

Planting Guide

November 2023

*“The **mauri** (life-force) of Kaipara Moana is restored and protected, and the harbour’s significance is recognised, for the well-being of Kaipara Uri and for all New Zealanders.”*

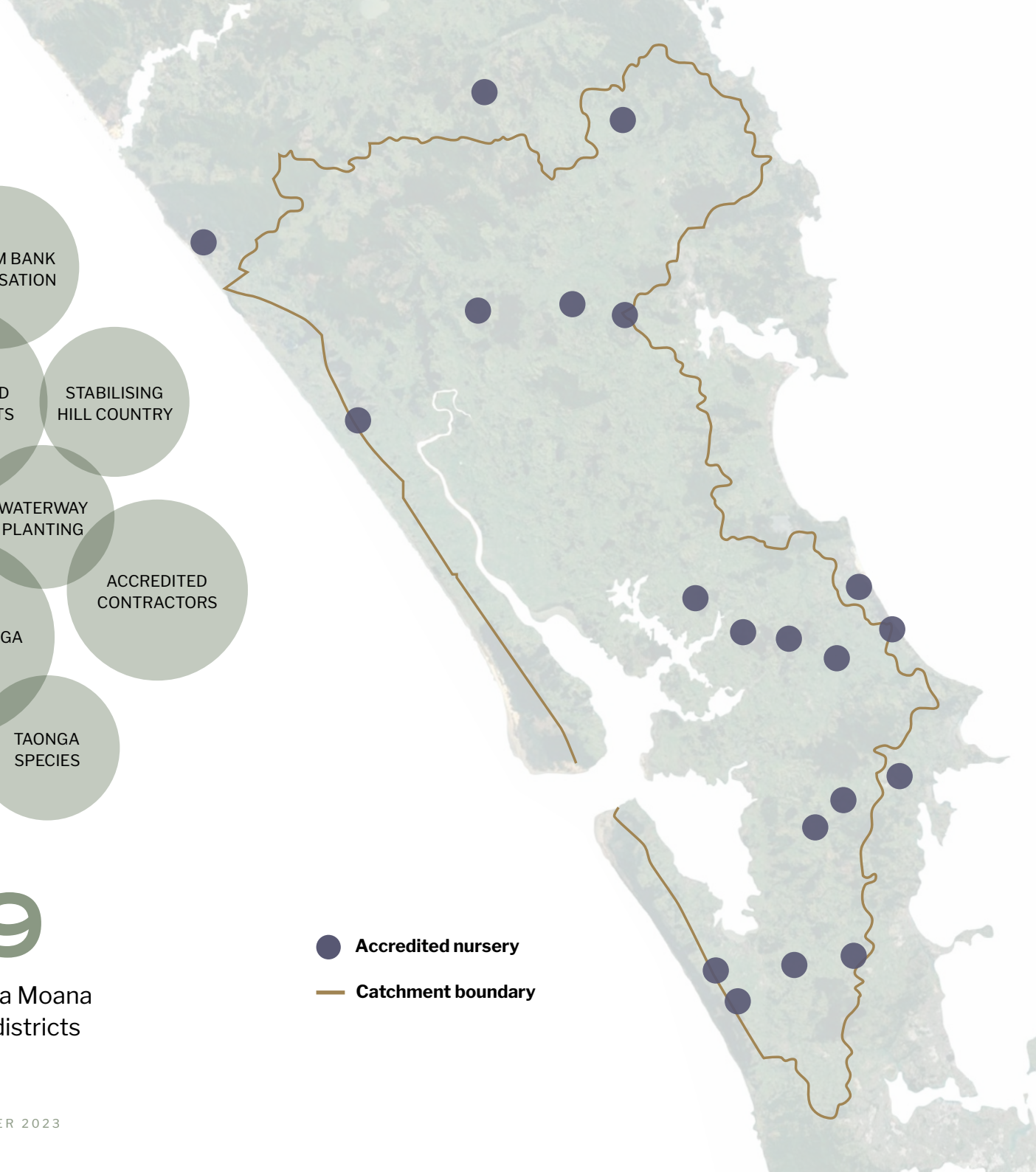
KMR Vision



20
Accredited Nurseries

9
Kaipara Moana
Eco-districts

- Accredited nursery
- Catchment boundary



Planting with SRPs

KMR connects landowners and community groups in the Kaipara Moana catchment with local Field Advisors and Kaitiaki to collaboratively develop **Sediment Reduction Plans (SRP)**.

SRPs target fencing and planting of riparian, coastal and eroding hill country areas throughout the Kaipara Moana catchment, with a goal of planting millions of site-suited, eco-sourced, locally-grown native plants over 10 years. SRPs will support fencing and/or native planting projects that:

- protect waterways, wetlands and adjacent sensitive land
- conserve soils and reduce erosion in and around waterways and on erodible hill country
- protect, establish and reconnect native habitat
- help to build resilient landscapes and communities.

SRPs are designed to complement current and proposed regional and national environmental policies, ensuring relevance and value over time. They are provided by KMR cost-free to landowners on qualifying properties.

Go to www.kmr.org.nz for more information, and to apply for a KMR grant.



Planting Zones

The primary focus of KMR planting is on riparian edges and eroding hillslopes, with a strong emphasis on bank stability and erosion control. Species selection is linked to erosion processes and site suitability.

KMR have defined four planting zones:

ZONE A: WETLAND EDGE / LOWER BANK

- dominated by native sedges, rushes and grasses
- average 1 metre spacing
- 9000 stems per hectare

ZONE B: UPPER BANK / FLOODPLAIN

- mix of native sedges, shrubs and trees
- average 1.5 metre spacing
- 4500 stems per hectare

ZONE C: TRANSITION ZONE

- focus on native shrubs and long-lived tree species
- average 1.5 metre spacing
- 4500 stems per hectare

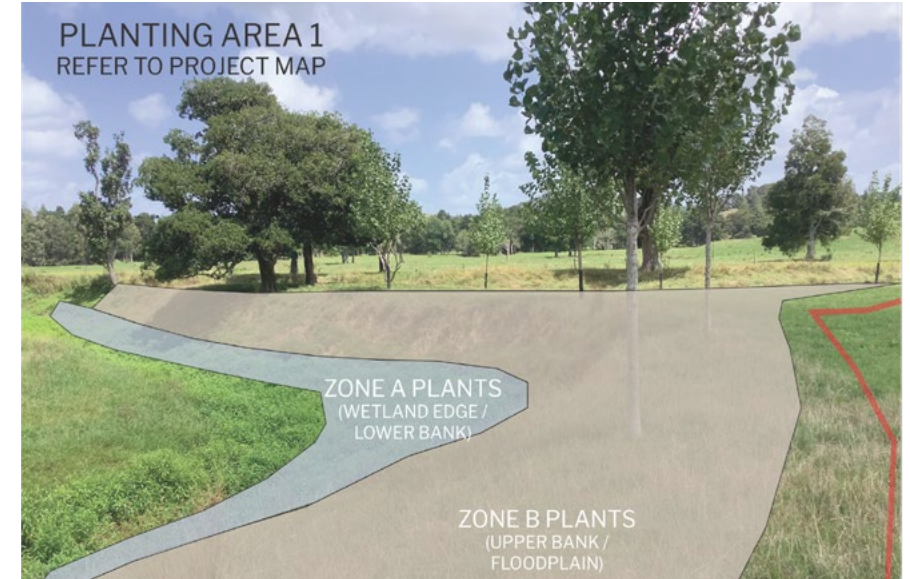
ZONE D: ERODIBLE HILLSLOPE

- focus on native shrubs and long-lived tree species
- average 2-2.5 metre spacing
- 1600-2500 stems per hectare
- Assisted natural regeneration an option on suitable sites

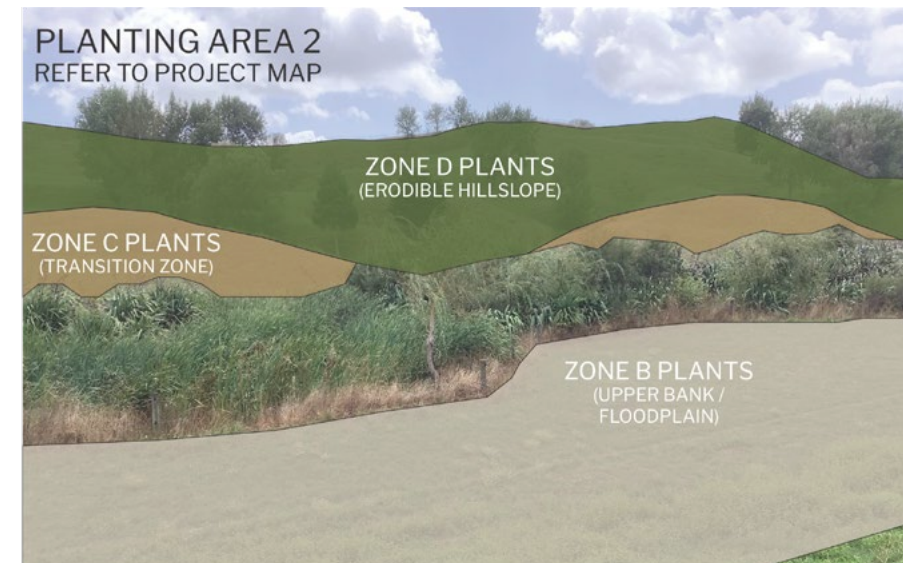
Exotic tree species:

- space planted poplars
- afforestation with non-weedy, non-pine species

Examples of annotated planting-site photos in an SRP:



Planting zones align with KMR plant lists



Field Advisor photos assist nurseries and contractors



Note: Planting zones are mapped and photographed by Field Advisors as part of the SRP process. Each zone aligns with a corresponding **plant list**, provided to **accredited nurseries** by KMR. Final species selection is decided by KMR, based on **site-suitability** and nursery stock availability.

Kaipara Moana Eco-districts

Eco-districts group landscapes in relation to their soils, hydrology, indigenous habitat and climate. Eco-districts help us to choose site-suitable plants, understand biodiversity patterns, and guide us for native plant seed collection.

Kaipara Moana catchment contains 9 eco-districts:

- | | | |
|---------------|-------------|-------------|
| 1. Whangaruru | 4. Tūtāmoe | 7. Waipū |
| 2. Tangihua | 5. Kaipara | 8. Ōtamatea |
| 3. Whangārei | 6. Tokatoka | 9. Rodney |

Native plants in the Kaipara Moana catchment:

- Most of our Kaipara plants are found across ALL eco-districts (1-9). Exceptions to this rule are mostly found in sandy or wetland environments, which contain our rarest species.
- Kānuka (Kunzea species) are particularly locale-specific - care should be taken to select the correct species for your area.
- Avoid planting native seedlings sourced from outside of the Northland /Auckland regions - **use KMR-accredited nurseries only.**

More information:

A full list of Kaipara Moana species and expression of interest forms are available at kmr.org.nz



Zone A: Native Plants for Wetland Edges / Lower Banks

1 metre spacing = 9000 stems per hectare | Go-to species highlighted | Plant sedges, rushes and grasses only in high-velocity flood zones

*Te Paiaaka Native Root Study
These species tested as effective
for stream bank erosion mitigation

STAGE	INGOA MĀORI	BOTANICAL NAME	FORM	COASTAL / INLAND / ESTUARINE	AMOUNT TO USE	ECO-DISTRICT
PRIMARY (Planting open ground)	Oioi	<i>Apodasmia similis</i>	rush	C/E	+++	5, 8, 9
	Toetoe	<i>Austroderia fulvida</i>	grass	C/I	+	1 - 9
	Kukuraho	<i>Bolboschoenus fluviatilis</i>	sedge	C/I/E	+++	1 - 9
	Pūrei	<i>Carex dissita</i>	sedge	I	++	1 - 9
	Rautahi	<i>Carex geminata</i>	sedge	C/I	+++	1 - 9
		<i>Carex lambertiana</i>	sedge	C/I	+++	1 - 9
	Rautahi	<i>Carex lessoniana</i>	sedge	C/I	+++	1 - 9
	Pūkio	<i>Carex secta</i>	sedge	C/I	+	1 - 9
	Pūkio	<i>Carex virgata</i>	sedge	I	++	1 - 9
	Mingimingi	<i>Coprosma propinqua var. propinqua</i>	shrub	C/I/E	+	1 - 9
	Hukihuki	<i>Coprosma tenuicaulis</i>	shrub	I	+	1 - 9
	Ti kōuka *	<i>Cordyline australis</i>	tree	C/I/E	++	1 - 9
	Tutu	<i>Coriaria arborea</i>	tree	I	+	1 - 9
	Toetoe Upokotangata	<i>Cyperus ustulatus</i>	sedge	C/I/E	++	1 - 9
	Wiwī	<i>Ficinia nodosa</i>	sedge	C/E	++	1 - 9
	Wiwī	<i>Juncus edgariae</i>	rush	C/I	+	1 - 9
	Wiwī	<i>Juncus pallidus</i>	rush	C/I/E	+	1 - 9
		<i>Machaerina articulata</i>	sedge	C/I	++	1 - 9
		<i>Machaerina rubiginosa</i>	sedge	C/I	+++	1 - 9
	Kiokio	<i>Parablechnum novae-zelandiae</i>	fern	C/I	++	1 - 9
Harakeke	<i>Phormium tenax</i>	shrub	C/I/E	+	1 - 9	
SECONDARY (Enrichment, needs shelter)	Mākaka	<i>Plagianthus divaricatus</i>	shrub	C/E	+	5, 8, 9
	Kahikatea	<i>Dacrycarpus dacrydioides</i>	conifer	I	+	1 - 9
	Parataniwha	<i>Elatostema rugosum</i>	herb	I	++	1 - 9
	Kiekie	<i>Freycinetia banksii</i>	climber	I	+	1 - 9
	Piupiu	<i>Pakau pennigera</i>	fern	C/I	+	1 - 9
	Para	<i>Ptisana salicina</i>	fern	I	+	1 - 9
	Maire Tawake	<i>Syzygium maire</i>	tree	C/I	+	1 - 9

Zone B: Native Plants for Upper Banks / Floodplains

1.5 metre spacing = 4500 stems per hectare | Go-to species highlighted | Plant sedges, rushes and grasses only in high-velocity flood zones

*Te Paiaaka Native Root Study
These species tested as effective
for stream bank erosion mitigation

STAGE	INGOA MĀORI	BOTANICAL NAME	FORM	COASTAL / INLAND / ESTUARINE	AMOUNT TO USE	ECO-DISTRICT
PRIMARY (Planting open ground)	Makomako	<i>Aristolelia serrata</i>	tree	I	+	1-9
	Toetoe	<i>Austroderia fulvida</i>	grass	C/I	++	1-9
		<i>Carex lambertiana</i>	sedge	C/I	++	1-9
	Pūkio	<i>Carex virgata</i>	sedge	I	++	1-9
	Mingimingi	<i>Coprosma propinqua</i> var. <i>propinqua</i>	shrub	C/I/E	+	1-9
		<i>Coprosma rigida</i>	shrub	I	+	1-9
	Ti kōuka *	<i>Cordyline australis</i>	tree	C/I/E	++	1-9
	Tutu	<i>Coriaria arborea</i>	tree	I	+	1-9
	Whau	<i>Entelea arborescens</i>	tree	C/I	+	1-9
	Kānuka	<i>Kunzea amithicola</i>	tree	C/E	+	5
	Mānuka *	<i>Leptospermum scoparium</i> var. <i>scoparium</i>	tree	C/I/E	++	1-9
	Māhoe *	<i>Melicytus ramiflorus</i>	tree	C/I/E	+	1-9
	Pōhuehue	<i>Muehlenbeckia complexa</i>	groundcover	C/E	+	5, 8, 9
	Māpou	<i>Myrsine australis</i>	tree	C/I/E	++	1-9
		<i>Olearia solandri</i>	shrub	C/E	+	5, 8, 9
	Tauhinu	<i>Ozothamnus leptophyllus</i>	shrub	C/E	++	5, 8, 9
	Kiokio	<i>Parablechnum novae-zelandiae</i>	fern	C/I	++	1-9
	Harakeke	<i>Phormium tenax</i>	shrub	C/I/E	+	1-9
	Mākaka	<i>Plagianthus divaricatus</i>	shrub	C/E	+	5, 8, 9
	Mānatu	<i>Plagianthus regius</i> subsp. <i>regius</i>	tree	C/I	+	1-9
Kōwhai	<i>Sophora chathamica</i>	tree	C/E	+	5, 8, 9	
Kōwhai	<i>Sophora microphylla</i>	tree	C/I	+	1-9	
SECONDARY (Enrichment, needs shelter)	Makamaka	<i>Ackama rosifolia</i>	tree	I	+	1-9
	Putaputawētā	<i>Carpodetus serratus</i>	tree	C/I	+	1-9
	Mamaku	<i>Cyathea medullaris</i>	tree fren	I	+	1-9
	Kahikatea	<i>Dacrycarpus dacrydioides</i>	conifer	I	+	1-9
	Whekī	<i>Dicksonia squarrosa</i>	tree fern	I	+	1-9
	Pukatea	<i>Laurelia novae-zelandiae</i>	tree	I	+	1-9
	Para	<i>Ptisana salicina</i>	fern	I	+	1-9
	Nikau	<i>Rhopalostylis sapida</i>	tree	C/I	+	1-9
	Patete	<i>Schefflera digitata</i>	tree	C/I	+	1-9
	Pūiri	<i>Vitex lucens</i>	tree	C/I	+	1-9

Zone C: Native Plants for Transition Zones / Dry Banks

1.5 metre spacing = 4500 stems per hectare | Go-to species highlighted

*Te Paiaaka Native Root Study
These species tested as effective
for stream bank erosion mitigation

STAGE	INGOA MĀORI	BOTANICAL NAME	FORM	COASTAL / INLAND / ESTUARINE	AMOUNT TO USE	ECO-DISTRICT
PRIMARY (Planting open ground)	Karamū	<i>Coprosma macrocarpa subsp. minor</i>	shrub	C/I	+	1-9
	Taupata	<i>Coprosma repens</i>	shrub	C/E	+	1-9
	Kāramuramu	<i>Coprosma robusta</i>	shrub	C/I	+	1-9
	Ti kōuka *	<i>Cordyline australis</i>	tree	C/I/E	++	1-9
	Korokio	<i>Corokia cotoneaster</i>	shrub	C/I	+	1-9
	Akeake	<i>Dodonaea viscosa</i>	tree	C/I/E	+	1-9
	Whau	<i>Entelea arborescens</i>	tree	C/I	+	1-9
	Kāpuka	<i>Griselinia littoralis</i>	tree	C/I	+	1-9
	Koromiko	<i>Hebe macrocarpa var. macrocarpa</i>	shrub	C/I	+	1-9
	Koromiko	<i>Hebe stricta var. stricta</i>	shrub	C/I	+	1-9
	Houhere *	<i>Hoheria populnea</i>	tree	C/I	+	1-9
	Kānuka	<i>Kunzea linearis</i>	tree	C/E	+	5
	Kānuka	<i>Kunzea robusta</i>	tree	C/I	++	1-9
	Kānuka	<i>Kunzea amathicola</i>	tree	C/E	++	5, 8, 9
	Mānuka *	<i>Leptospermum scoparium var. scoparium</i>	tree	C/I/E	++	1-9
	Māhoe *	<i>Melicytus ramiflorus</i>	tree	C/I/E	+	1-9
	Pōhutukawa	<i>Metrosideros excelsa</i>	tree	C/E	+	5, 8, 9
	Māpou	<i>Myrsine australis</i>	tree	C/I/E	++	1-9
	Akepiro	<i>Olearia furfuracea</i>	tree	C/I	+	1-9
	Karo	<i>Pittosporum crassifolium</i>	tree	C/E	++	5, 8, 9
Tarata*	<i>Pittosporum eugenioides</i>	tree	C/I	+	1-9	
Kōhūhū	<i>Pittosporum tenuifolium</i>	tree	C/I	+	1-9	
Tōtara	<i>Podocarpus totara</i>	conifer	C/I	+	1-9	
Houpara	<i>Pseudopanax lessonii</i>	tree	C	++	5, 8, 9	
Kōwhai	<i>Sophora microphylla</i>	tree	C/I	+	1-9	
SECONDARY (Enrichment, needs shelter)	Kauri	<i>Agathis australis</i>	conifer	C/I	+	1-9
	Titoki	<i>Alectryon excelsus subsp. excelsus</i>	tree	C/I	+	1-9
	Taraire	<i>Beilschmiedia taraire</i>	tree	I	+	1-9
	Karaka	<i>Corynocarpus laevigatus</i>	tree	C/I	+	1-9
	Rewarewa	<i>Knightia excelsa</i>	tree	C/I	+	1-9
	Tānekaha	<i>Phyllocladus trichomanoides</i>	conifer	C/I	+	1-9
	Pūriri	<i>Vitex lucens</i>	tree	C/I	+	1-9

Zone D: Native Plants for Erodible Hillslopes

2-2.5 metre spacing = 1600-2500 stems per hectare | Go-to species highlighted

STAGE	INGOA MĀORI	BOTANICAL NAME	FORM	COASTAL / INLAND / ESTUARINE	AMOUNT TO USE	ECO-DISTRICT
PRIMARY (Planting open ground)	Karamū	<i>Coprosma macrocarpa subsp. minor</i>	shrub	C	++	1-9
	Kāramuramu	<i>Coprosma robusta</i>	shrub	C/I	++	1-9
	Ti kōuka	<i>Cordyline australis</i>	tree	C/I/E	++	1-9
	Koromiko	<i>Hebe stricta var. stricta</i>	shrub	C/I	++	1-9
	Kānuka	<i>Kunzea robusta</i>	tree	C/I	+++	1-9
	Mānuka	<i>Leptospermum scoparium var. scoparium</i>	tree	C/I/E	+++	1-9
	Mahoe	<i>Meliccytus ramiflorus</i>	tree	C/I/E	++	1-9
	Pōhutukawa	<i>Metrosideros excelsa</i>	tree	C/E	+	5, 8, 9
	Pōhuehue	<i>Muehlenbeckia complexa</i>	groundcover	C/E	+	5, 8, 9
	Māpou	<i>Myrsine australis</i>	tree	C/I/E	++	1-9
	Akepiro	<i>Olearia furfuracea</i>	tree	C/I	+	1-9
	Tauhinu	<i>Ozothamnus letophyllus</i>	shrub	C/E	++	5, 8, 9
	Harakeke	<i>Phormium tenax</i>	shrub	C/I/E	++	1-9
	Karo	<i>Pittosporum crassifolium</i>	tree	C/E	++	5, 8, 9
	Tōtara	<i>Podocarpus totara</i>	conifer	C/I/E	++	1-9
Houpara	<i>Pseudopanax lessonii</i>	tree	C/E	++	5, 8, 9	
SECONDARY (Enrichment, needs shelter)	Tarairae	<i>Beilschmiedia tarairae</i>	tree	I	+	1-9
	Karaka	<i>Corynocarpus laevigatus</i>	tree	C/I	++	1-9
	Hangehange	<i>Geniostoma ligustrifolium</i>	shrub	C/I	++	1-9
	Rewarewa	<i>Knightia excelsa</i>	tree	C/I	+	1-9
	Rātā	<i>Metrosideros robusta</i>	tree	C/I	+	1-9
	Whauwhaupaku	<i>Pseudopanax arboreus</i>	tree	C/I	++	1-9
	Tānekaha	<i>Phyllocladus trichomanoides</i>	conifer	C/I	+	1-9
	Pūriri	<i>Vitex lucens</i>	tree	C/I	+	1-9

Zone D: Exotic Trees for Erodible Hillslopes

Variable setbacks, spacing and stems per hectare | KMR Planting Plan required

BOTANICAL NAME	COMMON NAME	TOLERANCES				USES			MATURE HEIGHT
		WIND	CLAY	DRY	DAMP	TIMBER	EROSION	SHADE	
<i>Acacia melanoxylon</i>	Tasmanian blackwood	+	++	++	++	++	++	+	30m
<i>Alnus subcordata</i>	Caucasian alder	+	++	++	++	+	++	++	20m
<i>Alnus cordata</i>	Italian alder	+	++	++	++	+	++	++	20m
<i>Araucaria heterophylla</i>	Norfolk Island pine	++	++	+	+	++	++	+	50m
<i>Cryptomeria japonica</i>	Japanese cedar	++	++	+		++	+	+	30m
<i>Cupressocyparis x ovensii</i>	Ovens cypress	+	+	++		++	+	+	30m
<i>Cupressus lusitanica</i>	Mexican cypress	+	+	++		++	+	+	30m
<i>Cupressus macrocarpa</i>	Monterey cypress	++	+	++		++	+	+	30m
<i>Eucalyptus</i> species**	Gum	+ / ++	++	+ / ++	+ / ++	++	++	++	30m+
<i>Populus</i> species/varieties**	Poplar	+ / ++	+	+ / ++	+	+ / ++	++	++	20m+
<i>Quercus coccinea</i>	Scarlet oak	+	+	+		+	+	++	25m
<i>Quercus palustris</i>	Pin oak	+	+		+	+	+	++	20m
<i>Quercus robur</i>	English oak	+	+			++	+	++	25m
<i>Sequoia sempervirens</i>	Redwood		+		+	++	++	+	50m

** Only species and varieties that are proven to be **non-weedy** and site-suitable will be eligible for co-funding (via formal expression of interest)



TK KAIPARA
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REMEDICATION



Ministry for the
Environment
Manatū Mō Te Taiao

JOBS | **MAHI**
FOR NATURE | MŌ TE TAI AO