

Planting Guide for Lower Waikato River

Ngaruawahia to Tamahere



This planting guide is designed to assist anyone undertaking ecological restoration along the Waikato River from Ngaruawahia, through Hamilton and south to Tamahere. It is the third in a series of three guides covering the stretch of river from just south of Hamilton out to the sea. There is a fourth guide for the Waipa River from Whatawhata to Ngaruawahia before it joins the Waikato River.

The species lists are not intended to be a comprehensive description of the primeval forests along the rivers but a simplified recipe for the reconstruction of natural patterns and processes based on the practical knowledge and experience of plant growers involved in ecological restoration. It is worth remembering that ecological restoration is not usually a one-off activity but may require a number of interventions in order to restore natural patterns and processes. Restoring less common species may require specialist advice.

3. Planting guide for Lower Waikato River – Ngaruawahia to Tamahere

This section of the river from Ngaruawahia to just south of Hamilton city has a mix of landforms from steep ignimbrite cliffs to sandy/pumice river terraces with numerous springs and seeps. Three zones are recognised depending on the steepness of terrain and whether the area is subject to annual flooding. Each zone has its own assemblage of plants grouped into five categories – colonisers; canopy trees; understory shrubs; grasses sedges, ferns and ground covers; and climbers and epiphytes.

A representative range of species for each of the five categories is included in order that something resembling the natural structure of a forest can be restored. An indication is provided as to the total number of plants of each category (not individual species) that might be planted in a 100 square metre (10 x 10m) section in each of three situations - open ground, established cover and mature native canopy. Where a canopy already exists, the planting density will be less than open ground. It is worth looking at similar natural areas in the locality to gain a better appreciation of the mix and densities of species.

Some plants such as ferns and epiphytes may be best left to see if they come back naturally once conditions are right. Epiphytes are not the easiest plants to establish but if you want to assist natural processes there are several things you could do:

- place spores or seeds directly onto tree fern trunks (a good growing medium);
- surround roots of plant with a mixture of sphagnum moss and potting mix or compost, enclose with a suitable support (windbreak cloth, bird netting) and tie to a tree (do not use wire or nails);
- plant on a mound on the ground close to a tree in a shady place.

The approximate final height of a plant is given where it is over one metre.



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The guide to tolerances/preferences is intended to give guidance for the positioning of each plant. This is only a rough guide. On the table ○ means this species is unlikely to survive the condition, ◐ means it may survive but may not thrive or compete well with other vegetation and ● indicates the species is well adapted to the conditions. It is recommended that plants are located in positions indicated by ● in the tolerances/preferences section.

Planting to attract wildlife

The plants value as bird food is indicated by an N for nectar and F for fruit and seeds. The table below sets out the main food requirements for some of the native birds that live in bush.

Species	Fruit/seeds	Nectar	Insects	Foliage	Other
Bellbird	*	*	*		
Fantail			*		
Grey warbler			*		
Kaka	*	*	*		tree sap
Kakariki	*	*	*		
Kereru	*			*	Flowers
Kingfisher			*		Fish, rodents, lizards
Kiwi	*		*		Spiders, worms, koura
Shining cuckoo			*		
Morepork			*		Rodents, birds, lizards
Robin			*		
Tui	*	*	*		
Wax/white/silvereye	*	*	*		
Whitehead			*		

Ecological restoration in the Waikato

Always choose ecosourced plants when undertaking ecological restoration. Ecosourced plants are those which are grown from seeds or propagules (including spores and cuttings) collected from naturally-occurring vegetation in a locality close to where they are to be replanted as part of a restoration project. With seeds, attention must be paid to possible cross-pollination from nearby garden plants.

It's worth taking care to ensure plants are ecosourced from natural areas to:

- avoid the risk of planting species which are not native to the local area and which could become invasive;
- help maintain the unique local characteristics of the native plants in your area;
- obtain plants that have a greater chance of growing successfully because they are adapted to local conditions.

Ecosourced Waikato (a group representing plant growers, the Department of Conservation and local and regional authorities) has developed the native plant lists for the Lower Waikato and Waipa Rivers with funding support from the Waikato District Council and Department of Conservation.



Waikato River – Ngaruawahia to Tamahere

Ignimbrite cliffs

Rocky outcrops line the river in several places between Horotiu and The Narrows. The steep rocky substrate provides poor footing for trees but the combination of their absence and the frequent seeps and waterfalls provides an ideal habitat for particular plant communities.

Characteristic species		Planting			Plant tolerances / preferences							Planting tips	maximum height (approx) if over 1 metre	food type
Botanical name	Common name	open ground	established cover	mature stage	flood	wet	moist	dry	sun	shade	frost	Look for wet spots where trees may do particularly well in dry weather		
Colonisers Listed in order from earliest establishing to longest living		60	10	0	<i>Colonisers are typically quick growing, tolerant of a wide range of environments and effective and early dispersers</i>									
<i>Veronica stricta</i>	koromiko				○	○	●	●	●	○	●	above flood level	4	
<i>Austroderia fulvida</i>	toe toe				●	●	●	●	●	○	●	open area	1.5	
<i>Coprosma robusta</i>	karamu				○	●	●	●	●	○	○	deeper soil	5	F
<i>Phormium cookianum</i>	wharariki / mountain flax				○	○	●	●	●	○	●	damp spot	1.5	N
<i>Kunzea robusta</i>	kanuka				○	○	●	●	●	○	●	deeper soil	16	N
Canopy trees Listed in order from most to least common		15	15	0	<i>Canopy trees are long-lived, tall and spreading, but slow to establish</i>									
<i>Weinmannia racemosa</i>	kamaha				○	○	●	●	●	○	●	well drained	26	
<i>Sophora microphylla</i>	kowhai				○	○	●	●	●	○	●	exposed site	10	N
<i>Cordyline banksii</i>	te ngahere/forest cabbage tree				○	○	●	●	●	○	●	exposed site	3	
Understorey Listed in order from wettest to driest habitat		25	25	15	<i>Understorey shrubs require the stable conditions created under trees</i>									
<i>Fuchsia excorticata</i>	kotukutuku/tree fuchsia				○	○	●	○	●	●	○	damp soil above floods	12	F/N
<i>Schefflera digitata</i>	pate / patete				○	○	●	○	●	●	○	damp soil above floods	8	F
<i>Myrsine australis</i>	mapou				○	○	●	●	●	●	○	most areas	7	F
<i>Melicytus ramiflorus</i>	mahoe				○	○	●	○	●	●	○	sheltered	10	F
<i>Geniostoma ligustrifolium</i>	hangehange				○	○	●	○	○	●	○	most areas	4	N



<i>Piper excelsum</i>	kawakawa				○	○	●	●	○	●	○	sheltered above floods	7	f
<i>Rhabdothamnus solandri</i>	taurepo				○	○	●	●	○	●	○	shaded areas drained but moist	12	
<i>Dicksonia squarrosa</i>	wheki				○	●	●	●	●	●	●	damp shade	2-8	
<i>Cyathea dealbata</i>	ponga				○	○	●	●	●	●	○	damp shade	10	
<i>Cyathea medullaris</i>	mamaku				○	○	●	●	●	●	○	damp shade	20	
<i>Leucopogon fasciculatus</i>	mingimingi				○	○	●	●	●	○	●	light shade	5	F
<i>Coprosma lucida</i>	shining karamu				○	○	○	●	●	●	●	well drained	5	F
<i>Brachyglottis repanda</i>	rangiora				○	○	●	○	○	●	○	well drained light shade	6	
<i>Olearia ranii</i>	heketara				○	○	●	○	○	●	○	well drained light shade	8	
Grasses, sedges, ferns and ground covers														
Listed in order from wettest to driest ground		0	10	15	flood	wet	moist	dry	sun	shade	frost	Planting tips		
<i>Machaerina sinclairii</i>	strap sedge				●	●	●	○	○	●	●	shaded steep bank	1	
<i>Carex dissita</i>	forest sedge				○	●	●	○	●	●	●	damp semi-shade		
<i>Carex solandri</i>	forest sedge				○	○	●	○	○	●	●	damp semi-shade		
<i>Blechnum chambersii</i>	lance fern				●	○	●	○	○	●	○	damp shady bank		
<i>Adiantum cunninghamii</i>	maiden hair fern				●	○	●	●	○	●	○	well drained		
<i>Blechnum parrisiae</i>	rasp fern				○	○	●	●	●	●	○	sloping ground dry shade		
Climbers and epiphytes		0	0	10	These plants take advantage of trees to get their leaves up into the sunlight									
<i>Clematis paniculata</i>	puawhanga				○	○	●	○	○	●	○	well drained soil cool roots		
<i>Metrosideros perforata</i>	akatea				○	○	○	●	●	●	○	well drained soil or base of tree		N
<i>Metrosideros diffusa</i>	akatea				○	○	○	●	●	●	○	well drained soil or base of tree		N
<i>Metrosideros fulgens</i>	rata				○	○	○	●	●	●	○	well drained soil		N
<i>Freycinetia banksii</i>	kiekie				○	○	●	○	○	●	○	shady area		F/N
<i>Parsonsia heterophylla</i>	kaihua/NZ jasmine				●	●	●	○	●	○	○	damp margins		
<i>Passiflora tetrandra</i>	kohia/NZ passionfruit				●	○	●	●	●	○	●	open areas		
<i>Rubus cissoides</i>	tātārāmoa/bush lawyer				●	○	●	●	●	○	○	well drained margins		

Waikato River – Ngaruawahia to Tamahere

River terraces above annual flood level

Drainage varies considerably on these river terraces, influenced by well drained pumice soil, numerous springs and seeps, and the impervious ignimbrite outcrops. This contributes to a rich diverse forest dominated by kahikatea and totara. The mild, moist, microclimate generated by the river further contributes to the diversity.

Characteristic species		Planting			Plant tolerances / preferences							Planting tips		maximum height (approx) if over 1 metre	food type
Botanical name	Common name	open ground	established cover	mature stage	flood	wet	moist	dry	sun	shade	frost	Plant frost sensitive species under other trees			
Colonisers					<i>Colonisers are typically quick growing, tolerant of a wide range of environments and effective and early dispersers</i>										
Listed in order from wettest to driest site		60	10	0											
<i>Plagianthus regius</i>	manatu/ribbonwood				●	○	●	○	○	●	●	very quick growing		15	
<i>Austroderia fulvida</i>	toe toe				●	●	●	●	●	○	●	exposed areas		1.5	
<i>Cordyline australis</i>	ti kouka / cabbage tree				○	●	●	●	●	○	●	plant widely		12	F/N
<i>Hoheria sexstylosa</i>	lacebark				○	●	●	○	●	○	●	copes with only short-term floods		10	
<i>Carpodetus serratus</i>	putaputaweta				○	●	○	○	○	●	●	above flood level		10	F
<i>Coprosma robusta</i>	karamu				○	●	●	●	●	○	○	plant widely		5	F
<i>Leptospermum scoparium</i>	manuka				○		●	○	●	○	●	full sun essential		8	
<i>Aristotelia serrata</i>	wineberry				○	○	●	○	●	○	○	well drained moist soil		10	F
<i>Coriaria arborea</i>	tutu				○	○	●	●	●	●	●	well drained moist soil		8	F
<i>Veronica stricta</i>	koromiko				○	○	●	●	●	○	●	above flood level		4	
<i>Sophora microphylla</i>	kowhai				○	○	●	●	●	○	●	margins, well drained, mounds		10	N
<i>Kunzea robusta</i>	kanuka				○	○	●	●	●	○	●	dry sloping ground		16	N
<i>Pseudopanax crassifolius</i>	horoeka/lancewood				○	○	●	○	●	○	●	well drained moist soil, needs light		15	F



Canopy trees															
Listed in order from most to least numerous		15	15	0	flood	wet	moist	dry	sun	shade	frost	Planting tips			
<i>Dacrycarpus dacrydioides</i>	kahikatea				●	●	●	○	●	○	●	most areas	60	F	
<i>Laurelia novae-zelandiae</i>	pukatea				●	●	●	○	○	●	○	sheltered areas	35		
<i>Podocarpus totara</i>	tötara				○	○	●	○	●	○	●	upper bank	30	F	
<i>Dacrydium cupressinum</i>	rimu				○	○	●	○	●	●	●	difficult to obtain ecosourced plants	35	F	
<i>Beilschmiedia tawa</i>	tawa				○	○	●	●	○	●	○	sheltered and shaded area	20	F	
<i>Alectryon excelsus</i>	tītoki				○	○	●	●	○	●	○	sheltered	10	F	
<i>Knightia excelsa</i>	rewarewa				○	○	●	●	●	●	○	sloping ground	30	N	
<i>Prumnopitys taxifolia</i>	matai				●	○	●	○	●	●	●	level ground	35	F	
<i>Elaeocarpus hookerianus</i>	pokaka				●	○	●	○	●	○	●	level ground	14	F	
<i>Elaeocarpus dentatus</i>	hinau	0	0	1	○	○	●	○	○	●		difficult to establish	18		
<i>Nestegis lanceolata</i>	white maire				○	○	●	●	●	●	○	moist but well drained	15		
<i>Pennantia corymbosa</i>	kaikomako				○	○	●	○	●	●	●	most areas	12	F/N	
<i>Weinmannia racemosa</i>	kamahi				○	○	●	●	●	○	●	well drained	26		
<i>Metrosideros robusta</i>	northern rata				○	○	○	●	●	○	●	difficult to obtain ecosourced plants	25	N	
Understory															
Listed in order from wettest to driest habitat		25	25	15	<i>Understory shrubs require the stable conditions created under trees</i>										
<i>Coprosma tenuicaulis</i>	hukihuki/swamp coprosma				●	●	○	○	●	○	●	very boggy to damp place	3	F	
<i>Coprosma rotundifolia</i>					●	●	●	○	●	●	○	anywhere	4	F	
<i>Coprosma grandifolia</i>	kawariki/kanono				●	●	●	○	○	●	○	sheltered and moist	6		
<i>Streblus heterophyllus</i>	turepo				○	○	●	○	○	●	●	sheltered area	12	F	
<i>Fuchsia excorticata</i>	kotukutuku/tree fuchsia				○	○	●	○	●	●	○	damp soil above floods	12	F/N	
<i>Schefflera digitata</i>	pate / patete				○	○	●	○	●	●	○	damp soil above floods	8	F	
<i>Melicytus micranthus</i>	manakura/swamp mahoe				●	○	●	○	●	●	○	flood zone, sheltered	10	F	
<i>Dicksonia squarrosa</i>	wheki				○	●	●	●	●	●	●	damp shade	2-8		
<i>Coprosma rhamnoides</i>					○	○	●	●	●	●	●	prefers semi –shade	1.5	F	
<i>Cyathea medullaris</i>	mamaku				○	●	●	●	●	●	○	damp shade	20		
<i>Coprosma lucida</i>	shining karamu				○	○	○	●	●	●	●	well drained	5	F	
<i>Cyathea dealbata</i>	ponga				○	●	●	●	●	●	○	damp shade	10		
<i>Coprosma areolata</i>					○	○	●	○	●	●	●	damp sun	2	F	
<i>Geniostoma rupestre</i>	hangehange				○	○	●	○	●	●	○	sheltered	4	N	
<i>Myrsine australis</i>	mapou				○	○	●	●	●	●	○	anywhere	7	F	
<i>Melicytus ramiflorus</i>	mahoe				○	○	●	○	●	●	○	sheltered	10	F	

<i>Rhabdothamnus solandri</i>	taurepo				○	○	●	●	○	●	○	shaded areas drained but moist	2	
<i>Leucopogon fasciculatus</i>	mingimingi				○	○	●	●	●	○	●	light shade	5	F
<i>Brachyglottis repanda</i>	rangiora				○	○	●	○	○	●	○	well drained light shade	6	
<i>Olearia ranii</i>	heketara				○	○	●	○	○	●	○	well drained light shade	8	
Grasses, sedges, ferns and ground covers Listed in order from wettest to driest ground		0	10	15	flood	wet	moist	dry	sun	shade	frost	Planting tips		
<i>Blechnum chambersii</i>	lance fern				●	○	●	○	○	●	○	steep damp bank		
<i>Adiantum cunninghamii</i>	maiden hair fern				○	○	●	●	○	●	○	sheltered bank		
<i>Carex dissita</i>	forest sedge				○	●	●	○	●	●	●	damp sometimes shady area		
<i>Carex solandri</i>	forest sedge				○	○	●	○	○	●	●	damp sometimes shady area		
<i>Blechnum parrisiae</i>	rasp fern				○	○	●	●	●	●	○	dry shade to semi-shade		
Climbers and epiphytes		0	0	10	These plants take advantage of trees to get their leaves up into the sunlight									
<i>Astelia hastata</i>	kahakaha				○	○	●	●	●	●	○	attach to tree fork		
<i>Astelia solandri</i>	kaiwharawhara				○	○	●	●	●	●	○	attach to tree		
<i>Asplenium flaccidum</i>	hanging spleenwort				○	○	●	●	●	●	○	attach to tree		
<i>Asplenium polyodon</i>	sickle spleenwort				○	○	●	●	●	●	○	attach to tree		
<i>Microsorium pustulatum</i>	kowaowao				○	○	○	●	●	●	○	attach to tree		
<i>Microsorium scandens</i>	mokimoki				○	○	●	●	●	●	○	attach to tree		
<i>Pyrrhosia eleagnifolia</i>	leather leaf fern				○	○	●	●	●	●	○	attach to tree		
<i>Clematis paniculata</i>	puawhanga				○	○	●	○	○	●	○	moist well drained cool roots		
<i>Metrosideros perforata</i>	akatea				○	○	○	●	●	●	○	well drained soil or base of tree		N
<i>Metrosideros diffusa</i>	akatea				○	○	○	●	●	●	○	well drained soil or base of tree		N
<i>Metrosideros fulgens</i>	rata				○	○	○	●	●	●	○	well drained soil		N
<i>Passiflora tetrandra</i>	kohia/NZ passionfruit				●	○	●	●	●	○	●	open area		
<i>Freycinetia banksii</i>	kiekie				○	●	●	○	○	●	○	damp shady ground		F/N
<i>Parsonsia heterophylla</i>	kaihua/NZ jasmine				●	●	●	○	●	○	○	damp shady place		
<i>Rubus cissoides</i>	tātārāmoa/bush lawyer				●	○	●	●	●	○	○	well drained margin		

Take care to ensure plants are ecosourced from natural areas in the Hamilton Basin to preserve local heritage. The local forms of many of our native plants are unnamed botanically e.g. kānuka and mānuka, and could become extinct if we do not ecosource.

Waikato River – Ngaruawahia to Tamahere

Annually flooded lower riverbank

The flood zone of the Waikato River may be under water for several months each winter and occasionally during other times as well. This makes it a challenging habitat for plants to survive in.

Characteristic species		Planting			Plant tolerances / preferences							Planting tips		maximum height (approx) if over 1 metre	food type
Botanical name	Common name	open ground	established cover	mature stage	flood	wet	moist	dry	sun	shade	frost	Look for humps of higher ground to plant trees on			
Colonisers					<i>Colonisers are typically quick growing, tolerant of a wide range of environments and effective and early dispersers</i>										
Listed in order from earliest establishing to longest life		60	10	0											
<i>Carex geminata</i>	cutty grass				●	●	●	○	●	○	●	wet open area	1-2		
<i>Carex secta</i>	purei/pukio				○	●	●	○	●	○	●	wet	1-2		
<i>Gahnia xanthocarpa</i>	giant sedge				●	●	○	○	●	●	●	boggy sun or shade	1.5		
<i>Cyperus ustulatus</i>	giant umbrella sedge				●	●	●	○	●	○	●	wet open area	2		
<i>Coprosma robusta</i>	karamu				○	●	●	●	●	○	○	most areas	5	F	
<i>Carpodetus serratus</i>	putaputaweta				○	●	○	○	○	●	●	above flood levels	10	F	
<i>Astelia grandis</i>	swamp astelia				●	●	●	○	●	●	●	boggy shaded place			
<i>Plagianthus regius</i>	manatu/ribbonwood				●	●	●	○	●	○	●	very quick growing	15		
<i>Hoheria sexstylosa</i>	lacebark				○	●	●	○	●	○	●	cope with only short-term floods	8		
<i>Cordyline australis</i>	ti kōuka/cabbage tree				○	●	●	●	●	○	●	most areas	12	F/N	



Canopy trees listed in order from most common to least common		15	15	0	flood	wet	moist	dry	sun	shade	frost	Planting tips		
<i>Dacrycarpus dacrydioides</i>	kahikatea				●	●	●	○	●	○	●	damp area, suitable as a coloniser	60	F
<i>Laurelia novae-zelandiae</i>	pukatea				●	●	●	○	○	●	○	sheltered site	35	
<i>Syzygium maire</i>	maire tawake				○	●	●	○	○	●	○	sheltered always boggy	15	
<i>Prumnopitys taxifolia</i>	matai				●	○	●	○	○	●	●	level ground, suitable as a coloniser	35	F
<i>Dacrydium cupressinum</i>	rimu				○	○	○	●	●	●	●	difficult to ecosource	35	F
<i>Sophora microphylla</i>	kowhai				○	○	●	●	●	○	●	margins, well drained, mounds	10	N
<i>Elaeocarpus hookerianus</i>	pokaka				●	○	●	○	●	○	●	level ground	14	F
Understorey Listed in order from wettest to driest habitat		25	25	15	<i>Understorey shrubs require the stable conditions created under trees</i>									
<i>Coprosma propinqua</i>	mingimingi				●	●	●	○	●	○	●	open wet areas	7	F
<i>Coprosma rotundifolia</i>					●	●	●	○	●	●	○	anywhere	4	F
<i>Coprosma tenuicaulis</i>	hukihuki/swamp coprosma				●	●	○	○	●	○	●	very boggy to damp place	3	F
<i>Streblus heterophyllus</i>	turepo				○	○	●	○	○	●	●	sheltered site	12	F
<i>Coprosma rigida</i>					●	●	●	●	●	○	●	anywhere	5	F
<i>Coprosma rhamnoides</i>					○	○	●	●	●	●	●	prefers semi –shade	1.5	F
<i>Myrsine australis</i>	mapou				○	○	●	●	●	●	○	anywhere	7	F
<i>Melicytus ramiflorus</i>	mahoe				○	○	●	○	●	●	○	sheltered	10	F
<i>Melicytus micranthus</i>	swamp mahoe				●	○	●	○	●	●	○	flood zone, sheltered	5	F
Grasses, sedges, ferns and ground covers Listed in order from wettest to driest ground		0	10	15	<i>These plants are well adapted to situations where nothing much else grows, sometimes under taller vegetation, sometimes in boggy or very wet places</i>									
<i>Schoenoplectus tabernaemontani</i>					●	●	●	○	●	○	○	wet		
<i>Austroderia fulvida</i>	toe toe				●	●	●	○	●	○	●	steep exposed area		
<i>Carex virgata</i>	purei/pukio				○	●	●	○	●	○	●	wet areas including light shade	1	
<i>Carex dissita</i>	forest sedge				○	○	●	○	○	●	●	damp semi-shade		
<i>Blechnum chambersii</i>	fern				●	○	●	○	○	●	○	steep damp bank		
<i>Adiantum cunninghamii</i>	maiden hair fern				●	○	●	●	○	●	○	steep damp bank		
<i>Carex solandri</i>	forest sedge				○	○	●	○	○	●	●	damp semi-shade		
<i>Carex uncinata</i>	hook sedge				○	○	●	○	○	●	●	damp semi-shade		
<i>Blechnum parrisiae</i>	rasp fern				○	○	●	●	●	●	○	dry shade to semi-shade		

Climbers and epiphytes		0	0	10	flood	wet	moist	dry	sun	shade	frost	Planting tips		
<i>Metrosideros perforata</i>	akatea				○	○	○	●	●	●	○	well drained soil or base of tree		N
<i>Freycinetia banksii</i>	kiekie				○	●	●	○	○	●	○	damp shady place		F/N
<i>Astelia hastata</i>	kahakaha				○	○	●	●	●	●	○	raised soil or attach to tree		
<i>Astelia solandri</i>	kaiwharawhara				○	○	●	●	●	●	○	well drained soil or attach to tree		F
<i>Asplenium flaccidum</i>	hanging spleenwort				○	○	●	●	●	●	○	rich soil or attach to tree		
<i>Asplenium polyodon</i>	sickle spleenwort				○	○	●	●	●	●	○	attach to tree		
<i>Microsorium pustulatum</i>	kowaowao				○	○	●	●	●	●	○	attach to tree		
<i>Microsorium scandens</i>	mokimoki				○	○	●	●	●	●	○	attach to tree		
<i>Pyrrosia eleagnifolia</i>	leather leaf fern				○	○	●	●	●	●	○	best left to germinate naturally		
<i>Passiflora tetrandra</i>	kohia/NZ passionfruit				●	○	●	●	●	○	●	open area		F
<i>Parsonsia heterophylla</i>	kaihua				●	●	●	○	●	○	○	damp sometimes shaded place		
<i>Rubus australis</i>	tātārāmoa/swamp lawyer				●	●	●	●	●	○	○	well drained margin		F
<i>Ripogonum scandens</i>	kareao/suplejack				●	●	●	○	●	●	○	damp shady place		F

Take care to ensure plants are ecosourced from natural areas in the Hamilton Basin to preserve the local heritage. The local forms of many of our native plants are unnamed botanically e.g. kānuka and mānuka, and could become extinct if we do not ecosource.