

Plant Report

Raukumara Monitoring Sites



Contents

1. Introduction and Purpose – p. 3

2. Site Overview – p. 4

3. Survey Method – p. 5

4. Site Observations

- 4.1 Kahoka – p. 6 – p. 9
- 4.2 Mangatutara – p. 10 – p. 14
- 4.3 Motu – p. 15 – p. 20
- 4.4 Oronui – p. 21 – p. 24
- 4.5 Raukokore – p. 25 – p. 27
- 4.6 Waingakia – p. 28 – p. 31

5. Appendices

- Appendix 1a: Kahoka Native Plant Species List – p. 32-
p.34
- Appendix 1b: Kahoka Pest Plant Species List – p. 34
- Appendix 2a: Mangatutara Native Plant Species List – p.
35 – p. 36
- Appendix 2b: Mangatutara Pest Plant Species List – p.
36
- Appendix 3a: Motu Native Plant Species List – p. 37 – p.
38
- Appendix 3b: Motu Native Plant Species List – p. 39
- Appendix 4a: Oronui Native Plant Species List – p. 40 –
p. 42
- Appendix 4a: Oronui Pest Plant Species List – p. 42

- Appendix 5: Raukokore Species List – p. 43 – p. 45
- Appendix 6: Waingakia Species List – p. 46 – p. 48

1. Introduction and Purpose

The Raukūmara Ranges were once an important kai, Rongoa, kakahu, waka, whakairo and wai cupboard for our tīpuna, who relied on the seasonal abundance of flowers, fruit, and the birds that fed on them. This deep relationship with the ngāhere was guided by seasonal rhythms and sustained by the rich biodiversity of the area.

Since the arrival of pest mammal and plant species, however, our native and endemic flora and fauna have experienced significant decline. Sustained browsing and predation have led to long-term declines in some species regeneration and native populations throughout the Raukūmara.

The remoteness and ruggedness of the ranges have made regular access difficult, and as a result, there has been little sustained pest control happening and considerable information gaps. Especially when it comes to native fauna and overall ecosystem health.

The purpose of this report is to share the plant species we observed and noted while working in the Raukūmara. Since our time at each of the six monitoring sites was limited and our focus was on collecting SRI, RTI and waxtag data, the flora observations are qualitative rather than quantitative which gives presence only and no abundance or health data.

Species presence was recorded opportunistically through observational data. While not a comprehensive survey, this record gives a good snapshot of plant species that can currently be found in the Raukūmara.

The plant lists in this report are representative only and the plant species should not be seen as the only species growing in the Raukūmara, this is just what we came across in the areas that we worked. Future trips will undoubtedly add more plant species to the lists.

It is worth noting that fruit and flowering observations of species was recorded during our trips, along with the time of year. This helps build an understanding of seasonality in the Raukūmara so that we can compare fruit and flowering seasons with the rest of the country and look back through the observational data to compare one year's fruiting to another year and monitor against climate change.

2. Site Overview

This section provides a summary of the six monitoring sites, including elevation ranges, general habitat types, and the areas where plant species have been recorded to date. All six sites sit within the Motu Ecological District, a rugged and ecologically diverse part of the Eastern Bay of Plenty, East Cape and Tairāwhiti regions. The districts are defined by steep terrain, deeply cut river valleys, and a mix of lowland and upland forest types, including sub-alpine habitat. This all contributes to a wide variety of species composition across the Raukūmara ranges.

Site Name	Elevation	Habitat Type
Kahoka	380m – 1165m	Mid-altitude site with diverse terrain. Broadleaf–podocarp forest transitioning to cloud forest at higher elevations. Steep sided river margins, slips are common and large. Some from the riverbed all the way up to ridgetops.
Mangatutara	380m – 1113m	Mid-altitude site with steep terrain. Predominantly broadleaf–podocarp forest, with tawa common in the canopy. Many areas are bare underneath and rocky. Waterways are wide open and exposed in much of the site.
Motu	180m – 1070m	Mid-altitude site with a mix of podocarp forest and riparian margins. Sparse understory present, several pest plant species present along river margin.
Oronui	480m – 1100m	Mid to higher-altitude site with a mix of broadleaf–podocarp forest reaching to sub alpine and potentially lower alpine in some areas.
Raukokore	180m – 815m	Lower altitude site, mixed broadleaf–podocarp forest with mixed understory. Slips are a common occurrence along stream and river edges.
Waingakia	800m – 1374m	High-altitude site characterised by cloud forest and stunted canopy in upper areas. Rich in mosses, ferns, and epiphytes; cooler and wetter conditions prevalent.

3. Survey Method

Plant observations were recorded informally during visits to each of the six Raukūmara monitoring sites between mid - 2024 and early 2025. These visits were primarily for RTI (Residual trap index), and SRI (Seedling ratio index) monitoring so botanical observations were made opportunistically while moving through each block.

The data is qualitative rather than quantitative, and species presence is based on what was seen or noted during fieldwork. While not a full vegetation survey, the lists provide a useful snapshot of the plant species currently present in the areas we worked. Fruiting, flowering, weed presence, and browse observations were noted where possible and have been included in each site summary.

4. Site Observations

The following is a more in-depth look at each monitoring site and the plant species observed there.

Kahoka Site observations



Note: Slip in the main Kahoka River 24.01.2025

Elevation: 380m – 1165m

Last Visit: Jan 23 – Jan 24 2025

Habitat Summary:

Kahoka is a mid to higher altitude site ranging from 380m to 1165m. The site includes steep-sided riverbanks that are actively eroding, with slips occurring throughout, with some extending from ridge tops right down to the riverbed. Several cliff faces are present along the main river and support healthy native plant populations.

Forest composition transitions from broadleaf-podocarp forest along the river flats and lower slopes to beech-dominated forest near the ridgelines. Higher up, the terrain flattens out with some areas having steep-sided gullies and guts that are often shaded and cooler.

The understory varies significantly across the block. In some areas, dense tangles of supplejack are present, while other areas have only patchy vegetation or lack an understorey altogether. Kahoka is generally a colder, damper site, particularly in sheltered upper elevation areas.



Note: Pikopiko growing along river margin in upper Kahoka river, showing some sign of browse.
24.01.2025

Species Observations:

Below is a list of species observed in the Kahoka survey area. This is a representative selection only. The full plant species list can be found in Appendix 1.

Māori Name	Species Name	Life form	Relative abundance	Notes
Rimu	<i>Dacrydium cupressinum</i>	Tree	Common	Common but sporadically growing across the block from lower altitude to ridge tops.
Pirita	<i>Ripogonum scandens</i>	Climber	Abundant	Abundant and growing in thickets in damp gullies and shaded areas. Made moving through some areas difficult.
Horoeka	<i>Pseudopanax crassifolius</i>	Tree	Common	Commonly seen as seedlings and understory saplings throughout the block. Common but scattered.
Kōhūhū	<i>Pittosporum tenuifolium</i>	Small tree/ shrub	Common	Commonly spotted as seedlings and saplings but very few healthy mature trees spotted in the block and those that were seen were not in good health.
Neinei	<i>Dracophyllum latifolium</i>	Shrub	Uncommon	Uncommon and rarely seen across the block as it usually occurs at higher elevation. Many of the seedlings and younger plants were heavily browsed
Puka	<i>Griselinia lucida</i>	Epiphyte/ tree/ shrub	Uncommon	Commonly seen as epiphytes, small and large.
				Common along the bottom of slopes, showed some sign

Ongaonga	<i>Urtica ferox</i>	Shrub	Common	of browse. Several red admiral/ kahukura were spotted on the ongaonga plants.
Hūpiro	<i>Coprosma foetidissima</i>	Shrub	Common	Common in damp areas, no signs of browse.
Rautawhiri	<i>Pittosporum colensoi</i>	Shrub	Rare	A single plant found in a side creek just down from camp growing on a rock face in a hard to reach area. Heavily browsed by possums and half the tree was dead.
Kawakawa	<i>Piper excelsum</i>	Shrub	Common	Many plants seen downstream of camp, in shaded areas along the river edges. Ranged in size from seedlings to mature plants.

Note: This list is just a snapshot of what was observed while we were in the block. Many of these species are also found at other sites, but this list reflects what stood out or was most visible during our visit.

Kahoka Site Reflections:

Kahoka is another site that would benefit from more dedicated time for plant observations to continue building the species list. During the most recent visit, only a single day was available for botanical work, and the block's size and multiple water crossings made thorough exploration challenging.

Several species were observed in flower or fruit during this visit. Heketara (*Olearia rani*) was in heavy bloom, its white flowers standing out against the green canopy. Other species noted as fruiting or flowering included (but were not limited to) maruru, purei, mikoikoi, niniao, perching lily, and raupeka. Tawa was fruiting heavily during the last site visit.

Mangatutara Site observations:



Note: Milky Creek monitoring area, kakaho plants in full flower. 06.11.2024

Elevation: 380m – 1113m

Last Visit: Nov 7 – Nov 8 2024

Habitat Summary:

Mangatutara is a distinctive site formed around two main ridges that flank Milky Creek, with Lake Mangatutara at the upper end of the block and the Mangatutara River at the lower end. The valley between the ridges is wide, with visible erosion particularly pronounced toward the headwaters.

From the old streambed up to around 100 m in elevation, the terrain is steep and unstable, consisting of rocky shingle and exposed dirt. Vegetation in these areas is sparse, and the understorey is often absent or heavily suppressed due to dense shading from a mature tawa canopy.

The block presents both logistical challenges and ecological interest, with significant variation in slope stability and canopy composition across relatively short distances.



Note: Solanum aviculare growing on hut edge, 8.11.2024

Species Observations:

Below is a list of species observed in the Mangatutara survey area. This is a representative selection only. The full plant species list can be found in Appendix 2.

Māori Name	Species Name	Life form	Relative abundance	Notes
Pohuehue	<i>Muehlenbeckia australis</i>	Climber	Common	Common climber found along forest margins, some browsing noted as well as damage to plants by animals moving through.
Tawhirikaro	<i>Pittosporum cornifolium</i>	Shrub/ Epiphyte	Uncommon	Extremely uncommon, found two individual plants. One on a fallen rimu and another up the canopy of a standing rimu.
Poroporo	<i>Solanum aviculare</i>	Shrub	Rare	Rarely seen across the site, large individual growing in the hut clearing, though signs of deer browse obvious. Plant was in full flower during last visit.
Kaikomako	<i>Pennantia corymbosa</i>	Small tree/ shrub	Uncommon	Common along old river flats in the Milky creek, growing in amongst tutu plants, browse noted along lower sections of larger trees and the larger trees looked 'trimmed' from the constant deer browse.
Kiekie	<i>Freycinetia banksii</i>	Climber	Common	Common throughout the block, commonly browsed as well. Very few plants seen that were not browsed. No flowers spotted

				and no old fruit seen either.
Turepo	<i>Paratrophis microphylla</i>	Shrub	Uncommon	Several small saplings spotted between the riverbed and 100m elevation along a slope in the main Mangatutara river. No larger specimens spotted.
Tataramoa	<i>Rubus schmidelioides</i>	Climber	Uncommon	Spotted two individual plants growing along open ground over grass, both were on old river terraces. Plants were quite small with one main trailing stem.
Winika	<i>Dendrobium cunninghamii</i>	Epiphyte	Common	Common epiphyte orchid spotted throughout the block. Little to no browsing and individual plants were large and healthy.
Lowland horopito	<i>Pseudowintera axillaris</i>	Shrub/ Small Tree	Common	Common understory species in cooler, shaded areas. Little to no browsing spotted on any individual plants.
Tawa	<i>Beilschmiedia tawa</i>	Tree	Common	Mature canopy species, common across the block. More common along the lower half of slopes. Bare understory usually, heavy fruit this year.

Note: This list is just a snapshot of what was observed while we were in the block. Many of these species are also found at other sites, but this list reflects what stood out or was most visible during our visit.

Mangatutara Site Reflections:

During the most recent site visit in 2024, very few plants were observed in flower or fruit. Kōhūhū and mānono were both fruiting, with immature seed pods and fruit noted on several individuals across the site.

Poroporo was seen flowering in the hut clearing. The plant appeared healthy, with minimal evidence of browse.

Mangatutara is a complex site with a wide range of terrain and vegetation types, but the steep lower slopes, erosion-prone ground, and dense canopy in places make plant observations challenging. Much of the understorey was absent or patchy, particularly under the mature tawa canopy.

As with other sites, additional time dedicated to plant monitoring would help strengthen the species list for this block. Areas around Milky Creek and the lake margins would benefit from more thorough exploration on future visits.

Motu Site observations:



Note: Looking across the Motu River towards the back of Houpoto. 19.03.2025

Elevation: 180m – 1070m

Last Visit: Mar 19 – Mar 20 2025

Habitat Summary:

The Motu monitoring site spans steep-sided river and stream banks that are highly prone to erosion. The riverbed varies from wide and stony to narrow and bedrock-lined, with loose scree dominating many lower elevation slopes. Higher up, the terrain flattens into terraces and ridges.

Vegetation structure shifts with elevation: broadleaf forest dominates the lower slopes and stream margins, transitioning into broadleaf–podocarp forest on the mid slopes, and into beech forest along the ridge tops.

A major feature of this site is the high presence of pest plant species. Twelve exotic species have been recorded so far, many of which appear to be spreading downstream from Matawai via the Motu River. Infestations are particularly common along river margins, slips, disturbed ground, and track edges. Species observed include *Cotoneaster coriaceus*, *Selaginella kraussiana*, *Ulex europaeus*, *Hypericum androsaemum*, *Juglans ailantifolia*, and others. These species pose a serious threat to native vegetation, especially in regenerating or recently disturbed areas.



Note: Japanese walnut spotted growing just up river of the monitoring area. 19.03.2025

Species Observations:

The following table lists exotic plant species observed at the Motu site. These species were recorded during survey work and, as with the recorded native plant species, represent only what was observed while carrying out other monitoring tasks. This is not a complete inventory but highlights the range of pest species currently present at the site.

Common Name	Species Name	Impact	Habitat
African clubmoss	<i>Selaginella kraussiana</i>	Invades forest floor and inhibits new growth.	Tolerates a wide range of areas but favours damp, moist areas.
Late cotoneaster	<i>Cotoneaster coriaceus</i>	Spreads quickly, produce abundant seed, long lived.	Found often in dry shrubland and along forest margins.
Japanese walnut	<i>Juglans ailantifolia</i>	Grows to a canopy tree, long lived, forms dense thickets.	Disturbed forest and river/ stream margins.
Purple umbrella sedge	<i>Cyperus congestus</i>	Spreads easily and grows quickly, outcompeting native <i>Cyperus</i> species.	Damp areas, river edges, swamps, ditches. Can also be found in drier areas.
Jointed rush	<i>Juncus articulatus</i>	Produces a lot of seed and spreads quickly, forming dense patches.	Damp areas, river and stream margins.
Black nightshade	<i>Solanum nigrum</i>	Low impact, though spreads quickly and produces a lot of viable seed.	Grass lands, bare soil, slips and sandy river/ stream edges.
Yarrow	<i>Achillea millefolium</i>	Can spread by seed or rhizomes. Tolerant of browsing.	River edges, sandy areas, clearings, pasture.
Mullein	<i>Verbascum thapsus</i>	Produces a lot of seed, spreads and grows quickly.	Pasture, slips, clearings, bare land.
Mexican daisy	<i>Erigeron karvinskianus</i>	Grows in dense mats, produces a lot of seed, versatile.	Bushland, stream and river margins, cliff faces, bare land, sand dunes.
Tutsan	<i>Hypericum androsaemum</i>	Produces a lot of seed, grows quickly, long lived, outcompetes native plants.	Bare land, slips, rocky areas, river margins.
Gorse	<i>Ulex europaeus</i>	Produces a lot of seed, grows quickly, can grow in many places and tolerates a range of temperatures.	Shrubland, forest edges, dunes, wetlands, bare land, slips.

Note: This list is just a snapshot of what was observed while we were in the block. Many of these species are also found at other sites, but this list reflects what stood out or was most visible during our visit.



Note: Raupeka (Earina autumnalis) flowering during the last site visit. 19.03.2025

Below is a list of species observed in the Motu survey area. This is a representative selection only. The full plant species list can be found in Appendix 3.

Māori Name	Species Name	Life form	Relative abundance	Notes
Manono	<i>Coprosma grandifolia</i>	Shrub	Common	Healthy population of mānono noted in the Motu area. Little to no browse seen on any of the plants.
Pikopiko	<i>Asplenium bulbiferum</i>	Fern	Common	Small plants widespread throughout the block, though very few mature plants seen. Browse

				noted on larger plants.
Poataniwha	<i>Melicope simplex</i>	Shrub	Uncommon	Rarely seen plant, should be more common but only a half dozen observed growing in hard-to-reach areas.
Kaihua	<i>Parsonia heterophylla</i>	Climber	Uncommon	Seen commonly in areas where deer could not reach and occasionally growing up the side of larger trees.
Tawhero	<i>Pterophylla racemosa</i>	Tree	Abundant	Common species in Motu, no browse noted.
Rengarenga	<i>Arthropodium cirratum</i>	Herb	Uncommon	Several small plants spotted growing along the top of rock faces. Some slug and snail damage noted but otherwise healthy individual plants.
Porokaiwhiri	<i>Hedycarya arborea</i>	Tree	Common	Heavily fruiting at the time of SRI visit to site. Bright orange fruits on the ground.
Common broom	<i>Carmichaelia australis</i>	Shrub	Uncommon	Very few individual plants spotted and of those observed several were being outcompeted by pasture weeds and other introduced pest plant species. Showed signs of heavy browsing.
Putaputawetā	<i>Carpodetus serratus</i>	Tree	Common	Common species growing through much of the block. Population is healthy and none showed signs of browse.
				Several plants seen throughout

Tātārāmoa	<i>Rubus cissoides</i>	Climber	Uncommon	the block but very few in total. Plants appeared healthy.
-----------	------------------------	---------	----------	---

Note: This list is just a snapshot of what was observed while we were in the block. Many of these species are also found at other sites, but this list reflects what stood out or was most visible during our visit.

Motu Site Reflections:

The Motu monitoring site has the highest number of introduced pest plant species recorded to date. This is likely due to the Motu River running through farmland at Matawai, allowing pest plant seeds to be carried downstream into the monitoring area and beyond. The Motu river also has the most river traffic of all monitoring sites with little to no biosecurity being carried out in the past, this may be a recommendation that is strongly suggested to companies if they are not already doing this.

More time should be allocated for plant exploration on future trips into Motu. The river bisects the site and makes navigation challenging, so exploratory routes should be carefully planned to make the most of time on the ground.

Due to the time of year the team visited; few native species were fruiting. However, kakahō, manono, karamū, and māhoe were still bearing fruit. Tutsan was also heavily in fruit and has become widespread across the site, particularly on old and new slip scars and in many cases appearing to replace tutu in these open, disturbed areas.

Oronui Site observations:



Note: Looking at the wider Oronui block from the hut. 04.11.2024

Elevation: 460m–1100 m

Last Visit: Feb 12 – Feb 13 2025

Habitat Summary:

Oronui is a mid to higher altitude site spanning broadleaf-podocarp forest through to subalpine zones, with some areas potentially transitioning into lower alpine vegetation. The site features steep, rocky terrain, cooler temperatures and two main waterways with many tributaries.

Canopy species include rimu, rewarewa, totara and red beech, while higher elevations show more cold tolerant species with slightly stunted growth forms and flora often found in cooler climates. These species include mountain toatoa, carpet heath, *Brachyglottis bidwillii* and *Gaultheria rupestris*.



Note: Palatable plant species growing amongst fern and vine on the forest floor. 05.11.2024

Species Observations:

Below is a list of species observed in the Oronui survey area. This is a representative selection only. The full plant species list can be found in Appendix 4.

Māori Name	Species Name	Life form	Relative abundance	Notes
Kākāho	<i>Austroderia fulvida</i>	Grass	Scattered	Scattered across fresh slips. Will be competing with ragwort and pampas.
Kōwhai	<i>Sophora microphylla</i>	Tree	Scattered	Scattered, one large tree seen with many seedlings' underneath. Healthy canopy. Many seeds found intact
Raukawa	<i>Raukawa edgerleyi</i>	Tree	Scattered	Several large trees found scattered across the site. Many seedlings as epiphytes seen also.
	<i>Pseudopanax laetus</i>	Tree	Rare	Two large trees growing on an old river terrace. No seedlings found. Canopy recovering after 1080 treatment.
Rōhutu	<i>Neomyrtus pedunculata</i>	Shrub	Common	Common as an understory plant.
Northern rātā	<i>Metrosideros robusta</i>	Tree	Common	Common canopy tree, many large trees spotted across the block with healthy crowns crown after 1080 treatment.
Mountain toatoa	<i>Phyllocladus toatoa</i>	Tree	Common	Common throughout the block at higher elevation.
Manono	<i>Coprosma grandifolia</i>	Shrub	Common	Common in areas that are difficult for deer to access, river margins etc. Healthy crowns after 1080 treatment. Fruited

				heavily during last visit.
Kahikatea	<i>Dacrycarpus dacrydioides</i>	Tree	Scattered	Found in damp areas throughout the block, though the population is scattered.
Patē	<i>Schefflera digitata</i>	Tree	Common	Common along stream edges and river margins. Crowns are recovering since 1080 treatment. Fruiting this year was heavy.
Hall's tōtara	<i>Podocarpus laetus</i>	Tree	Common	Common throughout the block, large trees had shown signs of heavy browse, but crowns are regenerating. Seedlings scattered across the block.

Note: This list is just a snapshot of what was observed while we were in the block. Many of these species are also found at other sites, but this list reflects what stood out or was most visible during our visit.

Oronui Site Reflections:

Flowering across many broadleaf species was especially impressive this year, with heavy flowering observed in hīnau, manono, patē, māhoe, porokaiwhiri, piritā, kōwhai, karamū, and several of the rātā vine *Schefflera*. These records reflect only what was seen during our visits and do not represent a full account of species in flower this year, as we were not in the block for much of the flowering season.

Given the intensity of flowering, it's likely that fruiting was also abundant across the site. On visits that followed the flowering period, it was clear that many species had successfully pollinated and set fruit. Hīnau fruit were visible on trees around the Oronui hut, and piritā fruited in abundance. The bright red berries stood out clearly during site visits. Kakahō (*Austroderia fulvida*) also produced a heavy seed crop; on one visit, seed was being carried on the wind in such quantity that it resembled dust.

During visits prior to the 1080 drop, it was rare to find intact seed within the humus layer. Seed that had fallen was often either absent or partially consumed by rats. Since the drop, however, intact seed has been much easier to find when scratching through the humus, and very few (if any) rat caches were observed.

Raukokore Site observations:



Note: Looking downriver towards Te Kumi flats from the Raukokore camp site. 13.11.2024

Elevation: 180m – 815m

Last Visit: Nov 12 – Nov 14 2024

Habitat Summary:

Raukokore is a lower altitude site ranging from 180m to 814m, with a mix of broadleaf-podocarp forest and a diverse range of plant species recorded. The terrain includes old river terraces, riverbeds, and long low ridges that rise into lower montane forest.

Slips are common along river and stream edges, creating open areas where fast-growing native species can establish. However, on several recent slips, pest plant species have outcompeted natives and now dominate some of these slip scars.

Canopy species commonly observed include rimu, hīnau, tawa, and rewarewa. The understorey is patchy across the block, with some pockets of dense vegetation, particularly in sheltered gullies and near waterways. Pirita is abundant in these areas, and widespread signs of erosion and slip disturbance continue to shape the vegetation dynamics across the site.

Species Observations:

Below is a list of species observed in the Raukokore survey area. This is a representative selection only. The full plant species list can be found in Appendix 5.

Māori Name	Species Name	Life form	Relative abundance	Notes
Kawaka	<i>Libocedrus plumosa</i>	Tree/ Conifer	Abundant at lower altitude, scattered in higher altitude	Plants mostly found at lower altitudes along the Raukokore river. Heavy deer browse noted on many of the smaller trees.
Houhere	<i>Hoheria sexstylosa</i>	Tree	Scattered	Uncommon and scattered throughout the site. Individual plants seen were healthy with little browse noted.
Kōtukutuku	<i>Fuchsia excorticata</i>	Tree	Common	A locally abundant species, growing in cool, damp areas that are shaded. Browse was obvious on larger trees, many smaller seedlings growing where deer control has been undertaken.
Hīnau	<i>Elaeocarpus dentatus</i>	Tree	Abundant	Abundant across the block with a heavy flowering noted with season.
Makomako	<i>Aristotelia serrata</i>	Shrub	Common	Abundant across the block, growing along river margins and in steep areas where deer and possums cannot reach it.
Mataī	<i>Prumnopitys taxifolia</i>	Tree	Common	Common species and noted often throughout the understory.
Tōtara	<i>Podocarpus totara</i>	Tree	Common	Common species in the block, found at lower altitudes and replaces with Hall's tōtara at higher altitudes.

Peretao	<i>Blechnum colensoi</i>	Fern	Scattered	An uncommon fern species found growing on rock faces along river margins.
Miro	<i>Pectinopitys ferruginea</i>	Tree	Abundant	An abundant species across the block, many fruit noticed on the ground with kererū feasting.
Winika	<i>Dendrobium cunninghamii</i>	Epiphyte	Common	A common epiphytic orchid species, often identified or noted when walking through the block.

Note: This list is just a snapshot of what was observed while we were in the block. Many of these species are also found at other sites, but this list reflects what stood out or was most visible during our visit.



Note: Tāwheowheo in flower in Raukokore.

Raukokore Site Reflections:

During one of the team's visits into Raukokore the abundance of flowers on hīnau, the abundance of tawa fruit and the abundance of kiekie fruit were noted. During the last SRI trip into Raukokore in November 2024 the abundance of hīnau flowers, tawa berries and kiekie fruit was noted as well as heavy seed present on a species of *Poa*.

Waingakia Site observations:



Note: Bare understory with less palatable plant species near line 1 on Waingakia. 10.03.2025

Elevation: 800m – 1374m

Last Visit: Mar 10 – Mar 12 2025

Habitat Summary:

Waingakia is the highest altitude of the 6 monitoring sites sitting at 800m to 1374m elevation, with vegetation transitioning from upper montane forest into subalpine and lower alpine zones. The site is consistently cooler with wet conditions, frequent cloud cover, and a high abundance of mosses that still cover the ground in some areas.

In the lower parts of the site, forests are dominated by broadleaf species such as silver beech (*Lophozonia menziesii*), red beech, makomako and mingimingi (*Leucopogon fasciculatus*), with podocarps like miro and rimu scattered throughout. The understory in these areas is diverse, supporting a mix of shrubs, ferns, and small trees.

As elevation increases, the canopy becomes more stunted and broken, with transitions into open, mossy forest and pockets of higher montane to subalpine shrubland. Mountain species such as mountain five-finger, mountain horopito, and toi become more prominent near the upper limits of the site.



Note: A wetland area on the top of Waingakia ridge, 11.03.2025

Species Observations:

Below is a list of species observed in the Waingakia survey area. This is a representative selection only. The full plant species list can be found in Appendix 6.

Māori Name	Species Name	Life form	Relative abundance	Notes
Kōhurangi	<i>Brachyglottis kirkii</i>	Shrub/ epiphyte	Rare	An extremely palatable species that was only observed once in the monitoring site, growing as an epiphyte.
Wavy leaf coprosma	<i>Coprosma tenuifolia</i>	Tree	Common	A common species found throughout the Raukūmara but especially in Waingakia. Plants showing signs of possum browse/
Small Kiokio	<i>Blechnum procerum</i>	Fern	Abundant	A small, hard fern that is abundant from the lowest to

				highest elevations in Waingakia.
Toropapa	<i>Alseuosmia pusilla</i>	Shrub	Common	A common species throughout the site from seedling to mature plants.
Tawhai	<i>Lophozonia menziesii</i>	Tree	Abundant	Common higher altitude species.
Weeping Mapou	<i>Myrsine divaricata</i>	Shrub	Common	Common understory species in areas that were steep and more difficult for deer to access.
Toi	<i>Cordyline indivisa</i>	Tree	Common	Higher altitude plant that was seen irregularly during the surveys. Large, healthy crowns.
Mountain five finger	<i>Pseudopanax colensoi</i>	Tree	Common	A common species observed throughout Waingakia.
Heruheru	<i>Leptopteris superba</i>	Fern	Abundant	Abundant throughout Waingakia from 1000m to 1374m, it was not observed at lower elevation.
Mountain Horopito	<i>Pseudowintera colorata</i>	Shrub	Common	Abundant understory species with minimal to no browse observed.

Note: This list is just a snapshot of what was observed while we were in the block. Many of these species are also found at other sites, but this list reflects what stood out or was most visible during our visit.

Waingakia Site Reflections:

Waingakia is a higher-altitude monitoring site that deserves more time for exploration. As the only block of the 6 sites in the Raukūmara at this elevation, it likely holds a wider range of plant species than what has been recorded to date.

During SRI and RTI survey work, the team came across a high montane wetland — a rare habitat type in this region. Because of time constraints and other field priorities, the surrounding area was not thoroughly explored.

In situations like this, it would benefit the project, iwi, and the Department if time could be set aside for additional botanical survey work or be set aside during future field survey work. A more

in-depth look could help identify species of interest and build a more complete picture of the biodiversity present at this unique site.

During the SRI field survey, limited observations were made on fruiting and flowering due to weather conditions and time constraints. However, toropapa (*Alseuosmia pusilla*) was found in full fruit, which made the species easier to detect — a useful observation, as it can be difficult to locate when not in fruit or flower.

Raupeka appeared to be undergoing heavy flowering, with several large individuals observed in full bloom during the survey.

Conclusion

The Raukūmara Ranges continue to support a wide array of native plant species despite limited pest control in recent decades. Based on observations to date, each monitoring block shows a diverse mix of plant life, including populations of at-risk or less common species. These early observations suggest that while pressures from browsing pest animals is ongoing there is still some resilience when it comes to plant communities.

Across all six monitoring sites the one thing that stood out was the heavy flowering season that many of the species had, which resulted in heavy fruiting and more seeds on the ground left untouched. These signs may suggest that, in some parts of the monitoring sites, conditions are currently favourable for plant regeneration even if browsing pressures continue, and even if this pattern proves to be limited to a single season.

Pest plants are becoming an issue that need to be monitored across all six monitoring sites, particularly in Motu. The continued spread highlights the need for consistent biosecurity from those accessing the areas and in particular organizations that access Motu frequently. Though many of the pest plant species found in the Motu have been washed down from further upstream and wider conversations are needed to curb the ongoing spread and establishment of pest plant species in the area.

These records represent a starting point, a snapshot of plant species present at a particular time. Focused botanical surveys and systematic plant records are still lacking across much of the Raukūmara. While it's not always realistic to dedicate full days to plant work during each monitoring trip, setting aside even a single day for botanical observations would strengthen the understanding of these sites over time. There is currently no structured method for surveying each block, but when larger teams are present, I want to recommend taking time to note plant species across a range of elevations, aspects, and habitats. This approach would allow us to steadily build a more complete picture of the flora across the Raukūmara with each return visit and even begin to create a more accurate fruit and flowering calendar for this part of the country.

Appendix 1a – Kahoka Native Plant Species List

Common name	Botanic name
Akapuka	<i>Griselinia lucida</i>
Akatea	<i>Metrosideros perforata</i>
Akepiro	<i>Olearia furfuraceae</i>
Bush rice grass	<i>Microlaena avecinifolia</i>
Fleshy tree orchid	<i>Drymoanthus adversus</i>
Hall's totara	<i>Podocarpus laetus</i>
Hangehange	<i>Geniostoma ligustrifolium</i>
Hanging spleenwort	<i>Asplenium flaccidum</i>
Harakeke	<i>Phormium tenax</i>
Heketara	<i>Olearia rani</i>
Hīnau	<i>Elaeocarpus dentatus</i>
Horoeka	<i>Pseudopanax crassifolius</i>
Horopito	<i>Pseudowintera axillaris</i>
Horopito	<i>Pseudowintera colorata</i>
Houhere	<i>Hoheria sexstylosa</i>
Hūpiro	<i>Coprosma foetidissima</i>
Huruhuruwhenua	<i>Asplenium oblongifolium</i>
Kahakaha	<i>Astelia hastata</i>
Kahikatea	<i>Dacrycarpus dacrydioides</i>
Kakaha	<i>Astelia fragrans</i>
Kākaho	<i>Austroderia fulvida</i>
Kāpuka	<i>Griselinia littoralis</i>
Karamū	<i>Coprosma lucida</i>
Karamū	<i>Coprosma robusta</i>
Kawakawa	<i>Piper excelsa</i>
Kiekie	<i>Freycinetia banksii</i>
Kiokio	<i>Blechnum novae-zelandiae</i>
Kiwikiwi	<i>Cranfillia fluviatilis</i>
Kōhūhū	<i>Pittosporum tenuifolium</i>
Kohurangi	<i>Brachyglottis kirkii</i>
Koromiko	<i>Veronica stricta</i>
Kōtukutuku	<i>Fuchsia excorticata</i>
Kowaowao	<i>Microsorium pustulatum</i>
Kōwharawhara	<i>Astelia solandri</i>
Leather leaf fern	<i>Pyrrosia eleagnifolia</i>
Māhoe	<i>Melicytus ramiflorus</i>
Makomako	<i>Aristotelia serrata</i>
Mamaku	<i>Cyathea medullaris</i>
Manono	<i>Coprosma grandifolia</i>
Māpere	<i>Gahnia setifolia</i>
Mapou/ matipo	<i>Myrsine australis</i>
Maruru	<i>Ranunculus reflexus</i>
Matai	<i>Prumnopitys taxifolia</i>

Mikimiki	<i>Coprosma linariifolia</i>
Mikoikoi	<i>Libertia grandiflora</i>
Mingimingi	<i>Coprosma rhamnoides</i>
Mingimingi	<i>Leucopogon fasciculatus</i>
Miro	<i>Pectinopitys ferruginea</i>
Mokimoki	<i>Microsorium scandens</i>
Neinei	<i>Dracophyllum latifolium</i>
Niniaio	<i>Helichrysum lanceolatum</i>
Northern Rātā	<i>Metrosideros robusta</i>
Ongaonga	<i>Urtica sykesii</i>
Ongaonga	<i>Urtica ferox</i>
Panakenake	<i>Lobelia angulata</i>
Pate	<i>Schefflera digitata</i>
Peka-a-waka	<i>Earina mucronata</i>
Petako	<i>Asplenium polyodon</i>
Pikiarero	<i>Clematis forsteri</i>
Pikopiko	<i>Asplenium bulbiferum</i>
Piripiri	<i>Acaena anserinifolia</i>
Piripiri	<i>Hymenophyllum sanguinolentum</i>
Pirita	<i>Ripogonum scandens</i>
Piupiu	<i>Pakau pennigera</i>
Poa	<i>Poa anceps</i>
Ponga	<i>Cyathea dealbata</i>
Porokaiwhiri	<i>Hedycarya arborea</i>
Puawananga	<i>Clematis paniculata</i>
Putaputaweta	<i>Carpodetus serratus</i>
Rangiora	<i>Brachyglottis repanda</i>
Rātā	<i>Metrosideros diffusa</i>
Raupeka	<i>Earina autumnalis</i>
Raurenga	<i>Hymenophyllum nephrophyllum</i>
Rengarenga	<i>Arthropodium cirratum</i>
Rereti	<i>Blechnum chambersii</i>
Rimu	<i>Dacrydium cupressinum</i>
Rōhutu	<i>Neomyrtus pendunculata</i>
Shaking brake	<i>Pteris tremula</i>
Tataramoa	<i>Rubus cissoides</i>
Taupeka	<i>Notogrammitis heterophylla</i>
Taurepo	<i>Rhabdothamnus solandri</i>
Tawa	<i>Beilschmeidia tawa</i>
Tawheowheo	<i>Quintinia serrata</i>
Tawhero	<i>Pterophylla racemosa</i>
Tāwiniwini	<i>Gaultheria antipoda</i>
Tī ngahere	<i>Cordyline banksii</i>
Tītoki	<i>Alectryon excelsa</i>
Toropapa	<i>Alseuosmia pusilla</i>
Tutu	<i>Coriaria arborea</i>

Whare Ngārara	<i>Loxogramme dictyopteris</i>
	<i>Polystichum wawranum</i>
	<i>Coprosma spathulata</i>
	<i>Adiantum cunninghamii</i>
	<i>Gunnera monoica</i>
	<i>Jovellana sinclairii</i>
	<i>Anaphallioides trinervis</i>
	<i>Hypolepis ambigua</i>
	<i>Coprosma tenuifolia</i>
	<i>Nertera villosa</i>
	<i>Rumohra adiantiformis</i>

Appendix 1b – Kahoka Pest Plant Species List

Common name	<i>Botanic name</i>
Butterfly bush	<i>Buddleja davidii</i>
Herb Robert	<i>Geranium robertianum</i>
Ragwort	<i>Jacobaea vulgaris</i>
Scotch Thistle	<i>Cirsium vulgare</i>

Appendix 2a – Mangatutara Native Plant Species List

Common name	Species name
Akakura	<i>Metrosideros fulgens</i>
Beadplant willowherb	<i>Epilobium nerteroides</i>
Button fern	<i>Pallaea rotundifolia</i>
Comb fern	<i>Notogrammitis heterophylla</i>
Crepe fern	<i>Leptopteris hymenophylloides</i>
Crown fern	<i>Lomaria discolor</i>
Drooping filmy fern	<i>Hymenophyllum demissum</i>
Drooping spleenwort	<i>Asplenium flaccidum</i>
Fleshy tree orchid	<i>Drymoanthus adversus</i>
Hairy fern	<i>Lastreopsis hispida</i>
Heketara	<i>Olearia rani</i>
Houhere	<i>Hoheria sexstylosa</i>
Huruhuruwhenua	<i>Asplenium oblongifolium</i>
Kahikatea	<i>Dacrycarpus dacrydioides</i>
Kaikomako	<i>Pennantia corymbosa</i>
Kakaho	<i>Austroderia fulvida</i>
Kiekie	<i>Freycinetia banksii</i>
Kiokio	<i>Blechnum novae-zelandiae</i>
Kiwakiwa	<i>Cranfillia fluviatilis</i>
Kohuhu	<i>Pittosporum tenuifolium</i>
Leptinella	<i>Leptinella squalida</i>
Lowland horopito	<i>Pseudowintera axillaris</i>
Mahoe	<i>Melicytus ramiflorus</i>
Makomako	<i>Aristotelia serrata</i>
Manono	<i>Coprosma grandifolia</i>
Mapou	<i>Myrsine australis</i>
Matai	<i>Prumnopitys taxifolia</i>
Matua mauku	<i>Hymenophyllum dilatatum</i>
Mingimini	<i>Leucopogon fasciculatus</i>
Miro	<i>Prumnopitys ferruginea</i>
Mountain horopito	<i>Pseudowintera colorata</i>
Panakenake	<i>Lobelia angulata</i>
Papauma	<i>Griselinia littoralis</i>
Pikopiko	<i>Asplenium bulbiferum</i>
Pohuehue	<i>Muehlenbeckia australis</i>
Poroporo	<i>Solanum aviculare</i>
Prickly shield fern	<i>Polystichum vestitum</i>
Puawananga	<i>Clematis paniculata</i>
Pygmy tree orchid	<i>Bulbophyllum pygmaeum</i>
Rangiora	<i>Brachyglottis repanda</i>
Rata	<i>Metrosideros diffusa</i>
Rata	<i>Metrosideros perforata</i>
Raupeka	<i>Earina autumnalis</i>

Raurenga	<i>Hymenophyllum nephrophyllum</i>
Rimu	<i>Dacrydium cupressinum</i>
Rohutu	<i>Neomyrtis pedunculata</i>
Shaking brake	<i>Pteris tremula</i>
Shining karamu	<i>Coprosma lucida</i>
Sickle spleenwort	<i>Asplenium polyodon</i>
Syke's bush nettle	<i>Urtica sykesii</i>
Tataramoa	<i>Rubus cissoides</i>
Tataramoa	<i>Rubus schmidelioides</i>
Tawa	<i>Beilschmiedia tawa</i>
Tawhero	<i>Weinmannia racemosa</i>
Tawhirikaro	<i>Pittosporum cornifolium</i>
Totara	<i>Podocarpus totara</i>
Turepo	<i>Paratrophis microphylla</i>
Twiggy coprosma	<i>Coprosma rhamnoides</i>
Veined bristle-fern	<i>Trichomanes venosum</i>
Wavy leaved coprosma	<i>Coprosma tenuifolia</i>
Whauwhaupaku	<i>Pseudopanax arboreus</i>
Winika	<i>Dendrobium cunninghamii</i>
	<i>Alseuosmia pusilla</i>
	<i>Coprosma dumosa</i>
	<i>Hydrocotyle microphylla</i>
	<i>Jovellana repens</i>

Appendix 2b – Mangatutara Pest Plant Species List

Common name	Species name
Pampas	<i>Cortaderia selloana</i>

Appendix 3a – Motu Native Plant Species List

Common Name	Botanic Name
Akakura	<i>Metrosideros diffusa</i>
Akatawhiwhi	<i>Metrosideros fulgens</i>
Aruhe	<i>Pteridium esculentum</i>
Bush Rice Grass	<i>Ehrharta diplax</i>
Gully fern	<i>Pakau pennigera</i>
Hangehange	<i>Geniostoma ligustrifolium</i>
Harakeke	<i>Phormium tenax</i>
Heketara	<i>Olearia rani</i>
Heketara	<i>Pseudopanax crassifolius</i>
Heruheru	<i>Leptopteris hymenophylloides</i>
Hinau	<i>Elaeocarpus dentatus</i>
Horopito	<i>Pseudowintera axillaris</i>
Huruhuruwhenua	<i>Asplenium oblongifolium</i>
Kahikatea	<i>Dacrycarpus dacrydioides</i>
Kakaha	<i>Astelia hastata</i>
Kakaho	<i>Austroderia fulvida</i>
Kanuka	<i>Kunzea ericoides</i>
Karamu	<i>Coprosma lucida</i>
Katote	<i>Cyathea smithii</i>
Kawakawa	<i>Piper excelsa</i>
Kiekie	<i>Freycinetia banksii</i>
Kiokio	<i>Blechnum novae-zelandiae</i>
Kohuhu	<i>Pittosporum tenuifolium</i>
Koromiko	<i>Veronica stricta</i>
Kotukutuku	<i>Fuchsia excorticata</i>
Kowaowao	<i>Microsorium pustulatum</i>
Leather leaf fern	<i>Pyrrosia eleagnifolia</i>
Mahoe	<i>Melicytus ramiflorus</i>
Makawe o Hineraukatauri	<i>Asplenium flaccidum</i>
Makomako	<i>Aristotelia serrata</i>
Mamaku	<i>Cyathea medullaris</i>
Manono	<i>Coprosma grandifolia</i>
Mapere	<i>Gahnia setifolia</i>
Mapou	<i>Myrsine australis</i>
Maruru	<i>Ranunculus reflexus</i>
Mingimingi	<i>Leucopogon fasciculatus</i>
Mingimingi	<i>Coprosma rhamnoides</i>
Miro	<i>Prumnopitys ferruginea</i>
Nikau	<i>Rhopalostylis sapida</i>
Niniaio	<i>Helichrysum lanceolatum</i>
Northern Rata	<i>Metrosideros robusta</i>
Pate	<i>Schefflera digitata</i>
Peka-a-waka	<i>Earina mucronata</i>
Pikopiko	<i>Asplenium bulbiferum</i>
Piripiri	<i>Acaena anserinifolia</i>
Pirita	<i>Ripogonum scandens</i>
Piupiu	<i>Lomaria discolor</i>

Poataniwha	<i>Melicope simplex</i>
Pohuehue	<i>Muehlenbeckia australis</i>
Ponga	<i>Cyathea dealbata</i>
Porokaiwhiri	<i>Hedycarya arborea</i>
Puawananga	<i>Clematis paniculata</i>
Puka	<i>Griselinia lucida</i>
Pukatea	<i>Laurelia novae-zealandiae</i>
Putaputaweta	<i>Carpodetus serratus</i>
Rangiora	<i>Brachyglottis repanda</i>
Raupeka	<i>Earina autumnalis</i>
Rengarenga	<i>Arthropodium cirratum</i>
Rewarewa	<i>Knightia excelsa</i>
Rimu	<i>Dacrydium cupressinum</i>
Tanekaha	<i>Phyllocladus trichomanoides</i>
Tataramoa	<i>Rubus cissoides</i>
Tawa	<i>Beilschmiedia tawa</i>
Tawhero	<i>Weinmannia racemosa</i>
Ti Ngahere	<i>Cordyline banksii</i>
Turutu	<i>Dianella nigra</i>
Tutu	<i>Coriaria arborea</i>
Wavy leaf Coprosma	<i>Coprosma tenuifolium</i>
Wheki	<i>Dicksonia squarrosa</i>
Winika	<i>Dendrobium cunninghamii</i>
	<i>Adiantum cunninhamii</i>
	<i>Adiantum hispidulum</i>
	<i>Astelia fragrans</i>
	<i>Astelia solandri</i>
	<i>Blechnum chambersii</i>
	<i>Blechnum filiformis</i>
	<i>Bulbophyllum pygmaeum</i>
	<i>Carmichaelia australis</i>
	<i>Clematis forsteri</i>
	<i>Coprosma macrocarpa</i>
	<i>Cyperus ustulatus</i>
	<i>Gunnera monoica</i>
	<i>Hymenophyllum dilatatum</i>
	<i>Hymenophyllum multifidum</i>
	<i>Hymenophyllum nephrophyllum</i>
	<i>Hypolepis ambigua</i>
	<i>Jovellana repens</i>
	<i>Lastreopsis hispida</i>
	<i>Lycopodium volubile</i>
	<i>Microsorum scandens</i>
	<i>Nertera depressa</i>
	<i>Oplismenus hirtellus</i>
	<i>Parsonsia heterophylla</i>
	<i>Polystichum wawranum</i>
	<i>Tmesipteris elongata</i>
	<i>Viola cunninghamii</i>

Appendix 3b – Motu Pest Plant Species List

Common name	<i>Species name</i>
African Clubmoss	<i>Selaginella kraussiana</i>
Cotoneaster	<i>Cotoneaster coriaceus</i>
Gorse	<i>Ulex europaeus</i>
Himalayan Fairy Grass	<i>Miscanthus nepalensis</i>
Japanese Walnut	<i>Juglans ailantifolia</i>
Jointed Rush	<i>Juncus articulatus</i>
Mexican Daisy	<i>Erigeron karvinskianus</i>
Mint	<i>Mentha sp</i>
Pampas	<i>Cortaderia selloana</i>
Purple Pampas	<i>Cortaderia jubata</i>
Purple Umbrella Sedge	<i>Cyperus congestus</i>
Tutsan	<i>Hypericum androsaemum</i>
Willow	<i>Salix sp</i>
Woolly Mullein	<i>Verbascum thapsus</i>
Yarrow	<i>Achillea millefolium</i>

Appendix 4a – Oronui Native Plant Species List

Common Name	Botanic Name
Akatea	<i>Metrosideros diffusa</i>
Aruhe	<i>Pteridium esculentum</i>
Black maire	<i>Nestegis cunninghamii</i>
Bush rice grass	<i>Ehrharta diplax</i>
Carpet heath	<i>Pentachondra pumila</i>
Climbing clubmoss	<i>Lycopodium volubile</i>
Comb fern	<i>Notogrammitis heterophylla</i>
Common pig fern	<i>Hypolepis ambigua</i>
Common strap fern	<i>Notogrammitis billardierei</i>
Cotton daisy	<i>Clemisia spectabilis</i>
Crepe fern	<i>Leptopteris hymenophylloides</i>
Crown fern	<i>Lomaria discolor</i>
Drooping filmy fern	<i>Hymenophyllum demissum</i>
Fleshy tree orchid	<i>Drymoanthus adversus</i>
Fork fern	<i>Tmesipteris tannensis</i>
Fruiting duckweed	<i>Nertera depressa</i>
Gully fern	<i>Pakau pennigera</i>
Hairy fern	<i>Lastreopsis hispida</i>
Hall's totara	<i>Podocarpus laetus</i>
Hard beech	<i>Fuscospora truncata</i>
Heketara	<i>Olearia rani</i>
Horoeka	<i>Pseudopanax crassifolius</i>
Hupiro	<i>Coprosma foetidissima</i>
Huruhuruwhenua	<i>Asplenium oblongifolium</i>
Kahikatea	<i>Dacrycarpus dacrydioides</i>
Kaihua	<i>Parsonsia heterophylla</i>
Karamu	<i>Coprosma robusta</i>
Karamu	<i>Coprosma lucida</i>
Katote	<i>Cyathea smithii</i>
Kawakawa	<i>Piper excelsum</i>
Kiekie	<i>Freycinetia banksii</i>
Kiokio	<i>Blechnum novae-zelandiae</i>
Kiwakiwa	<i>Cranfillia fluviatilis</i>
Kohuhu	<i>Pittosporum tenuifolium</i>
Koromiko	<i>Veronica stricta</i>
Kowaowao	<i>Microsorium pustulatum</i>
Leather leaf fern	<i>Pyrrosia eleagnifolia</i>
Leatherleaf fern	<i>Rumohra adiantiformis</i>
Lowland horopito	<i>Pseudowintera axillaris</i>
Mahoe	<i>Melicytus ramiflorus</i>
Makomako	<i>Aristotelia serrata</i>
Mamaku	<i>Cyathea medullaris</i>
Manono	<i>Coprosma grandifolia</i>

Matai	<i>Prumnopitys taxifolia</i>
Matai	<i>Histiopteris incisa</i>
Matua mauku	<i>Hymenophyllum dilatatum</i>
Miro	<i>Prumnopitys ferruginea</i>
Mountain toatoa	<i>Phyllocladus alpinus</i>
Much-divided filmy fern	<i>Hymenophyllum multifidum</i>
Neinei	<i>Dracophyllum latifolium</i>
New Zealand eyebright	<i>Euphrasia cuneata</i>
New Zealand mountain greenhood	<i>Pterostylis montana</i>
New Zealand pennywort	<i>Hydrocotyle novae-zelandiae</i>
Panakenake	<i>Lobelia angulata</i>
Papauma	<i>Griselinia littoralis</i>
Pate	<i>Schefflera digitata</i>
Peka-a-waka	<i>Earina mucronata</i>
Pikopiko	<i>Asplenium bulbiferum</i>
Piripiri	<i>Hymenophyllum sanguinolentum</i>
Piripiri	<i>Acaena anserinifolia</i>
Pirita	<i>Ripogonum scandens</i>
Pohuehue	<i>Muehlenbeckia australis</i>
Porokaiwhiri	<i>Hedycarya arborea</i>
Prickly shield fern	<i>Polystichum vestitum</i>
Puka	<i>Griselinia lucida</i>
Pukatea	<i>Laurelia novae-zelandiae</i>
Putaputaweta	<i>Carpodetus serraus</i>
Pygmy tree orchid	<i>Bulbophyllum pygmaeum</i>
Raukawa	<i>Raukawa edgerleyi</i>
Raupeka	<i>Earina autumnalis</i>
Raurenga	<i>Hymenophyllum nephrophyllum</i>
Razoe sedge	<i>Gahnia setifolia</i>
Rereti	<i>Blechnum chambersii</i>
Rewarewa	<i>Knightia excelsa</i>
Rimu	<i>Dacrydium cupressinum</i>
Ring fern	<i>Paesia scaberula</i>
Rohutu	<i>Neomyrtus pedunculata</i>
Scrambling pohuehue	<i>Muehlenbeckia complexa</i>
Shaking brake	<i>Pteris tremula</i>
Sickle spleenwort	<i>Asplenium polyodon</i>
Silver beech	<i>Lophozonia menziesii</i>
Small leaved kowhai	<i>Sophora microphylla</i>
Snowdrop woodsorrel	<i>Oxalis magellanica</i>
Tataramoa	<i>Rubus cissoides</i>
Tawa	<i>Beilschmiedia tawa</i>
Tawari	<i>Ixerba brexoides</i>
Tawhairaunui	<i>Fuscospora fusca</i>
Tawheowheo	<i>Quintinia serrata</i>
Tawhero	<i>Weinmannia racemosa</i>

Titoki	<i>Alectryon excelsa</i>
Toatoa	<i>Phyllocladus toatao</i>
Toro	<i>Myrsine salicina</i>
Tutukiwi	<i>Pterostylis banksii</i>
Veined bristle-fern	<i>Trichomanes venosum</i>
Wavy leaves coprosma	<i>Coprosma tenuifolia</i>
Wheki	<i>Dicksonia squarrosa</i>
Wiwi	<i>Juncus edgariae</i>
	<i>Adiantum cunninghamii</i>
	<i>Brachyglottis bidwillii</i>
	<i>Coprosma linariifolia</i>
	<i>Gaultheria rupestris</i>
	<i>Hymenophyllum bivalve</i>
	<i>Livertia micrantha</i>
	<i>Microsorium novae-zelandiae</i>

Appendix 4b – Oronui Pest Plant Species List

Common Name	Botanic Name
Australian bluebell	<i>Wahlenbergia gracilis</i>
Black Nightshade	<i>Solanum nigrum</i>
Butterfly Bush	<i>Buddleja davidii</i>
Pampas	<i>Cortaderia selloana</i>
Ragwort	<i>Jacobaea vulgaris</i>
Woolly Mullein	<i>Verbascum Thapsus</i>

Appendix 5 – Raukokore Native Plant Species List

Common Name	Botanic Name
Akakura	<i>Metrosideros fulgens</i>
Bush rice grass	<i>Ehrharta diplax</i>
Button fern	<i>Pellaea rotundifolia</i>
Climbing clubmoss	<i>Lycopodium volubile</i>
Comb fern	<i>Notogrammitis heterophylla</i>
Crepe fern	<i>Leptopteris hymenophylloides</i>
Crown fern	<i>Lomaria discolor</i>
Cudweed	<i>Anaphalioides trinervis</i>
Dancing spider orchid	<i>Corybas acuminatus</i>
Droopin filmy fern	<i>Hymenophyllum demissum</i>
Drooping spleenwort	<i>Asplenium flaccidum</i>
Fleshy tree orchid	<i>Drymoanthus advenus</i>
Fork fern	<i>Tmesipteris tannensis</i>
Gully fern	<i>Pakau pennigera</i>
Hairy fern	<i>Lastreopsis hispida</i>
Hall's totara	<i>Podocarpus laetus</i>
Hangehange	<i>Geniostoma ligustrifolium</i>
Heketara	<i>Olearia rani</i>
Hinau	<i>Elaeocarpus dentatus</i>
Houhere	<i>Hoheria sexstylosa</i>
Kahikatea	<i>Dacrycarpus dacrydioides</i>
Katote	<i>Cyathea smithii</i>
Kawaka	<i>Libocedrus plumosa</i>
Kawakawa	<i>Piper excelsum</i>
Kiekie	<i>Freycinetia banksii</i>
Kohuhu	<i>Pittosporum tenuifolium</i>
Kotukutuku	<i>Fuchsia excorticata</i>
Lance fern	<i>Loxogramme dictyopteris</i>
Leather leaf fern	<i>Pyrrosia eleagnifolia</i>
Leatherleaf fern	<i>Rumohra adiantiformis</i>
Leptinella	<i>Leptinella squalida</i>
Little hard fern	<i>Blechnum penna-marina</i>
Lowland horopito	<i>Pseudowintera axillaris</i>
Mahoe	<i>Melicytus ramiflorus</i>
Makomako	<i>Aristotelia serrata</i>
Manono	<i>Coprosma grandifolia</i>
Maruru	<i>Ranunculus reflexus</i>
Matai	<i>Prumnopitys taxifolia</i>
Matua mauku	<i>Hymenophyllum dilatatum</i>
Mikoikoi	<i>Libertia grandiflora</i>
Miro	<i>Prumnopitys ferruginea</i>
Much-divided filmy fern	<i>Hymenophyllum multifidum</i>
New Zealand mountain greenhood	<i>Pterostylis montana</i>
New Zealand pennywort	<i>Hydrocotyle novae-zeelandiae</i>
Nikau	<i>Rhopalostylis sapida</i>

Northern rata	<i>Metrosideros robusta</i>
Panakenake	<i>Lobelia angulata</i>
Pate	<i>Schefflera digitata</i>
Peka-a-waka	<i>Earina mucronata</i>
Perchind lily	<i>Astelia solandri</i>
Peretao	<i>Blechnum colensoi</i>
Pikopiko	<i>Asplenium bulbiferum</i>
Piripiri	<i>Hymenophyllum sanguinolentum</i>
Piripiri	<i>Acaena anserinifolia</i>
Pohuehue	<i>Muehlenbeckia australis</i>
Pokaka	<i>Elaeocarpus hookerianus</i>
Puawananga	<i>Clematis paniculata</i>
Puka	<i>Griselinia lucida</i>
Pukatea	<i>Laurelia novae-zelandiae</i>
Putaputaweta	<i>Carpodetus serratus</i>
Pygmy tree orchid	<i>Bulbophyllum pygmaeum</i>
Rangiora	<i>Brachyglottis repanda</i>
Rata	<i>Metrosideros diffusa</i>
Raukawa	<i>Raukawa edgerleyi</i>
Raupeka	<i>Earina autumnalis</i>
Raurenga	<i>Hymenophyllum nephrophyllum</i>
Razor sedge	<i>Gahnia setifolia</i>
Rengarenga	<i>Arthropodium cirratum</i>
Rereti	<i>Blechnum chambersii</i>
Rewarewa	<i>Knightia excelsa</i>
Rimu	<i>Dacrydium cupressinum</i>
Ring fern	<i>Paesia scaberula</i>
Rough filmy fern	<i>Hymenophyllum scabrum</i>
Shaking brake	<i>Pteris tremula</i>
Shining karamu	<i>Coprosma lucida</i>
Sickle spleenwort	<i>Asplenium polyodon</i>
Smooth shield fern	<i>Parapolytichum glabellatum</i>
Syke's bush nettle	<i>Urtica syksii</i>
Tank lily	<i>Astelia hastata</i>
Tataramoa	<i>Rubus cissoides</i>
Tawa	<i>Beilschmiedia tawa</i>
Tawari	<i>Ixerba brexoides</i>
Tawheowheo	<i>Quintinia serrata</i>
Tawhero	<i>Weinmannia racemosa</i>
Ti ngahere	<i>Cordyline banksii</i>
Toro	<i>Myrsine salicina</i>
Totara	<i>Podocarpus totara</i>
Tuhara	<i>Machaerina sinclairii</i>
Twiggy coprosma	<i>Coprosma rhamnoides</i>
Umbrella fern	<i>Sticherus cunninghamii</i>
Wavy filmy fern	<i>Hymenophyllum flexuosum</i>
Waxweed pennywort	<i>Hydrocotyle heteromeria</i>
Wharariki	<i>Phormium cookianum</i>
White maire	<i>Nestegis cunninghamii</i>
Winika	<i>Dendrobium cunninghamii</i>

Wiwi	<i>Juncus edgariae</i>
Yellow wood	<i>Coprosma linariifolia</i>
	<i>Adiantum cunninghamii</i>
	<i>Corybas hatchii</i>
	<i>Epilobium pubens</i>
	<i>Gunnera monoica</i>
	<i>Hydrocotyle microphylla</i>
	<i>Libertia micrantha</i>
	<i>Polystichum wawranum</i>
	<i>Tmesipteris elongata</i>

Appendix 6 – Waingakia Species Plant List

Common Name	Botanic Name
Akakura	<i>Metrosideros fulgens</i>
Bush rice grass	<i>Ehrharta diplax</i>
Button fern	<i>Pellaea rotundifolia</i>
Climbing clubmoss	<i>Lycopodium volubile</i>
Comb fern	<i>Notogrammitis heterophylla</i>
Crepe fern	<i>Leptopteris hymenophylloides</i>
Crown fern	<i>Lomaria discolor</i>
Cudweed	<i>Anaphalioides trinervis</i>
Dancing spider orchid	<i>Corybas acuminatus</i>
Droopin filmy fern	<i>Hymenophyllum demissum</i>
Drooping spleenwort	<i>Asplenium flaccidum</i>
Fleshy tree orchid	<i>Drymoanthus advenus</i>
Fork fern	<i>Tmesipteris tannensis</i>
Gully fern	<i>Pakau pennigera</i>
Hairy fern	<i>Lastreopsis hispida</i>
Hall's totara	<i>Podocarpus laetus</i>
Hangehange	<i>Geniostoma ligustrifolium</i>
Heketara	<i>Olearia rani</i>
Hinau	<i>Elaeocarpus dentatus</i>
Houhere	<i>Hoheria sexstylosa</i>
Kahikatea	<i>Dacrycarpus dacrydioides</i>
Kakaho	<i>Austroderia fulvida</i>
Katote	<i>Cyathea smithii</i>
Kawaka	<i>Libocedrus plumosa</i>
Kawakawa	<i>Piper excelsum</i>
Kiekie	<i>Freycinetia banksii</i>
Kohuhu	<i>Pittosporum tenuifolium</i>
Kohurangi	<i>Brachyglottis kirkii</i>
Kotukutuku	<i>Fuchsia excorticata</i>
Lance fern	<i>Loxogramme dictyopteris</i>
Lantern Berry	<i>Luzuriaga parviflora</i>
Leather leaf fern	<i>Pyrrosia eleagnifolia</i>
Leatherleaf fern	<i>Rumohra adiantiformis</i>
Leptinella	<i>Leptinella squalida</i>
Little hard fern	<i>Blechnum penna-marina</i>
Lowland horopito	<i>Pseudowintera axillaris</i>
Mahoe	<i>Melicytus ramiflorus</i>
Makomako	<i>Aristotelia serrata</i>
Manono	<i>Coprosma grandifolia</i>
Maruru	<i>Ranunculus reflexus</i>
Matai	<i>Prumnopitys taxifolia</i>
Matua mauku	<i>Hymenophyllum dilatatum</i>
Mikoikoi	<i>Libertia grandiflora</i>
Miro	<i>Prumnopitys ferruginea</i>
Mountain fivefinger	<i>Pseudopanax colensoi</i>
Mountain Horopito	<i>Pseudowintera colorata</i>
Much-divided filmy fern	<i>Hymenophyllum multifidum</i>

New Zealand mountain greenhood	<i>Pterostylis montana</i>
New Zealand pennywort	<i>Hydrocotyle novae-zeelandiae</i>
Nikau	<i>Rhopalostylis sapida</i>
Northern rata	<i>Metrosideros robusta</i>
Ongaonga	<i>Urtica ferox</i>
Panakenake	<i>Lobelia angulata</i>
Pate	<i>Schefflera digitata</i>
Peka-a-waka	<i>Earina mucronata</i>
Perchind lily	<i>Astelia solandri</i>
Peretao	<i>Blechnum colensoi</i>
Pikopiko	<i>Asplenium bulbiferum</i>
Piripiri	<i>Hymenophyllum sanguinolentum</i>
Piripiri	<i>Acaena anserinifolia</i>
Pohuehue	<i>Muehlenbeckia australis</i>
Pokaka	<i>Elaeocarpus hookerianus</i>
Puawananga	<i>Clematis paniculata</i>
Puka	<i>Griselinia lucida</i>
Pukatea	<i>Laurelia novae-zelandiae</i>
Putaputaweta	<i>Carpodetus serratus</i>
Pygmy tree orchid	<i>Bulbophyllum pygmaeum</i>
Rangiora	<i>Brachyglottis repanda</i>
Rata	<i>Metrosideros diffusa</i>
Raukawa	<i>Raukawa edgerleyi</i>
Raupeka	<i>Earina autumnalis</i>
Raurenga	<i>Hymenophyllum nephrophyllum</i>
Razor sedge	<i>Gahnia setifolia</i>
Rengarenga	<i>Arthropodium cirratum</i>
Rereti	<i>Blechnum chambersii</i>
Rewarewa	<i>Knightia excelsa</i>
Rimu	<i>Dacrydium cupressinum</i>
Ring fern	<i>Paesia scaberula</i>
Rough filmy fern	<i>Hymenophyllum scabrum</i>
Silver Fern	<i>Cyathea dealbata</i>
Shaking brake	<i>Pteris tremula</i>
Shining karamu	<i>Coprosma lucida</i>
Sickle spleenwort	<i>Asplenium polyodon</i>
Smooth shield fern	<i>Parapolystichum glabellatum</i>
Syke's bush nettle	<i>Urtica syksii</i>
Tank lily	<i>Astelia hastata</i>
Tataramoa	<i>Rubus cissoides</i>
Tawari	<i>Ixerba brexoides</i>
Tawhai	<i>Lophozonia menziesii</i>
Tawhairaunui	<i>Fuscospora fusca</i>
Tawheowheo	<i>Quintinia serrata</i>
Tawhero	<i>Weinmannia racemosa</i>
Ti ngahere	<i>Cordyline banksii</i>
Toi	<i>Cordyline indivisa</i>
Toro	<i>Myrsine salicina</i>
Totara	<i>Podocarpus totara</i>
Tuhara	<i>Machaerina sinclairii</i>

Twiggy coprosma	<i>Coprosma rhamnoides</i>
Umbrella fern	<i>Sticherus cunninghamii</i>
Wavy filmy fern	<i>Hymenophyllum flexuosum</i>
Waxweed pennywort	<i>Hydrocotyle heteromeria</i>
Wharariki	<i>Phormium cookianum</i>
White maire	<i>Nestegis cunninghamii</i>
Winika	<i>Dendrobium cunninghamii</i>
Wiwi	<i>Juncus edgariae</i>
Yellow wood	<i>Coprosma linariifolia</i>
	<i>Adiantum cunninghamii</i>
	<i>Corybas hatchii</i>
	<i>Epilobium pubens</i>
	<i>Gunnera monoica</i>

