

# CHRISTCHURCH Botanic Gardens

## Gardening with Indigenous Plants



### Why use indigenous species in your private garden?

Appropriate native plants are well suited to the local environmental conditions (rainfall, soil, light, temperature) of a particular site and are generally long-lived. Also, they commonly have inter-dependent relationships with indigenous wildlife (birds, butterflies and geckoes), providing nectar, fruits, pollen and habitat. Correctly selecting and establishing native plants according to site characteristics can significantly reduce the amount of ongoing maintenance required to achieve your design goals.

This brochure interprets three different garden themes using indigenous plants from typical Christchurch City, Canterbury Plains or Banks Peninsula environments.

### What is Low Impact Urban Design and Development? LIUDD

Low Impact Urban Design and Development (LIUDD) involves alternative, cost-effective designing with nature, creating community environments that aim to respect, conserve, and enhance natural processes while allowing land to be utilised for human activity. LIUDD principles are being researched and applied as part of New Zealand's 'sustainable cities' programme, focusing on Auckland and Christchurch.

### Nurseries selling indigenous plants:

Motukarara Conservation Nursery  
Fern Factor  
Sue McGaw Hortweb Landscape  
Birch Manor Nursery  
Ouruhia Nursery  
Petries Plants  
Gough's Nursery  
Trees for Canterbury  
Letzgo Native Governors Bay  
Waiora Trust  
Broadleaf Nursery  
Rangiora Nursery  
Hurunui Natives  
Southern Woods  
Matai Nurseries

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This brochure outlines the three different themes displayed in the the indigenous demonstration gardens.

Three demonstration gardens are presented to inform the home gardener on the use of native plants for their aesthetic and biodiversity contribution to the urban environment. They showcase ways to apply native species in particular settings that ensure the best appearance, health and ecological function of the plants. In addition, these gardens display some principles of Low Impact Urban Design and Development (LIUDD) at an individual residential property scale to improve sustainability, biodiversity and efficiency.

Most of the materials used for these gardens are recycled.



### *Garden 1: Tussock/Shrub/Rock Garden*

This garden demonstrates opportunities for using different tussock grasses, sedges, and herbs from riverbeds, cliffs, mountains and coasts together with low trees and shrubs.

**Design principles:** informal approach, meandering pathway, gravel and pebble material (reference to Canterbury floodplain landscapes), volcanic rock garden, braided 'dry' riverbed and the subtle, intermittent presence of water, set off with characteristic growth forms – tussocks, divaricating shrubs, turfs, mats and cushions.

**Ecological/landscape principles:** Portrays some unique and threatened Canterbury landscapes and plant communities of dry floodplain, riverbed, sand dune, volcanic rock ledges and alpine species. This garden also features the use of native turfs that can substitute for traditional exotic lawn species in dry conditions, potentially requiring less inputs and management.

**Wildlife attracted:** Native butterflies utilise pohuehue mats and vines, skinks and geckoes hide among rocks and divaricating shrubs and take their berries, and birds will take seeds, insects and berries

### *Garden 2: Bush Garden*

This garden demonstrates opportunities for using various shade tolerant and shade providing native trees, shrubs and grasses.

**Design principles:** an informal dry to rain bush setting, following a meandering pathway through native shrubbery and semi-shaded lawn towards a fernery with a grotto and naturalistic water feature connecting to a miniature wetland below.

**Ecological/landscape principles:** demonstrates the delicate balance and transition between dry (left side) and moist types (right side) of native woody vegetation, forest herbs, wetland grasses and shade tolerant native species that can substitute for traditional exotic lawn species.

**Wildlife attracted:** native bellbirds, kereru, grey warblers, fantails, silvereyes and shining cuckoos may all use these urban forest. Similarly geckoes may live in the trees.

### *Garden 3: Formal Garden*

This garden demonstrates that native plants can be adapted for traditional formal settings, including such elements as low clipped hedges, elaborate topiary and manicured, uniform native lawn.

The green roofs showcase the capabilities of native planting for implementing Low Impact Urban Design and Development principles, such as reducing the heat-island effect, insulation and retention and sustainable re-use of rainwater.

**Design principles:** a formal approach, domination of straight lines, symmetry and geometric shapes and planting balanced with hard surfaces. The water feature provides a sculptured focal point as well as the soothing sound of gently cascading water to soften the formality. Trellis and pergola structures accentuate the three dimensional aspect of the space while providing a supporting framework for vegetation.

**Cultural and ecological principles:** Particular native plants can be used to create the traditional classical and picturesque garden designs that maintain the English colonial character of Christchurch City. Several native species are suitable for formal hedging or as sculptural elements, able to withstand clipping, and pruning and yet provide food and habitat for wildlife and enhance biodiversity. A variety of native cultivars are also available to add an exciting range of sizes, forms, colours and textures for planting.

**Wildlife attracted:** mainly English birds will utilise this type of garden, but skinks (potentially) and insects will also be present.

### *Lawns*

Lawns require a lot of time, expense, and maintenance such as fertiliser, herbicide, and water while disposing of clippings with accumulated herbicide may be detrimental to the environment. By avoiding excessively large areas of lawn and introducing native grasses and ground-hugging species, we can create areas that are just as visually pleasing and functional as traditional lawns while providing a safer, less wasteful, and more bio-diverse environment for both ourselves, and our native fauna. Locally sourced native species are particularly adapted to our environment and potentially require little fertiliser, water and mowing once established. There are species suitable for dry, moist or wet lawns.

### *Green Roof Display*

A green roof is a roof partially or fully covered by plants.

**Extensive green roofs** feature drought tolerant plants grown in a thin layer (5-15cm) of lightweight soil. They are not designed to be accessible, other than for occasional weeding.

**Semi-extensive green roofs** have deeper soil (15-30cm) and can support a greater variety of plants. However, their depth makes them heavy and they require a relatively strong structure to support them.

**Intensive-green roofs** consist of plants grown in deep soils, allowing the growth of shrubs and even small trees. Usually grown in irrigated containers, they require more maintenance than extensive and semi-extensive roofs.

The demonstration mini-green roofs allow us to trial a range of local, drought tolerant plant species. The pitched roof will support a semi-extensive green roof, with an assemblage of plants from grassland and dry rocky environments. The "flat" extensive green roof will support a selection of coastal plants.

