



AMENITY PLANTING GUIDELINES FOR BIODIVERSITY PROTECTION IN WATAKERE CITY

- Including **UNWANTED PLANTS**

These guidelines are for those people working on subdivisions, consents, landscape designs, community assistance, ... They are NOT for ecological/revegetation planting and not for stream/pond edge planting - where it is crucial to limit plants to those that would occur naturally in the area. If ecological plantings are planned please consult the appropriate guidelines.

The concept of the ecocity includes the objective of maintaining the natural biodiversity of the City. While amenity planting may not have this as its central purpose it is requested that what is done for amenity purposes, at least not provide potential to damage local biodiversity. For this reason the following guidelines have been generated. (See page 8 for a definition of 'biodiversity' and other related terms).

As a general rule, we prefer plants that are native to Waitakere City. (This helps to keep the distinctive look and feel of the area and emphasize the positive impacts of our amenity planting. It also has the greatest potential to help protect local plant and habitat diversity (biodiversity.) Lists of plants native to Waitakere are available as Appendices to Protected Natural Area (PNA) reports or through Green Network staff members.

Protection of local native biodiversity is the central theme – and objective. This is explained in Attachment 3. Invasive plants, native species from other parts of the country that readily hybridise with locally native species, and non-ecosourced locally native plants **all cause harm** to local biodiversity.

Invasive plants or environmental weeds are banned because they are invasive. In their home country browsers, pests or climate would control these plants. In NZ they pose a threat because they spread rapidly and overrun the native plants that make up the NZ bush and streamsides. This destroys the ability of these areas to remain healthy, and support the plants and wildlife that naturally live there. This then damages the water quality of our streams. Remember, weeds spread beyond their original site using wind, water, birds and people. Keeping them under control in the garden is not effective. (A comprehensive list of such plants is maintained and regularly updated by staff – and is titled 'Invasive & Environmental Weeds Of Waitakere').

The unwanted native plants are those that are not locally native **and** readily hybridise across species causing genetic disruption to local populations and reducing their potential to survive. Such cross-pollination will cause loss of local biodiversity. This can have extreme consequences, including extinction.

Ecosourced plants are preferred or required in order to help maintain the natural diversity within local populations. Seed sourced from outside the area of local populations can threaten this. Such populations can be quite localised – so the golden rule is to source from as close as possible to the planned planting site.

Some local nurseries display the label (right) on their plants. The information contained within this label tells you the area where this plant is most appropriately planted – based on where the seed for this plant was collected.



A special mention must be made of rare plants in Waitakere City. These are listed in the attachments at the end of this document. Although we encourage the planting of rare plants, we are keen that this is done in a controlled manner and the locations of these plantings should be documented. Please contact the Landscape Planning Coordinator before planning the planting of any of the rare species.

"It is important to understand that indigenous biodiversity is a global concept. The adding of plants to a landscape, whether they are exotic or native species, may initially increase species richness (of that site), but does not necessarily prevent the decline of overall global biodiversity. In fact, these new plants may crowd out ... established (or establishing) indigenous species and further reduce overall biodiversity."

(Weaving Resilience Into Our Working Lands: recommendations for the future roles of native plants; Office of the Parliamentary Commissioner for the Environment, 2002.)



GUIDELINES

A map showing the following areas is available.

(O:/GIS/Service_Mgmt/Chris_Ferkins/PlantingAreas_291203.wor)

AREA 1:

Urbanised areas. That is those areas approximately east of a line along: Hobsonville Rd, Don Buck Rd, Glen Rd, Birdwood Rd, Candia Rd, Henderson Valley Rd, Pine Ave, Glengarry Rd, Kaurilands Rd, Godley Rd.

Encouraged: Plants native to Waitakere and selected for their suitability for the site including: microclimate, soil conditions and amenity requirements including their mature size.

Prefer strongly: (i.e. you need to provide good justification if you are unable to comply) Ecosource all native plants as per 'Ecosourcing Code Of Practice & Ethics'

Unwanted
(External operations):

All plants on the 'Invasive or Environmental Weeds of Waitakere' list

- This list includes the Phoenix Palm - *Phoenix canariensis*

Non-local species with potential to cross pollinate or hybridise with local species or local populations:

Australian tea tree (*Leptospermum laevigatum*)

Queensland kauri (*Agathis robusta*)

Offshore island kawakawa (*Macropiper excelsum* var. '*psittacorum*')

Offshore island nikau (*Rhopalostylus* sp.)

Kamahi (*Weinmania racemosa*)

Metrosideros "Tahiti"

Kermadec Island Pohutukawa (*Metrosideros kermadecensis*)

Hoheria sexstylosa

Griselinia littoralis

Sophora tetraptera

Non-ecosourced *Coprosma macrocarpa*

Variiegated plants of noxious species

Hybrids, cultivars or varieties of noxious species

Genetically modified plants.

Council operations: Please use 'Unwanted' guidelines from 'Area 2'.

GUIDELINES

- AREA 2:** Rural/Foothills/Waitakere Ranges east of the main divide – i.e. from boundary of Area 1 to Scenic Drive, Waitakere Rd.
- Encouraged: Plants native to Waitakere and selected for their suitability for the site including: microclimate, soil conditions and amenity requirements including their mature size
- Required: Ecosource all native plants as per 'Ecosourcing Code Of Practice & Ethics'
- Unwanted: All plants on the 'Invasive or Environmental Weeds of Waitakere' list
This list includes the Phoenix Palm - *Phoenix canariensis*
- (Council operations - please consider these unwanted plants as banned)
- Non-local species with potential to cross pollinate or hybridise with local species or local populations:
Australian tea tree or coast tea tree (*Leptospermum laevigatum*)
Queensland kauri (*Agathis robusta*)
Offshore island kawakawa (*Macropiper excelsum* var. '*psittacorum*')
Offshore island nikau (*Rhopalostylus* sp.)
Kamahi (*Weinmania racemosa*)
Ackama rosaefolia (*Calcdcluvia rosaefolia*)
Griselinia littoralis
Non-ecosourced *Coprosma macrocarpa*
Non-ecosourced Hebe
Metrosideros "Tahiti"
Kermedic Island Pohutukawa (*Metrosideros kermadecensis*)
All other *Metrosideros* (pohutukawa or rata) except ecosourced
Metrosideros excelsa, *M. robusta*, *M. perforata* and *M. carminea*
All *Sophora* (*kowhai*) except ecosourced *S. microphylla* var. *microphylla*
All *Hoheria* (lacebark) except ecosourced *H. populnea*
All *Pseudopanax* (fivefinger) except ecosourced *P. crassifolius*, *P. lessonii*, *P. arboreus*, *P. anomalus* and *P. edgerleyi*
All *Pittosporum* except ecosourced *P. crassifolium*, *P. kirkii*, *P. tenuifolium* *P. eugenioides* and *P. ellipticum*
- All variegated plants of any native or noxious species
All hybrids, cultivars and varieties of any native or noxious species
All genetically modified plants.
- Banned: All species as per controls within the Regional Pest Management Strategy (RPMS) and any other Biosecurity regulations.

GUIDELINES

- AREA 3:** West of the main divide – i.e. from boundary of Area 2 to the West Coast or Manukau Harbour Coast
- Encouraged:** Plants native to Waitakere and selected for their suitability for the site including: microclimate, soil conditions and amenity requirements including their mature size
- Required:** Ecosource all native plants as per 'Ecosourcing Code Of Practice & Ethics'
- Unwanted:** Same as Area 2 i.e.:
- (Council operations - please consider these unwanted plants as banned)
- All plants on the 'Invasive or Environmental Weeds of Waitakere' list (this list includes the Phoenix Palm - *Phoenix canariensis*),
- Non-local species with potential to cross pollinate or hybridise with local species or local populations:
- Australian tea tree or coast tea tree (*Leptospermum laevigatum*)
 - Queensland kauri (*Agathis robusta*)
 - Offshore island kawakawa (*Macropiper excelsum* var. '*psittacorum*')
 - Offshore island nikau (*Rhopalostylus* sp.)
 - Kamaha (*Weinmania racemosa*)
 - Ackama rosaefolia* (*Caldcluvia rosaefolia*)
 - Griselinia littoralis*
 - Non-ecosourced *Coprosma macrocarpa*
 - Non-ecosourced Hebe
 - Metrosideros* "Tahiti"
 - Kermedic Island Pohutukawa (*Metrosideros kermadecensis*)
 - All other *Metrosideros* (pohutukawa or rata) except ecosourced *Metrosideros excelsa*, *M. robusta*, *M. perforata* and *M. carminea*
 - All *Sophora* (kowhai) except ecosourced *S. microphylla* var. *microphylla*
 - All *Hoheria* (lacebark) except ecosourced *H. populnea*
 - All *Pseudopanax* (fivefinger) except ecosourced *P. crassifolius*, *P. lessonii*, *P. arboreus*, *P. anomalus* and *P. edgerleyi*
 - All *Pittosporum* except ecosourced *P. crassifolium*, *P. kirkii*, *P. tenuifolium* *P. eugenioides* and *P. ellipticum*
- All variegated plants of any native or noxious species
- All hybrids, cultivars and varieties of any native or noxious species
- All genetically modified plants.
- Banned:** All species as per controls within the Regional Pest Management Strategy (RPMS) and any other Biosecurity regulations.

Rare and Endangered Plant Species

(There are 4 ecological districts which impact on Waitakere City area. These are Waitakere, Tamaki, Rodney and Manukau Ecological Districts. These are all within the Auckland Ecological Region. We currently hold detailed information and lists of rare plants only for Waitakere and Tamaki Ecological Districts.)

Attachment 1

Rare and Endangered Plant Species Within **Waitakere Ecological District**

There are 21 rare and endangered plants within Waitakere Ecological District. They are listed below with an indication of their status.

E = endangered

V = vulnerable

R = rare

I = indeterminate

L = local

Dicotyledenous trees & shrubs

Hebe bishopiana	R	hebe
Pimelea arenaria	I	sand pimelea
Pimelea tomentosa	I (V)	tomentose pimelea
Tupeia antarctica	L	mistletoe
Loxoma cunninghamii	L	(historical record)
Marattia salacina	R	king fern

Ferns

Ophioglossum petiolatum	V
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Orchids

Bulbophyllum tuberculatum	L
Thelymitra tholyformis	R
Yoania australis	L

Sedges

Baumea complanata	E	(historical record)
Desmoschoenus spiralis	L	pingao
Eleocharis neozelandica	V	spike rush
Juncus holoschoenus	I	rush

Monocotyledonous herbs

Libertia peregrinans	I	(historical record)
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Dicotyledonous herbs

Lepidium flexicaule	V	(historical record)
Lepidium oleraceum	V	(historical record)
Leptinella rotundata	V	shore cotula (historical record)
Myosotis petiolata var. pansa	L	forget-me-not
Ranunculus urvilleanus	R	hairy buttercup
Utricularia australis	I	bladderwort

Also of note are 2 other locally endemic plants: *Celmisia major* var *major*, and *Sophora microphylla* var *fulvida*

For further info refer to the Waitakere Ecological District Report.

Rare and Endangered Plant Species Within Tamaki Ecological District

There are ... rare and endangered plants within Tamaki Ecological District. They are listed below with an indication of their status.

E = endangered

V = vulnerable

R = rare

I = indeterminate

L = local

This list is not complete. Below is a list of rare plants from Waikumete Cemetery. Waikumete Cemetery includes gumland habitat and is within the Tamaki Ecological District.

Waikumete Rare Plants Report to Treescape

(List from PJ de Lange & G Crocroft, October 2001. Waikumete Cemetery: Threatened and Uncommon Plant Survey and Management Report.)

Grasses

Dichelachne inaequiglumis

gum grass

Paspalum orbiculare

native paspalum

Orchids

Caladenia alata

Caladenia atradenia

Caladenia bartlettii

Caladenia chlorostyla

Corybas cheesemanii

Cheeseman's helmet orchid

Corybas oblongus

Spider orchid

Gastrodia aff. sesamoides

potato orchid/perei

Genoplesium pumilium

midge orchid

Microtis aff. parviflora

onion-leaved orchid

Microtis unifolia

onion-leaved orchid

Orthoceras novae-zeelandiae

grassland orchid

Plumatochilus tasmanicus

Pterostylis agathicola

kauri green hood

Pterostylis trullifolia

trowel-leaved green hood

Pterostylis aff. graminea

Thelymitra aemula

blue sun orchid

Thelymitra carnea

pink sun orchid

Thelymitra colensoi

sun orchid

Thelymitra pulchella

sun orchid

Thelymitra tholiformis

sun orchid

Thelymitra aff. ixioides

spotted sun orchid

Thelymitra aff. longifolia

sun orchid

Thelymitra aff. pauciflora

blue sun orchid

Dicotyledonous Composite Herbs

Picris burbidgei

native oxtongue

Dicotyledonous Vines

Calystegia marginata

small-flowered bindweed

Defining Biodiversity

For additional discussion on biodiversity see: 'Biodiversity and its value – Biodiversity Paper Series, Paper No. 1' at <http://chm.environment.gov.au/publications/op1.html> and New Zealand's Biodiversity Strategy - Our Chance to Turn the Tide - http://www.doc.govt.nz/cons/biodiversity/biodiversity_template.html Convention on Biological Diversity, United Nations Environment Programme - www.biodiv.org

Biological Diversity:	The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems (Convention on Biological Diversity). Components include:
Genetic Diversity:	Genetic diversity refers to the variability in the genetic makeup among individuals within a population.
Species Diversity:	Species diversity refers to the range of species native to a particular geographical area. A species is a group of organisms that have evolved distinct inheritable features and occupy a unique geographic area. Species are usually unable to interbreed with other species due to such factors as genetic divergence, different behaviour and biological needs, and separate geographic location. However several plant species readily cross-pollinate and produce hybrids. Natural barriers help to isolate populations. These barriers include: historical (remnant patches of vegetation); climatic or micro-climatic (valley bottoms and swamps versus ridge-tops); substrate (volcanic soils bordering alluvial areas); and topographical barriers (islands isolated by surrounding water and ridge-lines that cause seed transporting water to flow in one direction or another). Such barriers are a significant factor in the development and maintenance of diversity in the New Zealand landscape.
Ecological (ecosystem) Diversity:	Ecological diversity refers to the variety of ecosystem types (for example, forests, deserts, grasslands, streams, lakes, wetlands and oceans) and their biological communities that interact with one another and their non-living environments. An ecosystem is an interacting system of living and non-living environments. An ecosystem is an interacting system of living and non-living parts such as sunlight, air, water, minerals and nutrients. Ecosystems can be small and short-lived, for example, water-filled tree holes or rotting logs on a forest floor, or large and long-lived such as forests or lakes.
Biosecurity:	The protection of people and natural resources, including biodiversity, from unwanted organisms capable of causing harm. This harm often includes loss of local biodiversity.

Ecological District:	A local part of New Zealand where the features of geology, topography, climate and biology, plus the broad cultural pattern, interrelate to produce a characteristic landscape and range of biological communities unique to that area. Two hundred and sixty-eight Ecological Districts in New Zealand have been identified and mapped (at 1:500,000 scale).
Ecosourcing:	<p>Practices using native plants in gardening, horticulture, landscape design and revegetation, that preserve and continue natural, genetic diversity (biodiversity) in local native plant populations.</p> <p><i>Ecosourcing has 2 key aspects:</i></p> <ol style="list-style-type: none"> 1) using local native seeds for local planting; 2) collecting representative diversity from the local population (by collecting seed from many individual plants from within the wild population, by collecting from different habitats within the population area, etc). <p>Deciding what area the 'local population' occupies is important. The Code of Practice & Ethics gives guidelines and discussion on this.</p> <p><i>Integrity is maintained through:</i></p> <ol style="list-style-type: none"> 3) careful management of batching and other production practices in the nursery or retail operation, so that information recorded during collection remains accurate and easy to find and use; 4) passing information to the customer through accurate labeling that enables customers to make informed and appropriate decisions. <p>For comprehensive guidelines see the publication 'Ecosourcing Code of Practice & Ethics, Waitakere City Council 2002.</p>
Endemic Species:	See 'Native Species'
Genetic Erosion:	Loss of genetic diversity between and within populations of the same species over time; or reduction of the genetic basis of a species due to human intervention or environmental changes.
Introduced Species:	A plant or animal species that has been brought to New Zealand by humans, either by accident or design. Another term is "exotic species".
Invasive Species:	An animal pest or weed that can adversely affect indigenous species and ecosystems by altering genetic variation within species, affecting the survival of species, or the quality or sustainability of natural communities. In New Zealand, invasive animal pests or weeds are almost always species that have been introduced into the country.

Native Species (to NZ):	Those species that lived here at the time New Zealand became an independent landmass, or they evolved or migrated here – without help from people. They are well adapted to localised conditions. An average of 80% of our native species live nowhere else in the world. These are called <i>Endemic</i> . Some native species are present naturally through many regions or areas of the country. These species can be described as native to each such region or locality. Some native species exist only in one region or localised area of the country. Such a species is therefore endemic to that area.
Naturalised species	A plant or animal species that has been brought to New Zealand by humans, either by accident or design, and is capable of reproduction, by seed or vegetative means, in its introduced locality.