Species selection guidelines

Tree species selection

This section of the plan provides guidance around the selection of species for use as street trees in the Sunshine Coast Council area and includes region-wide street tree palettes for specific functions and settings. More specific guidance on signature and natural character palettes and lists of trees suitable for use in residential streets for each of the region's 27 Local plan areas are contained within Part B – *Street tree strategies* of the plan.

Street tree palettes will be periodically reviewed as an outcome of street tree trials, the development of new species varieties and cultivars, or the advent of new pest or disease threats that may alter the performance and reliability of currently listed species.

The plan is to be used in association with the *Sunshine Coast Council Open Space Landscape Infrastructure Manual* where guidance for tree stock selection (in line with *AS 2303–2018 Tree stock for landscape use*) and tree planting and maintenance specifications can be found.

For standard advanced tree planting detail, maintenance specifications and guidelines for the selection of tree stock see also the *Sunshine Coast Open Space Landscape Infrastructure Manual – Embellishments – Planting Landscape*). The manual's *Plant Index* contains a comprehensive list of all plant species deemed suitable for cultivation in Sunshine Coast amenity landscapes. For specific species information including expected dimensions and preferred growing conditions see *Palettes – Planting – Planting index*).

Tree nomenclature

The names of trees in this document follow the *International code of botanical nomenclature* (2012) with genus and species given, followed by the plant's common name. While species is the principle taxonomic unit used, sub-species, varieties and cultivars that are recognised taxonomically may also be provided where distinction is required (for example a more superior cultivar such as *Tristaniopsis laurina* 'Luscious'). Where more than one plant name is in existence, the names given are in accordance with the *Census of Queensland flora* (Jessup 2015) and current as at January 2017.

Lilly pillys previously belonging to the genus *Acmena,* are now recognised as a part of the *Syzygium* genus. *Callistemon* (bottle brush) trees have mostly been incorporated into the *Melaleuca* (paperbark) genus.

To avoid confusion, the plan lists the synonym adjacent to the most widely accepted species name (abbreviated to syn.) as well as providing a common name for the species.

The term 'eucalypt' is used throughout the plan as a generic term or common name for all eucalypt-type (gum) trees that were once included in the *Eucalyptus* genus but have since been split into three separate genera – *Eucalyptus, Corymbia* and *Angophora.*

Guiding principles

- Select the right species for the location (match the species to the site, not the site to the species)
- Use a diverse palette of species with local native species forming the basis of planting plans with native or exotic trees used for accents
- Plant quality tree stock with well–formed root systems and appropriate root to shoot (root ball volume to height) ratios in all public open space areas.

Strategic outcomes

- Trees are selected by suitably qualified and experienced practitioners
- Tree selection is locally responsive and considerate of local conditions and individual site characteristics including soils, drainage, services and biological factors
- Trees are selected and situated so as to reduce the risk of conflict and lower maintenance requirements over the life of the tree
- Local native trees are predominately used for landscape plantings
- A greater proportion of rainforest origin trees and species reflecting the region's subtropical design intent are used in streetscapes and as feature plantings (where they can be supported by the existing site soils)
- Exotic and non-native species have a greater presence in activity centres and provide colour and contrast in strategic locations
- In constrained sites and many residential areas where smaller trees are desired, trees are selected from a base palette of compact trees
- Tree selection ensures no species or plant families are over-used where feasible alternatives exist
- Under-represented and unavailable species are propagated and grown in council's nursery and available for use in street tree trial programs
- Care is taken not to use species that have a short life span (less than 15 years) or for the most part have an untidy appearance
- Complementary species are selected for street trees plantings adjacent to council bushland reserves where appropriate (in consideration of any associated risk to wildlife as an outcome of movement need roadways).

Street tree palettes

Signature species for feature plantings

Signature trees of the Sunshine Coast are encouraged for planting at gateways and in high profile locations to help reinforce the local landscape character of the Sunshine Coast.

The hoop pine (*Araucaria cunninghamii*) for example is a prominent feature tree in the region and synonymous with the Sunshine Coast landscape. The visually appealing tree provides a distinct vertical element to streetscapes and with a wide natural distribution, performs consistently across a range of soil types. This plan recommends the use of this species wherever possible to create a common thread between the Sunshine Coast's community of communities' as well as a recognisable regional landscape character.

The culturally significant bunya pine (*Araucaria bidwillii*) is also a key Sunshine Coast character tree species. The large fruits that were an important food source for traditional owners of the land (and the subject of large gatherings and celebrations) however are potentially hazardous. Use of this species therefore is limited to large garden bed-type spaces where falling fruits can cause no harm (see Table 24: *Species for use as feature trees in garden beds only*).

Other stand-out signature trees include the suite of local fig tree species (best represented by the Moreton Bay fig – *Ficus macrophylla*), local eucalypts including the adaptable blue or forest red gum (*Eucalyptus tereticornis*) the ever-present broad-leaved paperbark (*Melaleuca quinquenervia*) as well as key rainforest species represented by genera *Flindersia*, *Syzygium* and *Elaeocarpus*. Key signature species for reinforcement either as specimen tree or group plantings in high profile Sunshine Coast locations are listed in Table 9: *Signature Sunshine Coast local tree species*.

Pandanus or screw palms (*Pandanus tectorius*) feature strongly in coastal landscapes as do coastal banksias (*Banksia integrifolia*) and naturally occurring sheoaks (*Casuarina equisetifolia* and *Casuarina glauca*). Introduced, yet naturalised, Norfolk Island and Captain Cook's pines (*Aracucaria heterophylla, Araucaria cookii*) are also significant landscape elements of the coastline. Continued use of these and other non-local yet established character species of the Sunshine Coast for future proofing as well as a character preserving, is also encouraged.

Table 10: *Exotic or non-indigenous native signature trees* lists the most prominent of these.

Table 9: Signature Sunshine Coast local tree species

Signature Sunshine Coast local tree species
Araucaria bidwillii (bunya)
Agathis robusta (kauri pine)
Angophora leiocarpa (rust barked apple)
Araucaria cunninghamii (hoop pine)
Banksia integrifolia (coast banksia)
Brachychiton acerifolia (Illawarra flame)
Callitris columellaris (Bribie Island pine)
Casuarina equisetifolia (horse-tail sheoak)
Casuarina glauca (swamp sheoak)
Corymbia citriodora subsp. *variegata* (spotted gum)
Corymbia intermedia (pink bloodwood)
Corymbia tesellaris (Moreton Bay ash)
Elaeocarpus eumundii (Eumundi quandong)
Elaeocarpus grandis (blue quandong)
Elaeocarpus obovatus (hard quandong)
Eucalyptus bancroftii (tumbledown gum)
Eucalyptus propinqua (mountain grey gum)
Eucalyptus racemosa (scribbly gum)
Eucalyptus siderophloia (northern grey iron bark)
Eucalyptus tereticornis (blue gum/forest red gum)
Ficus macrophylla (Moreton Bay fig)
Ficus obliqua (small-leaved fig)
Ficus virens (White's fig)
Flindersia bennettiana (Bennett's ash)
Flindersia schottiana (cudgerie)
Gmelina leichhardtii (white beech)
Grevillea robusta (silky oak)
Lophostemon confertus (Queensland box)
Lophostemon suaveolens (swamp box)
Melaleuca quinquenervia (broad leaf paperbark)
Pandanus tectorius (pandanus palm)
Podocarpus elatus (brown pine)
Syncarpia glomulifera (turpentine)
Syzygium francissii (giant water gum)
Syzygium (syn. *Waterhousia*) *floribunda* (weeping lilly pilly)
Toona cilita (red cedar)

Table 10: Exotic or non-indigenous native signature tree species

Exotic or non-indigenous native signature tree species
Albizia (syn.*Samanea*) *saman* (silk tree)
Alloxylon flammeum (tree waratah)
Araucaria cookii (Captain Cook's pine)
Araucaria heterophylla (Norfolk Island pine)
Caesalpinia ferrea (leopard tree)
Corymbia ptychocarpa (swamp bloodwood)
Delonix regia (poinciana)
Magnolia grandiflora (bull magnolia)
Peltophrum pterocarpum (yellow poinciana)

Local rainforest trees for wider use

The Sunshine Coast's suite of local rainforest trees are an untapped or under-utilised cooling and shade tree resource. Local rainforest trees have the potential to significantly increase the diversity of the region's street tree population while remaining in-keeping with the general preference for selection of naturally occurring species in the first instance.

Gallery/notophyll rainforest species

Gallery or notophyll rainforest trees (riverine/riparian) with their large leaf surface areas and dense canopies have the greatest capacity for cooling (see *Trees and temperature*). These types of trees are recommended for increased use in hot spots where shading and cooling is critical (in locations where good soil moisture exists or in scenarios where irrigation can be supplied).

Compact specimens encouraged for trial and/or wider use in local residential streets are listed in Table 11: *Compact rainforest (sub-tropical, littoral, swamp or gallery rainforest) tree species for trial or wider use in residential streetscapes*.

Rainforest trees hailing from Northern Australia have the added benefit of being more tolerant of, or adaptable to, warmer climates. With significantly higher temperatures predicted for the future in worst case climate change scenarios (see *Trees and temperature*), these types of species are recommended for incorporation in street tree planting palettes to help build population resilience. Larger specimens may buttress and are recommended for use in places with ample room. These include truncated corner or intersection nodes, extra-wide road reserve spaces, centre medians of appropriate width, irrigated roundabouts and other engineered planting sites. Some of the taller growing species proposed for use in larger spaces are listed in Table 12: *Shade trees (sub-tropical, littoral, swamp or gallery rainforest) tree species for trial or wider use in large planting sites*.

Table 11: Compact rainforest (sub-tropical, littoral, swamp or gallery rainforest) tree species for trial or wider use in residential streetscapes

Compact rainforest tree species for trial or wider use in residential streetscapes
Acronychia oblongifolia (white aspen)
Acronychia wilcoxiana (silver aspen)
Akania bidwillii (turnipwood)
Allosyncarpia ternata (an-yinik)
Backhousia anisata (aniseed myrtle tree)
Barklya syringifolia (leather jacket)
Castanospora alphandii (brown tamarind)
Choricarpia leptopetala (brown myrtle)
Commersonia bartramia (brown kurrajong)
Cryptocarya bidwillii (yellow laurel)
Cryptocarya rigida (rose maple)
Darlingia darlingiana (brown silky oak)
Davidsonia johnsonii (Davidson's plum)
Diospyros geminata (scaly ebony)
Diospyros pentamera (ebony)
Diploglottis campbelli (small leaved tamarind)
Drypetes deplanchei (yellow tulipwood)
Endiandra globosa (black walnut)
Endiandra pubens (hairy walnut)
Ganophyllum falcatum (scaly ash)
Jagera pseudorhurs (foam bark)
Litsea leefeana (brown bolly gum)
Mallotus discolour (yellow kamala)
Mischarytera lautereriana (corduroy tamarind)
Planchonella pohlmaniana (yellow boxwood)
Sarcopteryx stipita (steel wood)
Schizomeria ovata (crab apple)
Syzygium crebrinerve (purple cherry tree)
Syzygium paniculatum (magenta lilly pilly)

Table 12: Shade trees (sub-tropical, littoral, swamp or gallery rainforest) tree species for trial or wider use in large planting sites

Shade trees tree species for trial or wider use in large planting sites
Alectryon tomentosa (hairy birds eye)
Argyrodendron trifoliatum (white booyong)
Argyrodendron actinophyllum (black booyong)
Athertonia diversifolia (Atherton oak)
Backhousia subargentea (syn. *Choriocarpa subargentea*) (giant ironwood)
Cinnamomum oliverii (Oliver's sassafras)
Cryptocarya hypospodia (northern laurel)
Cryptocarya microneura (murrogun)
Cryptocarya obovata (pepperberry)
Dysoxylum fraserianum (rose mahogany)
Ficus fraserii (sand paper fig)
Ficus rubiginosa (rock fig)
Maranthes coryombosum (panari)
Gossia fragrantissima (sweet myrtle)
Musgravea heterophylla (briar oak)
Nauclea orientalis (leichhardt tree)
Santalum acuminatum (quandong / native peach)
Sloanea woolsii (yellow carrabeen)
Syncarpia glomulifera (turpentine)
Syncarpia hillii (Fraser Island turpentine)
Syzgium corynanthum (sour cherry)

Littoral rainforest species

Littoral rainforests occur on nutrient-enriched sands in protected areas close to the sea. Trees that naturally grow within these environments are generally tolerant of salt laden winds. Local littoral rainforest species therefore may be useful in protected coastal streets where soils are fertile (or fertiliser can be continually supplied) and free draining, but salt spray remains an issue and limits the range of species that can be planted. Suitable species are recommended for trial in an effort to expand the currently narrow palette of species used in coastal streetscapes (see Table 21: *Trial species for coastal environments* for all recommendations).

Swamp rainforest species

Swamp rainforests generally have a *Melaleuca* (paperbark) upper story and bangalow or fan palm *Archtonophoenix cunninghamiana* (piccabeen palm) or *Livistona sp* (fan palm) understory. These rainforests may however also include the specie *Mellicope elleryana* (euodia), *Glochidion ferdinandii* (cheese tree), *Elaeocarpus obovatus* (hard quandong), *Syzygium paniculatum* (brush cherry) and *Cupaniopsis anacardiodes* (tuckeroo) in the upper strata. Tree species originating from this type of rainforest offer potential for use in locations where soils may be poorly drained, seasonally inundated or significantly disturbed (compacted/ filled/inverted). This suite of species may be appropriate for trial in WSUD (water sensitive urban design) treatments as an alternative or in addition to *Melaleuca quinquenervia* (broad-leaved/swamp paperbark).

Dry rainforest trees species

Dry rainforests are generally located away from the coast in areas of lower rainfall or where rainfall is effectively low due to topography. Drier rainforest trees, and those naturally occurring on forest margins where they are more exposed and need to be more adaptable, have a wider range of environmental tolerances (specifically a greater tolerance to drier soils) than wet rainforest plants. Dry rainforest tree species for example are more likely to have deeper rooting characteristics.

Trees hailing from dry rainforest environments generally have smaller, tougher leaves and/or the ability to shed some of their leaves during dry periods to conserve water use. In the driest rainforests trees are often stunted and may only reach 5-6 m on maturity.

Species that naturally occur in dry rainforest environments or a combination of dry and other rainforest types (some species cross over a range of rainforest types) as well as those known to occur on the margins of rainforest (for example *Harpulia pendula* - tulipwood) offer good potential for future proofing. Little known species offer good potential for population diversification.

Many of the more compact local dry rainforest species are likely to be appropriate for use in local residential streets as they may be smaller and easier to manage as street trees. Table 13: *Compact dry rainforest trees for trial or wider use - residential streets* lists species recommended for trial in these spaces. Larger growing dry rainforest trees recommended for selection for larger sites are listed in Table 14: *Dry rainforest trees for larger sites*.

While diversification of street tree palettes is a key strategy for building resilience in local street tree populations in our warming climate, some dry rainforest species may still be vulnerable to the impacts of rising temperatures (especially in extreme climate change scenarios). Strategies for resilience (longer maintenance periods for example) may require integration in addition to site responsive species selection.

Table 13: Compact dry rainforest or rainforest edge trees for trial or wider use - residential streets

Compact dry rainforest or rainforest edge trees for trial or wider use - residential streets
Acronychia laevis (hard aspen)
Alectryon subcinereus (native quince)
Alectryon subdentatus (hard alectryon)
Alphitonia petriei (white ash)
Backhousia myrtifolia (lemon myrtle)
Baloghia inophylla (brush bloodwood)
Barklya syringifolia (leather jacket)
Cupaniopsis parvifolia (small-leaved tuckeroo)
Diospyros australis (yellow persimmon)
Ellatostachys xylocarpa (white tamarind)
Flindersia collina (leopard ash)
Geijera parvifolia (wilga)
Gossia bidwillii (python tree)
Guioa semi-glauca (wild quince)
Litsea australis (bolly gum)
Petalostigma triloculare (long-leaved bitter bark)
Petalostigma pubescens (quinine bush)
Sterculia quadrifila (peanut tree)
Syzygium oleosum (blue lilly pilly)

Table 14: Dry rainforest or rainforest edge trees for larger sites

Dry rainforest or rainforest edge trees
Alphitona excelsia (soap tree)
Aphananthe philippinensis (rough-leaved elm)
Beilschmiedia obtusifolia (blush walnut)
Brachychiton discolour (lacebark)
Brachychiton populneus (kurrajong)
Brachychiton rupestris (bottle tree)
Callistemon salignus (willow bottlebrush)
Choricarpia subargentea (giant ironwood)
Commersonia bartramia (brown kurrajong)
Cryptocarya glaucescens (jackwood)
Cryptocarya rigida (rose maple)
Cryptocarya triplinervis (three-veined laurel)
Diospyros pentamera (ebony)
Diploglottis australis (native tamarind)
Elaeocarpus obovatus (hard quandong)
Endiandra sieberii (cork wood)
Eremophila mitchellii (false sandalwood)
Eurochinus falcata (ribbonwood)
Ficus coronata (creek sand paper fig)
Ficus fraserii (sand paper fig)
Ficus macrophylla (Moreton Bay fig)
Flindersia australis (Crow's ash)
Flindersia bennettiana (Bennett's ash)
Flindersia collina (leopard ash)
Flindersia xanthoxyla (yellow wood)
Geijera salicifolia (brush wilga)
Glochidion sumantrum (cheese tree)
Mallotus phillippensis (red kamala)
Melaleuca stypheliiodes (prickly paperbark, large sites)
Olea paniculata (native olive)
Planchonella australis (black apple)
Podocarpus elatus (brown pine)
Polyscias elegens (celery wood)
Streblus brunonianus (whalebone tree)
Syzygium australe (brush cherry)
Syzygium smithii (magenta lilly pilly)

Species for accents and highlights

Accent trees include species that can be planted as understory to larger growing trees, species that can be grouped with other plants in layered subtropical garden beds, as well as species that can be planted as stand-alone features. In areas where a higher level of embellishment is appropriate (commercial precincts for example), the incorporation of accent plants not only promotes species diversity but also vibrancy.

Native accent species

Accent trees can also be incorporated in traditional streetscapes, in blister plantings or intersections for example. Illawarra flame trees (*Brachychiton acerifolius*), and fire wheel trees (*Stenocarpus sinuatus*) are key local species frequently used to provide accents in confined spaces.

Corymbia ptychocarpa (swamp bloodwood) a signature tree of many of the coast's localities (although not native to the local area, naturally occurring in the northern most regions of Australia) also offers significant visual amenity when selected for use in the right location. *Alloxylon flameumm* (tree waratah) is another relatively compact accent tree, adapted to warmer climates and useful for future-proofing (See Table 16: *Native species for accents and highlights*).

Exotic accent tree species

Many exotic trees especially species of South American and Asian origin perform well on the Sunshine Coast. Strategic plantings of these species are also encouraged as contrast or feature trees in town centres or precinct areas. Smaller growing species also encouraged for use in urban residential areas (for example on street corners as entry statements) include trumpet trees (*Tabebuia argentea, Tabebuia pallida*), frangipani (*Plumeria* sp), dwarf magnolias (*Magnolia 'Little gem'*) and crepe myrtles or pride of India trees (*Lagerstroemia* sp).

Palm trees for accents and highlights

Locally native piccabeen palms (*Archontophoenix cunninghamiana*) and a range of local and Northern Australian fan palms (*Livistona* sp) can be used in place of trees where vertical scale is needed but space is limited. Part B of the plan *Street tree strategies* nominates additional palm species suitable for specific localities, Cuban royal (*Roystonea regia*) for Eumundi for example.

Table 15: Native species for accents and highlights

Native species for accents and highlights
Alloxylon flameumm (tree waratah)
Alloxylon pinnatum (Dorrigo waratah)
Banksia robur (wallum banksia)
Brachychiton acerifolius (Illawarra flame tree)
Brachychiton bidwillii (little kurrajong – Maroochydore form)
Brachychiton discolour (lace bark)
Brachychiton populneus (kurrajong)
Brachychiton rupestris (bottle tree)
Corymbia ptychocarpa (swamp bloodwood)
Hymenosporum flavum (native frangipanni)
Melicope elleryana (euodia) (garden beds only)
Pandanus tectorius (screw palm) (garden beds only)
Stenocarpus sinuatus (fire wheel)

Table 16: Exotic species for accents and highlights

Exotic species for accents and highlights
Erythrina caffra (African coral tree)
Lagerstroemia indica (crepe myrtle)
Lagerstroemia speciosa (pride of India)
Magnolia 'Little gem' (little bull magnolia)
Morus nigra (mulberry)
Polythalia longifolia (Indian mast tree)
Plumeria sp (frangipani)
Pterocarpus indicus var pendula (rosewood)
Tabebuia argentea (silver trumpet tree)
Tabebuia pallida (trumpet tree)
Tabebuia palmeri (pink trumpet tree)
Tabebuia rosea (pink poui/pink trumpet tree)

Species for local streets

Tried and tested compact trees should form the base palette of street tree species for local residential streets. Species over-use should be controlled by reserving standard species for standard locations and using signature and accent tree palettes for higher impact plantings including entry statements, anchors and accents; and/or sites that can accommodate larger growing trees (i.e. wide verges, deep soils, truncated corners, park–street interfaces). Table 17: *Base street palette for local/residential streets* lists standard street tree species for use in residential streetscapes.

Street tree trial species

Where no planting themes exist, trial species may be appropriate for introduction to help enhance visual interest as well as expanding genetic diversity over time. Suites of local rainforest species exhibiting a compact mature form (either in the wild or in cultivation) are recommended for trial in appropriate locations (see Table 11: *Compact rainforest (sub-tropical, littoral, swamp or gallery rainforest) tree species for trial or wider use in residential streetscapes* and Table 13: *Compact dry rainforest or rainforest edge trees for trial or wider use - residential streets*).

Especially compact trees have been identified as useful for planting beneath over-head power lines. Table 18: *Street trees for trial beneath power lines* lists some of the species for investigation.

Local or alternative species varieties

Local forms

The *Street Tree Strategies* (Part B) of this plan provide local or recommended alternatives to more commonly used species in an effort to diversify the coast's street tree population. A red foliaged variety (*Hibiscus tiliaceous var. rubra*) of the common cotton tree (*Hibiscus tiliaceous*) for example, provides a more colourful alternative for use in Maroochydore where the common cotton tree is an ever-present feature of foreshore streetscapes. The Whitsunday form of the hoop pine (*Araucaria cunninghamii*) may prove to be the most successful ecotype for use near coastal locations.

Local seed of the tumbledown gum (*Eucalyptus bancroftii*) produces a better-formed street tree than non-locally procured stock and is preferred for use on the Sunshine Coast. The 'Little Kurrajong' (*Brachychiton bidwillii*) could potentially be used in place of the standard Kurrajong (*Brachychiton populneus*) or Illawarra flame tree (*Brachychiton acerifolius*). A local 'Maroochydore' form of this species warrants further investigation. See Part B: *Street tree strategies* for suggested variations or alternatives for specific localities.

Hinterland species

The hinterland of the Sunshine Coast provides a canvass for the cultivation of many tree species that cannot be grown elsewhere on the Sunshine Coast. The cooler climate, especially in localities at higher elevation, allows for use of an exotic deciduous as well as local tree palette and good opportunity for diversification. Specific hinterland species alternatives include *Cupaniopsis parvifolia* (small-leaved tuckeroo) as opposed to the standard species of tuckeroo (*Cupaniopsis anacardiodes*) and a hinterland alternative to *Grevillea baileyana* (white oak) – *Grevillea hilliana* (white silky oak). *Harpulia pendula* (tulip tree) may also be substituted with *Harpulia hillii* (blunt-leaved tulip) in appropriate hinterland locations.

Table 17: Base street palette for local/residential streets

Base street palette for local/residential streets
Backhousia citriodora (lemon myrtle)
Banksia integrifolia (coastal banksia)
Buckinghamia celcissima (ivory curl)
Cupaniopsis anacardiodies (tuckeroo)
Elaeocarpus obovatus (hard quandong)
Elaeocarpus eumundii (Eumundi quandong) (where existing only)
Eucalyptus bancroftii (tumbledown gum)
Grevillea baileyana (white oak) (coastal and coastal plain low-risk infill sites only)
Harpullia pendula (tulipwood)
Melaleuca (syn. *Callistemon*) *viridiflora* (broad leaved bottle brush)
Melaleuca (syn. *Caliistemon*) 'Wildfire' (weeping bottlebrush)
Syzygium hemilamprum (syn. *Acmena*)
hemilampra (blush satinash) (broad leaf or crinkle leaf form)
Tristaniopsis laurina 'Luscious' (water gum)
Xanthostemon chrysanthus (golden penda)

Table 18: Street trees for use/trial beneath powerlines

Street trees for use/trial beneath powerlines
Acronychia imperforata (Fraser Island apple)
Acronychia laevis (hard aspen)
Acronychia oblongifolia (white aspen)
Acronychia wilcoxiana (silver aspen)
Alectryon coriaceous (beach birds-eye)
Alectryon subcinereus (wild quince)
Archirhodomyrtus beckleri (small-leaved myrtle)
Banksia serrata (saw-toothed banksia)
Brachychiton bidwillii (little kurrajong)
Cercis canadensis (forest pansy)
Decaspermum humile (silky myrtle)
Denhamia bilocularis (orange bark)
Eucalyptus curtsii (plunkett mallee)
Eucalyptus kabiana (Mount Beerwah mallee)
Eucalyptus leucoxylon 'Euky Dwarf' (dwarf yellow gum)
Lagerstroemia indica (crepe myrtle)
Leptospermum brachyandrum (weeping tea tree)
Leptospermum petersonii (lemon-scented tea tree)
Magnolia 'Little Gem' (little gem magnolia)
Melaleuca (syn. *Callistemon*) *viminalis* 'Dawson River Weeper' (weeping bottlebrush)
Melaleuca (syn. *Callistemon*) *viminalis* 'Wildfire' (weeping bottlebrush)
Melaleuca (syn. *Callistemon*) *viridiflora* (broad-leaved paperbark)
Myrsine variabilis (muttonwood)
Petalostigma pubescens (quinine berry)
Petalostigma triloculare (long-leaved bitter bush)
Psydrax odorata (box-leaved canthium) *Syzygium australe* 'Aussie Southern' (lilly pilly)
Syzygium australe 'Resilience' (lilly pilly)
Syzygium hemilamprum (syn. *Acmena*) (broad-leaved lilly pilly) (crinkle-leaved form)
Syzygium (syn. *Acmena*) *smithii* var. *minor* (dwarf lilly pilly)
Syzygium (syn. *Waterhousia*) *unipunctata* (roly poly satinash)
Tabebuia sp (trumpet trees)
Telopea sp (waratah)

Cultivars and substitute species

More superior cultivars of a number of commonly planted street tree species exist and should always be selected over standard species. The species cultivar *Tristaniopsis laurina* 'Luscious' (water gum) should be given preference over the standard species (*Tristaniopsis laurina*) unless the planting site is particularly wet, responding better to drier soils. Similarly, *Syzygium paniculatum* 'Southern Form' (magenta lilly pilly) and *Syzygium australe* 'Resilience' have also proven to be superior street tree to the standard species.

Well established substitute species for the common bottle brush *Melaleuca* (syn. compact bottle brushes *Melaleuca* (syn. *Callistemon*) 'Wild fire' and *Melaleuca* (syn. *Callistemon*) *viridiflora*. *Melaleuca viridiflora* is also known to have a very wide tolerance range including coastal exposed sites as well as its smaller stature as demonstrated in its listing in Table 19: *Street trees for use/trial beneath power lines*. *Syncarpia glomulifera* (turpentine), and many species of the *Diploglottis* (tamarinds), *Cryptocarya* (laurels), *Diospyros* (ebonys) and *Angophora* (apple or rose gums) are suggested substitutes for over-planted sclerophyllous trees, namely the Queensland brush box (*Lophostemon confertus*). *Lophostemon suaveloens* (swamp box) is also considered a good substitute for this species in appropriate sites due to a narrower crown and shorter stature.

Species for coastal (exposed) sites

Streetscapes that interface with foreshore areas of the Sunshine Coast have been identified as key areas for rejuvenation within this plan. These areas are difficult to future-proof via diversification of species due to the nutrient poor, free draining soils; and salt-laden and often strong winds limiting the number of species that successfully grow in these areas (see Table 19: *Base coastal front line/exposed street tree palette*). Current trials may however find species of non-local origin suitable for use (where natural values will not be significantly impacted). The native but not indigenous *Calophyllum inophyllum* (beauty leaf) is one such example currently being trialled. Sunshine Coast local littoral rainforest species also offer potential to increase species diversity in protected coastal locations where salt tolerance is still required. Table 20: *Trial species for coastal landscapes* includes species council is currently trialling or recommending for future trials in coastal streetscapes.

Table 19: Base coastal front line/exposed street tree palette

Base coastal front line/exposed street tree palette
Araucaria heterophylla (Norfolk Island pine)
Araucaria cookii (Captain Cook's pine)
Banksia integrifolia (coastal banksia)
Casuarina equisetifolia (horse tail sheoak)
Casuarina glauca (swamp sheoak)
Hibiscus tiliaceous (cotton tree)
Pandanus tectorius (pandan/screw palm)
Terminalia catappa (beach almond) (where space permits, garden bed locations preferred)

Table 20: Trial species for coastal landscapes

Trial species for coastal landscapes
Araucaria heterophylla 'Hawaiian' (Norfolk Island pine, Hawaiian form)
Calophyllum inophyllum (beauty leaf)
Cocos nucifera (coconut) (dwarf form)
Cryptocarya microneura (murrogun) (protected sites)
Cryptocaraya triplinervis (three-veined laurel) (protected sites)
Cyclophyllum longipetallum (coast canthium)
Endiandra sieberi (corkwood) (protected sites)
Glochidion ferdinandii (cheese tree) (protected sites)
Leptospermum laevigatum (coast tea tree)
Leptospermum madidum (weeping tea tree) (protected sites)

Table 21: Species not to be planted as street trees on the Sunshine Coast

Species not to be planted as street trees on the Sunshine Coast
Eucalyptus 'Summer red' and 'Summer beauty'
Lagunaria patersonia (cow itch)
Elaeocarpus reticulatus (blueberry ash)
Melaleuca leucadendra (weeping paperbark)
Rhodosphaera rhodanthema (tulip satinwood)
Rhodomyrtus psidiodies (native guava)
Syzygium jambos (Malabar plum)
Syzygium tierneyanum (river cherry)

Species to consider carefully before use

In addition to locally invasive tree species listed in the Sunshine Coast Local Government Area Biosecurity Plan (2017) (See *Analysis: Weed species*), this master plan identifies several street tree species as undesirable and/or inappropriate for use as street trees in the region. These species may have a propensity for the development of large surface roots, poisonous fruits or irritating seed pods, a shrub-like form that is not suited to restricted road verge spaces, or extreme susceptibility to the Myrtle Rust disease (*Puccinia psidii sensu lato*). These are tabled in Table 21: *Species not to be planted as street trees on the Sunshine Coast*.

In the course of this plan's development, other species have been identified for performance monitoring. These includes species that have been recently identified as having weed potential in highly favourable locations, or species that are inconsistent in form or performance. These species should be used sparingly, and generally only to carry forward existing streetscape themes. Table 22: *Species to use sparingly or only where existing only* lists the most prominent of these.

Additional tree species that should be located carefully consist mostly of desirable feature trees that have some undesirable characteristics, such as large fleshy fruits, needles or branches that drop. Some may have a branching structure that is brittle or not conducive to pruning. While others, figs for example, simply need a great deal of space for their extensive root systems. These species are flagged in Table 23: *Species for use as feature trees in garden beds only*.

Flying foxes and street tree species

It is well understood that flying foxes are nocturnal and travel some distance to forage. Avoiding the planting of species they prefer as street trees (which is a considerable palette) therefore is not a viable nuisance reduction strategy. In streets immediately adjacent to identified urban roosts however, low fruiting or low nectar producing species may be used to avoid the occurrence of foraging as well as roosting where flying fox roosts are causing concern for local residents. Species that are non-preferred foraging food for flying foxes include conifers which have no or inconspicuous fruits and flowers, or flowering plants that produce very low levels of nectar.

Species suited to the Sunshine Coast are listed in Table 24: *Low fruiting or low nectar producing species for streets surrounding permanent flying fox roosts*.

Table 22: Species to use sparingly or only where existing only

Species to use sparingly
Elaeocarpus eumundii (Eumundi quandong)
Flindersia brayleana (Queensland maple)
Grevillea baileyana (white oak)
Jacaranda mimosifolia (blue jacaranda)
Lophostemon confertus (Queensland brush box)

Table 23: Species for use as feature trees in garden beds only

Species for use as feature trees in garden beds only
Araucaria bidwillii (bunya)
Castanospermum australe (black bean)
Caesalpinia ferrea (leopard tree)
Callitris columellaris (Bribie Island pine)
Grevillea robusta (silky oak)
Ficus sp (fig trees – all species)
Pandanus tectorius (pandanus palm/pandan)
Mangifera indica (mango)
Melicope elleryana (pink euodia)
Pandanus tectorius (screw pine)
Samanea (syn. *Albizia*) *saman* (rain tree)
Syzygium forte (white apple/flaky barked satinash)
Syzygium moorei (coolamon)
Tamarindus indica (tamarind)
Terminalia catappa (Indian almond)

Table 24: Low fruiting or low nectar producing species for streets surrounding permanent flying fox roosts

Low fruiting or low nectar producing species for streets surrounding permanent flying fox roosts
Allocasuarina littoralis (swamp sheoak)
Agathis robusta (kauri pine)
Araucaria heterophylla (Norfolk Island pine)
Brachychiton acerifolius (Illawarra flame tree)
Brachychiton discolour (lace bark)
Brachychiton populneus (kurrajong)
Brachychiton rupestris (bottle tree)
Backhousia citriodora (lemon myrtle)
Callitris columellaris (Bribie Island pine)
Casuarina equisetifolia (horse tail sheoak)
Casuarina glauca (swamp sheoak)
Delonix regia (poinciana)
Hymenosporum flavum (native frangipanni)
Leptospermum petersonii (lemon-scented tea tree)
Leptospermum polygalifolium (yellow tea tree)
Notolaea longifolia (mock olive)
Petalostigma triloculare (long leaf bitter bark)