



LANDSCAPE GUIDELINES

AMENDED APRIL 2007

LANDSCAPE GUIDELINES FOR LISMORE CITY COUNCIL

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1. Introduction

Landscaping plays an important part in the integration of developments into the surrounding streetscape. The success of a new development and its acceptability to surrounding neighbours is strongly influenced by the landscaping undertaken. Well planned and maintained landscaping can significantly contribute to the appearance of a new development and enhance the overall image and amenity of a locality.

Hence, landscaping has become an integral part of the planning process. A landscape plan should not be an after thought, but should be part of the design consideration of the total development.

1.1 Overall Theme

These guidelines are aimed at assisting those responsible for preparing landscape plans for developments which may not warrant employment of a professional landscape designer/architect. Council, however, urges designers to seek professional landscaping advice wherever possible. The successful landscape plan helps achieve improvements in the setting and image of each new development.

For major residential, industrial or commercial developments an experienced landscape designer should be employed. If you have doubts about the need for a landscape designer/architect, please consult with Council's officers in the Planning Services Section .

Landscape plans prepared in accordance with these guidelines are required to be submitted with all Development Applications excepting applications for:

- a) minor extensions to existing development;
- b) minor change of use; or
- c) single dwellings other than in the 7(b) - Environment Protection (Habitat) Zone.

Please consult with Council's Planning Services staff if you have any enquiries regarding these criteria.

1.2 Objectives

- 1) To create a pleasant safe and attractive living and working environment.
- 2) To encourage the enhancement of the natural sub-tropical environment particular to Lismore City Council.
- 3) To blend new development into the streetscape and neighbourhood.
- 4) To reduce delays in approval procedures for landscape requirements.
- 5) To encourage the design of low maintenance landscaping.
- 6) To encourage water efficient landscaping.
- 7) To encourage the removal of listed noxious and environmental weeds and replacement with native species.

2. Climate Control

Landscaping should attempt to enhance and reinforce positive climatic influences and minimise the impact of adverse climatic influences:

Temperature:	
Summer:	Warm to Hot and Humid 43.1 (max) 6.1 (min) degrees C 31.3 average degrees C
Winter:	Mild 28.9 (max) –3.5 (min) degrees C 20.5 average degrees C
Rainfall Average:	1347mm Annually
Maximum:	Late summer/early autumn
Minimum:	Late winter/early spring
Elevation:	12m above sea-level
Geography:	Sub-tropical zone

With due consideration to the prevailing weather conditions, landscaping can effectively control climatic impacts on buildings and outdoor spaces.

Additionally, climatic conditions can directly affect the success of species. Choice of trees and shrubs to be planted should be indigenous to this region or able to tolerate these conditions.

The use of species of a sub-tropical nature will ensure the success of a landscaping plan and also retain, protect and enhance the existing natural vegetation.

3. Design Factors To Consider In Preparation Of A Landscape Plan

There are several important considerations, which need to be taken into account when preparing a successful landscape plan.

3.1 Character

Determine the character of the general area and attempt to incorporate this character into the design plan if it can be easily/cost effectively done.

Consider the required image of the total development and your budget limitations.

The use of environmentally suitable, low maintenance species is encouraged.

Landscape materials should be similar to or harmonious with the architectural materials of the development.

3.2 Street Frontage

The landscaping layout should enhance the attractiveness of the development while ensuring the privacy of adjoining properties.

Try to use mass plantings of tall trees and shrubs within the setback area. This will soften the impact of the buildings upon the streetscape.



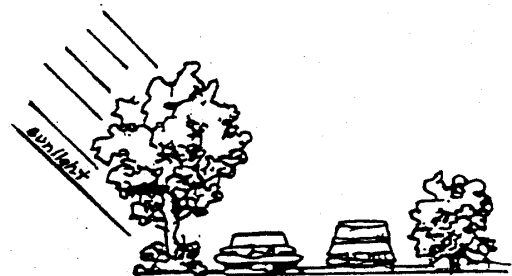
3.3 Carparking and Driveways

Reduce the visual impact of hard paving driveways by:

- reducing driveway width without limiting movement of vehicles
- curve driveways
- use of decorative paving eg. brick or cobbles appear less harsh
- incorporate landscaping islands into the design.

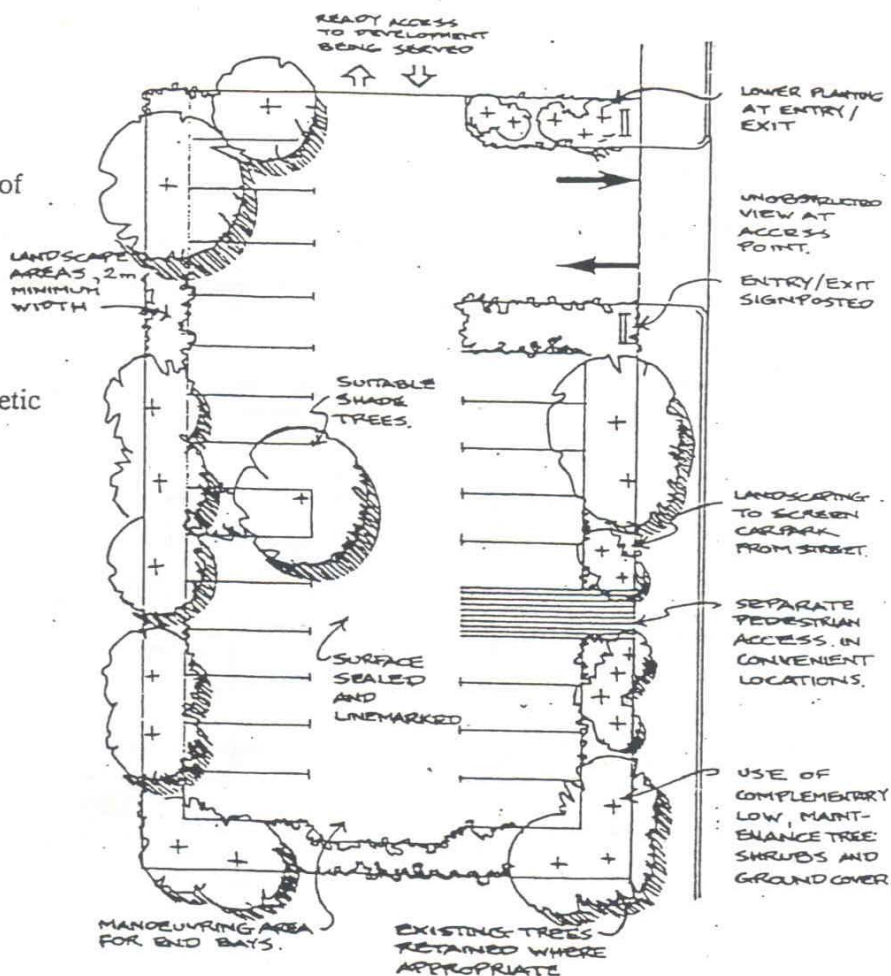
Provide shade for cars and pedestrians by planting trees and shrubs along boundaries, which are interspersed, within carparking bays. These should be species not prone to dropping limbs or sap.

Planting low ground cover with high canopy plants will ensure that the sight lines between the street frontage and the entry and exit points are not obstructed.



Below is an example of a carpark:

- reducing the visual impact of the carparking area;
- improving its functional performance; and
- enhancing the overall aesthetic appeal of a development.

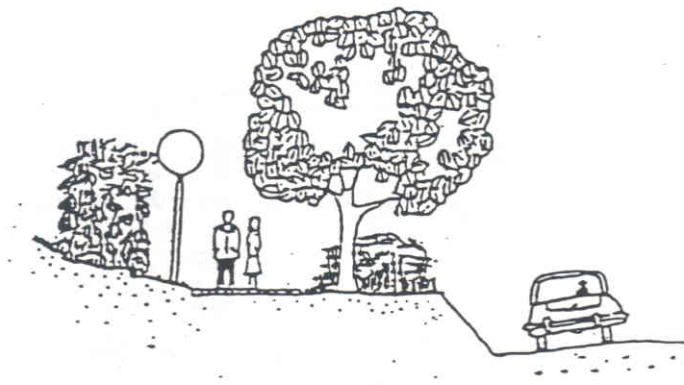


The following points are to be considered when landscaping carparking areas:

- ◆ Ensure adequate screening from view of the carpark area from adjoining developments and public areas, but still permit views through to the carpark to maintain safety;
- ◆ Incorporate efficient lighting for use after dark.
- ◆ Shade trees should be provided at a rate of approximately 1 per 5 carparking spaces;
- ◆ Landscaped areas are to have a width of not less than 2 metres, which provides a viable area for gardens, screening, etc;
- ◆ Provision of separate entry/exit points for vehicles and pedestrians;
- ◆ A detailed landscaping plan for a carparking area should be submitted as part of a landscaping plan for an entire development. Such landscaping plans will show the location and species of shade trees and shrubs, height and crown dimensions of mature shade trees, other landscaped areas (include species list) and details of pedestrian access and circulation.

3.4 Access

Create safe but direct pedestrian access through the separation of car and pedestrian entry and exit points.



Separate pedestrian pathways from driveways and carparking areas by using physical barriers and plantings.

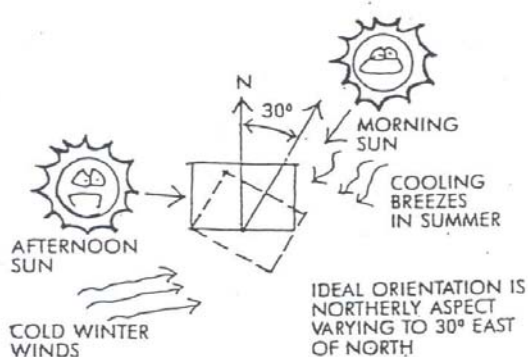
3.5 Security

Many people who commit a crime thoroughly research the site, noting the location of hidden areas, dark spaces, overgrown plants, etc. Therefore landscaping designs play an important role in the levels of crime in an area. For example, over-planting or planting unsuitable plants at an entrance or exit of a building or parking area creates hidden areas, reducing visibility by neighbours or pedestrians and increasing the risk of an ambush or attack.

Landscaping designs should ensure a high level of safety at the site. The following points need to be considered when landscaping to ensure safety:

- ◆ In high crime areas it is worthwhile researching the types of crimes in the area to ensure the landscaping will not increase the risk of a crime at the site.
- ◆ The positioning of lights, signs and surveillance cameras to reduce dark areas and hidden areas.
- ◆ Select the appropriate plants and investigate the height and size of canopy at maturity to:
 - Ensure that the vegetation does not block lights, signs and surveillance cameras.
 - Reduce hidden spaces and areas of darkness.
- ◆ Avoid sharp corners or over hanging vegetation along pathways to ensure unimpeded views along the pathway.
- ◆ Maintenance of landscaped area to ensure safety; overgrown vegetation can reduce the view of the surveillance camera and other residents.

3.6 Outdoor Recreation Areas/Open Space



Plant screens to provide privacy from road, neighbours etc.

Orient open space areas to the north to achieve maximum sunlight during winter months.

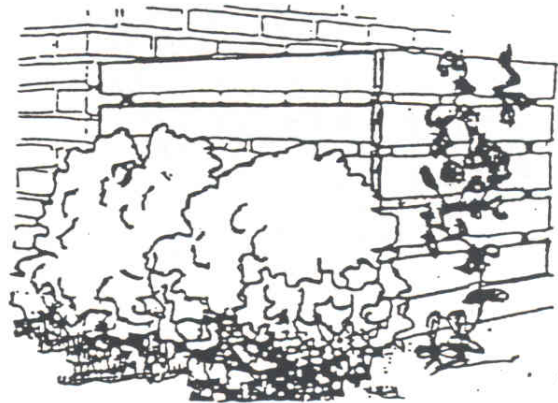
Provide shade trees for protection from wind and for shade during summer.

In areas of pedestrian activity, use paving for a long-wearing surface.

For ease of garden maintenance, use groundcovers, mounding, good soil, and mulch well.

3.7 Views

Take advantage of good views by planting species of a suitable height to maintain the view. Use plants of varying heights to adequately screen unsightly views.



3.8 Existing Vegetation

Native vegetation is a vital component of the landscape, providing scenic and environmental amenity and wildlife habitat. The presence of native vegetation reduces the impact of urban development, assists in minimising soil erosion, maintains slope stability, reduces air pollution and provides shade and shelter for humans and wildlife.

Landscaping should retain, protect and enhance existing natural vegetation. The provisions of Council's Development Control Plan No. 17 –Tree Preservation Order will apply.

Maximum advantage should be taken of existing mature trees and shrubs on the site and these should be incorporated into the overall landscape strategy. The following measures need to be considered to ensure the protection of existing vegetation:

- ◆ Clearly mark the areas to be cleared
- ◆ Retain or relocate tree hollows, where possible.
- ◆ Clearly mark access tracks.
- ◆ Disturb only areas that must be disturbed.
- ◆ Place equipment and stockpile areas on cleared sites away from trees, bushes and native grasses to avoid compacting the soil and preventing air and water reaching the tree roots.
- ◆ Avoid work within the drip-line of trees to prevent damage to the tree roots and compacting the soil.
- ◆ Fence around existing vegetation.
- ◆ Reuse cleared vegetation, where possible, by chipping for mulch.

4. Landscaping Requirements Particular to:

4.1 Commercial and Industrial Developments

Landscaping in commercial areas should aim at improving the amenity and enhance the appearance of a development. Careful landscaping can significantly augment the character and appearance of a business centre and streetscape quality through the provision of areas of trees and shrubs.

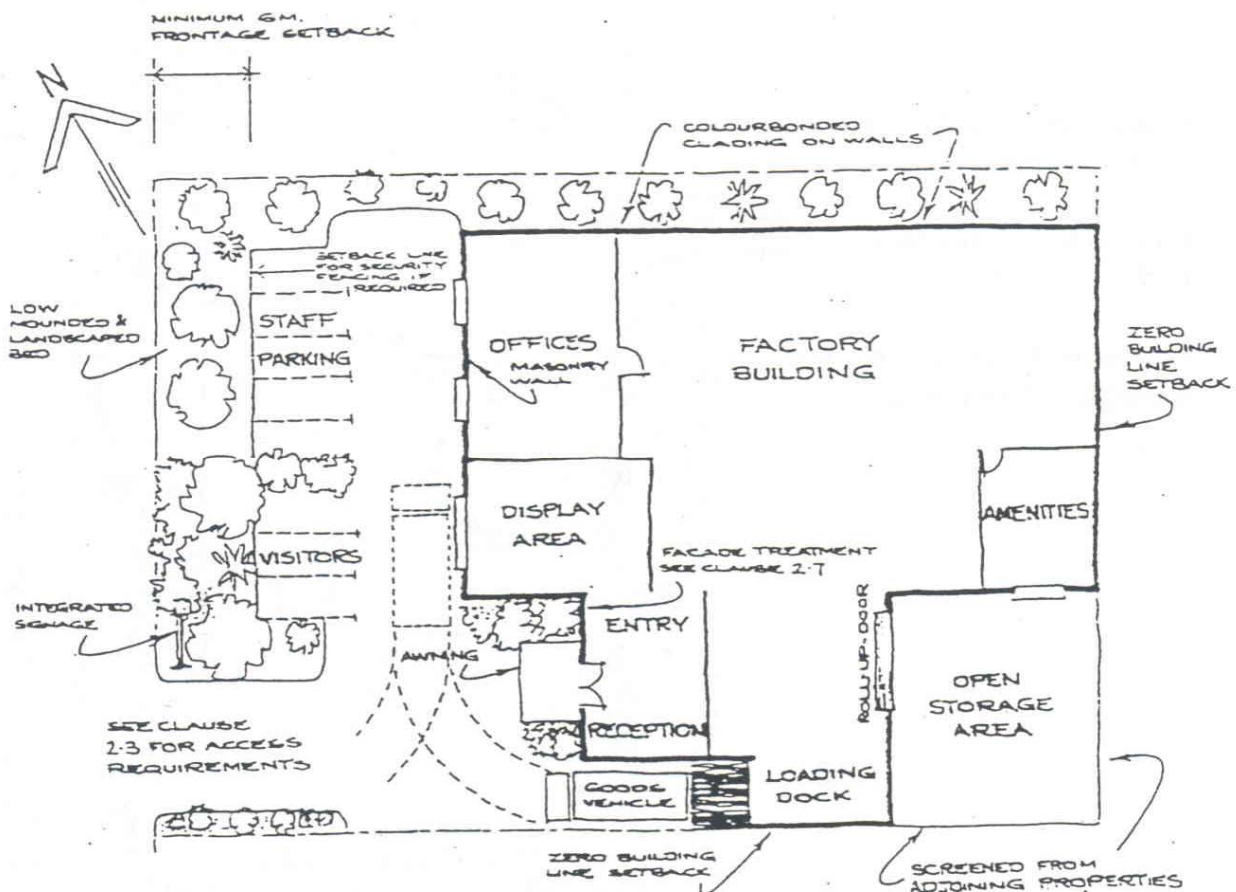
Any area of a commercial development which is not used for building or necessary hard surface areas (eg driveways, pedestrian access) should be appropriately landscaped.

Where rear or side boundaries adjoin non-business zones, landscaping should include substantial plantings of trees and shrubs to minimise overlooking and reduce the visual impact of the building on adjacent properties.

Within the building line setback a combination of recreational and activity areas and tree/plants should be used to provide usable space and an attractive aspect to the street.

Attempt to incorporate some street furniture into the landscape design. This will provide a passive recreation point available to patrons and employees.

Prior to the preparation of a landscape plan for a commercial development, the proposal should be discussed with Council's Planning Services officers and Parks Co-Ordinator.



Adequate landscaping for industrial developments is necessary to reduce the visual impact of development upon the streetscape and to complement the site environs.

Landscaping to Council's requirements is to be established within the building line setback area and within the carpark areas. A large proportion of the building setback area must be landscaped and maintained to a high standard.

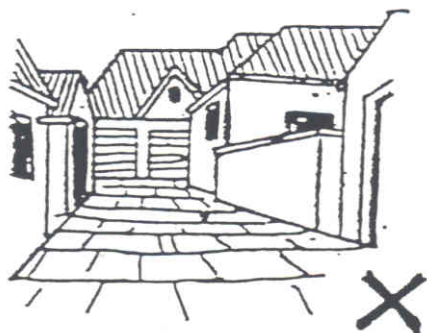
Trees with a mature height matching the scale and bulk of the development should be used. A detailed landscape plan must be submitted with the Development Application and should indicate the names, location and mature heights of all tree and shrub species to be used together with the location of any mounded garden beds, grassed and paved areas.

Where carparking is located, developers are expected to provide screen walls and earth mounds to reduce the impact of hardstanding areas. The use of mounding helps to contain noise and car headlights in a car parking area and also acts as a pedestrian barrier.

Flowering plants such as grevilleas and callistemon should not be planted next to fences with barbed wire. Such plants attract birds and bats that can become caught in the wire or sustain injuries from the wire.

Large industrial and commercial developments should also make provision for an outdoor lunch area for staff in a suitably landscaped location.

4.2 Medium Density Development



The successful landscaping of medium density developments is necessary to ensure an adequate provision of open space, yet maintain visual privacy for each dwelling.

A minimum of 40% of the total site area is required to be landscaped for residential development with an area of open space being provided.

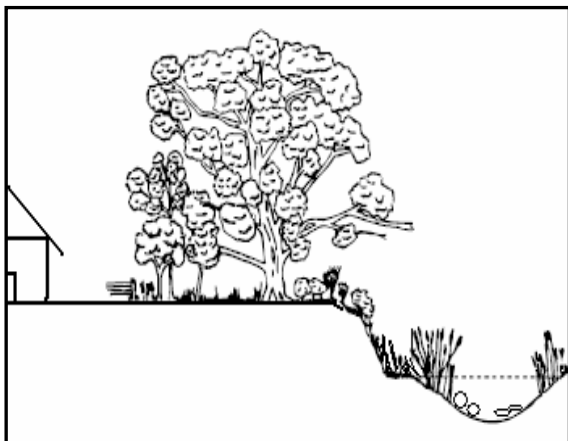
Fencing should be kept to the absolute minimum in order to engender a sense of open space and to eliminate unnecessary fragmentation of the landscape.



However, suitable screen fencing will be permitted, where appropriate, to ensure privacy for clothes drying, personal space and activities, to screen undesirable views. Screen walls must be suitably designed to achieve integration with the overall landscape treatment.

4.3 Streams, Creeks and Rivers

The riparian zone is a vegetated area located immediately next to watercourses. Riparian vegetation includes the terrestrial plants adjacent to the stream as well as aquatic and semi-aquatic plants.



A riparian zone in an urban area should have a minimum width of 10m and in a rural area should have a minimum width of 20m on both sides of the watercourse to ensure that is effective in:

- ◆ Improving the water quality by acting as a buffer for incoming pollutants.
- ◆ Stabilising the banks and bed.
- ◆ Creating permanent habitat for animals.

Where a watercourse is located in a proposed development site a riparian zone must be incorporated in the landscape design. If a riparian zone is required a Vegetation Management Plan (strategies and methods to rehabilitate, maintain, protect and enhance the riparian area) must be included with the development application.

To assist in species selection and a guide to planting refer to the 'Revegetating Streams in the Richmond Catchment' in Appendix 3.

4.4 Easements and Pipes

Many trees and shrubs are unsuitable for planting near or over easements and/or pipes such as sewerage, water mains and/or stormwater. The roots of trees and shrubs particularly in dry periods will search for any trace of moisture and nutrients. Tree and shrub roots are surprisingly persistent and strong and eventually will crack the pipes, resulting in reduced flow rates and eventually complete blockage.

Council recommends the following:

- No trees and shrubs should be planted within 1.5 times their matured height to the easement, as generally roots extend around 1.5 times the height of the tree/shrub.
- No ground covers with root depths greater than 100mm in depth.
- Contact Lismore Water for advice on tree selection on (02) 6625 0441.

Council recommends the above be considered when landscaping over any pipes within your property.

4.5 Street Trees

Street trees can enhance the visual character of a street, but they can also cause problems such as:

- Obscuring vision for both drivers and pedestrians
- Reducing light increasing likelihood of tripping on footpaths
- Dropping fruits and berries making footpaths and driveways slippery
- Blocking street drains with debris
- Roots can raise or sink footpaths causing trip hazards
- Falling limbs
- Sharp and spiky plants can scratch vehicles and pedestrians
- Dropping corrosive sap on vehicles

The above list demonstrates the need to select the right species for the location. For this reason Council requests that residents do not plant trees, shrubs or ground cover in the road reserve without approval from Council. Contact Council's Parks Coordinator on (02) 6627 4110 to obtain approval and advice on suitable species.

4.6 Power lines

When selecting species for landscaping near or under power lines Council recommends that the maximum matured height of a tree to be planted under a power line is 5 metres. When planting trees near power lines also consider the matured width of the tree. Please refer to Section 7 for the recommended species list or contact Council's Parks Coordinator on (02) 6627 4110.

4.7 BASIX

The Building Sustainability Index (BASIX) is a NSW Government initiative that ensures new homes are designed and built to use less potable water and produce fewer greenhouse gas emissions. Council has developed a recommended species list to assist with your landscape plan to achieve BASIX requirements (refer to appendix 2).

5 Preparing A Landscape Plan

The following steps provide a basis to complete a landscape plan to meet Council requirements.

5.1 Prepare a Base Plan:

Your base plan should include the following:

- ◆ The boundaries of the site, site orientation, existing vegetation etc.
- ◆ All paved and hard standing areas, eg driveways and manoeuvring areas.
- ◆ Recreation areas and open space.
- ◆ The location of sewer pipes and overhead wire on and close to the site.
- ◆ Buildings on adjoining lots.
- ◆ Scale of the plan (1:100 or 1:200), north point and access road.
- ◆ An outline of buildings indicating doors and windows.

5.2 Preparing Your Design:

- ◆ Work with transparent overlays until the desired concept has been found.
- ◆ Indicate high (trees), medium (shrubs) and low (groundcovers, grass) plant material.
- ◆ Consider the type of species you wish to incorporate into your landscape design.
- ◆ Identify soil types and consider what suitable species, to assist with planting success.
- ◆ Indicate to scale where retaining walls, logs, seating, fences, gates, decorative features etc are to be located.
- ◆ Use shade trees to the north and west of car parking, and between parking bays.
- ◆ Advanced tree species appropriate to the street should be provided or replaced in the nature strip.
- ◆ Minimise lawn areas in order to minimise maintenance costs.
- ◆ Do not place tall trees below power lines, or above sewer pipes.

5.3 Prepare Your Final Plan:

- ◆ Indicate exactly which plant species are used in their location or with reference to a plant list. Use a botanical name and a common name.
- ◆ Use only a limited number of species in urban areas and a broader range of species for natural and rural areas, (refer to recommended plant species lists).
- ◆ Indicate the distances between plants on the landscape plan, so a contractor can construct as required.
- ◆ Realise that shrubs will eventually grow under trees so can be planted closer to them.
- ◆ Check if soil is adequate, if not:

- Indicate proposed location where the soil is to be removed and identify where the soil is to be retained.
 - Specify the supply of appropriate topsoil, which must comply with the Australian Standards for Soils AS 4419-2003.
 - Also specify the supply of fertiliser in key locations.
- ◆ Show scale, north point etc as per base plan.
 - ◆ Submit 2 copies with your Development Application; one will be returned with an approval stamp.
 - ◆ Supervise the construction of the landscaping to ensure that it accords with the landscaping plan.

6. Maintenance

The design and construction of a landscape plan should involve techniques that ensure the landscaping requires minimum maintenance.

6.1 Edging

Grassed areas should be separated from garden beds with suitable garden edging. Do not sever tree roots to install edging.

Mowing strips of concrete, brick or timber should be constructed to facilitate ease of maintenance and to enhance appearance. Straight line edging should be avoided.

6.2 Mulching

All planting beds and mounds are to be mulched with suitable materials, eg tea tree mulch. Additionally, vegetation listed for removal may be chipped and used as mulch thus assisting in the reduction of green waste.

These areas should then be over planted with suitable ground covers to create a living mulch.

Sufficient and careful preparation of garden beds will significantly reduce the level of maintenance required in future years.

6.3 Irrigation

Irrigation systems such as a trickle and a drip spray may be appropriate as they minimise maintenance times and remove the need for hand watering.

Such watering methods are time and cost effective and ensure the health of planting.

6.4 Fertilising

Regular fertilising will ensure the health and growth of plant species. Care should be taken to ensure that the fertilising requirements of different plant species are met. For example, rainforest species respond well to the application of fertilisers whereas plants such as Grevilleas and Banksia prefer low phosphorus fertilisers and conditions of low soil fertility.

The use of environmentally suitable, low maintenance natives are encouraged which are best suited to conditions of the site.

The above practices are to be maintained for a period of twelve months to two years after establishment to ensure the success of the landscaping and minimise maintenance costs. Developers must ensure that watering and general maintenance is ongoing after this period to prevent the mortality of plant species. Additionally, Council may require a landscaping bond to ensure all works are maintained to a sustainable level.

6.5 Weeds

There are two types of weed environmental and noxious as defined below.

- **Environmental Weeds** pose a threat to the natural environment. Environmental weeds are not native to the area and are very successful and resilient. To obtain the updated list of environmental weeds in Lismore area www.fncw.nsw.gov.au and www.northcoastweeds.org.au/noxiousweeds.
- **Noxious Weed** means a plant declared noxious within the Far North Coast County District under the Noxious Weeds Act, 1993. To obtain the updated list of noxious weeds in Lismore area: www.agric.nsw.gov.au and www.northcoastweeds.org.au/noxiousweeds.

Council encourages the removal of all weeds from a development site to assist in the eradication of them from the Far North Coast. For assistance with how to remove weeds refer to appendix 4 for a list of general weed control techniques.

6.6 On Council Land

Where the development includes landscaping and planting on Council land Council will specify the time period before handover in the standard conditions of development consent.

7. Species List

One of the objectives of these Landscape Guidelines is to enhance the natural sub-tropical environment particular to Lismore City Council area. Accordingly, the use of plants associated with our sub-tropical and littoral rainforests is encouraged.

To assist with the species selection this section includes a suggested planting list for the Lismore Local Government area. The list is in tabular form below and includes important information relating to habitat and growing conditions.

The list is divided into these main categories:

- ◆ Very Large - Large Trees >20m
- ◆ Medium – Large Trees 15 - 20m
- ◆ Small – Medium Trees 10 - 15m
- ◆ Shrubs – Small Trees <10m
- ◆ Vines (refer to appendix 5 for list of vines which are listed as a key threatening process)
- ◆ Ferns and Groundcovers

The following will not be permitted in landscaping for developments in Lismore City Council area;

- ◆ Toxic plants, e.g. oleander,
- ◆ Any species listed as a Noxious or Environmental Weed and
- ◆ A large number of exotic vines and scramblers (refer to appendix 4 for list).

A suggested replacement species for Camphor Laurels has also been compiled to assist with plant selection (refer to appendix 1).

NATIVE PLANTS SUITABLE FOR PLANTING IN THE LISMORE/GOONELLABAH AREA

Disclaimer: Heights of trees and shrubs are indicative only and final height will depend on site-specific environmental conditions.

1. Large-very large trees > 20 metres (not recommended for average suburban blocks)

Name	Features	Soils	Conditions
Blue Quandong <i>Elaeocarpus grandis</i>	Attractive bell-shaped flowers followed by bright blue fruits. Very ornamental.	Generally adaptable to most soil types but grows well in moist soils.	Fast growing plant that needs plenty of water.
Flooded Gum <i>Eucalyptus grandis</i>	A smooth-barked tree which is favoured as a koala food tree. Flowers attract flying foxes, possums and birds.	Tolerates a range of soils.	Requires a sunny position, free of frost.
Hoop Pine <i>Araucaria cunninghamii</i>	Good as a potted specimen. Suitable for parks and small acreages.	Tolerant of a variety of soil types.	Slow growing at first but hardy when established.
Moreton Bay Fig <i>Ficus macrophylla</i>	Good as a shade tree in parks or small acreages. Good as a potted specimen.	Tolerant of a variety of soils but prefers well-drained soil with plenty of water.	Will grow in sun or shade.
Red Cedar <i>Toona ciliata</i>	Good shade tree but is deciduous in late winter, with new pink leaf tips appearing soon after.	Grows in most soil types if well drained.	Fast growing and prefers protection from frost in first two years. Young plants are susceptible to attack by Tip Moth.
Strangling Fig <i>Ficus watkinsiana</i>	A bushy tree with spreading branches. It is suitable as an ornamental shade tree for parks. Fruits are attractive to birds.	Requires well-drained soils with plenty of moisture.	Plants need an open, sunny position.
Tallow-wood <i>Eucalyptus microcorys</i>	A rough-barked tree which is favoured as a koala food tree. Flowers attract flying foxes, possums and birds.	Tolerant of poor soils but prefers moist, rich soils.	Requires a sunny position.

2. Medium – large trees 15 –20 metres

Name	Features	Soils	Conditions
Banksia <i>Banksia integrifolia</i>	Ornamental flowers attract flying foxes, possums and birds.	Requires well-draining soils.	Prefers a sunny position.
Black Bean <i>Castanospermum australe</i>	A shady tree with glossy green leaves and masses of red/orange flowers, rich in nectar. These attract flying foxes, possums and birds. It bears large, leathery pods.	Will tolerate a variety of soils, even clay soil.	Excellent potted specimen. Tolerant of a variety of conditions.
Blue Quandong <i>Elaeocarpus grandis</i>	Attractive bell-shaped flowers followed by bright blue fruits. Very ornamental.	Generally adaptable to most soil types but grows well in moist soils.	Fast growing plant that needs plenty of water.
Brush Bloodwood <i>Baloghia inophylla</i>	This plant has stiff, shiny green leaves and prominent, perfumed flowers.	Adaptable to a range of soils if provided with plenty of water.	Prefers shady conditions but will grow in sun if provided with enough water.
Brushbox <i>Lophostemon confertus</i>	A tree with rounded to shady spreading crown and clusters of small, white flowers.	Tolerant of a wide range of soils types, including clays.	Grows best in sunny positions but will grow in shade. Frost tolerant.
Common Paperbark <i>Melaleuca quinquenervia</i>	Sweet-smelling flowers attract flying foxes, possums and birds.	Tolerant of a wide range of soils types, including clays and wet soils.	Prefers a sunny position.
Deciduous Fig <i>F. superba</i> var. <i>henneana</i>	A bushy tree with spreading branches. It is suitable as an ornamental shade tree for parks, although it loses its leaves for a short period. Fruits are attractive to birds.	Requires well-drained soils with plenty of moisture.	Plants need an open, sunny position.
Flame Tree <i>Brachychiton acerifolius</i>	A bushy tree with spectacular red flowers although it does not flower every year. Loses its leaves just before flowering.	Prefers well-drained soil with ample water.	Fast growing tree preferring a sunny aspect.
Forest Red Gum <i>Eucalyptus tereticornis</i>	This tree is favoured as a koala food tree. Flowers attract flying foxes, possums and birds.	Tolerant of a wide range of soils types, including clays	Prefers a sunny position.
Giant Water Gum <i>Syzygium francisii</i>	Suitable for parks and large garden and excellent as a shade tree. New foliage is brilliant red or pink. Small, white flowers followed by masses of mauve-purple berries. Good potted specimen.	Require well-drained soil with plenty of moisture.	Tolerates full sun and light frost.
Green-Leaved Rose Walnut <i>Endiandra muelleri</i>	A spreading tree with stiff, dark green leaves and pinkish-red new tips.	Adaptable to a range of soils.	Slow growing and hardy. Tolerant of a variety of situations, even exposure to full sun.
Hard Quandong <i>Elaeocarpus obovatus</i>	Tree with bushy crown. It produces dainty, fringed white flowers followed by beautiful blue fruits, which are attractive to birds.	Adaptable to a variety of soil types with adequate moisture. Copes with poor drainage.	An adaptable, hardy, tree with moderately fast growth rate.

2. Medium – large trees 15 –20 metres (cont.)

Name	Features	Soils	Conditions
Jackwood <i>Cryptocarya glaucescens</i>	A handsome tree with a dark, dense crown. Native pigeons value fruits.	Can tolerate poorer soils if supplied with adequate water.	Tolerant of moderate exposure.
Koda <i>Ehretia acuminat</i>	Produces sweetly scented white flowers and yellow berries, which attract birds. A bushy tree but loses its leaves briefly during winter.	Tolerates a variety of soil types with good drainage.	Grows quickly in sun or partial shade. Often attacked by caterpillars before leaf drop.
Lacebark Tree <i>Brachychiton discolor</i>	A bushy tree with large, bell-shaped pink to reddish flowers. Loses its leaves just before flowering. Good for large gardens and parks.	Prefers well-drained soil with ample water but will tolerate heavy soils.	Fast growing tree preferring a sunny aspect.
Northern Grey Ironbark <i>Eucalyptus siderophloia</i>	Flowers attract flying foxes, possums and birds.	Tolerant of a wide range of soils types, including clays	Prefers a sunny position.
Oliver's Sassafras <i>Cinnamomum oliveri</i>	A densely bushy tree with fragrant leaves and bright green new shoots. Fruits are important food source for birds. Good potted specimen.	Prefers well-drained loamy soil with plenty of mulch.	Requires a sheltered position and is sensitive to drying out. Slow growing when young.
Pink Bloodwood <i>Corymbia intermedia</i>	This tree is favoured as a koala food tree. Flowers attract flying foxes, possums and birds.	Tolerant of a wide range of soils types, including clays	Prefers a sunny position.
Purple Cherry <i>Syzygium crebrinerve</i>	A beautiful, ornamental tree with deep green, shiny leaves, rounded canopy and attractive red new growth. It produces masses of white flowers in spring followed by purple berries.	Requires well-drained soil with plenty of moisture.	A hardy plant that is tolerant of full sun and frost.
Red Apple <i>Syzygium ingans</i>	Small white-cream flowers and attractive large red fruits. Reddish new growth. Good park tree.	Needs well-drained soils	Sun tolerant from early age. Slow growing
Red Bean <i>Dysoxylum mollissimum</i>	Bushy tree with spreading crown. Suitable for larger gardens and parks.	Requires well-drained soils with plenty of water.	Fairly fast growing and adaptable.
Rosewood <i>Dysoxylum fraserianum</i>	Tree with spreading, shady crown and is excellent for larger gardens and parks.	Requires well-drained soils with plenty of water.	Slow growing when young and requires some protection. Hardy once established.
Silky Oak <i>Grevillea robusta</i>	Very ornamental tree producing an abundance of showy, golden flowers, which are very attractive to birds and other small native animals.	Adaptable to a variety of soil conditions and moisture levels.	A very hardy plant tolerant of full sun. Grows very quickly if provided with adequate moisture.

Name	Features	Soils	Conditions
Small Leaf Lilly Pilly <i>Syzygium leuhmannii</i>	Extremely beautiful plant with dense, weeping foliage with bright – pale pink new growth. Small, white flowers are followed by masses of pinkish-red berries. Good as a potted specimen.	Tolerant of variety of soils but requires plenty of moisture.	Moderately fast growing and are tolerant of sun, even when young.
Small-Fruited Grey Gum <i>Eucalyptus propinqua</i>	This tree is favoured as a koala food tree. Flowers attract flying foxes, possums and birds.	Tolerant of a wide range of soils types, prefers clay loams.	Prefers a sunny position.
Swamp Box <i>Lophostemon suaveolens</i>	A tree with a large, spreading crown and clusters of small, fragrant, white flowers.	Tolerates a wide range of soils types, including heavy clays.	Grows best in sunny positions but will grow in shade. Frost tolerant.
Weeping Lilly Pilly <i>Waterhousea floribunda</i>	A lovely tree with weeping foliage and large clusters of white flowers. Develops a widely spreading canopy and is an excellent shade tree.	Requires plenty of moisture but good drainage is essential.	Withstands full sun and shade and can be quite fast growing.
Wheel of Fire Tree <i>Stenocarpus sinuatus</i>	A very bushy tree with spectacular red flowers and dark, glossy leaves. Flowers attract nectar-feeding birds. Good potted plant.	Adaptable to a variety of soils but prefers deep, organic loams.	Prefers protection from frost and wind when young. Fairly fast growing if adequate water and fertilizer in summer.

3. Small – medium trees 10 – 15 metres

Name	Features	Soil	Conditions
Black Apple <i>Planchonella australis</i>	A bushy tree with large, black fruits.	Tolerant of a range of soil types, but prefers well-drained soils.	Grows easily in sun to shade.
Blunt-leaved Steelwood <i>Toechima dasyrrhache</i>	An attractive tree with a rounded canopy and rusty new growth. Black and orange fruits are very attractive to birds. Suitable as a street tree.	Tolerates a variety of soil types, including clays.	Can cope with many situations, from full sun to shade. Young plants may be spindly. Frost hardy.
Blunt-leaved Tulip <i>Harpullia hillii</i>	A tree with a dense crown and blue-black new growth and yellowish fruit. 12m	Requires moist, well-drained soils.	Can cope with full sun but requires shelter from frost and strong winds.
Broad-Leaved Brush Wilga <i>Geijera salicifolia</i>	A densely crowned tree which is excellent for parks, large gardens and small acreage.	Requires well-drained soils and plenty of water.	Fairly slow-growing.
Brown Pine <i>Podocarpus elatus</i>	Remains as a dense shrub for some years before becoming a shade tree. Good as a potted specimen.	Tolerant of a range of soil types, but requires well-drained soils.	Slow-growing plant in a variety of situations.
Celery wood <i>Polyscias elegans</i>	An elegant tree that resembles a palm. Good as a potted specimen.	Prefers rich, well-drained, moist soils.	A fast growing plant in sun or full shade.
Coogera <i>Arytera divaricata</i>	Highly suitable for parks and gardens. Its dense crown provides excellent shade and shelter. Attractive flushes of pink to red new growth.	Requires well-drained soils.	Older plants will tolerate full sun but younger ones prefer some protection.
Common Acronychia <i>Acronychia oblongifolia</i>	A handsome tree with attractive foliage and decorative fruit.	Prefers well-drained, moist soil.	Require shady or partial sunny conditions. Slow growing.
Crow's Ash <i>Pentaceras australe</i>	A tree with a dark green canopy and bearing masses of small, white, scented flowers.	Grows in a wide range of soil conditions.	Fast growing and tolerant of moderate frosts. Grows in a variety of situations.
Flintwood <i>Scolopia braunii</i>	Ornamental tree with glossy leaves and deep red new growth.	Prefers rich, well-drained, moist soils.	Grows in sun or shade. It is fairly slow growing.
Green Tamarind <i>Ellatostachys nervosa</i>	A spreading tree with red new growth. It produces small, cream-brown flowers and birds are attracted to its seeds.	Fairly adaptable to a variety of soil types	Plants are fairly slow growing but are adaptable to a variety of situations.
Hairy Rosewood <i>Dysoxylum rufum</i>	An attractive shade tree for parks and larger gardens. New growth is densely covered rusty-red hairs.	Adapts to a variety of soil types. Prefers well-drained soils with plenty of water.	Fairly fast growing and adaptable to a variety of positions.

Name	Features	Soils	Conditions
Incense Cedar <i>Anthocarapa nitidula</i>	Its small clusters of cream flowers are attractive to butterflies. Irritating hairs on fruit.	Prefers well-aerated, moist, loamy soils.	Dense habit makes it a useful screening plant.
Lilly Pilly <i>Acmena smithii</i>	Dense habit, glossy leaves and colourful fruits make it a good specimen tree for gardens, parks and streets. Useful as a windbreak tree and may be hedged. Attracts birds and butterflies.	Tolerant of poor soils and can cope with intermittent wet soils. Grows best on moist, well-drained loams.	A very hardy plant that tolerates full sun, shade, cold and light frosts.
Brown Bolly Gum <i>Litsea australis</i>	A dense tree with large leaves and clusters of greenish flowers and black fruits, which are attractive to birds.	Requires well-aerated soil with plenty of water.	Requires shade when small.
Malletwood <i>Rhodamnia argentea</i>	This tree has a dense, bushy crown and clusters of small, white, fluffy flowers followed by black berries. Ideal for gardens and parks.	Will grow in heavy clays but favours moist soils.	A fast growing tree if supplied with adequate moisture.
Myrtle Ebony <i>Diospyros pentamera</i>	An attractive specimen tree, whose yellow or red fruits are an important food source for fruit-eating pigeons.	Adaptable to poorer soils but grows best in rich, well-drained soils.	Slow growing but can tolerate full sun and frosts.
Native Frangipani <i>Hymenosporum flavum</i>	This plant bears highly perfumed, yellow-cream flowers, which last for several weeks.	Prefers rich, well-drained, moist soils.	A hardy and adaptable, fast growing plant that tolerates tough conditions, including full sun and frost.
Native Olive <i>Olea paniculata</i>	A bushy tree with small, pale-green flowers and black fruits, which are attractive to birds.	Requires well-drained soils.	Prefers some protection when young.
Peanut Tree <i>Sterculia quadrifida</i>	A bushy tree with decorative fruits.	Requires rich, well-drained, moist soils.	Easy to grow in a sunny position.
Pencil Cedar <i>Polyscias murrayi</i>	A distinctive tree that grows tall and straight before branching. Birds are attracted to the small, blue fruits. 12m	Requires well-drained soil.	A hardy tree in full sun but is easily damaged by wind. Tolerates light frosts.
Python Tree <i>Austromyrtus bidwillii</i>	An attractive plant with decorative blotched bark. White fluffy flowers followed by black berries, which are attractive to birds.	Tolerates a range of soils, even shallow clays, if drainage is adequate.	Fairly slow growing and will tolerate almost full sun to shade.
Red Ash <i>Alphitonia excelsa</i>	Produces masses of small greenish-white flowers. Often attacked by insects, it is sought after by insect-eating birds.	Tolerant of a wide range of soils and is also frost tolerant.	A fast-growing, hardy species, useful for providing quick shelter and shade.

Name	Features	Soils	Conditions
Ribbonwood <i>Euroschinus falcata</i>	An attractive tree with dense flower clusters of cream or pinkish flowers followed by pink to blue-black fruits, attractive to birds.	Prefers well-drained moist soils.	A fast-growing and hardy tree.
River Oak <i>Casuarina cunninghamiana</i>	An attractive tree with drooping branchlets, useful for windbreaks or as a screen.	Tolerant of a wide range of soils types, including clays and wet soils.	Grows in sun or part shade.
Rough-Leaved Elm <i>Aphananthe philippinensis</i>	This plant has unusual leaves with sandpapery texture. Its fruits are sought after by birds.	Prefers well-drained soils.	Fairly slow growing but adaptable to dry and cold sites.
Shiny Pear Fruit <i>Mischocarpus australis</i>	A decorative tree, especially when in fruit.	Prefers rich, well-drained, moist soils.	Withstands full sun and frost but is fairly slow growing.
Steelwood <i>Sarcopteryx stipata</i>	An attractive bushy tree with fleshy, red fruits	Prefers rich, well-drained, moist soils.	Grows in sun or shade.
Veiny Laceflower <i>Archidendron muellerianum</i>	An ornamental plant with white to greenish flowers followed by bright red fruits.	Requires moist, well-drained soil.	Prefers a protected position.
Water Gum <i>Tristaniaopsis laurina</i>	This attractive tree develops a wide, spreading canopy and is excellent as a shade tree and screening plant. New growth is usually maroon.	Tolerant of most soil types, even wet soil.	Tolerant of a range of conditions from full sun, medium frost and cold.
White Cedar <i>Melia azedarach</i>	A deciduous tree in winter, it has a shady, spreading crown during the rest of the year. It bears showy, perfumed, mauve flowers.	Tolerant of a range of soil types, but prefers well-drained, moist soils.	A hardy, fast-growing species, although it is often defoliated by caterpillars.
White Euodia <i>Melicope micrococca</i>	Bears clusters of white flowers, which are very attractive to birds, butterflies and other insects.	Tolerates a range of soils but requires good drainage.	Grows quickly and produces flowers when young if planted in full sun. Frost and shade tolerant.
Yellow Kamala <i>Mallotus discolor</i>	A compact tree with bright yellow fruits, which are attractive to birds.	Prefers deep soil.	Will grow in full sun even when small if given plenty of water in summer.

4. Shrubs – small trees 5 - 10 metres

Name	Features	Soil	Conditions
Ancana <i>Ancana stenopetala</i>	A slender plant with dark green leaves, sweet-smelling greenish-brown flowers and greenish-yellow fruit. 6m	Prefers moist, well-drained, soil.	Grows well in shady positions.
Blue Lilly Pilly <i>Syzygium oleosum</i>	Widely spreading crown, sometimes to ground level, and dark, glossy, aromatic leaves. White, fluffy flowers and colourful blue fruits. Suitable as a street tree. 10m	Adapted to a variety of soil types.	This plant is fast growing and easy to grow if water is adequate. It tolerates full sun from an early age.
Bolwarra <i>Eupomatia laurina</i>	A plant with glossy, dark green leaves and very fragrant flowers, each opening for one day only. Leaves turn dark red in cold weather. 6m	Requires well-drained moist soil.	Requires a shady position.
Brown Kurrajong <i>Commersonia bartramia</i>	A spreading tree with dense clusters of white flowers, which produce a layered effect on the top of the branches. 10m	Prefers well-drained moist soil.	A very hardy, fast-growing tree that can withstand exposure. Slightly frost sensitive when young.
Brown Tuckeroo <i>Cupaniopsis flagelliformis</i>	A very decorative plant with flushes of bright red growth and velvety yellow-orange fruits. 10m	Requires well-drained moist soil with regular watering.	Requires a sheltered position.
Brush Cherry <i>Syzygium australe</i>	A highly ornamental tree with a dense crown. Its white flowers and pink, red or maroon fruits are attractive to birds. This tree is excellent as a shade or screen plant. 10m	Adapts to most soil types.	Tolerates shade to sun and frosts.
Brush Turpentine <i>Rhodamnia rubescens</i>	A bushy tree with fragrant white flowers and black berries, which are attractive to birds. Useful as a screening plant. 10m	Adapted to a range of soil types.	A hardy plant that adapts to a wide range of situations.
Buff Hazelwood <i>Symplocos thwaitesii</i>	A bushy tree with leathery, dark green leaves, small greenish-white flowers and black fruits. Good as a screening plant. 10m	Requires well-drained moist soil.	Suitable for a shady position.
Coast canthium <i>Canthium coprosmoides</i>	Cream in colour fragrant flowers followed by bright red fruits. 8m	Prefers well-drained soils.	Will grow in sunny or shady positions. Fairly slow growing.
Creek Sandpaper Fig <i>Ficus coronata</i>	A bushy to straggly tree with an open crown, rough leaves and edible, hairy fruits, favoured by birds. 8m	Grows well in a range of soil types if provided with enough water.	Grows rapidly if provided with plenty of water.

Name	Features	Soil	Conditions
Duboisia <i>Duboisia myoporoides</i>	An ornamental small tree with thick, corky barks and small, white flowers followed by purple-black berries.	Tolerates a wide range of soil types but prefers moist, well-drained soils.	Grows in sun or part shade.
Featherwood <i>Polyosma cunninghamii</i>	A dense tree with small, white, fragrant flowers. Excellent as a screening plant. 10m	Requires well-drained and aerated soil.	Grows in sun or shade.
Finger Lime <i>Microcitrus australasica</i>	A thorny, bushy shrub related to domestic citrus. It has beautiful, white, fragrant flowers and edible fruit. 6m	Copes with all soil types as long as drainage is good.	Very slow-growing, thorny plant that is hardy in sun or shade.
Foambark Tree <i>Jagera pseudorhus</i>	Tree with a rounded canopy and decorative flushes of new growth. Has attractive yellowish fruits covered in irritating fine hairs. 10m	Grows in a variety of soil types including clay. It grows best in well-drained soil with ample water and nutrients.	Tolerates shade to full sun and mild frosts.
Green Bolly Gum <i>Neolitsea australiensis</i>	A bushy tree with decorative purplish new growth. Plants can flower heavily and their fruits are very attractive to birds. 10m	Prefers moist, well-drained soils.	Prefers protection from strong winds.
Guioa <i>Guioa semiglauca</i>	An ornamental, fast-growing tree. 10m	Prefers moist, well-drained soils.	Tolerates a range of positions.
Hairy Alectryon <i>Alectryon tomentosus</i>	Ornamental species for parks and gardens. It forms a rounded canopy if grown in the open. Pinkish new growth. 8m	Requires well-drained soil.	Fairly slow-growing when young but are fairly easy to grow.
Hairy Clerodendrum <i>Clerodendrum tomentosum</i>	A bushy shrub with hairy leaves and clusters of white flowers, followed by black and red fruits. 6m	Requires a sunny position.	A hardy plant that requires regular watering and pruning to look its best.
Hairy Walnut <i>Endiandra pubens</i>	A beautiful tree with a spreading canopy, dense foliage and coppery red new growth. It produces large, red fruits. Good potted specimen. 10m	Prefers well-drained moist soil.	Requires some protection at an early age but will adjust to a range of positions.
Hodgkinsonia <i>Hodgkinsonia ovatiflora</i>	A bushy tree with creamy-yellow, bell-shaped flowers. Its black fruits are attractive to birds. 8m	Requires well-drained soil and plenty of water.	Slow-growing and requires protection when young.
Macaranga <i>Macaranga tanarius</i>	A bushy, rounded or spreading tree with large, dark-green heart-shaped leaves and yellow-greenish flowers. 6m	Grows best in moist well-drained soil.	Hardy plant that tolerates full sun and wind but is very frost sensitive when young.

Name	Features	Soil	Conditions
Narrow-leaved Gardenia <i>Randia chartacea</i>	An ornamental bushy shrub with fragrant, white flowers and bright red fruits. 6m	Requires well-drained moist soil.	Requires a shaded, protected position.
Narrow-Leaved Orange Thorn <i>Citriobatus lancifolius</i>	A dense shrub with stiff, spiny branches and colourful fruits. Makes a good screen. 6m	Prefers well-drained soils.	Requires a protected position.
Native Cascarilla <i>Croton verreauxii</i>	A dense shrub with yellowish-green new shoots. Older leaves turn orange. Excellent screening plant. 6m	Tolerates a variety of soil types.	A hardy plant that is adaptable to a variety of positions and situation. Can withstand heavy pruning.
Plum Myrtle <i>Ptilidostigma glabrum</i>	A bushy shrub with glossy leaves and large white flowers. Its black fruits are attractive to birds. Useful as a screening plant. 10m	Adapted to a range of soils as long as there is adequate moisture.	Grows in a variety of positions, from full sun to shade.
Red Kamala <i>Mallotus philippensis</i>	It is a dense, bushy tree, which is excellent as a screen or windbreak. 8m	Tolerates a range of soil types, even poor soils.	A very hardy tree that tolerates full sun.
Red Olive Plum <i>Cassine australis</i>	An attractive tree with colourful, bright orange - red fruits. An excellent screening plant. 8m	Tolerates a wide range of soils, as long as adequate drainage.	Tolerates a wide range of conditions.
Sandpaper Fig <i>Ficus fraseri</i>	A bushy tree with a dense crown and rough leaves. Birds are attracted to fruits. 8m	Grows well in a range of soil types if provided with enough water.	A hardy, quick growing plant if provided with plenty of water. May be briefly deciduous in winter.
Scaly Myrtle <i>Austromyrtus hillii</i>	An attractive plant with a dense growth habit and flushes of pale green to silvery new leaves. Its shiny, black berries are attractive to birds. 6m	Tolerates a range of soils, even shallow clays, if drainage is adequate.	Very slow growing, especially when young. Prefers part to full shade.
Scentless Rosewood <i>Synoum glandulosum</i>	An attractive, bushy tree with white and pink, small fragrant flowers. Good potted specimen. 8m	Requires well-drained moist soil.	Requires some protection when young.
Scrub Ironbark <i>Austromyrtus acmenoides</i>	A bushy plant with decorative blotched bark. Fluffy white flowers are followed by black berries, which are attractive to birds. 8m	Tolerates a range of soils if drainage is adequate.	Slow growing plant, which will grow in sun to full shade.
Shiny-Leaved Canthium <i>Canthium odoratum</i>	Attractive cream, fragrant flowers followed by black, glossy fruits. 8m	Prefers well-drained soils	Requires a protected position.

Name	Features	Soil	Conditions
Shortleaf Beetroot <i>Ellatostachys xylocarpa</i>	An attractive tree with a spreading canopy and bright red new growth. It is useful as a shade tree and birds are attracted to its seeds. 8m	Adaptable to a variety of soil types, but prefers well-drained moist soils.	Fairly slow growing but adaptable to a variety of positions.
Silky Myrtle <i>Decaspermum humile</i>	An ornamental plant with pink, silky new shoots and fluffy, white, fragrant flowers. The small, black berries are attractive to birds. 8m	Prefers well-drained moist soil.	Plants can be slow to establish and require some shelter and protection when young.
Small-leaved Tuckeroo <i>Cupaniopsis parvifolia</i>	This plant has a spreading crown, which makes it a useful shade tree. 8m	Requires well-drained moist soil.	A very slow-growing plant, which prefers a sunny or partially sunny position.
Snow Wood <i>Pararchidendron pruinosum</i>	This graceful, bushy plant is very ornamental with fragrant, yellowish pom-pom flowers, which attract butterflies. 10m	Adapted to a range of well-drained soils.	A fast-growing plant that is adaptable to a range of conditions. Tolerates full sun but prefers protection from winds.
Soft Achronychia <i>Acronychia pauciflora</i>	Ornamental tree, especially when in fruit. 8m	Requires well-drained soil.	Will grow in sun or shade. Fairly slow growing.
Turnipwood <i>Akania lucens</i>	Very ornamental plant with large decorative leaves and attractive pinkish to white sweetly scented flowers and red fruits. 8m	Requires moist, well-drained, loamy soil.	Slow growing and can be difficult to establish. Prefers shady conditions.
Twin-Leaf Coogera <i>Arytera distylis</i>	Small cream flowers followed by yellow fruits. Occasional flushes of colourful new growth. 12m	Requires well-drained soils	Easily grown plant but prefers some protection from wind and sun. Hardy once established.
Union Nut <i>Boucharatia neurococca</i>	A small, spreading tree or shrub bearing dense clusters of small, white-cream flowers. 10m	Requires moist, well-drained soil.	Plants require a shady position.
Veiny Wilkiea <i>Wilkiea huegeliana</i>	A bushy shrub with stiff, leathery leaves and shiny, black fruits. 6m	Will tolerate most soils types if drainage is adequate.	Will grow in sun or shade.
Weeping Bottlebrush <i>Callistemon viminalis</i>	A bushy shrub with pink new growth and red flowers, attractive to flying foxes, possums and birds.	Tolerates a range of soils, including clays.	Prefers a sunny position.
White Bolly Gum <i>Neolitsea dealbata</i>	A pretty, bushy tree with soft young pale-green new growth. 10m	Prefers moist, well-drained soils.	Prefers protection from strong winds, but is fairly hardy once established.

Name	Features	Soil	Conditions
White Croton <i>Croton stigmatus</i>	A bushy tree with silvery new shoots. 8m	Requires well-drained moist soil.	Requires a shady position.
White Kamala <i>Mallotus laoxyloides</i>	A straggly to bushy shrub whose leaves give off a distinct fragrance. 6m	Copes with a variety of soil types.	It grows in a range of positions, from full sun to shade.
Wild Quince <i>Alectryon subcinereus</i>	Attractive plant with dark, shiny green leaves. Birds are attracted to the seeds. 8m	Grows in sandy soils and will also grow in heavier loams and clays if well drained.	Open or partially open position.
Willow Bottlebrush <i>Callistemon salignus</i>	A bushy shrub with pinkish new growth and cream coloured flowers, which attract flying foxes, possums and birds.	Grows in a range of soils including clay loams.	Prefers a sunny position with ample moisture.
Yellow Plumwood <i>Planchonella myrsinoides</i>	A bushy tree with a spreading habit, useful for screening. 6m	Requires well-drained moist soil.	Grows in a variety of positions, but prefers semi-shade.
Yellow Walnut <i>Cryptocarya bidwillii</i>	A straggly to bushy tree with dull-green leaves. Its fruits are attractive to birds. 8m	Requires well-drained moist soil.	It requires partial to filtered sun.

5. Trees & Shrubs <5 metres

Name	Features	Soil	Conditions
Banana bush <i>Tabernaemontana pandacaqui</i>	This small shrub has fragrant, white flowers followed by banana-shaped orange fruits (poisonous) 2m	Prefers moist, well-drained, soil.	Requires partial protection.
Bleeding Heart <i>Omalanthus populifolius</i>	An ornamental tree with scattered red leaves. Birds are attracted to its purple fruits. 4m	Prefers moist, well-drained, soil.	It grows in sun or shade.
Breynia <i>Breynia oblongifolia</i>	Colourful fruits are attractive to birds. 3m	Tolerates a variety of soil types.	Easily grown in a variety of conditions.
Broad Leaved Palm Lilly <i>Cordyline petiolaris</i>	A very ornamental, palm-like plant with tiny purple flowers, followed by red fruits. 5m	Prefers well-drained moist soil.	A hardy, adaptable plant that grows best in semi-shaded positions with regular watering in dry conditions.
Brush Caperberry <i>Capparis arborea</i>	Attractive, white, fragrant flowers. Stems are spiny and can be straggly. 5m	Prefers well-drained soils	Requires partial sun.
Glossy Laurel <i>Cryptocarya laevigata</i>	A very attractive shrub with glossy leaves and bright red fruits. Good as a potted specimen. 5m	Requires well-drained moist soil.	Prefers partial to full shade but this slow-growing plant can tolerate full sun.
Hairy Pittosporum <i>Pittosporum revolutum</i>	An attractive shrub with pale yellow, fragrant flowers and decorative fruits. 2m	Adapted to a range of well-drained soils.	Very hardy and tolerates a range of conditions including full sun and light frosts. Responds to light pruning.
Hairy Psychotria <i>Psychotria loniceroides</i>	A bushy shrub with small, white flowers and creamy-yellow fruits. 4m	Requires well-drained soil.	A hardy shrub that can be grown in a variety of positions.
Narrow -leaved Palm Lilly <i>Cordyline stricta</i>	A very ornamental, palm-like plant with tiny purple flowers, followed by black fruits. It forms a spreading clump. 4m	Prefers well-drained moist soil.	A hardy, adaptable plant that grows best in semi-shaded positions with regular watering in dry conditions.
Native Guava <i>Rhodomyrtus psidioides</i>	A bushy shrub with white or pink flowers with yellow fruits. Can produce root suckers. 6m	Tolerates a range of soils, including clays.	A fast-growing, hardy tree, tolerating light frosts and full sun.
Native Rosella <i>Hibiscus heterophyllus</i>	A prickly plant with lovely white, pink, pale yellow or gold flowers, all with deep red centres.	Requires well-drained soil.	Adaptable to a range of conditions and flowers readily. Responds to pruning.
Orange Thorn <i>Citriobatus pauciflorus</i>	Small orange fruits make this shrub very ornamental. It has small needle-like spines and is favoured by birds as a safe nesting site. 3m	Prefers well-drained soils.	A slow-growing plant that requires a sheltered site with plenty of light.

Name	Features	Soil	Conditions
Prickly Alyxia <i>Alyxia ruscifolia</i>	A stiff shrub with attractive glossy leaves. It bears fragrant white flowers and bright orange-red fruits. 2.4m	Prefers well-drained, moist soil.	A slow-growing plant that requires a shady position.
Straw Treefern <i>Cyathea cooperi</i>	A robust tree fern with a graceful crown.	Adapted to many soil types.	Fast growing and adaptable to many positions, even full sun if enough water.
Red Fruited Palm Lilly <i>Cordyline rubra</i>	A very ornamental, palm-like plant with tiny purple flowers, followed by red fruits.	Prefers well-drained moist soil.	A hardy, adaptable plant that grows best in semi-shaded positions with regular watering in dry conditions.
Rose Myrtle <i>Archirhodomyrtus beckleri</i>	An attractive shrub that bears delicate flowers from an early age. It has a graceful, weeping appearance. Good as a potted specimen. 4m	Prefers well-drained, moist soil.	Very easy to grow in full sun or part shade. Tolerates light frost once established.
Rough Treefern <i>Cyathea australis</i>	A beautiful tree fern with a lush appearance when established.	Prefers well-drained moist soil.	This plant is hardy once established, but prefers a sheltered position.
Smooth Scrub Turpentine <i>Rhodamnia maideniana</i>	A bushy shrub with ornamental foliage and small, pink flowers and black berries that are attractive to birds. 3m	Requires well-drained moist soil.	Prefers semi-shaded position.
Walking stick Palm <i>Linospadix monostachya</i>	A beautiful slender palm, which produces long strings of bright red fruits. It is slow growing.	Requires well-draining soil with plenty of water.	Requires a shady, sheltered position.
White Holly <i>Pittosporum rhombifolium</i>	A very ornamental tree when in flower and fruit. It has thick, glossy, leathery leaves, masses of white flowers and yellow fruits. Suitable for parks and as a street tree. 2m	Prefers rich soil, but can tolerate poor soils as long as it is well drained.	Very hardy once established and can tolerate a range of situations. Copes with light frosts. Can be slow growing at first.
Wing-leaved Tulip <i>Harpullia alata</i>	A slender, often straggly shrub with purplish-black new growth and yellowish fruit. 4m	Requires well-drained soil.	A slow-growing shrub suitable for shady situations.

6. Vines – many will attract butterflies

Name	Features	Soil	Conditions
Bower of Beauty <i>Pandorea jasminoides</i>	A vigorous climber with clusters of beautiful pink, showy flowers. Excellent for screening unsightly structures and covering pergolas etc.	Requires well-drained, loamy soils.	A strong growing plant that will grow in most positions. May require pruning to keep in growth in check. Tolerant of light frosts.
Climbing Guinea Flower <i>Hibbertia scandens</i>	A shrubby scrambler or twiner, which is good as a groundcover for embankments or to train over supports. It has large, showy, yellow flowers, which are produced over a long period of time.	Tolerates a range of soil types as long as the drainage is good.	A quick-growing and very hardy plant which tolerates a range of conditions, from shade to full sun. Tolerant of light frosts.
Native Wisteria <i>Millettia megasperma</i>	A vigorous climber with glossy green leaves, clusters of purple flowers and large seedpods. Resembles introduced Wisteria.	Requires well-drained soil with plenty of water.	This fast-growing vine requires a strong support and is excellent for covering large structures.
Richmond Bird Wing Butterfly Vine <i>Pararistolochia praevenosa</i>	Food source for the larvae of the Richmond Birdwing Butterfly. Multi-stemmed climber, which, can grow high into trees and bears unusual flowers.	Grows well in most soils if adequate moisture and nutrients are available.	Prefers semi-shade and protection from hot sun and wind.
Traveller's Joy <i>Clematis aristata</i>	A climber with masses of white, starry flowers.	Grows in a range of soils from sand to clay, as long as the drainage is unimpeded.	Grows in a range of positions, from shade to full sun. Tolerant of moderate frosts.
Water Vine <i>Cissus antarctica</i>	A robust, vigorous climber that is useful as a cover for pergolas, fences etc. Its black berries are a good food source for fruit-eating pigeons.	Tolerates a range of soil types, but prefers extra water and nutrients.	A very hardy plant that will tolerate sun or shade and heat or cold. Can be pruned to keep growth in check.
Wax flower <i>Hoya australis</i>	A beautiful twiner, with waxy, dark green leaves and clusters of fragrant, white flowers, which attract butterflies. It is good as a basket or pot specimen. Its white sap is thought to be poisonous to humans.	Adapts to a variety of soil types as long as drainage is good.	A very hardy plant in dry conditions, but looks at its best with some shelter.
Wonga Vine <i>Pandorea pandorana</i>	A beautiful vine with masses of tubular flowers, which can be pink, white, gold, red-brown, purple or maroon.	Will grow in most soil types.	A fast-growing vine that can be pruned radically if necessary. Will grow in a range of positions, from shade to full sun.

7. Ferns and Groundcovers – some groundcovers will attract butterflies

Name	Features	Soil	Conditions
Aneilema <i>Aneilema biflorum</i>	A pretty, creeping groundcover with delicate white flowers.	Prefers moist, well-drained soils but will tolerate a range of soils.	A useful groundcover for shady places but will grow in sunny positions.
Basket Grass <i>Oplismenus</i> spp.	A spreading, perennial native grass, which is useful for shady positions.	Prefers moist, well-drained soils.	Will grow in well-lit or shady positions.
Binung <i>Christella dentata</i>	A coarse, clumping fern that is excellent for rockeries.	Will tolerate a range of soils if it has enough water.	Requires a sheltered position with plenty of moisture.
Birds Nest Fern <i>Asplenium australasicum</i>	A large, epiphytic fern that grows on trees, rocks or in the garden	If grown in the ground it prefers excellent drainage.	It prefers a sheltered position with plenty of moisture in summer, but will withstand periods of drought
Cunjevoi Lily <i>Alocasia brisbanensis</i>	An evergreen lily up to 1.5 metres tall, with large, spade-like leaves and sweetly perfumed lily-like flowers. All parts of the plant are poisonous.	It thrives in wet soils but grows in freely draining soils.	A useful plant for shady, moist areas.
Elkhorn <i>Platynerium bifurcatum</i>	A beautiful, epiphytic fern that grows on trees.	N/A	It will tolerate sunlight if provided with adequate water.
Flax Lily <i>Dianella</i> sp.	A variable plant with tufted leaves and a fan-like appearance. It has beautiful light blue -mauve flowers and blue fruits, which are thought to be poisonous.	Will tolerate a range of soils but requires good drainage.	A very adaptable plant, which will grow in sun to shade.
Giant Maidenhair <i>Adiantum formosum</i>	A vigorous, spreading fern with black stems, which can grow about 1 metre in height	It prefers moist, well-drained soils.	Excellent for moist, shady positions
Gristle Fern <i>Blechnum cartilagineum</i>	A hardy, spreading fern with bright pink new growth.	It will grow in a range of soils.	Tolerant of dry conditions once established. Will grow in shade to sun.
Kangaroo Grass <i>Themeda australis</i>	An attractive tufted grass that is suitable for drier gardens. Useful to control erosion on slopes.	Adapts to a range of soils, even very dry soils.	Tolerant of dry conditions and full sun. Dislikes shady conditions.
Kidney Weed <i>Dichondra repens</i>	A useful spreading, low groundcover for shady areas.	This plant will tolerate a range of soils.	Prefers shade, but will tolerate sun if moisture is adequate.
Mat Rush <i>Lomandra longifolia</i>	A useful, grass-like clumping plant up to 1 metre in height with strongly perfumed flowers. Excellent on sloping ground to prevent erosion.	This plant will tolerate a range of soils.	It will grow in a range of conditions.

7. Ferns and Groundcovers – some groundcovers will attract butterflies (cont.)

Name	Features	Soil	Conditions
Native Ginger <i>Alpinia caerulea</i>	An attractive clumping plant that can grow to 2 metres in height.	It will tolerate a range of soils if moisture and drainage are adequate.	It will tolerate full sun, but looks best in shade to semi-shade with some protection.
Native Violet <i>Viola hederacea</i>	A pretty, spreading violet with mauve and white flowers. Excellent in hanging baskets.	Tolerates a range of soils if provided with adequate moisture.	Requires some shade.
Native Wandering Jew <i>Commelina cyanea</i>	A spreading groundcover with lovely bright-blue flowers.	It prefers a moist, well-drained position.	Tolerates shade but prefers a well-lit position with water during summer.
Pastel Flower <i>Pseuderanthemum variabile</i>	A pretty, soft herb with small, delicate white, pink, blue or lilac flowers. Grows up to 30 cm. in height.	Requires a rich loam with plenty of moisture.	Prefers light shade.
Pennywort <i>Centella asiatica</i>	A useful spreading, low groundcover for shaded to partly shaded areas.	Tolerates a wide range of soil types.	Prefers shade, but will tolerate sun if moisture is adequate.
Polli <i>Polliia crispata</i>	A useful groundcover with small, white flowers. Resembles a robust Wandering Jew.	Requires a moist soil and can be grown in boggy conditions.	It requires a shady, sheltered, moist position. Frost sensitive.
Rasp Fern <i>Doodia</i> spp.	A fern that is ideal as a ground cover, forming spreading clumps. Good for rock gardens.	Adapted to a range of soils, even heavy soils.	A very hardy fern that will withstand periods of dryness once established. Will grow in shade or partial shade.
Rough maiden hair <i>Adiantum hispidulum</i>	An attractive, vigorous, spreading fern. Useful for rockeries.	Tolerates a range of soils if well drained.	A very hardy plant which will grow in sun or shade
Shiny Shield Fern <i>Lastreopsis</i> spp.	An attractive spreading ground fern.	Requires moist, well-drained soils.	This plant requires a shady, moist, protected position.
Sickle Fern <i>Pellaea falcata</i>	An attractive, hardy and spreading ground fern.	Prefers moist, well-drained soils.	Although this fern prefer shade, it will tolerate periods of dryness once established.
Staghorn <i>Platycerium superbum</i>	A beautiful, epiphytic fern that grows on trees.	N/A	It will tolerate sunlight if provided with adequate water.

The above information was sourced from the following books:

Australian Rainforest Books 1-1V: Nan & Hugh Nicholson (published by High & Nan Nicholson Terania Rainforest Publishing 1985, 1988, 1991, 1994)

Climbing Plants in Australia: David L. Jones & Bruce Gray (published by Reed Books Pty. Ltd. 1988)

Eucalypts and Angophoras of the North Coast New South Wales: C.L. Bales (published by University of New England Printery, Armidale 1992)

Ornamental Rainforest Plants in Australia: David I. Jones (published by Reed Books Pty. Ltd 1986)

Trees & Shrubs in Rainforests of New South Wales & Southern Queensland: J.B. Williams, G.J.Harden & W.J.F. McDonald (published by University of New England Printery, Armidale 1984)

Appendix 1: Suggested Replacement species for Camphor Laurels

Fruiting times of laurels on the NSW North Coast

(Adapted from: Floyd, A, 1990. Australian Rainforests in NSW and Floyd, A, 1989. Rainforest Trees of Mainland South-eastern Australia) by Tim Scanlon

Scientific Name	Common Name	Occurrence	Fruiting Times												
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
<i>Endiandra compressa</i>	White Bark	Dorrigo-N.Qld	X												
<i>Litsea reticulata</i>	Bolly Gum	S.NSW-BunyaMt	X	X	X									X	X
<i>Endiandra introrsa</i>	Red Plum	Dorrigo-Nightcap		X	X										
<i>Cryptocarya laevigata</i>	Glossy Laurel	Richmond-SEQld	X	X	X	X									
<i>Cryptocarya rigida</i>	Rose Maple	Ccoast-McPhers	X	X	X	X	X								
<i>Endiandra discolor</i>	Rose Walnut	C.Coast-N.Qld			X										
<i>Cinnamomum oliveri</i>	Oliver's Sassafras	Illawarra-N.Qld			X										
<i>Cryptocarya floydii</i>	Gorge Laurel	Macleay,GuyFwk		X	X	X									
<i>Beilschmiedia elliptica</i>	Grey Walnut	Forster-Frazer Isl		X	X	X									
<i>Cryptocarya triplinervis</i>	Three-veined Laurel	Macleay-N.Qld		X	X	X	X								
<i>Cryptocarya sp. nov.</i>	Dorrigo Laurel	Eastern Dorrigo		X	X	X	X								
<i>Cryptocarya meissneriana</i>	Thick-leaved Laurel	Gloucest-Tweed			X	X									
<i>Cryptocarya microneura</i>	Murrogun	S.NSW-SEQld	X	X	X	X	X	X	X						X
<i>Beilschmiedia obtusifolia</i>	Hard Bolly Gum	Manning-N.Qld	X	X	X	X	X	X	X						
<i>Cryptocarya obovata</i>	Pepperberry	Cent.Coast-C.Qld			X	X	X								
<i>Endiandra muelleri</i>	Mueller's Walnut	Hunter-C.Qld				X									
<i>Endiandra globosa</i>	Black Walnut	Brnswck-Tweed				X	X								
<i>Cryptocarya glaucescens</i>	Jackwood	S.NSW-Qld			X	X	X	X							
<i>Neolitsia australiensis</i>	Smooth-barked Bollygum	Gosford-N.Qld					X	X							
<i>Endiandra sieberi</i>	Hard Corkwood	S.NSW-S.Qld			X	X	X	X	X	X					
<i>Cryptocarya erythroxylon</i>	Pigeonberry Ash	Hunter-Cent.Qld				X	X	X	X	X	X	X			
<i>Neolitsia dealbata</i>	White Bolly Gum	Illawarra-N.Qld				X	X	X	X	X	X	X			
<i>Cinnamomum virens</i>	Red-barked Sassafras	Coneac-McPhers								X	X	X	X		
<i>Litsea leefana</i>	Brown Bolly Gum	Forster-Frazer Isl									X	X	X		
<i>Endiandra pubens</i>	White Barked Walnut	Bellinger-C.Qld	X	X									X	X	X
<i>Cryptocarya bidwillii</i>	Yellow Laurel	Nymboida-N.Qld	X	X										X	X
<i>Cryptocarya foveolata</i>	Mountain Walnut	Hunter-McPhers	X										X	X	X

Appendix 2: Native plants suitable for BASIX Requirements in the Lismore/Goonellabah Area

Disclaimer: Heights of trees and shrubs are indicative only and final height will depend on site-specific environmental conditions.

1. Large-very large trees > 20 metres (not recommended for average suburban blocks)

Name	Features	Soils	Conditions
Hoop Pine <i>Araucaria cunninghamii</i>	Good as a potted specimen. Suitable for parks and small acreages.	Tolerant of a variety of soil types.	Slow growing at first but hardy when established.
Red Cedar <i>Toona ciliata</i>	Good shade tree but is deciduous in late winter, with new pink leaf tips appearing soon after.	Grows in most soil types if well drained.	Fast growing and prefers protection from frost in first two years. Young plants are susceptible to attack by Tip Moth.
Tallow-wood <i>Eucalyptus microcorys</i>	A rough-barked tree which is favoured as a koala food tree. Flowers attract flying foxes, possums and birds.	Tolerant of poor soils but prefers moist, rich soils.	Requires a sunny position.

2. Medium – large trees 15 –20 metres

Name	Features	Soils	Conditions
Banksia <i>Banksia integrifolia</i>	Ornamental flowers attract flying foxes, possums and birds.	Requires well-draining soils.	Prefers a sunny position.
Brushbox <i>Lophostemon confertus</i>	A tree with rounded to shady spreading crown and clusters of small, white flowers.	Tolerant of a wide range of soils types, including clays.	Grows best in sunny positions but will grow in shade. Frost tolerant.
Forest Red Gum <i>Eucalyptus tereticornis</i>	This tree is favoured as a koala food tree. Flowers attract flying foxes, possums and birds.	Tolerant of a wide range of soils types, including clays	Prefers a sunny position.
Green-Leaved Rose Walnut <i>Endiandra muelleri</i>	A spreading tree with stiff, dark green leaves and pinkish-red new tips.	Adaptable to a range of soils.	Slow growing and hardy. Tolerant of a variety of situations, even exposure to full sun.
Jackwood <i>Cryptocarya glaucescens</i>	A handsome tree with a dark, dense crown. Native pigeons value fruits.	Can tolerate poorer soils if supplied with adequate water.	Tolerant of moderate exposure.
Koda <i>Ehretia acuminat</i>	Produces sweetly scented white flowers and yellow berries, which attract birds. A bushy tree but loses its leaves briefly during winter.	Tolerates a variety of soil types with good drainage.	Grows quickly in sun or partial shade. Often attacked by caterpillars before leaf drop.

Name	Features	Soils	Conditions
Northern Grey Ironbark <i>Eucalyptus siderophloia</i>	Flowers attract flying foxes, possums and birds.	Tolerant of a wide range of soils types, including clays	Prefers a sunny position.
Pink Bloodwood <i>Corymbia intermedia</i>	This tree is favoured as a koala food tree. Flowers attract flying foxes, possums and birds.	Tolerant of a wide range of soils types, including clays	Prefers a sunny position.
Red Apple <i>Syzygium ingans</i>	Small white-cream flowers and attractive large red fruits. Reddish new growth. Good park tree.	Needs well-drained soils	Sun tolerant from early age. Slow growing
Silky Oak <i>Grevillea robusta</i>	Very ornamental tree producing an abundance of showy, golden flowers, which are very attractive to birds and other small native animals.	Adaptable to a variety of soil conditions and moisture levels.	A very hardy plant tolerant of full sun. Grows very quickly if provided with adequate moisture.
Small-Fruited Grey Gum <i>Eucalyptus propinqua</i>	This tree is favoured as a koala food tree. Flowers attract flying foxes, possums and birds.	Tolerant of a wide range of soils types, prefers clay loams.	Prefers a sunny position.
Wheel of Fire Tree <i>Stenocarpus sinuatus</i>	A very bushy tree with spectacular red flowers and dark, glossy leaves. Flowers attract nectar-feeding birds. Good potted plant.	Adaptable to a variety of soils but prefers deep, organic loams.	Prefers protection from frost and wind when young. Fairly fast growing if adequate water and fertilizer in summer.

3. Small – medium trees 10 – 15 metres

Name	Features	Soil	Conditions
Black Apple <i>Planchonella australis</i>	A bushy tree with large, black fruits.	Tolerant of a range of soil types, but prefers well-drained soils.	Grows easily in sun to shade.
Blunt-leaved Tulip <i>Harpullia hillii</i>	A tree with a dense crown and blue-black new growth and yellowish fruit. 12m	Requires moist, well-drained soils.	Can cope with full sun but requires shelter from frost and strong winds.
Coogera <i>Arytera divaricata</i>	Highly suitable for parks and gardens. Its dense crown provides excellent shade and shelter. Attractive flushes of pink to red new growth.	Requires well-drained soils.	Older plants will tolerate full sun but younger ones prefer some protection.
Crow's Ash <i>Pentaceras australe</i>	A tree with a dark green canopy and bearing masses of small, white, scented flowers.	Grows in a wide range of soil conditions.	Fast growing and tolerant of moderate frosts. Grows in a variety of situations.
Green Tamarind <i>Ellatostachys nervosa</i>	A spreading tree with red new growth. It produces small, cream-brown flowers and birds are attracted to its seeds.	Fairly adaptable to a variety of soil types	Plants are fairly slow growing but are adaptable to a variety of situations.

Name	Features	Soil	Conditions
Myrtle Ebony <i>Diospyros pentamera</i>	An attractive specimen tree, whose yellow or red fruits are an important food source for fruit-eating pigeons.	Adaptable to poorer soils but grows best in rich, well-drained soils.	Slow growing but can tolerate full sun and frosts.
Native Frangipani <i>Hymenosporum flavum</i>	This plant bears highly perfumed, yellow-cream flowers, which last for several weeks.	Prefers rich, well-drained, moist soils.	A hardy and adaptable, fast growing plant that tolerates tough conditions, including full sun and frost.
Native Olive <i>Olea paniculata</i>	A bushy tree with small, pale-green flowers and black fruits, which are attractive to birds.	Requires well-drained soils.	Prefers some protection when young.
Pencil Cedar <i>Polyscias murrayi</i>	A distinctive tree that grows tall and straight before branching. Birds are attracted to the small, blue fruits. 12m	Requires well-drained soil.	A hardy tree in full sun but is easily damaged by wind. Tolerates light frosts.
Python Tree <i>Austromyrtus bidwillii</i>	An attractive plant with decorative blotched bark. White fluffy flowers followed by black berries, which are attractive to birds.	Tolerates a range of soils, even shallow clays, if drainage is adequate.	Fairly slow growing and will tolerate almost full sun to shade.
Red Ash <i>Alphitonia excelsa</i>	Produces masses of small greenish-white flowers. Often attacked by insects, it is sought after by insect-eating birds.	Tolerant of a wide range of soils and is also frost tolerant.	A fast-growing, hardy species, useful for providing quick shelter and shade.
Rough-Leaved Elm <i>Aphananthe philippinensis</i>	This plant has unusual leaves with sandpapery texture. Its fruits are sought after by birds.	Prefers well-drained soils.	Fairly slow growing but adaptable to dry and cold sites.
Veiny Laceflower <i>Archidendron muellerianum</i>	An ornamental plant with white to greenish flowers followed by bright red fruits.	Requires moist, well-drained soil.	Prefers a protected position.
White Euodia <i>Melicope micrococca</i>	Bears clusters of white flowers, which are very attractive to birds, butterflies and other insects.	Tolerates a range of soils but requires good drainage.	Grows quickly and produces flowers when young if planted in full sun. Frost and shade tolerant.
Yellow Kamala <i>Mallotus discolor</i>	A compact tree with bright yellow fruits, which are attractive to birds.	Prefers deep soil.	Will grow in full sun even when small if given plenty of water in summer.

4. Shrubs – small trees 5 - 10 metres

Name	Features	Soil	Conditions
Ancana <i>Ancana stenopetala</i>	A slender plant with dark green leaves, sweet-smelling greenish-brown flowers and greenish-yellow fruit. 6m	Prefers moist, well-drained, soil.	Grows well in shady positions.
Bolwarra <i>Eupomatia laurina</i>	A plant with glossy, dark green leaves and very fragrant flowers, each opening for one day only. Leaves turn dark red in cold weather. 6m	Requires well-drained moist soil.	Requires a shady position.
Brush Cherry <i>Syzygium australe</i>	A highly ornamental tree with a dense crown. Its white flowers and pink, red or maroon fruits are attractive to birds. This tree is excellent as a shade or screen plant. 10m	Adapts to most soil types.	Tolerates shade to sun and frosts.
Brush Turpentine <i>Rhodamnia rubescens</i>	A bushy tree with fragrant white flowers and black berries, which are attractive to birds. Useful as a screening plant. 10m	Adapted to a range of soil types.	A hardy plant that adapts to a wide range of situations.
Coast canthium <i>Canthium coprosmoides</i>	Cream in colour fragrant flowers followed by bright red fruits. 8m	Prefers well-drained soils.	Will grow in sunny or shady positions. Fairly slow growing.
Featherwood <i>Polyosma cunninghamii</i>	A dense tree with small, white, fragrant flowers. Excellent as a screening plant. 10m	Requires well-drained and aerated soil.	Grows in sun or shade.
Finger Lime <i>Microcitrus australasica</i>	A thorny, bushy shrub related to domestic citrus. It has beautiful, white, fragrant flowers and edible fruit. 6m	Copes with all soil types as long as drainage is good.	Very slow-growing, thorny plant that is hardy in sun or shade.
Green Bolly Gum <i>Neolitsea australiensis</i>	A bushy tree with decorative purplish new growth. Plants can flower heavily and their fruits are very attractive to birds. 10m	Prefers moist, well-drained soils.	Prefers protection from strong winds.
Hairy Alectryon <i>Alectryon tomentosus</i>	Ornamental species for parks and gardens. It forms a rounded canopy if grown in the open. Pinkish new growth. 8m	Requires well-drained soil.	Fairly slow-growing when young but are fairly easy to grow.
Macaranga <i>Macaranga tanarius</i>	A bushy, rounded or spreading tree with large, dark-green heart-shaped leaves and yellow-greenish flowers. 6m	Grows best in moist well-drained soil.	Hardy plant that tolerates full sun and wind but is very frost sensitive when young.
Narrow-Leaved Orange Thorn <i>Citriobatus lancifolius</i>	A dense shrub with stiff, spiny branches and colourful fruits. Makes a good screen. 6m	Prefers well-drained soils.	Requires a protected position.

4. Shrubs – small trees 5 - 10 metres (cont.)

Name	Features	Soil	Conditions
Native Cascarilla <i>Croton verreauxii</i>	A dense shrub with yellowish-green new shoots. Older leaves turn orange. Excellent screening plant. 6m	Tolerates a variety of soil types.	A hardy plant that is adaptable to a variety of positions and situation. Can withstand heavy pruning.
Red Kamala <i>Mallotus philippensis</i>	It is a dense, bushy tree, which is excellent as a screen or windbreak. 8m	Tolerates a range of soil types, even poor soils.	A very hardy tree that tolerates full sun.
Red Olive Plum <i>Cassine australis</i>	An attractive tree with colourful, bright orange - red fruits. An excellent screening plant. 8m	Tolerates a wide range of soils, as long as adequate drainage.	Tolerates a wide range of conditions.
Scaly Myrtle <i>Austromyrtus hillii</i>	An attractive plant with a dense growth habit and flushes of pale green to silvery new leaves. Its shiny, black berries are attractive to birds. 6m	Tolerates a range of soils, even shallow clays, if drainage is adequate.	Very slow growing, especially when young. Prefers part to full shade.
Scentless Rosewood <i>Synoum glandulosum</i>	An attractive, bushy tree with white and pink, small fragrant flowers. Good potted specimen. 8m	Requires well-drained moist soil.	Requires some protection when young.
Scrub Ironbark <i>Austromyrtus acmenoides</i>	A bushy plant with decorative blotched bark. Fluffy white flowers are followed by black berries, which are attractive to birds. 8m	Tolerates a range of soils if drainage is adequate.	Slow growing plant, which will grow in sun to full shade.
Shiny-Leaved Canthium <i>Canthium odoratum</i>	Attractive cream, fragrant flowers followed by black, glossy fruits. 8m	Prefers well-drained soils	Requires a protected position.
Snow Wood <i>Pararchidendron pruinatum</i>	This graceful, bushy plant is very ornamental with fragrant, yellowish pom-pom flowers, which attract butterflies. 10m	Adapted to a range of well-drained soils.	A fast-growing plant that is adaptable to a range of conditions. Tolerates full sun but prefers protection from winds.
Soft Achronychia <i>Acronychia pauciflora</i>	Ornamental tree, especially when in fruit. 8m	Requires well-drained soil.	Will grow in sun or shade. Fairly slow growing.
Turnipwood <i>Akania lucens</i>	Very ornamental plant with large decorative leaves and attractive pinkish to white sweetly scented flowers and red fruits. 8m	Requires moist, well-drained, loamy soil.	Slow growing and can be difficult to establish. Prefers shady conditions.
Twin-Leaf Coogera <i>Arytera distylis</i>	Small cream flowers followed by yellow fruits. Occasional flushes of colourful new growth. 12m	Requires well-drained soils	Easily grown plant but prefers some protection from wind and sun. Hardy once established.

Name	Features	Soil	Conditions
Union Nut <i>Bouchardatia neurococca</i>	A small, spreading tree or shrub bearing dense clusters of small, white-cream flowers. 10m	Requires most, well-drained soil.	Plants require a shady position.
Weeping Bottlebrush <i>Callistemon viminalis</i>	A bushy shrub with pink new growth and red flowers, attractive to flying foxes, possums and birds.	Tolerates a range of soils, including clays.	Prefers a sunny position.
White Bolly Gum <i>Neolitsea dealbata</i>	A pretty, bushy tree with soft young pale-green new growth. 10m	Prefers moist, well-drained soils.	Prefers protection from strong winds, but is fairly hardy once established.
White Kamala <i>Mallotus claoxyloides</i>	A straggly to bushy shrub whose leaves give off a distinct fragrance. 6m	Copes with a variety of soil types.	It grows in a range of positions, from full sun to shade.
Yellow Walnut <i>Cryptocarya bidwillii</i>	A straggly to bushy tree with dull-green leaves. Its fruits are attractive to birds. 8m	Requires well-drained moist soil.	It requires partial to filtered sun.

5. Trees & Shrubs <5 metres

Name	Features	Soil	Conditions
Banana bush <i>Tabernaemontana pandacaqui</i>	This small shrub has fragrant, white flowers followed by banana-shaped orange fruits (poisonous) 2m	Prefers moist, well-drained, soil.	Requires partial protection.
Bleeding Heart <i>Omalanthus populifolius</i>	An ornamental tree with scattered red leaves. Birds are attracted to its purple fruits. 4m	Prefers moist, well-drained, soil.	It grows in sun or shade.
Breynia <i>Breynia oblongifolia</i>	Colourful fruits are attractive to birds. 3m	Tolerates a variety of soil types.	Easily grown in a variety of conditions.
Brush Caperberry <i>Capparis arborea</i>	Attractive, white, fragrant flowers. Stems are spiny and can be straggly. 5m	Prefers well-drained soils	Requires partial sun.
Hairy Pittosporum <i>Pittosporum revolutum</i>	An attractive shrub with pale yellow, fragrant flowers and decorative fruits. 2m	Adapted to a range of well-drained soils.	Very hardy and tolerates a range of conditions including full sun and light frosts. Responds to light pruning.
Hairy Psychotria <i>Psychotria loniceroides</i>	A bushy shrub with small, white flowers and creamy-yellow fruits. 4m	Requires well-drained soil.	A hardy shrub that can be grown in a variety of positions.
Native Rosella <i>Hibiscus heterophyllus</i>	A prickly plant with lovely white, pink, pale yellow or gold flowers, all with deep red centres.	Requires well-drained soil.	Adaptable to a range of conditions and flowers readily. Responds to pruning.

Name	Features	Soil	Conditions
Orange Thorn <i>Citriobatus pauciflorus</i>	Small orange fruits make this shrub very ornamental. It has small needle-like spines and is favoured by birds as a safe nesting site. 3m	Prefers well-drained soils.	A slow-growing plant that requires a sheltered site with plenty of light.
Smooth Scrub Turpentine <i>Rhodamnia maideniana</i>	A bushy shrub with ornamental foliage and small, pink flowers and black berries that are attractive to birds. 3m	Requires well-drained moist soil.	Prefers semi-shaded position.
White Holly <i>Pittosporum rhombifolium</i>	A very ornamental tree when in flower and fruit. It has thick, glossy, leathery leaves, masses of white flowers and yellow fruits. Suitable for parks and as a street tree. 2m	Prefers rich soil, but can tolerate poor soils as long as it is well drained.	Very hardy once established and can tolerate a range of situations. Copes with light frosts. Can be slow growing at first.
Wing-leaved Tulip <i>Harpullia alata</i>	A slender, often straggly shrub with purplish-black new growth and yellowish fruit. 4m	Requires well-drained soil.	A slow-growing shrub suitable for shady situations.

6. Vines – many will attract butterflies

Name	Features	Soil	Conditions
Bower of Beauty <i>Pandorea jasminoides</i>	A vigorous climber with clusters of beautiful pink, showy flowers. Excellent for screening unsightly structures and covering pergolas etc.	Requires well-drained, loamy soils.	A strong growing plant that will grow in most positions. May require pruning to keep in growth in check. Tolerant of light frosts.
Climbing Guinea Flower <i>Hibbertia scandens</i>	A shrubby scrambler or twiner, which is good as a groundcover for embankments or to train over supports. It has large, showy, yellow flowers, which are produced over a long period of time.	Tolerates a range of soil types as long as the drainage is good.	A quick-growing and very hardy plant which tolerates a range of conditions, from shade to full sun. Tolerant of light frosts.
Richmond Bird Wing Butterfly Vine <i>Pararistolochia praevenosa</i>	Food source for the larvae of the Richmond Birdwing Butterfly. Multi-stemmed climber, which, can grow high into tree.	Grows well in most soils if adequate moisture and nutrients are available.	Prefers semi-shade and protection from hot sun and wind.
Traveller's Joy <i>Clematis aristata</i>	A climber with masses of white, starry flowers.	Grows in a range of soils from sand to clay, as long as the drainage is unimpeded.	Grows in a range of positions, from shade to full sun. Tolerant of moderate frosts.
Wonga Vine <i>Pandorea pandorana</i>	A beautiful vine with masses of tubular flowers, which can be pink, white, gold, red.	Will grow in most soil types.	A fast-growing vine that can be pruned radically if necessary.

7. Ferns and Groundcovers – some groundcovers will attract butterflies

Name	Features	Soil	Conditions
Kangaroo Grass <i>Themeda australis</i>	An attractive tufted grass that is suitable for drier gardens. Useful to control erosion on slopes.	Adapts to a range of soils, even very dry soils.	Tolerant of dry conditions and full sun. Dislikes shady conditions.
Kidney Weed <i>Dichondra repens</i>	A useful spreading, low groundcover for shady areas.	This plant will tolerate a range of soils.	Prefers shade, but will tolerate sun if moisture is adequate.
Mat Rush <i>Lomandra longifolia</i>	A useful, grass-like clumping plant up to 1 metre in height with strongly perfumed flowers. Excellent on sloping ground to prevent erosion.	This plant will tolerate a range of soils.	It will grow in a range of conditions.
Pastel Flower <i>Pseuderanthemum variabile</i>	A pretty, soft herb with small, delicate white, pink, blue or lilac flowers. Grows up to 30 cm. in height.	Requires a rich loam with plenty of moisture.	Prefers light shade.
Pennywort <i>Centella asiatica</i>	A useful spreading, low groundcover for shaded to partly shaded areas.	Tolerates a wide range of soil types.	Prefers shade, but will tolerate sun if moisture is adequate.

The above information was sourced from the following books:

Australian Rainforest Books 1-1V: Nan & Hugh Nicholson (published by High & Nan Nicholson Terania Rainforest Publishing 1985, 1988, 1991, 1994)

Climbing Plants in Australia: David L. Jones & Bruce Gray (published by Reed Books Pty. Ltd. 1988)

Eucalypts and Angophoras of the North Coast New South Wales: C.L. Bales (published by University of New England Printery, Armidale 1992)

Ornamental Rainforest Plants in Australia: David I. Jones (published by Reed Books Pty. Ltd 1986)

Trees & Shrubs in Rainforests of New South Wales & Southern Queensland: J.B. Williams, G.J.Harden & W.J.F. McDonald (published by University of New England Printery, Armidale 1984)

Appendix 3: 'Revegetating Streams in the Richmond Catchment': A Guide to Species and Planting Methods



REVEGETATING STREAMS IN THE RICHMOND CATCHMENT

A GUIDE TO SPECIES AND PLANTING METHODS

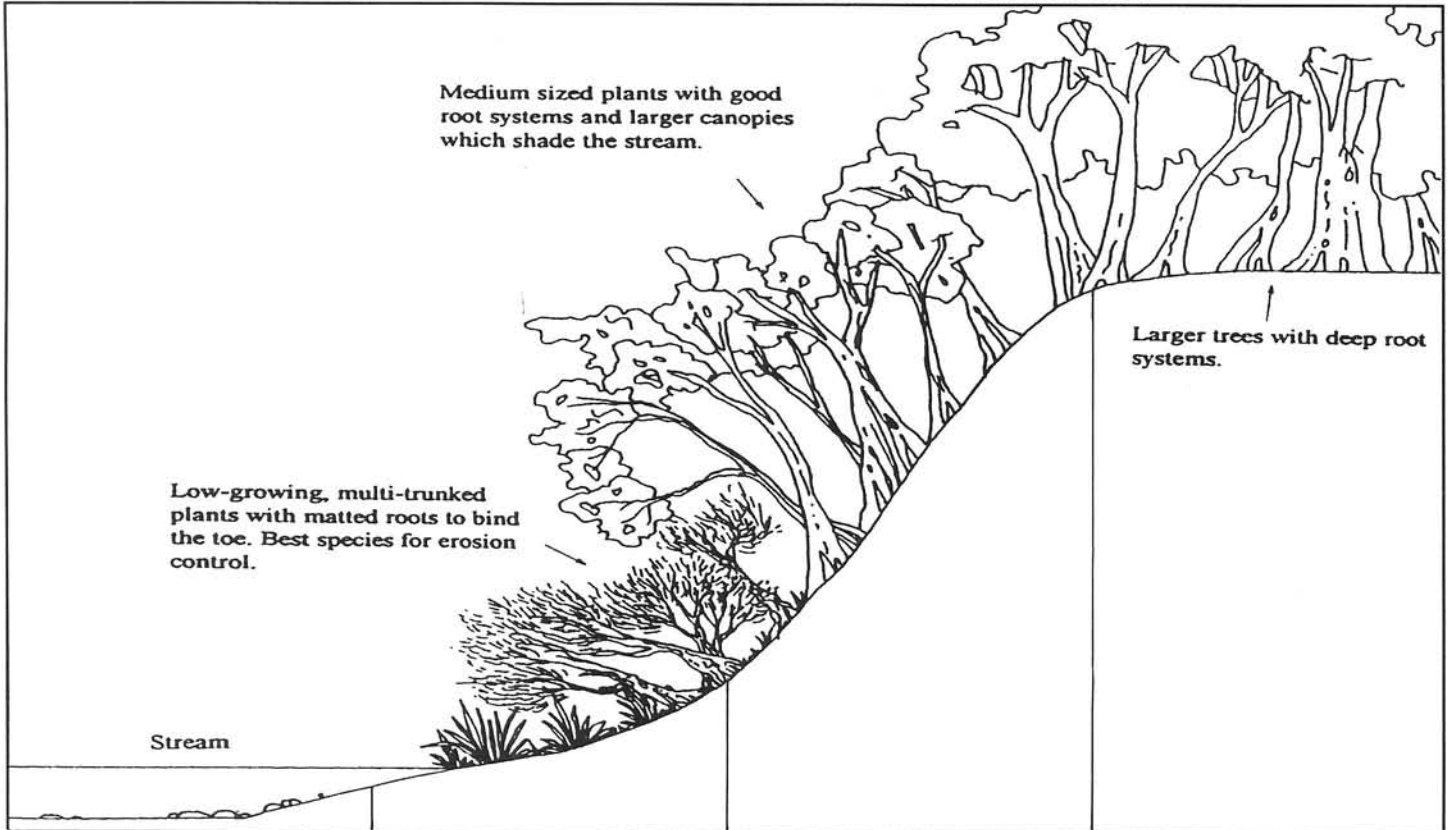


**Land & Water
Resources**
Research &
Development
Corporation

Prepared by: A. Raine
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SPECIES BY STREAM AND LOCATION



STREAM	TOE	MIDDLE	UPPER
<p>Southern tributaries Including Camira, Myall, Bungawalbin, Myrtle, Busby, Battens Bight, Four Mile, and Six Mile Creeks.</p> <p>* poorly drained sites ** Busbys Creek only *** Myall & Camira Creeks only **** Myrtle & Bungawalbin Creeks only</p>	<p><i>Acmena smithii</i> (Creek Form) <i>Callistemon viminalis</i>*** <i>Casuarina cunninghamiana</i> <i>Casuarina glauca</i>* <i>Ficus coronata</i> <i>Leptospermum brachyandrum</i> <i>Lomandra hystrix</i> <i>Lomandra longifolia</i> <i>Melaleuca alternifolia</i>* <i>Melaleuca quinquenervia</i>* <i>Tristanopsis laurina</i> <i>Waterhousea floribunda</i>****</p>	<p><i>Alphitonia excelsa</i> <i>Castanospermum australe</i>** <i>Casuarina cunninghamiana</i> <i>Casuarina glauca</i>* <i>Cryptocarya microneura</i> <i>Eucalyptus grandis</i> <i>Glochidion ferdinandi</i> <i>Grevillea robusta</i> <i>Lomandra longifolia</i> <i>Melaleuca alternifolia</i>* <i>Melaleuca quinquenervia</i>* <i>Rhodomyrtus psidioides</i></p>	<p><i>Acacia aulacocarpa</i> <i>Acacia fimbriata</i> <i>Acacia irrorata</i> <i>Callistemon salignus</i> <i>Eucalyptus intermedia</i> <i>Eucalyptus seeana</i> <i>Eucalyptus siderophloia</i> <i>Eucalyptus tereticornis</i> <i>Lophostemon suaveolens</i></p>
<p>North-western tributaries Including Mongogarie, Doubtful, Iron Pot, Eden, Fawcetts, Lynchs, Gradys, and Findon Creeks, and Shannon Brook and Richmond River.</p> <p>* absent from upper reaches ** plant only on streams where already present *** only on upper reaches, on rocky, well-watered streams.</p>	<p><i>Acmena smithii</i> (Creek Form) <i>Callistemon viminalis</i>** <i>Casuarina cunninghamiana</i> <i>Elaeocarpus grandis</i>*** <i>Ficus coronata</i> <i>Lomandra hystrix</i> <i>Lomandra longifolia</i> <i>Melaleuca bracteata</i> <i>Potamophila parviflora</i> <i>Tristanopsis laurina</i></p>	<p><i>Acacia melanoxylon</i> <i>Aphananthe philippinensis</i> <i>Araucaria cunninghamii</i> <i>Archontophoenix cunninghamiana</i>*** <i>Castanospermum australe</i>* <i>Casuarina cunninghamiana</i> <i>Cryptocarya triplinervis</i> <i>Ehretia acuminata</i> <i>Elaeocarpus obovatus</i> <i>Glochidion ferdinandi</i> <i>Grevillea robusta</i> <i>Hibiscus heterophyllus</i> <i>Hymenosporum flavum</i> <i>Mallotus philippensis</i> <i>Podocarpus elatus</i> <i>Streblus brunonianus</i> <i>Syzygium australe</i></p>	<p><i>Acacia melanoxylon</i> <i>Angophora subvelutina</i> <i>Eucalyptus tereticornis</i> <i>Lophostemon suaveolens</i></p>

STREAM	TOE	MIDDLE	UPPER
<p>North-eastern tributaries Including Back, Websters, Leycester, Jiggi, Terania, Goolmangar, Coopers, Byron, Skinners, and Wilsons River.</p> <p>* only on streams west of, and including, Goolmangar Creek. ** upper reaches of streams only *** for protected sites</p>	<p><i>Acmena smithii</i> (Creek Form) <i>Callistemon viminalis</i>* <i>Casuarina cunninghamiana</i>* <i>Elaeocarpus grandis</i>** <i>Ficus coronata</i> <i>Lomandra hystrix</i> <i>Sloanea australis</i>*** <i>Tristaniopsis laurina</i></p>	<p><i>Aphananthe philippinensis</i> <i>Archontophoenix cunninghamiana</i>*** <i>Austromyrtus fragrantissima</i>*** <i>Castanospermum australe</i> <i>Cryptocarya obovata</i> <i>Desmodium acanthocladum</i> <i>Diploglottis australis</i> <i>Elaeocarpus obovatus</i> <i>Glochidion ferdinandi</i> <i>Grevillea robusta</i> <i>Heritiera trifoliolata</i>*** <i>Hibiscus heterophyllus</i> <i>Polyscias elegans</i> <i>Sloanea australis</i>*** <i>Sloanea woollsi</i>*** <i>Streblus brunonianus</i> <i>Syzygium australe</i> <i>Syzygium francisii</i>*** <i>Syzygium hodgkinsoniae</i>*** <i>Toona australis</i></p>	<p><i>Acacia melanoxylon</i> <i>Alphitonia excelsa</i> <i>Araucaria cunninghamii</i> <i>Commersonia bartramia</i> <i>Ehretia acuminata</i> <i>Elaeocarpus obovatus</i> <i>Eucalyptus grandis</i> <i>Ficus spp.</i> <i>Flindersia schottiana</i> <i>Grevillea robusta</i> <i>Guioa semiglaucata</i> <i>Hibiscus heterophyllus</i> <i>Jagera pseudorhus</i> <i>Melia azedarach var australasica</i> <i>Toona australis</i></p>

NOW GO TO THE SPECIES DESCRIPTIONS TO CHECK COMMON NAMES AND SEE WHICH ARE BEST FOR YOUR SITE

DESCRIPTION OF RIVERBANK PLANTS NATIVE TO THE RICHMOND CATCHMENT

HEIGHT - refers to the maximum height in an OPEN situation. Some species may grow taller in protected areas.

FROST RESISTANT - refers to the frost resistance of newly planted seedlings. 1 = none or very little frost resistance; 2 = some resistance (light frosts); 3 = frost resistant

PROTECTION WHEN YOUNG - 1 = plant requires watering and protective canopy of taller plants; 2 = may require some watering and protection in exposed sites; 3 = requires no protection

R.F. = abbreviation for rainforest

COMMON / BOTANICAL NAME	BRIEF DESCRIPTION	MAX. HEIGHT	FAST GROWING	PROTECTION WHEN YOUNG	FROST RESISTANT	OTHER USES / COMMENTS	RARE	WILDLIFE
BRUSH IRONBARK WATTLE <i>ACACIA AULACOCARPA</i>	MEDIUM WATTLE WITH BLUISH-GREY PHYLLODES. GREY-BLACK FURROWED BARK. AND PALE YELLOW FLOWERS IN LATE SUMMER/AUTUMN. HARDY	10	X	3	3	FAST-GROWING SCREEN PLANT. TIMBER CAN BE USED FOR RAILS.		ATTRACTS INSECT EATING BIRDS
FRINGED WATTLE <i>ACACIA FIMBRIATA</i>	A BUSHY SHRUB OR SMALL TREE WITH A WEEPING HABIT AND PALE YELLOW FLOWERS. HARDY.	6	X	3	3	USEFUL WINDBREAK SPECIES OR SCREEN PLANT		ATTRACTS INSECT EATING BIRDS
GREEN WATTLE <i>ACACIA IRRORATA</i>	SMALL, FERN-LEAVED WATTLE WITH PALE YELLOW FLOWERS.VERY HARDY.	6	X	3	3	GOOD CANOPY SPECIES FOR PROTECTING R.F. PLANTINGS		ATTRACTS INSECT EATING BIRDS
BLACKWOOD <i>ACACIA MELANOXYLON</i>	MEDIUM-SIZED BUSHY WATTLE WITH PALE YELLOW FLOWERS. VERY HARDY	10	X	3	3	USEFUL BUFFER TREE FOR PROTECTING STREAMSIDE AND RAINFOREST PLANTINGS.		SEEDS ATTRACT BIRDS
LILLY PILLY <i>ACMENA SMITHII</i>	MEDIUM-SIZED R.F. TREE WITH A DENSE HABIT AND PINK TO PURPLE FRUIT	10		2	2	SOME FORMS MAKE USEFUL WINDBREAKS IF GIVEN SUFFICIENT WATER		FRUIT ATTRACTS BIRDS
RED ASH <i>ALPHITONIA EXCELSA</i>	A MEDIUM SIZED TREE WITH SOME DROUGHT TOLERANCE. LEAVES HAVE A WHITE UNDERSIDE. HARDY	12	X	3	3	TIMBER SUITABLE FOR BUILDING OR CABINET WORK. STOCK FORAGE TREE. GOOD RAINFOREST REGENERATION TREE.		SEEDS ATTRACT BIRDS
BROAD-LEAVED APPLE <i>ANGOPHORA SUBVELUTINA</i>	A MEDIUM TO TALL, ROUGH-BARKED TREE WITH BROAD LEAVES AND CHARACTERISTIC GNARLED, OR TWISTED, GROWTH. HARDY.	18		3	3	OFTEN RETAINED ON FARMS AS A SHADE TREE. IT IS A USEFUL POLLEN TREE FOR BEES.		PROVIDES NESTING SITES FOR BIRDS
ROUGH-LEAVED ELM <i>APHANANTHE PHILIPPINENSIS</i>	SMALL TO MEDIUM SIZED R.F. TREE WITH STIFF ELM-LIKE LEAVES AND DENSE, DARK CROWN. HARDY	12		2	2	TIMBER HARD AND SUITABLE FOR HANDLES. EDIBLE FRUIT. USEFUL R.F. REGENERATION SPECIES.		FRUIT ATTRACTS BIRDS
HOOP PINE <i>ARAUCARIA CUNNINGHAMII</i>	A TALL, STRAIGHT R.F TREE WITH SCALY BARK AND DARK GREEN PINE-TYPE LEAVES. THE LARGE CONES ARE PRODUCED IN SUMMER.	30		2	2	USED IN PARK AND HOMESTEAD LANDSCAPING. TIMBER SUITABLE FOR LIGHT CONSTRUCTION AND PLYWOOD.		
BANGALOW PALM <i>ARCHONTOPHOENIX CUNNINGHAMIANA</i>	SINGLE-STEMMED, FEATHER-LEAVED PALM. NEEDS PLENTY OF WATER. BEST FOR WELL-WATERED, PROTECTED SITES.	8	X	1	1	COMMONLY USED IN LANDSCAPING IN YARDS AND AROUND COMMERCIAL CENTRES. BEST FOR PROTECTED SITES.		FRUIT ATTRACTS BIRDS
SWEET MYRTLE <i>AUSTROMYRTUS FRAGRANTISSIMA</i>	A DENSE BUSHY SHRUB OR SMALL R.F. TREE WITH GLOSSY LEAVES, SCENTED WHITE FLOWERS AND ORANGE FRUITS IN LATE SUMMER.	5		1	1	RAINFOREST UNDERSTOREY SPECIES. SLOW GROWING SPECIES PLANTED DUE TO ITS RARITY. BEST IN PROTECTED SITES.	X	
WILLOW BOTTLEBRUSH <i>CALLISTEMON SALIGNUS</i>	SMALL TREE WITH PAPERY BARK, PINK NEW GROWTH AND WHITE BOTTLEBRUSH FLOWERS. VERY HARDY.	6	X	3	3	GOOD WINDBREAK SPECIES. GROWS IN A WIDE RANGE OF SOILS INCLUDING POORLY DRAINED SITES.		FLOWERS ATTRACT HONEYEATERS
WEEPING BOTTLEBRUSH <i>CALLISTEMON VIMINALIS</i>	MULTI-STEMMED TREE WITH HARD FURROWED BARK AND RED BOTTLEBRUSH FLOWERS. VERY HARDY.	5	X	3	2	EXCELLENT EROSION CONTROL SPECIES. USED FOR DIRECT SEEDING.		FLOWERS ATTRACT HONEYEATERS
BLACK BEAN <i>CASTANOSPERMUM AUSTRALE</i>	A DENSE-CROWNED R.F. TREE WITH DARK GREEN LEAVES. PRODUCES ORANGE/RED FLOWERS ON BRANCHES FOLLOWED BY LARGE PODS.	18		2	2	GOOD DECORATIVE TIMBER SPECIES USED FOR TURNERY AND CABINET WORK.		ATTRACTS HONEYEATING BIRDS
RIVER OAK <i>CASUARINA CUNNINGHAMIANA</i>	TALL, PINE-LIKE SPECIES. VERY COMMON ON THE NORTH COAST. HARDY. NEEDS MANAGEMENT AS MAY CONTRIBUTE TO EROSION.	20	X	3	3	FIXES NITROGEN. GOOD CANOPY COVER SPECIES FOR R.F. REGENERATION. DIRECT SEEDING.USED FOR DROUGHT FODDER		LARGER, OLDER TREES USED AS ROOSTING SITES.
SWAMP OAK <i>CASUARINA GLAUCA</i>	MEDIUM, PINE-LIKE SPECIES. COMMON ON POORLY-DRAINED SITES OR BRACKISH RIVERS.	15	X	3	3	FIXES NITROGEN. USEFUL DROUGHT FODDER. DIRECT SEEDING.		LARGER, OLDER TREES USED AS ROOSTING SITES.
BROWN KURRAJONG <i>COMMERSONIA BARTRAMIA</i>	SMALL TREE, WITH LARGE, TOOTHED, RUSTY HAIRIED LEAVES AND ATTRACTIVE SPRAYS OF SMALL WHITE FLOWERS IN SUMMER.	15	X	3	2	VERY HARDY REGENERATION SPECIES FOR RAINFORESTS		
MURROGUN <i>CRYPTOCARYA MICRONEURA</i>	A MEDIUM SIZED R.F. SPECIES PRODUCING SHINY BLACK FRUIT IN SUMMER/AUTUMN.	10		1	2	REASONABLY HARDY SPECIES FOR R.F. PLANTINGS.		FRUIT ATTRACTS BIRDS
PEPPERBERRY TREE <i>CRYPTOCARYA OBOVATA</i>	MEDIUM TO TALL DENSLEY-CROWNED R.F. TREE WITH HAIRY NEW GROWTH AND DARK LEAVES.	18		1	1	GOOD SHADE TREE.		FRUIT ATTRACTS BIRDS

COMMON / BOTANICAL NAME	BRIEF DESCRIPTION	MAX. HEIGHT	FAST GROWING	PROTECTION WHEN YOUNG	FROST RESISTANT	OTHER USES / COMMENTS	RARE	WILDLIFE
THREE-VEINED LAUREL <i>CRYPTOCARYA TRIPLINERVIS</i>	SMALL R.F. TREE WITH DARK, THREE-VEINED LEAVES AND PRODUCING BLACK FRUITS IN WINTER/SPRING.	8		2	1	GOOD UNDERSTOREY SPECIES FOR DRIER RAINFOREST SITES.		FRUIT ATTRACTS BIRDS
THORNY PEA <i>DESMODIUM ACANTHOCLADUM</i>	SMALL, THORNY SHRUB WITH VERY SMALL LEAVES, AND PURPLE, PEA-TYPE FLOWERS.	1		2	1	UNDERSTOREY SPECIES FOR RAINFOREST PLANTINGS.	X	
NATIVE TAMARIND <i>DIPLOGLOTTIS AUSTRALIS</i>	ATTRACTIVE TALL R.F. TREE WITH VERY LARGE COMPOUND LEAVES AND RUSTY HAIRY NEW GROWTH.	15		1	1	ATTRACTIVE TREE USED FOR LANDSCAPING. EDIBLE FRUIT. BEST PLANTED IN PROTECTED SITES.		FRUIT ATTRACTS BIRDS
KODA <i>EHRETIA ACUMINATA</i>	MEDIUM-SIZED R.F. TREE, DECIDUOUS WITH GREY FISSURED BARK AND MASSES OF ORANGE FRUITS IN SUMMER/AUTUMN.	10		2	2	FRUITS ARE ORNAMENTAL.		FRUIT ATTRACTS BIRDS
BLUE QUANDONG <i>ELAEOCARPUS GRANDIS</i>	TALL, BUTTRESSING R.F. TREE WITH SPARSE CANOPY AND LARGE BLUE FRUITS IN SPRING/SUMMER.	30	X	2	1	VALUABLE TIMBER TREE FOR INTERIOR WORK. SHADE TREE. EDIBLE FRUIT.		FRUIT ATTRACTS BIRDS
HARD QUANDONG <i>ELAEOCARPUS OBOVATUS</i>	TALL R.F. TREE TOLERANT OF WET SOILS. HARDY. PRODUCES MASSES OF SMALL BLUE FRUITS.	15		2	2	USEFUL TIMBER TREE FOR INTERIOR WORK. SHADE TREE		FRUIT ATTRACTS BIRDS
FLOODED GUM <i>EUCALYPTUS GRANDIS</i>	VERY TALL EUCALYPT WITH SMOOTH WHITE BARK	40+	X	3	2	GOOD HARDWOOD TIMBER TREE FOR LIGHT CONSTRUCTION. GOOD POLLEN TREE.		FLOWERS ATTRACT BIRDS, HABITAT TREE
PINK BLOODWOOD <i>EUCALYPTUS INTERMEDIA</i>	MEDIUM TO TALL EUCALYPT WITH ROUGH GREYISH-BROWN, SCALY BARK AND LARGE CAPSULES. HARDY.	30		3	3	USEFUL HARDWOOD TIMBER TREE. MEDIUM IMPORTANCE AS A POLLEN SOURCE FOR BEES.		FLOWERS ATTRACT BIRDS, HABITAT TREE
NARROW-LEAVED RED GUM <i>EUCALYPTUS SEEANA</i>	A MEDIUM TO TALL EUCALYPT WITH PATCHY, WHITE-GREYISH BARK, AND NARROW LEAVES. HARDY.	20	X	3	3	TIMBER SUITABLE FOR FENCING.		
GREY IRONBARK <i>EUCALYPTUS SIDEROPHLOIA</i>	MEDIUM TO TALL EUCALYPT WITH TOUGH, HARD, FURROWED BARK.	20		3	3	TOUGH, HARD AND DURABLE TIMBER SUITABLE FOR FENCEPOSTS, SLEEPERS, AND BRIDGE TIMBERS. GOOD SOURCE OF NECTAR FOR BEES.		ATTRACTS INSECT EATING BIRDS
FOREST RED GUM <i>EUCALYPTUS TERETICORNIS</i>	A MEDIUM TO TALL EUCALYPT WITH PATCHY, WHITE-GREYISH BARK OFTEN GROWS ON ALLUVIAL FLOODPLAINS. VERY HARDY.	30	X	3	3	TIMBER SUITABLE FOR HEAVY CONSTRUCTION AND FENCING. GOOD SHADE TREE. USEFUL POLLEN SOURCE FOR BEES.		KOALA FOOD TREE
CREEK SANDPIPER FIG <i>FICUS CORONATA</i>	SMALL BUSHY TREE WITH SANDPAPER LEAVES AND HAIRY FRUITS PRODUCED ON THE TRUNK AND BRANCHES. HARDY	6		2	2	EXCELLENT RIPARIAN SPECIES WITH EDIBLE FRUIT.		FRUIT ATTRACTS BIRDS
OTHER FIGS <i>FICUS SPP.</i>	LARGE TREES WITH BUTTRESS ROOTS AND SPREADING CANOPY.	20		1	1	EXCELLENT SHADE TREE. EDIBLE FRUIT.		FRUIT ATTRACTS BIRDS.
CUDGERIE <i>FLINDERSIA SCHOTTIANA</i>	TALL TREE WITH OPEN CANOPY. VERY HARDY	20	X	2	2	VERY FAST GROWING TREE WHICH IS IDEAL FOR RAINFOREST REGENERATION. USEFUL TIMBER FOR INDOOR WORK		
CHEESE TREE <i>GLOCHIDION FERDINANDI</i>	SMALL TO MEDIUM R.F. TREE WITH SPREADING CANOPY AND ATTRACTIVE FOLIAGE. FRUIT LOOKS LIKE SMALL CHEESES. HARDY	10		2	2	EXCELLENT RIPARIAN REGENERATION SPECIES AND SMALL SHADE TREE.		FRUIT ATTRACTS BIRDS
SILKY OAK <i>GREVILLEA ROBUSTA</i>	TALL, SPARSE CANOPIED SPECIES WITH GOLDEN FLOWERS. DROUGHT TOLERANT. VERY HARDY.	15	X	3	3	EXCELLENT SPECIES FOR R.F. REGENERATION. CABINET TIMBER. MINOR TO MEDIUM VALUE FOR BEES.		FLOWERS ATTRACT HONEYEATERS.
GUIOA <i>GUIOA SEMIGLAUCA</i>	SMALL R.F. TREE. LEAVES WITH SILVERY UNDERSIDE. HARDY	10		2	2	ATTRACTIVE TREE FOR LANDSCAPING. USEFUL FOR RAINFOREST REGENERATION.		FRUIT ATTRACTS BIRDS
WHITE BOOYONG <i>HERITIERA TRIFOLIOLATA</i>	MEDIUM TO TALL RAINFOREST TREE WITH LEAFLETS ARRANGED IN THREES AND A BRONZE UNDERSURFACE. WINGED FRUIT ARE PRODUCED IN AUTUMN	30		1	1	ORNAMENTAL TIMBER IS USED FOR BUILDING AND CABINET WORK.		
NATIVE HIBISCUS <i>HIBISCUS HETEROPHYLLUS</i>	SMALL TREE WITH LOBED LEAVES AND SPINES ON THE STEMS. LARGE WHITE HIBISCUS FLOWERS WITH DEEP RED CENTRE IN SPRING/SUMMER.	6	X	2	2	USEFUL RAINFOREST REGENERATION SPECIES		
NATIVE FRANGIPANI <i>HYMENOSPORUM FLAVUM</i>	SMALL R.F. TREE PRODUCING NUMEROUS YELLOW AND WHITE FLOWERS IN SPRING. HARDY.	10	X	3	3	USEFUL SPECIES FOR R.F. REGENERATION		FLOWERS ATTRACT BIRDS
FOAMBARK <i>JAGERA PSEUDORHUS</i>	SMALL R.F. TREE WITH ATTRACTIVE FERNY FOLIAGE AND HAIRY YELLOW-BROWN FRUITS. HARDY.	12		2	2	VERY ATTRACTIVE TREE FOR LANDSCAPING. USEFUL FOR RAINFOREST REGENERATION.		FRUIT ATTRACTS BIRDS
THIN-FRUITED TEA TREE <i>LEPTOSPERMUM BRACHYANDRUM</i>	SMALL, MULTI-TRUNKED TREE. THE BARK PEELS IN SPRING, TURNING FROM A COPPER COLOUR TO WHITE. VERY HARDY.	4	X	3	3	GOOD EROSION CONTROL SPECIES. CAN BE USED FOR DIRECT SEEDING.		GOOD HABITAT SPECIES FOR SHADING THE STREAM EDGE.

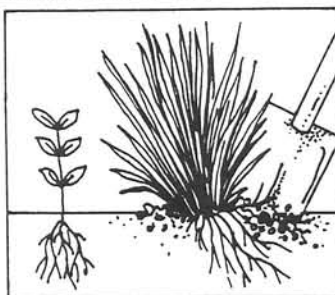
COMMON / BOTANICAL NAME	BRIEF DESCRIPTION	MAX. HEIGHT	FAST GROWING	PROTECTION WHEN YOUNG	FROST RESISTANT	OTHER USES / COMMENTS	RARE	WILDLIFE
SPINY MAT-RUSH <i>LOMANDRA HYSTRIX</i>	SMALL, TUSSOCKY RUSH FORMING THICK CLUMPS. HARDY	1		3	3	GOOD FOR EROSION CONTROL IF PLANTED IN SUFFICIENT DENSITY LARGE SPREADING ROOT SYSTEM		GOOD STREAM EDGE HABITAT SPECIES
SPINY MAT-RUSH <i>LOMANDRA LONGIFOLIA</i>	SMALL, TUSSOCKY RUSH FORMING THICK CLUMPS. HARDY. GROWS IN MORE OPEN AREAS THAN L. HYSTRIX	1		3	3	GOOD FOR EROSION CONTROL IF PLANTED IN SUFFICIENT DENSITY. LARGE SPREADING ROOT SYSTEM		GOOD STREAM EDGE HABITAT SPECIES.
SWAMP TURPENTINE <i>LOPHOSTEMON SUAVEOLENS</i>	MEDIUM TREE WITH LARGE LEAVES AND FIBROUS, FURROWED PERSISTANT BARK. HARDY	15	X	2	2	TIMBER SUITABLE FOR PILES AND MARINE STRUCTURES. GROWS IN POORLY DRAINED SOILS.		USEFUL HABITAT TREE WHEN LARGE.
RED KAMALA <i>MALLOTUS PHILIPPENSIS</i>	SMALL BUSHY, DENSE-CROWNED R.F. TREE PRODUCING HARD RED CAPSULES IN SPRING/SUMMER. VERY HARDY	8		2	2	USEFUL RAINFOREST REGENERATION PLANT. FRUIT CAN BE USED FOR DYE. WOOD SUITABLE FOR TOOL HANDLES		
TEA TREE OIL PAPERBARK <i>MELALEUCA ALTERNIFOLIA</i>	SMALL TO MEDIUM SIZED TREE WITH SMALL NARROW, BLUISH-GREEN LEAVES AND WHITISH PAPERY BARK. CREAM BRUSH FLOWERS IN SUMMER/AUTUMN.	6		3	3	USEFUL SCREEN AND WINDBREAK SPECIES FOR POORLY DRAINED AREAS. TEA-TREE OIL EXTRACTED FROM THE LEAVES		FLOWERS ATTRACT HONEY EATING BIRDS
WHITE CLOUD TREE <i>MELALEUCA BRACTEATA</i>	A TALL BUSHY SHRUB OR SMALL TREE WITH SMALL LINEAR LEAVES. HARD FURROWED BARK AND NUMEROUS WHITE, BRUSH FLOWERS IN SUMMER.	6		3	3	USEFUL SCREEN AND WINDBREAK SPECIES. CAN BE DIRECT-SEEDED.		FLOWERS ATTRACT HONEY EATING BIRDS
BROAD-LEAVED PAPERBARK <i>MELALEUCA QUINQUENERVIA</i>	MEDIUM SIZED TREE WITH FIVE-VEINED LEAVES AND WHITISH PAPERY BARK. CREAM BRUSH FLOWERS IN SUMMER/AUTUMN.	10	X	3	3	USEFUL SCREEN AND WINDBREAK SPECIES FOR POORLY DRAINED SITES.		FLOWERS ATTRACT HONEY EATING BIRDS
WHITE CEDAR <i>MELJA AZEDARACH VAR. AUSTRALASICA</i>	VERY HARDY DECIDUOUS TREE PRODUCING YELLOW FRUITS IN AUTUMN/WINTER. DROUGHT TOLERANT.	15	X	3	3	TIMBER USED FOR CABINET AND DECORATIVE WORK		FRUIT ATTRACTS BIRDS
BROWN PINE <i>PODOCARPUS ELATUS</i>	SLOW GROWING, DENSE CROWNED TREE WITH DARK GREEN LEAVES AND BROWN SCALY BARK. FRUITS ARE DARK BLUISH/BLACK.	15		2	2	A VALUABLE SOFTWOOD TIMBER SPECIES WITH A WIDE RANGE OF USES. THE FRUITS ARE EDIBLE.		FRUIT ATTRACTS BIRDS.
CELERY WOOD <i>POLYSCIAS ELEGANS</i>	MEDIUM SIZED R.F. TREE WITH LARGE COMPOUND LEAVES. AN UMBRELLA-SHAPED CANOPY AND LARGE CLUSTERS OF BLUISH FRUITS IN AUTUMN/WINTER.	12	X	2	2	USEFUL RAINFOREST REGENERATION TREE		FRUIT ATTRACTS BIRDS.
RIVER GRASS <i>POTAMOPHILA PARVIFLORA</i>	DENSE, TUSSOCKY GRASS THAT OCCURS ON LARGER RIVERS. USUALLY GROWING WITHIN THE STREAM	1.5		3	3	EXCELLENT EROSION CONTROL SPECIES WHICH CAN BE EASILY GROWN BY DIVISION OF MATURE PLANTS		INSTREAM HABITAT
NATIVE GUAVA <i>RHODOMYRTUS PSIDIODES</i>	A BUSHY, SMALL TREE WITH LIGHT BROWN SCALY BARK. PRODUCES YELLOW, FLESHY FRUITS IN LATE SUMMER/AUTUMN.	6		1	2	THE FRUIT IS EDIBLE. USEFUL RAINFOREST REGENERATION SPECIES		FRUIT ATTRACTS BIRDS
SLAIDEN'S BLUSH <i>SLOANEA AUSTRALIS</i>	MEDIUM R.F. TREE WITH LARGE GLOSSY TOOTHED LEAVES. LIKES PLENTY OF WATER.	15		1	1	USEFUL TIMBER TREE FOR INTERIOR WORK. NEEDS A WELL-WATERED PROTECTED SITE.		FRUIT ATTRACTS BIRDS
YELLOW CARABEEN <i>SLOANEA WOOLLSII</i>	MEDIUM R.F. TREE WITH LARGE TOOTHED LEAVES. LIKES PLENTY OF WATER.	15		1	1	USEFUL TIMBER TREE FOR INTERIOR WORK. NEEDS A WELL-WATERED PROTECTED SITE.		FRUIT ATTRACTS BIRDS
WHALEBONE TREE <i>STREBLUS BRUNONIANUS</i>	SMALL TO MEDIUM R.F. TREE WITH GLOSSY, TOOTHED LEAVES, WIRY BRANCHES AND SMALL GREEN FRUITS IN SUMMER/AUTUMN. SLOW GROWING.	8		2	2	HARDY RAINFOREST UNDERSTOREY TREE. HAS A DENSE, COMPACT FORM WHEN PLANTED IN THE OPEN.		FRUIT ATTRACTS BIRDS
BRUSH CHERRY <i>SYZYGIUM AUSTRALE</i>	SMALL, DENSE CROWNED R.F. TREE WITH DARK GREEN LEAVES AND RED FRUITS FROM SUMMER TO EARLY WINTER.	10		2	2	EDIBLE FRUIT. GOOD RIPARIAN R.F. REGENERATION SPECIES.		FRUIT ATTRACTS BIRDS. GOOD HOST FOR FERNS.
GIANT WATER GUM <i>SYZYGIUM FRANCISII</i>	MEDIUM, DENSE CROWNED R.F. TREE WITH DARK GREEN LEAVES, PALE BROWN BARK WITH DARK BROWN BLOTCHES, AND PURPLE FRUITS IN SUMMER/AUTUMN.	15		1	1	GOOD SHADE TREE. WITH LARGE SPREADING CROWN. TIMBER SUITABLE FOR BUILDING AND FLOORING.		
RED LILLY PILLY <i>SYZYGIUM HODGKINSONIAE</i>	A SMALL BUSHY, OFTEN MULTI-STEMMED, R.F. TREE WITH LARGE DARK GLOSSY LEAVES AND LARGE RED FRUITS IN SPRING.	8		1	1	GROWN DUE TO ITS RARITY.	X	
RED CEDAR <i>TOONA AUSTRALIS</i>	LARGE R.F. TREE WITH LARGE, COMPOUND LEAVES AND SPREADING CANOPY. SEMI-DECIDUOUS. HARDY.	20	X	2	2	GOOD SHADE TREE. VALUABLE TIMBER TREE. SUBJECT TO ATTACK BY TIP MOTH		
WATER GUM <i>TRISTANIOPSIS LAURINA</i>	MEDIUM SIZED TREE, WITH LIGHT FLAKY BARK AND YELLOW FLOWERS PRODUCED IN SUMMER. HARDY	10	X	2	2	USEFUL EROSION CONTROL SPECIES AND SOME VALUE FOR CABINET WORK. USEFUL NECTAR AND POLLEN SPECIES. USED FOR DIRECT SEEDING.		ROOTS PROVIDE HABITAT FOR STREAM DWELLING ANIMALS.
WEEPING MYRTLE <i>WATERHOUSEA FLORIBUNDA</i>	MEDIUM TO LARGE TREE. DENSELY CROWNED WITH WEEPING FOLIAGE AND ROUND GREEN FRUIT IN SUMMER/AUTUMN. HARDY	15	X	2	2	EXCELLENT EROSION CONTROL SPECIES WITH EXTENSIVE MAT LIKE ROOT SYSTEM		ROOTS PROVIDE HABITAT FOR STREAM DWELLING ANIMALS.

HOW DO I PLANT MY SELECTED SPECIES ?

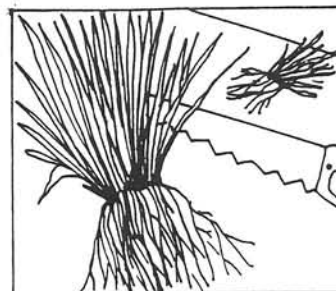
1) DIVISION OR DIRECT TRANSPLANT

Mature clumps of Lomandra or River Grass can be dug up, divided and directly transplanted to moist soil or gravel. Seedlings of Bottlebrush or Tea-tree can also be directly transplanted from site to site.

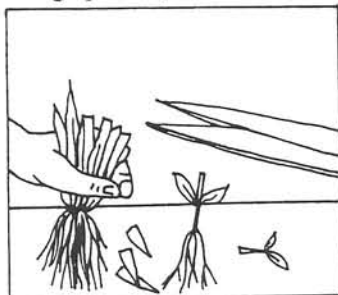
MOST SUITABLE FOR: TOE.



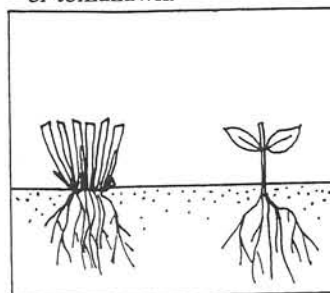
1 Dig up clump or seedling.



2 Divide clump with saw, mattock or tomahawk.



3 Cut off tops of leaves or stem to reduce transplant shock.

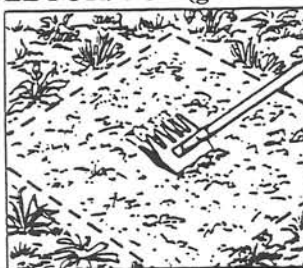


4 Plant in moist soil or gravel.

2) DIRECT SEEDING

The seed of some species (Eg. Bottlebrush, Tea-tree, Lomandra, and Water Gum) can be directly sown on site. Seed must be sown in moist, weed-free sand or gravel. The gravel is levelled no higher than 100mm above water level against the bank toe. Using this method we are reproducing the natural conditions which allow plants such as River Oaks, Tea-tree, and Bottlebrush to densely colonise gravel bars. The aim is to achieve dense colonisation, so sowing rates of up to 0.5 grams per square metre of gravel can be used.

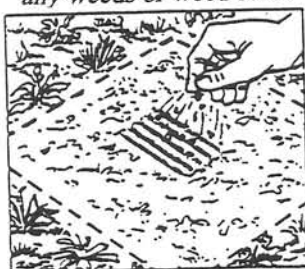
MOST SUITABLE FOR: TOE (gravel needs to be moist).



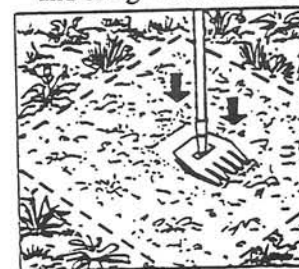
1 Scrape the surface to remove any weeds or weed seed.



2 Rake to prepare the seed bed, and bring fines to the surface.



3 Mix the seed with moist sand and broadcast over the surface.



4 Tamp the surface for fine seed, rake then tamp for coarse seed.

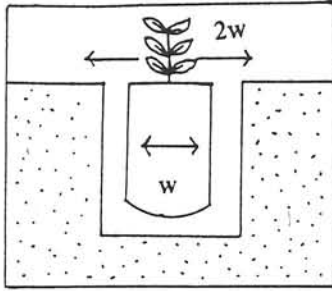
3) TRUNCHEON CUTTINGS

Branches or cuttings up to 3 metres long can be taken from mature trees and planted directly on-site. Half the stem is buried into moist gravel using a crow-bar or water jet. At present this method is mainly used for non-natives such as willows and poplars. See your *DLWC* adviser before using these species as they may cause problems in your stream.

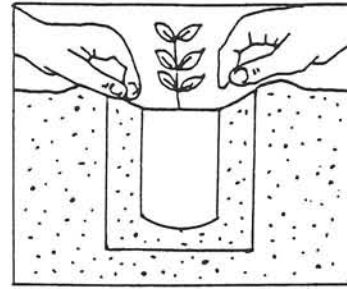
MOST SUITABLE FOR: TOE

4) STANDARD TUBESTOCK

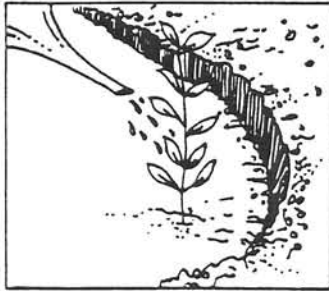
1 *Plant when soil is moist and there is no danger of frost.*



2 *Dig hole twice the width of the pot.*



3 **IMPORTANT** *After planting, firm the soil to remove air pockets. If planting in coarser materials, place some fine soil in the planting hole.*



4 *Water in. A slight depression left around the plant will allow water to get where it is needed.*

5 *Give follow-up water and weed control where needed. (Weeds slow growth by taking water and nutrients).*

6 *Check trees regularly for damage by animals. Stake and guard where needed.*

7 *Mulching helps conserve water.*

MOST SUITABLE FOR: TOE (0.5 to 1 metre spacings)

MIDDLE BANK (2 metre spacings)

UPPER BANK (2 metres or wider).

5) BROADACRE PLANTINGS

Involves the use of specialised equipment and tubestock for mass plantings on a large scale. See your *DLWC* adviser for detailed information.

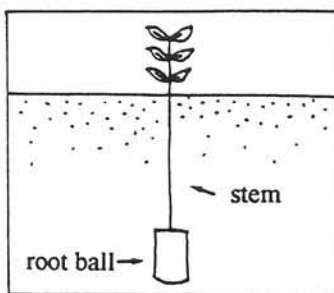
MOST SUITABLE FOR: UPPER BANK/FLOODPLAIN (flat to undulating land).

6) OTHER SPECIALISED METHODS

The use of specialised long-stem tubestock is currently being trialed. This method was developed by Wollombi Landcare Group. It involves the growth of seedlings in standard forestry tubes in a nutrient solution, and encouragement of stem elongation. Trees are planted using a water lancing jet to a depth of one metre or more. Root growth is achieved much more rapidly. Species tolerant of sediment build-up around the stem are used.

MOST SUITABLE FOR: TOE

MIDDLE BANK


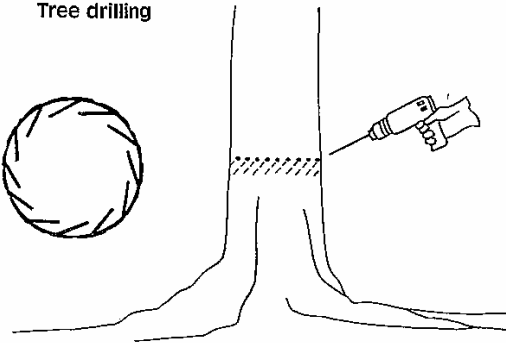


Long-stemmed tube planted in sand. Root growth occurs from the nodes located along the stem.

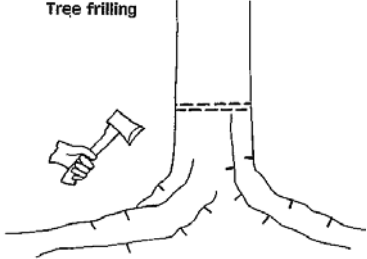

RATING YOUR RIVER'S VEGETATION

RATING	ASSESSMENT	MANAGEMENT
<p>RED</p> 	<p>VEGETATION ON THE BANKS IS MISSING, BANKS ARE BARE, OR TREES ARE FALLING INTO THE CHANNEL. BANKS MAY BE UNSTABLE.</p>	<p>THERE IS A NEED FOR EXTENSIVE GENERAL REPAIR OF THE CHANNEL AND ITS VEGETATION AND TO APPLY THE RIVERCARE PLANNING METHOD WITH FOLLOW UP DESIGN PLANS.</p> <p>STRUCTURAL WORKS MAY BE NECESSARY WHERE ALIGNMENTS ARE SEVERE. THERE ARE VARIOUS OPTIONS HERE AND YOUR DLWC ADVISOR CAN DISCUSS THEM WITH YOU.</p>
<p>YELLOW</p>  	<p>VEGETATION ON THE BANKS IS EITHER SPARSE, OF THE WRONG KIND, OR ONLY SINGLE SPECIES PRESENT. MOSTLY OLDER, LARGER TREES ARE PRESENT, WITH FEW SEEDLINGS OR YOUNG PLANTS. BANKS BECOMING UNSTABLE.</p> <p>VEGETATION GROWTH WITHIN THE BED OF THE STREAM HAS CONSTRICTED THE MAIN CHANNEL EXCESSIVELY. NO VEGETATION IS PRESENT ON THE BANKS TO RESIST EROSION FORCES.</p>	<p>UNDERTAKE SUPPLEMENTARY PLANTING WHERE NEEDED. AIM TO INCREASE PLANT DIVERSITY. SPELL AREAS FROM STOCK IF REQUIRED, TO ALLOW NATURAL REGENERATION. PREPARE A RIVERCARE PLAN FOR THE RIVER AND ITS VEGETATION AND IMPLEMENT THAT PLAN.</p> <p>SET AN ALIGNMENT WIDTH BASED ON RIVER PARAMETERS (SEE YOUR DLWC ADVISOR). CUT BACK OBSTRUCTING OR EXOTIC VEGETATION. LEAVE THE ROOT SYSTEM INTACT TO REDUCE THE IMPACT OF THE RIVER ON THE BANK. KEEP INSIDE POINTS AND BARS CLEAR OF OBSTRUCTING VEGETATION WITHIN THE ALIGNMENT WIDTH WHERE NEEDED. PLANT THE ERODED BANK WITH VEGETATION.</p>
<p>GREEN</p> 	<p>VEGETATION ON THE BANKS IS IN GOOD CONDITION WITH A GOOD DIVERSITY OF NATIVE TREE, SHRUB, AND GROUND COVER SPECIES.</p>	<p>PRESERVE THE EXISTING STATE.</p> <p>SPELL THE AREA FROM STOCK IF REQUIRED.</p> <p>KEEP FREE OF NOXIOUS WEEDS AND EXOTIC SPECIES.</p> <p>KEEP UP THE GOOD WORK!</p>

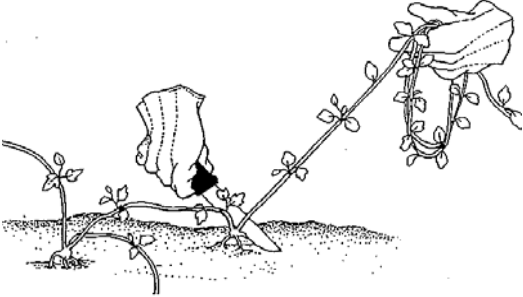
Appendix 4: General Weed Control Techniques

Method of Removal	Example Species	Other Considerations	Safety Considerations	Examples
<p>Cut and Paint (for small trees up to 10cm basal diameter) – make a horizontal cut as close to the ground as possible with secateurs, loppers or saw and immediately apply herbicide to exposed surface.</p>	<ul style="list-style-type: none"> ▪ Lantana ▪ Bitou bush ▪ Privet ▪ Cassia/senna 	<ul style="list-style-type: none"> ▪ Cuts should be made horizontal to prevent herbicide from running off the stump. ▪ Herbicide to be applied immediately before cell close 	<ul style="list-style-type: none"> ▪ Read label before opening container and follow instructions ▪ Wear protective clothing as directed on the label ▪ Wash hands immediately after use 	<p style="text-align: right;">Scrape, gouge and paint</p> 
<p>Stem injection frilling (for trees with basal diameter greater than 10cm) – At base of tree drill holes at a 45 degree angle into the sapwood at 5 cm intervals and fill with herbicide immediately.</p>	<ul style="list-style-type: none"> ▪ Camphor laurel ▪ Mickey mouse bush 	<ul style="list-style-type: none"> ▪ Plants should be healthy and growing when applied ▪ Deciduous plants should be treated in spring and autumn when leaves are fully formed ▪ For multi-stemmed plants, inject or chip below the lowest branch ▪ Herbicide to be applied immediately before cell close. 		<p style="text-align: center;">Tree drilling</p> 

General Weed Control Techniques Continued

Method of Removal	Example Species	Other Considerations	Safety Considerations	Examples
<p>Frilling (for trees with basal diameter greater than 10cm) - Make a cut with an axe or chisel and fill with herbicide immediately repeat at 5cm intervals.</p>	<ul style="list-style-type: none"> ▪ Camphor laurel ▪ Mickey mouse bush 	<ul style="list-style-type: none"> ▪ Plants should be healthy and growing when applied ▪ Deciduous plants should be treated in spring and autumn when leaves are fully formed ▪ For multi-stemmed plants, inject or chip below the lowest branch ▪ Herbicide to be applied immediately before cell close. 		<p>Tree frilling</p>  <p>The diagram shows a cross-section of a tree trunk with a dashed line indicating a horizontal cut. A hand is shown using a chisel or axe to make a notch in the bark. The trunk has several roots extending downwards.</p>
<p>Foliar Spray – herbicide sprayed directly onto the weed foliage. This includes spot spraying.</p>	<ul style="list-style-type: none"> ▪ Wild oates ▪ Flatweed ▪ Fishtail oxalis 	<ul style="list-style-type: none"> ▪ Avoid spraying natives ▪ Avoid spraying the ground if using a residual herbicide. 		
<p>Digging entire plant out appropriate for several species to ensure the whole plant is completely removed from the soil.</p>	<ul style="list-style-type: none"> ▪ Bulbs, ▪ tubers ▪ corms 	<ul style="list-style-type: none"> ▪ Ensure reproductive parts are removed to prevent new plants from developing 		 <p>The diagram shows a person's hands digging out a plant with a shovel. The plant has a thick, bulbous base and several roots extending into the soil. The person is lifting the plant, showing the root system.</p>

General Weed Control Techniques Continued

Method of Removal	Example Species	Other Considerations	Safety Considerations	Examples
<p>Crowning – Used for plants that have growing parts beneath the surface. Use a knife to cut the roots a blade length below the surface.</p>	<ul style="list-style-type: none"> ▪ Asparagus fern 		<ul style="list-style-type: none"> ▪ Always cut away from yourself ▪ Ensure the blade is sharp ▪ Wear gloves 	
<p>Winding-up – Pull one end above the ground and follow along ground surface with a knife cutting each root connecting the plant to the soil whilst winding up in your other hand.</p>	<ul style="list-style-type: none"> ▪ Morning Glory 	<ul style="list-style-type: none"> ▪ Ensure reproductive parts are removed to prevent new plants from developing 	<ul style="list-style-type: none"> ▪ Always cut away from yourself ▪ Ensure the blade is sharp ▪ Wear gloves 	
<p>Rolling or Raking – use a rake or hands to roll the weed into small rolls. Method used for dense infestations of ground cover that may be brittle and readily fragmented</p>	<ul style="list-style-type: none"> ▪ Wandering Jew 			
<p>Hand pulling – Grab the bottom of the stem and pull the entire plant and roots systems out. Used for smaller plants.</p>	<ul style="list-style-type: none"> ▪ Balloon Vine ▪ Honeysuckle ▪ Cape ivy ▪ Madeira vine ▪ Blackberry ▪ Crofton weed 			

Appendix 5: Exotic vines and scramblers listed as Key Threatening Process

Scientific Name	Common Name
<i>Abrus precatorius</i>	Crabs-eye Creeper
<i>Acetosa sagittate</i>	Potato Vine
<i>Anredera cordifolia</i>	Maderia Vine
<i>Araujia sericifera</i>	
<i>Aristolochia littoralis</i>	Dutchman's Pipe
<i>Aristolochia elegans</i>	Dutchman's Pipe
<i>Asparagus aethiopicus</i>	Ground Asparagus
<i>Asparagus africanus</i>	Asparagus fern
<i>Asparagus asparagoides</i>	Bridal Creeper
<i>Asparagus plumosus</i>	Climbing Asparagus
<i>Asparagus scandens</i>	Climbing Asparagus
<i>Asystasia gangetica</i> var. <i>micrantha</i>	
<i>Caesalpinia decapetala</i>	Mysore Thorn
<i>Cardiospermum grandiflorum</i>	Balloon Vine
<i>Clematis vitalba</i>	Old Man's Beard
<i>Delairea odorata</i>	Cape Ivy
<i>Dioscorea bulbifera</i>	Aerial Yam
<i>Dipogon lignosus</i>	
<i>Hedera helix</i>	English Ivy
<i>Ipomoea alba</i>	Moon flower
<i>Ipomoea cairica</i>	Coastal Morning Glory
<i>Ipomoea indica</i>	Morning Glory
<i>Ipomoea purpurea</i>	Morning Glory
<i>Lathurus Tingitanus</i>	
<i>Lonicera japonica</i>	Japanese Honeysuckle
<i>Macfadyena unguis-cati</i>	Cat's Claw
<i>Passiflora suberosa</i>	Corky Passion Flower
<i>Passiflora subpeltata</i>	Passion Flower
<i>Passiflora toriminiana</i>	
<i>Puearia lobata</i>	Kudzu
<i>Senecio angulatus</i>	
<i>Senecio macroglossus</i>	
<i>Solanum jasminoides</i>	Potato Vine
<i>Solanum seaforthianum</i>	Climbing Nightshade
<i>Sollya heterophylla</i>	
<i>Thunbergia alata</i>	Black-eyed Susan
<i>Thunbergia grandiflora</i>	Blue Trumpet Vine
<i>Tradescantia fuminensis</i>	
<i>Vinca major</i>	Periwinkle