

Acknowledgements

Brunswick Valley Landcare recognises the Bundjalung people as the traditional custodians of this land.

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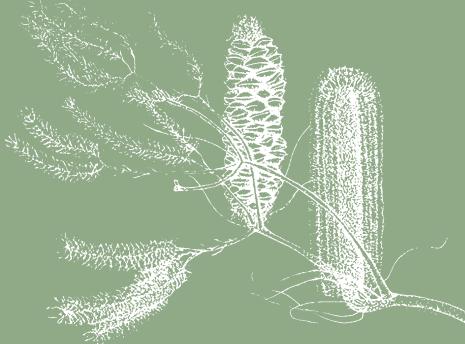
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Heath Banksia Illustration: A Erskine



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Introduction

WELCOME TO MY LOCAL NATIVE GARDEN – A PLANTING GUIDE TO PROMOTE BIODIVERSITY IN THE BYRON SHIRE.

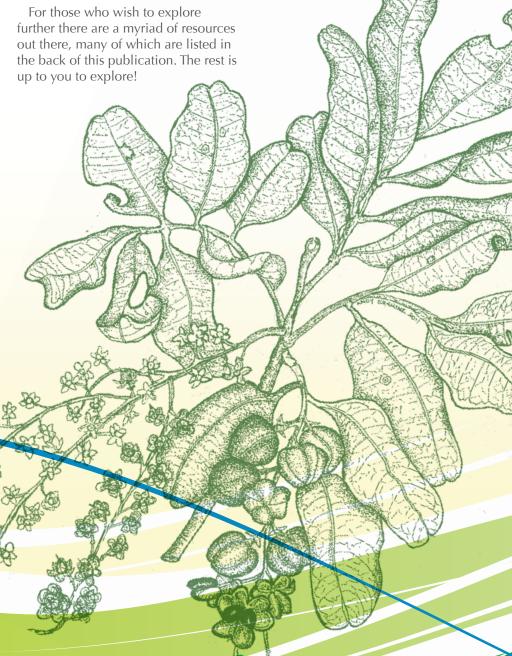
his publication hopes to inspire local residents and new arrivals to learn a little more about our spectacular environment. Most importantly we want you to invite the natural world into your own backyard - to share some space with 'the

Specifically this guide will assist you to design, plant and maintain your own garden with species that are local to your area. By following our basic planting guide, your garden will not only be easier to grow and maintain, but it will also integrate into the surrounds, linking with a range of natural habitats to help support the great diversity of local wildlife. Central to this idea is to work with nature. after all our native plant 'communities' have already proved their success to be here through millennia of evolution.

Tuckeroo Illustration: A Erskine

4 My Local Native Garden

My Local Native Garden is an entry point to introduce you to just some of the incredible variety of local native plants. Ideally we want you to ignore the exotic species and focus on endemic species as these will have food value for native fauna and are less likely to become a bushland weed.



BIODIVERSITY IN THE BACKYARD - A NATURAL **RESOURCE**

Have you ever stopped to think how we've 'inherited' clean water to drink, fresh air to breathe or how our soils continue to grow healthy food? The answer is biodiversity – literally the variety of plants and animals, their genetics and the ecosystems they live in. These plants and animals, soils and microorganisms all help to 'filter' our water, generate our oxygen and provide the gift of healthy soils. We need to protect biodiversity for our own health as well as play our part in looking after the planet.

Increased population, poor land management practice and pressure from land clearing and development has fragmented the original environment into small 'islands' or remnants where species are most vulnerable to weeds, pests and predators.

Blue Banded Bee on Banksia aer Photo: J Mayson

Leaf-tailed Gecko Photo: R Hartlieb

When it comes to flora and fauna, we often only think of an individual species being in danger of extinction, but the reality is each individual species depends on a range of other species - a 'community' - for their survival. This is the inter-dependence of ecosystems and why it is important to protect not just one species, but all species - biodiversity.



BY PLANTING A NATIVE GARDEN FILLED WITH LOCAL PLANTS YOU CAN CONNECT YOUR GARDEN TO THE EXISTING WILDLIFE CORRIDORS AND ENHANCE THE SURVIVAL FOR MANY NATIVE SPECIES AND THEIR ECOSYSTEMS

The Byron Shire is recognised as a biodiversity 'hotspot' - one of the richest and most diverse regions for flora and fauna in Australia. Sadly there are over 70 plant species and 90 animal species recognised as vulnerable or threatened, including 12 Endangered Ecological Communities in the Shire.

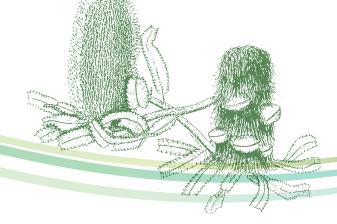




Wompoo Fruit-Dove Photo: D Taylor



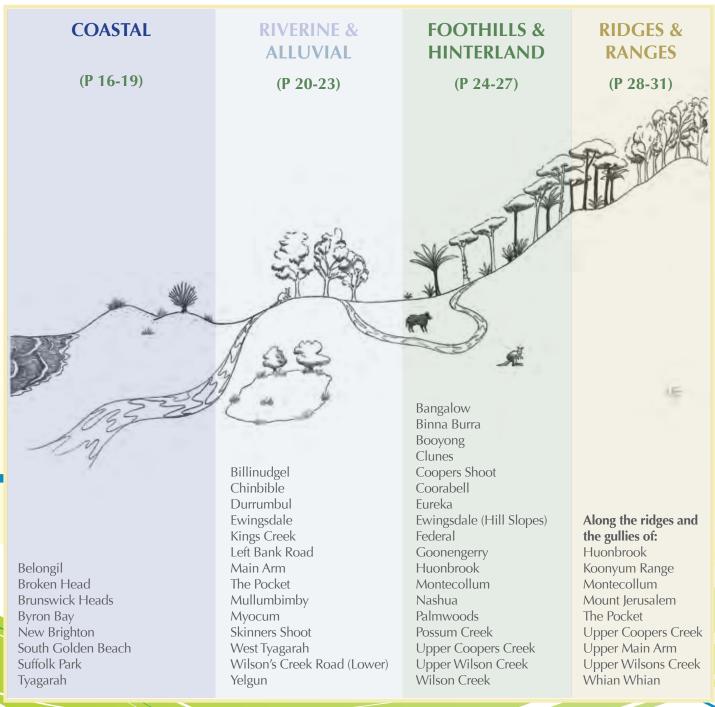
Green Tree Frog (juvenile) Photo: W Gibney



Coast Banksia
Illustration: H Bunkers

My Local Native Garden Sections:

AS THERE ARE MANY FACTORS THAT AFFECT AND INFLUENCE NATIVE VEGETATION, IT IS DIFFICULT TO BE PRECISE ABOUT WHAT TYPE OF VEGETATION COMMUNITY WILL THRIVE AT YOUR PLACE. SO TO HELP YOU IDENTIFY WHICH NATIVE COMMUNITIES BEST SUITS YOUR GARDEN WE HAVE DIVIDED VEGETATION TYPES INTO 4 ZONES:





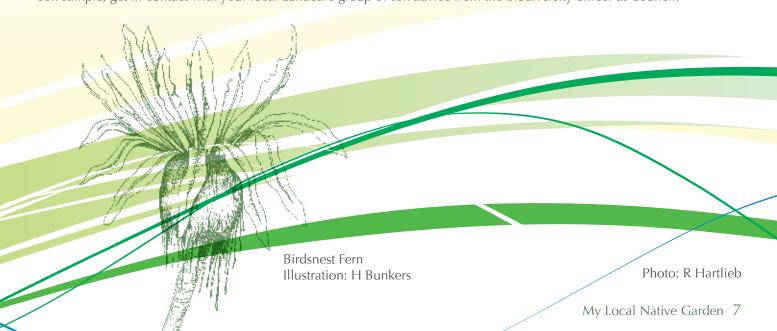
How to use this book

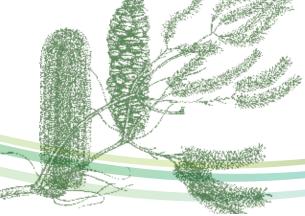
1. Look 2. Check 3. Choose

at the sections opposite (Coastal; Riverine & Alluvial; Foothills & Hinterland; Ridges & Ranges) – which best describes your property? Go to it and view the range of stunning plants that will enrich your garden. the locations under the section heading— is their one near you? Does the soil and landscape descriptions fit your place? If not, look at some other sections — your garden may draw inspiration from two or more sections*.

from the list of striking native plants in your section – ring up your local bush friendly nursery and ask them if they have your selection in stock.

* Remember – finding a garden type that resembles your property is a 'best fit' – this is a general guide and your garden may include sections and plants from one, two or even three zones. If you're unsure, try visiting your local nursery with a soil sample, get in contact with your local Landcare group or ask advice from the biodiversity officer at Council.





Heath Banksia Illustration: A Erskine

WHAT IS A 'PLANT **COMMUNITY'?**

Plant communities are a unique assemblage of flora that have evolved as a result of interactions between a variety of factors such as:

- Geology underlying rock type and its effect on soils and nutrients
- Soil type whether the soils are free draining (sand based) or swampy (heavy clay based); fertile or low in organic matter
- Elevation increased altitude usually leads to cooler, wetter conditions, it can also affect temperature and exposure, (all of which impacts on soil types), and can determine if an area is prone to frost
- Aspect particularly on slopes where one side has predominantly sun/shade and/or particular winds
- Distance from the coast exposure to salt laden winds or in tidal zones where only those species that can handle brackish inundation can thrive
- Temperature— the variation in temperature range increases with distance from the moderating influence of the ocean
- Humidity closer to the coast, sea breezes can moderate the effect of humidity
- Rainfall across Byron Shire, the high rainfall favours certain species

MANY RELATIONSHIPS WITHIN A PLANT COMMUNITY ARE SYMBIOTIC – WHERE THERE IS A RELIANCE OR MUTUAL BENEFIT DERIVED BETWEEN SPECIES - CREATING AN INTERCONNECTED 'WEB'. ADDITIONALLY, OVERLAPPING AREAS OF COMMUNITIES ARE KNOWN AS TRANSITION ZONES OR 'ECOTONES', WHICH SHOW A PARTICULARLY HIGH LEVEL OF SPECIES RICHNESS

Below is a list of just some of the many local ecological communities in the Byron Shire – several of these are listed as threatened under State or Federal legislation.

EXAMPLES OF NATURAL PLANT COMMUNITIES

Foredunes

Themeda grasslands on seacliffs and coastal headlands

Byron Bay dwarf graminoid clay heath

Coastal cypress pine forests

Littoral rainforests

Mangroves

Coastal saltmarshes

Swamp sclerophyll forests on coastal floodplains

Swamp oak floodplain forests

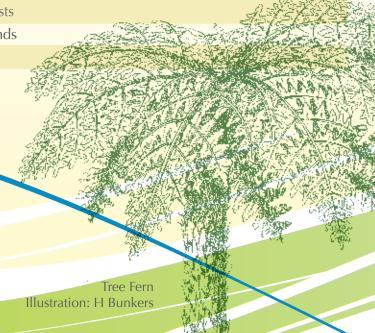
Freshwater wetlands on coastal floodplains

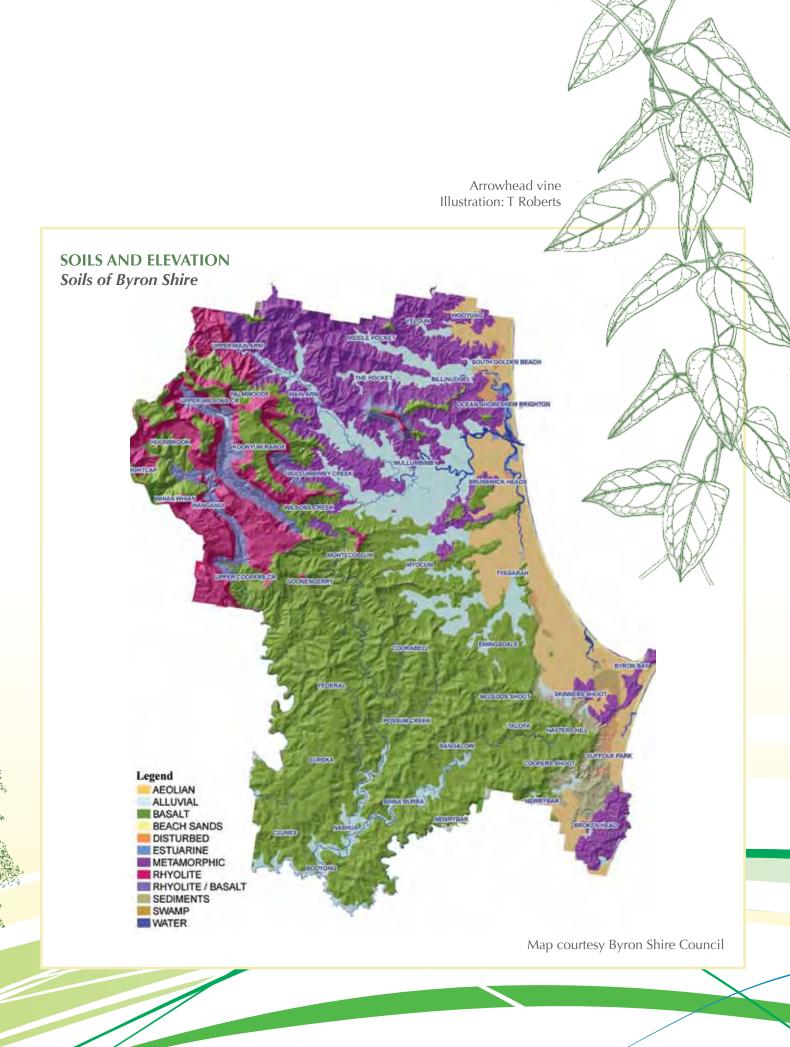
Subtropical coastal floodplain forests

Lowland rainforests

Heath & shrublands

Open forests





Design

BYRON SHIRE HAS AN **OUTSTANDING PALETTE OF** INDIGENOUS PLANTS TO CHOOSE FROM. A GARDEN THAT UTILISES LOCAL SPECIES WILL LOOK MORE IN PLACE WITH ITS SURROUNDS AND LINK UP WITH EXISTING HABITAT TO 'INVITE' THE NATIVE WILDLIFE TO YOUR PLACE.

SUCCESSFUL GARDEN DESIGN **BEGINS WITH A SITE PLAN** - A SCALE DRAWING THAT **INCLUDES ANY SIGNIFICANT** FEATURES OF THE SITE SUCH AS EXISTING TREES, SHEDS AND PATHS ETC.

SITE ANALYSIS

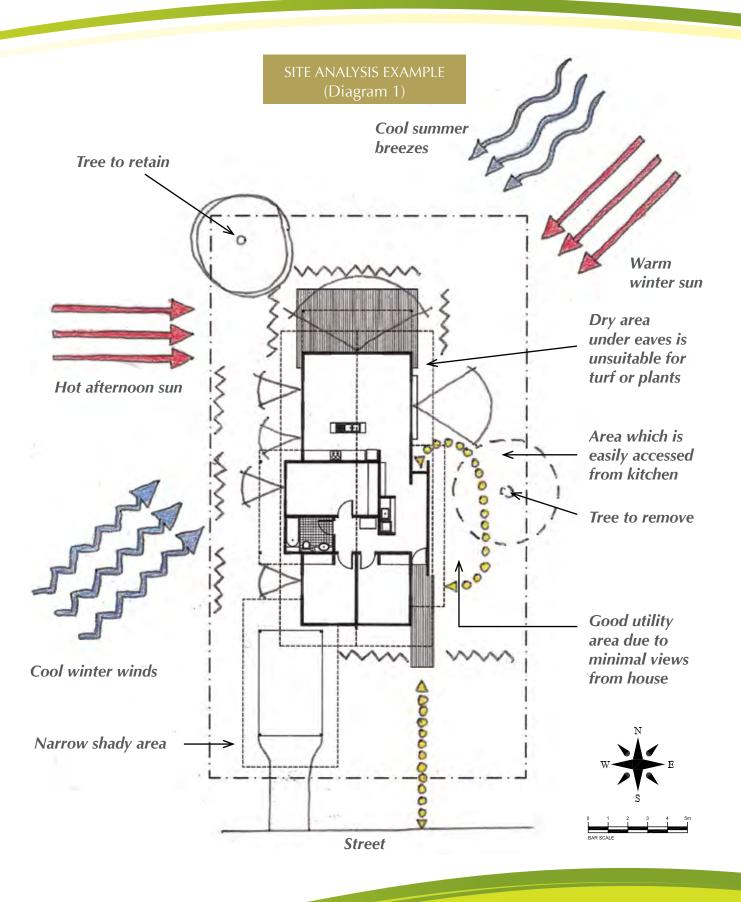
Site Analysis is a pivotal stage that lists an inventory of existing and desirable features of the garden that guide the design. Typical features include:

- Direction of cooling summer breezes and warm winter sun (typically north east) – best to leave free of obstructions and keep plantings low.
- Direction of cold winter winds (typically south west) - best for larger trees and wind block plantings to shelter the property
- Desirable views to retain and areas in the garden or rooms of the house where you wish to create privacy
- Undesirable views to obscure
- Pedestrian and vehicle access

- Trees & plants to be retained
- Problem areas to address such as soil quality & drainage
- Fences, overhead power lines & underground cables
- Water outlets

Sadly... we've all done it... excited by a surge of plant impulse buys, we give little thought to an overall layout. The result: a garden that doesn't function with the surrounding environment. Creating an initial design for a new garden or even renovating an existing garden will give you an overview of what to aim for, even if funds only allow realising the design gradually over time.















Hibiscus Harlequin Bug. Photo: L Koesterke

DESIGN

Once the site analysis is complete it is much easier to place trees, structures and screening plants based on the needs of the site. Effective landscape design is about context, balance and proportion. A garden that relates to the scale of the surrounding buildings and environment assists in settling that house into the landscape. Choosing the right plants is about both the aesthetic - contrast and harmony - and about the environment - providing vital habitat for native wildlife.

Native gardens are not necessarily 'messy' gardens. Many local shrubs respond well to pruning and this can help to develop dense regrowth, which in turn provides better protection for small birds.

ARMED WITH YOUR SITE PLAN AND ANSWERS TO THE FUNCTIONS OF YOUR GARDEN, START DESIGNING WHERE THE FOLLOWING POINTS WILL BE ON YOUR PLAN

FOCAL POINTS

A good design has a few focal points but not so many that they are all competing with each other. Where are the best locations to place striking specimen plants, sculptures or water features? Allow for plenty of plain, green, bushy plants to support the more eye-catching elements.

STRUCTURE

Structural diversity is a crucial element in creating an assortment of habitats in your garden. Try to choose a variety of plants and layers, i.e. groundcovers &

grasses, vines & scramblers, shrubs & thickets, small and tall trees, that will in turn maximise the range of wildlife that will come to nest, rest and play in your garden.

TREES

Trees are an essential element of design. Be considerate of neighbours - one property's southwest is another's northeast - so this may mean a compromise in tree height. Try to get as much information about heights and habits as you can, including root growth. Some people are lucky to inherit beautiful specimens of mature trees which can be incorporated into the design and provide vital habitat stepping-stones in a fragmented urban landscape.

SHRUBS

Shrubs and groundcovers establish better when planted at the same time as trees. Shrubs are excellent fillers of the garden - choose plenty of bushy green foliage and limit the 'showy' plants. Mark on the plan areas which require screening from winds or views - these can be thickly planted with shrubs. Smaller birds favour bushy, shrubby growth for protection from predators.

GROUNDCOVERS

Lower plants soften hard edges and create great habitat for frogs and lizards. They also add to the garden looking complete and can minimise weed growth.

LAWNS

Lawns are great for open areas to play or entertain and to create a sense of space. They are however labour intensive, so consider native groundcovers that are less intensive and plant out the rest. Edging around lawns also saves many hours of weeding out invasive grasses from the garden beds and makes mowing easier.

MATERIALS

Try and be creative - recycle materials where possible. Hard surfaces should drain into garden beds and lawns rather than creating large volumes of stormwater.

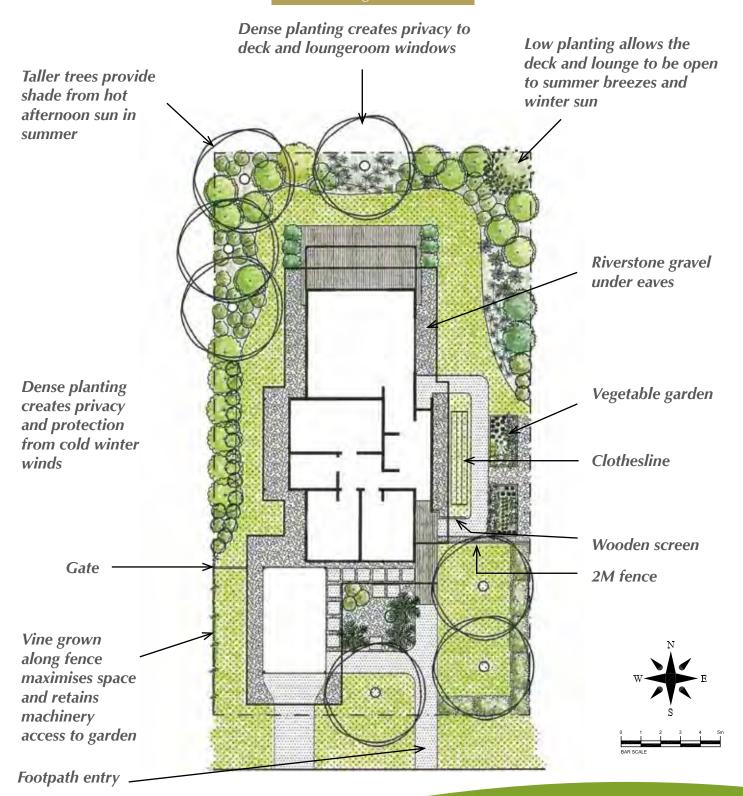
VEGETABLE GARDENS

Position so they are easily accessed from the kitchen. Intensively grown vegies will cut down on size and maintenance. Does it need to be fenced from pets or netted for birds and bats? A rainwater tank is handy for frequent watering.

Think about what functions you want your garden to serve.

- and butterflies?

GARDEN DESIGN EXAMPLE (Diagram 2)





Coolamon flower. Photo: S Allen

BASIC PLANTING GUIDE

Before you plant

- Check your soil type does it match the description & type of garden & plants in your zone? Does the soil need any 'conditioning' (mulch, fertilizer, organic matter) before planting?
- Choose plants pay attention to micro climate, (e.g. full sun/shade,
- Prepare the site Preliminary weeding, dig all the holes and have fertilizer, mulch and water on hand

Correct planting technique

Check with the nursery where you purchase the plants about specific planting tips for your selected species, e.g. siting of the planting, watering & fertilizer requirements, mulching etc. Reputable online gardening websites can also be a great source of information.

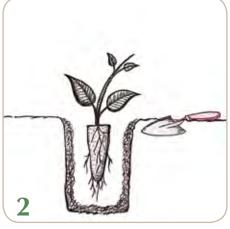
GETTING HELP













- 1. Dig a hole slightly deeper and at least twice as wide as the pot size. Loosen the soil around the sides of the planting hole. Water the plant & fill the hole with water and allow both to drain away. If the water doesn't drain from the hole you may need additional help with the addition of gypsum or build up a free draining mound of soil to plant into.
- 2. Gently remove the plant from the pot or tube and place in the planting hole the top of the root ball should be level with the surrounding soil. If the roots are pot-bound gently loosen the root ball and then place in hole.
- 3. Fill back soil, making sure that the surface root ball is well covered and include a little slow release native plant fertilizer and water crystals/gel. Press the backfill down with your hands and shape the soil surface slightly to hold water. Do not place organic matter or too much fertilizer at the base of the hole as this may encourage root rot or fertilizer 'burn'.





- **4.** Water the plant thoroughly after planting and then once a week for the first few months, (depending on season). Thereafter, water generously when the soil feels dry.
- **5.** Mulch around the plant 10cm thick with at least a 50cm radius this will help to retain moisture and discourage weed growth. Avoid placing mulch against the stem of the plant as this may encourage collar rot.

Coastal

LOCATIONS:

BROKEN HEAD, SUFFOLK PARK, BYRON BAY, BELONGIL, TYAGARAH, BRUNSWICK HEADS, NEW BRIGHTON AND SOUTH GOLDEN BEACH

or those of us lucky enough to live in close proximity to the sea, gardening on sandy soils in salt laden winds can be challenging - until you learn the secrets of our local plants.

Before our coastline was cleared for sand mining and coastal development, a diverse ecosystem thrived in a succession of plant communities that each lent protection to the next.

On the foredunes, spinifex grass slows and traps the wind-blown sand, allowing enough security for the low coastal wattle to establish. This in turn provides shelter to the hind dunes and a complex root system that secures the coast against wave attack. In the lee of this, small, salt tolerant trees and leathery vines form a dense barricade and beyond a complex littoral rainforest can establish. Depending on the soil type (sand or clay), and proximity

of water table variations, the type of predominant vegetation could be littoral rainforest, melaleuca wetland or fire dependent heath.

The advantages of using local coastal plants in the landscape are salt and drought tolerance, and an ability to thrive in low nutrient sandy soils – a selection of these plants are detailed in the species list that accompanies this section of your guide.

WILDLIFE:

PHEASANT COUCAL, BUSH TURKEY, SWAMP WALLABY, WHITE BELLIED SEA EAGLE, OSPREYS, TERNS, GULLS AND VARIOUS REPTILES, AUSTRALIAN PELICAN, BRAHMINY KITE, BUSH STONE-CURLEW, CORMORANTS, EGRETS, FLYING FOX, KINGFISHER, SPOONBILLS, SWAMPHENS, WATER DRAGONS, GOANNAS









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CREATING A HEATH GARDEN

SOIL DESCRIPTION:

Low nutrient sand and sandy clay

The heath garden would be well suited to a highly exposed site or to frame a view. The small leathery leaves that feature in this broad grouping are salt tolerant and once established can be trained through pruning and require no irrigation. Small shrubs and trees that are fairly nondescript for much of the year will reward you with vigorous flowering in the spring and some of the heath species such as Lemon Scented Ti Tree (*Leptospermum liversidgeii*) contain natural insect repellents. This garden will look particularly good with well placed rocks - make them look natural in their setting and try to leave a few caves and crevices for our bluetongue lizards.

The key species of this garden would most likely include the Banksias, Casuarina, Grasstrees, Leptospermum, small Melaleucas and local Peas. You can even replace the lawn with a low growing form of Kangaroo Grass.

EXAMPLES: Arakwal National Park and Tyagarah Nature Reserve

N.B. It should be realised before embarking on the heath garden that many of these plants are volatile; a buffer zone should be established and maintained in areas prone to bushfire. (Interestingly though, there are heath plants that are non-volatile and form natural firebreaks. Further information can be sourced from the RFS & CSIRO.)

CREATING A LITTORAL RAINFOREST GARDEN

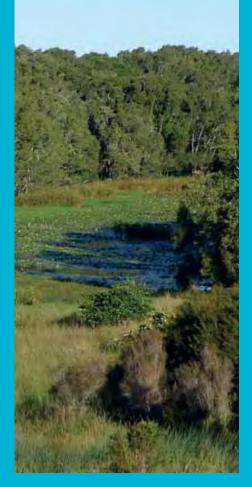
SOIL DESCRIPTION:

Sandy loam to Sandy Clay

In its natural state, such as at Broken Head, you'll see a compact forest blown into a wedge shape capable of deflecting salt laden winds and providing a surprising amount of shelter beneath. Few of us will have the opportunity to achieve this complexity in our own yards but there are some very useful species to employ in the home landscape. Utilise the sculptural forms of Pandanus, Cordyline, Bangalow Palm, Ginger, Dianella and Hoya Vine. You'll notice these are all lineal plants, which look best with similar shaped and textured plants. Lilli Pillies and other small rainforest species can provide useful hedges and background. Few of these put on beautiful flushes of new growth as opportunity allows.

EXAMPLES: Broken Head Nature Reserve and Cape Byron





CREATING A WETLAND GARDEN

SOIL DESCRIPTION:

Peaty sands

If you live in the low-lying parts of the plants will best suit your garden. If you have a really boggy section some of the plants that will happily occupy it and turn it into a feature include: Paperbarks, Banksia robur, Blueberry Ash, Cordyline, strappy grasses, to great effect and will require little maintenance. Plant in groups and use your taller species in the background to maximise the impression of space, whilst encouraging the pioneer species that may volunteer to add complexity to the theme. Visit the section on water features and aquatic plants (p32) for more ideas.

EXAMPLE: The western parts of the Tyagarah Nature Reserve or Cumbebin Wetlands boardwalk at Butler St in Byron Bay.

Coastal wetland (top); A selection of Littoral Rainforest species (centre) Photos: J Mayson



Dianella

Great clumping grass. Lush, strappy leaves, dainty purple flowers & edible blue berries. Bushfood

Coastal



Native Violet

Sprawling groundcover with delicate purple and white flower



Flannel Flower

An elegant white daisy-like flower throughout the year. Prune after flowering to increase bushy



Kangaroo Grass

Low maintenance tufting grass with reddish flower heads. **Butterfly** attractant



Coastal Grass Tree

Grass tree with no trunk and delicate flower spike resembling a bottlebrush



Hoya

Thick leaved, stunning small white fragrant flowers in spring. Suitable for hanging



Guinea Flower

Well behaved vine with large golden-yellow flowers in spring/ summer - excellent screening scrambler



Happy Wanderer

Dark, glossy leaves with bright purple pea like flower in winter/spring





Swamp Banksia

A dramatic & sculptural small tree/shrub with large flower spikes and fruits in autumn/winter lasting months



Snow in summer

Striking masses of white flowers born in summer with attractive paperbark trunk

Botanic

Pretty foliage with abundant white flowers autumn/winter, then small pear-shaped purple fruit



| HEIGHT | WIDTH | SUN | SHADE | WET | DRY | SALT TOLERANT M=Medium H=high L=Low |
|---------------------------|-----------|-----|-------|-----|-----|---|
| 0.8m | spreading | V | V | V | V | Н |
| 0.1m | spreading | | V | V | | М |
| 0.1m | 0.3m | V | | | V | Н |
| 0.2m | spreading | V | | | V | Н |
| 0.5m | 0.5m | V | V | | V | Н |
| na | na | V | V | V | ~ | Н |
| na | na | V | V | | ~ | Н |
| na | na | V | | | V | Н |
| 2m | 2m | V | | V | V | М |
| 2m | 2m | V | | V | V | М |
| 1.5m | 1.5m | V | V | | V | Н |
| 1.7m | spreads | V | V | V | | M. Protect from wind |
| 1.5m | 1.5m | V | V | V | | М |
| 20m | 8m | V | V | V | ~ | М |
| 3m | 5m | V | | | V | М |
| 30m (less in cultivation) | 8m | V | V | V | | М |
| 6m | 6m | V | V | V | V | М |
| 30m (less in cultivation) | 8m | V | V | V | | Н |
| 30m (less in cultivation) | 8m | V | V | V | | Н |
| 10m | 10m | V | V | | V | Н |

Cabbage Palm

Broad fan leaves. Cream-white flower spikes in summer Red fruit turning black bird attractant



Wallum Banksia

Robust, sculptural tree with irregular growth habit. Large woody fruit



Broad-leaved Lilly Pilly

Attractive red-pink new foliage with cream flowers on panicles spring/summer, globulous fruit. Wildlife attractant



Blueberry Ash

An elegant small tree with white or pink bell flowers in summer, followed by small, round blue fruit. Bird attractant



Bennetts Ash

An attractive medium tree with large clumps of white flowers, ornamental woody 5-winged seed capsule



Midgen Berry

Low shrub – informal hedge White flowers in spring/summer with purple spotted edible berries. Wildlife attractant



Celery wood

Tall, graceful tree with umbrella-like crown of leaves. Small, darkpurple flowers autumn/ winter. Small dark-purple fruit. Bird attractant



Clumping Palm Lily

Graceful linear plant with sprays of bright red fruit and flowers in drooping panicles. Bird attractant



Pandanus

Sculptural tree with large orange fruit (female only), large strappy leaves and distinctive prop roots



Riverine and Alluvial

LOCATIONS:

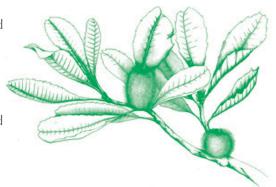
BILLINUDGEL, CHINBIBLE, DURRUMBUL, EWINGSDALE, KINGS CREEK, LEFT BANK ROAD, MAIN ARM, THE POCKET, MULLUMBIMBY, MYOCUM, SKINNERS SHOOT, WEST TYAGARAH, WILSON'S CREEK ROAD (LOWER), YELGUN

he riparian zones and alluvial plains of Byron Shire are some of the most altered and disturbed areas of the north coast. Prior to development they supported a rich mosaic of plant alliances. Remnants of majestic eucalypt-based forest still exist in drier areas. Paper-bark tea tree forest, swamp oak communities and sedge-lands thrive in areas of wetlands, and, nearer the estuary, communities of mangroves and other salt tolerant plants harbour exceptional biodiversity. All of these species, (except mangroves, which require

brackish or salt water) can still flourish near dams, soaks or in gardens on the riverine plains.

By choosing from the plant communities native to the riparian and alluvial plains of Byron Shire, you can make your property part of a regionwide wildlife corridor. Doing this, you will invite an incredible diversity of flora and fauna into your backyard. Planting in swathes, to slow runoff and catch silt, will help prevent erosion that in turn helps maintain the health of the whole length of the waterway,

encouraging the movement of all life forms that rely on the rivers and floodplains for their survival.



WILDLIFE:

ECHIDNAS, POSSUMS, WATER DRAGONS, PLATYPUS, FLYING FOX, INSECTIVOROUS BATS, SWAMP WALLABY, VARIOUS NATIVE FROGS AND FISH, AND A WIDE VARIETY OF BIRDS INCLUDING THE PACIFIC BAZZA









CREATING A CREEK-SIDE RAINFOREST GARDEN

SOIL DESCRIPTION:

From gravels near the headwaters to fine clays near the estuary and all the gradations of particle size in between.

Many gardens border creeks, streams and ephemeral watercourses. By recreating the structure of the natural vegetation communities with trees for canopy cover, under-planted with shrubs, ferns and sedges, it is possible to create your own patch of riparian rainforest.

Plant tussocky Lomandras mixed with the beautiful Crinum Lilies to protect the creek sides from erosion. Interplant with shrubs such as Native Mulberry, a butterfly host and Velvet Leaf whose berries attract small birds, interspersed with local riparian tree species such as Weeping Lilly Pilly and Creek Sandpaper Fig. Finish off with a sward of native groundcovers such as Basket Grass and Native Commelina, which can both be mown to help sieve sediments from runoff before it hits the creek. No rainforest garden is

complete without a vine or two trained along fences and pergolas to enjoy their showy flowers. Mulch is essential as it mimics the original forest's nutrient processing, keeps the soil moist, and inhibits the growth of weeds.

EXAMPLES: From Federation Bridge along Brunswick Terrace to the footbridge at the corner of Burringbar Street, Mullumbimby.

CREATING AN ALLUVIAL PLAINS GARDEN

SOIL DESCRIPTION: Silt-based, usually dark grey clays, tendency to crack if allowed to dry out.

Depending on their access to moisture, these lands once supported a variety of forests.

Drier ground: The Eucalypt (e.g. *E. terreticornis*) and Angophora (e. g. *A. floribunda, A. subvelutina*) species that once dominated these areas are potentially very large trees. Due to bushfire constraints and the danger of falling branches these species are not safe to plant near buildings. However there are hundreds of other plants to

choose from including: Black She Oak, which when mature will attract the Black Cockatoo; Kangaroo Grass and Paper Daisies which are low growing groundcovers, whilst Blue Tongue, Breynia and Orange Thorn are all midsized shrubs and scramblers. Diligent weeding of exotic species may even revive one or two ground orchids.

Wet or boggy ground: A Paper-Bark Tea Tree forest will flourish where the ground water is close to the surface or the ground is frequently inundated. Plant species consist of River She-oaks and Buttonwood as well as Weeping Bottlebrush and Paper-Bark Tea Trees. Poorly drained soils support a large variety of sedges, rushes and ferns as well as such beauties as Sundews, Karamat and Violets.



Coopers CrK, Photo: R Hartlieb Paperbark, Photo: V Dante



Everlasting or Paper Daisy

Bright yellow flowers, butterfly host plant

Riverine a

2

Bungwall (Fern)

Swampy, near paperbarks, creeping rhizomes



Kangaroo Grass

Flower spikes; butterfly host



Karamat

Easily propagated; flowers blue; bluebanded bees; harvester ants; butterfly host



Lomandra

Tussock growth, strappy leaves, branched flower spikes



Swamp or River Lily

Fragrant showy white flowers

| | | | | | i | i | |
|-------------------|----|--------------------------------|-----------------------------|----------|-----------|-------------|------------------|
| | | COMMON NAME | SC NAME | HEIGHT | WIDTH | FULL SUN | PARTIAL SHADE |
| | 1 | Everlasting or Paper Daisy | Bracteantha bracteata | 30cm | 30cm | | |
| | 2 | Bungwall (Fern) | Blechnum indicum | Up to 1m | spreading | | |
| GROUND- COVERS | 3 | Kangaroo Grass | Themeda australis | 1.5m | 1m | | |
| AND GRASSES | 4 | Karamat | Hygrophila angustifolia | Up to 1m | 1m | ~ | ~ |
| | 5 | Lomandra | Lomandra hystrix | 1m | 1m | ~ | ~ |
| | 6 | Swamp or River Lily | Crinum pendunculatum | 1m | 1m | ~ | |
| | 7 | Common Silkpod | Parsonia straminea | n/a | n/a | ~ | ~ |
| VINES | 8 | Wonga Vine | Pandorea pandorana | n/a | n/a | ~ | ~ |
| | 9 | Zig Zag Vine | Melodurum leichhardtii | n/a | n/a | ~ | • |
| | 10 | Climbing Maidenhair Fern | Lygodium microphyllum | n/a | n/a | | |
| | 11 | Blue Tongue | Melastoma affine | 2m | 1m | ~ | ~ |
| SHRUBS | 12 | Breynia | Breynia oblongifolia | 3m | 2m | ~ | ~ |
| AND SCRAM- | 13 | Native Mulberry | Pipterus argenteus | 8m | 2m | ~ | ~ |
| BLERS | 14 | Orange Thorn | Pittosporum multiflorum | 2m | 1m | ~ | ~ |
| | 15 | Velvet Leaf | Callicarpa pendunculata | 2m | 1m | ~ | ~ |
| | 16 | Black She-Oak | Allocasuarina littoralis | 6m | 3m | ~ | |
| | 17 | Creek Sandpaper Fig | Ficus coronata | 15m | 6m | ~ | • |
| TREES | 18 | Veiny Wilkiea | Wilkiea huegeliana | 8m | 2m | | ~ |
| | 19 | Weeping Bottlebrush | Callistemon viminalis | 5-7m | 3m | ~ | ~ |
| | | | | | | | |



Common Silkpod

Robust; scented flowers; butterfly host; bird attractant



Weeping Lilly

Pilly

Zig Zag Vine

Waterhousia

floribunda

Vigorous, prune to keep as a shrub; perfumed flowers, edible fruit; butterfly host

30m

10m



Wonga Vine

Vigorous; tubular flowers to 20 cm; white, yellow, pink



Climbing Maidenhair Fern

Dainty fern-like leaves. Prefers moist rockeries



nd Alluvial

FLOOD

TOLERANT

FULL

SHADE

FROST

TOLERANT

TOLERATES

HEAVY

CLAY SOILS

TOLERATES

SANDY SOILS

DROUGHT

TOLERANT

Native Mulberry

Edible fruit; bird attractant, butterfly host



FLOWERS Orange Thorn

Summer

n/a

n/a

Autumn

Spring/ Summer

Spring/

Summer

Spring Winter to Spring

Spring

n/a

All year

Spring

Spring to Autumn

Spring to

Summer

Summer

Winter

Spring

Spring

Spring to Summer

Spiny; cover for small birds; white flowers, edible berry



Velvet Leaf

Bright berries summer to winter; attracts small birds



Black She Oak

Separate male and female; Food for Glossy Black Cockatoos



Creek

Hairy edible fruit on trunk and older branches; birds, flying foxes, butterfly host



Veiny Wilkiea

Perfumed white to



Spring to Summer

yellow flowers; bird attractant, butterfly host



Blue Tongue

Prolific mauve flowers; edible fruit pulp



Weeping **Bottlebrush**

Flower spikes to 10 cm, bird & butterfly attractant



Breynia

Tiny flowers, red berries; bird attractant, butterfly host

23



Weeping **Lilly Pilly**

Drooping branches; older leaves red



footnils and Hinterland

LOCATIONS:

BANGALOW, BINNA BURRA, BOOYONG, CLUNES, COOPERS SHOOT, COORABELL, EUREKA, EWINGSDALE (HILL SLOPES), FEDERAL, GOONENGERRY, HUONBROOK, MONTECOLLUM, NASHUA, PALMWOODS, POSSUM CREEK, UPPER COOPERS CREEK, UPPER WILSON CREEK, WILSON CREEK

he 'foothills and hinterland' are located primarily in the south west of the Shire amongst the rolling hills and valleys of the Wilson River catchment. The high rainfall and rich soils of the area create the perfect conditions for rainforest plants to thrive. The original vegetation of this area is lowland subtropical rainforest, commonly referred to as 'The Big Scrub' and remnants of this vegetation are now protected as an

Endangered Ecological Community. The Big Scrub once covered the entire hinterland area but now exists as small isolated remnants that make up less than 1% of its original area.

The elevation of the area ranges from 40m along the river flats around Bangalow and Nashua, which are prone to winter frosts, up to 300m in the north around Goonengerry where the soil and vegetation changes from

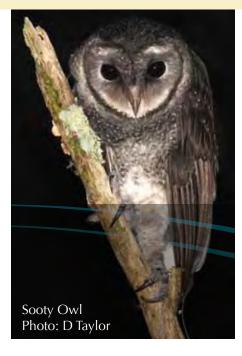
rainforest to wet sclerophyll forest.

Sub-tropical rainforest forms a dense canopy of large trees above a mid and under story layer of dense lush foliage. The range of plants present is extremely diverse and includes trees, shrubs, vines, palms, epiphytes, fungi and groundcovers. This structure creates a cool, moist, shady microclimate by reducing the light intensity, wind and evaporation.

WILDLIFE:

SUB-TROPICAL RAINFOREST IS A HAVEN FOR BIRDLIFE - WOMPOO PIGEON, ROSE-CROWNED FRUIT DOVE, BROWN CUCKOO DOVE, FIGBIRD, CURRAWONG, BAR-SHOULDER DOVE, EMERALD DOVE, FAIRY WREN, SILVER EYE, VARIOUS HONEYEATERS, GREEN TREE FROG, PERONS TREE FROG, ROCKET FROG, MICROBATS, SOOTY OWL, VARIETY OF LIZARDS AND INSECTS









CREATING YOUR OWN RAINFOREST

For those with more space on their property who wish to establish their own patch of rainforest, a site specific planting design and careful species selection is essential. A full description of this process is beyond the scope of this book but here is a brief overview.

The first step is achieved by planting 'pioneer', fast growing trees, which can handle full sun and are generally short-lived in terms of a rainforest (10-30 years). Plant the pioneers 3-4m apart to form a canopy in 2-5 years depending on the site and conditions. Interspersed through these pioneer trees, 'secondary' and 'mature phase' trees are planted. These are slower to establish but can live for hundreds of years and in time will form the rainforest habitat. Once the canopy is established, the final staged planting will contain a diverse mix of trees, shrubs, vines and groundcovers. Where possible, try to source the species that grow naturally in your area – talk to your local native nursery and ensure you are also planting species with local population genetics. By planting in this manner, you will extend the existing habitat for local species encouraging them to move into the new areas that you have provided.

Over time you will notice trees and other plants regenerating naturally. These are brought in by birds and the wind and germinate in the favourable conditions provided by the forest canopy.

More information about planting a rainforest can be found in the book published by the Big Scrub Landcare Group *Subtropical Rainforest Restoration*. This book is essential for anyone looking at undertaking this process, providing a detailed overview of the many factors to consider, as well as a list of appropriate species to plant.

CREATING A RAINFOREST GARDEN

SOIL DESCRIPTION:

Deep, well-structured red/brown krasnozems, high clay content, often acidic - may benefit from the addition of gypsum or lime

A rainforest garden in a moist sheltered part of your property can produce a cool, lush oasis full of verdant foliage. Create a multi-layered rainforest structure by grouping together a range of trees, shrubs, palms and groundcovers sheltered from full sun, frost and prevailing winds.

For a smaller garden, trees such as a Macaranga or Native Frangipani and a few large Bangalow Palms can provide shade. If space is at a premium, plant utilising the shade from your house or fence line. Within this shelter, dense, mass plantings of large glossy-leaved species such as Native Ginger, Cordyline and Cunjevoi look impressive, interspersed with Dianella,

Finger Lime and Midgen Berries to provide food and occasional colour. If you need a hedge, Scrub Cherry can be a good choice with dense foliage that can be pruned and it also provides tasty pink berries. Lomandra can form a dense edge that helps keep your garden weed-free. Vines such as the Bower Vine and Purple Coral Pea can grow in a sunny spot and both have a showy display of flowers.

The Birdwing Butterfly Vine likes partial shade and provides essential habitat for the amazing Birdwing Butterfly. In the shade shrubs such as Narrow-Leaf Gardenia and Hairy Psychotria have distinct flowers and can provide a shaded ground layer where Native Violets will spread rapidly and display small purple flowers in summer.

Large feature trees include the Flame Tree, Coolamon and Firewheel, all of which have stunning flower displays. Always ensure large trees are positioned well away from buildings.

Mulch is an important component of a rainforest garden and mimics the humus layer found on the forest floor. The decomposing organic matter forms the basis of the garden ecosystem by adding nutrients to the soil, holding moisture and providing habitat for soil microbes and invertebrates, which in turn provide food for lizards and birds. Many rainforest plants have a network of surface roots that rely on the nutrients and moisture provided by the mulch.

EXAMPLES: Booyong Nature Reserve, Minyon Falls and Protesters Falls.





Native Ginger

Lush clumping plant with large foliage and bright blue berries. Flowers in spring/summer. Attracts wildlife. Small variety Alpinia arundelliana also available

Foothills &



Cunjevoi Lily

Huge succulent, glossy leaves with a white/yellow flower spike and showy red fruit in summer. Warning: this plant is poisonous if ingested



Rainforest Lomandra

Native clumping grass with cream flowers and orange capsules in spring. Attracts wildlife. Smaller than other Lomandra species preferring more shade. The larger Lomandra hystrix could also be used



Maiden Hair fern

Attractive fern with delicate foliage that likes a moist shady position



Soft Water fern

Attractive clumping fern with a red flush on the new growth



Ground Lilly

Unique looking scrambler with shiny green leaves and small purple flowers



Native Raspberry

Spiky spreading shrub producing edible raspberries in summer. Bushfood. Attracts wildlife. Best grown in moist position receiving direct sunlight



Birdwing Butterfly Vine

Essential habitat for Birdwing Butterfly. They lay their eggs on the leaves and larvae eat the leaves after hatching. Flowers summer/ autumn





Bower Vine

Great climber with showy white/pink flower in spring/ summer. Attracts wildlife. Frost sensitive



Narrow-leaved Gardenia

Narrow leaves and fragrant white flower in late winter/spring. Attracts wildlife

Hinterlands

| HEIGHT | WIDTH | SUN | PARTIAL SHADE | SHADE | TOLERATE WET SOIL | TOLERATE DRY SOIL |
|----------|-----------|-----|------------------|----------|----------------------|----------------------|
| 2m | 1m | ~ | V | V | V | V |
| 1m | 1.5m | | ~ | ~ | V | |
| 0.8m | spreading | ~ | ~ | v | V | ~ |
| 0.5 | 0.8 | | ~ | v | V | V |
| 0.1m | spreading | | ~ | V | V | |
| 0.2m | spreading | | ~ | ~ | V | |
| 0.5m | spreading | | ~ | V | V | |
| 0.4m | spreading | | ~ | V | V | |
| 1m | spreading | ~ | ~ | | V | V |
| 0.2 | spreading | | ~ | V | V | ~ |
| 3m | spreading | | V | V | | V |
| 1m | spreading | | ~ | v | V | |
| 3m | spreading | V | | | V | V |
| 3m | 2m | | ~ | V | | |
| Up to 5m | 1m | V | ~ | | | |
| 2-5m | 1.5 | V | • | V | V | ~ |
| 10m | 4m | V | • | | V | |
| 3m | 2m | | ~ | V | | |
| 3m | 2m | | ~ | v | | |
| 20m | 4m | ~ | V | V | V | V |
| 2-3m | 1m | | ~ | V | V | |
| 25m | 8m | ~ | ~ | | | V |
| 25m | 4-10m | ~ | V | V | V | V |
| 6m | 2-6m | ~ | V | V | | |

Tree Fern

Spectacular species with delicate, shady foliage often used as a feature plant in landscaping



Bolwara

Heavily scented flower in summer and edible fruit in autumn/ winter. Bushfood. Attracts wildlife



Hairy Psychotria

Delicate white flowers in summer. Bird attractant fruit



Bangalow Palm

Classic local palm with bright red fruit in autumn. Bird attractant and a must for any rainforest garden



Walking Stick Palm

Distinctive understorey palm with bright red fruit sporadically through year. Attracts wildlife



Flame Tree

Semi-deciduous feature tree with showy red flowers in spring/summer and large woody capsules



Finger Lime

Edible citrus, great in salads and with fish.

Bushfood



Scrub Cherry

Great hedge. Can be pruned to shape. Edible pink/red fruit in spring. Bushfood. Attracts wildlife



Broad-leaf Palm Lilly

Large lush leaves and bright red berry in summer. Bird attracting fruit. Bushfood



Glossy Laurel

Shrubby tree with glossy foliage and large red fruit in spring/summer. Attracts wildlife



ange

LOCATIONS:

KOONYUM RANGE, ALONG THE RIDGES AND IN THE GULLIES OF HUONBROOK, MONTECOLLUM, MOUNT JERUSALEM, THE POCKET, UPPER COOPERS CREEK, UPPER MAIN ARM, UPPER WILSONS CREEK, WHIAN WHIAN

he spectacular ranges, ridges and gullies of the 'High Country' provide a distinctively different vegetation community to the rest of the Shire. Known as 'tall open forest' dominated by a shady canopy of Eucalypts, Casuarinas and Brushbox, it also has a well developed midstorey of tall tree ferns and pea flowered shrubs and an understorey of lush ground ferns. Grass trees, cycads and scramblers feature and there are many epiphytes, (growing on other plants) including the magnificent Bird's Nest Ferns and Staghorns.

These eucalypt-dominated communities are also known as wet sclerophyll forests, and can overlap with rainforest communities, especially in the gullies or on the red volcanic soils. Native orchids can be found on trees and rocks in and around wet sclerophyll forest. On the exposed ridges the soil layer is often very thin and only low, toughleaved heath shrubs grow comfortably, providing an occasional exuberant and showy flower display.

The plant communities of the ridges and ranges have developed to handle the unique environmental conditions such as exposure to wind, extreme cold and heat, fire and drought and an elevation ranging from 50m to 100m and more. Fires are an integral part of the Australian bush but it is a delicate balance - while it can stimulate germination and growth of new species, fire can also destroy homes, property and in some cases, reduce the number of plant species and allow weeds to grow in place of natives.

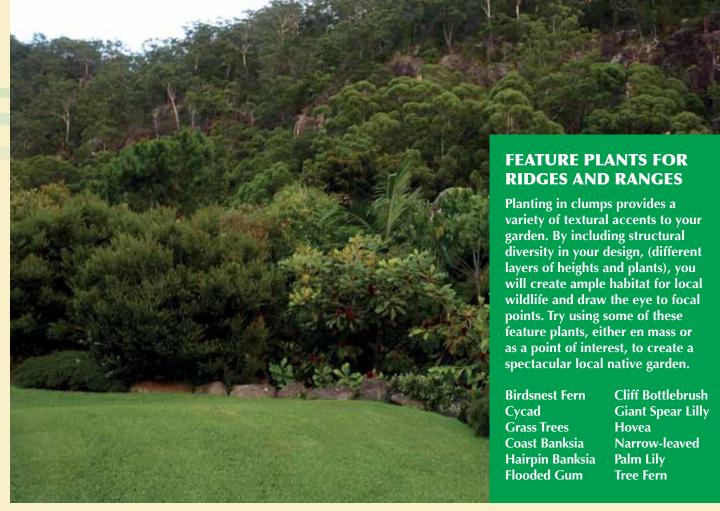
WILDLIFE:

KOALA, RING-TAILED POSSUM, SPOTTED TAIL QUOLL, WEDGE-TAILED EAGLE, POWERFUL OWL, BARKING OWL, GLOSSY BLACK COCKATOO, YELLOW TAILED BLACK COCKATOO, LACE MONITORS, A VARIETY OF SKINKS & REPTILES, BLUE AND BROWN BUTTERFLIES









CREATING A RIDGE-TOP GARDEN

SOIL DESCRIPTION:

Red/brown soils, well-drained and often gravelly, slightly acidic and often leached of humus from high rainfall, runoff and exposure to wind. The addition of mulch is always helpful to retain moisture, add organic matter and keep weeds under control.

The major consideration in designing a ridge-top garden is to avoid creating a fire prone environment. An 'Asset Protection Zone' (APZ) is essential in providing a firebreak between your 'assets', (house, shed etc.) and 'fuel', (vegetation). Check with your local fire brigade or Council about recommended setbacks.

Although most Eucalypts are not suitable near the house, a ridgeline garden can provide a shady cooling environment. If you have the space and can set back far enough from the house, Eucalypts do make spectacular feature trees - local native Flooded Gum are beautiful in wet gullies and Tallowwood are a favourite for koalas. A smaller canopy of trees could include the Mountain Bottlebrush, Banksias, Forest Oak and Blueberry ash – all will provide colour, and a range of foliage and shade for the understorey to establish. Try planting masses of ground ferns interspersed with a variety of shrubs such as Grass Trees, Hovea, Narrow-leaved Palm Lily, tall Treeferns, Cycads or Giant Spear Lily to provide a contrast of foliage. Shaded or moist spots with rocks may help to establish native Orchids, Birdnest Ferns and Elkhorns.

EXAMPLES: Mt Jerusalem National Park, Koonyum Ranges.

Factors to consider near your house:

Avoid tall, fire loving trees like Eucalypts, in the house garden. Avoid plants with a fibrous bark. Use plants that can be trimmed and that resprout from lignotubers (e.g. some Banksias). Rainforest plants are good to include, especially climbers such as Grape ivy (Cissus antactica) and Snake vine (Hibbertia scandens), which are effective fire and weed barriers for edges of the garden.

Space taller plants further apart and don't allow taller shrubs and trees to hang over the roof and gutters. Keep gutters clear of leaves and branches. Carefully arrange the taller plants to avoid a continuous canopy, thus avoiding a fire prone garden, even though a dense canopy is a feature of the natural environment. Use Sweet Pittosporum (Pittosporum undulatum) for low cover and shade. Position lawns, garden walls, paved areas, swimming pools and other fire retarding features such as water features and ponds on the side closest to the fire threat. The native Basket Grasses (Oplismenus spp.) make excellent lawns in shady places when mowed regularly. Use mulches that break down quickly (finely chopped tea tree or gravels).



Native Ginger

Lush clumping plant. Bright blue berries. Attracts wildlife

Ridges ar



Blue Flax Lily

Great clumping grass. Edible blue berries. Bushfood



Kangaroo Grass

Fine foliage, coppery seed heads.
Attracts butterflies



Lomandra

Dwarf tussock-like grass with fine foliage. Great edge plant. Other species include *Lomandra filiformis* and *L. multiflora*



Rainbow Fern

Ground cover, lush foliage. Many native ferns such as the Harsh ground fern (Hypolesis muelleri) are ideal to plant as a 'sea' of understorey



Basket Grass

Great native groundcover. Soft leaf and can be lightly mowed



Birdnest Fern

Can grow on ground or be attached to tree. Features for trees, habitat for frogs, lizards and other reptiles. A striking alternative is the Staghorn (*Platycerium superbum*)



Grape Ivy

Shiny leaved climber, good screen hedge or fire retardant





Snake Vine

Twining shrub-like hardy plant. Large yellow flowers, good groundcover or on fence lines



Pointed-leaf Hovea

Fine open shrub; purple pea flowers in late winter; prefers filtered light; deeper soils



nd Ranges

| | | | | | 1 | |
|--------|-----------|-----|----------|-----|------------------|-------------------|
| HEIGHT | WIDTH | SUN | SHADE | WET | WELL- DRAINED | FLOWER SEASON |
| 2m | 1m | ~ | ~ | ~ | ~ | Spring/ Summer |
| 0.8m | Spreading | ~ | ~ | ~ | ~ | Spring |
| 1m | Clumping | ~ | ~ | | ~ | Summer seed heads |
| 0.5 m | 0.8m | ~ | ~ | ~ | • | Summer |
| 1m | Spreading | | ~ | ~ | ~ | |
| 0.2 | Spreading | ~ | ~ | ~ | ~ | Summer |
| 1m | 1m | | ~ | ~ | | n/a |
| tall | Climbing | ~ | ~ | • | ~ | Spring/ Autumn |
| 1m | 2m | ~ | V | ~ | ~ | Spring/ Summer |
| 2m | 1m | ~ | | | ~ | Winter/ Spring |
| 2m | 1m | ~ | V | ~ | ~ | All year |
| 10m | 4m | ~ | V | ~ | | n/a |
| 2-4m | 1m | ~ | V | ~ | ~ | Spring/ Summer |
| 3-5m | 1-2m | ~ | V | | ~ | Spring/ Autumn |
| 3m | 2m | ~ | V | | ~ | Autumn to Summer |
| 3m | 3m | ~ | ~ | | ~ | Spring |
| 3m | 2m | ~ | ~ | | ~ | Winter (cones) |
| 14m | 6-14m | ~ | | | ~ | Spring |
| 6m | 2-3m | ~ | | | ~ | Summer |
| 10m | 2-3m | ~ | v | ~ | ~ | Spring/ Summer |

Narrow-leaved **Palm Lilly**

Shiny green leaves and bright red berries in summer. Bird attractant



Hairpin Banksia

Showy yellow/orange flower spikes. Excellent specimen for winter colour. Bird attractant



Grass Trees

Attractive grass tree with tall spikes. Slow growing feature plant



Spear Lily

Large flax-like plant with tall spikes of red flowers. Grow in clumps or a single feature specimen. Attracts birds



Shining Burrawang

Very attractive palm-like specimen with glossy foliage. Slow growing feature plant



Cliff Bottlebrush

Small bushy tree 2m. New foliage pink with nectar-rich red flowers throughout year. Attracts wildlife



Weeping Pea Tree

Shrub or small tree with drooping leaves and fragrant yellow pea flowers



Tree Fern

Tall fern for feature plantings



Blueberry Ash

Attractive white 'lily of the valley' like flowers



Arrowhead vine, Illustration: T Roberts

Major food tree for the endangered Glossy Black Cockatoo



Aquatic Plants



Water Snowflake

White flowers in spring-autumn



Nardoo

Leaves vary from light green to rustic brown



Azolla

Spreads rapidly especially in warm weather - can carpet ponds or dams. Fronds plants may be green or red dependant on sun/shade levels



Duck Weed

Although commonly called Duck Weed this is a native plant - not an environmental weed. Very small green leaves up to I cm



Frogmouth

Beautiful yellow flowers on a spike up to 1m long in warmer months

Ponds

Ponds and other water features enhance the beauty of your garden and supplement its habitat values. This section lists some of the more common and accessible local native plants that are suitable to grow in and around your pond, dam or even in

| | COMMON NAME | SC NAME | HABIT |
|----|-----------------------------|--|--|
| 1 | Water Snowflake | Nymphoides indica | Perennial water lily with floating stolons and leaves |
| 2 | Nardoo | Marsilea mutica | Perennial fern with four clover-like floating leaflets |
| 3 | Azolla | Azolla filiculoides | Perennial free floating aquatic fern |
| 4 | Duck Weed | <i>Lemna</i> spp. | Perennial free floating plant |
| 5 | Frogmouth | Philydrum lanuginosum | Perennial emergent aquatic plant which grows to 2m |
| 6 | Jointed Twig rush | Baumea articulata | Perennial emergent aquatic plant which grows to 2.5 m |
| 7 | Common Spike rush | Eleocharis acuta | Perennial emergent aquatic plant less than 1 m |
| 8 | Tassel sedge | Carex fasicularis | Perennial emergent plant to 1 m tall |
| 9 | Water Primrose | Ludwigia peploides ssp. montevidensis | Perennial emergent plant |
| 10 | Smart weeds or Knotweeds | <i>Persicaria</i> spp. | Perennial emergent aquatic plants |

SAFETY & HEALTH

Whenever installing ponds or dams make sure they are safe, especially for young children. Details on safety and water bodies can be obtained from State and local government agencies. Another health consideration is to ensure that mosquitoes are not breeding in your pond.

POND MANAGEMENT

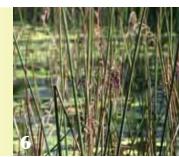
Many native animals including birds, frogs and Dragonflies often visit small ponds, and if you are lucky, frogs may even breed in your pond. However be careful that you are not breeding cane toads. There is a fact sheet to keep toads out of your pond at www.byron.nsw.gov.au/cane-toads Although it is great to invite frogs to come to your pond to breed you are not permitted to move or breed frogs without a license. This is to ensure that diseases are not spread through our native frog populations. Visit: http://frogsaustralia.net.au/ for more information. Another consideration is that an over abundance of plants can cause the water to deoxygenate, so you may need to install an aeration system.

water-tight pots. Aquatic plants may be floating or emergent those that are rooted in the soil but which can tolerate being partially submerged. See Waterplants in Australia, Sainty and Jacobs, for more details (in resources list).

| SUN REQUIREMENTS | WATER REQUIREMENTS |
|---------------------------|--|
| Full sun or part shade | Grows in still and slow flowing water up to 2 m deep |
| Full sun or semi shade | Grows in still or slow flowing water up to 60cm deep |
| Full sun or shade | Grows in still or slow flowing water with adequate nutrient levels |
| Sun or shade | Grows in still or slow flowing water with adequate nutrient levels |
| Sun or partial shade | Grows on edge of ponds and dams, shallow water & wet soils |
| Prefers full sun | Grows in water up to 1m deep often in deep mud |
| Prefers full sun | Grows in water up to 45 cm deep |
| Semi shade | Grows in wet soil or on the edge of dams or slow flowing waterways |
| Full sun or partial shade | Grows in dams or slow flowing waterways |
| Full sun or part shade | Grows in water up to 1m deep |

Jointed Twig rush

Can spread to a thick stand therefore best for dams and larger ponds. Attractive seed heads



Common Spike rush

Thin cylindrical stems



Tassel sedge

Showy yellow-green fronds, drooping inflorescence



Water **Primrose**

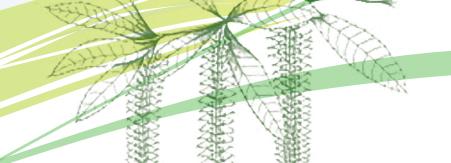
Bright yellow flowers



Smart weeds or Knotweeds

Flowers vary in colour between species though usually white or pink. These species readily regenerate naturally in ponds and dams. The species pictured is Slender Knotweed and is a native species. If you have knotweeds regenerating check that they are one of the native species





Invasive Species

INVASIVE SPECIES ARE INTRODUCED SPECIES THAT HAVE NATURALISED AND HAVE AN ADVERSE EFFECT ON NATURAL ECOSYSTEMS. MOST PEOPLE KNOW THAT FOXES, RABBITS, CANE TOADS AND INDIAN MYNAS ARE ALL INVASIVE SPECIES **BUT INVASIVE SPECIES ALSO** INCLUDES PARASITES, FUNGI, INSECTS AND WEEDS.

INVASIVE FAUNA

Indian mynas and cane toads are two of the most destructive invasive species and may be found in your garden. There are several things you can do to help limit the populations of toads and mynas.

- 1. Grow your lawn longer because toads and mynas love short manicured lawns
- 2.Don't feed these pests, this includes not leaving unattended pet food outside
- 3. Toad proof your ponds and dams
- 4. Join the Indian Myna trapping program
- 5. Join a Landcare toad buster group

PETS

It is important to remember that pets such as cats and dogs are introduced species and need to be managed in a way that doesn't adversely affect our native fauna. Don't let your pets roam freely and keep cats in the house, especially at night.

WHAT IS AN **ENVIRONMENTAL WEED?**

Some of the most invasive species with the biggest impact on our native bushlands have escaped from gardens. These plants are environmental weeds and Australia's 2006 State of the **Environment Report identified** weeds as 'Australia's second greatest threat to biodiversity after land-clearing.'

Environmental weeds are plants growing outside of their natural distribution that have a negative impact on the natural ecosystems and the plants and animals within those ecosystems. These weeds are introduced into new areas by human activities. Sometime this is accidental such as via transport but most often, plants are bought for the home garden and then escape. In fact one hundred and twenty four environmental weed species are still being sold in nurseries across New South Wales!

HOW CAN MY GARDEN PLANTS THREATEN **BIODIVERSITY?**

Some introduced plants have a direct impact on native animals. For example the introduced species Dutchman's pipe has very similar leaves to the native Richmond Birdwing Vine. When the Richmond Birdwing butterfly accidentally lays its eggs on the exotic plant the caterpillars are poisoned.

Most environmental weeds simply out-compete native plants for light, water, nutrients and



space. Invasive vines such as Morning Glory, Madeira Vine and Cats-claw Creeper are some of the worst environmental weeds as they smother native plants, completely blocking photosynthesis and can grow thick enough to break branches and bring down entire trees and shrubs.

HOW DO THE PLANTS ESCAPE FROM GARDENS?

Garden waste dumping is a serious threat to native bushland as weeds are directly spread into new areas. But environmental weeds may also be spread indirectly. Seeds can be dispersed by birds or bats, some may be wind-blown or spread by water and others still have sticky seeds that cling to clothing, pets or even vehicles. Plants such as the Madeira vine spread vegetatively and even a small leaf is enough to start a new infestation. So no matter how careful you are, environmental weeds in your garden can still spread to natural ecosystems. Best not to have them in the first place.

NOT ALL INTRODUCED **SPECIES ARE A PROBLEM**

Many exotic species of plants from other parts of the world pose no threat at all. Roses, Gardenias and Azaleas are all exotic plants but none of these have the potential to become invasive species.



WHAT CAN YOU DO TO STOP THE SPREAD OF ENVIRON-MENTAL WEEDS?

- 1.Learn which plants are environmental weeds
- 2.Don't plant environmental weeds and gradually remove weeds from your garden
- 3. Plant local native species
- 4. Buy plants from Bushland friendly nurseries
- Carefully dispose of environmental weeds and their seeds
- 6.Join your local Landcare or Dunecare group

Some of the exotic species introduced into Australian gardens that have escaped to become serious environmental weeds: , Elephant Ears, Small Leaved Privet, Buddleja, Glory Lily. Photos courtesy Byron Shire Council.

WEEDS – THE GOOD NEWS

Nature doesn't like gaps. Wherever there is space to grow, something, (usually weeds) fills it. However in terms of looking after the environment, weeds can provide an important role in binding the soil together and providing habitat for native species. There is nothing as bad as bare soil – this is an invitation for erosion to take hold. Apart from losing precious topsoil, the runoff can lead to pollution of our waterways. It is imperative to have a plan when attacking weeds – whether it's for natural regeneration, (is there a native seedbank still active in your soil?) or a planting regime - consider what will take over when you remove the weeds.









Other Points for Consideration

CULTIVARS

When a naturally occurring plant has been 'selected' or changed by the intentional actions of humans, it is called a 'cultivar' (under the International Code of Nomenclature for Cultivated Plants). Humans have been 'improving" nature by cultivation for thousands of years; orange trees, tomatoes and wheat are good examples. It is important to recognise that cultivated native plants are not the same as 'local' natives or naturally occurring species.

Cultivars often have fancy names like 'Callistemon Perth Pink', which is a selected form of Callistemon salignus, a local native plant. Cultivars can be identified where the abbreviation 'cv' is used. They are often bred to flower more prolifically than 'true' natives and if they are not sterile, may produce viable seed. For this reason, cultivars should never be reintroduced to bushland situations, or used in revegetation. If you live near natural bush, be aware that the cultivars and exotics in your garden may influence native vegetation through the spread of seeds by birds or seedlings over time.

Cultivars are very popular for gardens as they are seen as 'improvements' to the wild species. However they have potential to hybridise or cross with the native species, thus changing the genetics forever. The dangers in this are that the new species may not have the

Land Mullet (top) Coral Fungi (centre) Photos: R Hartlieb

genetic characteristics (resilience) to survive over time; frost hardiness or drought tolerance may be reduced.

Local nurseries that collect and grow wild seed are performing a valuable service in preserving the genetic resources of our native bush. We ask you to please consider the importance of the natural ecology and genetic integrity when designing your garden.

CREATING STRUCTURAL HABITAT FEATURES

To attract wildlife in your garden, it takes more than just plants. While the flowers, fruit and protection provided by plants is important, features such as logs, rocks, leaf litter and ponds create important structural features that make your garden more inviting to a range of wildlife. Mulch, leaf litter, sticks and bark forms the basis of the food pyramid in your garden ecosystem. These features provide habitat for worms and insects, many of which are important in the cycling of nutrients to the soil and in turn, provide a food source for lizards, birds, frogs, bandicoots and

echidnas. Logs and rocks placed in protected areas around the garden will provide a home for frogs and lizards while a rock placed in the morning sun will be appreciated by the local skinks. A birdbath placed in an open sunny spot will attract local birds, providing a reliable source of water and somewhere for them to cool off in summer. A shrub located nearby will provide a safe retreat from predators. (For further information - see pond management under the Aquatic Plants chapter.)

Be sure not to take rocks and hollow logs from the bush where they are already providing habitat for the wildlife.





FUNGI IN THE GARDEN

Fungi are a little known but vital component of all local ecosystems. In any forest system, fungi rot down wood and wood litter making nutrients available for new growth. It is estimated 80-90% of all plants form mycorrhizal partnerships with fungi – a mutually beneficial relationship where plants can acquire moisture and minerals sooner from fungi than they could get themselves, whilst the fungi find shelter in the tree roots - both a critical survival strategy during droughts. Excellent information about Australian fungi can be found here: http://www.anbg.gov.au/fungi/ index.html You can also learn more about local fungi from the ongoing collection being blogged at http:// calderafungi.blogspot.com.

NEST BOXES

Nest boxes in backyards are a great way to encourage many birds around your house and can give your local possum an alternative home to your roof. Nest boxes placed in rural areas can provide important habitat for a range of species including birds, arboreal (tree dwelling) mammals and microbats. Many of these species play an important part in our ecosystem through pollination of plants, dispersal of seeds and regulating insect population.



Artificial tree hollows, or 'nest boxes' can be used by a range of animals as a replacement for natural hollows in the landscape. At least 10 mammals, 15 birds and 8 microbat species as well as some reptiles have been recorded using nest boxes in Australia.

When deciding what sort of box to install, identify what hollow-using fauna occur in your area and use this to guide what type of box is appropriate to use. It is not recommended to be providing homes for some animals within urban development or adjacent to busy roads. Consider the consequences and potential risk to wildlife from road kill and attacks by domestic pets. In busy urban areas nest boxes located high in trees targeting birds may be a preferred option.

There are several nest box manufacturers in Australia as well as a number of publications that outline their design and construction – easily sourced from the internet. The Bush Futures Project has an excellent brochure on nest boxes that can be found here: www.byron.nsw.gov.au/environmental-resources.

BUSH FOOD

What could be more logical than planting endemic species that provide food for wildlife and people? Local plants are adapted to the conditions and rarely need fertilisers, pesticides or additional water once established. Some people like to dot their bushfood plants around the garden so they can have a nibble as they potter, others prefer to create a 'food forest' where all the edibles are clustered

Davidson's Plum,
Black Diamond Images

in one area for ease of harvesting. Please note the previous section on cultivars when choosing plants where there is a possibility their seed may be spread into the bush. Our favourites include: Midgen Berry, Macadamia Nut Tree, Brush Cherry, Native Raspberry, Davidson's Plum, Native Tamarind & Finger Lime. The Internet is a great resource for recipes – just plug 'Bushfood' or the plant of your choice into your web browser. Brunswick Valley Landcare has a download of species found in the local Yallakool reserve: http://www. brunswickvalleylandcare.org.au/ PLANT_LIST.pdf

CLIMATE CHANGE

A predicted increase in extreme weather events in the form of more severe droughts, more frequent fires and the possibility of greater variations in rainfall patterns, may lead to increased stress on plants and animals as they become progressively isolated in remnants of vegetation, (CSIRO 2007). All the more reason why it is critically important to protect existing remnants and expand local wildlife corridors to offer some refuge and provide our endemic plants and animals a chance to adapt to these evolving conditions.

Photo: A Underwood

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Waterplants in Australia: a field guide 4th edition 2003. Sainty, G and Jacobs, S. Published by Sainty and

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Australian Association of Bush Regenerators:

Backyard Buddies: www.backyardbuddies.net.au/

Big Scrub Landcare: https://www.bigscrubrainforest.org.au/

Brunswick Valley Landcare:

Biodiversity in my Backyard (by Rita de Heer):

Byron Bay Backyard (local bird photographer):

Byron Shire Council biodiversity information:

Byron Shire Council environmental resources (Nest

boxes): www.byron.nsw.gov.au/environmental-resources

Flora Far North Queensland:

Frogs Australia: http://frogsaustralia.net.au/

Landcare Australia:

National Parks: www.environment.nsw.gov.au/parks/

North Coast Weeds Advisory Committee:

Northern Rivers Catchment Management Authority:

NSW Flora Online - Plantnet:

Rural Fire Service NSW: www.rfs.nsw.gov.au

Save Our Waterways Now, (Check out their brilliant booklet, "The Creek In Our Backyard"):

Subtropical Farm Forestry Associaton:

Threatened Species: www.environment.nsw.gov.au/

LOCAL NURSERIES (Bush-Friendly)

Burringbar Rainforest Nursery

Ph/fax (02) 6677 1088 Upper Burringbar NSW 2483

Eastern Forest Nursery (wholesale)

www.easternforestnursery.com.au
Ph (02) 6629 0353
848 Bruxner Highway, Lismore, NSW 2480







