

TOWN OF COTTESLOE STREET TREE MASTERPLAN

Town of Cottesloe

WHAT IS A STREET TREE MASTERPLAN?

THE STREET TREE MASTER PLAN IS A TOOL DESIGNED TO HELP IMPLEMENT THE TOWN OF COTTESLOE'S STREET TREE POLICY, BY PRESCRIBING A SUITABLE TREE SPECIES FOR PLANTING WITHIN EACH STREET.

The Master Plan identifies a cohesive palette of trees to plant on residential verges within the Town, fulfilling the Town's objectives to:

- Select and maintain street trees, which enhance both existing and future streetscapes.
- Create a setting in sympathy with the function and appearance of the adjacent land uses, a safe and comfortable pedestrian environment, and cater for vehicular traffic; and
- Promote the use of indigenous trees, to extend the habitat of native birds and animals in urban areas

The purpose of the Street Tree Policy is to provide a consistent approach towards management of street trees, to increase the Town's canopy cover and its associated benefits and increasing the health and viability of street trees.



Figure 1: Town of Cottesloe boundaries

HOW DO WE DECIDE WHAT SPECIES TO USE?

Street trees are often subject to hostile environments in which they must survive and grow. When selecting trees for the urban environment it is critical to identify species that can grow into healthy, long-lived trees while minimizing conflicts between trees and the surrounding urban infrastructure, residents and road users.

The key principles considered when selecting species for this street tree master plan included:

- Provision of safe and attractive street trees that enhance the amenity of residents, pedestrians and buildings plus are sensitive to the landscape, infrastructure and environmental conditions.
- Provision of shade for street users in summer months and streetscape appeal.
- Contribute to a recognizable identity or 'sense of place' for streets and the town, by implementing and maintaining street tree themes. For example, the Norfolk Island Pines on Broome Street.
- Expand and contribute to the overall urban forest and canopy coverage for the Town; and
- Contribute to the long-term sustainability and efficient environmental management for the Town.

The range of criteria used to evaluate the tree species master list is outlined in the following:

Deciduous or evergreen

Both deciduous and evergreen species have been provided in the master list. Deciduous species offer numerous benefits in urban streetscapes, such as shade during summer and sun during the winter. However, deciduous species are generally less tolerant of harsh heat and drought conditions. They are also commonly exotic species, therefore lack many of the ecosystem benefits provided by native trees.

Proven track record

Track records are an important criterion for tree selection. Management and replacement of street trees is a significant cost to the Town and trees are important to residents. Therefore, it is important that the selected species has a track record of performance in the local area. However, it is important to trial new species in some areas to identify previously unused species that are more suitable to the local conditions and requirements, particularly in the event of changing environmental conditions and the possibility of future introduction of new pests and pathogens (i.e. improved resilience).

Speed of growth

Ideally, fast-growing trees will be selected to quickly reach maturity and form the desired canopy coverage. However, speed of growth is generally inversely related to species longevity. Therefore, a compromise needs to be reached.

Damage to infrastructure

Trees are often blamed for damaging infrastructure due to the expansion of roots under roads and pathways as well as disturbance of underground services. In many cases this is the result of poor species selection for the location. In this plan careful consideration has been given to matching tree species to the size of verge within a street, as well as avoiding species which are known to have problematic root systems.

Drought tolerance

Soils within the Town of Cottesloe are predominantly coastal sands with low water holding capacity. Across much of the area, there is only a shallow soil layer above limestone bedrock, making these soils very prone to rapid drying of the soil profile and subsequent water- stress of existing trees. Furthermore, many of the street trees in the Cottesloe areas are reliant on a limited reserve of fresh groundwater. As a result, drought tolerance is a key criterion used for tree selection in this plan.

Pollution tolerance

Urban trees must deal with a range of pollutants, particularly from vehicle exhaust. Pollutant chemicals can often cause damage to leaves and shoots. Species with a demonstrated tolerance to urban conditions in the Perth metropolitan region have been selected.



Figure 2:Declining Melaleuca quinquenervia showing extensive leaf yellowing

Coastal exposure

Strong winds and saline aerosols coming from the ocean severely restrict the ability for many tree species to thrive in the coastal location of the Town of Cottesloe. Proximity to the coastline and the degree of shelter on each street has been considered when determining an appropriate species.



Figure 3: Melaleuca quinquenervia causing damage to road and curbing on Jarrad St

Pest and disease tolerance

A successful street tree requires little management intervention post-establishment, therefore tree species must be free from common pest and disease problems encountered within Perth.

Diversity

Diversity of species within the Town is important from a number of perspectives. Street trees play an important role in the overall biodiversity of the town and a wide range of tree species provides habitat for a diverse range of fauna such as insects and birds. Furthermore, diverse landscapes are more resilient to pest and disease outbreaks and present a sensible risk mitigation strategy in the event of changing climatic conditions.

Structural integrity

Some tree species are more prone to limb failure than others. Trees susceptible to frequent limb failure are not suitable to street tree planting.

Shedding characteristics

All trees shed leaves, flower and fruit at certain times of year. In certain species, however, shedding can cause environmental and public safety concerns.

Tolerance to pruning

Urban trees frequently require pruning to allow clearance from pedestrians, vehicles and other infrastructure. Therefore, selected species must be tolerant to regular pruning without adversely impacting tree aesthetics or longevity.

Form

Form and scale of tree species is an important consideration. Trees forming a strong single trunk with a uniform canopy are generally preferred in the urban setting. This is important to allow free movement for vehicles and pedestrians at ground level. The tree canopy should give enough shade to provide a comfortable pedestrian environment without feeling claustrophobic and damp during the winter.

Scale

Matching the size of tree to the scale of the street and planting area is important. A tree which is too large is likely to cause damage to road and pavement surfaces as the tree grows and cause conflict with adjacent residents. Trees which are too small for a verge area may look out of place and may not provide the desired canopy and shading characteristics to the streetscape.

Availability

It is important the species selected are readily available in large quantities from nurseries so that replacement trees can be easily sourced when required. Care should be exercised to only select quality nursery stock to maximise the chances of successful tree establishment.

Climate change tolerance

Our best predictions for the future climate of the region are for increasing temperatures and reducing rainfall. The precise magnitude and timing of the changes are not known, however it is important to plan for the lifespan of the tree and select species which are still likely to thrive under changing environmental conditions. Selection of a diverse mix of species is important as it creates a more resilient tree population and reduces the level of risk of the population to such factors.

Biosecurity Threats

Consideration has been given to current biosecurity threats such as Polyphagous Shot Hole Borer (PSHB) and Myrtle Rust. These pests and diseases have a wide host range, many of which are common in the Town of Cottesloe.

Erythrina are known to be highly susceptible to PSHB. *Agonis flexuosa* and *Melaleuca quinquenervia* are known to be highly susceptible to Myrtle Rust. The town is reducing the use of these species and planning substitute species if these pests become established.

FAQ

How will the Masterplan be implemented?

The Masterplan will be used to guide the Town's standard tree replacement and planting program. Proposed changes to streetscape themes will occur gradually as trees die naturally over time. There is no intention to remove healthy, structurally sound trees.

What about potential conflict with solar panels on houses?

The proposed tree species includes a range of deciduous options which allow increased solar access during the winter when solar radiation is at its lowest. Also, care has been taken to match the scale of trees selected to the scale of each street to minimise potential impacts on residential properties.

Does the Masterplan consider existing street tree themes?

Yes, in most cases the existing street tree theme will be maintained. New themes are generally proposed where there are; few established trees, no cohesive theme, or existing trees are not thriving.

Does the Masterplan include trees that support native fauna?

Yes, a range of native and local species have been selected in keeping with the Town's Street Tree Policy, which aims to promote indigenous flora and fauna.

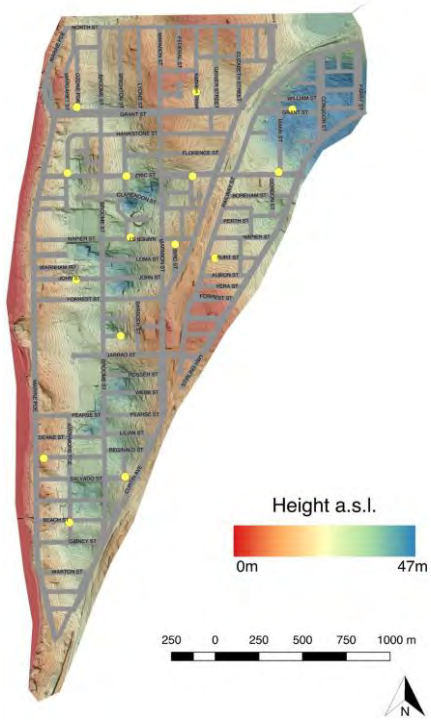


Figure 4: Map of the Town of Cottesloe showing land elevation. Yellow circles indicate the location of soil sampling points

Soil Characteristics

Surface soil (0-10cm) and sub-soil (30-40cm) samples were collected at a range of location throughout the Town of Cottesloe to help inform the tree selection process.

pH

Soil pH levels were in the alkaline and highly alkaline range throughout the Town of Cottesloe. Surface soil pH ranged from 6.7 to 8.6 and subsoils ranged from 7.1 to 9.0. Alkaline soils restrict the availability of a range of key plant nutrients such as Phosphorous (P), Iron (Fe), Manganese (Mn) and Zinc (Zn). Street trees must be highly adapted to live in alkaline soil conditions if they are to thrive within the Town of Cottesloe.

Salinity

Despite being close to the coast, soil salinity levels are low throughout the Town of Cottesloe. This is likely the result of the sandy soils which allow salt imported by ocean winds to quickly leach below the root zone.

Nutrient content

Sandy soils within the Town of Cottesloe contain very low levels of organic matter and all plant nutrients. Very low levels of Iron (Fe) and Manganese (Mn) were observed, which is typical of alkaline soils and consistent with a range of leaf nutrient deficiency symptoms observed in some tree species.

Organic carbon

Organic carbon content of soils was very low, ranging from 0.23% to 3.02%. Higher organic carbon levels were associated with higher levels of availability of most essential nutrients. Soil organic matter is very important, especially in sandy soils, because it increases water and nutrient retention properties of the soil and activity of beneficial soil organisms.



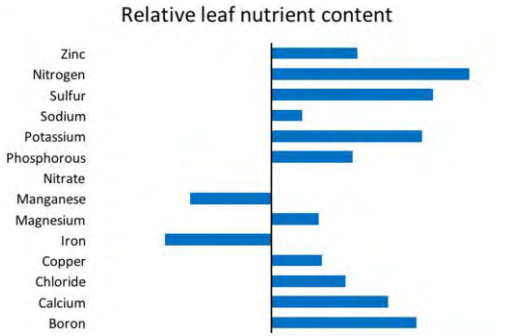


Figure 5: Top: Leaves from the declining tree in Figure 1, distinct yellowing (left), prominent between the leaf veins when compared to healthy leaves (right). This is typical of Iron and Manganese deficiency, consistent with the leaf nutrient analysis. Bottom – Relative leaf nutrient content from healthy (right) and declining (left Melaleuca quinquenervia

NORFOLK ISLAND PINE DECLINE

Norfolk Island Pine (*Araucaria heterophylla*), native to Norfolk Island, an Australian island off the mainland, are an iconic feature of the Town of Cottesloe.

Early street tree plantings date back to the early 20th Century. A number of streets have been identified as having significant landmark status, and are considered Statutory Heritage Listings, including trees along Broome St, Forrest St and John St.

Since 2019, the health of Norfolk Island Pine throughout WA showed symptoms of decline, including crown thinning and top-down dieback. Multiple trees within the Town have died and been removed.

Cause of decline?

Top-down dieback of the crowns is caused by the fungal pathogen *Neofusicoccum parvum.*

The fungus is probably common in the environment, but it only causes disease in trees under extreme stress. Extended summer-autumn drought in 2019 is believed to have triggered the observed outbreak in 2020-21.

Mild La Niña summer condition have reduced the incidence of disease. However, increased drought frequency from climate change is likely to lead to disease recurrence in the future.



Figure 6: Fungal pathogen Neofusicoccum parvum pictured beneath the bark of a Norfolk Island Pine.

What can be done?

Increasing temperatures and reduced rainfall due to climate change is reducing the suitability of Norfolk Island Pine trees to the town.

The tree water requirements and limited groundwater availability in the area mean that the species is not consistent with the towns status as a waterwise council. There are some steps that Council is taking and residents can do:

- Council is limiting future Norfolk Island Pine planting to succession and replacement within the heritage and distributor roads to maintain character of the Town.
- Supplemental irrigation across the late summer-autumn period is recommended in future drought years.
- Maintain good hygiene while pruning trees.
- Care for the root-zone around your trees. Avoid root damage and compaction during development. Consider mulching and excluding car-parking under trees.



Figure 7: Image highlighting top-down dieback on a Norfolk Island Pine because of the fungal pathogen Neofusicoccum parvum.



Figure 8: Map of the Town of Cottesloe showing heritage roads (green) and distributor roads (blue), where Norfolk Island Pine planting will be limited to succession and replacement of existing trees

TREE SPECIES BY STREETS

LOCATION	EXISTING TREE	ASSIGNED TREE
ACKLAND WY	Agonis flexuosa	*Allocasuarina fraseriana*
ALBION ST	Triadica sebifera	*Eucalyptus torquata*
ALEXANDRA AV	Erythrina x sykesii	*Erythrina x sykesii*
ANDREWS PL	Agonis flexuosa	*Agonis flexuosa*
ANGELO LANE	Mixed	*No Tree*
ATHELSTAN RD	Agonis flexuosa	*Agonis flexuosa*
AVONMORE TCE (verge size >8m)	Melaleuca lanceolata	*Melaleuca lanceolata*
AVONMORE TCE (verge size <8m)	Melaleuca lanceolata	*Hakea laurina*
BALFOUR ST	Lophostemon confertus	*Agonis flexuosa*
BARSDEN ST	Agonis flexuosa	*Agonis flexuosa*
BEACH ST	Melaleuca lanceolata	*Melaleuca lanceolata*
BIRD ST	Agonis flexuosa	*Agonis flexuosa*
BIRKBECK AV	Agonis flexuosa	*Agonis flexuosa*
BOREHAM ST	Mixed	*Agonis flexuosa*
BRIGHTON ST	Agonis flexuosa	*Agonis flexuosa*
BRIXTON ST	Platanus x acerifolia	*Hymenosporum flavum*
BROOME ST	Araucaria heterophylla	*Araucaria heterophylla*
BRYAN WY	Araucaria heterophylla	*No Tree*
BULLEN LANE	Araucaria heterophylla	*No Tree*
BURT ST	Araucaria heterophylla	*Lagerstroemia indica*
CHAMBERLAIN ST (South of Eric Street)	Agonis flexuosa	*Melaleuca lanceolata*
CHAMBERLAIN ST (North of Eric Street)	Agonis flexuosa	*Agonis flexuosa*
CHARLES ST (East verge)	Triadica sebifera	*Handroanthus impetiginosus*
CHARLES ST (West verge)	Araucaria heterophylla	*Melaleuca leucadendra*
CLAPHAM LANE	No Tree	*No Tree*
CLARENDON ST	Agonis flexuosa	*Agonis flexuosa*
CLIVE RD	No Tree	*No Tree*
CONGDON ST	Ficus rubiginosa	*Corymbia maculata*
CONGDON ST centre median	Araucaria heterophylla	*Corymbia maculata*
CURTIN AV, North of Jarrad St	Mixed	*Araucaria heterophylla*

LOCATION	EXISTING TREE	ASSIGNED TREE
CURTIN AV, South of Jarrad St	Mixed	*Mixed - Melaleuca lanceolata, Eucalyptus nicholii, Allocasuarina fraseriana, Melaleuca quinquenervia, Agonis flexuosa, Eucalyptus erythrocorys, Melaleuca huegelii, Eucalyptus foecunda, Eucalyptus lehmannii, Callitris preissii, Eucalyptus utilis, Callistemon viminalis*
DALGETY ST	Triadica sebifera	*Pyrus ussuriensis*
DE NARDI LANE	No Tree	*No Tree*
DEANE ST	Araucaria heterophylla	*Eucalyptus todtiana*
DOSCAS LANE	Araucaria heterophylla	*No Tree*
DRAYTON LANE	Metrosideros excelsa	*No Tree*
EDWARD ST	Agonis flexuosa	*Agonis flexuosa*
EILEEN ST	Araucaria heterophylla	*Melaleuca lanceolata*
ELIZABETH ST	Lophostemon confertus	*Allocasuarina fraseriana*
ERIC ST	Araucaria heterophylla	*Araucaria heterophylla*
FEDERAL ST	Agonis flexuosa	*Eucalyptus nicholii*
FIG TREE LANE	Melaleuca lanceolata	*Melaleuca lanceolata*
FINEY ST	Agonis flexuosa	*Agonis flexuosa*
FLORENCE ST	Agonis flexuosa	*Agonis flexuosa*
FORREST ST EAST	Agonis flexuosa	*Agonis flexuosa*
FORREST ST WEST	Araucaria heterophylla	*Araucaria heterophylla*
GADSDON ST	Araucaria heterophylla	*Allocasuarina fraseriana*
GEORGE ST	Lophostemon confertus	*Agonis flexuosa*
GERALDINE ST	Agonis flexuosa	*Allocasuarina fraseriana*
GIBNEY ST	Araucaria heterophylla	*Eucalyptus gomphocephala*
GORDON ST	Agonis flexuosa	*Eucalyptus laeliae*
GRAHAM CT	Melaleuca quinquenervia	*Eucalyptus victrix*
GRANT ST EAST	Agonis flexuosa	*Agonis flexuosa*
GRANT ST WEST	Agonis flexuosa	*Melaleuca lanceolata*
GREENHAM ST	Agonis flexuosa	*Agonis flexuosa*
GRIVER ST	Mixed	*Eucalyptus gomphocephala*
HAINING AV	Agonis flexuosa	*Agonis flexuosa*
HAMERSLEY ST	Agonis flexuosa	*Agonis flexuosa*
HAWKSTONE ST, Broome St to Hamersley St	Erythrina indica	*Eucalyptus nicholii*
HAWKSTONE ST, Curtin Av to Marmion St	Agonis flexuosa	*Agonis flexuosa*
HAWKSTONE ST, Marmion St to Broome St	Agonis flexuosa	*Agonis flexuosa*
HENRY RD	Agonis flexuosa	*Agonis flexuosa*
HILLSIDE AV	Agonis flexuosa	*Agonis flexuosa*

LOCATION	EXISTING TREE	ASSIGNED TREE
JARRAD ST	Melaleuca quinquenervia	*Eucalyptus gomphocephala*
JOHN ST	Araucaria heterophylla	*Araucaria heterophylla*
JOINERY WY	No Tree	*No Tree*
KATHLEEN ST	Lophostemon confertus	*Agonis flexuosa*
KILN LANE	Metrosideros excelsa	*Callistemon 'Kings Park Special'*
KNOWLES ST	Agonis flexuosa	*Eucalyptus nicholii*
LANE ST	No Tree	*No Tree*
LILIAN ST SERVICE RD	Mixed	*Agonis flexuosa*
LILLIAN ST	Lophostemon confertus	*Pyrus ussuriensis*
LITTLE MARINE PDE	No Tree	*No Tree*
LOMA ST	Araucaria heterophylla	*Araucaria heterophylla*
LYONS ST	Agonis flexuosa	*Agonis flexuosa*
MACARTHUR ST	Melaleuca quinquenervia	*Olea europaea*
MACARTHUR ST Service Rd	Melaleuca quinquenervia	*Olea europaea*
MANN ST	Melaleuca quinquenervia	*Melaleuca leucadendra*
MARCHANT WALK	Melaleuca lanceolata	*Melaleuca lanceolata*
MARGARET ST	Melaleuca lanceolata	*Melaleuca lanceolata*
MARINE PDE, Eric St to Grant St	Araucaria heterophylla	*Melaleuca lanceolata*
MARINE PDE, Forrest St to Eric St	Araucaria heterophylla	*Araucaria heterophylla*
MARINE PDE, Grant St to North St	Araucaria heterophylla	*Araucaria heterophylla*
MARINE PDE, Curtin Av to Forrest St	No Tree	*Melaleuca lanceolata*
MARMION ST	Araucaria heterophylla	*Araucaria heterophylla*
MCNAMARA WY	Melaleuca quinquenervia	*Melaleuca leucadendra*
MELVILLE ST	Mixed	*Pyrus ussuriensis*
MILLERS CT	Mixed	*Ulmus parvifolia*
NAILSWORTH ST	Melaleuca lanceolata	*Melaleuca lanceolata*
NAPIER ST WEST Marine Pde to Curtin Av	Eucalyptus cladocalyx	*Agonis flexuosa*
NAPIER ST, East of Curtin Av	Mixed	*Eucalyptus laeliae*
NAPOLEON ST	No Tree	*Fraxinus angustifolia subsp oxycarpa 'Raywood'*
NORTH ST	Agonis flexuosa	*Casuarina equisetifolia*
OVERTON GDNS	Metrosideros excelsa	*Melaleuca lanceolata*
OZONE PDE	Melaleuca lanceolata	*Melaleuca lanceolata*
PARRY ST	Agonis flexuosa	*Corymbia maculata*
PARRY ST centre median	Araucaria heterophylla	*Araucaria heterophylla*

LOCATION	EXISTING TREE	ASSIGNED TREE
PEARSE ST	Araucaria heterophylla	*Araucaria heterophylla*
PENNEFATHER L	No Tree	*No Tree*
PERTH ST	Lophostemon confertus	*Eucalyptus torquata*
PRINCES ST Marine Pde to Avonmore Tce	Melaleuca lanceolata	*Hakea laurina*
PRINCES ST Service Road	Mixed	*Eucalyptus sargentii*
PRINCES ST, Avonmore Tce to Curtin Av	Mixed	*Allocasuarina fraseriana*
RAILWAY ST, Albion to Eric	Araucaria heterophylla	*Araucaria heterophylla*
RAILWAY ST, Congdon to Parry	Prunus cerasifera	*Melaleuca viridiflora & Hakea laurina*
RAILWAY ST, Eric to Grant	Araucaria heterophylla	*Araucaria heterophylla*
RAILWAY ST, Grant to Congdon	Mixed	*Melaleuca viridiflora & Hakea laurina*
RAILWAY ST, South of Albion	No Tree	*No Tree*
REGINALD ST	Agonis flexuosa	*Agonis flexuosa*
ROSENDO ST	Melaleuca lanceolata	*Melaleuca lanceolata*
ROSSER ST	Agonis flexuosa	*Agonis flexuosa*
SALISBURY ST	Lophostemon confertus	*Agonis flexuosa*
SALVADO ST	Araucaria heterophylla	*Araucaria heterophylla*
SEAVIEW TCE	Araucaria heterophylla	*Melaleuca linariifolia*
STANHOPE ST	Agonis flexuosa	*Agonis flexuosa*
STATION ST	No Tree	*No Tree*
STIRLING HWY	No Tree	*No Tree*
SYDNEY ST	Araucaria heterophylla	*Melaleuca lanceolata*
SYDNEY ST SERVICE RD	Erythrina indica	*Melaleuca lanceolata*
TORRENS CT	Erythrina indica	*Agonis flexuosa*
TORRENS ST	Agonis flexuosa	*Agonis flexuosa*
VERA ST	Triadica sebifera	*Ulmus parvifolia*
VERA VIEW PDE	Melaleuca lanceolata	*Melaleuca lanceolata*
WARNHAM RD	Melaleuca lanceolata	*Melaleuca lanceolata*
WARTON ST	Araucaria heterophylla	*Eucalyptus gomphocephala*
WEBB ST	Agonis flexuosa	*Agonis flexuosa*
WEBB ST SERVICE RD	Callistemon	*Callistemon 'Kings Park Special'*
WENTWORTH ST	Agonis flexuosa	*Agonis flexuosa*
WEST COAST HWY	No Tree	*No Tree*
WILLIAM ST	Agonis flexuosa	*Agonis flexuosa*
WINDSOR ST	Lophostemon confertus	*Hymenosporum flavum*

SPECIES USED IN MASTERPLAN







EXISTING

Native

Broad-leaved Paperbark *Melaleuca quinquenervia*
Norfolk Island Pine *Araucaria heterophylla*
Peppermint, Wonnil *Agonis flexuosa*
Queensland Brush Box *Lophostemon confertus*
Rottnest Island Tea Tree, Moonah *Melaleuca lanceolata*
Sugar Gum *Eucalyptus cladocalyx*

Exotic

Chinese Tallow *Triadica sebiferum*
London Plane Tree *Platanus x acerifolia*
Claret Ash *Fraxinus angustifolia oxycarpa 'Raywoodii'*
Coral Tree *Erythrina x sykesii*
Cork Oak *Quercus suber*
Cherry Plum *Prunus cerasifera*

NEW

Native

Bottle Brush *Callistemon 'Kings Park Special'*
Coastal Sheoak *Casuarina equisetifolia*
Coral Gum *Eucalyptus torquata*
Darling Range Ghost Gum *Eucalyptus laeliae*
Limestone Marlock *Eucalyptus decipiens*
Little Ghost Gum *Eucalyptus victrix*
Narrow - leaved Black Peppermint *Eucalyptus nicholii*
Native frangipani *Hymenosporum flavum*
Pin-cushion Hakea *Hakea laurina*
Pricklybark, Dwutta *Eucalyptus todtiana*
Salt River Gum *Eucalyptus sargentii*
Snow in Summer *Melaleuca linariifolia*
Spotted Gum *Corymbia maculata*
Tuart *Eucalyptus gomphocephala*
Weeping Paperbark *Melaleuca leucadendra*
Western Sheoak, Condil *Allocasuarina fraseriana*

Exotic

Olive *Olea europaea*
Pink Trumpet Tree *Handroanthus impetiginosus*
Chinese Elm *Ulmus parvifolia*
Crepe Myrtle *Lagerstroemia indica*
Manchurian Pear *Pyrus ussuriensis*

Peppermint, Wonnil

Agonis flexuosa

Native: Endemic to Cottesloe area

Height: 10m

Bark: Rough grey/brown bark. Trunk often thick and gnarled in older trees

Flowers: Small white flowers produced in late winter and autumn.

Foliage: Slender, soft foliage







Western Sheoak

Allocasuarina fraseriana

Origin: Western Australia

Height: 15m

Bark: Rough brown bark

Flowers: Insignificant brown flowers, forming small cone-like fruits

Foliage: Leaves consist of slender green branchlets called cladodes







Norfolk Island Pine

Araucaria heterophylla

Origin: Endemic to Norfolk Island

Height: up to 50m

Bark: Grey/black flaking bark

Flowers: Inconspicuous. Male cones yellow brown

Foliage: Distinct uniform branching pattern, with short needle-like leaves







Bottlebrush

Callistemon 'Kings Park Special'

Origin: Australia.

Height: 6m.

Bark: Stringy grey.

Flowers: Spectacular deep red 'bottlebrush' shaped flower spikes in spring and early summer

Foliage: Slender dark green leaves







Coastal Sheoak

Casuarina equisetifolia

Origin: Native to coastal areas of northern and eastern Australia as well as southern Asia

Height: up to 15m

Bark: Rough grey bark

Flowers: Inconspicuous. Woody fruit, male, reddish brown.

Foliage: Pendulous green-grey foliage







Spotted Gum

Corymbia maculata

Origin: Southeastern Australia

Height: 30m

BARK: Smooth white/grey/pink bark shedding in irregular patches a ‘spotted’ appearance

FLOWERS: White flowers produced in winter

FOLIAGE: Long dark green leaves forming an open canopy







Coral Tree

Erythrina x sykesii

Origin: Southern Asia.

Height: 15m.

Bark: Smooth grey/brown bark.

Flowers: Crimson pea-shaped flowers occurring in late winter and spring.

Foliage: Deciduous. Broad, wedge-shaped leaves.









Origin: South Australia.

Height: 30m.

Bark: Mottled, colorful yellow to orange smooth bark.

Flowers: Cream/white-coloured flowers in the summer.

Foliage: Dark glossy green leaves.







Tuart

Eucalyptus gomphocephala

Origin: Endemic to Cottesloe and the Swan Coastal Plain.

Height: up to 25m.

Bark: Rough, fibrous grey bark.

Flowers: White flowers appear in mid-summer to mid-autumn.

Foliage: Glossy thin light-green leaves.







Narrow - leaved Black Peppermint

Eucalyptus nicholii

Origin: New South Wales.

Height: 15m.

Bark: Distinctive dark furrowed bark.

Flowers: White flowers occurring in late summer and autumn.

Foliage: Dull blue-green leaves.







Limestone marlock

Eucalyptus decipiens

Origin: Local. Widespread, Shark Bay to Bremmer Bay.

Height: 8 - 15 m.

Bark: Rough, grey-brown bark forming flakes or ribbons.

Flowers: Small white flowers in clusters.

Foliage: Shiny, grey-green leaves







Salt River Gum

Eucalyptus sargentii

Origin: Western Australia.

Height: 15m.

Bark: Persistent, smooth, glossy, grey to copper coloured on the upper branches.

Flowers: Cream coloured flowers in the spring.

Foliage: Narrow leaves, up to 15mm wide.







Coral Gum

Eucalyptus torquata

Origin: Western Australia.

Height: 10m.

Bark: Persistent, rough, grey bark.

Flowers: Ornamental buds and fruit, red/cream flower August to December.

Foliage: Blue/green leaves.







Pin-cushion Hakea, Kodjet

Hakea laurina

Origin: Western Australia.

Height: 6m.

Bark: Smooth grey bark.

Flowers: Red and cream globular flowers from April to July.

Foliage: Green lance shaped leaves.







Pricklybark, Dwutta

Eucalyptus todtiana

Origin: Local, more common north of Perth as far as Dongarra.

Height: A stout, broad spreading trees 6 - 12 m tall.

Bark: Thick, rough bark with fine fibers which can be prickly to touch.

Flowers: Small white flowers in late summer.

Foliage: Thick pale green leaves.







Rottnest Island teatree
Moonah

Melaleuca lanceolata

Origin: Endemic to Cottesloe area, but common to costal area of Australia

Height: up to 8m

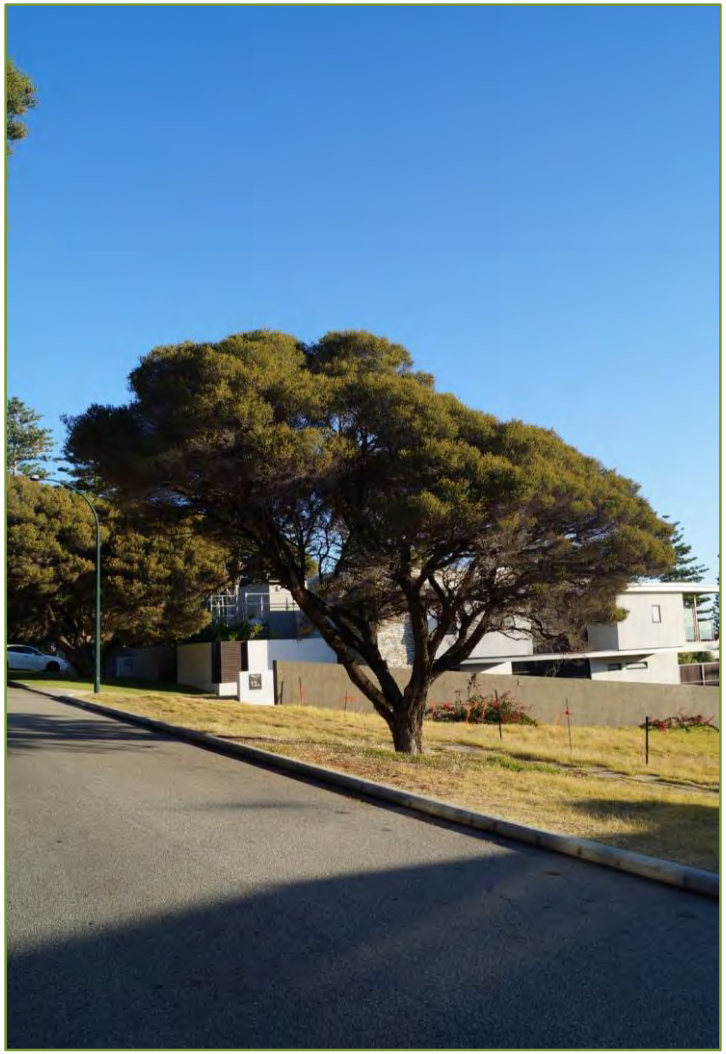
Bark: Grey/black stringy bark

Flowers: Small white brush-shaped flowers occurring in summer

Foliage: Small, slender, dark-green leaves







Broad Leaved Paperbark

Melaleuca quinquenervia

Origin: Eastern Australia.

Height: 15m.

Bark: Soft, white/beige, papery bark.

Flowers: Attractive white/cream colours flowers in autumn and winter.

Foliage: Leathery, lance shaped leaves.







Olive

Olea europaea

Origin: Mediterranean Basin.

Height: 10m.

Bark: Rough grey bark.

Flowers: Low fruiting varieties available suited to street planting.

Foliage: Dark silvery leaves.







Snow in Summer

Melaleuca linariifolia

Origin: Coastal NSW and Southern QLD.

Height: 10-15m.

Bark: White, to creamy and papery.

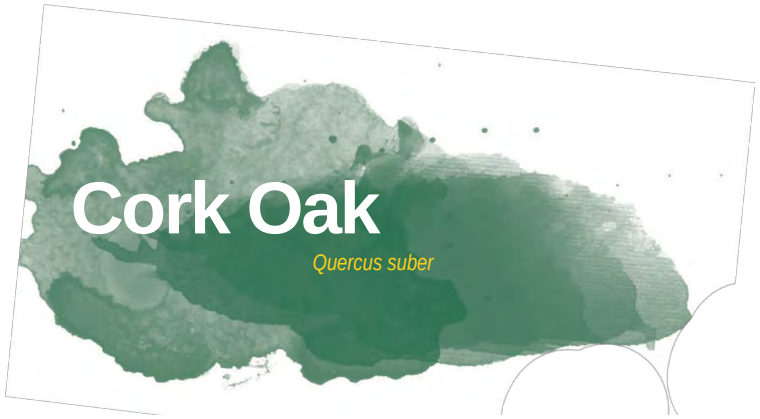
Flowers: White to creamy white.

Foliage: Dense, linear to lance-shaped leaves.









Cork Oak

Quercus suber

Origin: Southwest Europe and Northwest Africa.

Height: 10-15m.

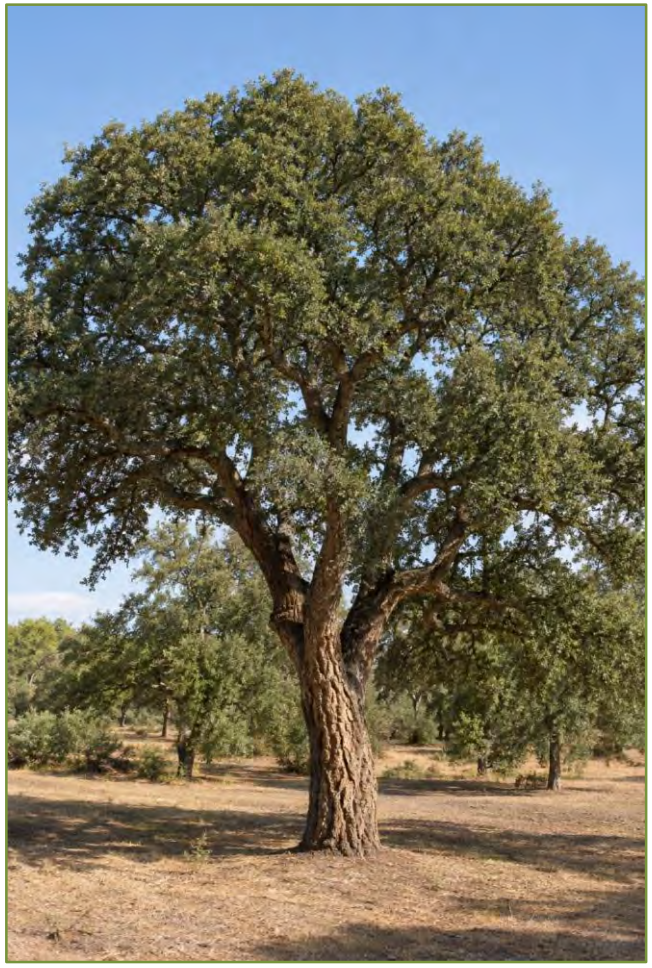
Bark: Thick, longitudinally cracked cork layers of the gray-brown trunk bark.

Flowers: Monoecious, with both female and male flowers on one specimen.

Foliage: New leaves appear in April and May, when older leaves are also shed.







Weeping Paperbark

Melaleuca leucadendra

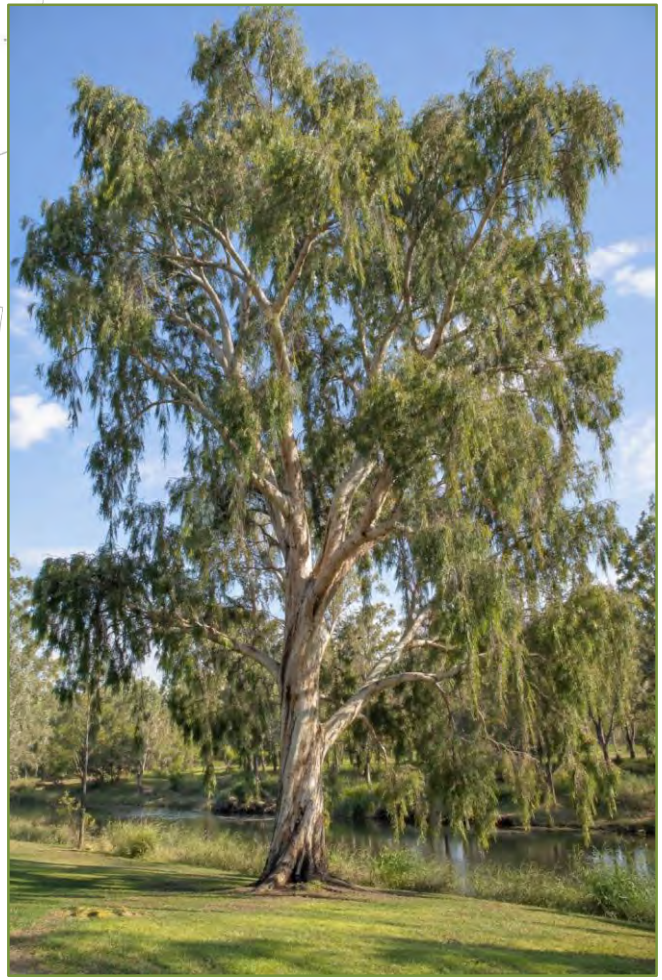
Origin: Northern Australia, New Guinea and parts of Indonesia.

Height: 20m.

Bark: Thick papery bark, usually white but also pinkish or cream.

Flowers: Cream, white or greenish-white and are arranged in spikes on the ends of branches.

Foliage: Narrow lance shaped leaves with weeping foliage.







Native Frangipanni

Hymenosporum flavum

Origin: Rainforests and wet sclerophyll forests of New Guinea and in QLD and NSW.

Height: Up to 25m.

Bark: Pale grey, ranges from smooth to rough, wrinkled or thickly fissured on mature trunks.

Flowers: Very fragrant, coloured white with lemon tinges during spring and summer.

Foliage: Glossy deep green often cluster in pseudo-whorls at the end of branches.







Little Ghost Gum

Eucalyptus victrix

Origin: Endemic to WA and parts of northern Australia.

Height: 5 – 15m.

Bark: Smooth powdery white to light grey.

Flowers: Creamy white during spring, summer and autumn.

Foliage: Soft grey – green to blue – green or glaucous hues.







Pink Trumpet Tree

Handroanthus impetiginosus

Origin: From northern Mexico down through Central America to northern Argentina.

Height: 8 – 15m.

Bark: Smooth, greyish when young becoming rough and deeply fissured with age.

Flowers: Dramatic display of vibrant pink. Magenta, or lavender – purple in dense clusters.

Foliage: Ranging from vibrant green to dark olive green. Deciduous.







Queensland Brush Box

Lophostemon confertus

Origin: Rainforests and wet sclerophyll forests of QLD and NSW.

Height: 40 – 50m in its native region.

Bark: Lower rough persistent, brown or grey, brown, upper transitions to smooth flaky with layered colors of salmon pink, coppery orange, beige or rich brown.

Flowers: Star - shaped white with feathery, fluffy bundles of fused stamens.

Foliage: Thick, dark glossy green on upper surface of leaf, paler beneath.







Crepe Myrtle

Lagerstroemia indica

Origin: Eastern Asia including China, Korea, Japan and Indian subcontinent.

Height: 3 – 10m.

Bark: Smooth, thin, and peeling in thin plates or patches as the tree matures.

Flowers: Borne in large, showy terminal panicles (clusters) up to 20–30 cm long from summer through early autumn.

Foliage: Undergoes a vibrant autumn color transition, shifting to brilliant shades of yellow, orange, bright red, and rich bronze before dropping for winter.







Darling Range Ghost Gum

Eucalyptus laeliae

Origin: Darling Range southeast of Perth from Kalamunda to Harvey and Capel.

Height: 5 – 20m.

Bark: Smooth, grey to white. Late summer to autumn sheds to reveal vibrant, fresh creamy – yellow or butter yellow surface.

Flowers: Creamy – white clusters.

Foliage: The foliage has a light, textured appearance because the leaves tend to bundle into distinct clumps within the spreading canopy.







London Plane Tree

Platanus x acerifolia

Origin: A hybrid of P. orientalis (oriental plane) and P. occidentalis (American sycamore).

Height: Up to 30m.

Bark: Smooth cream coloured bark shedding in flakes, producing a mottled appearance.

Flowers: Insignificant flowers develop into spherical seed-ball hanging from pendulous stems.

Foliage: Broad maple-shaped leaves.







Black Cherry Plum

Prunus cerasifera nigra

Origin: Asia and Europe.

Height: 5m.

Bark: Smooth dark.

Flowers: Pink-white flowers emerge in spring before foliage.

Foliage: Dark-purple deciduous leaves.







Manchurian Pear

Pyrus ussuriensis

Origin: Western China.

Height: up to 10m.

Bark: Smooth brown bark.

Flowers: Masses of small white flowers in spring.

Foliage: Rounded green leaves, turning red and yellow in the autumn.







Claret Ash

Fraxinus angustifolia subsp. oxycarpa 'Raywood'

Origin: Europe and Asia.

Height: 12m.

Bark: Insignificant.

Flowers: Inconspicuous.

Foliage: Deciduous, narrow and deep green in summer, deep red in autumn.







Chinese Tallow

Triadica sebifera

Origin: Warm temperate area of China and Japan.

Height: Up to 12m.

Bark: Smooth grey bark.

Flowers: Inconspicuous green/yellow flowers.

Foliage: Deciduous. Heart shaped green leaves, becoming yellow and red during autumn.







Chinese Elm

Ulmus parvifolia

Origin: Eastern Asia.

Height: 12m.

Bark: Mottled grey, red and cream coloured bark.

Flowers: Inconspicuous green flowers.

Foliage: Semi-deciduous, small oval shaped dark-green leaves with serrated edges.







Tree Provenance



Bottlebrush

Callistemon 'Kings Park Special'



Chinese Elm

Ulmus parvifolia



Claret Ash

Fraxinus angustifolia subsp oxycarpa 'Raywood'



Coastal Sheoak

Casuarina equisetifolia



Coral Gum

Eucalyptus torquata



Coral Tree

Erythrina × sykesii



Commented [JT1]: Erythrina x sykesii

Crepe Myrtle

Lagerstroemia indica



Darling Range Ghost Gum

Eucalyptus laeliae



Little Ghost Gum

Eucalyptus victrix



Manchurian Pear

Pyrus ussuriensis



Commented [JT2]: Pyrus ussuriensis

Narrow leaved Black Peppermint

Eucalyptus nicholii



Native frangipani

Hymenosporum flavum



Norfolk Island Pine

Araucaria heterophylla



Olive - non-fruiting cultivar

Olea europaea



Peppermint, Wonnil

Agonis flexuosa



Pin-cushion Hakea

Hakea laurina



Pink Trumpet Tree

Handroanthus impetiginosus



Pricklybark, Dwutta

Eucalyptus todtiana



Rottnest Island Tea Tree, Moonah

Melaleuca lanceolata



Salt River Gum

Eucalyptus sargentii



Snow in summer

Melaleuca linariifolia



Spotted Gum

Corymbia maculata



Tuart

Eucalyptus gomphocephala



Weeping Paperbark

Melaleuca leucadendra



Western Sheoak, Condil

Allocasuarina fraseriana



Various species

Mixed



-

No Tree



Broad-leaved Paperbark

Melaleuca quinquenervia



Chinese Tallow

Triadica sebifera



London Plane Tree

Platanus x acerifolia



Queensland Brush Box

Lophostemon confertus



Sugar Gum

Eucalyptus cladocalyx

