



Lifestyle and opportunity @ your doorstep



Planting Guide

City of Ryde Bushcare

December 2018

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Introduction

This planting guide provides simple advice for Bushcare volunteers involved in plantings of locally indigenous species in and around bushland reserves.

Planting can be useful to help strengthen wildlife corridors, provide better connections between bushland areas, improve biodiversity and ensure the ongoing survival of rare species.

However there can be drawbacks to planting.

Natural regeneration is always preferred and plantings may not be sustainable long term if the soil is so disturbed that seeds cannot germinate. Plantings may provide a 'quick fix' but there may be unintended consequences, particularly if the wrong species are planted, if they are planted in the wrong place or at the inappropriate density.

There is more to planting than you might think. Advice and permission should always be sought from Council for any plantings on Council land. Council seeks to consult with the local community on various projects. Please check with Council's Bushcare staff before doing any planting.



National Tree Day 2014 at Waterloo Park

Types of plantings that Councils Bushcare program undertakes:

- Bushcare sites- Volunteers
- Community Partnership plantings – local organisations or businesses
- National Tree Day and National School Tree Day



National Tree Day 2014 at Waterloo Park

Natural regeneration consideration before planting

Planting within natural areas; this area consists of bushland reserves and creek catchments. Natural regeneration is always preferable to planting in bushland areas.

Planting should only be considered where there is very low chance of natural regeneration occurring, ie- in very degraded areas, along edges or to restore vegetation after works on nearby land.



Zieria smithii seedling



Turpentine seedling

Planting can be useful to:

- Establish vegetation and diversity to improve habitat for wildlife
- Assist in the restoration of natural areas
- Create a buffer to protect core bushland from edge effects (eg. mowing and human disturbances)
- Protect existing canopy trees
- Reduce the need for ongoing mowing
- Provide visual amenity
- Ensure the ongoing survival of certain rare species
- Connect wildlife corridors

Best practice bush regeneration techniques utilise planting as a last resort. Planting may be necessary when there is no native seed bank or if an area is so degraded that traditional methods of bush regeneration will not be effective. Planting can also help to maintain biodiversity if the vegetation structure is no longer suitable to sustain specific species of plants and animals. If you are unsure please contact Council's Bushcare staff.

The three R's for successful bush regeneration:

- Restore,
- Regenerate,
- Re-plant.

Even with degraded areas sufficient time should be given to allow for natural regeneration to occur following weed removal. Some plants would regenerate naturally after rain, fire, further disturbance or with different climatic conditions. Other techniques should be investigated to stimulate the soil seed bank prior to planting or to improve soil conditions.

Do you have permission to plant?

Check in with Council prior to undertaking any works. Planting on Council land should not occur if you don't have approval from Council staff. Contact Council's Bushcare staff on 9952 8222.

This is important to:

- Ensure the planting is in line with City of Ryde plans of management and masterplans
- Coordinate with other regeneration works and any future works planned for the park
- Keep records
- Track the success of plantings
- Ensure the plantings are in suitable locations for practical and habitat reasons
- Avoid nearby infrastructure and services



Planting:

Planning

Things to consider:

- What is the purpose of the planting?
- Consider the densities required (refer to plant densities on page 6).
- Consider the density of the canopy species, mid-storey and ground layer of the original vegetation type.
- If it is for a native habitat planting refer to page 7 for planting for habitat.
- Imagine what the plantings will look like when they are fully established. Will some of the larger trees and shrubs shade out other species that are being planted?
- Ask your Council Bushcare officer about soil quality. Is it the original soil or has it been disturbed or is it fill? Soil testing may be able to identify any problems in advance.
- What time of the year will planting be carried out? It's a good idea to avoid the hottest months of the year. Ideally planting should only occur from March through to October, this allows the plants to become established before summer.

- All planting should take into account City of Ryde plans of management and masterplans for the relevant site (all documents can be found on the City of Ryde website)
- Refer to Council's native vegetation to find the vegetation community at the proposed site.
- The preferred habitat of particular species eg- if they are moisture loving species that would normally be found in wetlands or along creeklines.
- If you are unsure of any of these, contact Council Bushcare staff.

No plantings should occur without the City of Ryde authorisation

Council reserves the right to remove any unauthorised plantings. To avoid disappointment speak with Council staff first.

Avoid planting:

- High-growing species close to track edges. The plants will grow out over the track in no time, could be a hazard for pedestrians and will end up requiring ongoing pruning, removal or dying naturally.
- Trees directly beneath powerlines.
- On steep slopes that are dangerous to traverse. You could be putting yourself at risk and will have difficulty maintaining the plantings. Safety first!
- Too close to neighbouring properties. As the plants grow they may cause problems for neighbours
- Near underground services such as pipes, cables etc. They could cause damage to underground infrastructure and may be disturbed if the infrastructure requires maintenance or replacement.
- Plants with poisonous fruits or seeds near playgrounds.
- Too close to creek banks, where soil cohesion and integrity can be disturbed.
- In areas that may be developed in the future.
- High-growing species close to children's play areas. Ensure that lines of sight are maintained for safety near playgrounds.
- If there is no plan for ongoing maintenance.
- If there has been a long period of no rain or the planting area is very dry.
- In Asset Protection Zones, contact your Council Bushcare officer to see if any zones occur nearby

What species should be used?

Only locally indigenous species that belong to the particular vegetation community should be used. Consideration should be given to where the plants would naturally occur. Establishing the wrong species in the wrong location could have future impacts on the plant community. The plants may not thrive in the incorrect location. Lack of planning is not an excuse to plant the wrong thing. These urban bushland areas have been degraded over a long period of time. There is no urgency in planting. Taking the time to plan properly and source the right species is critical for successful planting.

Species lists for each native vegetation community occurring in Ryde are available on the City of Ryde website: <http://www.ryde.nsw.gov.au/NativeVegetation> . More detailed species lists for each reserve are available from Council Bushcare staff.

If you are unsure of the vegetation community at the proposed planting location, contact your Bushcare supervisor or Council staff.

Consideration should be given to the soil type, the aspect, the level of shade. The soil at the site may be very different to the soil that would have supported the current vegetation community in the past.

Sourcing Plants:

Locally indigenous tube stock can be sourced from: Cornucopia (MARS Inc) at Gladesville Hospital, The Habitat community nursery or adjoining Council nurseries.

There are other local suppliers of native plants in Sydney but the seed may have been collected from further away. Ensure sourced seedlings are actively growing and healthy prior to planting.



Pittosporum revolutum seed capsules

Pot size

Tubestock (either 75mm forestry tubes or 50mm pots) are ideal for planting. It is preferable to plant something smaller that will establish better and perhaps grow faster than a plant in a much larger pot. Tubestock is cheaper and generally does better. Bigger pots also require a lot more digging!

Plant densities:

Plantings should be spaced correctly taking into consideration of the full grown size of the species being planted. As a rule of thumb, use the below guide to avoid over planting:

Grasses and groundcovers:	9 / m ²
Shrubs:	3 / m ²
Small Trees:	3-6 / 10m ²
Canopy Trees:	1 / 10m ²

Planting arrangements should, as far as possible, mimic natural arrangements and densities.

Planting for Habitat

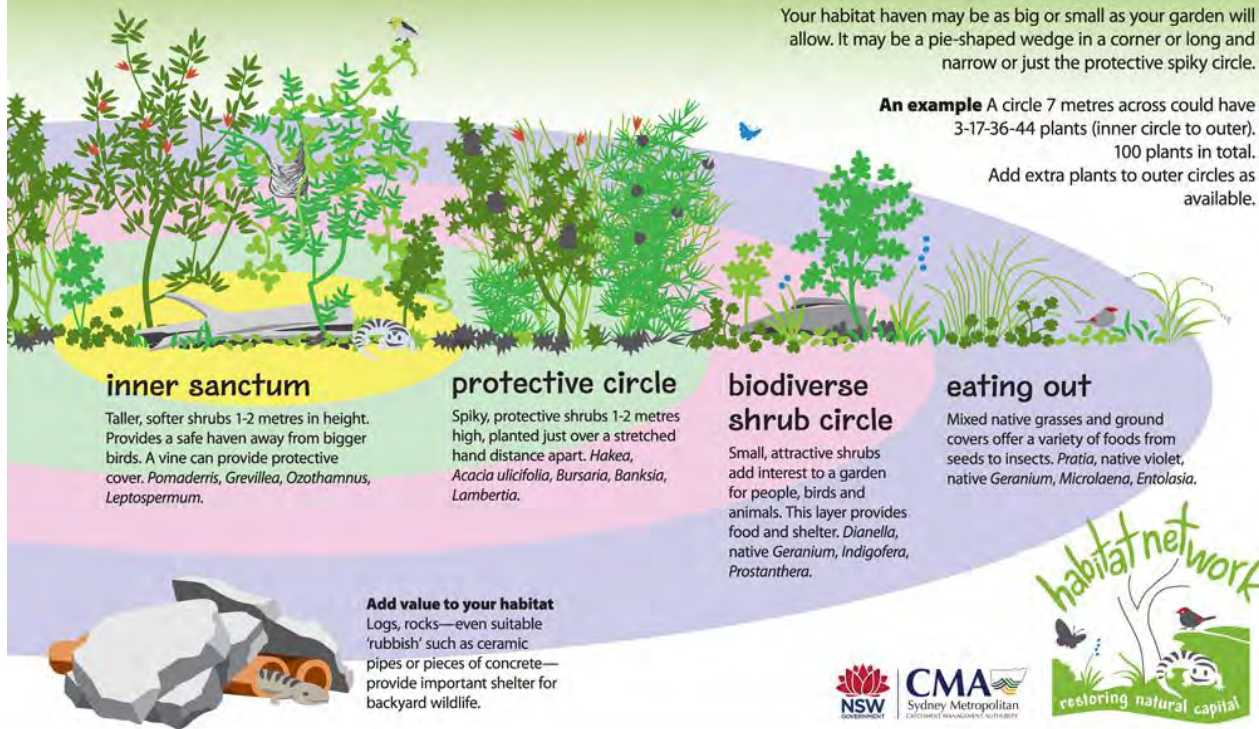
Consider what bird or animal species you are trying to attract or what plant species you are trying to protect. Plantings can act as stepping stones that connect other native vegetation patches to create habitat corridors

The Habitat Network has developed a guide for planting habitat havens. They are made up of specific zones that provide for the needs of native wildlife. Consider planting an 'inner sanctum' in the centre with densely planted shrubs. Beyond this a protective circle made up of spiky plants provides shelter and protects the inner sanctum. A further circle of showy shrubs including ones with fruits and seeds provides shelter and food. The outer circle should include a variety of grasses and insect attracting ground covers, provides space for birds to eat out.

Consider leaving small pockets of weeds for habitat, while new native plantings are established. In particular think about the habitat provided by lantana and privet.

Animal habitats include open grass, shrubby and forest types. A greater variety of habitats can provide for a greater variety of fauna species.

Planting a small bird habitat haven



Site Preparation:

Ensure that the site is adequately prepared and relatively weed free. Depending on the situation this may involve spraying of weeds or turf and mulching the area thickly prior to planting. Adequate time spent on preparation will help to avoid ongoing maintenance issues. Take care selecting mulch as it can contain weed seeds and propagules. If mulching is required it would be arranged by Council. Bushcare volunteers should not be spraying or ordering mulch for a site independently.



Mulching at Field of Mars Reserve in preparation for National Tree Day 2017.

Planting method:

1. Move any mulch or leaf litter aside before digging the hole
2. Dig the hole with a small mattock or trowel. Keep the soil in a neat pile as it will be needed later
3. Ensure the hole is dug deeply enough by placing the plant (still in its pot) into the hole to gauge the depth. The level of the soil in the pot should be in line with, or below the level of the ground.
4. Avoid creating a glazed surface inside the hole to ensure better penetration of the roots as the plant grows
5. Use a small handful of water crystals (as saturated gel) in the bottom of the hole before placing the plant in the hole. This will assist with establishment and increase survival.
6. Remove the plant from the pot by squeezing gently all the way around the pot. Turn it upside down, hold the pot in one hand and place the other around the stem, then gently tap the bottom of the pot to remove the plant.
7. Ensure the plants roots are planted wholly in the soil. This is the most critical aspect to ensure success.
8. A product with fertiliser should **not** be used for native plantings
9. Backfill the hole with the soil that has been reserved. Firmly pack soil around the plant. Press down to ensure there is good contact with the soil (if possible the topsoil should be replaced at the uppermost layer of the hole, especially if a large hole has been dug to accommodate a larger pot size).
10. Spread the mulch back around the plant but avoid having it too thick right near the stem



National Tree Day volunteers planting at Field of Mars Reserve 2017

Water crystals are used to avoid the need for any watering, either on the day of planting or into the future. Watering can be a very onerous, time consuming activity, especially for large plantings. When used as a saturated gel the crystals are very effective, especially during times of little rain. Placed at the bottom of the hole the crystals lock away water for the plant to use. They are biodegradable and over time will break down, by this time the plant is usually well established and rainfall will be enough. We would not do any planting without water crystals unless there had been unusually high rainfall in the lead up to the planting and future rain was forecast. At many locations there will not be any taps nearby. Water crystals will help to ensure the success of the planting and mean less maintenance long term. Council will provide water crystals

Record keeping

Document all work that is carried out at the revegetated site. This should include what, where, when and how. This will be vital to ensure monitoring and see what was successful and what wasn't. These details should be completed on the Bushcare Site Sign-on Sheet and handed to Council. Don't forget to take photos prior to planting.

Before and after photos are useful to document the progress of a planting project. See the photos below of one of the revegetation projects at the Waterloo Park Bushcare site. Make sure permanent landmarks are shown in each photo to provide context. Include a timestamp on the documented images if possible.



1) Waterloo Park site, prior to preparation



2) After spraying has taken effect mulch is delivered



3) After the planting.



4) Four years later the plants are well established

Ongoing maintenance

There is no point planting unless you have considered how the plants will be maintained.

There have been many instances of plants going in the ground only to be swamped with weeds.

It is far more difficult to look after random plantings throughout a large area. By using water crystals, watering may not be necessary at all. Areas that have been mulched thickly will require less weeding initially.

Weeding or spraying will need to be undertaken on an ongoing basis to ensure the plantings do not get out competed by weeds. If you have gone to all the effort to do the planting, make sure your Bushcare group has allocated time for ongoing maintenance.

Happy Planting!

Establishing native plantings can be very rewarding. It is important to get it right. Please see the flowchart on the following page for the planting process and to re-cap the main considerations.

If you have any questions speak with your Bushcare supervisor or Council Bushcare staff on 9952 8222.

City of Ryde Bushcare Planting Guide flow chart

