swimming.

In the early 2000s foul smells from Ōrākei Basin continued with algal blooms causing many complaints. Although the basin was dredged in 2000 and 2001 with 21,664 cubic metres of sediment being removed, water quality deteriorated. Swimming and fishing became prohibited by the Ōrākei Basin Bylaw 2006. Early in 2019 Ōrākei Local Board called for additional water quality testing when it was found that the water was clear of toxins and toxic algae and therefore safe for swimming. Regular water quality monitoring continues and if there are adverse results the public will be warned. The Auckland Water Ski Club and Auckland Council maintain a regular flushing schedule advising when the gates are opened and closed according to the tides.¹

A large quantity of stormwater flows into the basin through Ōrākei Creek, most coming through a tunnel under Remuera Road from Waiatarua reserve. The Waiatarua drainage area of 679 hectares includes Ellerslie, Greenlane (through a tunnel under Ladies Mile), Stonefields and all the land surrounding the Waiatarua Reserve. In addition, the Meadowbank catchment adds a further 158 hectares. The total annual flow into the basin is estimated 8,650,000 cubic metres.

The tunnel dug in 1918 to drain Lake Waiatarua (Lake St John) and now Waiatarua Reserve, passes under the Remuera Road ridge. Although the wetlands in Waiatarua Reserve are designed to trap silt, inevitably some will discharge to Ōrākei Basin. Sewage overflows from the combined sewer and stormwater system in Meadowbank occur from time to time in adverse weather. This problem is gradually being rectified.



Orakei Basin Walkway

After many years of efforts by local residents and elected representatives, the Orakei Basin board walk, initially from Orakei Road to Meadowbank alongside the railway, was officially opened on 13 December, 2010. The bridge across Orakei Creek, with stairways connecting to Lucerne Road and links to the Auckland Water Ski Club rooms, was completed by December 2012, providing a now very popular 3.45km round basin walk.

Points of Interest, Birds and Native Trees to Look for

Birds at the Basin

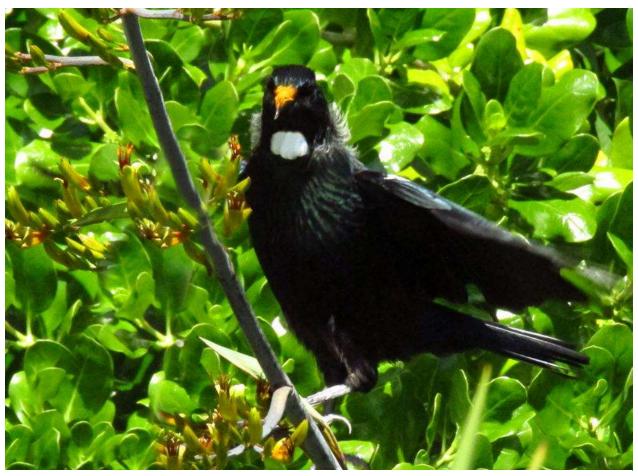
Although there is only a fringe of bush surrounding Ōrākei Basin, it is home to increasing numbers of birds. The Eastern Bays Songbird Project was established in 2017 to significantly increase bird-life in the Eastern Bays region by trapping rats and possums that prey on native birds.

As Rangitoto, Motutapu and Motuihe are now predator free, native birds are breeding on these islands. These birds increasingly fly over to the Eastern Bays region using the vegetation corridors in the region including Ōrākei Basin for nesting.¹¹

We are now seeing more and more native birds in the area. A korimako (bellbird) has been reported at Ōrākei Basin and Waiatarua Reserve. This is the first time bellbirds have been seen in over 100 years. ¹² Kākā are now being seen more frequently around Auckland. In March 2021, a pair of kotuku (Royal Spoonbills) were breeding close to kāruhiruhi (pied shag) colony (pictured below) on an old pine tree near the Orakei Creek Walkway bridges. You could find tūī and kererū feeding on the nectar of flax bushes, other tasty flowers or berries around the basin.



Kāruhiruhi (Pied Shag) colony in August 2021



Tui feeding on Wharariki. (Pormioum Colenso) flax flowers

Photos: Sue La Roche August 2021



Grey Heron seen by pathway December 2021

Learning about New Zealand's Native Trees

New Zealand's native trees are an important feature for us all to appreciate. However native trees are more than just attractive shrubs or trees to identify. They have had many uses, not least to Māori who have used them to cure ailments and for other uses. Te Rongoā is traditional Māori medicine using native plants. These traditional medicine methods have been scientifically investigated and several of the chemicals involved have been identified for their healing properties. However, specialist learning and very many aspects are involved to practice rongoā. Novices should not attempt to use these methods without expert advice. There are many excellent publications on the New Zealand forest trees, birds, insects and fungi. 15, 16, 17, 18

Locations of each plant or tree are indicated on the enlarged maps of each section of the reserve, and by the number on the handrail or a stake beside each plant described below. The examples shown are just a few that should be easy to recognise. Knowing what to look for, you will often find many other examples of the trees pictured as you walk around the basin.



Örākei Basin Board Walk

1 Te Ara Ki Uta Ki Tai - Glen Innes to Tāmaki Drive Shared Path

This Ōrākei Basin Boardwalk bridge alongside the railway embankment is part of the shared pathway for pedestrians and cyclists commencing at Glen Innes.



Ōrākei Basin Boardwalk 2021





Taupata, sometimes known as naupata, is normally a shrub or small tree that can grow up to 8 metres tall.

Large clusters of berries form in May that are attractive eating for birds. There are many related coprosma species.

Another called karamu can be seen at No 4.

Along with other coprosma species, Māori tōhunga would use a wand of green taupata as a cleansing ritual to forestall spiritual contamination or illness.

Early settlers roasted and ground the seed to make coprosma coffee.

Many cultivars with brightly coloured leaves have been developed from this coprosma species. They are popular in private gardens.



3 Karo (Pittosporum crassifolium)

Karo is a common tree growing up to 10 metres tall. It produces small dark red flowers in early spring. Birds are attracted to the nectar and sticky fruit, spreading the sticky black seeds widely. Leaves are grey-green, covered on the underside with fine white hairs.

Māori crushed the seeds to treat sore throats and for hair loss. Karo is often used for hedges or shelter planting because it is very resilient to wind and salt spray.



4 Karamū (Coprosma robusta)

Karamū is a common tree or shrub that can grow up to 6 metres in height. Large clusters of red berries are attractive for birds to eat.

Karamū was important to Māori. The tōhunga would use a wand of green karamū in a cleansing ceremony for infants and baptisms.

Leaves were boiled and the liquid drunk for kidney problems. Scraped off outer bark, when boiled with water, was used for stomach ache and to stop vomiting. Leaves were used to line hāngi pits.

Early settlers roasted and ground the seed to make coprosma coffee and the leaves were used as a substitute for China tea.

5 Māhoe (Melicytus ramiflorus) Whiteywood

Māhoe is a relatively fast growing tree that can reach up to 10 metres in height. Flowers in late spring have a strong,

pleasant fragrance producing small violet coloured berries favoured by kererū and tūī. Māori boiled the leaves to make a liquid that was used to bathe parts of the body affected by rheumatism. Boiled leaves were used to bandage skin surfaces with scabies and to cover stomach wounds. The inner bark was frayed and applied over burns. Māhoe charcoal was used for gunpowder and the black juice made from berries was used for tattooing.





6 Mānawa (Avicennia marina) or Mangrove

Mānawa can grow to a tree of up to 10 metres tall. It is limited to the north of New Zealand, but also grows in many other parts of the world. To allow the tree to gain oxygen, deficient in tidal areas of the marine mud environment, aerial roots up to 20cm in height called pneumatophores are produced under the tree. The

aerial roots provide a habitat for crabs and young fish, also trapping sediment from the land.

Māori gathered food including mullet (kanae), oysters (parore tio), sea snail (karahū) and eel (tuna) from under mānawa trees. Ōrākei Basin had a large area of mānawa on the southern shoreline but these were removed in 1932 and now very few remain.

7 Control Gates

When the railway embankment was built in the 1920s, tidal flows in and out of the basin were severely restricted. In 1929 Auckland City Council installed sluice gates to enable the basin water level to be maintained for water related activities. To flush the basin, the gates are opened at fortnightly intervals and after heavy rain. The gates were renewed in 2010.





8 Harakeke (Phormium tenax) or Flax

Harakeke, unique to New Zealand, is one of our most ancient plant species. Harakeke flowers are an abundant food resource for native birds, particularly $t\bar{u}$.

For Māori the leaves had many uses, particularly in spiritual healing. The blanched base of the leaf or root was beaten to a pulp, heated or roasted, then applied hot to abscesses, tumours or swollen joints. The gum from the base of the leaves was applied to burns, wounds and old sores.



It was taken internally for diarrhoea. Māori had many other uses for harakeke, for making kete (baskets), special forms of weaving as well as to make clothing, matting, baskets and sandals.

Flax fibre was New Zealand's largest export industry in the 19th century.



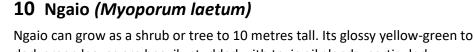
9 Māpou (Myrsine australis) or Red Matipo

Māpou can be a shrub or small tree up to 6 metres tall with bright red twigs bearing wavy yellow-green leaves.

Māpou flowers in clusters during mid-summer producing black fruit that are eaten by birds.

In Māori tradition, māpou is regarded as 'rākau tapu' (sacred tree). Its main use historically was ceremonial. A twig was dipped in sacred water by a tōhunga and sprinkled onto people or objects for cleansing such as baptisms, tangi and for planting kūmara.

The leaves were boiled and the liquid was taken for tooth ache.



dark green leaves are heavily studded with toxic oil glands, particularly poisonous to live stock.

Māori used the bark as a cure for toothache and as an infusion for cuts, bruises and swellings.

The leaves when bruised and warmed to release the oil, make an effective pack for septic wounds. Juice made from ngaio leaves is a good insect repellent for sandflies and mosquitoes.

Meadowbank to Auckland Water Ski Club



11 Tī kōuka or Cabbage Tree (Cordyline australis)

Tī kōuka, cabbage trees are the world's largest member of the lily family. They can grow up to 20 metres in height, flowering from mid-spring.

Māori used cabbage trees as a food, fibre and medicine. The root, inner branched leaves and heart are all edible providing good sources of starch and sugar. The leaves were woven into baskets, sandals, rope, rain capes and other items. An infusion made from the leaves was used to cure diarrhoea and dysentery.

Tī kōuka, since they are generally long-lived, were also planted to mark trails, boundaries, urupā (cemeteries) and births.

Early European settlers used the fireresistant trunk to make chimneys for their huts. They also brewed beer from the root.

12 Wharariki (Phormium colensoi) or (Phormium cookianum)

Wharariki, sometimes called Mountain Flax, has leaves less than 2 metres in length compared to Harakeke, *Phormium tenax*, which has larger leaves usually over 2 metres in length

Wharariki is also known as Phormiun cookianum.

The nectar from the flowers is particularly attractive to $t\bar{u}\bar{\imath}$ and other birds. For Māori, wharariki is a superior taonga fibre that can be woven into soft kete. Because the fibres are shorter than harakeke it was not used for ropes. The mucilage from the bottom of the leaf was used for burns and as a poultice for tumours. There are many cultivars of this species often with different coloured leaves, popular for landscape plantings.



13 Whau (Entelea arborescens)

Māori used the timber as floats for nets and long fibres from the trunk were used for fishing lines. Rafts for coastal fishing were made from seasoned whau lashed together with mānuka poles.

Whau is a fast growing tree that can grow up to 6 metres in height with a trunk up to 25cm in diameter.

Whau's distinctive feature is its extremely light wood, half the weight of cork. The seed pods are covered with long bristles which can germinate after long periods on the ground.



leaves, was applied to burns.

14 Hohere (Hoheria populnea) or Lacebark

Hohere is a fast growing native tree reaching 10 metres in height.

The fibrous inner bark has a lacy texture, hence the name Lacebark. Birds enjoy the nectar from white scented flowers produced from January to March.

Māori used strips of the inner bark for decorative weaving, making kete and head bands.

An infusion from the bark was used for colds. When the bark was soaked in cold water for two days to form a jelly, old people used it to treat sore eyes. The exuding liquid of the inner bark, when mixed with finely cut butts of flax

15 Koromiko (Veronica stricta)

Koromiko is a shrub that is common in coastal locations throughout New Zealand, usually found on the edge of bush and wetland.

It was important to Māori and early settlers for many uses. As a cure for diarrhoea and constipation, a decoction of young leaves was drunk with different strengths for adults and

children. Sometimes five or six leaf tips were ingested to good effect. The leaf buds when chewed slowly were good to control vomiting.

A poultice of bruised tender leaves was used for ulcers and pakiwhara (venereal disease).

Dried leaves were sent to Māori troops

fighting in WW1 and WW2 and the Russian army investigated it for use in the field for dysentery.



16 Karaka (Corynocarpus laevigatus)

Karaka can grow up to 15 metres tall. The flowers are small and greenish, but the large orange fruit produced in summer and autumn are important food for kererū.

Māori often planted karaka near their villages for shade and as an important food source. Although the ripe flesh of the fruit is edible, seed kernels are poisonous until baked and sun dried. Wound healing was promoted by placing the shiny upper surface of leaves over wounds.



17 Tōtara (Podocarpus tōtara)

Tōtara can grow up to 30 metres in height and 2 metres in diameter. Its narrow sharply pointed leaves are up to 30mm long.

Māori referred to Tōtara as 'Rākau Rangatira'— the chiefly tree — as its timber was prized above all others for carving and to make waka (canoes). Smoke from burning tōtara was used to treat paipai, a skin complaint, and for venereal disease in women. The inner bark when boiled with mānuka and kept in a closed bottle for a week was used to treat fever.

Tōtara is hard, straight-grained and very resistant

to rot, especially its heartwood. It was often used for fence posts, floor pilings and railway sleepers.



18 Tītoki (Alectryon excelsus)

Titoki, a fairly common tree can grow to 9 metres tall.

Small purple flowers in spring produce red berries with black seeds that take a year to mature.

By pounding seeds in a flax bag with a club, Māori extracted tītoki oil.

The oil was used to anoint the body and applied to sores, wounds, painful breasts, sore eyes, bruises and painful joints.

Red pulp from the berries was used to relieve blood spitting caused by tuberculosis.

A soft cloth soaked in oil was used for baby's navel (belly button) inflammation.

The fruit and seeds are attractive to birds and possums.

19 Kawakawa (Piper excelsum)

Kawakawa can be seen close to the path in many places. Its heart shaped leaves are often full of holes caused by caterpillars of the kawakawa looper moth (Cleora scriptaria).

The fruit catkins when ripened in January/February are sweet to eat and favoured by kererū and tūī.



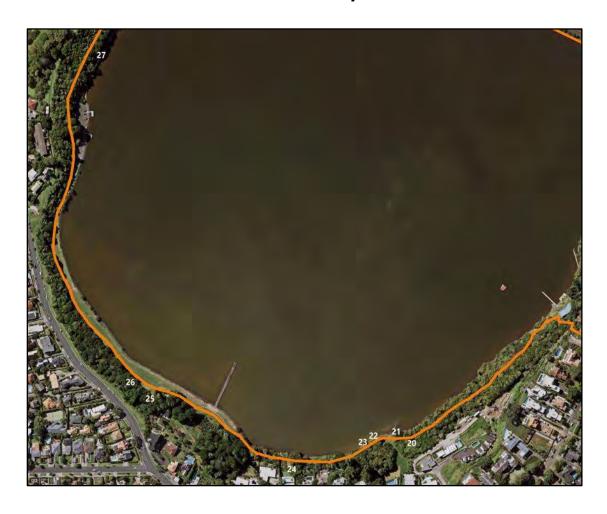
Kawakawa is one of the most important herbs in traditional herbal Māori medicine.

A decoction made from the leaves was used to treat cuts, wounds, skin infections and to relieve toothache.

A branch of kawakawa was used to welcome guests to the marae.

At a tangi, a wreath of leaves was worn on the head.

Auckland Water Ski Club to Access Roadway



20 Tarata (*Pittosporum eugenioides*) or Lemonwood tree

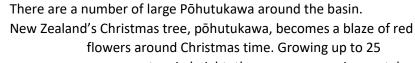
Tarata can grow up to 12 metres in height. The leaves are an oval shape, light green with a wavy edge. It has dense sprays of yellow flowers and small dry fruits that attract the birds. Crushed leaves have a strong lemon smell.

Māori used tarata flowers by mixing with bird fat to make hair oils and perfume to anoint the body.

The resinous gum from the bark was mixed with the juice of pūhā (sow thistle) to make a ball which was chewed for bad breath. The gum made a great glue.



21 Põhutukawa (Metrosideros excelsa)



metres in height, they are common in coastal regions of the North Island. Often multi-trunked they can grow in precarious positions overhanging cliff faces. Pohutukawa have the ability to sprout root systems as and where needed. These are able to grow in air over surfaces as they search for crevices, pockets of soil and moisture.

Pöhutukawa is a sacred tree for Māori; it was from pöhutukawa trees on the cliffs at Te Rēinga,

the northern tip of New Zealand, that spirits of the dead departed this land.

The red of the flowers comes from mythical hero Tāwhaki, who fell to his death from the sky.

An infusion of the inner bark was used for diarrhoea, dysentery, sore throats and wounds.

Pōhutukawa timber, being dense and strong, was used extensively in ship building, particularly to provide curved timber to form strong right-angled knees.

It is a popular garden and street plant.



22 Köhühü (Pittosporum tenuifolium) Black Matipo





Kōhūhū can grow into small trees up to 10 metres in height with dark red flowers forming sticky black seeds.

Māori extracted resin and oils from the leaves for their scent and often mixed with extracts from other trees.

The resin was mixed with the thickened juice of pūhā (Sow Thistle) to chew for bad breath and sores in the mouth. The crushed bark was soaked in water and used to treat breast and chest ailments. Green branches were used in baptism ceremonies and for welcoming visitors to the marae.

Kōhūhū is a popular garden plant as a shrub and for hedges and both in NZ and overseas.

23 Rengarenga (Arthropodium cirratum) Rock Lily

Rengarenga lily is an herbaceous perennial plant that is endemic to New Zealand.

Rengarenga was important to Māori both as a food and as a medicine. As a medicine, the roots were scraped and roasted, then beaten to a pulp and applied warm to unbroken tumours and abscesses. The base of the leaves was used as a poultice for ulcers. As a food, rengarenga was cooked in hāngi ovens. Rengarenga was



likely to have been cultivated by early Māori who used it in time of food scarcity. It was considered sacred to Māori being one of five mauri that possessed the soul of Māori people.

Rengarenga is a popular garden plant that is reasonably hardy for home gardens in dry soil.

24 Nīkau (Rhopalostylis sapida)

These mature nīkau are growing on private property close to the path. You will see young nīkau, probably seeded from bird droppings along the pathway. Nīkau, New Zealand's only native palm, can grow up to 15 metres in height. It flowers between November and April, forming fruit in large clusters off the main trunk.

Kerer \bar{u} and $t\bar{u}\bar{\imath}$ have a great liking for the fruit and help to distribute the seed. Māori found many uses for nīkau. The base of the inner leaves and the young flower clusters were eaten raw or cooked. The inner pith has a mild laxative quality when taken as a drink to treat diarrhoea and dysentery. Food was wrapped in the leaves for cooking in hāngi ovens, and the old fibrous leaves were used for weaving kete (baskets), floor mats, and as waterproof thatch for buildings.



Unfortunately, the fruit of other exotic palms such as Bangalow and Phoenix palms are also attractive to birds, creating an on-going weed problem for reserves such as Kepa Bush.

25 Mānuka (Leptospermum scoparium)

Mānuka, or tea tree, is a common shrub, usually 2 metres to 5 metres in height, but it can grow into a tree of up to 15 metres tall. Mānuka and kānuka are often confused; mānuka leaves are prickly, while kānuka leaves are soft. Mānuka seed capsules are much larger than those of kānuka.

Māori used the water in which bark was boiled as a medicine for inflamed breasts. An infusion of the bark was used as a sedative and to treat burns, while ash from the bark was used to treat skin diseases. Because the wood is hard and durable, it was used for paddles, weapons, spade blades and bird spears.

Captain Cook used the leaves to make tea, but the most important modern use for mānuka is for honey. The anti- bacterial properties are used for wound healing and to sooth sore throats.

The hard wood has often been used for tool handles. Mānuka sawdust, when used to smoke fish and meat, provides delicious flavours.





26 Pūriri (Vitex lucens)

Pūriri can grow up to 20 metres tall.

They have dark green leaves made of three or five wrinkled leaflets, 10mm to 20mm long, radiating from the top of a stalk. Attractive red-pink curved tubular flowers appear from early winter forming bright red berries attractive to birds.

Māori used pūriri for palisades at fighting pā, for weapons and implements. Berries were taken as a laxative. Water from the boiled leaves was used to treat cuts and sores, easing sore throats, bathing sprains and for sore backs.

Due to the timber's rot and borer-resistant properties, there are still many pūriri fence posts 60 to 100 years old. Because the wood is exceptionally hard, a special staple was necessary to attach fencing wire to pūriri posts.

27 Pōhuehue (Muehlenbeckia complexa)

Pōhuehue forms a dense thick mass of tightly interlaced branches, in botanical terms referred to as divaricating. The flowers are

small but delightfully scented producing succulent shiny black fruit.

Both flowers and fruit were an important food source for Māori children in particular.

Birds particularly $t\bar{u}\bar{i}$ and kerer \bar{u} feed on the berries and possums will eat the foliage.

It is an important host for copper butterflies and native aphids.

Pōhuehue is common in coastal regions helping to stabilise sand dunes.

It is often used in home gardens as ground cover and to attract butterflies.



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John La Roche, voluntary author, 2022