



A GUIDE FOR NATIVE PLANTING IN ŌTEPOTI DUNEDIN



DUNEDIN
CITY COUNCIL

kaunihera
a-rohe o
Ōtepoti



DUNEDIN'S NATIVE PLANTING GUIDE

This guide aims to help Dunedin residents restore our native vegetation and habitats.

It's been designed to encourage native biodiversity in your backyard. By choosing to plant ecologically suitable native plants in your garden or run a native revegetation project you will be helping to enhance the natural character of Dunedin.

Increasing native biodiversity is a key focus of Te Ao Tūroa, Dunedin's Environment Strategy.

We have focused on native trees and shrubs in this guide as, historically, forests were the most widespread ecosystem in the Dunedin area. At the end of the guide we've provided links to websites with information on restoring other important ecosystems such as wetlands, riparian areas and sand dunes.

What's in this guide?

- Why grow native plants?
- An outline of the key steps to establishing native plants
- A few easy suggestions for what to plant
- Lots of useful links to help with growing native plants



WHY GROW NATIVE PLANTS?

Ōtepoti Dunedin is large (335,000ha) and naturally diverse. Our district stretches from the alpine cushionfields on top of the Rock and Pillar Range, through tussock grasslands and bush clad inland hill country, to coastal environments with estuaries and sand dunes.

Before humans arrived, most of the district was covered by native forests, of which only a small proportion remains today.

There are some key benefits to planting native species.

Protecting our local environment – Kaitiakitia

- Restoring and enhancing the natural diversity and character of Dunedin.
- Providing habitat and food for native birds, lizards and insects.
- Leaving a natural legacy for future generations to enjoy.

Having fun! – Tākarokaro!

- Making gardening easy – eco-sourced native plants are locally adapted and low maintenance.
- Getting your family engaged with nature in your backyard. Check out the iNaturalist app to discover what's around.
- Putting a group together from your local community to plant larger areas on your property or elsewhere.



GETTING STARTED

You can choose from lots of options. Do you want to:

- just plant a couple of nice native trees in your backyard
- plant groves that attract fauna such as native birds, lizards and bees
- restore a greenfields area back into native bush
- plant in an area already containing remnant native trees.

The different options will influence the mix of species you may wish to plant. We advise using species that naturally occur in the native forests of Dunedin as this is the most ecologically suitable approach, especially for restoration projects.

In your garden some exotic trees and non-local native plants are suitable for attracting birds and pollinators. However, many of these are, or could be, weeds. Some non-local native plants such as rangiora (native to the North Island) are considered weeds in Dunedin and have spread widely in forests around the city.

This guide outlines four steps for a successful native garden or revegetation project – plan, prepare, plant and protect.



PLAN

Visualise the site

Measure up and sketch a map of your site. This will provide a simple and useful way of recording information, as well as planning your planting. Sketch maps do not need to be to scale or intricately detailed – keep it simple.

For larger projects, measure the area to plant, this will help you work out how many plants you'll need.

Things to think about are:

- how big will my plants be in 10-20 years' time?
- views and sunshine
- boundaries, fences and entry points
- existing vegetation types or individual trees and shrubs
- specific landscape features, such as streams, topography, dry or wet areas, ridges, frosty sites, shade and exposure
- soil type(s) and how well other things grow
- above and below ground infrastructure such as paths, buildings, power lines, drains and underground pipes.

Remember to only take on what you can maintain over time.



PLAN

What to plant

Planning what you are going to plant, and where, will depend on the goals of your planting project, the site location and characteristics and the requirements of the plants.

The DCC website contains a map of the different broad ecological zones of the district and plant species lists for each zone www.dunedin.govt.nz/native-planting-in-dunedin. This should guide your planting species mix.

Use the information you collected about your site to select the right plants.

Calculate how many plants of each species you'll need. For example, to plant 1 ha at 2m spacings you'll need 2500 plants (planting calculators are available online).

Also consider how you'll protect your plantings from grazing animals (e.g. livestock and rabbits) using fencing or plant protectors.

Sketch up a concept plan for the specific area to be planted. Divide the area into zones for diverse sites or stages for larger projects.

Rule of thumb: how far apart to plant

- Large trees (e.g. rimu) – 5m
- Small to medium trees (e.g. ngaio, kōwhai) – 2m (ecosystem restoration), 3m (garden)
- Shrubs and tree ferns – 1-2m
- Ground cover – 1m
- Ferns, grasses, sedges and rushes – about three per m²



PREPARE

Budget and source your plants

Visit local nurseries or email them for a quote once you know how many plants you need. Ensure they can supply eco-sourced native plants.

Eco-sourced native plants are grown from locally sourced seeds and cuttings. This helps maintain the genetics of local species and results in plants that are better adapted to local conditions.

We recommend using local nurseries that specialise in native plants because larger chain stores and online nurseries are more likely to use stock from outside Dunedin.

If you want to contribute to Dunedin's native biodiversity then avoid buying garden varieties or hybrids of native plants, non-local natives (e.g. pohutukawa and Chatham Island akeake) or exotic species.

Prepare a basic budget – remember to include the things you'll need to protect and maintain your plantings.

Growing your own native plants is a great way to increase your knowledge. When you collect seed and propagate your own native plants, costs are generally lower. This may be a good option for ongoing projects, but may require specialist input around permitting for seed collection, plant identification, seed provenance and propagation.



PREPARE

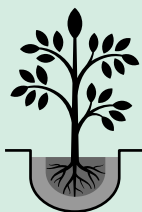
Get your site ready for planting

The success of a planting programme depends on good site preparation. Weed control is essential, as weeds will overwhelm young native plants.

Removing and suppressing rank grass is often needed. Removing weeds enables your plants to grow without competing for sunlight, nutrients and water.

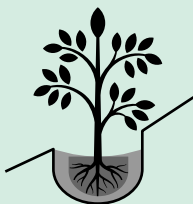
Remove all weeds that may prevent your plants from growing and becoming established. It's far easier to do this before you plant. Ensure that grass has been removed from the planting area. This can be done by using a scrub cutter or spraying the whole area or patches 1.5m wide at plant locations.

Planting Techniques



Correct

Soil in-filled to cover root-ball not plant stem. Planting hole twice as wide as rootball. On slope dish-shaped hollow to prevent water run-off.



Incorrect

Root-ball above soil level is a dry wick.

PLANT

The best time of the year to plant is in the cooler autumn or spring months – April-May and August-September. Avoid mid-winter (hard frosts) and mid-summer (unless you can water the plants regularly).

Plant at the coolest time of the day and avoid planting on windy days and on dry sites during summer.

1. Ensure site is moist but not water saturated prior to planting.
2. Pre-water the plants (wet the potting mix completely), keep plants cool.
3. Mark out where plants are going to be planted.
4. Dig a hole that is two to three times the size of the planter bag and place a layer of loose soil within the hole to allow good root development.
5. Remove plant from bag. Don't pull the plant out of its bag by its stem. Instead cut, gently roll the bag on its side or turn the bag upside down and carefully remove the plant to limit root damage.
6. If the roots are evenly spread, place plants straight into planting hole (or cut the root ball with a knife down the length of the roots).
7. Plant deep enough so all roots are covered, but ensure the plant it is not deeper than it was in the planter bag.
8. Cover the roots with fine soil, firming layer by layer.
9. Leave the surface with a loose texture and water thoroughly.



PROTECT

Maintenance

One of the most important aspects of any planting project is ongoing maintenance.

Maintenance is necessary until plants are well established and start shading and covering the ground (usually 2-3 years).

Weed control is usually the most important maintenance task. Keeping rank grass and other weeds from competing with plantings is critical.

In gardens, hand weeding and replacing mulch may be the best option. If using herbicide or a scrub cutter, be careful not to accidentally harm your plantings. Using plant protectors is recommended.

Top tips

- Use stakes and plant protectors. Protect from the wind. Check monthly.
- Use permeable weed mat and mulch (10cm deep) around the base of the seedlings. Keep mulch away from the stems of the plants.
- Water plants regularly in dry, hot conditions until they are well-established (thoroughly water once a week).
- Control weeds and replace mulch.
- Monitor plant losses and replace.
- Ensure plants aren't grazed by stock or animal pests (e.g. rabbits).



PROTECT

Protect your patch

More than 70% of New Zealand is privately owned. Most of this is in the more productive part of the country, where the greatest amount of native biodiversity has been lost.

Protecting what is left is vital if we want to maintain and improve our native biodiversity.

For larger restoration projects, particularly those associated with existing ecosystems, private land covenants are the most effective way of leaving a living legacy for future generations, while retaining ownership.

A covenant is a voluntary legally binding protection agreement that is registered on the title of the land. The most well-known type of covenant is the QEII National Trust covenant, however councils and the Department of Conservation can covenant land too.

Under the DCC's District Plan landowners can have sites assessed to be scheduled as an area of significant biodiversity value, or have large individual trees registered as significant trees. These measures give extra protection to native biodiversity.

EASY STARTERS

Six great native trees to plant in your urban backyard

These small to medium-sized native trees are species that naturally occur in Dunedin's native coastal and hillslope forests, are readily available from local nurseries, attract native birds or insects and are hardy and low maintenance.

South Island kōwhai

Sophora microphylla



Photo John Barkla

- An attractive hardy medium-sized tree.
- Yellow blossoms in spring.
- A favourite of New Zealand pigeon/kererū and tui.

Broadleaf

Griselinia littoralis



Photo James Bailey (inaturalist.nz) CC-BY-NC 4.0

- Attractive medium-sized tree with a broad canopy and glossy green leaves.
- Dark purple berries attractive to a variety of native birds.

Cabbage tree | ti kouka

Cordyline australis



Photo Lance Robinson (inaturalist.nz) CC0

- Hardy, fast-growing palm-like tree.
- Grows straight with minimal crown spread.
- Small white fruit a favourite of silvereyes.

Kanuka

Kunzea robusta



Photo John Barkla

- Hardy small tree similar to manuka, common around the Dunedin hills.
- Relatively fast growing.
- Abundant small white flowers attractive to bees.

Toothed lancewood

Pseudopanax ferox



Photo John Barkla

- Small, narrow upright tree with remarkable toothed juvenile foliage.
- Classified as 'at risk' nationally.

Lowland totara

Podocarpus totara var. *totara*



Photo Peter de Lange (inaturalist.nz) CC0

- Slow growing large tree, one of the podocarp giants of the forest.
- Red fruit attractive to New Zealand pigeon/kererū.



OTHER PLANTS

There are lots of other great native plants that can add diversity to your garden. Native shrubs like weeping mapou (*Myrsine divaricata*) and mingimingi (*Coprosma propinqua*) have attractive fruits, and tree ferns add a lot of character. Planting threatened plants like fragrant tree daisy (*Olearia fragrantissima*) and mikimiki (*Coprosma virescens*) helps supplement the wild population.

ASSISTANCE WITH PROJECTS

Keep an eye out for local events promoting native biodiversity; sometimes free native seedlings or seed packs are up for grabs.

For projects a bit bigger than your suburban backyard, grants may be available. The DCC's Biodiversity and Te Ao Tūroa Funds are a great place to start. See www.dunedin.govt.nz/funding for details.

NEED MORE INFORMATION?

There is a lot of help available online including guidance on revegetation plans, planting calculators, funding sources, and information on native plants. Check out the websites below.

Dunedin City Council

www.dunedin.govt.nz/biodiversity

www.dunedin.govt.nz/teaoturoa

www.dunedin.govt.nz/native-planting-in-dunedin

Department of Conservation

www.doc.govt.nz/get-involved/funding/

www.doc.govt.nz/otagovolunteers

www.doc.govt.nz/our-work/project-gold/

www.doc.govt.nz/our-work/motukarara-conservation-nursery/planning-and-planting-a-native-garden/

Restoration

www.naturespace.org.nz/resource-centre

www.weedbusters.org.nz/

www.treesthatcount.co.nz/resources/regional-guides-for-planting-natives/

<https://riparian-planner.dairynz.co.nz>

www.coastalrestorationtrust.org.nz/

www.wetlandtrust.org.nz/restore-wetlands/

Protection

www.qeiiinationaltrust.org.nz/

Native plants

www.nzpcn.org.nz/

www.inaturalist.org/

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