

SECOND EDITION 2012



# NAMBUCCA VALLEY VEGETATION & PLANTING GUIDE

*Local Native Plants and Weeds*



CARING  
FOR  
OUR  
COUNTRY



## Acknowledgements

The Nambucca Valley is part of the traditional lands of the Gumbaynggirr Nation. We acknowledge that the local Gumbaynggirr people are the traditional owners of this land. Before European settlement, the Nambucca Valley was rich in biodiversity, it's oceans, rivers and forests providing abundant resources to the Gumbaynggirr people.

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This 2nd edition 2012 has been compiled by Joy van Son from Nambucca Valley Landcare with assistance from Nambucca Valley Conservation Association. Thanks to all those who contributed or assisted in some way. A special thanks to Gwen Harden for her most valuable advice.

Any feedback regarding this publication is always welcome, as it was feedback from the community on the 1st edition that has improved this 2nd edition.

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All photos contained in this publication are courtesy of Joy van Son unless otherwise credited. Some weed images sourced from government websites.

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Icons indicate species list



## Introduction

Vegetation and trees in particular are an essential component of the landscape and have a substantial influence on the character of individual properties, neighbourhoods, towns, farms and the landscape as a whole.

The presence of suitable trees provides scenic and environmental amenity and wildlife habitat. Trees minimise land and water degradation and soil erosion, soften the impact of urban features and provide shade and shelter for humans, stock and wildlife.

Retaining native vegetation and planting suitable native species, rather than introduced species, will provide many benefits to the whole community. Retaining or planting native species that are local to the Nambucca Valley will help to conserve and improve biodiversity. Local plant species have evolved to the local climatic conditions and adapted to survive seasonal changes of the area.

Apart from improving flora and fauna habitat, water quality and landscape quality, other benefits of local native vegetation include saving water, improved plant growth, native bird attraction and successful integration into existing land uses. Local native plants are unlikely to become a weed problem. The warm, sub-tropical climate of the mid-north coast provides favourable conditions for many introduced plants to become environmental weeds, some causing large scale degradation. Many environmental weeds can be difficult to control and are, for landowners, expensive and laborious to remove.



Staghorn *Platycerium* spp.

Due to its topography the Nambucca Valley has a large range of aspects, soils and micro climates that all provide varying conditions for plants. Selecting an appropriate local native species for a particular situation or conditions can be difficult, particularly for newcomers to the area.

It is hoped that this Vegetation Guide for the Nambucca Valley will assist you in planning and managing vegetation on your urban or rural property. Please go to the Contacts Section and the Bibliography at the end of this guide if you require assistance or more information than can be provided here.



## Planting Native Plants

### Key considerations

#### What native plant and where to plant it

In natural ecosystems many native plants often grow in particular locations or in areas with specific conditions. For example on the edge of a watercourse, in a wetland, in certain types of soil, particular aspects or position on a slope. The Nambucca Valley has a great range of vegetation communities throughout its catchment, from coastal through the hills to the higher altitude escarpment. These natural vegetation communities will reflect particular plant requirements providing a useful guide for choosing plants.

Consider the following.

#### What is my purpose for planting this plant?

For shade or shelter.

As a wind break.

For visual or environmental amenity.

To hold the soil (stop erosion).

For wildlife habitat.

To minimise water use.

To minimise impact of fire.

For maintaining natural ecosystems.

Bush food.

#### What are the characteristics of the proposed site?

The location eg. is it in wetland, on a lower slope or high on a ridge?

The aspect, does it face north, south, east or west?

Is it coastal, in the hills or escarpment?

Type of soil.

Water availability.

Surrounding vegetation.

Exposure to sun, wind, frost, salt.

Any other constraints? (proximity to power lines, homes, sheds, fences)

#### What are the needs or requirements of the chosen species?

Water needs.

Soil conditions.

Growth (does it need plenty of space?)

Does it need shelter or can it be exposed?

Will it require much maintenance?

#### What other things need to be considered?

Will it impact on my neighbours, especially when fully grown?

Will it drop branches?

Is it deciduous?

Will it block my view or winter sunlight?

Will it create a lot of litter possibly becoming a fire hazard?

Will it grow too tall or wide? (power lines)

How will it impact on surrounding plants?

Is it salt tolerant?

Will it improve wildlife habitat?



## When to plant natives

The most appropriate planting time will depend on the situation or location in which you are planting. If frosts are likely it is best to plant in spring, after the frosts have finished. It is important to water well until the plant is established as spring in this area can be dry. In a milder location autumn is usually preferable for planting to allow the plant to settle before the growth period.

## How to plant natives

### Soil Preparation

Soils in the Nambucca Valley are generally acidic so the pH need not be a concern when planting as most native plants prefer acidic soils with a pH between 5 and 6.5.

If your planting situation has well drained loam then there is little you will need to do to prepare the soil. However in many situations the site may require some preparation. Soils such as heavy clays with poor drainage and sandy soils will benefit from the addition of compost. Compost bins are readily available or make your own heap. You may use grass clippings, cuttings, weeds, leaves, sawdust, shredded paper, manure and kitchen scraps. Be sure to keep your heap moist and aerated.

The use of compost will improve soil texture resulting in a soil with greater nutrient content and better moisture holding capacity.

### Watering

Once established most native plants will require little watering except in extended dry periods or in sandy soils. Less often, but thorough, watering will encourage a deeper root system. Time your watering, evening watering in summer and morning watering in winter to avoid wet plants being frozen.

### Mulching

Mulching plants or garden beds provides a multitude of benefits. Mulch holds moisture in the soil, prevents weed growth, keeps an even soil temperature and as the material decomposes it adds organic matter, improving soil texture. Heavy rain events often occur on the north coast. Mulching will reduce erosive run off and loss of topsoil and will help prevent the soil surface hardening thus improving aeration and water penetration.

Be careful not to place mulch close to the plant stems. Where frosts occur, pull the mulch back about 50cm to allow the sun to warm the soil by day and where possible protect the plant from early morning sunlight to lessen the severity of frosts.

### Fertilising

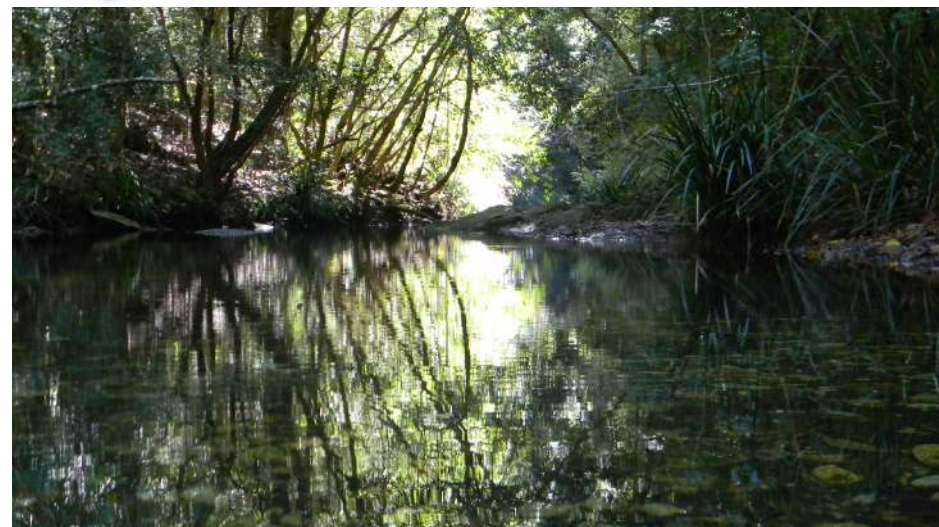
Most native plants will benefit from the application of an appropriate fertiliser. Many natives are sensitive to an excess of phosphorus so using one that contains a safe balance of nitrogen, phosphorus and potassium means it can be used on all natives. Ask your local nursery for advice. Fertiliser can be applied in early spring and early autumn making sure the soil is moist and watering in well afterwards.

### Pruning

For most native plants pruning is best carried out in late spring or early summer after flowering is finished. This will improve flower production and maintain a compact shape. Different plants will tolerate different levels of pruning so again ask your local nursery for advice. If you are undertaking restoration planting, you will not need to prune at all, leaving the plant to grow in its natural state.



## Suitable Local Native Species for Planting in Particular Situations



### Riparian vegetation

The word *riparian* comes from Latin and means of or to do with watercourses. Vegetation growing along the banks of watercourses is therefore known as riparian vegetation.

Native riparian vegetation is acknowledged as being the most important factor giving stability to a stream bank.

The streamside environment requires a specialised group of plants, ones that can survive regular inundation and often fast moving water. These riparian plants need to have flexible stems and strong root systems. These characteristics in turn benefit the stream's stability as the stems or trunks slow the water against the bank and the roots reinforce the soil in the same way steel reinforces concrete. They force the faster flowing water away from the banks to the centre of the channel, where the higher

velocities keep the channel free of obstacles and push sediment further downstream. In the estuary native riparian vegetation also reduces the erosive effects of waves on the banks.

In terms of landscape ecology, streamside vegetation provides shade to the water, keeping it cool and oxygen rich. Falling leaves, branches, fruits and insects provide the raw materials for the aquatic food chain. Fallen logs often work themselves into the bed, providing extra stability to the stream. The vegetation also acts as a nutrient trap reducing the amount of soil and nutrients entering the stream.

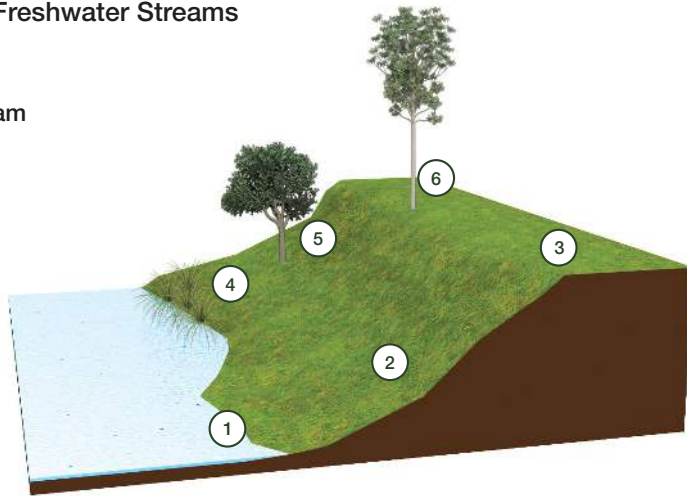
The clearing of native riparian vegetation occurred extensively following European settlement and the riverbank erosion which ensued continues today.





## Revegetating Freshwater Streams

### Species by stream and location



- ① **Toe of bank**  
Lower part or base of bank
- ② **Middle bank**  
Top most part of the face of the bank
- ③ **Upper bank**  
Flat or mostly level section

- ④ Low growing, multi-trunked plants with matted roots to bind the Toe. Best species for erosion control.
- ⑤ Medium sized plants with good root systems and larger canopies which shade the stream.
- ⑥ Larger trees with deep root systems.

### Reference Chart

For the following tables

Height	Refers to the maximum height in an OPEN situation. Some species may grow taller in protected areas.	
Protection when young	1	Plant requires watering and protected canopy of taller plants
	2	May require some watering and protection in exposed sites
	3	Requires no protection
Frost	Refers to the frost resistance of newly planted seedlings	
	1	Definite resistance
	2	Some resistance (light frosts)
	3	None or very little resistance



## List of riparian plants

Local native species by location

Toe	Middle Bank	Upper Bank
<i>*Callistemon viminalis</i>	<i>**Ackama paniculata</i>	<i>Acacia irrorata</i>
<i>Leptospermum brachyandrum</i>	<i>Acmena smithii</i>	<i>Acacia maidenii</i>
<i>Lomandra hystrix</i>	<i>Alectryon subcinereus</i>	<i>Acacia melanoxylon</i>
<i>Tristaniopsis laurina</i>	<i>Anetholea anisata</i>	<i>Alphitonia excelsa</i>
	<i>Aphananthe philippinensis</i>	<i>Aphananthe philippinensis</i>
	<i>**Archontophoenix cunninghamiana</i>	<i>**Argyrodendron actinophyllum</i>
	<i>Backhousia myrtifolia</i>	<i>Cryptocarya obovate</i>
	<i>Bosistoa floydii</i>	<i>**Diploglottis australis</i>
	<i>Callicoma serratifolia</i>	<i>**Dysoxylum fraserianum</i>
	<i>Ceratopetalum apetalum</i>	<i>Ehretia acuminata</i>
	<i>Cordyline stricta</i>	<i>**Elaeocarpus grandis</i>
	<i>Cryptocarya glaucescens</i>	<i>Elaeocarpus obovatus</i>
	<i>Cryptocarya microneura</i>	<i>Eucalyptus grandis</i>
	<i>**Cuttsia viburnea</i>	<i>Eucalyptus mircocorys</i>
	<i>Endiandra muelleri</i>	<i>**Ficus spp.</i>
	<i>Ficus coronata</i>	<i>Flindersia schottiana</i>
	<i>Glochidion ferdinandi</i>	<i>Jagera pseudorhus</i>
	<i>Gmelina leichhardtii</i>	<i>Lophostemon confertus</i>
	<i>Guioa semiglauc</i>	<i>Mallotus philippensis</i>
	<i>Hymenosporum flavum</i>	<i>Melia azedarach</i>
	<i>Jagera pseudorhus</i>	<i>**Toona ciliata (prev. australis)</i>
	<i>Mallotus philippensis</i>	
	<i>Melicope micrococca</i>	
	<i>Neolitsea dealbata</i>	
	<i>**Niemeyera whitei</i>	
	<i>Pittosporum undulatum</i>	
	<i>**Planchonella australis</i>	
	<i>Rhodomyrtus psidioides</i>	
	<i>**Sloanea australis</i>	
	<i>**Sloanea woollsii</i>	
	<i>Syzygium australe</i>	
	<i>Tristaniopsis laurina</i>	
	<i>***Waterhousea floribunda</i>	

All streams within the catchment

\* found on Taylors Arm only

\*\* generally require protected sites and are largely absent from Warrell Creek

\*\*\* absent from Warrell Creek





## List of species A ▶ C

Freshwater riparian plants native to the Nambucca

Common/botanical name	Brief description	Max Height		Fast Growing	Protect when young	Frost Resistant	Other uses	Wildlife
<b>Green Wattle</b> <i>Acacia irrorata</i>	Small fern leaved wattle with pale yellow flowers, very hardy	6m		X	3	1	Good canopy species for protecting Rf plantings	Attracts insect eating birds
<b>Maiden's Wattle</b> <i>Acacia maidenii</i>	Medium sized bushy wattle with pale yellow flowers, very hardy	8m		X	3	1	Good canopy species for protecting Rf plantings	Attracts insect eating birds
<b>Blackwood</b> <i>Acacia melanoxylon</i>	Medium sized bushy wattle with pale yellow flowers, very hardy	10m		X	3	1	Useful buffer tree for planting on the outer edges of streamside plantings	Seeds attract birds
<b>Soft Corkwood</b> <i>Ackama paniculata</i>	Medium sized Rf tree that produces small, showy cream flowers in November	15m			1	3	Suitable for cabinet timber	Good host for orchids and ferns
<b>Lilly Pilly</b> <i>Acmena smithii</i>	Medium sized Rf tree with a dense habit and pink to purple fruit	10m			2	2	Some forms make useful windbreaks if given sufficient water	Fruit attracts birds
<b>Wild Quince</b> <i>Alectryon subcinerus</i>	Medium sized Rf tree with a dense crown, often bushy to the ground	8m			2	2	Useful Rf regeneration species. Timber suitable for small turnery	Fruit attracts birds
<b>Red Ash</b> <i>Alphitonia excelsa</i>	A medium sized tree with some drought tolerance. Leaves have a white underside, hardy	12m		X	3	1	Timber suitable for building or cabinet work. Stock forage tree. Good Rf regeneration tree	Seeds attracts birds
<b>Ringwood</b> <i>Anetholea anisata</i>	A tall dense-crowned Rf tree. The crushed leaves have a distinct aniseed smell	15m			1	2	Leaves can be used for their aniseed odour. Timber durable	
<b>Rough-leaved Elm</b> <i>Aphananthe philippinensis</i>	Small to medium Rf tree with stiff elm-like leaves and dense, dark crown, hardy	12m			2	2	Timber hard and suitable for handles. Edible fruit. Useful Rf regeneration species	Fruit attracts birds
<b>Bangalow Palm</b> <i>Archondtophoenix cunninghamiana</i>	Single-stemmed feather leaved palm, needs plenty of water, best in upper catchment	8m		X	1	3	Landscaping	Fruit attracts birds
<b>Black Booyong</b> <i>Argyrodendron actinophyllum</i>	Tall Rf tree with dark, dense canopy and fan-shaped leaves, needs plenty of water	18m			1	3	Attractive feature tree. Useful timber tree for indoor work	Seeds eaten by scrub turkeys
<b>Grey Myrtle</b> <i>Backhousia myrtifolia</i>	Slow growing bushy Rf tree with some drought tolerance, often found on steep rocky banks, hardy	8m			2	2	Screen plant. Wood tough and hard and suitable for handles	Good host for orchids and ferns
<b>Fine-leaved Bonewood</b> <i>Bosistoa floydii</i>	Small to medium Rf tree with dense, dark crown, slow growing, needs water to start. Rare.	15m			1	3	Ornamental tree	
<b>Callicoma</b> <i>Callicoma serratifolia</i>	Shrub or small tree with distinct toothed leaves and white underside. Usually on shaded rocky banks. Needs water to establish	8m			1	3	Useful understorey species in protected, shady areas	
<b>Weeping Bottlebrush</b> <i>Callistemon viminalis</i>	Multi-stemmed tree with hard furrowed bark and red bottlebrush flowers, very hardy	5m		X	3	1	Excellent erosion control species direct seeding used	Flowers attract honey eaters
<b>River Oak</b> <i>Casuarina cunninghamiana</i>	Tall pine-like species, common on north coast, hardy. Needs management as may contribute to erosion. Best planted in mixed species	20m			3	1	Fixes nitrogen. Good canopy cover species for Rf regeneration, direct seeding	Large older trees used as roosting sites
<b>Coachwood</b> <i>Ceratopetalum apetalum</i>	Medium sized Rf tree with attractive pale trunk with prominent rings	12m			1	2	Cabinet timber species	
<b>Narrow-leaved Palm Lilly</b> <i>Cordyline stricta</i>	Slender shrub often forming clumps	2m			1	3	Landscaping, understorey plant in shaded areas	Fruit attracts birds
<b>Jackwood</b> <i>Cryptocarya glaucescens</i>	Medium sized dense-crowned Rf tree, producing wrinkled black fruit in Autumn	10m			1	2	Cabinet timber species	Fruit attracts birds





## List of species C ▶ H

Freshwater riparian plants native to the Nambucca

Common/botanical name	Brief description	Max Height		Fast Growing	Protect when young	Frost Resistant	Other uses	Wildlife
<b>Murrogun</b> <i>Cryptocarya microneura</i>	Medium sized Rf species producing shiny black fruit in summer/autumn	10m			1	2	Reasonably hardy species for Rf planting	Fruit attracts birds
<b>Pepperberry tree</b> <i>Cryptocarya obovata</i>	Medium to tall densely-crowned Rf tree with hairy new growth and dark leaves	18m			1	3	Good shade tree	Fruit attracts birds
<b>Cuttsia</b> <i>Cuttsia viburnea</i>	Small, soft-leaved Rf species producing snowy white flowers in spring/summer, usually on shaded rocky banks, dislikes drying out	6m			1	3	Useful understorey species for shaded, rocky sites	
<b>Tree Fern</b> <i>Cyathea spp.</i>	Tall, single trunked fern	8m			1	3	Useful understorey species for protected, shaded areas	
<b>Native Tamarind</b> <i>Diploglottis australis</i>	Attractive tall Rf tree with large leaves and rusty hairy new growth	15m			1	3	Fruit attracts birds	Fruit attracts birds
<b>Rosewood</b> <i>Dysoxylum fraserianum</i>	Medium to tall Rf tree with shady spreading crown, needs water to establish	18m			1	3	Timber is rose scented and used for cabinet work	
<b>Koda</b> <i>Ehretia acuminata</i>	Medium sized Rf tree, deciduous with grey fissured bark and masses of orange fruits in summer/autumn	10m			2	2	Fruits are ornamental	Fruit attracts birds
<b>Blue Quandong</b> <i>Elaeocarpus grandis</i>	Tall, buttressing Rf tree with sparse canopy and large blue fruits in spring/summer	30m		X	2	3	Valuable timber tree for interior work, shade tree, edible fruit	Fruit attracts birds
<b>Hard Quandong</b> <i>Elaeocarpus obovatus</i>	Tall Rf tree tolerant of wet soils, hardy, produces masses of small blue fruits	15m			2	2	Useful timber tree for interior work, shade tree	Fruit attracts birds
<b>Green-leaved Rose Walnut</b> <i>Endiandra muelleri</i>	Bushy tree with pink new growth and black fruits in autumn	12m			1	3	Landscaping	Fruit attracts birds
<b>Flooded Gum</b> <i>Eucalyptus grandis</i>	Very tall eucalypt with very smooth bark	35m		X	3	1	Hardwood timber, useful for interior work, cabinet. Good pollen tree	Flowers attract birds, habitat tree
<b>Creek Sandpaper Fig</b> <i>Ficus coronata</i>	Small bushy tree with sandpapery leaves, very hardy, handles floods well	6m			2	2	Excellent riparian species, good erosion control. Edible fruits	Fruit attracts birds
<b>Other Figs</b> <i>Ficus spp.</i>	Large trees with buttress roots and spreading canopy	20m			1	3	Excellent shade trees, edible fruits	Fruit attracts birds
<b>Cudgerie, Bumpy Ash</b> <i>Flindersia schottiana</i>	Tall tree with open canopy, very hardy	20m		X	2	2	Very fast growing tree, ideal for Rf regeneration, useful timber for indoor work	
<b>Cheese Tree</b> <i>Glochidion ferdinandi</i>	Tree has spreading canopy with attractive foliage, fruit looks like small cheeses, hardy	8m			2	2	Excellent riparian regeneration species and shade tree	Fruit attracts birds
<b>White Beech</b> <i>Gmelina leichhardtii</i>	Medium sized Rf tree with spreading canopy and large purple fruits in summer/autumn	15m			1	3	Valuable timber species, good shade tree	Fruit attracts birds
<b>Guioa</b> <i>Guioa semiglauca</i>	Small Rf tree, leaves with silvery underside, hardy	10m			2	2	Attractive tree for landscaping. Useful for Rf regeneration	Fruit attracts birds
<b>Native Frangipani</b> <i>Hymenosporum flavum</i>	Small Rf tree producing numerous yellow and white flowers in spring	10m		X	3	1	Useful species for Rf regeneration	Flowers attract birds







## List of species H ▶ Z

Freshwater riparian plants native to the Nambucca

Common/botanical name	Brief description	Max Height		Fast Growing	Protect when young	Frost Resistant	Other uses	Wildlife
<b>Foambark</b> <i>Jagera pseudorhus</i>	Small Rf tree with attractive ferny foliage and hairy yellow-brown fruits, hardy	12m			2	2	Very attractive tree for landscaping, useful for Rf regeneration	Fruit attracts birds
<b>Thin-fruited Tea Tree</b> <i>Leptospermum brachyandrum</i>	Small multi-trunked tree, common in the catchment, bark peels in spring turning from copper colour to white, very hardy	4m		X	3	1	Good erosion control species, can be used for direct seeding	Good habitat species for shading stream
<b>Mat-rush</b> <i>Lomandra hystrix</i>	Small, tussocky rush forming thick clumps, very hardy	1m		X	3	1	Good for erosion control if planted in sufficient density, large spreading root system	Good stream edge habitat species
<b>Brush Box</b> <i>Lophostemon confertus</i>	Tall tree with spreading growth when grown in open, hardy	25m		X	2	2	Good hardwood timber, shade tree, good quality nectar and pollen for bees	Useful habitat tree when large
<b>Red Kamala</b> <i>Mallotus philippensis</i>	Small, bushy dense-crowned Rf tree producing hard red capsules in spring/summer. Very hardy.	8-20m			2	2	Useful Rf regeneration plant. Fruit can be used for dye, wood suitable for tool handles	
<b>White Cedar</b> <i>Melia azedarach</i>	Very hardy deciduous tree, drought tolerant	10-20m		X	3	1	Cabinet timber species	Fruit attracts birds
<b>White Euodia</b> <i>Melicope micrococca</i>	Small Rf tree with light green foliage. Leaflets arranged in threes	10m		X	1	2	Useful Rf regeneration species on protected sites	Fruit attracts birds
<b>Yellow Pear-fruit</b> <i>Mischocarpus pyramidalis</i>	Small Rf tree with dark green foliage. Fruits yellow and pear-shaped	10m			1	3	Landscaping, understorey plant	Fruit attracts birds
<b>White Bolly-gum</b> <i>Neolitsea dealbata</i>	Small bushy tree with large drooping leaves which are vivid white underneath	10m			1	3	Landscaping, understory tree	Fruit attracts birds
<b>Rusty Plum</b> <i>Niemeyera whitei</i>	Medium sized Rf tree with large leaves that are rusty-hairy beneath, large black fruits in spring	10m			1	3	Feature tree for rainforest plantings	Fruit attracts birds
<b>Sweet Pittosporum</b> <i>Pittosporum undulatum</i>	Small bushy tree with fragrant flowers in spring, hardy	8m		X	3	1	Landscaping plant, low wind-break tree, good for Rf regen	Fruit attracts birds
<b>Black Apple</b> <i>Pouteria australe</i>	Medium-sized Rf tree with dark glossy leaves and large black fruits in spring/summer	12m			1	3	The large black fruits are edible	Fruit attracts birds
<b>Maidens Blush</b> <i>Sloanea australis</i>	Rf tree with spreading shady canopy and large glossy toothed leaves, likes plenty of water	15m			1	3	Useful timber tree for interior work	Fruit attracts birds
<b>Yellow Carabeen</b> <i>Sloanea woollsii</i>	Rf tree with spreading shady canopy and toothed leaves, likes plenty of water	15m			1	3	Useful timber tree for interior work	Fruit attracts birds
<b>Brush Cherry</b> <i>Syzygium australe</i>	Small, dense crowned Rf tree with dark green leaves and red fruits from summer to early winter	10m			2	2	Edible fruit, good riparian Rf regeneration species	Fruit attracts birds, good host for ferns
<b>Red Cedar</b> <i>Toona ciliata</i>	Large deciduous Rf tree with spreading canopy, hardy	20m		X	2	2	Good shade tree, valuable cabinet timber, subject to attack by tip moth	Good host for epiphytes
<b>Water Gum</b> <i>Tristanopsis laurina</i>	Medium-sized tree with flaky bark, yellow flowers in summer, hardy	12m		X	2	1	Useful erosion control species, a good nectar & pollen species, can be used for direct seeding	Roots provide habitat for stream dwelling animals
<b>Weeping Lilly Pilly</b> <i>Waterhousea floribunda</i>	Medium-sized tree, densely crowned with weeping foliage, round green fruit in summer/autumn, hardy	10-15m		X	2	2	Attractive tree, excellent erosion control species with mat like root system	Roots provide habitat for stream dwelling animals





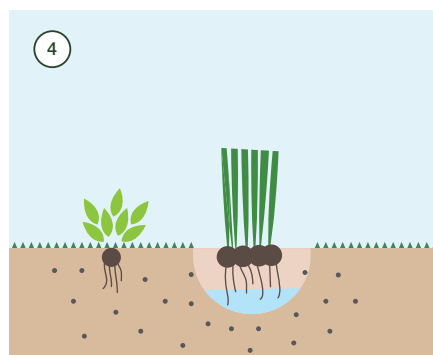
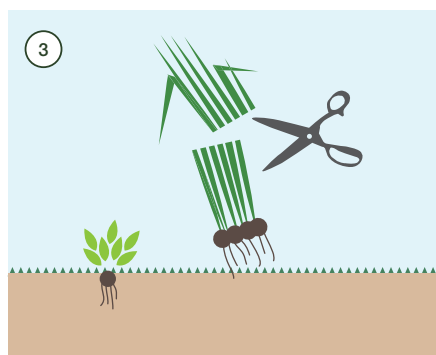
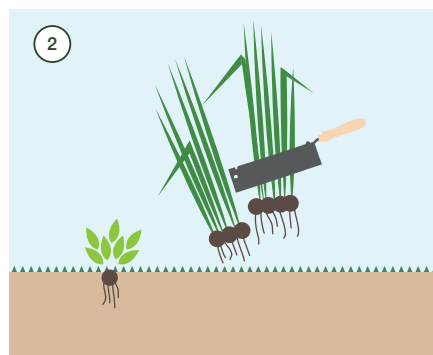
## How do I plant my selected species?

### Planting on the toe

Plants on the toe are low growing multi-trunked plants with matted roots to bind the toe. They are the best species for erosion control and can survive inundation and fast flowing water.

#### 1. Division or direct transplant

Mature clumps of Lomandra 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. Seed may be collected and spread where needed.



#### 2. Standard tubestock

Lomandra, can be purchased cheaply as tubestock and planted densely at locations where erosion potential is strong or at close spacings along the toe. (0.5-1m spacings). They can be planted most of the year in the Nambucca except in winter when frosts may occur. Give follow up watering and weed control where necessary. Weeds slow the growth of native plants by taking water and nutrients. Cattle must be fenced out until Lomandra mature.

Bottle brush and Tea tree may also be planted close to the toe.

### Planting on the middle bank

The middle bank will typically contain medium sized trees with strong root systems and larger canopies which shade the stream. Plants such as the Lilly Pillies, Figs, Cheese Tree and Backhousia all display these features.

1. Buy your selected species in tubestock from a reputable nursery preferably one who uses locally collected seeds or better still collect your own seeds from trees on your property and propagate your own. (Refer to the Further Reading section on page ? )
2. Plant when soil is moist and there is no danger of frost. Late spring and early autumn are ideal times in the Nambucca.
3. Dig a hole twice the width of the pot, after planting firm the soil to remove air pockets. If planting in coarser materials place some fine soil in the planting hole. Water in well. Plant at spacings of 2m.
4. Give follow up water, particularly for the first month. Carry out weed control on a regular basis. Placing a stake adjacent to the tree will mark its location making the task of weeding easier. Check for damage by animals and protect where needed. It is imperative to keep the weeds suppressed around the seedling until the plant grows higher than the surrounding weeds as the weeds will slow the growth or even kill the plant by taking available water and nutrients or by smothering the plant.



Brushbox *Lophostemon confertus*

### Planting on the upper bank/floodplain

The upper bank contains larger trees with deep root systems. Your selected species may be planted at 2m spacings or wider, depending on their potential growth. Check the table above or go to the main species list. The width of your riparian planting will be specific to your site, seek advice from Nambucca Valley Landcare and ask for a site visit.

Plant as for middle bank species again making sure the trees are staked/marked and well maintained against weed growth.



## Revegetating Estuarine River Banks

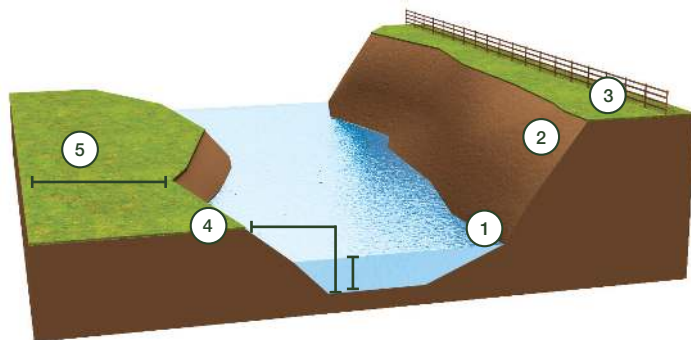
### Mangroves: Important Coastal Ecosystem

Mangroves are trees and shrubs forming forests on the intertidal shallows of estuaries. They are adapted to a harsh and ever-changing environment with changing salinity, temperature, substrate, oxygen, currents, floods, nutrients and pollutants. Mangrove forests are extremely productive ecosystems providing habitats for many fish species, crabs, birds and other animals.

Mangroves provide protection against wave and flood erosion, act as a filter for nutrients and pollutants and have been used for wood, boat building, tanning bark and medicines.

There are three species of mangroves in the Nambucca. The Grey Mangrove *Avicennia marina*, River Mangrove *Aegiceras corniculatum* and Milky Mangrove. Each of the Mangrove species has their own particular tolerance of salt and this is reflected in their occurrence on the estuary. Generally speaking only the Grey Mangrove occurs in the lower estuary where salt levels are highest. Similarly only the River Mangrove is found at the upstream end of the estuary where salt levels are lowest. The middle estuary has both species, usually a taller canopy of the larger Grey Mangrove with an understorey of River Mangrove. Such a community can be seen around Macksville. Milky mangrove has similar salt tolerances to the river mangrove but only has a small presence in the Nambucca.

### Estuarine Riverbanks – some terminology



- ① **Toe of bank**  
Lower part or base of bank
- ② **Upper bank**  
Topmost part of the face of the bank
- ③ **Top of bank**  
Flat or mostly level section

- ④ **Total bank height**  
Bank height + water depth
- ⑤ **Setback distance**  
Active area of restoration  
= twice total bank height

## Zones of the Nambucca Estuary

The factors that most influence the vegetation distribution within the estuary are salt exposure and regular fluctuations in water level caused by the tides. As these change with distance from the sea so does the species composition of the riparian vegetation. There are a number of dominant plant species whose presence indicates a general set of environmental conditions. These indicator species have been used to break up the

gradual change in species composition into zones. The four common species in the Nambucca used to divide the estuary into four zones are the Grey Mangrove, River Mangrove, Swamp Oak and River Oak in a sequence of decreasing salt tolerance. These species do not occur exclusively in these zones but they occur most commonly there. By understanding the natural habitat of native plants one can then reinstate this habitat with a far greater chance of success.

- **Zone A**  
Predominantly saline
- **Zone B**  
Brackish - saline
- **Zone C**  
Brackish
- **Zone D**  
Freshwater - brackish





## List of plants found in Zones A & B

Nambucca River Estuary - species by location (see map of zones)

	Toe of bank	Middle of bank	Top of bank
<div>ZONE A</div>	<b>Grey Mangrove</b> <i>Avicennia marina</i>	<b>Grey Mangrove</b> <i>Avicennia marina</i> (mid-upper bank)  <b>Swamp Oak</b> <i>Casuarina glauca</i>  <b>Swamp Rush</b> <i>Juncus sp.</i>	<b>Red Ash</b> <i>Alphitonia excelsa</i>  <b>Swamp Oak</b> <i>Casuarina glauca</i>  <b>Tuckeroo</b> <i>Cupaniopsis anarcardioides</i>  <b>Hard Quandong</b> <i>Elaeocarpus obovatus</i>  <b>Rusty Fig</b> <i>Ficus rubiginosa</i>  <b>Cheese Tree</b> <i>Glochidion ferdinandi</i>  <b>Guioa</b> <i>Guioa semiglauca</i>  <b>Broad-leaved Paperbark</b> <i>Melaleuca quinquenervia</i>  <b>Yellow Pear Fruit</b> <i>Mischocarpus pyramidalis</i>
	<b>Grey Mangrove</b> <i>Avicennia marina</i>  <b>River Mangrove</b> <i>Aegiceras corniculatum</i>	<b>Swamp Oak</b> <i>Casuarina glauca</i>  <b>Tuckeroo</b> <i>Cupaniopsis anarcardioides</i>  <b>River Lilly</b> <i>Crinum pedunculatum</i>  <b>Hard Quandong</b> <i>Elaeocarpus obovatus</i>  <b>Guioa</b> <i>Guioa semiglauca</i>  <b>Cheese Tree</b> <i>Glochidion ferdinandi</i>	<b>Blackwood</b> <i>Acacia melanoxylon</i>  <b>Red Ash</b> <i>Alphitonia excelsa</i>  <b>Swamp Oak</b> <i>Casuarina glauca</i>  <b>Willow Bottlebrush</b> <i>Callistemon salignus</i>  <b>Grey Ironbark</b> <i>Eucalyptus peniculata</i>  <b>Blackbutt</b> <i>Eucalyptus pilularis</i>  <b>Rusty Fig</b> <i>Ficus rubiginosa</i>  <b>Deciduous Fig</b> <i>Ficus superba</i>  <b>Cudgerie</b> <i>Flindersia schottiana</i>  <b>Foambark</b> <i>Jagera pseudorhus</i>  <b>Broad-leaved Paperbark</b> <i>Melaleuca quinquenervia</i>
<div>ZONE B</div>			



## List of plants found in Zones C & D

Nambucca River Estuary - species by location (see map of zones)

	Toe of bank	Middle of bank	Top of bank
<div>ZONE C</div>	<b>Lower - toe of bank</b>  <b>River Mangrove</b> <i>Aegiceras corniculatum</i>  <b>Swamp Oak</b> <i>Casuarina glauca</i>  <b>River Lilly</b> <i>Crinum pedunculatum</i>  <b>Upper - toe of bank</b>  <b>Hard Quandong</b> <i>Elaeocarpus obovatus</i>  <b>Cheese Tree</b> <i>Glochidion ferdinandi</i>  <b>Guioa</b> <i>Guioa semiglauca</i>  <b>Mat Rush</b> <i>Lomandra hystrix</i>	<b>Red Ash</b> <i>Alphitonia excelsa</i>  <b>Willow Bottlebrush</b> <i>Callistemon salignus</i>  <b>Weeping Bottlebrush</b> <i>Callistemon viminalis</i>  <b>Swamp Oak</b> <i>Casuarina glauca</i>  <b>Tuckeroo</b> <i>Cupaniopsis anarcardioides</i>  <b>Hard Quandong</b> <i>Elaeocarpus obovatus</i>  <b>Sandpaper Fig</b> <i>Ficus coronata</i>  <b>Cheese Tree</b> <i>Glochidion ferdinandi</i>  <b>Guioa</b> <i>Guioa semiglauca</i>  <b>Foambark</b> <i>Jagera pseudorhus</i>  <b>Tea Tree</b> <i>Leptospermum brachyandrum</i>  <b>Mat Rush</b> <i>Lomandra hystrix</i>  <b>Water Gum</b> <i>Tristania laurina</i>	<b>Blackwood</b> <i>Acacia melanoxylon</i>  <b>Green Wattle</b> <i>Acacia irrorata</i>  <b>Brown Kurrajong</b> <i>Commersonia bartramia</i>  <b>Rose Walnut</b> <i>Endiandra discolor</i>  <b>Tallowwood</b> <i>Eucalyptus microcorys</i>  <b>Rusty Fig</b> <i>Ficus rubiginosa</i>  <b>Brush Box</b> <i>Lophostemon confertus</i>  <b>Broad-leaved Paperbark</b> <i>Melaleuca quinquenervia</i>  <b>Prickly Paperbark</b> <i>Melaleuca styphelioides</i>  <b>Brush Cherry</b> <i>Syzygium australe</i>  <b>Crabapple</b> <i>Schizomera ovata</i>  <b>Native Guava</b> <i>Rhodomyrtus psidioides</i>
	<b>River Mangrove</b> <i>Aegiceras corniculatum</i>  <b>Swamp Oak</b> <i>Casuarina glauca</i>  <b>Upper - toe of bank</b>  <b>Red Bottlebrush</b> <i>Callistemon viminalis</i>  <b>River Oak</b> <i>Casuarina cunninghamiana</i>  <b>Hard Quandong</b> <i>Elaeocarpus obovatus</i>  <b>Sandpaper Fig</b> <i>Ficus coronata</i>  <b>Cheese Tree</b> <i>Glochidion ferdinandi</i>  <b>Guioa</b> <i>Guioa semiglauca</i>  <b>Tea Tree</b> <i>Leptospermum brachyandrum</i>  <b>Mat Rush</b> <i>Lomandra hystrix</i>	<b>Lilly Pilly</b> <i>Acmena smithii</i>  <b>River Oak</b> <i>Casuarina cunninghamiana</i>  <b>Rose Walnut</b> <i>Endiandra discolor</i>  <b>Foambark</b> <i>Jagera pseudorhus</i>  <b>Yellow Pear Fruit</b> <i>Mischocarpus pyramidalis</i>  <b>Native Guava</b> <i>Rhodomyrtus psidioides</i>  <b>Crabapple</b> <i>Schizomera ovata</i>  <b>Brush Cherry</b> <i>Syzygium australe</i>  <b>Water Gum</b> <i>Tristania laurina</i>  <b>Weeping Lilly Pilly</b> <i>Waterhousea floribunda</i>	<b>Blackwood</b> <i>Acacia melanoxylon</i>  <b>Brown Kurrajong</b> <i>Commersonia bartramia</i>  <b>Tuckeroo</b> <i>Cupaniopsis anarcardioides</i>  <b>Flooded Gum</b> <i>Eucalyptus grandis</i>  <b>Tallowwood</b> <i>Eucalyptus microcorys</i>  <b>Rusty Fig</b> <i>Ficus rubiginosa</i>  <b>Superb Fig</b> <i>Ficus superba</i>  <b>Bleeding Heart</b> <i>Homalanthus populifolius</i>  <b>Brush Box</b> <i>Lophostemon confertus</i>  <b>White Cedar</b> <i>Melia azedarach</i>  <b>Red Cedar</b> <i>Toona ciliata</i>
<div>ZONE D</div>			







**Melaleuca Swamp.** Image courtesy of WetlandCare Australia.

## Wetland Plants

Wetlands are areas of land that are either temporarily or permanently covered by water. They support a large variety of plant and animal species that are adapted to fluctuating water levels.

Wetlands act as the “kidneys” of our waterways, filtering out pollutants and improving the quality of water entering our waterways. Many fish species require wetlands to complete part of their life cycles and bird species as breeding and roosting sites.

A healthy wetland will have a variety of native riparian vegetation which has a multitude of benefits for that wetland. It will be subject to natural seasonal water flows and inundation and will be fenced, if necessary, to control stock access to the area. A healthy wetland will be more resistant to weed infestation. See [page ?](#) for a list of common wetland weeds in the Nambucca.

Wetland plants bind soil and mud within and adjacent to wetlands, reducing erosion of soil and suspended sediment in the water. Wetlands with complex vegetation support a greater diversity of wildlife. Diverse systems tend to have greater numbers of predators including birds, fish, frogs and predatory insects resulting in fewer nuisance insects, hence benefiting stock and crop health and production.

If you have a degraded wetland on your property and you wish to restore it, the lists of species which follow may assist you. However in some cases it may not be necessary to replant as perhaps just fencing off the area will allow natural regeneration to occur. Contact Nambucca Valley Landcare or Wetland Care Australia for advice and possible assistance.

There are many types of wetlands depending on their location. The following table describes these types and lists some dominant plant species.



## List of Wetland Plants

Local native species by location

Wetland Type/ Location	Water Regime/ Source	Dominant Plants	
<b>Mangroves and sea grasses</b> (found in the estuary, along the coast and coastal rivers)	Tidal	<b>Seagrass</b> <i>Zostera capricorni</i> <i>Halodule spp.</i> <i>Posidonia australis</i>	<b>Mangroves</b> <i>Avicennia marina</i> <i>Aegecerus corniculatum</i> <i>Hibiscus tiliaceus</i> <i>Excoecaria agallocha</i>
<b>Saltmarsh</b> (found in estuarine, high tide areas)	Tidal	<b>Grass</b> <i>Sporobolus virginicus</i> <b>Sedge/Rush</b> <i>Juncus kraussii</i>	<b>Herb</b> <i>Triglochin striatum</i> <i>Sarcocornia quinqueflora</i> <b>Tree</b> <i>Casuarina glauca</i>
<b>Dunal wetlands</b> (wet heath wetlands on sand near the ocean)	Rainfall and runoff High watertable	<b>Sedge/Rush</b> <i>Baumea juncea</i> <i>Fimbristylis spp</i>	<b>Tree</b> <i>Banksia ericifolia</i> <i>Melaleuca quinquenervia</i> <i>Leptospermum lievesidgei</i>
<b>Backswamps</b>	Rainfall and runoff Groundwater Tidal influence	<b>Grass</b> <i>Phragmites australis</i> <i>Paspalum distichum</i>	<b>Sedge/Rush</b> <i>Bolboschoenus spp.</i> <i>Eleocharis spp.</i>
<b>Open freshwater wetlands</b> (near river channels and in low areas)	Rainfall and runoff	<b>Sedge/Rush</b> <i>Lepironia articulata</i>	<b>Herb</b> <i>Persicaria hydropiper</i> <i>Persicaria strigosa</i> <b>Tree</b> <i>Melaleuca alternifolia</i> <i>Melaleuca quinquenervia</i>
<b>Paperbark wetlands</b> (floodplain)	Rainfall and runoff	<b>Vine</b> <i>Parsonia straminea</i> <b>Sedge/Rush</b> <i>Baumea spp.</i> <i>Gahnia clarkei</i>	<b>Tree</b> <i>Casuarina glauca</i> <i>Melaleuca quinquenervia</i> <i>Glodhidion ferdinandi</i> <i>Melicope elleryana</i> <i>Lophostemon suaveolens</i> <i>Eucalyptus robusta</i>



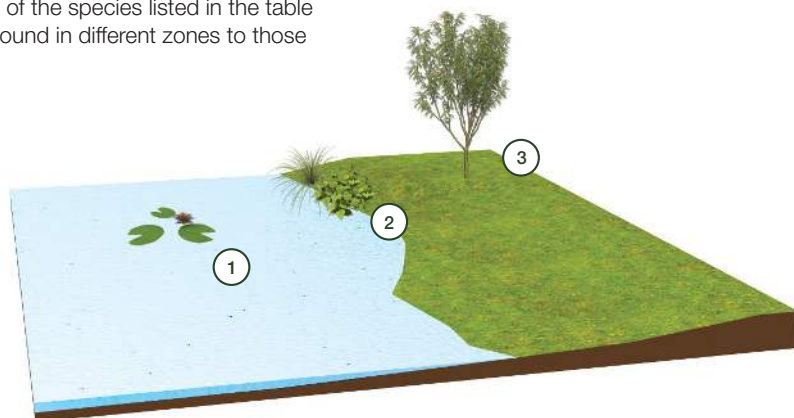


## Wetland Zones

Wetland plants fall into three zones:

- Submerged plants.
- Plants that grow on the very edge of the water.
- Fringing or riparian vegetation.

Some species can be found through all zones and some of the species listed in the table could be found in different zones to those indicated.



- 1 Submerged zone to open water
- 2 Edge Zone
- 3 Fringing Vegetation

*Juncus usitatus*



*Ludwigia octovalvis*



*Baumea rubiginosa*



*Vallisneria nana*



*Nymphaea gigantea*



*Malaleuca quinquenervia*



## List of Wetland Plants

Local native species by location

Submerged zone to open water	Edge zone	Fringing vegetation
Submerged Plants	Grasses/Sedges	Trees
<i>Aponogeton elongatus</i>	<i>Baumea articulata</i>	<i>Acmena smithii</i>
<i>Ceratophyllum demersum</i>	<i>Bolboschoenus caldwellii</i>	<i>Casuarina glauca</i>
<i>Elatine gratioloides</i>	<i>Bolboschoenus fluviatilis</i>	<i>Commersonia bartramia</i>
<i>Hydrilla verticillata</i>	<i>Cyperus exaltatus</i>	<i>Endiandra sieberi</i>
<i>Myriophyllum</i> spp.	<i>Cyperus</i> spp.	<i>Lophostemon suaveolens</i>
<i>Najas marina</i>	<i>Eleocharis acuta</i>	<i>Malaleuca quinquenervia</i>
<i>Potamogeton crispus</i>	<i>Eleocharis dulcis</i>	<i>Melicope elleryana</i>
<i>Utricularia australis</i>	<i>Eleocharis equisetina</i>	Grasses/Sedges
<i>Utricularia</i> spp.	<i>Juncus</i> spp.	<i>Baumea juncea</i>
<i>Vallisneria australis</i>	<i>Juncus usitatus</i>	<i>Baumea rubiginosa</i>
<i>Vallisneria nana</i>	<i>Lepironia articulata</i>	<i>Eleocharis acuta</i>
Floating on surface	<i>Phragmites australis</i>	<i>Eleocharis dulcis</i>
<i>Marsilea mutica</i>	<i>Philydrum lanuginosum</i>	<i>Gahnia clarkei</i>
<i>Nymphoides indica</i> .	<i>Schoenoplectus litoralis</i>	<i>Gahnia</i> spp.
<i>Nymphaea gigantea</i>	<i>Schoenoplectus validus</i>	<i>Juncus</i> spp.
<i>Ottelia ovalifolia</i>	<i>Scirpus</i> spp.	<i>Juncus usitatus</i>
<i>Potamogeton octandrus</i>	<i>Typha</i> spp.	<i>Leersia hexandra</i>
	Floating plants	<i>Paspalum distichum</i>
	<i>Azolla</i> spp.	Herbs
	<i>Lemna trisulca</i>	<i>Persicaria elatior</i>
	Herbs	<i>Persicaria stigosa</i>
	<i>Crinum pedunculatum</i>	
	<i>Bacopa monnieri</i>	
	<i>Ludwigia octovalvis</i>	
	<i>Persicaria</i> spp.	
	<i>Triglochin procera</i> (fresh water)	
	<i>Triglochin striatum</i>	





## Plants to minimise the impact of fire

### Flammability

All plants will burn given a hot enough fire, but some have features that minimise the extent to which they contribute to the spread of bushfires. When choosing plants for the area surrounding your home or farm infrastructure choose ones that are less highly flammable.

Features of plants that are less flammable include:

- High salt content of leaves
- High moisture content of leaves
- Low volatile oil content of leaves
- Thick bark protecting conductive tissues and dormant buds
- Seeds enclosed in woody capsules
- Dense crown
- Lowest branches out of reach of ground fires

### Suggestions to reduce the threat of fire

- Avoid using plants that retain or accumulate dead leaves and twigs, especially if this material is continuous from the ground to the crown, as these will burn easily.
- Thick bark will protect trees, but may be a fire hazard if it is loose, fibrous or stringy, for example Blackbutt, Flooded Gum. These types of bark easily ignite and encourage fire to spread through the crown of the trees. Wind can carry burning bark away, especially loose, flaky or ribbon bark, to start new fires, a process called spotting. Choose trees that have smooth bark.

- Avoid plants with high levels of volatile oils in the leaves. For example Eucalypts, Bottlebrush and Melaleucas can burst into flame when heated thus increasing fire intensity.
- Ensure vegetation does not provide a path for the transfer of fire to the house. Plant trees spaced out, or in groups with clear areas in between, and avoid planting close to buildings.

### Regeneration

Most Australian natives have evolved with fire and many can regrow after a fire. They have survival mechanisms such as dormant buds, thick bark and woody capsules to protect seeds, or they store seed in the soil. Introduced plants have fewer survival mechanisms.

Eucalypts can re-shoot from dormant buds beneath their bark. However, young eucalypts may die in a fire depending on the intensity. Casuarinas and some acacias re-shoot from roots. Some Eucalypts, Acacias, Tea Trees, Banksias, Hakeas and Bottlebrush regenerate from seed. Seed of many Acacias are stored in the soil and germinate after fire. Larger Acacias are more tolerant of fire than smaller ones.

Plants that are more tolerant to fire may provide a valuable refuge and source of food after a fire for wildlife such as small marsupials, nectar-feeding birds, bees and other insects.



## List of native plants that are less flammable

Species suitable for the Nambucca

### Trees and Shrubs

<i>Acmena smithii</i>	Lilly Pilly
<i>Alpinia caerulea</i>	Native Ginger
<i>Breynia oblongifolia</i>	Breynia
<i>Brachyciton acerifolius</i>	Flame Tree
<i>Ceratopetalum apetalum</i>	Coachwood
<i>Cupaniopsis anacardioides</i>	Tuckeroo
<i>Doryphora sassafras</i>	Sassafras
<i>Elaeocarpus reticulatus</i>	Blueberry Ash
<i>Eupokatia laurina</i>	Native Guava, Bolwarra
<i>Ficus coronata</i>	Sandpaper Fig
<i>Glochidion ferdinandi</i>	Cheese Tree
<i>Lophostemon confertus</i>	Brushbox
<i>Melia azaderach</i>	White Cedar
<i>Myoporum acuminatum</i>	Mangrove Boobialla
<i>Pittosporum revolutum</i>	Yellow Pittosporum
<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Podocarpus elatus</i>	Plum Pine
<i>Sloanea australis</i>	Maiden's Blush
<i>Stenocarpus salignus</i>	Scrub Beefwood
<i>Synoum glandulosum</i>	Scentless Rosewood
<i>Tristaniopsis laurina</i>	Water Gum

### Groundcovers

<i>Cissus antartica</i>	Kangaroo Grape
<i>Crinum pedunculatum</i>	Swamp Lily
<i>Dianella caerulea</i>	Blue Flax Lilly
<i>Dioscorea transversa</i>	Native Yam
<i>Doodia aspera</i>	Rasp Fern
<i>Hardenbergia violacea</i>	Hardenbergia, False Sarsaparilla
<i>Smilax glyciphylla</i>	Native Sarsaparilla
<i>Viola hederacea</i>	Native Violet





## Plants for under power lines

Trees are best avoided under power lines as they are likely to grow too tall and it will then be necessary at some stage to cut them down. Plant native shrubs checking in the species chart their potential heights before choosing. Some good species to plant might be the Brush Kurrajong, Bottlebrushes, Tea Trees and Banksias.

## Plants for shade, shelter, screens or windbreaks

### Windbreaks on farms

Most farms can benefit from windbreaks to protect the home, livestock, crops and pastures. Windbreaks will also help prevent erosion, provide habitat for wildlife, reduce evaporation from farm dams and retard grass fires.

For most purposes permeable windbreaks which let some wind through are most suitable. More dense windbreaks may be needed in some cases. The desired permeability can be obtained by carefully selecting tree and shrub species. Species such as Pines and Cypressess will form dense windbreaks but most native species are more permeable.

Location of the windbreak will depend on the direction of the most damaging winds, topography and the shelter requirements of the farm enterprise. Generally speaking, in the Nambucca, the most severe winds come from the west in spring (Aug/Sept), so planting to the west will protect your home from the worst winds and afternoon sun in summer.

Windbreaks are most effective when they have the right height to length ratio: the length of uninterrupted windbreak should be at least 12 times the height, and the taller the windbreak the greater the area protected. Where shorter windbreaks are required select shorter growing trees and shrubs so that the ratio of length to height is maintained. It is also important that the width of the windbreak is not more than three times its height. Windbreaks that are too wide result in less area being sheltered.

Windbreaks of about three rows of trees and shrubs are effective for most farms in the Nambucca.

Plant tall growing native species in the centre rows and smaller bushy native species in the outside rows. If you are short of space on a very small farm and you must plant fewer rows or a single row choose species that retain their foliage to the ground and make fairly dense growth. She-oaks, Wattles and Melaleuca species may be suitable. Eucalypts are generally unsuitable for single rows due to their loss of lower limbs. If planting wattles choose local species of Wattles and plant on the outside of windbreaks as they are short lived and therefore likely to fall before other species

It is important to use a mixture of species in both shrub and tree layers when planting your windbreak or screen. This diversity of plants will attract a greater diversity of birds by providing an attractive habitat for them. In turn they will control the insects or pests that may attack your trees. Myrtle Rust, a disease that attacks a variety of native species, is currently increasing in prevalence in the Nambucca. Contact the Department of Primary Industries for more information. (see Contacts section)



## List of native plants for windbreaks and screens

Species suitable for the Nambucca

### Trees suitable for windbreaks

<i>Acacia spp.</i>	<b>Wattles</b> (see species list local species)
<i>Allocasuarina spp.</i>	<b>Forest Oak, She-Oak</b>
<i>Anetholea anisata</i>	<b>Ringwood</b>
<i>Araucaria cunninghamii</i>	<b>Hoop Pine</b>
<i>Eucalyptus acmenoides</i>	<b>White Mahogany</b>
<i>Eucalyptus microcorys</i>	<b>Tallowwood</b>
<i>Harpullia pendula</i>	<b>Tulipwood</b>
<i>Lophostemon confertus</i>	<b>Brush Box</b>
<i>Malaleuca quinquenervia</i>	<b>Common Paperbark</b>
<i>Podocarpus elatus</i>	<b>Plum Pine</b>
<i>Syncarpia glomulifera</i>	<b>Turpentine</b>

### Shrubs or low Trees suitable for windbreaks

<i>Acmena smithii</i>	<b>Lilly Pilly</b>
<i>Elaeocarpus reticulatus</i>	<b>Blueberry Ash</b>
<i>Callistemon salignus</i>	<b>Willow Bottlebrush</b>
<i>Callistemon viminalis</i>	<b>Weeping Bottlebrush</b>
<i>Leptospermum brachiandrum</i>	<b>Thin-fruited Tea Tree</b>
<i>Malaleuca thymifolia</i>	<b>Thyme Honey Myrtle</b>
<i>Pittosporum undulatum</i>	<b>Sweet Pittosporum</b>
<i>Syzygium australe</i>	<b>Brush Cherry</b>

### Shrubs or low Trees suitable for screens/hedges

<i>Acacia fimbriata</i>	<b>Fringed Wattle</b>
<i>Acmena smithii</i>	<b>Lilly Pilly</b>
<i>Allocasuarina torulosa</i>	<b>Forest Oak</b>
<i>Backhousia myrtifolia</i>	<b>Grey Myrtle</b>
<i>Callicoma serratifolia</i>	<b>Black Wattle</b>
<i>Callistemon salignus</i>	<b>Willow Bottlebrush</b>
<i>Commersonia bartramiana</i>	<b>Brown Kurrajong</b>
<i>Glochidion ferdinandi</i>	<b>Cheese Tree</b>
<i>Guioa semiglauca</i>	<b>Guioa</b>
<i>Neolitsia dealbata</i>	<b>White Bolly Gum</b>
<i>Pittosporum undulatum</i>	<b>Sweet Pittosporum</b>
<i>Syzygium australe</i>	<b>Brush Cherry</b>
<i>Syzygium oleosum</i>	<b>Blue Lilly Pilly</b>
<i>Tristanopsis laurina</i>	<b>Water Gum</b>







## Shade and Shelter

When planting trees for shade and shelter choose native species that have some or all of the following characteristics:

- Broad canopy
- Dense canopy
- Large leaves
- Minimal limb and debris loss
- Fast growing
- Frost hardy

Also consider whether it is deciduous, such as red or white cedar, and whether it will grow well in the chosen situation, for example in an

open paddock. For best results a clump of trees will grow better and provide improved shade qualities. There are numerous benefits for your stock having adequate shade, so planting a clump of trees at stock watering points or troughs can often mean the stock do not need to use the river bank for shade. This minimises bank erosion, keeping water quality higher.

Some trees that look thick with a wide canopy on some sites may not end up the same if planted on a different site. If the site is not ideal for the plant it may not grow to its full potential. Check the plant requirements or look at the soils or habitat where it grows well and try to match that for best results.



## List of plants for shade and shelter

Species suitable for the Nambucca

### Plants suitable for shade and shelter

<i>Acmena smithii</i>	Lilly Pilly
<i>Anetholea anisata</i>	Ringwood/Aniseed Tree
<i>Cryptocarya glaucescens</i>	Pepperberry Tree
<i>Elaeocarpus obovatus</i>	Hard Quandong
<i>Elaeocarpus grandis</i>	Blue Quandong
<i>Glochidion ferdinandi</i>	Cheese Tree
<i>Gmelina leichardtii</i>	White Beech
<i>Lophostemon confertus</i>	Brushbox
<i>Ficus macrophylla</i>	Moreton Bay Fig
<i>Ficus rubiginosa</i>	Rusty Fig
<i>Jagera pseudorus</i>	Foam Bark Tree
<i>Neolitsea dealbata</i>	White Bolly Gum
<i>Waterhousea floribunda</i>	Weeping Lilly Pilly



Thin-fruited Tea Tree *Leptospermum brachyandrum*

## Plants for low water consumption gardens

There are many ways we can reduce water consumption in the garden and by planting local native species which are adapted to local climatic conditions you will have a head start as their needs for water are generally less than introduced species.

The following are more ways of saving water, time and effort:

- Use raised garden beds as these retain the water better in dry times as well as having improved drainage in wetter times.
- Water plants deeply and infrequently to encourage deeper roots otherwise shallow roots will develop, becoming dependent on frequent watering.

- Time your watering, evening watering in summer and morning watering in winter to avoid wet plants being frozen.
- Use drip irrigation instead of surface spraying.
- Group plants with similar watering requirements together. Higher water-requiring plants can be planted in a shady, sheltered location and lower water-requiring plants can be placed in areas which have more sun and exposure.
- Add compost to your soil to improve the quality and water holding properties of your soil.
- Mulch your garden beds with deep mulch. (see page ? for more information on mulching)

The following table lists some local native species that have low water requirements.







## List of plants for low water consumption gardens

Species suitable for the Nambucca

### Trees

<i>Allocasuarina torulosa</i>	Forest Oak
<i>Banksia</i> spp.	Banksias
<i>Brachychiton acerifolius</i>	Flame Tree
<i>Brachychiton discolor</i>	Lacebark Tree
<i>Casuarina</i> spp.	She-Oak
<i>Corymbia gummifera</i>	Red Bloodwood
<i>Corymbia intermedia</i>	Pink Bloodwood
<i>Corymbia maculata</i>	Spotted Gum
<i>Cupaniopsis anacardioides</i>	Tuckeroo
<i>Eucalyptus pilularis</i>	Blackbutt
<i>Eucalyptus propinqua</i>	Grey Gum
<i>Hymenosporum flavum</i>	Native Frangipani
<i>Melia azederach</i>	White Cedar
<i>Syncarpia glomulifera</i>	Turpentine

### Shrubs

<i>Acacia</i> spp.	Wattles
<i>Grevillia</i> spp.	Grevillias
<i>Jacksonia scoparia</i>	Dog Wood
<i>Leptospermum</i> spp.	Tea Trees
<i>Callistemon</i> spp.	Bottlebrush

### Vines and Small Plants <1m

<i>Dianella</i> spp.	Flax Lilly
<i>Geitonoplesium cymosum</i>	Scrambling Lilly
<i>Hardenbergia violacea</i>	Native Sarsaparilla
<i>Hibbertia scandens</i>	Climbing Guinea Flower
<i>Hibbertia dentata</i>	Trailing Guinea Flower
<i>Lomandra longifolia</i>	Long-leaf Mat Rush
<i>Themeda australis</i>	Kangaroo Grass



## Establishing native bird habitat in your garden

Collectively, domestic gardens constitute one of the largest areas of vegetation remaining within our man-made landscapes and are therefore vitally important as potential refuges for native birds and other wildlife. While we do have a diverse range of native birds in our urbanised environments there has also been a noticeable change in the make up of species and types of birds which use our gardens.

Small native birds such as the Red-browed Finch and Superb Fairy-wren are becoming less common, replaced by more dominant and aggressive species such as the Noisy Miner, Pied Currawong and the Rainbow Lorikeet. This indicates that gardens are not always bird friendly, and that birds are often exposed to a wide range of challenging conditions, and potentially harmful disturbances.

Understanding the resource needs of native birds and what sort of garden attracts large numbers of some introduced birds will help you to develop suitable habitats in the garden.

The following hints will help you maximise your garden's potential to support a healthy native bird community.

### Things you can do

1. Use native local plant species as they are adapted to local conditions and have existing relationships with local fauna.
2. Develop structural diversity in your garden. Choose for variety and complexity. A diverse range of plants with a mix of native herbs, shrubs and trees will provide a range of habitats and resources for the local bird populations.
3. Reduce lawn area. Exotic species such as the Indian Myna prefer a simplistic garden structure which is open and devoid of

dense shrubbery. Converting lawn into garden will also reduce lawn mowing and maintenance.

4. Nest boxes can provide hollow-dwelling native birds with much needed shelter. Ensure your box is built to be Indian Myna proof and is regularly maintained. (Contact Nambucca Valley Landcare for more information on proofing your boxes).
5. Provide a bird bath. Ensure baths are kept clean and maintained regularly.

### Things you should avoid

1. **Feeding birds.** The birds we feed are usually already dominant species that do not need help finding food. It is more beneficial to establish a garden with a diverse range of native plants which can provide natural food resources for an array of native birdlife.
2. **Planting exotic species.** Species such as Cocos Palm *Syagrus romanzoffiana* are ideal habitat for feral animals such as the Indian Myna and Common Rat.
3. **Planting hybrid natives.** Many of the large-flowered hybrid varieties of Grevilleas encourage large and aggressive honey eaters such as the Noisy Miner and Red Wattlebird. Selecting non-hybrid species which produce smaller flowers will attract less common nectar feeders to your garden.
4. **Feeding your pets outside.** Feeding your dog or cat indoors will reduce the amount of available food for pests such as the Indian Myna bird. Chooks and rabbits can also be fed inside their enclosure to discourage opportunistic scavengers.

The following table has the requirements of different birds and suggested local plant species.





## List of plants specific to bird types

Species suitable for the Nambucca

Bird Type	Habitat Preference	Recommended Local Plant Species
<b>Large Nectivores</b> (nectar feeders)  Honeyeaters and some parrots e.g. Noisy Miner, Little Wattlebirds, Rainbow and Scaly-breasted Lorikeets	Shrubs and trees for foraging, perching and nesting.  Some also require hollows for nesting.	<b>Paperbark</b> ( <i>Melaleuca quinquenervia</i> ) <b>Bottlebrush</b> ( <i>Callistemon citrinus</i> ), <b>Banksia</b> ( <i>B. spinulosa</i> , <i>B. ericifolia</i> ), <b>Willow-leaved Hakea</b> ( <i>H. salicifolia</i> ), <i>Eucalyptus</i> spp.
<b>Small Nectivores</b>  Honeyeaters e.g. Eastern Spinebill, New Holland Honeyeater, Brown Honeyeater	Spend most time foraging and perching in shrubs, but also use trees.  Generally nest in dense shrubs.	<b>Grevillea</b> ( <i>Grevillea linearifolia</i> ), <b>Honey Myrtle</b> ( <i>Melaleuca thymifolia</i> ), <b>Coastal Beard-heath</b> ( <i>Leucopogon parviflorus</i> ), <b>Common Correa</b> ( <i>Correa reflexa</i> )
<b>Granivores</b> (Seed Eaters)  Parrots, finches and pigeons e.g. Eastern Rosella, Pale-headed Rosella, Common Bronzewing, Red-browed Finch, Double-barred Finch, Chestnut-breasted Manikin	Utilise shrubs and trees for perching, nesting and foraging, but also forage on mature grasses.	<b>Trees &amp; shrubs: Wattles</b> ( <i>Acacia fimbriata</i> , <i>A. suaveolens</i> ), <b>Forest Oak</b> ( <i>Allocasuarina torulosa</i> ), <b>Tea Trees</b> ( <i>Leptospermum laevigatum</i> , <i>L. petersonii</i> )  <b>Grasses: Wiry Panic</b> ( <i>Entolasia stricta</i> ), <b>Basket Grass</b> ( <i>Oplismenus aemulus</i> ), <b>Wire Grass</b> ( <i>Aristida</i> spp.), <b>Plumegrass</b> ( <i>Dichelachne crinita</i> ), <b>Hedgehog Grass</b> ( <i>Echinopogon</i> spp.), <b>Weeping Grass</b> ( <i>Microlaena stipoides</i> ), <b>Kangaroo Grass</b> ( <i>Themeda australis</i> )
<b>Frugivores</b> (Fruit Eaters)  Pigeons and cuckoos e.g. Wonga Pigeon, Common Koel, Silvereye, Satin Bowerbird	Trees and shrubs for shelter and protection.	<b>Figs</b> ( <i>Ficus fraseri</i> , <i>F. rubiginosa</i> ), <b>Lilly Pillies</b> ( <i>Acmena</i> , <i>Syzygium</i> & <i>Waterhousea</i> spp.), <b>Blueberry Ash</b> ( <i>Eleocarpus reticulatus</i> ), <b>Walking-stick Palm</b> ( <i>Linospadix monostachyos</i> )
<b>Insectivores</b>  Superb Fairy-wren, Eastern Yellow Robin, Spotted & Striated Pardalotes, Willie Wagtail	Dense shrubs important for protection and nest sites, as well as some open areas for foraging.  Insects and invertebrates found in bark and foliage, as well as on the ground.	<b>Mat Rush</b> ( <i>Lomandra hystrix</i> , <i>L. longifolia</i> ), <b>Banksia</b> spp., <b>Tea Tree</b> spp., <b>Hakea</b> spp., <b>Guinea Flower</b> ( <i>Hibbertia scandens</i> , <i>H. dentata</i> ), <b>Coastal Beard-heath</b> ( <i>Leucopogon parviflorus</i> )
<b>Carnivores</b> (Meat Eaters)  All species of Currawongs, Laughing Kookaburra, Grey & Pied Butcherbirds, Powerful Owl, Black-shouldered Kite, Peregrine Falcon	Tall trees for perching, roosting and nesting.  Some require hollows for nesting.  Food source includes other birds, reptiles, frogs, small mammals and invertebrates.	<b>Eucalypts, Paperbarks, Figs, Tuckeroo</b> ( <i>Cupaniopsis anacardioides</i> ), <b>Guioa</b> ( <i>Guioa semiglaucula</i> ), <b>Native Frangipani</b> ( <i>Hymenosporum flavum</i> )



## Plants for Soil Erosion

### Stream Bed and Bank Erosion

Bed and bank erosion will be exacerbated by lack of vegetation or inappropriate vegetation on the banks of the stream. More information and suggested native species can be found in the Riparian Vegetation [starting on page?](#).

### Mass movement or erosion on slopes and in Gullies

On agricultural land, mass movement and soil erosion can result from combinations of intense rainfall, steep slopes, underlying geology and clearing of deep rooted native vegetation.

### Vegetation

Most landslips occur because there is a decrease in the forces that hold soil and partially weathered rock material together on the slope. As the pore spaces in the soil/ weathered rock fill with water, the ability of the material to stick together or resist movement declines. At the same time the weight of the soil increases, making it more prone to move downhill.

Most prevention and control works involve:

- Diverting excess water.
- Replanting native vegetation, especially deep-rooted trees and shrubs.
- Excluding stock.

Removal of deep-rooted native vegetation has two impacts. Less vegetation means fewer roots in the soil to hold it together and more water in the soil. Thus it takes smaller rainfall events to fully saturate the soil/ weathered rock, and as a consequence create a greater risk of mass movement.

A mixture of quick growing trees and shrubs planted 3-5m apart vertically will intercept rain in the tree canopy, bind soils, lower the water table, and generally stabilise the slope. The best trees for revegetation of mass movement sites are rapid growing, have extensive root structure and a high transpiration rate, and will tolerate the soil conditions. For example, a single eucalyptus tree can transpire up to 500 litres of water a day under favourable conditions.

Choose species that are already growing naturally on similar soils, slopes and aspect. Careful stock management is necessary to allow trees to re-establish and to maintain at least 90% soil cover.

### Treating shallow slides and slumps on steeper, drier slopes

The most effective treatment involves a multi-faceted approach:

- Sow grass seed or legumes on bare soil areas to prevent continuing soil erosion and further slope failure.
- Divert runoff from the top of the slip.
- Smooth out soil debris to help re-grassing and prevent weed invasion.
- Plant trees at close spacings of 3-5m upslope, on and around areas of severe landslip.
- Exclude grazing animals while grass and tree plantings establish.



## Managing gully lines

There are several simple, relatively low cost management options for managing existing gully lines to reduce soil loss:

- Fence the sides to keep stock out of gullies; this will encourage faster stabilisation and re-establishment of natural revegetation.
- Establish good vegetation cover on the gully floor to trap sediment and minimise further erosion using plants such as the

Lomandras and other species that can survive the water flow when it rains.

- Plant trees and shrubs on the edges and above the banks of gullies to stabilise the walls.
- Avoid filling eroded gullies with solid objects like old drums, tyres, car bodies, concrete or rubbish as they tend to concentrate water flows and remove more soil from the gully walls and floor.

Please seek advice. Contact your local Office of Environment and Heritage or NSW DPI.



## List of plants for soil erosion

Species suitable for the Nambucca

### Trees and Shrubs

<i>Acacia irrorata</i>	<b>Green Wattle</b>
<i>Acacia melanoxylon</i>	<b>Blackwood/Sally Wattle</b>
<i>Alphitonia excelsa</i>	<b>Red Ash</b>
<i>Archontophoenix cunninghamiana</i>	<b>Bangalow Palm</b>
<i>Callistemon salignus</i>	<b>Willow Bottlebrush</b>
<i>Commersonia fraseri</i>	<b>Brush Kurrajong</b>
<i>Elaeocarpus grandis</i>	<b>Blue Quandong</b>
<i>Elaeocarpus obovatus</i>	<b>Blueberry Ash</b>
<i>Eucalyptus grandis</i>	<b>Flooded Gum</b>
<i>Eucalyptus tereticornis</i>	<b>Forest Red Gum</b>
<i>Flindersia schottiana</i>	<b>Cudgerie</b>
<i>Glochidion ferdinandi</i>	<b>Cheese Tree</b>
<i>Lophostemon confertus</i>	<b>Brush Box</b>
<i>Melaleuca quinquenervia</i>	<b>Broad-leaved Paperbark</b>
<i>Pittosporum undulatum</i>	<b>Sweet Pittosporum</b>
<i>Polyscias murrayi</i>	<b>Pencil Cedar</b>
<i>Polyscias sambucifolius</i>	<b>Elderberry Ash</b>

### Ground Covers and Plants <1m

<i>Cymbopogon refractus</i>	<b>Barb Wire Grass</b>
<i>Dianella caerulea</i>	<b>Blue Flax Lilly</b>
<i>Gahnia spp.</i>	<b>Saw Sedges</b>
<i>Lomandra hystrix</i>	<b>Mat Rush</b>
<i>Lomandra longifolia</i>	<b>Long-leaf Mat Rush</b>
<i>Rubus rosifolius</i>	<b>Rose-leaf Bramble</b>
<i>Themeda triandra</i>	<b>Kangaroo Grass</b>



## Removal of Vegetation

### Removal of Plants - Key Considerations

#### Weeds

- Identify weed.
- Establish appropriate removal method. Using the wrong method may exacerbate the problem unknowingly.
- Determine correct disposal of plant material, eg. seeds, flowers.
- Will removal leave bare soil that may erode easily? eg. steep slopes, beside a watercourse.
- Do I need approval from Nambucca Shire Council or other authorities? See following page.
- Perhaps it is in a sensitive area. eg. Camphor Laurels in the riparian zone.
- Do I need to replace weeds with native species? Go to 'Weeds in the Nambucca' page ?.
- Can I keep up with the follow-up work that is necessary for success? Do not remove too much at once.

Contact the Nambucca Shire Council Weeds Officer or Nambucca Valley Landcare for assistance.

#### Established trees, shrubs

- Identify tree.
- Establish appropriate removal method, considering safety, liability etc.
- Do I need approval from Nambucca Shire Council or other authorities?
- Is the tree protected, threatened or endangered? Go to page ?.



**Foambark** *Jagera pseudorhus*

- Will tree removal:
  - expose you to the elements eg. sun, wind?
  - impact visually on you or your neighbours?
  - impact on amenity of the area?
  - impact on wildlife? Is the tree used by wildlife for nesting or feeding, does it have nesting hollows?
  - is there an alternative to removal to improve the situation? eg. branch lopping or gutter and pool guards?
  - can the tree be replaced by a more suitable native species?

#### Forests/Regrowth

It is very important to maintain existing native vegetation wherever possible.

Before logging or clearing any native vegetation speak with an officer from the Northern Rivers Catchment Management Authority in Coffs Harbour (ph: 02 6653 0112) for clearing or the NSW Office of Environment and Heritage (OEH) in Kempsey (ph: 02 6561 4987) for logging, as these activities are covered by the Native Vegetation Act 2003.

You may also visit [www.environment.nsw.gov.au/vegetation/infosheets](http://www.environment.nsw.gov.au/vegetation/infosheets)



## Relevant Legislation

### Removal of vegetation that may require consent from Nambucca Shire Council

Nambucca Shire Council does not have tree preservation provisions in place for urban areas, however this does not remove the requirement for persons to be aware of other legislation prior to removing vegetation. Vegetation removal in the following areas may require approval from Council or other government Authority:

1. The provisions of the *Native Vegetation Act 2003* apply to non-urban zones under the Nambucca LEP 2010 including land zoned:
  - RU1 Primary Production
  - RU2 Rural Landscape
  - RU3 Forestry
  - E1 National Park and Nature Reserves
  - E2 Environmental Protection
  - E3 Environmental Management
  - E4 Environmental Living
  - RE1 Public Recreation
  - RE2 Private Recreation
  - W1 Natural Waterway
  - W2 Recreational Waterway

Vegetation clearing in these zones may require approval from the Catchment Management Authority. For clarification contact the Northern Rivers Catchment Management Authority on 02 6653 0112 or visit their website for more information <http://www.northern.cma.nsw.gov.au/>.

2. Trees within Heritage Conservation Areas and on sites containing Heritage Items (see Clause 5.10 and Schedule 3 of Nambucca Local Environmental Plan 2010) may require consent from Council.
3. All development applications need to address section 5A of the *Environmental Planning and Assessment Act 1979*, which is an ecological test of significance against a proposed development. The test requires an applicant or council to determine if a proposed development will result in a significant impact to a threatened species, population, community or their habitats as listed under the schedules of the *Threatened Species Conservation Act 1995*. Should a significant impact be identified then a species impact statement would be required.
4. The *Threatened Species Conservation Act 1995* also requires a permit to pick or harm any threatened species, population, community or their habitats. Advice should be sought from the Office of Environment and Heritage, where vegetation to be cleared has potential significance.
5. A development application on lands greater than one hectare is required to address the provisions State Environmental Planning Policy (SEPP) 44 - Koala Habitat Protection. The following species (listed on Schedule 2 of SEPP 44) are identified as Koala Feed Tree Species – Forest Red Gum (*Eucalyptus tereticornis*), Tallowwood (*Eucalyptus microcorys*), Large-fruited Grey Gum (*Eucalyptus biturbinata*), Small-fruited Grey Gum (*Eucalyptus propinqua*), Ribbon Gum (*Eucalyptus nobilis*), Scribbly Gum (*Eucalyptus signata*) and Swamp Mahogany (*Eucalyptus robusta*) (NPWS, 2003). Through a quantitative assessment applicants are required to demonstrate if the land is potential and/or core Koala habitat. If core Koala habitat is identified a Koala Plan of Management is required.



Grass Tree *Xanthorrhoea* spp.

6. Within State Environmental Planning Policy (SEPP) 14 - Coastal Wetlands and SEPP 26 – Littoral Rainforest areas. Such designated lands are marked on a map, a copy of which can be viewed at Council's Administration Offices. Provisions within these SEPP's require that the consent of Council and the concurrence of the Director General of the NSW Department of Planning is required for "clearing" of this land.
7. Certain types of development may require a controlled activity approval under the *Water Management Act 2000* which may have implications for the removal of vegetation. Other pieces of legislation which may require consideration include the *Fisheries Management Act 1994*, the *Threatened Species Conservation Act 1995* and the *Environment Protection and Biodiversity Conservation Act 1999*.

Contact: Nambucca Shire Council,  
Departments of Environment & Planning and  
Operations & Technical Services

Parks & Reserves Supervisor  
Noxious Weeds Inspector  
Environmental Compliance Officer  
Senior Town Planner

Ph: 02 6568 2555  
Fax: 02 6568 2201  
Email: [council@nambucca.nsw.gov.au](mailto:council@nambucca.nsw.gov.au)

### Requiring Consent from another Authority

Clearing or removal of vegetation in the following situations will generally require consent:

1. Clearing of native vegetation on privately owned rural land requires consent from the Northern Rivers Catchment Management Authority (NRCMA) under the *Native Vegetation Conservation Act 2003*, unless the clearing proposed is specifically exempted under the Act. Contact NRCMA in Coffs Harbour on 02 6653 0112 or go to [www.environment.nsw.gov.au/vegetation/infosheets](http://www.environment.nsw.gov.au/vegetation/infosheets) for further information in relation to clearing provisions and exemptions under this Act. To report any possible illegal clearing ring the Enviro line 131555.
2. A licence under the *Threatened Species Conservation Act 1995* may be required where the vegetation removal is likely to result in harm to a Threatened Species, Population or Ecological Community or their habitat\*. Contact National Parks & Wildlife (NPWS) NSW Office of Environment & Heritage 02 6659 8240.

\* Government policies are subject to review. The above requirements are current at the time of publication.





## Native Plant Photos

3. If the vegetation to be removed involves a species listed under the *Threatened Species Conservation Act 1995*\*, the application of a "test of significance" to determine potential impacts on Threatened Species, Populations or Ecological Communities is likely to be required. It is the proponent's responsibility to ensure accurate identification of any species proposed to be removed. Assistance in identification may be obtained from OEH or Nambucca Valley Landcare.

4. Before removing a very old tree contact your Local Aboriginal Land Council to check if the tree has significance to the local Aboriginal people. See 'Contacts' p.?

5. A 'controlled activity approval' is required from the NSW Office of Water under the *Water Management Act 2000* for works (usually clearing, earthworks, filling or structures) within 40m either side of the bed or banks of a designated watercourse. The primary aim of this approval is to ensure that bank stability is maintained and water quality is not degraded. Contact NSW DPI/ Office of Water on 02 66416500 in Grafton.

6. Consent from DPI Fisheries under the *Fisheries Management Act 1994* may be required if removing material from (eg. dredging, gravel extraction) or placing material into waterways (eg. reclamation), this also includes moving snags and in-stream native aquatic vegetation. Marine vegetation (Seagrass, Mangroves, Saltmarsh and Kelp) is also protected under the *Fisheries Management Act 1994*.

Contact: DPI Fisheries  
Conservation Manager

Ph: 02 6626 1397  
Website: [www.dpi.nsw.gov.au/fisheries](http://www.dpi.nsw.gov.au/fisheries)

Fish Habitat Protection Policies and Permit Application Forms available at: <http://www.dpi.nsw.gov.au/fisheries/habitat/protecting-habitats/toolkit>.

\* *Threatened Species may be added or deleted from the Schedules of the Threatened Species Conservation Act 1995 by determination of the Scientific Committee. The list of threatened tree and plant species known to occur in the Nambucca is current at the time of writing. Species may be added or removed from the schedules of the Threatened Species Conservation Act 1995. The most recent information can be obtained from the Atlas of NSW Wildlife. The website address is [www.environment.nsw.gov.au/wildlifeatlas](http://www.environment.nsw.gov.au/wildlifeatlas) where a search for species occurring in the Nambucca LGA may be made. Most data held in the Atlas is publicly available via OEH's BioNet Atlas website at [www.bionet.nsw.gov.au](http://www.bionet.nsw.gov.au) Information on Threatened Species conservation in NSW, including detailed profiles of Threatened Species can be found at [www.environment.nsw.gov.au/threatenedspecies](http://www.environment.nsw.gov.au/threatenedspecies)*

**Grey Ironbark**  
*Eucalyptus peniculata*



**Pink Bloodwood**  
*Corymbia intermedia*



**White Mahogany**  
*Eucalyptus acmenoides*



**Blackbutt**  
*Eucalyptus pilularis*



**Flooded Gum**  
*Eucalyptus grandis*



**Tallowwood**  
*Eucalyptus microcorys*



**Small-fruited Grey Gum**  
*Eucalyptus propinqua*





**Rose Myrtle**  
*Archirhodomyrtus beckleri*



**Bangalow Palm**  
*Archontophoenix cunninghamiana*



**Bleeding Heart**  
*Homalanthus populifolius*



**Brush Cherry**  
*Syzygium australe*



**Shining Burrawang Palm**  
*Lepidozamia peroffskyana*



**Creek Sandpaper Fig**  
*Ficus coronata*



**Narrow-leaved Palm Lilly**  
*Cordyline stricta*



**Native Tamarind**  
*Diploglottis australis*



**Giant Stinging Tree**  
*Dendrocnide excels*



**Cheese Tree**  
*Glochidion ferdinandi*



**Guioa**  
*Guioa semiglauc*



**Cuttsia**  
*Cuttsia virbenea*



**Cunjevoi Lily**  
*Alocasia brisabanensis*



**Tree Fern**  
*Cyanthea spp.*



**White Cedar**  
*Melia azedarach*



**Native Ginger**  
*Alpinia caerulea*



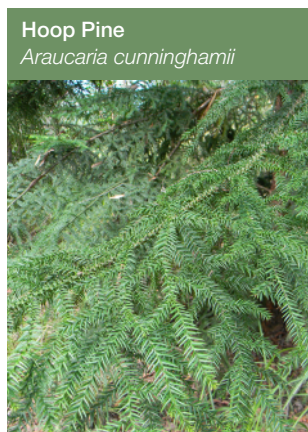
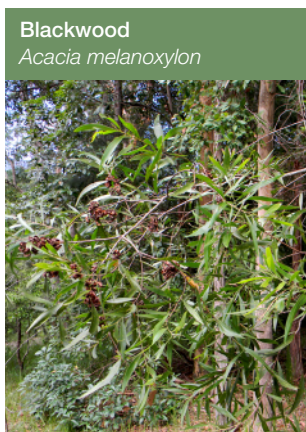
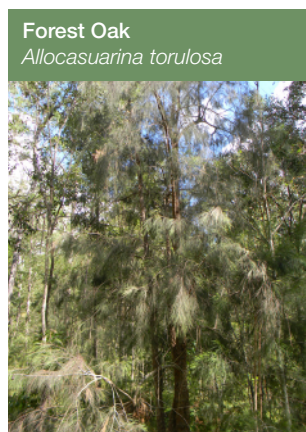
**Firewheel Tree**  
*Stenocarpus sinuatus*



**Red Cedar**  
*Toona ciliata*







## Native Plant Species List

### Legend



► **Trees**  
>5m



► **Groundcover**  
< 1m



► **Shrubs**  
1-5m



► **Vines**

### Reference Chart

<b>Provenance</b>	N	Australian Native
	L	Local Australian Native
	R	Rainforest
<b>Height</b>	Heights shown are generally those achieved by each species under optimum growing conditions - guide only.	
<b>Spread</b>	Width of coverage	
<b>Frost</b>	R	Resistant
	T	Tender when young
	S	Susceptible at all ages.
<b>Soil Type</b>	1	Red / Brown soils - well drained
	2	Alluvial loams - reasonable drainage
	3	Clay soils - poor drainage
	4	Wet soils
	5	Sandy Soils
<b>Aspect</b>	S	Sun
	PS	Part Sun
	SH	Shade
<b>Features</b>	S	Shade
	O	Ornamental
	D	Deciduous
	B	Bird and/or Bat Attraction
	BA	Butterfly Attraction
	K	Koala Food
	GBC	Glossy Black Cockatoo Food
	YBG	Yellow Bellied Glider Food
	H	Hedge
	W	Windbreak
<b>Flower &amp; Fruit Colour</b>	Fl	Flower Colour
	Fr	Fruit Colour
	Insig	Insignificant
<b>Urban Garden</b>	✓	Suitable
	✗	Unsuitable



## Trees A ▶ B

Trees >5m suitable for the Nambucca

Scientific Name	Common Name	Provenance	Height	Spread		Frost	Soil Type	Aspect	Features	Fl/Fr Colour	Urban Gardens
<i>Acacia chrysotricha</i>	<b>Newry Golden Wattle</b>	N,L,R	8-16m	3-6m		S	1	SH,PS	O,B	Fl: Golden Yellow	✓
<i>Acacia irrorata</i>	<b>Green wattle</b>	N,L,R	6m	2-4m		R	1,2	S	S,O,B,BA	Fl: Pale yellow	✓
<i>Acacia maidenii</i>	<b>Maidens wattle</b>	N,L,R	8m	2-5m		R	1,2	S	S,O,B,BA	Fl: Pale yellow	✓
<i>Acacia melanoxylon</i>	<b>Blackwood/Sally Wattle</b>	N,L,R	10-20m	6-8m		R	1,2,5	S,PS	S,O,BA	Fl: Cream	✗
<i>Acacia obtusifolia</i>	<b>Blunt-leaf Wattle</b>	N,L	3-4m	3-4m		R	1,5	S	S,O,B	Fl: Creamy Pale Yellow	✓
<i>Ackama paniculata</i> (prev. <i>Caldcluvia paniculosa</i> )	<b>Soft Corkwood</b>	N,L,R	10-15m	4-6m		T	1,2	PS	S,O	Fl: Cream	✓
<i>Acmena ingens</i>	<b>Red Apple</b>	N,L,R	10-15m	4-6m		T	1,2	S,PS	S,BA	Fl: Cream Fr: Red	✓
<i>Acmena smithii</i>	<b>Lilly Pilly</b>	N,L	5-10m	4-6m		T	1,2	S,PS	S,O,B,BA,H,W	Fl: White Fr: Pink/Purple	✓
<i>Acronychia littoralis</i>	<b>Scented Acronychia</b>	N,L,R	4-6m	1-3m		S	5	PS	O,B	Fl: Cream	✓
<i>Allocasuarina torulosa</i>	<b>Forest Oak</b>	N,L	10-15m	4-6m		R	1,2	S	S,B,W	Fl: Insig	✓
<i>Alloxylon flammeum</i>	<b>QLD Tree Waratah</b>	N,R	5-10m	2-4m		S	1,2	S,PS	S,O,B	Fl: Orange/Red spectacular	✓
<i>Alloxylon pinnatum</i> (prev. <i>Oreocallis pinnata</i> )	<b>Dorrigo Waratah</b>	N,L,R,Rare	15-20m	4-6m		T	1,2	S,PS	O	Fl: Orange/Red spectacular	✓
<i>Anetholea anisata</i>	<b>Ringwood/Aniseed Tree</b>	N,R,Rare	10-15m	6-8m		T	1,2	S	S,O,H,W	Fl: White	✓
<i>Angophora costata</i>	<b>Smooth barked apple</b>	N,L	15-25m				1	PS,S	B	Fl: White	✗
<i>Anopterus macleayanus</i>	<b>Macleay Laurel</b>	N,L,R	3-5m	0-2m		T	1,2	PS,SH	O	Fl: White	✓
<i>Alphitonia excelsa</i>	<b>Red Ash</b>	N,L	5-10m	4-6m		T	1,2	S,PS	S,BA	Fl: White	✓
<i>Aphananthe phillippinensis</i>	<b>Rough-leaved Elm</b>	N,L,R	5-10m	4-6m		T	1,2	S,PS	O,B,H,W	Fr: Green/Yellow/Red	✓
<i>Araucaria cunninghamii</i>	<b>Hoop Pine</b>	N,L,R	20-30m	6-10m		R	1,2	S	S	NA	✗
<i>Archidendron grandiflorum</i>	<b>Pink Laceflower</b>	N,L,R	5-10m	4-6m		T	1,2	S,PS,SH	S,O,BA	Fl: White/Pink Fr: Orange	✓
<i>Archontophoenix cunninghamiana</i>	<b>Bangalow Palm</b>	N,L,R	15-20m	2-4m		T	1,2,3	S,PS,SH	O,BA	Fr: Red	✓
<i>Argyrodendron actinophyllum</i> (prev. <i>Heritiera actinophyllum</i> )	<b>Black Booyong</b>	N,L,R	15-20m	6-10m		T	1,2	S	S,W	Fl: Cream	✗
<i>Argyrodendron trifoliolatum</i> (prev. <i>Heritiera trifoliolatum</i> )	<b>White Booyong</b>	N,L,R	15-20m	6-10m		T	1,2	S	S	Fl: Cream	✗
<i>Arytera divaricata</i>	<b>Coogera</b>	N,L,R	5-10m	5-10m		T	1,2	S	S,O	Fl: White	✓
<i>Backhousia citriodora</i>	<b>Lemon Myrtle</b>	N,R	3-10m	4-6m		S	1	S	O,H,W	Fl: White	✓
<i>Backhousia myrtifolia</i>	<b>Grey Myrtle</b>	N,L,R	3-7m	4-6m		T	1,2	S,SH	O,H	Fl: White	✓
<i>Barklya syringifolia</i>	<b>Crown of Gold Tree</b>	N,R	5-10m	4-6m		T	1,2	S,PS	O,B,BA	Fl: Gold/Yellow	✓







## Trees C ▶ E

Trees >5m suitable for the Nambucca

Scientific Name	Common Name	Provenance	Height	Spread		Frost	Soil Type	Aspect	Features	Fl/Fr Colour	Urban Gardens
<i>Bosistoa floydii</i>	<b>Five-leaved Bosistoa</b>	N,L,R,Rare	10-15m	2-5m		S	1,2	PS	O,B	Fl: White	✓
<i>Brachychiton acerifolius</i>	<b>Flame Tree</b>	N,L,R	10-20m	6-10m		T	1,2	S,PS	S,O,D,BA	Fl: Red	✗
<i>Brachychiton discolor</i>	<b>Lacebark Tree</b>	N,L,R	10-20m	6-10m		T	1,2	S	S,O,D,BA	Fl: Pink	✗
<i>Buckinghamia celsissima</i>	<b>Ivory Curl-flower</b>	N,R	5-10m	4-6m		T	1,2	S,PS	S,O,B	Fl: Cream/White Fragrant	✓
<i>Callicoma serratifolia</i>	<b>Callicoma/Black Wattle</b>	N,L,R	10-20m	2-4m		T	1,2	S,PS	S,O,BA	Fl: Cream	✗
<i>Cassia marksiana</i> (prev. <i>Cassia brewsteri</i> var. <i>marksiana</i> )	<b>Brush Cassia</b>	N,R,Rare	5-15m	4-6m		T	1,2	S,PS	O,BA	Fl: Yellow (Showy)	✓
<i>Casuarina cunninghamiana</i>	<b>River Oak</b>	N,L	10-35m	6-10m		R	1,2,3,4	S	S,B,W,GBC	Fl: Insig	✗
<i>Casuarina glauca</i>	<b>Swamp Oak</b>	N,L,R	5-20m	2-10m		R	1,2,3,4,5	S	S,B,W,GBC	Fl: Insig	✗
<i>Ceratopetalum apetalum</i>	<b>Coachwood</b>	N,L,R	10-15m	6-10m		T	1,2	S	S,O,W	Fl: Cream Fr: Red	✓
<i>Cinnamomum oliveri</i>	<b>Oliver's Sassafras</b>	N,L,R	15-20m	6-10m		S	1,2	PS	S,O,B,BA	Fr: Black	✗
<i>Commersonia bartramia</i>	<b>Brown Kurrajong</b>	N,R	5-10m	4-6m		T	1,2	S,PS	S,O	Fl: White	✓
<i>Corymbia gummifera</i> (prev. <i>Eucalyptus gummifera</i> )	<b>Red Bloodwood</b>	N,L	20-30m	10-15m		T	1,2,3	S	S,B,K	Fl: Cream/White	✗
<i>Corymbia intermedia</i> (prev. <i>Eucalyptus intermedia</i> )	<b>Pink Bloodwood</b>	N,L	20-30m	10-15m		T	1,2,3	S	S,B,K	Fl: Cream/White	✗
<i>Corymbia maculata</i>	<b>Spotted gum</b>	N,L	35-45m	10-15m		T		S		Fl: White	✗
<i>Cryptocarya glaucescens</i>	<b>Jackwood</b>	N,L,R	10-15m	6-10m		T	1,2	S	S,O,B,W	Fr: Black	✓
<i>Cryptocarya laevigata</i>	<b>Glossy Laurel</b>	N,R	5-10m	2-4m		T	1,2	S,PS	O	Fl: Cream Fr: Red/Orange	✓
<i>Cryptocarya obovata</i>	<b>Pepperberry Tree</b>	N,L,R	20-40m	4-6m		T	1,2	S,PS	S,O,B	Fr: Black	✗
<i>Cupaniopsis anacardioides</i>	<b>Tuckeroo</b>	N,L,R	5-10m	4-6m		T	1,2,5	S	S,O,B,BA,W	Fr: Orange	✓
<i>Cupaniopsis baileyana</i> (prev. <i>C. foveolata</i> )	<b>Narrow-leaved Tuckeroo</b>	N,L,R	5-10m	2-4m		T	1,2,5	S,PS	O,B,BA	Fl: Cream/White Fr: Red	✓
<i>Cupaniopsis newmanii</i>	<b>Long-leaved Tuckeroo</b>	N,R	5-10m	2-4m		T	1	S,PS	O,B,BA	Fr: Rose Pink	✓
<i>Cuttsia viburnea</i>	<b>Cuttsia</b>	N,L,R	5-10m	4-6m		S	1,2	PS,SH	S,O,B,BA	Fl: Snowy white sp/sum	✓
<i>Davidsonia jerseyana</i> (prev. <i>Davidsonia pruriens</i> var. <i>jerseyana</i> )	<b>Davidsons Plum</b>	N,L,R,Rare	5-10m	0-2m		S	1,2	PS,SH	O	Fl: Pink Fr: Purple/Black	✓
<i>Diploglottis australis</i>	<b>Native Tamarind</b>	N,L,R	10-25m	4-6m		S	1,2	S,PS	S,O,B,BA	Fr: Orange	✗
<i>Diploglottis campbellii</i>	<b>Small-leaved Tamarind</b>	N,L,R,Rare	10-20m	4-6m		T	1,2	S,PS	S,O,B,BA	Fr: Red	✓
<i>Dysoxylum fraserianum</i>	<b>Rosewood</b>	N,L,R	10-30m	4-6m		T	1,2	S,PS	S,O,B	Fl: Cream Fr: Red	✗





## Trees E ▶ H

Trees >5m suitable for the Nambucca

Scientific Name	Common Name	Provenance	Height	Spread		Frost	Soil Type	Aspect	Features	Fl/Fr Colour	Urban Gardens
<i>Ehretia acuminata</i>	<b>Koda</b>	N,L,R	10-30m	5-10m		T	1,2	PS, SH	B	Fr: Small yellow-orange drupe	✖
<i>Elaeocarpus grandis</i>	<b>Blue Quandong</b>	N,L,R	20-40m	15-20m		S	1,2	S,PS	S,B,BA	Fl: White Fr: Blue	✖
<i>Elaeocarpus obovatus</i>	<b>Hard quandong</b>	N,L,R	15-40m	5-15m		T	4,2	PS, SH	S,O,B	Fr: Masses of small blue fruits	✓
<i>Elaeocarpus reticulatus</i>	<b>Blueberry Ash</b>	N,L,R	5-10m	2-4m		T	1,2	S,PS	S,O,B,BA,H	Fl: White/Pink Fr: Blue	✓
<i>Endiandra pubens</i>	<b>Hairy Walnut</b>	N,L,R	5-10m	2-4m		T	1,2	PS	S,O,H	Fr: Red	✓
<i>Endiandra sieberi</i>	<b>Hard Corkwood</b>	N,L,R	10-20m	4-6m		T	1,2	S	S,O,B,BA	Fl: White	✖
<i>Eucalyptus acmenoides</i>	<b>White Mahogany</b>	N,L	15-30m	8-10m		T	1,2	S	S,O,B	Fl: Cream	✖
<i>Eucalyptus amplifolia</i>	<b>Cabbage Gum</b>	N,L	20-30m	10-15m		T	1,2	S	S,O,B,BA,K	Fl: Cream/White	✖
<i>Eucalyptus bancroftii</i>	<b>Orange Gum</b>	N,L	20-30m	10-15m		T	2,4	S	S,K	Fl: Cream/white	✖
<i>Eucalyptus fusiformis</i>	<b>Nambucca Ironbark</b>	N,L,R	20-30m	8-10m		T	1,2	S	S,O,B	Fl: Cream	✖
<i>Eucalyptus grandis</i>	<b>Flooded Gum</b>	N,L	20-30m	10-15m		T	1,2,3,4	S	S,K,B	Fl: White	✖
<i>Eucalyptus microcorys</i>	<b>Tallowwood</b>	N,L	20-30m	10-15m		T	1,2	S	S,B,K,W,YBG	Fl: Cream/White	✖
<i>Eucalyptus peniculata</i>	<b>Grey Ironbark</b>	N,L	15-30m	8-10m		T	1,2	S	S,O,B	Fl: Cream	✖
<i>Eucalyptus pilularis</i>	<b>Blackbutt</b>	N,L	20-30m	10-15m		T	1,2	S	S,B,K	Fl: White	✖
<i>Eucalyptus propinqua</i>	<b>Small-fruited Grey Gum</b>	N,L	20-40m	10-20m		T	2,3,4,5	S	S,B,K,YBG	Fl: White	✖
<i>Eucalyptus resinifera</i>	<b>Red Mahogany</b>	N,L	20-45m	10-20m		T	1,2	S	S,B,K,YBG	Fl: Cream	✖
<i>Eucalyptus robusta</i>	<b>Swamp Mahogany</b>	N,L	15-25m	10-15m		R	1,2,4	S	S,K	Fl: Cream	✖
<i>Eucalyptus salignus</i>	<b>Sydney Blue Gum</b>	N,L	20-50m	10-20m		R	1,2,3,4	S	S,O,B,K	Fl: White	✖
<i>Eucalyptus siderophloia</i>	<b>Northern Grey Ironbark</b>	N,L	20-45m	8-10m		T	1,2,3	S	S,O,B	Fl: Creamy white	✖
<i>Eucalyptus signata</i>	<b>Scribbly Gum</b>	N,L	15-25m	8-10		T	1,2,4,5	S	S,O,B	Fl: Creamy White	✖
<i>Eucalyptus tereticornis</i>	<b>Forest Red Gum</b>	N,L	20-50m	10-20m		R	1,2,3	S	S,B,K,W,YBG	Fl: Cream/White	✖
<i>Ficus coronata</i>	<b>Creek Sandpaper Fig</b>	N,L	8-10m	6-10m		T	1,2,4,5	S,PS	S,O,B	Fr: Purple	✓
<i>Ficus fraseri</i>	<b>Sandpaper Fig</b>	N,L,R	10-15m	4-6m		T	1,2,3,4,5	S,PS	S,O,B	Fr: Orange/Red	✖
<i>Ficus macrophylla</i>	<b>Moreton Bay Fig</b>	N,L,R	20- 40m	15-20m		T	1,2,3,4	S,PS	S,B,W	Fr: Orange/Purple	✖
<i>Ficus rubiginosa</i>	<b>Rusty Fig</b>	N,L,R	15-30m	10-20m		T	1,2,3,4	S,PS	S,B,W	Fr: Yellow/Red	✖
<i>Ficus superba</i> var. <i>henneana</i>	<b>Deciduous Fig</b>	N,L,R	20-30m	15-20m		T	1,2,3,4	S,PS	S,D,B,W	Fr: Yellowish/Purple	✖
<i>Ficus virens</i>	<b>White Fig</b>	N,L,R	15-25m	15-20m		T	1,2,3,4	S,PS	S,B,W	Fr: Pinkish/Brown/White	✖
<i>Flindersia australis</i>	<b>Australian Teak</b>	N,L,R	15-40m	10-15m		T	1,2,3	S,PS	S,BA,W	Fl: White/Cream	✖
<i>Flindersia schottiana</i>	<b>Bumpy Ash/Cudgerie</b>	N,L,R	20-50m	15-20m		T	1,2,3	S,PS	S,O,BA	Fl: White	✖





## Trees H > P

Trees >5m suitable for the Nambucca

Scientific Name	Common Name	Provenance	Height	Spread		Frost	Soil Type	Aspect	Features	Fl/Fr Colour	Urban Gardens
<i>Geissois benthamiana</i>	Red Carabeen	N,L,R	15-20m	6-10m		T	1,2	S,PS	S,O,B	Fl: White	✖
<i>Glochidion ferdinandi</i>	Cheese Tree	N,L,R	5-12m	4-6m		T	2,4	S,PS	B,H	Fr: Green to Pink	✓
<i>Gmelina leichhardtii</i>	White Beech	N,L,R	15-30m	4-6m		T	1,2	S	S,O,B,W	Fl: Purple/White Fr: Blue	✖
<i>Gossia bidwillii</i>	Python Tree	N,L,R	10-25m	4-6m		T	1	S	S,B,W	Fl: White	✖
<i>Gossia fragrantissima</i>	Sweet Myrtle	N,L,R,Rare	5-10m	2-4m		T	1,2	PS	B	Fr: Red	✓
<i>Grevillea robusta</i>	Silky Oak	N,L,R	15-30m	4-6m		S	1,2,3	S,PS	O,B	Fl: Orange	✖
<i>Guioa semiglauca</i>	Guioa	N,L,R	5-10m	4-6m		T	1,2	S,PS	S,O,B	Fl: Green to Yellow	✓
<i>Harpullia hillii</i>	Blunt-leaved Tulip	N,L,R	8-10m	5-8m		S	1,2	S,PS	S,BA	Fl: Yellow Fr: Yellow	✓
<i>Harpullia pendula</i>	Tulipwood	N,L,R	10-12m	6-10m		S	1,2	S,PS	S,BA	Fl: Green/Yellow Fr: Yellow/Orange	✓
<i>Hicksbeachia pinnatifolia</i>	Red Bopple Nut	N,L,R,Rare	5-10m	1-2m		T	1,2	S,PS	O,B,BA	Fr: Red	✓
<i>Homalanthus populifolius</i> (prev. <i>Omalanthus populifolius</i> )	Bleeding Heart	N,L,R	3-5m	2-4m		S	1,2	S,PS	O,B	Fl: Green Fr: Purple	✓
<i>Hymenosporum flavum</i>	Native Frangipani	N,L,R	5-10m	2-4m		T	1,2	S	O,B,BA	Fl: Cream/Yellow Perfumed	✓
<i>Jagera pseudorhus</i>	Foambark Tree	N,L,R	5-15m	2-4m		T	1,2	S,PS	S	Fr: Yellow/Brown	✓
<i>Lepiderema pulchella</i>	Fine-leaved Tuckeroo	N,R,Rare	5-10m	4-6m		T	1,2	S,PS	O,B	Fl: Yellow/Orange Fr: Red/Brown	✓
<i>Lepidozamia peroffskyana</i>	Burrawang Palm	N,L	3-5m	1-2m		T	1,2	PS,SH	O	Fr: Red	✓
<i>Leptospermum laevigatum</i>	Coast Tea Tree	N,L,R	2-5m	1-3m		S	5	S	S,O,B	Fl: White	✓
<i>Leptospermum petersonii</i>	Lemon Scented Tea Tree	N,L	4-6m	2-3m		R	1,2,5	S	S,O,B	Fl: Creamy White	✓
<i>Livistonia australis</i>	Cabbage-Tree Palm	N,L,R	20-30m	2-4m		T	1,2,4	S,PS	BA	Fl: Cream/White Fr: Black	✖
<i>Lophostemon confertus</i>	Brushbox	N,L,R	20-40m	4-6m		T	1,2	S,PS	S,B,BA	Fl: White	✖
<i>Lophostemon suaveolens</i>	Swamp Brushbox	N,L,R	5-10m	4-6m		T	1,2,3,4	S	S	Fl: White	✖
<i>Mallotus discolor</i>	Yellow Kamala	N,L,R	10-15m	4-6m		S	1,2	S	S,O,B	Fl: Grey Fr: Yellow	✓
<i>Mallotus philippensis</i>	Red Kamala	N,L,R	5-20m	4-6m		S	1,2	S	O,H,W	Fl: Brownish Fr: Red	✓
<i>Melaleuca quinquenervia</i>	Common Paperbark	N,L	10-15m	4-6m		T	1,2,3,4	S	S,OB	Fl: Cream	✓
<i>Melia azedarach</i>	White Cedar	N,L,R	10-25m	4-6m		R	1,2	S	S,B,BA,O,D	Fl: Purple/White Perfumed Fr: Yellow	✓
<i>Mischocarpus pyramidalis</i>	Yellow Pear-fruit	N,L,R	5-15m	4-6m		T	1,2	S	S,O	Fl: Showy Perfumed Fr: Yellow/Red	✓







## Trees P ▶ Z

Trees >5m suitable for the Nambucca

Scientific Name	Common Name	Provenance	Height	Spread		Frost	Soil Type	Aspect	Features	Fl/Fr Colour	Urban Gardens
<i>Neolitsea dealbata</i>	<b>White Bolly Gum</b>	N,L,R	5-12m	2-4m		T	1,2	PS,SH	S,B,BA	Fl: Yellow Fr: Purple/Black	✓
<i>Niemeyera whitei</i>	<b>Rusty Plum</b>	N,L,R	5-6m	2-4m		S	1,2	PS	S,O,B	Fl: Insig	✓
<i>Oreocallis wickhamii</i>	<b>Tree Waratah</b>	N,R	5-10m	4-6m		T	1,2	S,PS	O	Fl: Orange/Red (spectacular)	✓
<i>Pararchidendron pruinsum</i>	<b>Snow Wood</b>	N,L,R	5-10m	4-6m		T	1,2	S,PS	S,O,B	Fl: Yellow Fr: Orange	✓
<i>Pittosporum revolutum</i>	<b>Yellow Pittosporum</b>	N,L,R	3-5m	2-3m		S	1,2,3	S,PS	S,O,B	Fl: Yellow Fr: Yellow/Orange	✓
<i>Pittosporum undulatum</i>	<b>Sweet Pittosporum</b>	N,L,R	5-15m	4-6m		T	1,2,3	S,PS	S,O,B,H,W	Fl: White Perfumed Fr: Yellow	✓
<i>Planchonella australis</i>	<b>Black Apple</b>	N,L,R	15-30m	4-6m		T	1,2,3	S,PS	O,B,W	Fr: Black	✗
<i>Podocarpus elatus</i>	<b>Plum Pine</b>	N,L,R	15-20m	4-6m		T	1,2	S,PS	S,O,B,BA	Fr: Blue/Black	✗
<i>Polyscias elegans</i>	<b>Celery Wood</b>	N,L,R	20-30m	4-6m		T	1,2	S,PS	S,O,B,BA	Fl: Purple Fr: Black	✗
<i>Polyscias murrayi</i>	<b>Pencil Cedar</b>	N,L,R	10-20m	4-6m		T	1,2	S,PS	O,B	Fl: Green Fr: Black	✗
<i>Rhodospaera rhodanthema</i>	<b>Deep Yellow Wood</b>	N,L,R	10-20m	4-6m		T	1,2	S,PS	S,O	Fl: Red/Pink Fr: Brown	✗
<i>Scolopia braunii</i>	<b>Flintwood</b>	N,L,R	5-10m	4-6m		T	1,2	S,PS	O,B,H	Fl: Cream/White Fr: Yellow/Red/Black	✓
<i>Sloanea australis</i>	<b>Maidens Blush</b>	N,L,R	10-15m	4-6m		T	1,2	S,PS	S,O,B	Fl: White Fr: Yellow/Brown	✓
<i>Sloanea woollsii</i>	<b>Yellow Carabeen</b>	N,L,R	15-50m	5-15m		T	1,2	SH	S,B	Fl: White	✗
<i>Stenocarpus sinuatus</i>	<b>Fire Wheel Tree</b>	N,L,R	10-35m	4-6m		T	1,2	S	O,B	Fl: Orange /Red	✗
<i>Streblus brunonianus</i>	<b>Whalebone</b>	N,L,R	5-15m	2-4m		T	1,3	S	S,O	Fr: Yellow/Red	✓
<i>Syncarpia glomulifera</i>	<b>Turpentine</b>	N,L	20-30m	4-6m		T	1,2,3,4	S	S,B,W	Fl: White	✗
<i>Syzygium australe</i>	<b>Brush Cherry</b>	N,L,R	5-10m	2-4m		T	1,2,3	S,PS	O,B,H,W	Fl: White Fr: Red	✓
<i>Syzygium crebrinerve</i>	<b>Purple Cherry</b>	N,L,R	10-15m	4-6m		T	1,2,3	S	S,O,B,W	Fr: Purple	✓
<i>Syzygium francisii</i>	<b>Giant Water Gum</b>	N,L,R	10-20m	4-6m		T	1,2,3	S,PS	S,O,B,W	Fl: White Fr: Mauve/Purple	✗
<i>Syzygium luehmannii</i>	<b>Riberry</b>	N,L,R	10-15m	2-4m		T	1,2,3	S,PS	S,O,B,H,W	Fl: White Fr: Pink	✓
<i>Syzygium moorei</i>	<b>Durobby</b>	N,R,Rare	10-15m	4-6m		T	1,2,3	S,PS	S,O,B	Fl: Pink Fr: Cream/White	✓
<i>Syzygium oleosum</i>	<b>Blue Lilly Pilly</b>	N,L,R	5-10m	2-4m		T	1,2	S,PS	S,O,B,W	Fl: White Fr: Mauve	✓
<i>Toona ciliata</i> (prev. <i>Toona australis</i> )	<b>Red Cedar</b>	N,L,R	15-20m	4-6m		T	1,2	S,PS	S,O,D	Fl: White	✗
<i>Tristaniaopsis laurina</i>	<b>Water Gum</b>	N,L,R	10-20m	4-6m		T	1,2,3,4	S,PS	S,O	Fl: Yellow	✓
<i>Waterhousea floribunda</i>	<b>Weeping Lilly Pilly</b>	N,L,R	5-10m	2-4m		T	1,2,3	S,PS	S,O,B,W	Fl: White Fr: Green	✓
<i>Xanthostemon chrysanthus</i>	<b>Golden Penda</b>	N,R	5-15m	2-4m		S	1,2	S,PS	O,BA	Fl: Yellow (Spectacular)	✓





## Shrubs A ▶ E

Shrubs 1-5m suitable for the Nambucca

Scientific Name	Common Name	Provenance	Height		Spread	Frost	Soil Type	Aspect	Features	Fl/Fr Colour
<i>Acacia decora</i>	<b>Western Golden Wattle</b>	N,L,R	1-4m		1-3m	R	1,2	S	S,O,B	Fl: Golden Yellow
<i>Acacia fimbriata</i>	<b>Fringed Wattle</b>	N,L	3 m		3m	R	1,2,5	S	O,B,BA	Fl: Yellow
<i>Acacia podglyriifolia</i>	<b>Qld Silver Wattle</b>	N	3-5m		2-4m	R	1,2,5	S	O,B,BA	Fl: Yellow fragrant
<i>Acacia spectabilis</i>	<b>Mudgee Wattle</b>	N	3-5 m		3 m	R	1,2,5	S	O,B,BA	Fl: Golden Yellow fragrant
<i>Acacia suaveolens</i>	<b>Sweet Wattle</b>	N,L	0.3-2.5m		1-2m	R	5	S	S,O,B	Fl: Fragrant Pale Yellow
<i>Alchornea ilicifolia</i>	<b>Native Holly</b>	N,L,R	3-5m		0.5-2m	T	1,2,5	S,PS,SH	O	Fl: Cream/Green
<i>Alocasia brisbanensis</i> (prev. <i>A. macrorrhizos</i> )	<b>Cunjevoi Lily</b>	N,L,R	1-3m		0.5-2m	T	1,2,4	SH,PS	O	Fl: Green, fragrant Fr: Red All parts poisonous
<i>Alpinia caerulea</i>	<b>Native Ginger</b>	N,L,R	1-3m		0.5-2m	S	1,2,4	SH,PS	BA,O	Fl: White, fragrant Fr: Blue
<i>Alyxia ruscifolia</i>	<b>Prickly Alyxia</b>	N,L,R	1-3m		0.5-2m	T	1,2,3	S	O,B,H	Fl: White Perfumed Fr: Bright Orange or Red
<i>Archirhodomyrtus beckleri</i>	<b>Rose Myrtle</b>	N,L,R	3-5m		0.5-2m	R	1,2	S,PS	O,H	Fl: White/Pinkish Fr: Yellow/Red
<i>Atractocarpus benthamianus</i> (prev. <i>Randia benthamiana</i> )	<b>Native Gardenia</b>	N,L,R	3-8m		1-2m	S	1,2	SH	O	Fl: White fragrant Fr: Yellowish
<i>Atractocarpus chartaceus</i> (prev. <i>Randia chartacea</i> )	<b>Narrow-leaved Gardenia</b>	N,R	1-3m		0.5-2m	S	1,2	SH	O	Fl: White fragrant
<i>Baeckea virgata</i>	<b>Twiggy Myrtle</b>	N,L	3-5m		0.5-2m	R	1,2,3	S,PS	O	Fl: White
<i>Banksia ericifolia</i>	<b>Heath-leaved Honeysuckle</b>	N,L	3-6m		1-2m	R	1,2,5	S	O,B,BA,H	Fl: Orange/Bronze
<i>Banksia oblongifolia</i>	<b>Fern-leaved Banksia</b>	N,L	1-3m		1-2m	R	1,2,5	S	O,B	Fl: Pale Yellow
<i>Banksia robur</i>	<b>Swamp Banksia</b>	N	1-3m		1-2m	R	1,2,4	S	O,B	Fl: Greenish Yellow
<i>Banksia spinulosa</i>	<b>Hairpin Banksia</b>	N,L	1-4m		1-2m	R	1,2,5	S	O,B,W	Fl: Gold
<i>Callistemon citrinus</i>	<b>Crimson Bottlebrush</b>	N,L	1-3m		1-2m	R	1,2,3,4	S	O,B,BA	Fl: Red/White
<i>Callistemon salignus</i>	<b>Willow Bottlebrush</b>	N,L	3-10m		2-4m	R	1,2,4	S	O,B,BA,W	Fl: Cream/Pink
<i>Callistemon viminalis</i>	<b>Weeping Bottlebrush</b>	N	3-8m		2-4m	R	2,3,4	S	O,B,BA,W	Fl: Red
<i>Citrus australasica</i> (prev. <i>Microcitrus australasica</i> )	<b>Finger Lime</b>	N,L,R	1-3m		0-2m	T	1,2	S,PS	BA,H	Fl: White Perfumed Fr: Black/Yellow/Pink
<i>Commersonia fraseri</i>	<b>Brush Kurrajong</b>	N,L,R	2-5m		2-4m	T	1,2	SH, PS	B	Fl: Clusters small white flowers
<i>Cordylone petiolaris</i>	<b>Broad-leaved Palm Lilly</b>	N,L,R	3-5m		0.5-2m	S	1,2,4	PS,SH	O	Fl: White/Mauve Fr: Red
<i>Cordylone stricta</i>	<b>Narrow-leaved Palm Lilly</b>	N,L,R	3-5m		0.5-2m	S	1,2	PS,SH	O	Fl: Purple/Violet Fr: Purple/Black
<i>Crinum pedunculatum</i>	<b>River Lilly</b>	N,L	0-1m		0-2m	T	1,2,3	S,PS,SH	O	Fl: White Fragrant
<i>Cyathea australis</i>	<b>Rough tree fern</b>	N,L,R	3-10m		2-4m	S	1,2	PS, SH	O	NA
<i>Cyathea cooperi</i>	<b>Straw Tree Fern</b>	N,L,R	3-10m		0.5-2m	S	1,2	PS,SH	O	NA
<i>Cyathea leichardiana</i>	<b>Prickly tree fern</b>	N,L,R	7m		2-4m	S	1,2	PS, SH	O	NA
<i>Doryanthes excelsa</i>	<b>Gynea Lilly, Giant Lilly</b>	N	1-3m		0.5-2m	R	1,2	S	O,B	Fl: Red



## Shrubs E ▶ Z

Shrubs 1-5m suitable for the Nambucca

Scientific Name	Common Name	Provenance	Height		Spread	Frost	Soil Type	Aspect	Features	Fl/Fr Colour
<i>Eriostemon myoporoides</i>	<b>Long-leaf Waxflower</b>	N,L	1-3m		0.5-2m	R	1,2,5	S	O,B	Fl: White
<i>Grevillea banksii</i>	<b>Bank's Grevillea</b>	N	3-5m		0.5-2m	T	1,2	S	O,B	Fl: Red or White
<i>Grevillea linearifolia</i>	<b>Grevillea</b>	N,L	1-3m		0.5-2m	R	1	S	O,B	Fl: Pink or White
<i>Grevillea longifolia</i>	<b>Grevillea</b>	N	3-5m		2-4m	R	1,2	S	O,B,H	Fl: Pink /Red
<i>Leptospermum brachyandrum</i>	<b>Thin-fruited Tea Tree</b>	N,L	3-5m		2-4m	T	1,2,5	S	O,B	Fl: White
<i>Leptospermum laevigatum</i>	<b>Coast Tea Tree</b>	N,L	3-5m		2-4m	S	1,2,5	S	O,B	Fl: White
<i>Leptospermum petersonii</i>	<b>Lemon Scented Tea Tree</b>	N,L	3-5m		2-4m	R	1,2	S	O	Fl: White
<i>Linospadix monostachya</i>	<b>Walking Stick Palm</b>	N,L,R	1-3m		0.5-2m	S	1,2	SH	O,B	Fr: Red
<i>Lomatia silaifolia</i>	<b>Parsley Bush</b>	N,L	1-3m		0-2m	T	1,2	S,PS	O	Fl: White
<i>Melaleuca thymifolia</i>	<b>Thyme Honey Myrtle</b>	N,L	1-3m		0-2m	R	1,2,3,4	S	O	Fl: Purple
<i>Ptiliostigma glabrum</i>	<b>Plum Myrtle</b>	N,L,R	1-5m		0.5-2m	T	1,2	S	O,B,H	Fl: Cream Fr: Purple/Black
<i>Rhodamnia maideniana</i>	<b>Smooth Scrub Turpentine</b>	N,R	1-5m		0.5-2m	S	1,2	PS,SH	O,H	Fl: Pink
<i>Syzygium wilsonii</i>	<b>Powder Puff Lilly Pilly</b>	N	1-3m		2-3m	S	1,2	PS	O,B	Fl: Maroon Fr: White
<i>Tabernaemontana pandacqui</i>	<b>Banana Bush</b>	N,L,R	1-3m		0.5-2m	S	1,2	PS	O,H	Fl: White Fragrant Fr: Yellow
<i>Xanthorrhoea johnsonii</i>	<b>Grass Tree</b>	N,L,R	1-5m		1-2m	T	1	S	O,	Fl: Cream







## Groundcovers A ▶ Z

Groundcovers <1m suitable for the Nambucca

Scientific Name	Common Name	Provenance	Height		Spread	Frost	Soil Type	Aspect	Features	Fl/Fr Colour
<i>Adiantum hispidulum</i>	<b>Rough Maiden Hair</b>	N,L,R	0-1m		0-2m	S	1,2,4	PS,SH	O	NA
<i>Adiantum diaphanum</i>	<b>Filmy Maidenhair</b>	N,L	0-1m		0-2m	S	1,2,4	PS,SH	O	NA
<i>Aneilema biflorum</i>	<b>Aneilema</b>	N,L	0-20cm		0-2m	S	1,2,4	PS,SH	O	Fl: White
<i>Asplenium australasicum</i>	<b>Birds Nest Fern</b>	N,L,R	0-1m		0-2m	S	1,2	SH	O	NA
<i>Austromyrtus dulcis</i>	<b>Midyim</b>	N,L	0-1m		0-2m	T	1,2,5	PS,SH	O	Fl: White Fr: White
<i>Banksia integrifolia prostrate</i>	<b>Prostrate Coast Banksia</b>	N	0-1m		0-2m	R	1,2	S	O,B	Fl: Pale Yellow
<i>Blandfordia grandiflora</i>	<b>Christmas Bells</b>	N,L	0-80cm		0-2m	R	1,2,4,5	S,PS	O	Fl: Red/Orange
<i>Blechnum cartilagineum</i>	<b>Gristle Fern</b>	N,L,R	0-60cm		0-2m	S	1,2,3	PS,SH	O	NA
<i>Blechnum indicum</i>	<b>Swamp Water Fern</b>	N,L	0-60cm		0-2m	S	1,2,3,4,5	PS	O	NA
<i>Brachycome angustifolia</i>	<b>Break Of Day</b>	N,L	0-60cm		0-2m	S	1,2	PS	O	Fl: Pink/Mauve/Blue
<i>Brachycome multifida</i>	<b>Cut-leaved Daisy</b>	N,L	0-60cm		0-2m	R	1,2	PS	O	Fl: Pink/Mauve/White
<i>Centella asiatica</i>	<b>Pennywort</b>	N,L	0-50cm		0-2m	T	1,2,3,4	S	O	Fl: Pink /Crimson
<i>Commelina cyanea</i>	<b>Blue Commelina</b>	N,L	0-60cm		0-2m	S	1,2	PS,SH	O	Fl: Blue
<i>Dianella caerulea</i>	<b>Blue Flax Lilly</b>	N,L	0-60cm		0-2m	T	1,2	PS,SH	O	Fl: Mauve/Dark Blue Fr: Pale Blue/Purple
<i>Doodia aspera</i>	<b>Prickly Rasp Fern</b>	N,L	0-40cm		0-2m	S	1,2	SH	O	NA
<i>Drymophila moorei</i>	<b>Orange Berry</b>	N,R	0-60cm		0-2m	S	1,2	SH	O	Fl: White/Mauve/Pink Fr: Yellow
<i>Elatostema reticulatum</i>	<b>Rainforest Spinach</b>	N,L,R	0-30cm		0-2m	S	1,2,3,4	SH	O	Fl: Greenish/White
<i>Hibbertia dentata</i>	<b>Trailing Guinea Flower</b>	N,L	0-20m		0-2m	R	1,2	PS	O,B	Fl: Yellow
<i>Kennedia prostrata</i>	<b>Scarlet Coral Pea</b>	N	0-60cm		0-2m	R	1,2	S,PS	O	Fl: Scarlet
<i>Kennedia rubicunda</i>	<b>Red Kennedy Pea</b>	N,L	0-60cm		0-2m	R	1,2	S,PS	O	Fl: Red/Purple
<i>Lomandra hystrix</i>	<b>Mat Rush</b>	N,L	0-1m		0-2m	R	1,2,3,4	S,PS	O,BA	Fl: Cream Perfumed
<i>Lomandra longifolia</i>	<b>Long Leaf Mat Rush</b>	N,L	0-1m		0-2m	R	1,2,3,4	S,PS	O,BA	Fl: Cream
<i>Oplismenus imbecillis</i> , <i>O. aemulus</i>	<b>Basket Grass</b>	N,L	0-30cm		0-2m	S	1,2,3	PS	O	Fl: Insignificant
<i>Polia crispa</i>	<b>Polia</b>	N,L,R	0-30cm		0-2m	S	3,4	PS	O	Fl: White Fr: Blue
<i>Pseuderanthemum variabile</i>	<b>Pastel Flower</b>	N,L,R	0-90cm		0-2m	S	1,2,3,4	PS,SH	O	Fl: White/Pink/Blue/Mauve
<i>Themeda australis</i>	<b>Kangaroo Grass</b>	N,L	0-1.2m		0-2m	R	1,2,3	S,PS	O	Fl: Cream
<i>Tripladenia cunninghamii</i>	<b>Kreysigia</b>	N,L,R	0-40cm		0-2m	S	2,3	PS	O	Fl: Mauve/Pink
<i>Viola hederacea</i>	<b>Native Violet</b>	N,L	0-15cm		0-1m	S	1,2,3,4	PS,SH	O	Fl: Violet





## Vines A ▶ Z

Vines suitable for the Nambucca

Scientific Name	Common Name	Provenance	Height		Spread	Frost	Soil Type	Aspect	Features	Fl/Fr Colour
<i>Callerya megasperma</i> (prev. <i>Millettia megasperma</i> )	<b>Native Wisteria</b>	N,R	15-20m		NA	T	1,2	S,PS	O	Fl: Purple
<i>Callerya australis</i> (prev. <i>Millettia australis</i> )	<b>Native Wisteria</b>	N,L,R	15-20m		NA	T	1,2	S,PS	O	Fl: Purple
<i>Cissus antarctica</i>	<b>Water Vine</b>	N,L,R	15-20m		NA	S	1,2	S,PS,SH	O,B	Fl: Yellowish Fr: Purplish
<i>Clematis aristata</i>	<b>Toothed Clematis</b>	N,L,R	3-6m		NA	S	1,2	S,PS	O	Fl: White
<i>Clematis glycinoides</i>	<b>Forest Clematis</b>	N,L,R	1-2m		NA	S	1,2	S,PS	O	Fl: White/Purple
<i>Diplocyclos palmatus</i>	<b>Striped Cucumber</b>	N,L,R	3-5m		NA	S	1,2	S,PS	O	Fr: Red with White stripes
<i>Eustephus latifolius</i>	<b>Wombat Berry</b>	N,L,R	4-6m		NA	S	1,2	S,PS	O	Fl: Mauve Fr: Orange
<i>Geitonoplesium cymosum</i>	<b>Scrambling Lily</b>	N,L,R	3-8m		NA	S	1,2	S,PS	O	Fl: White/Mauve Fr: Black
<i>Hardenbergia violacea</i>	<b>Native Sarsaparilla</b>	N,L	10-15m		NA	T	1,2	S,PS	O	Fl: Purple
<i>Hibbertia scandens</i>	<b>Climbing Guinea Flower</b>	N,L,R	10-15m		NA	T	1,2,3,4	S,PS,SH	O	Fl: Yellow
<i>Hoya australis</i>	<b>Wax Flower</b>	N,R	4-8m		NA	T	1,2	PS,SH	O,BA	Fl: White
<i>Kennedia rubicunda</i>	<b>Dusky Coral Pea</b>	N,L,R	3-5m		NA	S	1,2	S,PS	O	Fl: Red
<i>Marsdenia flavescens</i>	<b>Hairy Milky Vine</b>	N,L,R	3-5m		NA	S	1,2	S,PS	O	Fl: Pale Yellow fragrant
<i>Marsdenia lloydii</i> (prev. <i>M. suberosa</i> )	<b>Corky Marsdenia</b>	N,L,R	3-5m		NA	S	1,2	S,PS	O	Fl: White
<i>Melodorum leichhardtii</i> (prev. <i>Rauwenhoffia leichhardtii</i> )	<b>Zig-zag Vine</b>	N,L,R	15-20m		NA	S	1,2	S,PS	O,BA	Fl: Orange Perfumed Fr: Orange
<i>Pandorea baileyana</i>	<b>Large-leaved Wonga Vine</b>	N,R	15-20m		NA	T	1,2	S,PS	O	Fl: Cream/Pink fragrant
<i>Pandorea floribunda</i>	<b>Yellow-flowered Wonga Vine</b>	N,L,R	15-20m		NA	T	1,2	S,PS	O	Fl: Pale Yellow
<i>Pandorea jasminoides</i>	<b>Bower of Beauty</b>	N,L,R	15-20m		NA	T	1,2	S,PS	O	Fl: White / Pink fragrant
<i>Pandorea pandorana</i>	<b>Wonga Vine</b>	N,L,R	15-20m		NA	T	1,2	S,PS	O	Fl: White/Yellow/Mauve fragrant
<i>Pararistolochia praevenosa</i> (prev. <i>Aristolochia praevenosa</i> )	<b>Richmond Bird Wing Butterfly Vine</b>	N,R	5-10m		NA	S	1,2	PS,SH	BA	Fl: Yellow
<i>Parsonsia straminea</i>	<b>Common Silkpod</b>	N,L,R	3-5m		NA	S	1,2,5	S,PS	O	Fl: Cream/Brown/Yellow
<i>Passiflora aurantia</i> var. <i>aurantia</i>	<b>Red Passion Flower</b>	N,R	5-10m		NA	S	1,2	S,PS	O	Fl: Red/Orange/Pink
<i>Sarcopetalum harveyanum</i>	<b>Pearl Vine</b>	N,L,R	5-10m		NA	S	1,2	S,PS	O	Fl: Red/Yellow
<i>Smilax australis</i>	<b>Smilax</b>	N,L,R	8m		NA					Fl: Pale Yellow Fr: Black

In recent years, with the introduction of so much DNA work, there have been numerous changes to plant names, especially as to what genus they belong in. However, many botanists still do not agree with some of the grouping of species into mega-genera, such as *Syzygium* and *Melaleuca*. This 2nd edition book has reverted to using *Acmena*, *Anetholea*, *Callistemon* and *Waterhousea* in line with Sydney Herbarium and on the advice of Gwen Harden.





## Weeds in the Nambucca

### Environmental weeds – recommended replacement native species

Many flora species introduced as ornamental plants have become environmental or noxious weeds. When a plant is not native to an area and is very successful and resilient, it can become an invasive species and therefore a weed.

Typical characteristics that make a plant a weed are:

- a lack of natural predators
- prolific fruiting
- copious seeding
- spreading by vegetative mechanisms (eg. stolons, rhizomes, suckering)
- cross-pollination by a non-specialised flower visitor or by wind
- tolerance of a wide range of soil and climatic conditions.

Plants that display any of the above mentioned characteristics can easily invade and jeopardise the long-term viability of many native plant communities. In summary, an environmental weed is a plant growing in the wrong place at the expense of the surrounding vegetation.

Environmental weeds hinder the natural regeneration process in various ways. In the case of remnant vegetation, they quickly colonise the important edge and any vegetation gap within the remnant. Edges and gaps are important sites where natural regeneration occurs and where the next generation of plants can take place.

Trees such as Camphor Laurel (*Cinnamomum camphora*) and Large-leaved Privet (*Ligustrum lucidum*) will quickly colonise gaps and edges

and grow very fast, out-competing native trees. Therefore these long-lived plants take over natural ecosystems and cause modification and loss of habitat.

Exotic vines and creepers including Madeira Vine (*Anredera codifolia*), Cat's Claw Creeper (*Macfadyena unguis-cati*) and Balloon Vine (*Cardiospermum grandiflorum*) will also colonise gaps and edges quickly. Their vigorous growth smothers shrubs and trees. Shading out of the desired native vegetation decreases its vigour, impedes regeneration and causes branches to break, and eventually the canopy to collapse. The increased light further favours the destructive spread of these vines deeper into the remnant.

Introduced ground covers and herbs such as Morning Glory (*Ipomoea alba, cairica, indica & purpurea*), Asparagus Ferns (*Asparagus aethiopicus, africanus, asparagoides & plumosus*) and Wandering Jew (*Tradescantia fluminensis albiflora*) form dense mats on the ground. They spread rapidly and will smother regenerating seedlings. Most importantly however, they will impede any regeneration thus jeopardising the long-term future of the remnant vegetation.

### Stopping environmental weeds

In order to prevent any further weed invasion and consequent degradation of our native plant communities it is essential to stop the spread of environmental weeds. The following list of plant species are recognised as environmental weeds. The first section is plants that should not be planted within the Nambucca Valley. The second section is species with the potential to become environmental weeds. These plants are not recommended to be planted within the Nambucca Valley. A number of alternative suitable species are suggested for the majority of weeds listed.



### List of species that should not be planted in the Nambucca

Environmental Weeds Trees	Replacement Native Species
<b>Umbrella Tree</b> ( <i>Schefflera actinophylla</i> )	<b>Celerywood</b> ( <i>Polyscias elegans</i> ) <b>Pencil Cedar</b> ( <i>Polyscias murrayi</i> ) <b>Crow's Ash</b> ( <i>Pentaceras australis</i> )
<b>Cocos Palm</b> ( <i>Syagrus romanzoffianum</i> )	<b>Burrawang Palm</b> ( <i>Lepidozamia peroffskyana</i> ) <b>Bangalow Palm</b> ( <i>Archontophoenix cunninghamiana</i> ) <b>Cabbage Palm</b> ( <i>Livistona australis</i> )
<b>Large-leaved Privet</b> ( <i>Ligustrum lucidum</i> )	<b>Hollywood</b> ( <i>Auranticarpa rhombifolia</i> ) <b>Blue Lilly Pilly</b> ( <i>Syzygium oleosum</i> ) <b>Coachwood</b> ( <i>Ceratopetalum apetalum</i> )
<b>Small-leaved Privet</b> ( <i>Ligustrum sinense</i> )	<b>Ringwood</b> ( <i>Anetholea anisata</i> ) <b>Grey Myrtle</b> ( <i>Backhousia myrtifolia</i> ) <b>Lemon Myrtle</b> ( <i>Backhousia citriodora</i> )
<b>Camphor Laurel</b> ( <i>Cinnamomum camphora</i> )	<b>Jackwood</b> ( <i>Cryptocarya glaucescens</i> ) <b>Glossy Laurel</b> ( <i>Cryptocarya laevigata</i> ) <b>Pepperberry</b> ( <i>Cryptocarya obovata</i> ) <b>White Bolly Gum</b> ( <i>Neolitsea dealbata</i> )
<b>Cadaghi</b> ( <i>Corymbia torelliana</i> )	<b>Brush Box</b> ( <i>Lophostemon confertus</i> ) <b>Pink Bloodwood</b> ( <i>Corymbia intermedia</i> ) <b>Tallowwood</b> ( <i>Eucalyptus microcorys</i> )
<b>Coral Tree</b> ( <i>Erythrina X sykesii</i> )	<b>Deep Yellow-wood</b> ( <i>Rhodosphaera rhodanthema</i> ) <b>Snow Wood</b> ( <i>Parachidendrom pruinsum</i> ) <b>Whalebone</b> ( <i>Streblus brunonianus</i> )
<b>Cockscomb Coral Tree</b> ( <i>Erythrina crista-galli</i> )	<b>Brush Coral Tree</b> ( <i>Erythrina numerosa</i> ) <b>Flintwood</b> ( <i>Scolopia braunii</i> ) <b>Rough-leaved Elm</b> ( <i>Aphananthe philippinensis</i> )
<b>Slash Pine</b> ( <i>Pinus elliotii</i> )	<b>Hoop Pine</b> ( <i>Araucaria cunninghamii</i> ) <b>Plum Pine</b> ( <i>Podocarpus elatus</i> ) <b>Tulipwood</b> ( <i>Harpullia pendula</i> )
<b>Honey Locust</b> ( <i>Gleditsia triacanthos</i> )	
<b>Yellow Bells</b> ( <i>Tecoma stans</i> )	<b>Weeping Lilly Pilly</b> ( <i>Waterhousea floribunda</i> ) <b>Foam Bark Tree</b> ( <i>Jagera pseudorhus</i> )



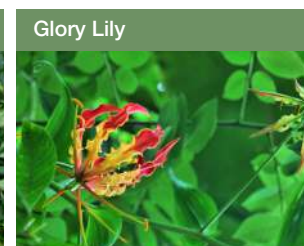




## List of species that should not be planted in the Nambucca

Environmental Weeds Shrubs	Replacement Native Species
<b>Creeping Bamboo</b> ( <i>Arundinaria</i> spp.)	<b>Narrow-leaved Palm Lilly</b> ( <i>Cordyline stricta</i> ) <b>Red-fruited Palm Lilly</b> ( <i>Cordyline rubra</i> ) <b>Broad-leaved Palm Lilly</b> ( <i>Cordyline petiolaris</i> ) <b>Walking Stick Palm</b> ( <i>Linospadix monostachyus</i> ) <b>Tree Fern</b> ( <i>Cyathea</i> spp.)
<b>Lantana</b> ( <i>Lantana montevidensis</i> )	<b>Native Peach</b> ( <i>Trema tomentose</i> var. <i>aspera</i> ) <b>Banana Bush</b> ( <i>Tabernaemontana pandacqui</i> ) <b>Small-leaved Acalypha</b> ( <i>Acalypha capillipes</i> )
<b>Tobacco Bush</b> ( <i>Solanum mauritianum</i> )	<b>Bleeding Heart</b> ( <i>Homalanthus populifolius</i> ) <b>Snowwood</b> ( <i>Pararchidendron pruinosum</i> )
<b>Cassia</b> ( <i>Senna pendula</i> var. <i>glabrata</i> & <i>Senna X Floribunda</i> )	<b>Brown Kurrajong</b> ( <i>Commersonia bartramia</i> ) (Effective at protecting sensitive native plants, grows to small tree)
<b>Willows</b> ( <i>Salix</i> spp. All species except <i>Salix babylonica</i> and 2 sterile species <i>S. reichardtii</i> and <i>S. calodendron</i> )	<b>Lilly Pilly</b> ( <i>Acmena smithii</i> ) <b>Creek Sandpaper Fig</b> ( <i>Ficus coronata</i> ) <b>Weeping Lilly Pilly</b> ( <i>Waterhousea floribunda</i> ) <b>Cheese Tree</b> ( <i>Glochidion ferdinandii</i> )
Environmental Weeds Groundcovers	Replacement Native Species
<b>Mother of Millions</b> ( <i>Bryophyllum delagoense</i> )	<b>Mat Rush</b> ( <i>Lomandra hystrix</i> ) <b>Royal Mantle</b> ( <i>Grevillea poorinda</i> ) <b>Break of Day</b> ( <i>Brachycome angustifolia</i> ) <b>Midgenberry</b> ( <i>Austromyrtus dulcis</i> )
<b>Glory Lily</b> ( <i>Gloriosa superba</i> )	<b>Blue Flax Lilly</b> ( <i>Dianella caerulea</i> ) <b>Scrambling Lily</b> ( <i>Geitonoplesium cymosum</i> ) <b>River Lilly</b> ( <i>Crinum pedunculatum</i> )
<b>Fishbone Fern</b> ( <i>Nephrolepis cordifolia</i> )	<b>Common Rasp Fern</b> ( <i>Doodia aspera</i> ) <b>Blechnum</b> ( <i>Blechnum</i> spp.)

Environmental Weeds Vines	Replacement Native Species
<b>Madeira Vine</b> ( <i>Anredera cordifolia</i> )	<b>Hoya</b> ( <i>Hoya australis</i> ) <b>Native Sarsaparilla</b> ( <i>Hardenbergia violacea</i> ) <b>Blood Vine</b> ( <i>Austrosteenisia blackii</i> )
<b>Moth Vine</b> ( <i>Araujia sericiflora</i> )	<b>Corky Marsdenia</b> ( <i>Marsdenia suberosa</i> ) <b>Hairy Milky Vine</b> ( <i>Marsdenia flavescens</i> ) <b>Hoya</b> ( <i>Hoya australis</i> )
<b>Dutchman's Pipe</b> ( <i>Aristolochia elegans</i> )	<b>Richmond Birdwing Butterfly Vine</b> ( <i>Paristolochia praevensa</i> )
<b>Balloon Vine</b> ( <i>Cardiospermum grandiflorum</i> )	<b>Native Grape</b> ( <i>Cayratia clematidea</i> ) <b>Native Bryony</b> ( <i>Diplocyclos palmatus</i> ) <b>Star Cucumber</b> ( <i>Sicyos australis</i> ) <b>Forest Clematis</b> ( <i>Clematis glycinoides</i> )
<b>Climbing Asparagus Fern</b> ( <i>Asparagus plumosus</i> )	<b>Bower of Beauty</b> ( <i>Pandorea jasminoides</i> ) <b>Wonga Vine</b> ( <i>Pandorea pandorana</i> ) <b>Large-leaved Wonga Vine</b> ( <i>Pandorea baileyana</i> )
<b>Blue Morning Glory</b> ( <i>Ipomoea indica</i> )	<b>Pearl Vine</b> ( <i>Sarcopetalum harveyanum</i> ) <b>Snake Vine</b> ( <i>Stephania japonica</i> var. <i>discolor</i> ) <b>Roundleaf Vine</b> ( <i>Legnephora moorei</i> )
<b>Cat's Claw Creeper</b> ( <i>Macfadyena unguis-cati</i> )	<b>Bower of Beauty</b> ( <i>Pandorea jasminoides</i> ) <b>Wonga Vine</b> ( <i>Pandorea pandorana</i> ) <b>Large-leaved Wonga Vine</b> ( <i>Pandorea baileyana</i> )
<b>Mysore Thorn</b> ( <i>Caesalpinia decapetala</i> )	<b>Pink Laceflower</b> ( <i>Archidendron grandiflorum</i> ) <b>Grey Myrtle</b> ( <i>Backhousia myrtifolia</i> ) <b>Narrow-leaved Palm Lilly</b> ( <i>Cordyline stricta</i> )





## List of Species not recommended to be planted in the Nambucca

Potential Environmental Weeds	Replacement Native Species
<b>Brazilian Cherry</b> ( <i>Eugenia uniflora</i> )	<b>Ringwood</b> ( <i>Anetholea anisata</i> )
<b>Guava</b> ( <i>Psidium guajava</i> )	<b>Grey Myrtle</b> ( <i>Backhousia myrtifolia</i> )
<b>Cherry Guava</b> ( <i>Psidium cattleianum</i> )	<b>Lemon Myrtle</b> ( <i>Backhousia citriodora</i> )
<b>Coffee</b> ( <i>Coffea arabica</i> )	<b>Riberry</b> ( <i>Syzygium luehmannii</i> )
<b>Mulberry</b> ( <i>Morus alba</i> )	<b>Brush Cherry</b> ( <i>Syzygium australe</i> )
<b>Loquat</b> ( <i>Eriobotrya japonica</i> )	<b>Deep Yellow-wood</b> ( <i>Rhodosphaera rhodantha</i> )
<b>Common Olive</b> ( <i>Olea europaea</i> subsp. <i>Africana</i> )	<b>Snow Wood</b> ( <i>Parachidendrom pruinosa</i> )
<b>African Tulip Tree</b> ( <i>Spathodea campanulata</i> )	<b>Foambark</b> ( <i>Jagera pseudorhus</i> )
<b>Montbretia</b> ( <i>Crocasmia X crocosmiiflora</i> )	<b>Tulipwood</b> ( <i>Harpullia pendula</i> )
	<b>Blunt-leaved Tulip</b> ( <i>Harpullia hillii</i> )
	<b>Twin-leaved Coogera</b> ( <i>Arytera distylis</i> )
<b>Wild Watsonia</b> ( <i>Watsonia meriana</i> )	<b>Blue Flax Lilly</b> ( <i>Dianella caerulea</i> )
	<b>Scrambling Lily</b> ( <i>Geitonoplesium cymosum</i> )
	<b>River Lilly</b> ( <i>Crinum pedunculatum</i> )
<b>Busy Lizzie</b> ( <i>Impatiens walleriana</i> )	<b>Blue Flax Lilly</b> ( <i>Dianella caerulea</i> )
	<b>Scrambling Lily</b> ( <i>Geitonoplesium cymosum</i> )
	<b>River Lilly</b> ( <i>Crinum pedunculatum</i> )
<b>Kahili Ginger</b> ( <i>Hedychium gardnerianum</i> )	<b>Pollia</b> ( <i>Pollia crispata</i> )
	<b>Kreysigia</b> ( <i>Tripladenia cunninghamii</i> )
	<b>Powderpuff Lilly Pilly</b> ( <i>Syzygium wilsonii</i> subsp. <i>Wilsonii</i> )
	<b>Native Ginger</b> ( <i>Alpinia caerulea</i> )
	<b>River Lilly</b> ( <i>Crinum pedunculatum</i> )
	<b>Spear Lilly</b> ( <i>Doryanthes palmeri</i> )



## Aquatic weeds in the Nambucca

The spread of aquatic weeds is closely linked with the disturbance of natural systems, including changed or restricted water flows, build up of nutrients, removal of riparian shade and from the introduction of exotic species in the absence of their natural pests. Aquatic weeds can block waterways and cover entire surfaces of wetlands and dams reducing water quality and dissolved oxygen content, and have the potential to put native aquatic life at risk.

It is important to identify possible aquatic weeds before attempting to control them as some aquatic weeds look like some native aquatic plant species. For example some smart weeds, knott weeds and duck weeds are not weeds but are native to this area.

Many species of water plants are highly mobile and efficiently transported by water birds. Methods of control vary for the different species and particular situations often using a combination of approved herbicides for aquatic situations (frog friendly) and mechanical/hand methods.

For assistance with identification please contact Nambucca Shire Council's Weed Officer, Wetland Care or Nambucca Valley Landcare.

Your best safe guard against aquatic weed infestation is to keep your river or wetland healthy by taking some of the following measures:

- Restore natural seasonal water flows to your wetland, maintaining a water regime that mimics natural conditions and reinstating tidal flows to estuarine wetlands.



Dam photo

- Protect the existing native vegetation in your riparian areas by fencing out stock.
- Revegetate riparian areas where necessary with local native species.
- Maintain an active weeding program within your native vegetation.
- Keep informed about the latest emerging aquatic weeds in the area.
- Refrain from dumping garden refuse and aquarium material near any waterways.
- Be aware of aquarium species, only purchasing from reputable sources.
- All efforts should be made to reduce high nutrient loads (such as grey water) from entering water bodies as they will provide ideal establishment and growth conditions for many aquatic weed species.





## List of Aquatic Weeds

Found in the Nambucca Catchment

Name	Description	Found	Similar species	Control
<b>Alligator weed</b> <i>Alternanthera phytoleroide</i> 	A floating, attached water weed introduced from Sth America. Hollow stems, dark green leaves, no leaf stalk, white paper like flowers, similar to a clover flower.	Slow moving and stationary waters, occasionally on dryland subject to inundation, throughout NSW.	Water Primrose & Smart Weed, differentiated by leaves (opposite) and flowers papery to touch.	Noxious in NSW. All cases must be reported. Contact Nambucca Shire Council's weeds officer. Seek advice on control methods.
<b>Water hyacinth</b> <i>Eichhornia crassipes</i> 	A free floating plant with bright, shiny pale green leaves on swollen bladder like stems. Mauve flowers with a darker blue, purple & yellow centre in summer.	Deep and shallow water and in mud. Prefers fresh, static or slow flowing water with high organic content. Coastal NSW.	Nil	Crucial to physically remove plants before they flower and set seed. Approved "frog friendly" herbicide (such as Weedmaster Duo by Nufarm) see APVMA website for more info.
<b>Water lettuce</b> <i>Pistia stratiotes</i> 	Free floating plant that looks like a hairy lettuce. Perennial growing up to 15cm tall and 30cm wide. Noxious in the Nambucca Shire.	Stationary and slow moving water bodies especially where nutrient levels are high. Usually free floating, but will survive in mud.	<i>Eichornia</i> & <i>Slavinia</i> , but readily distinguished close up.	Mechanical or hand removal, approved herbicides.
<b>Salvinia</b> <i>Salvinia molesta</i> 	A free floating fern with slender stem, floating leaves and a root like structure. Spreads vegetatively by fragmentation. Noxious in Nambucca Shire.	Prefers slow moving streams or still ponds with high nutrient levels and water temperatures around 20-30°C degrees.	Sometimes confused with <i>Azolla</i> species when juvenile and some Duckweeds.	In most cases the best treatments involve all methods.
<b>Glush weed</b> <i>Hydrophilia costata</i> 	Reddish, four-angled stems, grows to 1m tall. Leaves in pairs. Plants grow out over water from bank. White or mauve papery flowers. Noxious in Nambucca Shire.	Creek lines and water storages in NE NSW and SE QLD.	Native tropical species.	Report to weed control officer. Spray with approved herbicide.
<b>Hymenachne</b> <i>Hymenachne amplexicaulis</i> 	Semi aquatic perennial grass. Introduced from tropical South America. An erect grass that can grow in water up to 2m deep with hairless stems. Submerged stems produce roots from stem. Cylindrical spike-like flower heads in summer autumn.	Northern Australia. Freshwater wetlands, floodplains and river banks. Forms dense infestations, displacing native plants.	A native <i>Hymenachne</i> species occurs in northern Australia but is not found south of Mackay, Qld.	Removal is difficult. Most success from repeated herbicide treatment. Minimal control by burning and heavy grazing before flooding.
<b>Morning Glory</b> <i>Ipomea spp.</i> (Riparian weed) 	Perennial twining climber, from tropical America, growing to the top of the tree canopy, forming a dense blanket of foliage. Large light green leaves.	Invades fragile creek lines and rainforest edges.	Nil.	Apply approved herbicide to stem close to the ground, then cut off above treated area. Do not pull out of trees as they cause considerable damage.
<b>Madeira Vine</b> <i>Anredera cordifolia</i> (Riparian weed) 	Vigorous climber native to Sth America, with masses of creamy flowers on drooping spikes in summer-autumn. Serious garden escapee smothering trees and shrubs. Thousands of potato-like aerial tubers along stems which fall to the ground and sprout.	Invades fragile creek lines and rainforest edges in coastal summer rainfall NSW. Spread by water, tubers and spreading root system.	Native Wisteria ( <i>Millettia megasperma</i> ).	Difficult to control because of the tubers. Pull out of ground and hang up ground roots. Tubers that fall to ground bag and put in sun. Can use herbicide but follow up same as for hand method.







## Noxious and poisonous plants

### Poisonous Plants

Poisonous plants are plants that are toxic to stock and/or humans. There is no legal obligation for poisonous plants to be controlled, unless they are declared noxious, but it is in landholders best interest to do so. An animal's natural instinct to know which plants are good for them cannot be relied upon and poisoning can occur to animals which have lived here all their lives as well as animals moved here from other areas.

Some of the most prevalent poisonous plants here in the Nambucca are Red-flowered Lantana, Bracken fern, Crofton Weed (for horses), Green Cestrum (*Cestrum parqui*), Mother of Millions, Fireweed, Native Peach and Sorghum species.

### Noxious Weeds

Noxious Weeds are plants that are declared to be noxious under the *Noxious Weeds Act 1993*. This Act requires landholders and the occupiers of land to control Noxious Weeds on the land under their management. Nambucca Shire Council is responsible for enforcing control of Noxious Weeds on private land, Council owned/managed land and vacant crown lands.

To be declared noxious, a weed must have a detrimental effect or cause serious economic loss to agriculture, to the environment or human health. Currently the most costly noxious weeds for rural landholders in the Nambucca are Giant Parramatta Grass, Red-flowered Lantana, Groundsel Bush and Fireweed. Each local government area on the mid north coast has its own declarations.

The information below explains the different control requirements for each class of declared noxious weeds. Always use approved frog-friendly herbicide when near a water body.

For the full list of Noxious Weeds Declarations in the Nambucca Shire go to [www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/noxweed](http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/noxweed).

For more information on weeds in the North Coast area and their control, please visit the North Coast Weeds Advisory Committee website at [www.northcoastweeds.org.au](http://www.northcoastweeds.org.au) and to [www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/publications/noxious-enviro-weed-control](http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/publications/noxious-enviro-weed-control) for the Noxious and Environmental Weed Control Handbook.

For free "on-ground" advice on weed identification and management contact Nambucca Shire Council's Noxious Weeds Officer, Tim Woodward, on 02 6568 2555 Mob: 0417 271 378.

#### Class 1 and 2

The plant must be eradicated from the land and the land must be kept free of the plant.

#### Class 3

The plant must be fully and continuously suppressed and destroyed.

#### Class 4

The growth of the plant must be managed in a manner that reduces its numbers, spread and incidence and continuously inhibits its reproduction.

#### Class 5

Are weeds that are not to be sold or knowingly distributed and the requirements in the Noxious Weeds Act 1993 for a notifiable weed must be complied with.



## Noxious Weed Declarations

In the Nambucca Shire

The table below highlights the most important noxious weeds in the Nambucca Shire. Note that many of the weeds listed below can be found across all areas.



Generally in agricultural areas



Generally in environmental and urban areas

	Name	Class	Plant type	Description	Control
GENERALLY IN AGRICULTURAL AREAS	<b>Alligator Weed</b> <i>Alternanthera philoxeroides</i>	2	Ground cover, Aquatic	Horizontal stems that produce roots and has shoots that develop into new plants, forming mats. Leaves without stalks, dark green, smooth, waxy, 2-7cm long, 5-40mm wide, in pairs and opposite. Flowers are silvery white.	<b>Mechanical:</b> Deep manual digging. <b>Chemical:</b> Foliar spray over a six year period.
	<b>Crofton Weed</b> <i>Argeratina adenophora</i>	4	Ground cover	Erect shrub, numerous chocolate brown stems growing to 1-2m. Broad slightly crinkled trowel shaped toothed leaves, produces white flowers in spring.	<b>Mechanical:</b> Grazing or continual slashing with pastoral improvement or hand digging. (Poisonous to horses) <b>Chemical:</b> Foliar spray.
	<b>Fireweed</b> <i>Senecio madagascariensis</i>	4	Ground cover	Annual or biennial herb, 70cm high. The Fireweed plant produces a huge amount of seed 30,000 per plant, with branched stems and has mid-green leaves of variable structure, to 8cm long and to 1.5cm wide.	<b>Mechanical:</b> Pull up plants, chip and hoe, pasture improve. <b>Chemical:</b> Spot spray or boom spray methods.
	<b>Giant Paramatta Grass</b> <i>Sporobolus fertilis</i>	4	Ground cover	A coarse tussocky grass that grows to a height of between 70cm and 1.6metres. The seed head is up to 40cm long and 1-2cm wide, thousands of seeds viable for 7 years.	<b>Mechanical:</b> Pull up or dig up plants taking care not to scatter seed. Only suitable for minor infestations. <b>Chemical:</b> Wick wiping or spot spraying.
	<b>Giant Rat's Tail Grass</b> <i>Sporobolus pyramidalis</i>	3	Ground cover	Tufted perennial to about 1.8m tall. Seed orange-brown, tapered-cylindrical, about 1mm long. Roots fibrous. Dense branched panicle 25-40cm long.	<b>Mechanical:</b> Pull up plants, but take care not to scatter seed. Only suitable for minor infestations. <b>Chemical:</b> Overall spray, boom application and wick wiping are the most common methods.





## Noxious Weed Declarations

In the Nambucca Shire

	Name	Class	Plant type	Description	Control
	<b>Groundsel Bush</b> <i>Baccharis halimifolia</i>	3	Shrub	Densely branched shrub, 1.5-2m. Leaves alternate, wedge shaped and prominently toothed at tip. Striped bark on stems. Tufts of white or cream flowers on end of stems.	<b>Mechanical:</b> Young plants can be pulled out, cultivated or slashed with pasture improvement if wide spread. <b>Chemical:</b> Cut stump, basal bark and foliage spray.
	<b>Hymenachne</b> <i>Hymenachne amplexicaulis</i>	1	Aquatic, ground cover	An erect grass which can grow in water up to two meters deep. Stems are hairless, up to 1.6m tall and contain a white pith, the base of the leaf blade clasps around the stem.	<b>Mechanical:</b> Minimal control by burning and heavy grazing. <b>Chemical:</b> Repeated herbicide treatment most successful.
	<b>Kudzu</b> <i>Pueraria lobata</i>	3	Vine	Coarse, high-climbing, twining, trailing, perennial. Hairy dark brown stems up to 15m long. It forms large root tubers up to 2m long and 18-45cm wide that can weigh as much as 180kg on old plants and can reach a depth of 1-5m.	<b>Mechanical:</b> Continual grazing with cattle. Hand pulling or digging the tubers. <b>Chemical:</b> Spray or wick wipe.
	<b>Lantana Red-flowered</b> <i>Lantana camara</i>	4	Shrub, vine	Forms dense impenetrable thickets, 1-2m tall can reach 4m. Small prickles along angles of stem. Bright green oval leaves, flowers occur in compact heads 20-30 flowers per head.	<b>Mechanical:</b> Pull out small plants, slashing, integrated pastures, native replanting. <b>Chemical:</b> Foliar spray, cut and paint stump. Splatter gun method for larger areas.
	<b>Mistflower</b> <i>Ageratina riparia</i>	4	Ground cover	Sprawling ground cover, numerous chocolate brown stems growing to 30cm. narrow elongated, toothed leaves, produces white flowers in spring.	<b>Mechanical:</b> Grazing or continual slashing with pastoral improvement or hand digging. <b>Chemical:</b> Foliar spray.

GENERALLY IN AGRICULTURAL AREAS

	Name	Class	Plant type	Description	Control
	<b>Noogoora Burr</b> <i>Xanthium occidentale</i>	4	Ground cover	Erect annual herbs to 2.5m tall with two growth forms; erect single stemmed or many branched and spreading. Extensive root system. Toxic to stock. Leaves dark green and similar in shape to grape vine leaves about 15cm in diameter.	<b>Mechanical:</b> Pasture improvement combined with hand pulling. <b>Chemical:</b> Foliar spot spraying.
	<b>Salvinia</b> <i>Salvinia molesta</i>	3	Aquatic	An aquatic fern with most leaves floating on the water surface, forming mat-like growths. Leaves of isolated plants are oval to heart-shaped, flat and as small as 10mm by 5mm.	<b>Mechanical:</b> Dry, then burn or bury. Removal by hand is practical for small areas. Removal by machine in open areas. <b>Chemical:</b> Foliar spray.
	<b>Tropical Soda Apple</b> <i>Solanum viarum</i>	3	Shrub	South American perennial shrub, prickles to 12mm long scattered on plant parts. Leaves 10-20cm long and 6-1cm wide with white hairs on underside. Cream coloured veins. White flowers. Yellow fruit 20- 30mm.	<b>Mechanical:</b> Hand digging, chipping of plants. <b>Chemical:</b> Foliar spray.
	<b>Water Hyacinth</b> <i>Eichhornia crassipes</i>	3	Aquatic	Forms large, dense mats on the water surface. Each plant consists of several broad, leathery leaves, spongy inflated petioles (leaf stalks), a crown and a mass of fine, hairy roots. Water hyacinth shows considerable variation in both leaf and flower form.	<b>Mechanical:</b> Removing plants from farm dams and drains, harvesting of large infestations. <b>Chemical:</b> Spraying with hose and handgun, power sprays from a boat or the banks. Large infestations can be aerially sprayed.
	<b>Water Lettuce</b> <i>Pistia stratiotes</i>	1	Aquatic	Perennial stoloniferous aquatic herb to 20cm above water level with feathery roots. Leaves wedge-shaped, pale green, to 15cm long, to 8cm wide.	<b>Mechanical:</b> Water lettuce plants cannot survive for long out of the water remove by either raking or being pulled to the bank with an encircling rope. Allow to dry out and break down. <b>Chemical:</b> Foliar spray.

GENERALLY IN AGRICULTURAL AREAS

WEEDS IN THE NAMBUCCA





## Noxious Weed Declarations

In the Nambucca Shire

	Name	Class	Plant type	Description	Control
GENERALLY IN ENVIRONMENTAL & URBAN AREAS	<b>Bitou Bush</b> <i>Chrysanthemoides monilifera</i> (subspecies <i>rotundata</i> )	4	Shrub	Shrub to 2m tall. Distinguished by sprawling habit, yellow flowers in heads with up to 13 petal-like ray florets and egg-shaped, green, to black seeds. Fleshy, oval with the narrow end at the base, 3 to 6cm long, (sometimes slightly toothed), young leaves covered in a cottony down.	<b>Mechanical:</b> Pull all roots of small plants. Plants can be treated using cut-paint method. <b>Chemical:</b> Spot spraying, cut and paint stump. Aerial application.
	<b>Bridal Creeper</b> <i>Asparagus asparagoides</i>	5	Vine	Climber or scrambler over vegetation. Leaves green, alternate, parallel veined, from 1-7cm x 8-30mm. Flowers greenish-white, sweetly scented, hanging on stalks singly or in pairs along branchlets. Small, red berry, 9 black, shiny, ovoid seeds.	<b>Manual:</b> Pulling or digging of roots and tubers. <b>Chemical:</b> Foliar spraying on large infestations.
	<b>Broad-leaved Pepper Tree</b> <i>Schinus terebinthifolius</i>	3	Tree	A tree which grows up to 6m tall, sometimes up to 16m, previously planted as a garden ornamental, but now a weed in coastal areas. The tree is quite resinous. Shiny oval shaped leaves; the plant also has small red berries.	<b>Manual:</b> Small seedlings can be removed manually. <b>Chemical:</b> Cut and paint stump and basal bark.
	<b>Camphor Laurel</b> <i>Cinnamomum camphora</i>	4	Tree	Evergreen hardy spreading tree to 20m high. Bark greyish, with numerous fissures. Distinguished by aromatic camphor oil smell when leaves are crushed. Produces lush bright green foliage in spring.	<b>Mechanical:</b> Pull up all small plants and hang up away from ground level. Cut larger plants off well below ground level and mulch stump. <b>Chemical:</b> Injection or cut and paint.
	<b>Chinese Tallow Tree</b> <i>Triadica sebifera</i>	3	Tree	It is a medium-to-large tree which can reach 15m to 20m high. Branches are often long and drooping. Leaves are simple alternate and heart shaped, medium to dark green above, paler underneath, with conspicuous yellowish veins on both surfaces.	<b>Chemical:</b> Stem injection preferred to get to extensive root system. Cut and paint stump.

	Name	Class	Plant type	Description	Control
GENERALLY IN ENVIRONMENTAL & URBAN AREAS	<b>Honey Locust</b> <i>Gleditsia triacanthos</i>	3	Tree	Deciduous spreading tree growing to 25m high. Seedpods are slightly sickle-shaped. Multiple crucifix-like thorns, up to 15cm long, which form along trunks and limbs.	<b>Mechanical:</b> Pull up all small plants and hang up away from ground level. <b>Chemical:</b> Foliar spray, basal bark, stems injection, cut and paint.
	<b>Mysore Thorn</b> <i>Caesalpinia decapetala</i>	3	Shrub, vine	Perennial shrub to 2-4m or sprawling climber to 15m high that readily forms a dense impenetrable thicket. Leaves are bi-pinnate and up to 300mm long. Leaflets are dark green above and pale beneath. Distinctive pale yellow flowers in winter-spring.	<b>Chemical:</b> Foliar spray when in growth season.
	<b>Privet Broad-leaved</b> <i>Ligustrum lucidum</i>	4	Tree	A robust, vigorous, evergreen, fast-growing large shrub to small tree. Clusters of small round blue-black berries persist into winter.	<b>Mechanical:</b> Pull up all small plants and hang up away from ground level. Mowing or cutting. Cut larger plants off well below ground level and mulch stump. <b>Chemical:</b> Foliar spray, basal bark, stem injection, cut and paint.
GENERALLY IN ENVIRONMENTAL & URBAN AREAS	<b>Privet Narrow-leaved</b> <i>Ligustrum sinense</i>	4	Shrub	A multi-branched, hardy, evergreen, fast-growing shrub to 4m, formerly used extensively for hedging. Sprays of small round blue-black berries persist into winter.	<b>Mechanical:</b> Pull up all small plants and hang up away from ground level. Mowing or cutting. Cut larger plants below ground level and mulch stump. <b>Chemical:</b> Foliar spray, basal bark, stems injection, cut and paint.







# Local Plants and Communities of Conservation Significance



## Protected native plants list

Found in the Nambucca Catchment

(Listed on Schedule 13 of the *National Parks & Wildlife Act 1974*)

Scientific Name	Common name	Plant Type
<i>Actinotus helianthi</i>	Flannel Flower	Herb
<i>Adiantum</i> spp.	Maidenhair Ferns	Fern
<i>Archontophoenix cunninghamiana</i>	Bangalow Palm	Tree
<i>Arecaceae</i> spp. all native species	Palms	Tree
<i>Asplenium australasicum</i>	Bird's Nest Fern	Rhizome
<i>Asplenium falcatum</i>	Fern	Fern
<i>Baekea virgata</i>	Twiggy Heath-Myrtle, Tall Baeckea	Shrub
<i>Banksia ericifolia</i>	Heath Banksia	Tree
<i>Banksia marginata</i>	Silver Banksia	Tree
<i>Banksia spinulosa</i>	Hairpin Banksia	Shrub
<i>Blandfordia cunninghamii</i>	Christmas Bells	Herb
<i>Blandfordia grandiflora</i>	Christmas Bells	Herb
<i>Blandfordia nobilis</i>	Christmas Bells	Herb
<i>Boronia</i> spp. all native species (except 5)	Boronias	Shrub
<i>Calochlaena dubia</i>	Soft Bracken, Rainbow Fern	Rhizome fern
<i>Casuarina cunninghamiana</i>	River Oak	Tree
<i>Caustis</i> spp.	Curly Sedges, Old Mans Whiskers	Sedges, Rhizome
<i>Ceratopetalum gummiferum</i>	Christmas Bush	Tree
<i>Cordyline</i> spp. native to NSW	Palm Lillies	Shrub
<i>Cordyline stricta</i>	Narrow-leaved Palm Lilly	Tree
<i>Correa alba</i>	White Correa	Shrub
<i>Corymbia gummifera</i>	Red Bloodwood	Tree
<i>Cryptandra scortechnii</i>	Cotton Bush	Shrub
<i>Cyanthea</i> spp.	Tree Ferns	Tree
<i>Dianella caerulea</i>	Paroo Lilly	Herb
<i>Dicksonia</i> spp.	Tree Ferns	Tree
<i>Eriostemon</i> spp. all native species (except 6)	Wax Flowers	Shrub
<i>Eriostemon myoporoides</i> spp. <i>epilosus</i>	Native Daphne, Long-leaved Wax Flower	Shrub

Scientific Name	Common name	Plant Type
<i>Eucalyptus robusta</i>	Swamp Mahogany	Tree
<i>Gahnia sieberiana</i>	Red-fruited Saw Sedge	Tussock
<i>Gleichenia dicarpa</i>	Pouched Coral Fern	Fern
<i>Isopogon</i> spp. native to NSW	Drumsticks, Cone-bushes	Shrub
<i>Livistona australis</i>	Cabbage Tree Palm	Tree
<i>Lomatia silaifolia</i>	Crinkle Bush	Shrub
<i>Orchidaceae</i> all native species	Orchids	Orchid
<i>Pandanus</i> spp. all native species	Pandanus	Tree
<i>Persoonia</i> spp. native to NSW (except 2)	Geebungs	Shrub
<i>Phebalium squamulosum</i>	Scaly Phebalium	Tree
<i>Philotheca myoporoides</i> (except 1)	Wax Flowers	Shrub
<i>Philotheca</i> spp. native to NSW (except 3)	Philothecas	Herb
<i>Platycerium</i> all native species	Elk Horn, Stag Horn	Epiphyte
<i>Pteridium esculentum</i>	Bracken, Common Bracken Fern	Fern
<i>Restio tetraphyllus</i>	Tassel-Rush	Rush
<i>Sphagnum</i> spp.	Sphagnum Mosses	Moss
<i>Todea barbara</i>	King Fern	Fern
<i>Xanthorrhoea</i> spp.	Grass Trees	Shrub
<i>Xanthorrhoea</i> spp. foliage only	Grass Trees	Shrub
<i>Xanthorrhoea</i> spp. flower spikes only	Grass Trees	Shrub
<i>Zamiaceae</i> family foliage only (except 4)	Cycads	Shrub

1. *P. myoporoides* spp. *epilosus*.
2. *P. acerosa*, *P. bargoensis*, *P. brevifolia*, *P. caspidifera*, *P. daphnoides*, *P. deanei*, *P. glaucescens*, *P. hirsuta*, *P. laxa*, *P. marginata*, *P. mollis*, *P. nutans*, *P. oxycoccoides*, *P. procumbens*, *P. recedens*, *P. rufa*, *P. terminalis*, *P. umbellata* and *P. volcanica*.
3. *P. ericifolius*, *P. myoporoides* and *P. obovalis*.
4. *Macrozamia johnsonii* and *Macrozamia pauli-guillielmi* spp. *Flexuosa*.
5. *B. chartaceae*, *B. deanei*, *B. fraseri*, *B. granitica*, *B. repanda*, *B. rubiginosa*, *B. serrulata*, *B. subulifolia*, *B. umbellata*.
6. *E. australasius*, *E. ericofolius* and *E. myoporoides* spp. *epilosus*.

In the interests of protecting species diversity and ecological sustainability, the National Parks & Wildlife Service restricts the commercial use of protected plants through Schedule 13 of the *National Parks & Wildlife Act 1974*.





## Threatened Native Plants List

Found in the Nambucca Catchment

(Listed on Schedule 1 or 2 of the *Threatened Species Conservation Act 1995*)

Scientific Name	Common name	Status	Plant Type
<i>Acacia chrysotricha</i> *	<b>Newry Golden Wattle</b>	Endangered	Tree
<i>Acronychia littoralis</i> *	<b>Scented Acronychia</b>	Endangered (EPBC E)	Tree
<i>Anetholea anisata</i> *	<b>Ringwood</b>	Vulnerable	Tree
<i>Chamaesyce psammogeton</i> *		Endangered	Herb
<i>Diuris venosa</i>	<b>Goat Orchid</b>	Vulnerable	Ground Dweller
<i>Glycine clandestina</i> * (Broad-leaved form)		Endangered	Twiner
<i>Hicksbeachia pinnatifolia</i>	<b>Red Bopple Nut</b>	Vulnerable	Tree
<i>Marsdenia longiloba</i> *	<b>Clear Milk Vine</b>	Endangered (EPBC V)	Vine
<i>Melaleuca groveana</i> *		Vulnerable	Tree
<i>Neoastelia spectabilis</i>		Vulnerable	Herb
<i>Niemeyera whitei</i> *	<b>Rusty Plum</b>	Vulnerable	Tree
<i>Parsonia dorrigoensis</i> *	<b>Dorrigo Gum</b>	Vulnerable (EPBC E)	Tree
<i>Senna acclinis</i>	<b>Rainforest Senna</b>	Endangered	Shrub
<i>Tasmania glaucifolia</i>	<b>Fragrant Pepper Bush</b>	Vulnerable	Shrub
<i>Tinospora smilacina</i>		Endangered	Woody Climber
<i>Tylophora woollsi</i>		Endangered	Twiner

- Source: NSW National Parks and Wildlife Service Database (2003), Nambucca Catchment Vegetation Survey (Kendall & Kendall, 2003).
- Species\* recorded during Nambucca Catchment Vegetation Survey.
- EPBC: Species listed under the *Environment Protection and Biodiversity Conservation Act 1999*.



## ROTAP\* and Regionally Significant Native Plants List

Found in the Nambucca Catchment

Scientific Name	Common name	Description
<i>Acacia decora</i>	<b>Western Golden Wattle</b>	Regionally uncommon tree
<i>Acronychia octandra</i>	<b>Dough Wood</b>	Tree north from Bellingen R
<i>Austrosteenisia glabristyla</i>	<b>Giant Blood Vine</b>	Vine north from Dorrigo area
<i>Bosistoa floydii</i>	<b>Five-leaved Bosistoa</b>	Nationally rare and threatened tree, reaches southern limit in Taylors Arm
<i>Cordylone petiolaris</i>	<b>Broad-leaved Palm Lilly</b>	Tree north from Nambucca R
<i>Crinum pedunculata</i>	<b>Crinum Lilly</b>	Sparse herb species occurring in depleted habitat
<i>Cryptocarya nova-anglica</i>	<b>Mountain Laurel</b>	
<i>Cryptocarya triplinervis</i>	<b>Three-veined Cryptocarya</b>	Tree north from Macleay R
<i>Cyperus filipes</i>		Perennial herb/rush north from Macleay R
<i>Dampiera sylvestris</i>		Possibly regionally uncommon shrub
<i>Dendrobium schoeninum</i>	<b>Orchid</b>	Pencil orchid north from Macleay R
<i>Dianella tasmanica</i>		Perennial herb south from Dorrigo
<i>Eucalyptus ancophila</i>		
<i>Eucalyptus fusiformis</i>	<b>Nambucca Ironbark</b>	Nationally rare and threatened tree
<i>Geranium potentilloides</i>	<b>Native Geranium</b>	Perennial herb south from Nambucca R
<i>Goodenia fordiana</i>		
<i>Jasminum dallachii</i>		Scrambling shrub/climber north from Dorrigo
<i>Leptospermum laevigatum</i>	<b>Coast Tea Tree</b>	Tree south from Nambucca Heads
<i>Lindsaea dimorpha</i>		Fern north from Jervis Bay
<i>Lophostemon suaveolens</i>	<b>Swamp Box</b>	Tree north from Scotts Head
<i>Ludwigia octovalvis</i>	<b>Water Primrose</b>	Regionally uncommon herb and distribution disjunct
<i>Marsdenia lloydii</i>	<b>Corky Milk Vine</b>	Vine north from Macleay R
<i>Maytenus bilocularis</i>	<b>Orange Bark</b>	Tree north from Macleay R
<i>Melodinus guilfoylei</i>	<b>Bellbird Vine</b>	Possibly regionally uncommon climber
<i>Notothixos incanus</i>	<b>Grey Mistletoe</b>	Sparse stem parasite species occurring in depleted habitat
<i>Ozothamnus rufescens</i>		Shrub south from Dorrigo
<i>Persoonia levis</i>	<b>Broad-leaved Geebung</b>	Shrub south from Nambucca R
<i>Ripogonum elseyanum</i>	<b>Hairy Supplejack</b>	Climber north from Bellingen R
<i>Solanum densevestitum</i>		Shrub north from Woolgoolga
<i>Solanum vescum</i>		Regionally uncommon shrub
<i>Sparganium subglobosum</i>	<b>Floating Burr-Reed</b>	Possibly regionally uncommon aquatic perennial

\*ROTAP - Rare or Threatened Australian Plants





### Threatened Populations\*

Found in the Nambucca Catchment

(Listed under the *Threatened Species Conservation Act 1995*)

Threatened Population	Status
<i>Glycine clandestina</i> (broad-leaved form)	Endangered



### Endangered Ecological Communities\*

Found in the Nambucca Catchment

(Listed under the *Threatened Species Conservation Act 1995*)

#### Endangered Ecological Communities

Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions

Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions

Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions

Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions

Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion

River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions

Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion

Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions

Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions

Themeda Grassland on Seacliffs and Coastal Headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions



### Critically Endangered Ecological Communities\*

Found in the Nambucca Catchment

(Listed under the *Threatened Species Conservation Act 1995*)

#### Threatened Population

Lowland Rainforest of Subtropical Australia

Littoral Rainforest and Coastal Vine Thickets of Eastern Australia

\*Source: NSW National Parks and Wildlife Service Database (2003).



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Telephone: 02 6641 6600

Fax: 02 6641 6601 (ring after 1st April to find out new number)

Email: northcoast@planning.nsw.gov.au

### NSW Rural Fire Service - Lower North Coast Zone

6 Kelly Close  
Macksville NSW 2447

Telephone: 02 6568 2536

Email: lowernorthcoast.team@rfs.nsw.gov.au  
www.rfs.nsw.gov.au





## References and Further Reading

### North Coast and Mid North Coast Noxious Weeds Advisory Committees

[www.northcoastweeds.org.au](http://www.northcoastweeds.org.au)

### Bowraville Local Aboriginal Land Council

66 High Street  
Bowraville NSW 2449

Telephone: 02 6564 7812

Email: [bowralc@bigpond.net.au](mailto:bowralc@bigpond.net.au)

### Nambucca Heads Local Aboriginal Land Council

2/3 Sussex Street (PO Box 358)  
Nambucca Heads NSW 2448

Telephone: 02 6568 9281

Fax: 02 6568 9161

Email: [nambuccaheadsalc@bigpond.com](mailto:nambuccaheadsalc@bigpond.com)

### Ngurrula Aboriginal Corporation

PO Box 62  
Macksville NSW 2447

Telephone: 02 6568 4400

Email: [berylwilson@ngurrula.com.au](mailto:berylwilson@ngurrula.com.au)

### Unkya Local Aboriginal Land Council

Suite 7, 17-19 Wallace Street (PO Box 319)  
Macksville NSW 2447

Telephone: 02 6568 2786

Email: [micheledonovan@bigpond.com](mailto:micheledonovan@bigpond.com)

### WetlandCare Australia

53 Tamar Street, Ballina NSW 2478

Telephone: 02 6681 6069

Email: [ballina@wetlandcare.com.au](mailto:ballina@wetlandcare.com.au)

### Coffs Harbour

Telephone: 02 6652 5589

Free call: 1800 816 147

[www.wetlandcare.com.au](http://www.wetlandcare.com.au)

### Environmental Defenders Office (NSW)

[www.edo.org.au/edonsw](http://www.edo.org.au/edonsw)

### Northern Rivers Office

Level 1, 71 Molesworth Street (PO Box 868)  
Lismore NSW 2480

Telephone: 02 6621 1111 or 1300 369 791

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