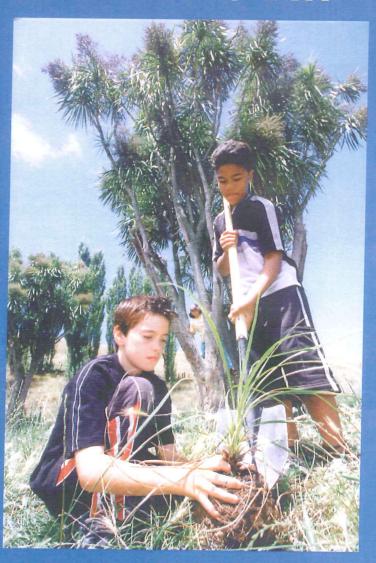
PLANTING NATIVE PLANTS IN HAWKE'S BAY



Includes seven planting zones, bird food and plant management.



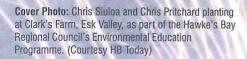
Coastal Zone (p6)



Lowland Open Sites (p8)



Inland/Upland Open Sites (p10)





Forest (p12)

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Introduction

This guide to **Planting Native Plants in Hawke's Bay** will help you successfully grow native plants on your land and encourage greater diversity in planting, wildlife and landscapes. The planting guides are set out in tables to make it easy to match plants to your particular planting zone.

This guide is useful for -

- Gardeners wanting to be more confident about growing native species in Hawke's Bay
- · Groups establishing conservation plantings
- · Farmers establishing plantings to control soil erosion
- Anyone wanting to plant to attract birdlife
- Anyone interested in growing native plants in Hawke's Bay.

Planting Zones

Plants grow best in certain conditions and what suits one may not suit another, even within the same species. The tables in this booklet list plants according to their natural occurrence and tolerance of the conditions in each of seven predominant zones within the region. Not every suitable plant is included – just a good range that should be available from local nurseries and which will add diversity to the landscape.

Coastal zone - p6

Places that are influenced by proximity to the sea (frost free; subject to wind, drought and salt spray; perhaps on sand or gravel)

Lowland open sites – p8

Hillsides and flats in the lowlands (usually prone to wind, drought and some frost; plants may need shelter and water during establishment)

Inland/upland open sites – p10

Hillsides and flats further inland and at higher altitude (usually less prone to drought but subject to wind and low winter temperatures).

Forest situations - p12

Forest clearings or margins (within forest or treeland that lacks undergrowth; plants need to be shade-tolerant and compatible with the forest).

Wetlands - p14

Swamps, ponds, lakes and lagoons (plants need to be able to tolerate wet soil; at estuaries or coastal lagoons they need to be tolerant of saline soil).

Riparian situations - p16

Alongside creeks, streams and rivers (not completely in water; subject to wind, cold air, drainage, occasional flooding and drying out).

Urban and Semi-urban sites - p18

Sites within or adjacent to towns and cities. Shape, size and texture of plants are often the prime considerations.

Why native plants?

All of the plants listed in this booklet occur naturally in Hawke's Bay - so Northern Rata is selected instead of Pohutukawa, and Tawa is included, but not Puriri. Cabbage trees, flaxes and kakabeak are all natural to Hawke's Bay, but much of what is cultivated and grown is from stock from other regions.

With the loss of so much of the original native bush cover in Hawke's Bay, and the damage to existing remnants by pests, stock and climate change, much of our botanical heritage has been diminished. We have every chance though of regenerating and replanting areas so that we can enjoy native bush in reserves, stream sides, on farms and in our own gardens.

So that Hawke's Bay will continue to retain its special character, it's preferable to obtain seeds, cuttings or nursery-raised plants from local stock from as near to the planting site as possible (a practice known as *ecosourcing*). In this way the local cabbage trees and flaxes, with their subtle differences from those in other parts of the country, will persist, and the vivid red of the wild Maungaharuru kakabeak will become better known within its home region.

Good information is available on New Zealand's ecological districts (based on landforms, local climate, geology, soil types and vegetation) from the Department of Conservation.

Planning for diversity

Diverse ecosystems are generally more stable and viable than simplistic ones. They are also more interesting and more attractive to native birds, lizards and insects. Plan for a range of species rather than a few. Avoid using the same types of plants - for instance don't use just conifers like Rimu and Kahikatea, or just canopy trees. Bear in mind the plants on a site need to be comparable in growth rates and compatible in size, otherwise the smaller and slower-growing ones may be smothered by the others. Planting each species in small groups will ensure that at least one will survive and flourish.

Planting for the future

Not all revegetation needs to be planted. As long as there is a seed source handy, ecosystems will restore themselves. Pasture kept free of fires, persistent weeds and browsing animals may turn into bracken or manuka, which in turn will probably be overtaken by native trees. Wetlands will usually revert rapidly to native sedges, rushes, shrubs and trees. Even a hillside of gorse or broom may become native forest over time.

Some encouragement may be required, such as control of invasive weeds, possums, rabbits or hares, and keeping the stock out of farm areas. Planting appropriate natives may speed the process by providing instant vegetation and seed sources, and attracting birds which bring yet more native seeds.

A classic example is The Hanger at Tutira - a rectangle of pasture fenced off by Herbert Guthrie-Smith in 1897 which is now a native forest.

Work in Progress The Haliburtons

Ross and Margaret Haliburton took over the family property at Kotemaori in 1972. A 39 hectare area of bush on the property, situated in a steep gully with the farm water source at the bottom, was slowly being degraded. On return from overseas the Haliburtons appreciated even more the special character of their bush and set about protecting it.

The bush was covenanted by the QEII National Trust in 1997. The area is now fully fenced and approximately 1000 plants per year are planted between April/May to allow good root establishment. All the seedlings are grown in their nursery and the seeds are sourced from their own bush area. Excess seedlings are offered commercially to farmers and gardeners.



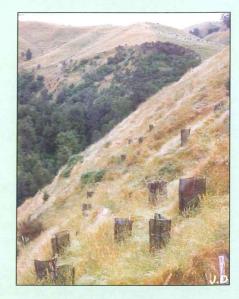
Propagation of native seedlings.

To help the seedlings establish, a 45cm square weed mat is placed around the

base of each plant to stop weeds and help moisture retention. Because of the steepness of their property the Haliburtons don't want to be carrying spray. Wind breaks and shade cloth are used on plants that need it, but the aim is to plant the faster growing nurse crop species first and interplant later with other less tolerant species.

The aim of the planting project is to enhance the remnant bush, give the soil more cover and encourage wildlife to flourish.

A tip from Margaret is to look at what is growing around you, i.e. road verges and stream margins. Start with these plants and build from there.



Native plants on farm hill country.

Work in Progress Karituwhenua Stream Landcare Group

This Havelock North group of residents was formed in 1992 and was the first *urban* Landcare Group in New Zealand. Their initial aim was to reduce the erosion and its effects caused by the spillway behind the Kingsgate Reserve, which affected neighbouring properties during flood peaks (the stream-bed is normally dry). After the Regional Council completed erosion control work, the group started in 1996 planting mainly native trees and shrubs and creating tracks from Te Mata Road for 1 km to the Hastings City boundary.



New plantings in the Karituwhenua Stream gully

The emphasis has been on native trees and flax planting (the latter for erosion control), although a more open area at the top end of the track is devoted to exotic, largely deciduous, specimen trees with lovely autumn colours.

About 55 families have donated money or time to buy trees, clear rubbish, and control blackberry, old man's beard, general rank growth and inappropriate robinias and macrocarpas. Possums have been a minor problem. Seventeen residences have adopted areas to maintain or develop, and given these catchy labels based on family names - such as 'Coombe's Cutting', 'Dougal's Dip', 'The Free Way'. The group has achieved the goal of erosion control and the result, within its urban setting, is a green, pleasant, tranquil place which is increasingly used as a walking trail.



Established planting

Their advice for planning something similar is: 1. Have a committed leader and a few planning meetings with interested people to sustain the activity; 2. Choose appropriate plants for the various micro-climates and locations; 3. Plant in autumn; 4. Use a slow release fertiliser or blood and bone; 5. Water in summer for the first two years; 6. Identify trees with a labelled stake to help people learn about natives and other plants.

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		Phormium cookianum	Mountain flax	DMW	_	•	•	Autumn	۰	Fast	4	Clump



Pingao, Desmoschoenus spiralus.



Ngaio, Myoporum laetum.



Karaka, Corynocarpus laevigatus.

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Hoheria populnea Lacebark DM L - Autumn - Fast 12 Kurzea ericoides Kanuka DM L - Autumn - Fast 12 Myssine australis Manou, Red matipou DM M - Autumn - Fast 18 Myssine australis Mapou, Red matipou DM M - Autumn - Fast 13 Petrosporum eugenioides Lemonwood, tarata DM L - Autumn - Fast 13 Petrosporum tenuifolium Rohubu DM L - Autumn - Fast 17 Petrosporum tenuifolium Rohubu DM L - Autumn - Fast 17 Petrosporum tenuifolium Rohubu DM L - Autumn - Fast 17 Petrosporum tenuifolium Rohubu DM L - Autumn - Fast 17 Petrosporum tenuifolium Rohubu DM L - Autumn - Fast 13 Petrosporum tenuifolium Rohubu DM L - Autumn - Fast 13 Petrosporum tenuifolium Rohubu DM L - Autumn - Fast 10 Petrosporum tenuifolium Rohubu DM L - Autumn - Fast 10 Petrosporum robusta Romanu DM L - Autumn - Fast 10 Podocarpus sapida Romanu DDM L - Autumn - Fast 6 Petrosporum raphiri Raiph's kohuhu Manuka DM - Autumn - Fast 6 Petrosporum raphiri Raiph's kohuhu M - Autumn - Fast 6 Petrosporum raphiri Silver fussock DM - Autumn - Fast 4 Petrosporum raphiri Petros	12	Hedycarya arborea	Pigeonwood	Σ	Σ			Autumn		Med	12	Bushy
Knightia excelsa Rewarewa DM L · · · Autumn · Fast 20 Mineaus articoides Kanuka DM L · · · Autumn · Fast 18 Mapou, Red matipou DM M · · · Autumn · Fast 18 Mapou, Red matipou DM M · · · · Autumn · Fast 18 Honomood, tarata M L · · · · Autumn · Fast 17 Fast 17 Fast 17 Fast 17 Fast 17 Fast 18 Fast 18 Fast 19 Fagianthus regius Ribbonwood, Horoeka DM M · · · · · Autumn · Fast 17 Fast 17 Fast 18 Fast 19 Fast 1	-	Hoheria populnea	Lacebark	DM	_			Autumn	•	Fast	12	Erect
Kunzea ericoides Kanuka DM L • Autumn Fast 18 Myrsine australis Mapou, Red matipou DM M • • Autumn Fast 18 Pennantia corymbosa Kaikomako DM M • • Autumn • Fast 13 Pittosporum eugenioides Lemonwood, tarata M L • • Autumn • Fast 13 Pittosporum eugenioides Lemonwood, tarata M L • • Autumn • Fast 17 Pittosporum teujfolium Ribbonwood M M • • Autumn • Fast 17 Podocarpus totara Distara DM L • • Autumn • Fast 17 Podocarpus totara Nikau DM L • • Autumn • Fast 10 Robrosassiolius Kowhai DM L • • Autumn • Fast 6 Coprosara robusta		Knightia excelsa	Rewarewa	DM	_			Autumn		Fast	20	Frect
Myrsine australis Mapou, Red matipou DM M L Autumn Med 12 Pennantia corymbosa Raikomako Pittosporum ralphii Robonwood, tarata Manuka Down L Coprosma robusta Ramuu DM Ramuka DM Ramun Ramuu DM Ramun Ramuu DM Ramun Ramuu DM Ramun Ramuu Ramuu DM Ramun Ramuu DM Ramun Ramuu Ramuu Manuka DM Ramun Ramun Ramuu Ramuu Ramuu Ramuu DM Ramun Ramun Ramuu	77.7	Kunzea ericoides	Kanuka	DM	_			Autumn		Fast	18	Frect
Pennantia corymbosa Kaikomako DM M • • • Autumn Med 12 Pittosporum eugenioides Lemonwood, tarata M L • • • Autumn • Fast 13 Pittosporum tenuifolium Kohuhu Pittosporum eugenioides Lemonwood, tarata DM L • • • Autumn • Fast 17 Podocarpus totara Pod	\$3	Myrsine australis	Mapou, Red matipou	DM	Σ			Autumn		Med	00	Bushy
Pittosporum eugenioides Lemonwood, farata M L Autumn Frast 13 Pittosporum tenuifolium Kohuhu Plagianthus regius Ribbonwood M M M Autumn Frast 17 Pseudopanax crassifolius Lancewood, Horoeka DM L Autumn Frast 130 Pseudopanax crassifolius Lancewood, Horoeka DM M Autumn Frast 130 Rhopalostylis sapida Nikau DM H Autumn Frast 10 Coprosma robusta Karamu DM L Autumn Frast 6 Hebe stricta Koromiko DM L Autumn Frast 6 Leptospermum scoparium Manuka DMW Autumn Frast 5 Pittosporum ralphii Ralph's kohuhu M Med 1 Poa cita Silver tussock DMW Autumn Frast 5 Phormium tenax Lowland flax, harakee DMW Autumn Frast 4 Phormium tenax Lowland flax, harakeke DMW Autumn Frast 4	= :	Pennantia corymbosa	Kaikomako	DM	≥			Autumn		Med	12	Bushy
Pittosporum tenuifolium Kohuhu DM L Autumn - Fast 17 Plagianthus regius Ribbonwood M M M Autumn - Fast 17 Pseudopanax crassifolius Lancewood, Horoeka DM M Autumn - Fast 130 Rseudopanax crassifolius Lancewood, Horoeka DM H Autumn - Fast 130 Rseudopanax crassifolius Lancewood, Horoeka DM H Autumn - Fast 130 Coprosma robusta Karamu DM L Autumn - Fast 10 Robiora spp. Coprosma robusta Karamu DM L Autumn - Fast 6 Robiora spiculata Akiraho DM Autumn - Fast 6 Olearia paniculata Akiraho DM Autumn - Fast 5 Pittosporum ralphii Ralph's kohuhu M Autumn - Fast 5 Poa cita Silver tussock DM Autumn - Fast 4 Poa cita Silver tussock DM Autumn - Fast 4 Phormium tenax Lowland flax, harakeke DMW Autumn - Fast 4	1	Pittosporum eugenioides	Lemonwood, tarata	≥	_			Autumn		Fast	13	Bushy
Plagianthus regius Ribbonwood M M M • • • Autumn • Fast 17 Podocarpus totara Totara Podocarpus totara Podocarpus totara Totara Podocarpus totara Totara DM L • • • Autumn • Fast 30 Autumn • Fast 13 All year Slow 12 Sophora spp. Coprosma robusta Kowhai Manuka DMW L • • • Autumn • Fast 10 Autumn • Fast 13 All year Slow 12 Autumn • Fast 13 All year 5 Fast 10 Coprosma robusta Koromiko DM L • • • Autumn • Fast 6 Autumn • Fast 6 Autumn • Fast 6 Autumn • Fast 6 Autumn • Fast 8 Autumn • Fast 4	The same	Pittosporum tenuifolium	Kohuhu	DM	7			Autumn		Fast	00	Bushy
Podocarpus totara Rebeatoria sapida Robhora spp. Coprosma robusta Romiko DM Cortaderia fulvida Silver tussock DM Cortaderia Rominim tenax Cortaderia Cortaderia Rominim tenax Cortaderia C	F	Plagianthus regius	Ribbonwood	Σ	≥			Autumn		Fast	17	Frect
Pseudopanax crassifolius Lancewood, Horoeka DM H • • • Autumn • Fast 13 Rhopalostylis sapida Nikau DM L • • • All year Slow 12 Coprosma robusta Karamu DM L • • • Autumn • Fast 10 Coprosma robusta Karamu DM L • • • Autumn • Fast 2 Leptospermum scoparium Manuka DMW • • • Autumn • Fast 6 Olearia paniculata Akiraho DM • • • Autumn • Fast 6 Cortaderia fulvida Toetoe DM • • • Autumn • Fast 4 Phormium tenax Lowland flax, harakeke DMW • • Autumn • Fast 4	100	Podocarpus totara	Totara	DM	_	•		Autumn		Fast	30	Frect
Rhopalostylis sapida Nikau DM H • All year Slow 12 Sophora spp. Coprosma robusta Karamu DM L • Autumn • Fast 10 Autumn Scoparium Scoparium Manuka DMW • • Autumn • Fast 2 Autumn Fast 2 DMW • • Autumn • Fast 6 Fast 6 DMW • • Autumn • Fast 5 Fast 5 Fast 6 DMW • • Autumn • Fast 5 Fast 5 Fast 6 Autumn Fast 8 Fast 6 Fast 6 Fast 6 Autumn Fast 8 Fast 6 Fast 7 Fast	65	Pseudopanax crassifolius	Lancewood, Horoeka	DM	≥			Autumn		Fast	13	Erect
Sophora spp. Kowhai DM L • • Autumn • Fast 10 Coprosma robusta Karamu DM L • • Autumn • Fast 2 Leptospermum scoparium Manuka DMW • • Autumn • Fast 2 Olearia paniculata Akiraho DM • • Autumn • Fast 5 Pittosporum ralphii Ralph's kohuhu M • • • Autumn • Fast 5 Cortaderia fulvida Toetoe DM • • Autumn • Fast 4 Poa cita DM • • • Autumn • Fast 4	The same	Rhopalostylis sapida	Nikan	DM	T			All year		Slow	12	Palm
Coprosma robustaKaramuDML•AutumnFast2Hebe strictaKoromikoDM•••AutumnFast2Leptospermum scopariumManukaDM•••AutumnFast5Olearia paniculataAkirahoDM•••Autumn•Fast5Pittosporum ralphiiRalph's kohuhuM•••Autumn•Fast4Cortaderia fulvidaSilver tussockDM••Autumn•Fast4Phormium tenaxLowland flax, harakekeDMW••Autumn•Fast4	No.	Sophora spp.	Kowhai	M	_			All year		Fast	10	Bushy
Hebe stricta Koromiko DM • Autumn Fast 2 Leptospermum scoparium Manuka DMW • • Autumn Fast 5 Olearia paniculata paniculata paniculata Akiraho DM • • Autumn Fast 5 Pittosporum ralphii Ralph's kohuhu M • • Autumn • Fast 4 Corfaderia fulvida Silver tussock DM • • Autumn • Fast 4 Phormium tenax Lowland flax, harakeke DMW • • Autumn • Fast 4		Coprosma robusta	Karamu	DM	-			Autumn		Fast	9	Bushy
Leptospermum scoparium Manuka DMW • • • All year • Fast 6 Olearia paniculata Akiraho DM • • • Autumn • Fast 5 Pittosporum ralphii Ralph's kohuhu M • • • Autumn • Fast 5 Cortaderia fulvida Toetoe DM • • Autumn • Fast 4 Poa cita Silver tussock DM • • Autumn • Fast 4 Phormium tenax Lowland flax, harakeke DMW • • Autumn • Fast 4			Koromiko	DM		•		Autumn		Fast	2	Bushy
Olearia paniculata Akiraho DM • • • Autumn • Fast 5 Fast Pittosporum ralphii Ralph's kohuhu M • • • Autumn • Fast 5 Fast Poa cita Toetoe DM • • • Autumn • Fast 4 Fast Phormium tenax Lowland flax, harakeke DMW • • • Autumn • Fast 4			Manuka	DMW		•	•	All year		Fast	9	Bushy
Cortaderia fulvida Toetoe DM • Autumn Fast 8 Cortaderia fulvida Toetoe DM • Autumn • Fast 4 Poa cita Silver tussock DM • Autumn • Fast 4 Phormium tenax Lowland flax, harakeke DMW • Autumn • Fast 4			Akiraho	DM				Autumn		Fast	2	Bushy
Cortaderia fulvida Toetoe DM • Autumn • Fast 4 Poa cita Silver tussock DM • Autumn • Fast 4 Phormium tenax Lowland flax, harakeke DMW • Fast 4		Pittosporum raipnii	Kalph's kohuhu	Σ				Autumn		Fast	∞	Bushy
Poa cita Silver tussock DM • Autumn • Fast 4 Poa cita Silver tussock DM • Autumn Med 1 Phormium tenax Lowland flax, harakeke DMW • Fast 4												
Froa cita Silver tussock DM • Autumn Med 1 Phormium tenax Lowland flax, harakeke DMW • • Autumn • Fast 4	H		loetoe	MO				Autumn		Fast	4	Clump
Friormillum tenax Lowland flax, harakeke DIMW • Autumn • Fast 4	3H.		Silver tussock	MO				Autumn		Med	-	Clump
	LO		Lowland flax, harakeke	DMW				Autumn		Fast	4	Clump







Pigeonwood, Hedycarya arborea.

Titoki, Alectryon excelsus.

Rewarewa, Knightia excelsa.

			Wha	it can the	What can the plant tolerate	ate			Growth		
	ınland/Upland Open Sites	pen Sites	Soil: Dry	Shade: Light			When to		4	Max.	
	Botanical Name	Common Name	Wet	Heavy	Wind	Frost	Seed	nuisery	Rate	Metres	Form
	Aristotella serrata	Wineberry, Makomako	≥ :	≥ :		•	Summer		Fast	∞	Bushy
	Carpodetus serratus	Putaputaweta	DM	≥		•	All year		Med	10	Bushy
	Cordyline australis	Cabbage tree, ti	DMW	_		•	Autumn		Fast	17	Erect
	Elaeocarpus hookerianus	Pokaka	≥	≥		•	Autumn		Med	14	Erect
	Fuchsia excorticata	Tree fuchsia, Kotukutuku	MM	≥		•	Autumn		Fast	12	Bushy
	Griselinia littoralis	Broadleaf	DM	≥		•	Autumn		Med	12	Bushy
		Narrow-leaved lacebark	MM	_		•	Autumn		Fast	10	Erect
ES		Kanuka	DM	_		•	Autumn		Fast	18	Erect
IAT		Red beech	≥	_		•	Autumn		Fast	30	Erect
		Heketara	Σ	_			Autumn		Med	00	Bushy
	Podocarpus hallii	Hall's totara	≥	Σ		•	Autumn		Med	20	Erect
T Y	Pseudopanax arboreus	Five finger	DM	Σ	•		Autumn		Fast	00	Bushy
	Pseudopanax crassitolius	Lancewood, Horoeka	M	Σ			Autumn		Fast	13	Erect
	Carmichaelia odorata	Control broom	MAC				V . 4		7		-
	Carronno and late	Scelled Diooill	MIN		•	•	Autumn		Med	7	Bushy
	Coprosina aleuala	Coprosina	NIMIN .	≥:	•	•	Autumn		Med	S.	Bushy
	Coprosina rotundina	Coprosma	MIN.	≥ :	•	•	Autumn		Med	2	Bushy
S	Coprosma virescens	Coprosma	MM	≥ .	•	•	Autumn		Med	9	Bushy
18		Korokio	NMO	_	•	•	Autumn		Med	m	Bushy
H	Leptospermum scoparium	Manuka	DMW		•	•	All year	•	Fast	9	Bushy
IS		Common tree daisy	≥	_	•	•	Autumn		Med	2	Bushy
	Ulearia virgata	Iwiggy tree daisy	DMW		•	•	Autumn		Fast	က	Bushy
	Pseudowintera colorata	Horopito	MM	Σ	•	•	Autumn		Med	9	Bushy
HEH		Hunangamoho	MM.			•	Autumn		Fast	2	Clump
1ТО	Chionochioa rubra	Red tussock	MM			•	Autumn		Med	-	Clump
				and in contrast of the last	-						



Native Fuchsia, Kotukutuku, Fuchsia excorticata.



Wineberry, Makomako, Aristotelia serrata.



Lancewood, Pseudopanax crassifolius.

ء	Max. Watres Form	238389728428	1 7 Bushy 1 7 Bushy 2 8 Bushy 2 7 Bushy 4 1 Fern 4 10 T/fern 5 7 T/fern 6 1 Clump 7 Vine 7 Vine 7 Vine
Grounth	Nursery Growth		Fast Fast Fast Fast Med Med Med Med Med Med Med Med Med Med
	When to collect	Autumn Autumn Autumn Autumn Autumn Autumn Autumn Autumn Autumn	Autumn Autumn Autumn Autumn Autumn
tolerate	Drost Frost		• • • • • •
What can the plant tolerate	Shade: Light Med Wind	SISISSSIISI	ESUS ISSEISIS
W	Soil: Dry Mod Wet		MWW MWW MW
	S Common Name	Tawa Kahikatea Rimu Hinau Tree fuchsia, kotukutuku Mahoe, whiteywood Black maire Red beech Black beech Matai Nikau palm	Rangiora Kanono Cabbage tree, ti ngahere Kawakawa Hen-and-chickens Shining spleenwort Ponga, silver fern Mamaku Wheki Bush lily, kakaha Puawhananga Turutu, blueberry
	Forest Situations Botanical Name (Beilschmiedia tawa Dacrycarpus dacrydioides Dacrydium cupressinum Elaeocarpus dentatus Fuchsia excorticata Melicytus ramiflorus Nestegis cunninghamii Nothofagus solandri Prumnopitys taxifolia Rhopalostylis sapida	Brachyglottis repanda Coprosma grandifolia Cordyline banksii Macropiper excelsum Asplenium bulbiferum Asplenium oblongifolium Cyathea dealbata Cyathea medullaris Dicksonia squarrosa Astelia nervosa Clematis paniculata
-	2	TREES	SAUAHS AHHTO



Kawakawa, Macropiper excelsum



Puawhananga, Clematis paniculata



Hen and Chicken Fern, Asplenium bulbiferum

			Who	toon tho	What can the nlant telegrate	oto			Crowth		
			VVIIC	וו כשוו וווב	piaiit tuiei	alc			GLOWIII		
3	Wetlands		Soil: Dry Mod	Shade: Light Med			When to collect	Nursery	Growth	Max. Height	
	Botanical Name	Common Name	Wet	Heavy	Wind	Frost	Seed	plant	Rate	Metres	Form
TREES	Cordyline australis Dacrycarpus dacrydioides Laurelia novae-zelandiae	Cabbage tree, ti Kahikatea Pukatea	MW	JΙΣ	• •	• •	Autumn Autumn Autumn	•	Fast Med Med	17 50 30	Erect Erect Erect
SHRUBS	Leptospermum scoparium Coprosma propinqua Myrsine divaricata Plagianthus divaricatus	Manuka Mingimingi Weeping matipo Saltmarsh ribbonwood	DMW DMW MW WSalt	Σ			All year Autumn Autumn Autumn	• •	Fast Med Med Med	3020	Bushy Bushy Bushy Bushy
ОТНЕВ	Carex comans Carex secta Carex virgata Chionochloa rubra Cortaderia fulvida Cortaderia toetoe Cyperus ustulatus Deschampsia caespitosa Hierochloe redolens Juncus gregiflorus Juncus gregiflorus Juncus kraussii Leptocarpus similis Phormium tenax Typha orientalis	Tussock sedge Purei Tussock sedge Red tussock Toetoe Umbrella sedge Wavy hair grass Karetu, holy grass Common rush Sea rush Jointed rush, oioi Lowland flax, harakeke	MW WW MWW MWW MWW MWW MWW MWW MWW MWW M				All year All year All year Autumn Autumn Autumn Autumn Autumn All year All		Slow Slow Slow Med Fast Fast Med Med Med Med Fast Fast Fast Fast Med Fast Fast Fast Fast Fast Fast Fast Fast	^	



Purei, Carex secta



Red Tussock, Chionochloa rubra



Kahikatea, Dacrycarpus dacrydioides

-		medining daga daga daga sanga manan manan daga daga sanga sanga sanga sanga sanga sanga sanga sanga sanga sang	W	What can the plant tolerate	olant toler	ate			Growth		
	Riparian Situations	ons	Soil:	Shade:			1471				
1			Mod	Med			when to collect	Nursery	Growth	Max. Height	
	Botanical Name	Common Name	Wet	Heavy	Wind	Frost	Seed	plant	Rate	Metres	Form
	Cordyline australis	Cabbage tree, ti	DMW	_			Autumn		Fast	17	Frect
		Narrow-leaved lacebark	MM	_	•		Autumn		Fast	10-	Erect
EES		Lacebark	MO :	_			Autumn		Fast	12	Erect
ЯT		Kanuka	DA:	_ :			Autumn		Fast	18	Erect
	Pseudopanax crassitolius	Lancewood	M :	≥ .			Autumn	•	Fast	13	Erect
	sopnora spp.	Kowhai	MU	_			All year		Fast	9	Bushy
	Carmichaelia odorata	Scented broom	DM				Autumn		Med	2	Bushy
	Coprosma crassifolia		DM	_	•	•	Autumn		Med	4	Bushy
	Coprosma propinqua	Mingimingi	DMW		•		Autumn		Med	2	Bushy
	Coprosma virescens		MM	Σ	•		Autumn		Med	9	Bushy
		Korokio	DMW				Autumn		Med	က	Bushy
BB	_	Cabbage tree, ti ngahere,	Σ				Autumn		Fast	က	Bushy
ายเ		Mingimingi	MO		•		Autumn		Med	2	Bushy
IS		Koromiko	D C			•	Autumn		Fast	2	Bushy
	Leptospermum scoparium	Manuka	DIMIN				All year		Fast	9	Bushy
	Ulearia arborescens	Common tree daisy	≥ :				Autumn		Med	2	Bushy
	Olearia rurruracea	Akepiro	≥ :	_			Autumn		Med	2	Bushy
	Dittana Viigala	Iwiggy tree daisy	DIMIN				Autumn		Fast	က	Bushy
	rinosporum raipiiii	Kalpn s Konunu	≥				Autumn		Fast	œ	Bushy
	Cortaderia fulvida	Toetoe	DMW				Autumn		Fast	4	Clump
ł	Machaerina sinclairii	Broadleaved sedge	MM	7			Autumn		Med	-	Clump
ΞH		Coastal flax	DMW	_			Autumn		Fast	4	Clump
TO	Phormium tenax	Lowland flax/harakeke	DMW				Autumn		Fast	4	Clump
	Libertia grandifiora	NZ Iris, tukauki	DM	_			Autumn		Med	7	Clump



Toetoe, Cortaderia fulvida



Koromiko, Hebe stricta



Kowhai, Sophora spp

			Wh	What can the plant tolerate	plant toler	ate			Growth		
Š	Urban/Semi-Urban Sites	an Sites	Soil: Dry Mod	Shade: Light Med			When to collect	Nursery	Growth	Max. Height	
	Botanical Name	Common Name	Wet	Heavy	Wind	Frost	Seed	plant	Rate	Metres	Form
TREES	Cordyline australis Hoheria populnea Kunzea ericoides Metrosideros robusta Pittosporum eugenioides Pseudopanax crassifolius Sophora spp.	Cabbage tree, ti Lacebark Kanuka Northern rata Lemonwood, tarata Lancewood	WW W W W W W W W W W W W W W W W W W W	<u></u>		• • • • • •	Autumn Autumn Autumn Autumn Autumn Autumn		Fast Fast Med Fast Fast Fast	7 1 2 2 4 2 1 1 1 1 1 3 3 1 1 1 1 1 1 1 1 1 1 1 1	Erect Erect Erect Bushy Bushy Erect Bushy
SAURHS	Clianthus puniceus Cordyline banksii Corokia cotoneaster Gaultheria antipoda Griselinia lucida Hebe spp. Leptospermum scoparium Macropiper excelsum Olearia nummulariifolia	Kakabeak Cabbage tree, ti ngahere Korokio Snowberry Puka Manuka Kawakawa Shrub daisy	MW M	<u>S</u>			All year Autumn Autumn Autumn Autumn All year Autumn	•	Fast Med Slow Med Fast Fast Fast Slow	2 8 8 5 5 2 9 7 2 7 9 7 7 9 7 9 7 9 7 9 9 9 9 9 9	Bushy Bushy Bushy Bushy Bushy Bushy Bushy Bushy Bushy
яэнто	Asplenium spp. Cyathea spp. Dicksonia spp. Astelia nervosa Phormium spp. Arthropodium cirratum	Spleenworts Tree ferns Wheki, wheki-ponga Bush lily, kakaha Flax Rengarenga, lily	MW MW DMW DMW	≥≥∰≥ ≥			Autumn Autumn Autumn		Med Fast Med Med Fast Med	- 1 2 - 4	Ferns T/fern Clump Clump Clump



Northern Rata, Metrosideros robusta



Kakabeak, Clianthus puniceus



Cabbage Tree, Cordyline australis

ility	qe	an ur	year	or	ur	qe	br.	pr	Oe Oe	qe	lar	an	ar	ay	pr	pr	In In	00	pr	pr	lar la	year	lar	ep
Availability	Nov-Feb	Sep-Jan	Much of year	Oct-Apr	Feb-Jun	Aug-Feb	Jan-Aug	Feb-Apr	Oct-Dec	Sep-Feb	Nov-Mar	Nov-Jan	All year	Jan-May	Feb-Apr	Feb-Apr	Mar-Jul	Aug-Nov	Jan-Apr	Jan-Apr	Jan-Mar	Much of year	Dec-Mar	Nov-Feb
00d Quality	Okay	Best	Okay	Best	Best	Best	Good	Okay	Best	Good	Good	Best	Good	Good	Good	Poop	Good	Best	Good	Good	Good	Good	Good	Best
- Silvereye F Food provided ¹	Fruit	Flowers, Fruit	Flowers, Fruit	Flowers, Fruit	Fruit	Nectar, Fruit	Fruit	Flowers	Nectar	Flowers	Fruit	Nectar	Honeydew	Fruit	Fruit	Fruit	Fruit	Nectar	Fruit	Fruit	Fruit	Flowers, Insects, Honeydew	Fruit	Nectar, Insects
Native Plants for Bellbird - Tui - Silvereye Food Botanical name Common name Food provided Qu	Titoki	Wineberry, makomako	Putaputaweta	Cabbage tree, ti	Kahikatea	Tree fuchsia	Broadleaf	Lacebark	Rewarewa	Kanuka	Mahoe, whiteywood	Northern rata	Black beech	Kaikomako	Hall's totara	Totara	Lancewood	Kowhai	Taupata	Karamu	Coprosma	manuka	Horopito	Flax, harakeke, wharariki
tive Plants for	Alectryon excelsus	Aristotelia serrata	Carpodetus serratus	Cordyline australis	Dacrycarpus dacrydioides	Fuchsia excorticata	Griselinia littoralis	Hoheria populnea	Knightia excelsa	Kunzea ericoides	Melicytus ramiflorus	Metrosideros robusta	Nothofagus solandri	Pennantia corymbosa	Podocarpus hallii	Podocarpus totara	Pseudopanax crassifolius	Sophora spp.	Coprosma repens	Coprosma robusta	Coprosma rotundifolia	Leptospermum scoparium	Pseudowintera colorata	Phormium spp.
B									S	331	11										88	nal	IS	

¹ Flowers attract insect food for these birds.

Native Plants for Kereru (NZ pigeon) Food

Common name Food provided Quality Availability Tiloki Fruit Good Nov-Feb Wineberry Leaves, Fruit Good Nov-Feb Tawa Fruit Best Dec-Jun Kanaka Fruit Best Jan-Apr Kanikatea Fruit Good Cct-Feb Fruit Good Cct-Feb Fruit Good Oct-Feb Adhoe/whiteywood Leaves, Flowers Okay Much of year All year Fruit Good Feb-Apr Fluit Good Feb-Apr Fluit Good Feb-Apr Fluit Good Feb-Apr Fruit Good Feb-Apr Fluit Good Feb-Apr Fruit Good Feb-Apr
Fruit
ywood ywood
mon name erry erry ge tree/ti tea chsia eaf wood ark //whiteywood palm totara totara ina
Common Titoki Wineberry Tawa Cabbage tree Karaka Kahikatea Tree fuchsia Broadleaf Pigeonwood Lacebark Mahoe/white Black maire Nikau palm Hall's totara Totara Five finger Lancewood Kowhai
Alectryon excelsus Aristotelia serrata Beilschmiedia tawa Cordyline australis Corynocarpus laevigatus Dacrycarpus dacrydioides Fuchsia excorticata Griselinia littoralis Hedycarya arborea Hotheria populnea Melicytus ramiflorus Nestegis cunninghamii Rhopalostylis sapida Podocarpus totara Podocarpus totara Pseudopanax arboreus Pseudopanax crassifolius Sophora spp.
SHRUBS TREES

PLANTING AND PLANT CARE

Key factors for successful planting

- Timing the best time to plant is from late May until September.
- Fertiliser/manure the use of a slow release fertiliser when planting will provide the necessary nutrients.
- Staking and windbreaks in an exposed site it may be necessary to protect the seedlings.
- Weed and pest control this is needed to ensure long term survival of the plants.
- Irrigation water your plants into the roots (not the leaves) either early or late in the day if required.

When to Plant

Plant from May until September for a more successful result. In drier sites, plant as early as possible to allow the plant to develop adequate roots to sustain it through the summer months. Irrigation is critical to ensure your plants survive in drier soils or through the summer. In dry winters, planting should not take place until enough rain has fallen to make the ground easy to dig.

Once you have planned what you are to plant and when, order your plant supplies well in advance. Many nurseries have a peak demand period and you might miss out on the plants you want or the right delivery time.

Choosing a site

Careful site selection and good site preparation are the main ingredients for successful plant growth. Select plants to suit the conditions. Look at what is growing nearby, as this may give you some indication of what to grow. Look at your site and list the limitations it may have -

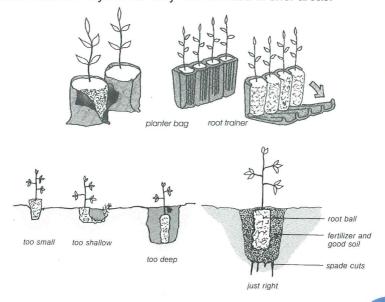
- frost-prone?
- poor soil, swampy ground, sandy soil, dry, steep sloping?
- · exposed to wind, especially salt wind if it is near the coast?
- north or south facing?
- sunny or shady?

Site preparation

- · Fencing out stock is absolutely essential when planting on farm land.
- Control pests. If you don't reduce or eliminate rabbits, hares and possums then many plants may be damaged or destroyed. Possums can be found in city gardens and you need to get rid of them.
- Eliminate weeds and grass for about a metre around the planting area either physically or by spraying a spot where you wish to put each plant approximately six weeks beforehand.
- Mulch each plant, especially if you have not sprayed, about a metre around the planting position.
- Dig a hole that is larger than needed and loosen the edges to give your plant a good start.
- You may like to add soil conditioner (e.g. compost) if ground is poor.

Getting plants in the ground

- Dense planting is advised (i.e. 1m apart) when planting a large area. The dense
 planting helps provide cool cover for tender roots and also keeps weeds down.
 When plants become established you can thin them out so that larger plants have
 enough space to grow and flourish.
- When planting from root trainers and planter bags, dig the holes deep enough so that the base of the plant will be buried. Loosen the roots, add some manure or slow release fertiliser. Crystal rain may also be used in drier areas.



After planting

- Keep up the pest control. Don't waste all that early work only to have young trees eaten away.
- Clear any competing weeds and grass from around your trees. This may be either by chemical or mechanical means and generally needs to be done regularly in the first and second year.
- Keep soil well irrigated/damp during the first few months, and again during dry seasons.
- Maintain mulching to retain soil moisture and reduced weed growth.

Animal Pests

- Foraging animals rabbits, possums, deer and stock will eat new growth or break off branches which stunts or kills your plants.
- Carry out pest control for possums, hares and rabbits well before you start planting and continue to maintain animal pests at low levels.
- Fence out stock from any restoration or planting either permanently, or temporarily if you are able to use individual stock guards once the plants are better established.

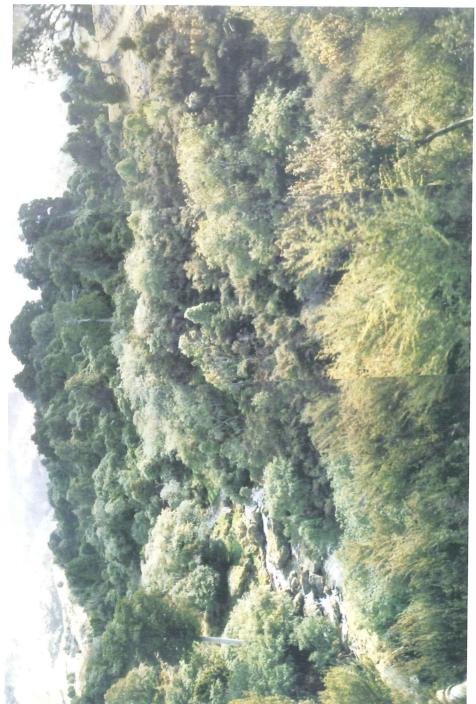
Plant Pests

Help your existing or newly planted natives flourish by not letting plant pests (weeds or noxious plants) take over. When introduced species take over or displace native plants, native wildlife can be deprived of its food source and habitat. Clear plant pests before you plant and grub out or spot spray regrowth as it occurs.

In New Zealand over 2000 introduced species have gone wild, with another 17,000 growing nicely in our gardens. Compare this with approximately 2100 formally named and described native plant species.

If you live near bush margins, you can prevent exotic plants from "escaping" by not dumping garden refuse illegally near the bush. Seaside daisy, Morning glory, Japanese honeysuckle, Banana passionfruit, Wild ginger, and Tuber ladder fern have been attractive garden plants that have aggressively adapted to life in the bush, and smother or otherwise compete with native species.

Useful information on plant pests and their control is available from Hawke's Bay Regional Council - contact Biosecurity (Plant Pest) Officers.



Sir Rodney Gallen and Peter Lattey's QEII National Trust block at Te Pohue

Where to find out more

The following reference books should be available through libraries and bookshops. To contact the organisations refer to The Telephone Book or a Council register of community organisations.

Plant identification

Flowering plants of New Zealand. Webb, C., Johnson, P. and Sykes, B. 1990. DSIR Botany. Native New Zealand flowering plants. Salmon, J.T. 1991. Reed.

The native trees of New Zealand. Salmon, J.T. 1986. Reed.

Trees and shrubs of New Zealand. Poole, A.L. and Adams, N.M. 1990. Manaaki Whenua Press. Wetland plants in New Zealand. Johnson, P. and Brooke, P. 1998. Manaaki Whenua Press. New Zealand trees and shrubs. Metcalf, L. (revised 2000). Reed.

Propagation and planting

Ferns for New Zealand gardens. Van der Mast, S. and Hobbs, J. 1998. Godwit. Native forest restoration: a practical guide for landowners. Porteous, T. 1993. QEII National Trust.

The cultivation of New Zealand native grasses. Metcalf, L. 1998. Godwit.

The cultivation of New Zealand plants. Metcalf, L. 1993. Godwit.

The native garden: design themes from wild New Zealand. Gabites, I. and Lucas, R. 1998. Godwit.

The propagation of New Zealand native plants. Metcalf, L. 1995. Godwit.

The QuickFind guide to growing native plants. Crowe, A. 1979. Viking.

The gardner's encyclopedia of New Zealand native plants. Cave, Y. and Paddison, V. 1999. Godwit.

Organisations

Department of Conservation - Napier, Wairoa & Ongaonga, Hawke's Bay Regional Council – Napier, Taradale, Wairoa & Waipukurau, Genesis Reforestation Trust Forest and Bird branches – CHB, Hastings-Havelock North, Napier, Wairoa, NZ Landcare Trust, Hawke's Bay Landcare Foundation, Territorial Authorities - parks and reserves departments, garden centres and specialist nurseries, local garden clubs.

Acknowledgements

Geoff Wall, consultant - text advisory and photos

Marie Taylor, QE II National Trust - photos

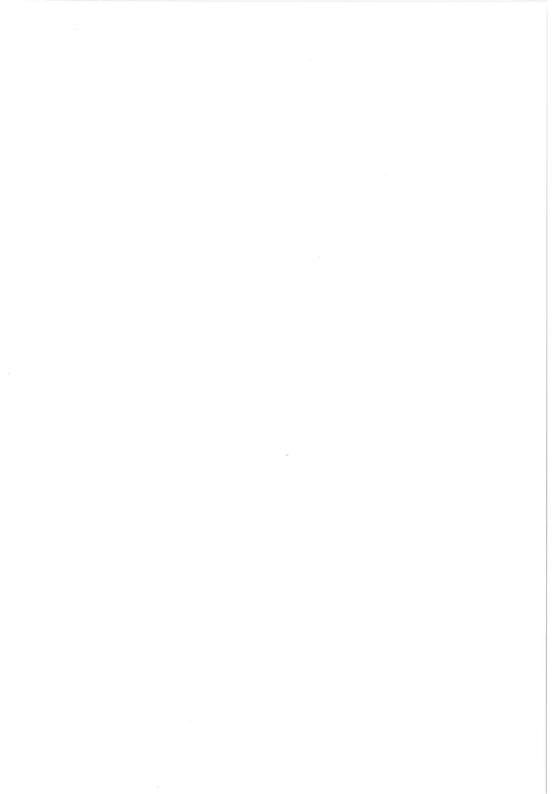
Sally Hobson, Joe Devonport, Susan Wylie & Stu Davey of Hawke's Bay Regional Council – text supervision, photos, layout and design.

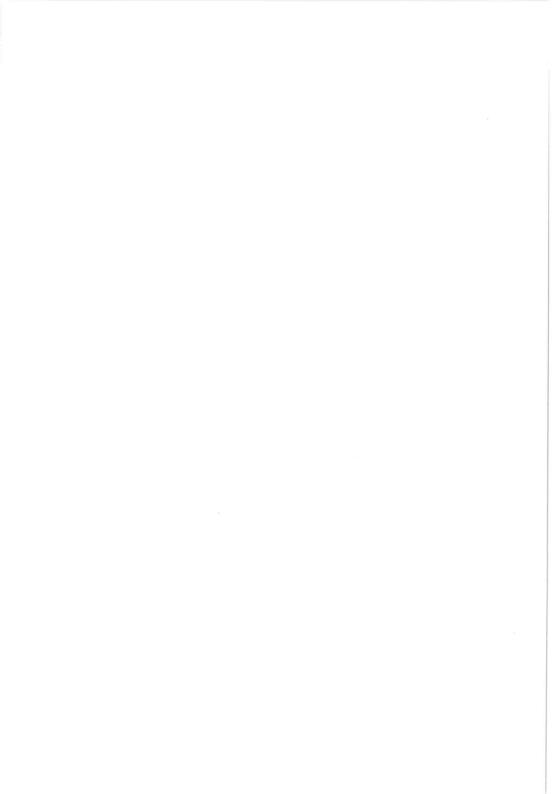
Ross and Margaret Haliburton

Photograph acknowledgements:

G.W - Geoff Wall
S.W - Susan Wylie
A.L - Andrew Lamason

M.T - Marie Taylor
J.D - Joe Devonport
D.F - Dougal French







Wetlands (p14)



Riparian (p16)



Urban/Semi Urban (p18)





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Hawke's Bay Conservancy, Conservation House, 59 Marine Parade, PO Box 644, Napier, New Zealand. Telephone 06 834 3111, Fax 06 834 4869