
14	SUBJECT:	Draft Locality Street Tree Masterplan
	DIRECTOR:	Built and Natural Environment
	MEETING:	Council Meeting
	MEETING DATE:	24 November 2020

Summary

A draft Locality Street Tree Masterplan has been developed for the entire municipality to support the City's strategic direction and policy on trees as well as inform future tree planting initiatives to create a more sustainable city.

The vision for the draft Masterplan is to have a document that informs and directs the enhancement of the future tree canopy cover through the identification of appropriate tree species for individual streets. Species that reflect the cultural and environmental characteristics of Mandurah, creating a more sustainable and liveable City. Generally, the Masterplan has adhered to the following key rules:

- Continue existing streetscape characters, where appropriate.
- Identify specific problem species that are currently planted and are not flourishing.
- Identify opportunities for improvement in defining streetscape / precinct character.

The recently prepared draft Greening Mandurah Framework, also the subject of a report on this agenda, is designed to protect, nurture, value and enhance shade providing trees across Mandurah and is a tool for implementing the Framework and associated street tree planting initiatives. Council is requested to acknowledge the draft Locality Street Tree Masterplan and note that a further report will be prepared for Council's consideration and endorsement.

Disclosure of Interest

Nil

Previous Relevant Documentation

- G.12/7/19 23 July 2019 Policy - Tree Management POL-RDS 06
- G.35/2/15 24 February 2015 Review of City of Mandurah Policy Manual
- G.55/5/05 24 May 2005 Greening Mandurah Landscape Master Plan – Information Report.
The City recognised the need to develop a 'Greening Mandurah Landscape Master Plan' in the '2001-2004 Community Charter and Strategic Plan.'
The Greening Mandurah Landscape Master Plan provided a strategic framework for City officers, designers and developers to assist in the appropriate landscape development of existing and future streetscapes.

Background

The City has an active role in influencing the landscape character of Mandurah through managing the impact of development on existing natural vegetation and guiding the future landscape development of the City's street network and public open space.

With land being increasingly utilised for built environments, street and park trees have become essential for providing numerous benefits to the community.

In addition to appearance, trees:

- provide much needed shade;
- protect against cold and hot winds;
- reduce glare;
- provide habitat for fauna;
- add moisture and oxygen to the air; and
- remove carbon dioxide.

Furthermore, street trees, lawn and other plantings also reduce river and estuary degradation resulting from storm water run-off. Street trees can also provide community benefit in terms of improved property values, traffic calming and create pedestrian friendly environments.

Locality Street Tree Masterplan

a. Project Background

The City has identified the need for the development of a Locality Street Tree Masterplan (Masterplan) for the entire City. A copy of the draft Masterplan is provided in Attachment 14.1.

Street tree masterplans, in various forms, have been prepared and approved for major subdivisions within the City including Seascapes, Lakelands, Meadow Springs, Madora Bay, Osprey Waters, Mariners Cove and Ocean Hill. These masterplans required review and informed the preparation of the new standardised suite of street tree masterplans for the entire City.

Street tree asset data was used to aid development of the Masterplan. At present, approximately 40,000 street trees have been audited.

The development and implementation of the Masterplan will have the following outcomes:

- Identify the existing landscape characters within the City;
- Enhance the future tree canopy of the City of Mandurah;
- Assist with the selection of appropriate tree species; and
- Ensure future tree planting is complementary to, and consistent with, the existing or intended local character of areas within Mandurah.

b. Project Aim and Objectives

The draft Masterplan aims to enhance the future canopy cover through the identification of suitable tree species for individual streets that reflects the cultural and environmental characteristics of Mandurah, creating a more sustainable and liveable city.

The aim of the project is to identify appropriate tree species for individual streets in all localities and to present the information in an easy to understand and use format.

Project objectives include:

- Enhance the future tree canopy of the City;
- Ensure that a diverse range of tree species is used to build resilience against changes in climate and water availability;
- Increase habitat and biodiversity through the use of local native tree species;
- Identify existing landscape characters and reinforce existing tree plantings;
- Guide the infill tree planting and new street tree planting program;
- Introduce new species when either unsuitable or no plantings currently exist; and
- Produce plans that clearly communicate the planting intent for each individual street.

Localities are broken down to specific character precincts and manageable sections to assist with design preparation and implementation. Streets comprise industrial, commercial and residential areas. Arterial roads under the care and control of Main Roads Western Australia are excluded from this draft Masterplan.

c. Design Principles

Street trees are selected to enhance future canopy cover and reflect the cultural and environmental characteristics of Mandurah, creating a more sustainable and liveable City. This will be achieved through the application of the following design principles:

- Enhance the local character of distinct streets or areas by defining Precinct Planting objectives;
- Provide for diversification through variety of species, age and growth rates;
- Reinforce and celebrate major intersections, nodes and gateways;
- Enhance key cultural and commercial sites;
- Provide for solar access, where appropriate;
- Provide consistency and visual uniformity to reinforce a sense of identity;
- Provide for increased habitat and biodiversity; and
- Allow adjacent natural landscape character to inform the street tree planting where existing reserves / open space adjoin a street.

d. Plan Overview

Context – Describes the City's geographical features and landforms, vegetation types, population, including characterisation of older suburbs and newer land developments as it relates to streetscapes and tree planting arrangements.

Plan Structure - The draft Masterplan is structured to provide a broad contextual understanding of why the City needs such a document and detailed practical information to inform decision making and implementation of tree selection within each Precinct. The following structure has been adopted for ease of use:

- Why Develop a Masterplan?
- Guiding Principles
- Plan Overview
- Tree Species Selection
- Precinct Improvements
- References and Appendices includes Tree Species Summary, Description, List of Trees by Size and Category and Precinct Details.

e. Landscape Character Approach to Masterplans

Based on the biophysical and socio-cultural landscape values of Mandurah, the draft Masterplan has been determined based on the following key landscape characters:

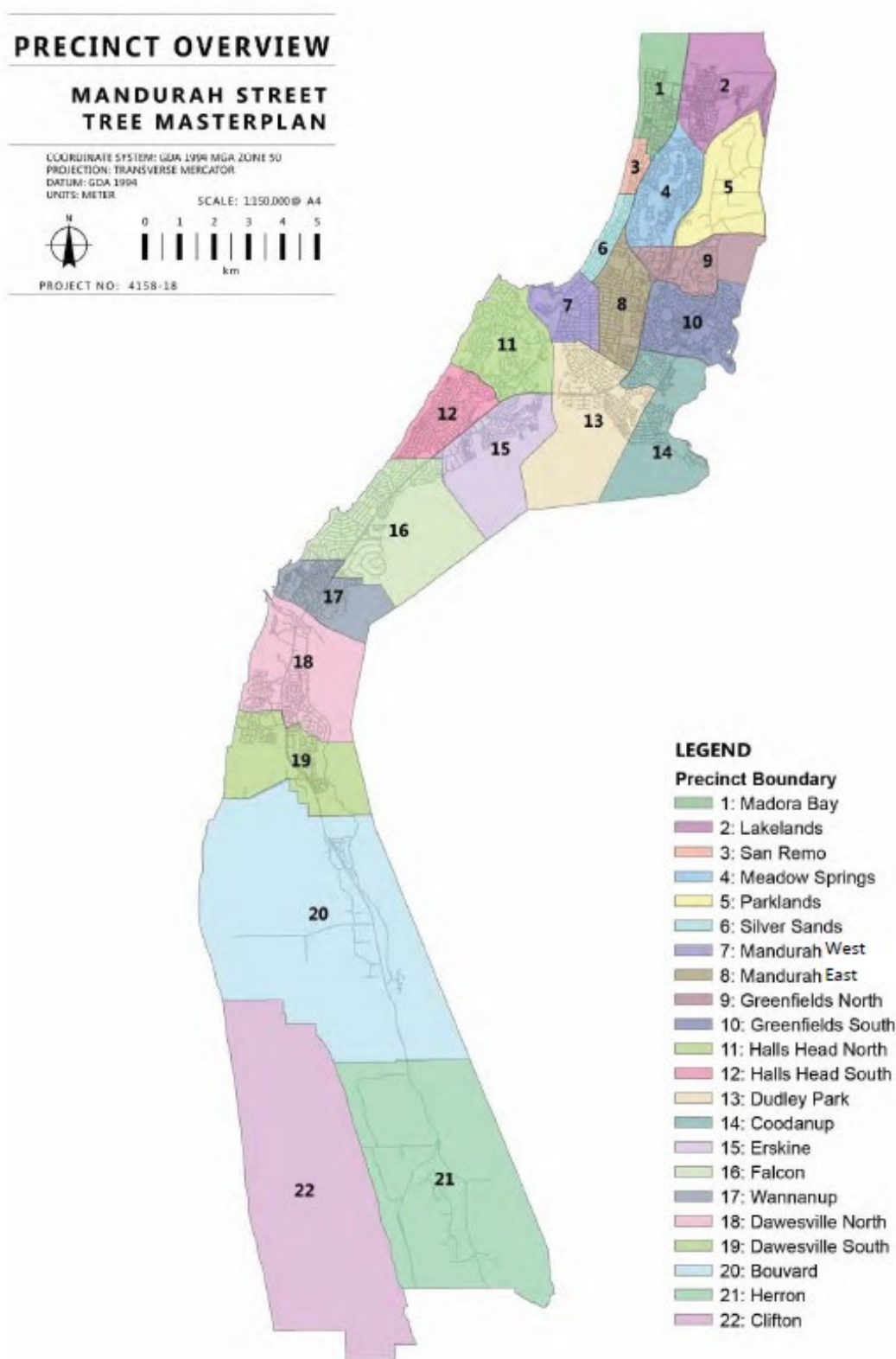
- Coastal
- Coastal Ridge
- Woodland
- Riverine
- Estuary

Within each Precinct, particular tree species are allocated to each of the landscape character types above. Some species will be in multiple character types. Each of the character types can be either randomly planted, providing a more natural and rural character, or in a structured approach, providing a formal avenue or urban approach to planting arrangement. Each Precinct has a distinct list of species and character types which best describe the character of that Precinct based on the environmental and historical land use as well as the built and natural influences.

f. Precincts

The draft Masterplan is based on a Precinct approach providing a template for future tree planting within the City's streets. The Precincts are based on the existing defined City localities.

The major design objectives for each Precinct are outlined, including existing conditions. Detailed colour coded plans for each Precinct indicate the nominated tree species for each street based on biophysical and socio-cultural characteristics. A Precinct overview plan is provided and indicates the locations and numbering of the Precincts across the City.



The draft Masterplan includes a number of Appendices including:

1. Summary list of tree species in table format arranged alphabetically;
2. Tree Species description on each species;
3. List of trees by size and horticultural categories in table format; and

4. Precinct – proposed tree type for each street.

Comment

The draft Masterplan will be the tool for implementing the City's draft Greening Mandurah Framework, also the subject of a report on this agenda, and its objectives to protect, nurture, value and enhance the urban canopy together with other street tree planting initiatives.

Generally, the draft Masterplan has followed these three key principles:

- Continue existing streetscape character where appropriate;
- Identify specific problem species that are currently planted and are not flourishing; and
- Identify opportunities for improvement in defining streetscape/precinct character.

The draft Masterplan will be used by a variety of users and therefore requires a clear and easy to interpret document. Key user groups of the document include:

- City officers: To guide the approvals and management process of street trees within the public domain including development of street tree planting programs.
- Land Owners and Developers: To direct the selection of tree species based on the desired character of the Precinct.
- Community, Residents and Ratepayers: To support an improved knowledge and appreciation for street trees within the City.

There is flexibility in species selection and the approach to the spatial planting arrangement within the road reserve within a specific Precinct, using the group of trees species from that Precinct. During detailed design for a street tree planting program, officers will refer to the Precinct Plan and then assess on a street by street approach which tree would be best suited to increase habitat and biodiversity for example, by looking at what trees would be most appropriate with consideration to the existing conditions within that streetscape environment.

The approach to interpreting the draft Masterplan is described in the document and guides the user to a structured decision-making system to enable the best choice in terms of selecting the tree species for a street.

All new planting will be based on a Precinct approach where tree species selection and planting will reinforce the distinct physical character of each area and be responsive to its unique environmental conditions, using the list of trees within that Precinct. The Precincts defined in an area will be demarcated by physical boundaries such as landform, streets and built context.

The draft Masterplan considers existing street tree themes. The general approach to tree selection has been to maintain existing themes where they are well established, meet the Precinct objectives and tree selection criteria for that location.

Where required as a condition of subdivision, the land developer is to prepare and implement a Street Tree Masterplan for all streets within the development to the satisfaction of the City. The draft Locality Street Tree Masterplan will be used to guide future street tree planting programs to ensure a uniform approach to street tree planting, consistent with the intended landscape character of the area.

A review of the streets with existing overhead powerlines was undertaken in the preparation of the draft Masterplan. Streets with overhead powerlines have been allocated either one species which is appropriate under the powerlines or two species - one for under the powerlines and a species which is taller.

It is important to note that in order to achieve the objectives of the draft Greening Mandurah Framework, the City should avoid the removal of healthy street trees, wherever practicable. If a different type of species is nominated in this draft Masterplan for a particular street that has existing trees, it does not mean the City will remove these and plant new trees. This desired species will only be planted over time as trees require replacement.

Tree species selection has been based on a number of key criteria. These are:

a. Aesthetic Value

The aesthetic value of a tree is highly subjective and based on the individual's view of a tree. However, there are a number of characteristics and qualities related to the consideration of aesthetic value:

- Trees planted along and around buildings provide a distraction for the eye, softening the background and screening unsightly views.
- Trees contribute eye-catching colours to their surroundings, from the different shades of green found in the leaves, the colours found in flowering trees and sometimes even the bark of the tree.
- The condition of a community's trees and collectively, its urban forests, is usually the first impression a community projects to its visitors. A community's urban forest is an extension of its pride and community spirit.
- Trees also enhance community economic stability by attracting businesses and tourists as people tend to linger and shop longer along tree-lined streets.
- Studies have also shown that medium density dwellings and offices in tree filled streets rent more quickly and businesses leasing office spaces in developments with trees reported higher productivity and fewer absences.

b. Structural Characteristics

Trees have many desirable traits, as well as undesirable characteristics when considering the structure of trees. Key to the success of a tree is the root system - the configuration of a tree's root system serves to structurally support the plant, and compete with other plants for uptake of nutrients from the soil. Other key structural considerations are the root zone and the likely root growth habit, canopy spread and branch formation and potential for limbs and/or fruit to drop.

c. Physical Environment for Growth

Mandurah is located on the Swan Coastal Plain, and has a diverse biophysical environment. The geology of the City is made up of Bassendean, Quindalup South, Spearwood and Vasse soil types. The City also has ocean, estuary, rivers, lakes and swamps contributing to the natural landform structure. These soil types support the following natural vegetation complexes:

- Cottesloe - Central and South
- Quindalup
- Karrakatta - Central and South
- Bassendean - Central and South
- Yoongarillup
- Herdsman
- Vasse.

The species selected for the draft Masterplan are based on the following three core growth conditions to ensure appropriate species are selected to suit the existing growing conditions, reflect the natural environmental character and support the growth of the urban forest:

1. The Cottesloe - Central and South and the Quindalup complexes are typically located on the exposed dunes and coastal limestone ridges, which are resilient to the exposed coastal conditions.
2. The Karrakatta - Central and South, Bassendean - Central and South and Yoongarillup woodland complexes are typically located on the plain between the dunes and the damp land areas.

3. The Herdsman and Vasse complexes are dominated by Melaleuca and Eucalypt species suited to damp soil conditions.

d. Ecological Enhancement

Street trees can provide significant opportunities for ecological enhancement. Appropriate species can provide species diversity and therefore resilience to potential issues within the urban and natural streetscapes of the City. Street trees provide the following ecological enhancements:

- Reinforce ecological links and green infrastructure networks connecting natural areas and encourage healthy active living of residents and for fauna to move through densely populated areas.
- Provision of shade to assist in reducing urban heat island effect by lowering the ambient temperature.
- Assist in local stormwater collection and retention through intercepting rainfall.
- Provision of significant foraging, breeding and roosting opportunities for local fauna such as Carnaby Cockatoos and Ringtail Possums.

e. Native versus Exotic

The developed and urban centres of our communities are highly contrived environments with little remnant landscape structure. As a result, the growing conditions may not suit a local native species and therefore an alternate Australian native or exotic species should be sought to specify a species that will adapt to the conditions it is planted in.

Exotic tree species can make a positive contribution to the landscape, particularly highly modified environments. Most of the exotic species which are available in Australia, particularly Western Australia, have particular attributes which are adaptable to harsh environments.

The protection and retention of remnant mature local native trees should be a priority as these trees play an important role in maintaining biodiversity and reinforcing the natural pre-development landscape function. The application of Western Australian local species in streets will have a greater impact and benefit when applied to verges/medians adjacent to open space that has significant remnant vegetation.

f. Deciduous versus Evergreen

The list of approved street trees includes a range of deciduous and evergreen species. Both species types have significant benefits for streetscape environment. Evergreen species are known to provide continuous foliage cover and shelter, as well as providing excellent screening characteristics. Deciduous species are known to have foliage colouration changes and lose their leaves during the autumn/winter seasons. Deciduous species provide an excellent solution to solar passive design for residential/commercial developments as they provide shade in summer and let light in during winter.

g. Fruit Trees

Fruit trees have not been included in the Masterplan as there are many management issues associated with fruit trees in the public realm. For example, as soon as fruit is no longer attached to the tree, it becomes a major issue for the City and homeowners to contend with.

However, the community in Mandurah has the potential to work with the City to create areas of urban fruit trees. This approach would not work in every location and requires careful planning, consideration, policy and management practices to manage the program.

h. Tree Arrangement

- i. Appropriate Location - specific considerations are needed in the selection of appropriate planting locations including underground and overhead services, climatic conditions, traffic conditions, footpath and crossover location, available soil volume, street profile and existing tree locations.
- ii. Consistent versus Inconsistent Planting - the draft Masterplan provides discretion in terms of deciding the street tree planting patterns within particular streets. For example, a natural area

within a rural residential suburb would be more suitable to a random pattern of planting to mimic the organic formation which occurs in the bush. Alternatively, in an urban area or a boulevard the character could be more formal and require structured planting that reinforces the character of the place and may assist in wayfinding.

i. Emerging and Existing Disease Threats

Emerging and existing diseases are a significant issue in the short term and long-term management of the City's urban forest and street tree network. The City will take a variety of approaches to manage impacts associated with diseases including monitoring to ensure general health and vitality, and in particular provision of greater tree diversity and ensuring hygiene controls are maintained during procurement, installation and maintenance.

j. Drought Conditions, Growth Rate and Ability to Thrive

Drought tolerance is the degree to which a plant is adapted to arid or drought conditions. Drought is not an unexpected occurrence for Western Australia; climate data records show that Western Australia, along with the rest of Australia, has regularly been affected by drought throughout recorded history. The Western Australian Department of Primary Industries and Regional Development has stated that:

"The report forecast that drought is highly likely to increase in frequency and intensity from 2010 to 2040. From now on, it's highly likely that exceptionally low rainfall, exceptionally high temperatures and exceptionally low soil moisture levels will occur twice as much in most regions of Australia, and four times as much in the South-West."

Further details can be found from the following website:

<https://www.agric.wa.gov.au/drought-and-dry-seasons/evolution-drought-policy-western-australia?page=0%2C3>

The ability to thrive is largely dependent on the appropriate selection of the tree species for any particular location – considering micro-climate, soil, water, exposure etc.

k. Species Weed Potential

Trees known to be significant weeds are not included in the draft Masterplan. However, trees that are functional as successful street trees and could be a risk, can continue to be used providing that the potential to invade natural areas is managed by separation.

l. Availability, Sourcing and Substitutions

The sourcing and availability of nominated tree species is critical in realising the Precinct objectives. Sometimes substitutions have to be made for a variety of reasons and this can greatly affect the overall visual outcome that was originally intended. Therefore, it is recommended that forward growing contracts are procured to ensure the species nominated can be installed. Where species have to be substituted it is recommended that an alternate species is selected that has similar qualities to the species that is unavailable.

There are a number of species which are nominated in the list of approved trees that will require trialling in select locations within Mandurah to confirm that they are suitable to the climatic and soil conditions.

MEAG/MCCAG Comment

This item was considered by the Mandurah Environmental Advisory Group at its meeting on Friday, 14 February 2020 and the following recommendations were made:

1. MEAG supported the work done on the Street Tree Master Plan, and noted the following:
 - Include urban linkages for wildlife corridors/green links in the Master Plan.

- Include diverse plantings.
- Include more endemic native species, to boost biodiversity.

Officer Comment:

The inclusion of green links/wildlife corridors within the draft Locality Street Tree Masterplan is outside the scope of the draft Masterplan. If such a green link wildlife corridor project was finalised then the draft Masterplan could be adjusted at a future date to support the aims of a green link wildlife corridor plan.

A green link/wildlife corridor plan is a significant planning project which, besides using road verges, identifies the spaces that are desirable to connect. This would include fragmented Public Open Space areas and conservation reserves, foreshores, service corridors and golf courses. If a green link wildlife corridor plan was endorsed, then the draft Locality Street Tree Masterplan could tailor tree species in particular areas to support this. It may require a different approach to the mix of trees chosen in particular roads and streets. This is a draft Masterplan, therefore detailed implementation planning is still required. As the City's needs change, the Masterplan can be revised accordingly.

The draft Masterplan contains a very diverse range of tree species (67 species), and in some streets it may be appropriate to provide a random mix of tree species, and in other roads a singular species may be more appropriate. This detail can be worked out in the street tree planting project planning phase. At the detailed design and implementation that each street is to refer to the Masterplan and then assess on a street by street approach to increase habitat and biodiversity by looking at what trees would best address this, given the conditions within that street environment.

Currently there are 17 out of 18 local endemic native Mandurah tree species used in the draft Masterplan. The one species not used is *Melaleuca cuticularis* (Salt Water Paperbark), which is not particularly suited to verge planting as a street tree.

Tree Origin	Number	% Total of Species	Streets	% of Total Streets
Mandurah Local	17	25.4%	626	31.7%
WA other Native	17	25.4%	559	28.3%
Eastern States Native	19	28.4%	665	33.2%
Overseas	14	20.8%	134	6.8%
Total	67	100%	1,985	100%

The categories of tree origin and use thereof is relative to the number of streets the tree species is designated, the length of roads where that species is used, whether both sides of the verge are planted, existing planting themes, soil types, exposure and so forth. The distribution of local native trees also depends on the precinct. Particular precincts have a very strong focus on using local endemic native trees in streets, such as:

- Falcon 42.9%
- Wannanup 69%
- Dawesville North 53.4%
- Dawesville South 71.8%
- Greenfields North 50%
- Bouvard 66.7%
- Parklands 57.8%
- Herron 91.7%

It is not that simple to just increase the number of streets with local native trees. Many are not suitable for widespread use because they have particular soil requirements, do not fit with existing street trees themes and character and are not preferred by the community. Having a fair representation of Australian natives, WA natives and local endemics with a relatively low proportion of overseas trees is believed to provide the benefits sought from a balanced and diverse mix of tree species.

A number of the tree species have been selected based on the Mandurah Planning Strategy: Biodiversity Strategy to consider the critical environmentally sensitive features of Mandurah. The following key fauna species have been identified and suitable trees selected to support foraging and habitat in appropriate localities:

- Western Ring-tailed possum
- Carnaby's Black Cockatoos
- Forest Red-tailed Black Cockatoo.

Consultation

Public Engagement

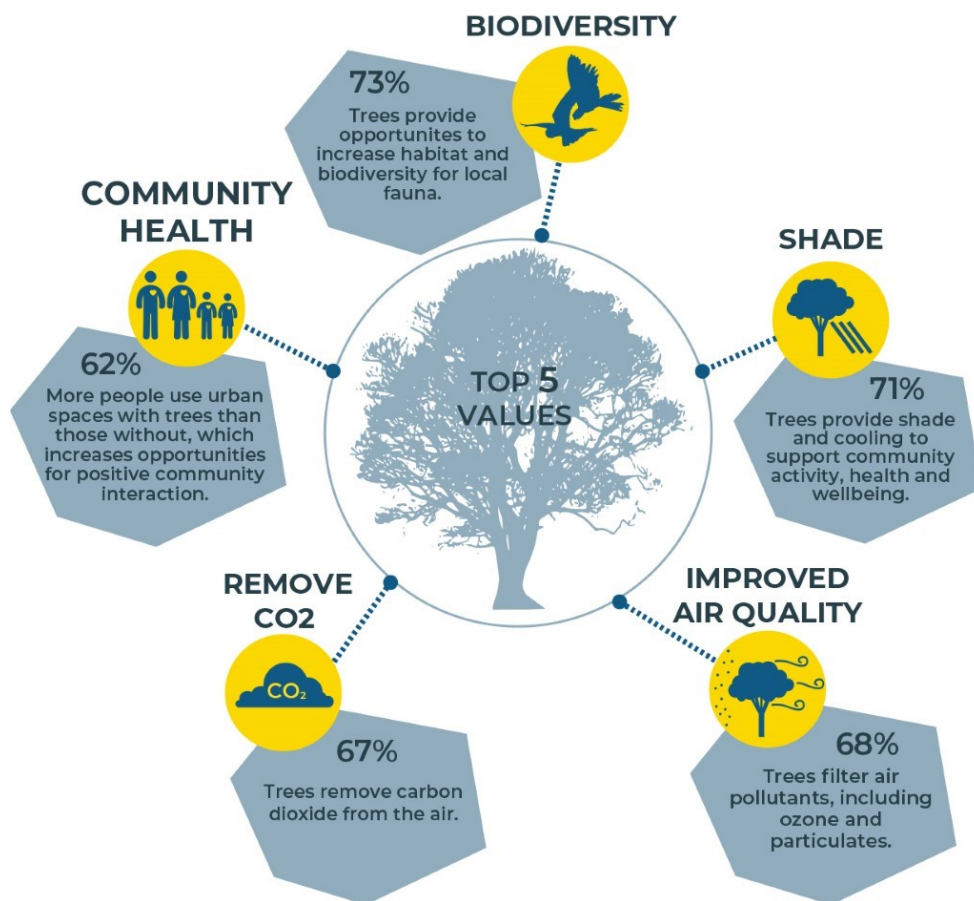
In March 2019, the City undertook a city-wide public engagement process in the form of a detailed survey and provided considerable information through the "Mandurah Matters" website. Newspaper advertising was used to generate interest in the development of the Locality Street Tree Masterplan and sought input from the community. Precinct plans, details on tree species and a series of frequently asked questions were included in the information package. The public engagement period was open from 19 March to 28 April 2019 and overall Mandurah responses totalled 223. The results of the Public Engagement undertaken are attached. (*Refer Attachment 14.2*).

The survey included opportunities for the public to provide comment on the Precinct based on their residential address. Key questions included:

- Demographics data
- Which tree do you prefer of the trees selected for your Precinct and why?
- Are there specific reasons why any of the other trees are not preferred?
- The following key values were also rated:
 - *Aesthetics*
 - *Increasing property values*
 - *Increasing habitat and biodiversity*
 - *Providing shade and cooling*
 - *Absorbing carbon dioxide*
 - *Providing windbreaks or visual screening*
 - *Encouraging drivers to reduce speed*
 - *Improved air quality*
 - *Community health and wellbeing*
 - *Reducing stormwater runoff*
 - *Encouraging outdoor activity*
 - *Reducing energy cost of residents*
 - *Fire safety by reducing ember attack.*
- Commentary was also invited regarding anything else that should be considered.

The results of the survey highlighted the following as the top five community values for trees:

1. Increasing habitat and biodiversity
2. Providing shade and cooling
3. Improved air quality
4. Absorbing carbon dioxide
5. Community health and wellbeing.



A summary of the Public Engagement process is attached. Refer Attachment 14.3.

The following tree species were highlighted as the top 10 preferred street tree species:

1. *Agonis flexuosa*, Weeping Peppermint
2. *Corymbia ficifolia* 'Summer Red', Red Flowering Gum
3. *Melaleuca quinquenervia*, Broad Leafed Paperbark
4. *Jacaranda mimosifolia*, Jacaranda
5. *Corymbia calophylla*, Marri
6. *Banksia attenuata*, Candlestick Banksia
7. *Eucalyptus leucoxylon rosea*, Pink Flowering Gum
8. *Eucalyptus sideroxylon rosea*, Red Iron Bark
9. *Eucalyptus gomphocephala*, Tuart
10. *Callistemon* 'Kings Park Special', Kings Park Special Bottlebrush

Consultation

Nil

Statutory Environment

The City has care and control of local roads and this includes management of all existing street trees and future tree planting initiatives.

Policy Implications

The Locality Street Tree Masterplan supports POL-RDS 06 Tree Management. It is noted that this policy is presently being reviewed and is the subject of a report on this agenda.

Economic Implications

There are no direct economic implications from this document. It is essentially a technical document that informs future street tree planting initiatives. These initiatives may be absorbed into existing operational budgets or, alternatively, a discrete project may be put forward for Council consideration during future budget deliberations. At present the Long Term Financial Plan does not provide for such a project.

Risk Analysis

The significance of the draft Masterplan is that it has documented suitable trees to be planted in Mandurah's road network following extensive review. This flexible, considered and coordinated approach to planning tree planting programs will reduce the incidence of unsuitable trees being planted in the City which otherwise would increase the City's environmental, reputational, financial and social risk.

Strategic Implications

The following strategies from the *City of Mandurah Strategic Community Plan 2020 – 2040* are relevant to this report:

Social:

- Advocate for and facilitate the provision of diverse and environmentally sustainable places and spaces for people to enjoy an inclusive and active lifestyle.

Health:

- Promote the importance of a healthy, active lifestyle and the role the natural environment plays in preventative health, within our community.

Environment:

- Partner and engage with our community to deliver environmental sustainability outcomes.

Organisational Excellence:

- Listen to and engage with our community in the decision-making process.
- Ensure that our actions maintain a sustainable balance between economic growth, the environment and social values.

Conclusion

The City has developed a draft Locality Street Tree Masterplan (Refer Attachment 14.1) for the entire City to support the City's strategic direction on trees as well as inform future tree planting initiatives to create a more sustainable city. It aims to enhance the future canopy cover through the identification of suitable tree species for individual streets that reflects the cultural and environmental characteristics of Mandurah.

The Masterplan adheres to the following key rules:

- Continue existing streetscape characters where appropriate.
- Identify specific problem species that are currently planted and are not flourishing.
- Identify opportunities for improvement in defining streetscape / precinct character.

Officers recommend that the City of Mandurah Locality Street Tree Masterplan (2020 version), be endorsed.

NOTE:

- Refer **Attachment 14.1 Locality Street Tree Masterplan**
Attachment 14.2 Locality Street Tree Masterplan – Public Engagement Stage 1 Results
Attachment 14.3 Public Engagement Summary

RECOMMENDATION

That Council:

- 1. Acknowledges the draft Locality Street Tree Masterplan (2020 version) to support the City's strategic direction on street trees, as well as inform future tree planting initiatives.**
- 2. Approves an Elected Member workshop to review the Locality Street Tree Masterplan (2020 version); and**
- 3. Notes that a further report will be prepared for Council consideration and endorsement following the above referred workshop.**



Locality Street Tree Masterplan

City of Mandurah | 2020

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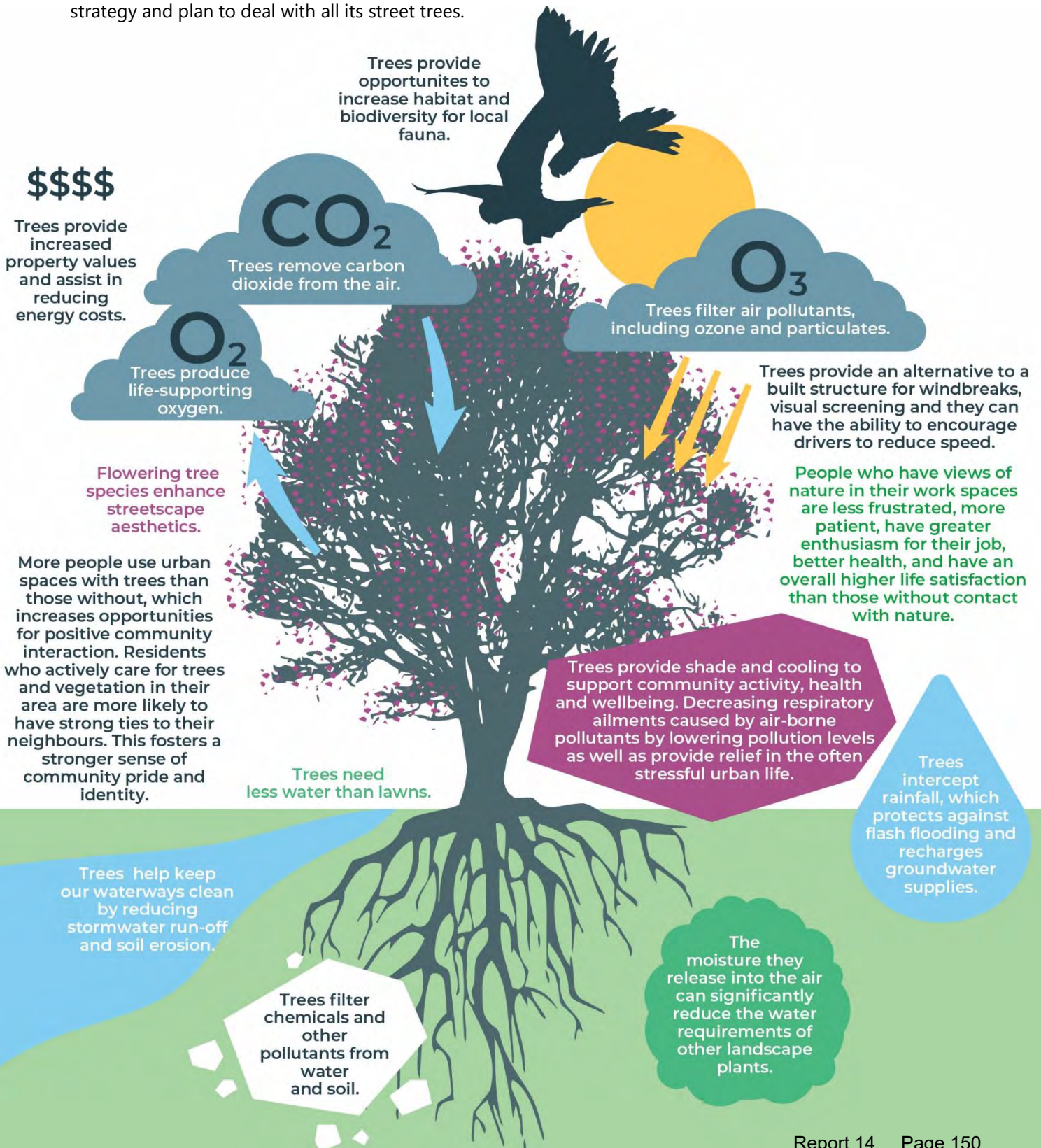
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1 WHY DEVELOP A MASTERPLAN?

The City of Mandurah have developed a Locality Street Tree Masterplan for the entire City to support the City's strategic direction and policy on trees as well as inform the future tree planting initiatives to create a more sustainable City.

Not only are trees essential for life, but as the longest living species on earth, they give us a link between the past, present and future. (<https://www.royalparks.org.uk>) Like all living things, trees grow, mature, sometimes suffer from illness and eventually senesce and die. It is therefore imperative that the City have a guiding strategy and plan to deal with all its street trees.



2 GUIDING PRINCIPLES

2.1 VISION STATEMENT

The vision for the Locality Street Tree Masterplan is:

To prepare a Masterplan that enhances the future canopy cover through the identification of suitable tree species for individual streets that reflect the cultural and environmental characteristics of Mandurah, creating a more sustainable and liveable City.

2.2 PROJECT OBJECTIVES

The objectives for the Masterplan are to:

- Enhance the future tree canopy of the City.
- Identify existing landscape characters and reinforce existing tree plantings.
- Introduce new species where either unsuitable or no plantings currently exist.
- Ensure that a diverse range of species are used to build resilience against changes in climate and water availability.
- Increase habitat and biodiversity through the use of local native tree species.
- Produce plans for each locality that clearly communicate the planting intent for each individual street.
- Guide the infill tree planting and new street tree planting program.

2.3 STRATEGIC FRAMEWORK

The City's purpose is to create a vibrant and connected city that supports and improves the community for everyone. The Core Values include:

- Courage - Determined to make a difference through questioning, challenging and building resilience.
- Connected - Engaging the community through collaboration, understanding and inclusiveness.
- Innovative - Embracing ideas and opportunities to shape an inspiring, diverse and dynamic community.
- Integrity - Upholding and protecting our community through honesty, fairness and empathy.
- Excellence - Striving to deliver on our individual roles to make a difference in our community.



The City has a number of relevant Strategies which have been considered in the preparation of this Masterplan, they include:

- Biodiversity Strategy Plan
- Urban Canopy Strategy.

The City has a number of relevant Policies which have been considered in the preparation of this Masterplan, they include:

- Urban Tree Management Policy
- Water Sensitive Urban Design Policy
- Parks and Reserves Policy
- Bushland Conservation Policy.

The Masterplan will be used as the implementation tool for the City's new Urban Canopy Strategy. The Masterplan is only applicable to the street network within the City of Mandurah's control.

2.4 DESIGN PRINCIPLES

Street trees are selected to enhance the future canopy cover and reflect the cultural and environmental characteristics of Mandurah, creating a more sustainable and liveable City. This will be achieved through the application of the following design principles:

- Enhance the local character of distinct streets or areas by defining Precinct Planting objectives.
- Provide for diversification through variety of species, age and growth rates.
- Reinforce and celebrate major intersections, nodes and gateways.
- Enhance key cultural and commercial sites.
- Provide for solar access, where appropriate.
- Provide consistency and visual uniformity to reinforce a sense of identity.
- Provide for increased habitat and biodiversity.
- Allow adjacent natural landscape character to inform the street tree planting where existing reserves / open space adjoin a street.

3 PLAN OVERVIEW

3.1 CONTEXT

The City of Mandurah is located 72km south of Perth in the Peel Region. It is Western Australia's largest regional city and the 10th largest local government by population. The City has an approximate area of 174km², and is responsible for managing a network of streets and roads of over 675km. The City is bound by the Indian Ocean to the west, the Shire of Murray, Peel Harvey Estuary and Serpentine River to the east, the City of Rockingham to the north and the Shire of Waroona to the south.

Mandurah is named from an Aboriginal word meaning "*the meeting place*". The original inhabitants of the Mandurah area were the Bindjareb people.

The City of Mandurah is located within the Swan Coastal Plain Landscape Character Type, as defined by *Reading the Remote, Landscape Characters of Western Australia, 1994*. The landform and vegetation aesthetic character of the region relevant to the Locality Street Tree Masterplan can be described as:

Landform

- Steep dunes with rounded foothills; flat to gently inclined plains; elongated dunes; gently sloping flattered spurs of foothills; low, rounded hills.
- Parallel bands of coastal dunes; curved beaches; successive beach ridges; horizontal wavecut platforms.
- Long open views over the level plain; interrupted views from mid-ground to foreground in dune systems.

Vegetation

Low Banksias; stunted Eucalypts; towering Tuarts; tall Jarrah; spreading Flooded Gums; clumps of Paperbarks; solid Tuart trunks; willow like peppermints; shrubby woodland.

Mandurah has a diverse population with more than 84,000 residents living within the City, as recorded in the latest census.

European settlement dates from the 1830s when Thomas Peel and a number of pioneers set up in what is now Mandurah. Population was minimal until 1850 when a road was built to the region and a ferry across the estuary opened. Early industries included fishing, fruit growing and canning. Some growth took place from the late 1800s. From early 1900s, the area became renowned as a holiday destination, and tourism became an important contributor to the local economy. Significant residential development occurred during the immediate post-war years, particularly in holiday dwellings. More substantial growth took place from the 1970s, especially in permanent dwellings. Rapid growth continued from the early 1990s, with the population of the City increasing from under 27,000 in 1991 to nearly 67,000 in 2011. Population growth is expected to continue. (Community ID, <https://profile.id.com.au/ngaa/about? WebID=340>)

Mandurah is part of the Peel Region and is considered one of Western Australia's fastest growing areas in land development. This is particularly evident in the juxtaposition of older suburbs versus new land developments, when comparing road widths, verges, tree species planting and built form.

The older suburbs of Mandurah are typically characterised as having an informal garden style street network, with varied architectural form and a relaxed beachside or rural character. Parklands within these areas are often large grassy areas with remnant vegetation. Street trees tend to be more random in species and form, and clumps of remnant pre-development vegetation provide a visual clue as to the previous landscape character of the area. Newer land developments have a very defined road hierarchy and network of support streets; housing types can appear to be very similar due to the package, style home approach to development and parklands are manicured and well-defined with new equipment. Street trees within new land developments typically have a strong theme as to the street tree species, in formal consistent plantings.

3.2 PLAN STRUCTURE

The Masterplan is structured to provide the reader with a broad contextual understanding of why the City needs such a document and detailed practical information to inform decision making and implementation of tree selection within each Precinct. The following structure has been adopted by the City for ease of use:

- Why Develop a Masterplan?
- Guiding Principles
- Plan Overview
- Tree Species Selection
- Precinct Improvements
- References and Appendices includes Tree Species Summary, Description, List of Trees by Size & Category and Precinct Details.

3.3 WHO WILL USE THIS PLAN?

The Masterplan will be used by a variety of users and requires a clear and easy to interpret document. Key user groups of the document include:

- **City Technical Officers and staff:** To guide the approvals and management process of street trees within the public domain.
- **Land Owners and Developers:** To direct the selection of tree species based on the desired character of the Precinct.
- **Community, Residents and Ratepayers:** To support an improved knowledge and appreciation for street trees within the City.

3.4 HOW TO USE THIS PLAN?

This Masterplan will be the tool for implementing the City's Urban Canopy Strategy. Generally, the Masterplan has followed the following key rules:

- Continue existing streetscape characters where appropriate.
- Identify specific problem species that are currently planted and are not flourishing.
- Identify opportunities for improvement in defining streetscape / precinct character.

It is important to note that the City will not remove healthy street trees. If a different type of species is nominated in this plan for a particular street that has existing trees, it does not mean the City will remove these and plant new trees. This desired species will only be planted over time as trees require replacement.

The approach to interpreting this Masterplan is described below:

1. Read **Section 4 Tree Species Selection** to comprehend the numerous complex considerations given to selecting the most appropriate tree for a streetscape environment.
2. Refer to **Map 1** in **Section 5 Precinct Improvements** for an overall Precinct Map of the entire City. Identify the Precinct that the street you are interested in lies within.
3. Following identification of the specific Precinct, refer to that Precinct's Summary page and Plan located in **Section 5 Precinct Improvements**. The Plan will show which species is proposed for each street.
4. A legend is provided on each Plan, describing the tree types applied to specific streets. Only Local Government Area streets are allocated with trees. The following information will identify specific details:
 - a) Location of overhead powerlines are graphically represented on the plan.
 - b) Either one or two tree species will be shown for these streets with overhead powerlines. Where one species is shown, this can be planted both sides and under the powerlines. Where two species are identified, the first species will be the dominant species and may be located on the side without overhead powerlines and the second species will be a smaller appropriate tree for under the powerlines.

- c) Reserve specific tree species will be identified as a symbol and any new planting on the verge of the reserve should be this species.
 - d) During detailed design each street will refer to the Precinct Plan and then assess on a street by street approach which tree would be best suited to increase habitat and biodiversity by looking at what trees would most appropriate and assess the existing conditions within that streetscape environment.
5. For more information about the tree species identified within each Precinct, refer to the **Appendix Two Tree Species Description** for details of each particular species in alphabetical order. The Tree Descriptions provide key features, information and imagery for each species.

3.5 COMMUNITY AWARENESS AND APPRECIATION

The Plans for each Precinct have been developed to specifically guide the appropriate selection of street trees dependent on the location of where new trees are proposed. The Masterplan aims to:

- reinforce existing street tree plantings
- introduce new species when either unsuitable or no plantings exist
- ensure a diverse range of trees are used within each Precinct to build resilience against changes in climate and water availability
- communicate the design intent for each Precinct based on the biophysical and socio-cultural characteristics of each Precinct
- assist in guiding the infill tree planting and new street tree planting program.

Who is responsible for street trees?

Trees located on the street verge are only to be pruned or removed by the City or its contractors. Watering of the tree is the responsibility of the owner.

Pruning is periodically undertaken by the City to ensure that trees located under overhead power lines are maintained to meet guidelines in accordance with Western Power requirements and to form a desirable shaped tree as required.

Residents can contact the City to request an inspection or maintenance should they have concerns regarding the health, location or safety of a tree.

The City is not responsible for the maintenance of new estates until public assets including street trees are handed over.

Where required as a condition of subdivision, the developer is to prepare and implement a Street Tree Master Plan for all streets within the development to the satisfaction of the City. The Locality Street Tree Masterplan will be used to guide future street tree planting programs to ensure a uniform approach to street tree planting, consistent with the intended landscape character of the area.

Public Engagement

In March 2019, the City undertook a public engagement process in the form of a survey through the "Mandurah Matters" website. The public engagement period was open from the 19th March to the 28th April 2019.

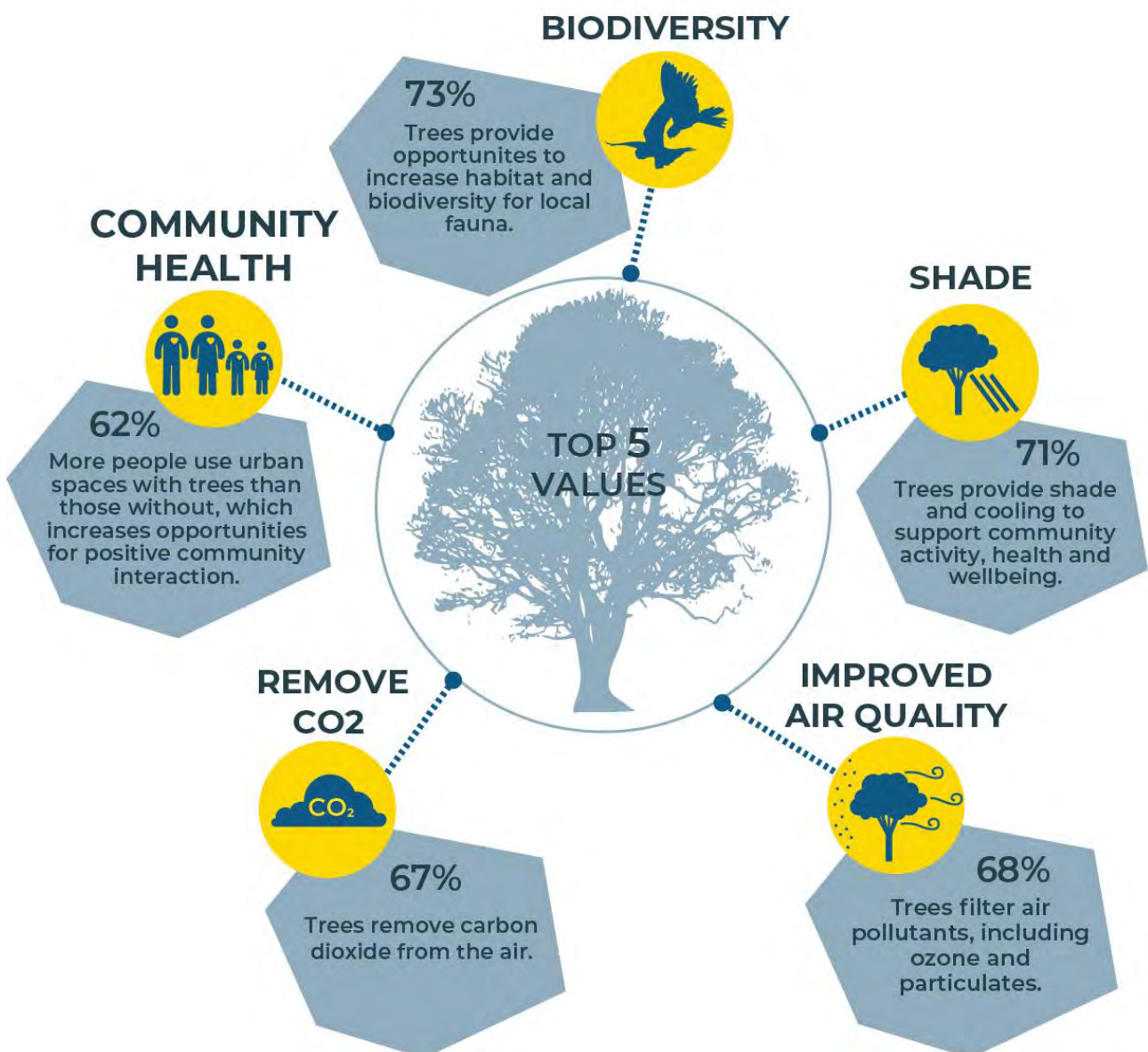
The survey included opportunities for the public to provide comment on the Precinct based on their residential address. Key questions included:

- Demographics data
- Which tree do you prefer of the trees selected for your Precinct and why?
- Are there specific reasons why any of the other trees are not preferred?
- The following key values were also rated:
 - *Aesthetics*
 - *Increasing property values*

- o Increasing habitat and biodiversity
- o Providing shade and cooling
- o Absorbing carbon dioxide
- o Providing windbreaks or visual screening
- o Encouraging drivers to reduce speed
- o Improved air quality
- o Community health and wellbeing
- o Reducing stormwater runoff
- o Encouraging outdoor activity
- o Reducing energy cost of residents
- o Fire safety by reducing ember attack.
- Commentary was also invited regarding anything else that should be considered.

The results of the survey highlighted the following as the top five community values for trees:

1. Increasing habitat and biodiversity
2. Providing shade and cooling
3. Improved air quality
4. Absorbing carbon dioxide
5. Community health and wellbeing.



The following tree species were highlighted as the top 10 preferred street tree species:

1. *Agonis flexuosa*, Weeping Peppermint
2. *Corymbia ficifolia* 'Summer Red', Red Flowering Gum
3. *Melaleuca quinquenervia*, Broad Leafed Paperbark
4. *Jacaranda mimosifolia*, Jacaranda
5. *Corymbia calophylla*, Marri
6. *Banksia attenuata*, Candlestick Banksia
7. *Eucalyptus leucoxyton rosea*, Pink Flowering Gum
8. *Eucalyptus sideroxyton rosea*, Red Iron Bark
9. *Eucalyptus gomphocephala*, Tuart
10. *Callistemon* 'Kings Park Special', Kings Park Special Bottlebrush

Increased Awareness

Community awareness of the Masterplan and responsibilities can be raised through a variety of media via the City's Community Engagement Strategy including:

- City website
- social media
- friends groups
- direct contact through brochures and letter drops.

4 TREE SPECIES SELECTION

4.1 AESTHETIC VALUE

Trees add beauty to their surroundings by adding colour to an area, softening harsh lines of buildings, screening unsightly views and contributing to the character of their environment. Trees have also proven to contribute to a community's economy and way of life. Depending on species, maturity, quantity and location, property values increase 5 to 15 percent when compared to properties without trees.

<http://urbanforestrynetwork.org/benefits/aesthetic.htm>

Aesthetic value can be defined as the value that an object possesses in virtue of its capacity to elicit pleasure (positive value) or displeasure (negative value) when appreciated or experienced aesthetically. Therefore, the aesthetic value of a tree is highly subjective and is based on the opinions of the individual viewing the tree. However, there are a number of characteristics and qualities trees have that can be considered when viewing a tree for aesthetic value. Some considerations include:

- Trees planted along and around buildings provide a distraction for the eye, softening the background and screening unsightly views.
- Trees contribute eye-catching colours to their surroundings, from the different shades of green found in the leaves, the colours found in flowering trees and sometimes even the bark of the tree.
- The condition of a community's trees and collectively, its urban forests, is usually the first impression a community projects to its visitors. A community's urban forest is an extension of its pride and community spirit.
- Trees also enhance community economic stability by attracting businesses and tourists as people tend to linger and shop longer along tree-lined streets.
- Studies have also shown that medium density dwellings and offices in tree filled streets rent more quickly and businesses leasing office spaces in developments with trees reported higher productivity and fewer absences.

4.2 STRUCTURAL CHARACTERISTICS

Trees have many desirable traits, as well as undesirable characteristics when considering the structure of trees. Key to the success of a tree is the root system - the configuration of a tree's root system serves to structurally support the plant, compete with other plants for uptake of nutrients from the soil.

Key structural issues which need consideration when planning which species to plant include:

- Root zone and the likely root growth habit (lateral or horizontal) and if this root system will impact the surrounding environment, ie paved surfaces or underground services.
- Canopy spread and branch formation and how this will be impacted by surrounding urban infrastructure such as overhead power lines or adjacent built form.
- Potential for limbs and / or fruit to drop onto pavements below.

The following criteria are often used to classify existing trees:

- Tree Age: this is based on the age the tree would be considered typical for the species in the general area. There are five categories Juvenile, Semi-Mature, Mature, Post Mature and Severe Decline.
- Tree Health: There are five categories Good, Fair, Poor, Very Poor and Dead. These categories outline the condition, canopy cover, growth and susceptibility to pathogens.
- Tree Structure: This is to ascertain a tree's overall structural condition and then placed into one of five categories consisting of Good, Fair, Poor, Very Poor or Has Failed.

4.3 APPROPRIATENESS OF SPECIES

Physical Environment for Growth in Mandurah

Mandurah is located on the Swan Coastal Plain, and has a diverse biophysical environment. The geology of the City is made up of Bassendean, Quindalup South, Spearwood and Vasse soil types. The City also has ocean, estuary, rivers, lakes and swamps contributing to the natural landform structure. These soil types support the following natural vegetation complexes:

- Cottesloe -Central and South
- Quindalup
- Karrakatta -Central and South
- Bassendean -Central and South
- Yoongarillup
- Herdsman
- Vasse.

The Cottesloe-Central and South and the Quindalup complexes are typically located on the exposed dunes and coastal limestone ridges, which are resilient to the exposed coastal conditions. The Karrakatta-Central and South, Bassendean-Central and South and Yoongarillup woodland complexes are typically located on the plain between the dunes and the dampland areas. The Herdsman and Vasse complexes are dominated by Melaleuca and Eucalypt species suited to damp soil conditions.

The species selected for the Locality Street Tree Masterplan are based on these three core growth conditions to ensure appropriate species are selected to suit the existing growing conditions, reflect the natural environmental character and support the growth of the urban forest.

Ecological Enhancement

Street trees can provide significant opportunities for ecological enhancement. Appropriate species can provide species diversity and therefore resilience to potential issues within the urban and natural streetscapes of the City. Street trees provide the following ecological enhancements:

- Reinforce ecological links and green infrastructure networks connecting natural areas and encourage healthy active living of residents and for fauna to move through densely populated areas.
- Provision of shade to assist in reducing urban heat island effect by lowering the ambient temperature.
- Assist in local stormwater collection and retention through intercepting rainfall.
- Provision of significant foraging, breeding and roosting opportunities for local fauna such as Carnaby Cockatoos and Ringtail Possums.

Trees versus Views

This is a subjective issue influenced by land owner's personal opinions of which is more important, the view or the tree. This issue can be addressed through visual impact assessments and through policy. When the outcome is not what a land owner desires, for example their view is obstructed by a tree, they may resort to vandalism to achieve the desired outcome. This may take the form of poisoning, damage or outright removal.

To avoid situations where antisocial and vandalism behaviours occur, education is required about the value of trees and the benefits trees have for the community and the land owner. Additionally, appropriate selection of species is required, as typically views that are subject to this issue are located on the coast and have extreme exposure to the harsh coastal climatic conditions.

Native versus Exotic

The developed and urban centres of our communities are highly contrived environments with little remnant landscape structure. As a result, the growing conditions may not suit a local native species and therefore an

alternate Australian native or exotic species should be sought to specify a species that will adapt to the conditions it is planted in.

Exotic tree species can make a positive contribution to the landscape, particularly highly modified environments. Most of the exotic species which are available in Australia, particularly Western Australia, have particular attributes which are adaptable to harsh environments.

The protection and retention of remnant mature local native trees should be a priority as these trees play an important role in maintaining biodiversity and reinforcing the natural pre-development landscape function. The application of WA local species in streets will have a greater impact and benefit when applied to verges / medians adjacent to open space that has significant remnant vegetation.

Deciduous versus Evergreen

The list of approved street trees includes a range of deciduous and evergreen species. Both species types have significant benefits for streetscape environment. Evergreen species are known to provide continuous foliage cover and shelter, as well as providing excellent screening characteristics. Deciduous species are known to have foliage colouration changes and lose their leaves during the autumn / winter seasons. Deciduous species provide an excellent solution to solar passive design for residential / commercial developments as they provide shade in summer and let light in during winter.

Fruit Trees

Many local governments across Australia are grappling with the management issues associated with fruit trees in the public realm and the potential opportunities to rethink the role of the traditional street tree. As soon as fruit is no longer attached to the tree, it becomes a major issue for Council and liability for homeowners and cities to contend with.

An initiative in Queensland on the Sunshine Coast, URBAN FOOD STREET™ is a built environment initiative that tackles Australia's social suburban isolation by using edible plant species, grown on the suburban verge, as a catalyst to create active and engaged suburban streets. It isn't about the food they grow in the street, but rather about creating suburban streets for people to live in that are socially active and engaged, environmentally sustainable, climatically comfortable and aesthetically and functionally rewarding. Streets that promote optimal health and wellbeing in the suburban context by making the act of daily living, healthier.

<http://www.urbanfoodstreet.com>

The community in Mandurah has the potential to work with the City to create areas where a similar approach to street tree planting could be applied. This approach is not something that would work in every location and would require careful planning, consideration, policy and management practices to manage the program.

4.4 TREE ARRANGEMENT

Appropriate Locations

Specific considerations are needed in the selection of appropriate planting locations. The following provides an outline of key aspects:

- Planting locations that allow for uninhibited root and canopy growth.
- Overhead and below ground restrictions such as services and power lines.
- Speed and traffic conditions to meet frangibility and site line requirements for vegetation placement.
- Climatic conditions including wind and heat tolerances.
- Solar passive considerations ie shading.
- Longevity and growth rates to maturity.
- Maintenance including tree litter and susceptibility to pathogens.

Critical to the appropriate location is the street profile and the available space for a tree to be planted. The following table provides a guide based on potential tree planting sites based on information provided in *Trees for urban and suburban landscapes, Gilman 1997*:

Size of Area	Min. Total Area Available	Min. Width of Area	Max. Dist from trunk to hard surface / wall	Max. Mature Tree Size
Small Area	<9.5m ²	1.0m to 1.3m	0.6m	Small (<6m)
Medium Area	9.5m ² to 18.5m ²	1.3m to 2.5m	1.2m	Medium (6-12m)
Large Area	> 18.5m ²	>2.5m	> 1.5m	Tall (12-20m)
Very Large Area	>25 m ²	>5m	>5m	Very Tall (20+m)

Consistent versus Inconsistent Planting

Planting patterns are often determined by the local landscape character of a place and can reinforce that character. For example, a natural area within a rural residential suburb would be more suitable to a random pattern of planting to mimic the organic formation which occurs in the bush. Alternatively, in an urban area or a boulevard the character could be more formal and require structured planting that reinforces the character of the place and may assist in wayfinding.

4.5 POTENTIAL ISSUES

Emerging and Existing Disease Threats

Emerging and existing diseases are a significant issue in the short and long term management of the City's urban forest and street tree network. The City will assume a variety of approaches to manage impacts associated with diseases including monitoring to ensure general health and vitality, provision of greater tree diversity and ensuring hygiene controls are maintained during procurement, installation and maintenance.

Western Australian tree species have a number of emerging and existing disease threats that are affecting remnant populations of particular species. The following table provides a summary of threats.

Botanical Name of Disease	Common Name of Disease	Species Affected
<i>Phytophthora cinnamomi</i> <i>Phytophthora multivora</i>	Dieback	<i>Eucalyptus, Banksia, Agonis species</i>
<i>Armillaria luteobubalina</i>	Armillaria butt rot	<i>Eucalyptus species</i>
<i>Quambalaria coyrecup</i>	Marri Canker	<i>Eucalyptus and Corymbia species</i>
<i>Austropuccinia psidii</i>	Myrtle Rust	<i>Plants from the Myrtaceae family (WA has an estimated 1,500 species within this family)</i>

Drought Conditions, Growth Rate and Ability to Thrive

Drought tolerance is the degree to which a plant is adapted to arid or drought conditions. Drought is not an unexpected occurrence for Western Australia; climate data records show that WA, along with the rest of Australia, has regularly been affected by drought throughout recorded history. The WA Department of Primary Industries and Regional Development have stated that:

The report forecast that drought is highly likely to increase in frequency and intensity from 2010 to 2040. From now on, it's highly likely that exceptionally low rainfall, exceptionally high temperatures and exceptionally low soil moisture levels will occur twice as much in most regions of Australia, and four times as much in the South-West.

<https://www.agric.wa.gov.au/drought-and-dry-seasons/evolution-drought-policy-western-australia?page=0%2C3>

As plants mature they generally require less water, as they have adapted to the local climatic conditions of the soil and water available to them during their establishment period. The installation of smaller plant stock as

opposed to mature stock will also contribute to an increased resilience and stronger root structure as the plant has matured in the place it will stay as opposed to being grown in a pot in a nursery. Planting smaller stock would require more attention and management to limit vandalism. However, generally it would be best to plant stock between the sizes of 45L to 100L.

All plants have differing growth rates dependent on the conditions the stock was installed and is maintained. The ability to thrive is largely dependent on the appropriate selection of the tree species for any particular location – considering micro-climate, soil, water, exposure etc.

Species Weed Potential

A number of species are known to be or have the potential to be a significant weed potential due to their ability to self-propagate and invade natural areas. The City has a diverse native and exotic tree species population; some of these species are considered weeds and are to be avoided. Tree species include:

- *Schinus terebinthifolia*, Brazilian Peppertree
- *Leptospermum laevigatum*, Coastal Tea Tree
- *Acacia baileyana*, Cootamundra Wattle
- *Acacia iteaphylla*, Flinders Range Wattle
- *Ailanthus altissima*, Tree of Heaven.

Availability, Sourcing and Substitutions

The sourcing and availability of nominated tree species is critical in realising the Precinct objectives; sometimes substitutions have to be made for a variety of reasons and this can greatly affect the overall visual outcome that was originally intended. Therefore, it is recommended that forward growing contracts are procured to ensure the species nominated can be installed. Where species have to be substituted it is recommended that an alternate species is selected that has similar qualities to the species that is unavailable.

There are a number of species which are nominated in the list of approved trees that will require trialling in select locations within Mandurah to confirm that they are suitable to the climatic and soil conditions.

5 PRECINCT IMPROVEMENTS

5.1 BIOPHYSICAL AND SOCIO-CULTURAL LANDSCAPE VALUES

Environmental Zones

The City contains a number of reserves with a variety of environments from wetlands, coastal and estuarine foreshores through to coastal heaths and woodlands. As the City grows and populations increase, the need for the provision of homes, commercial services, schools, roads and recreation facilities becomes necessary, resulting in undeveloped natural areas being subjected to pressure from these kinds of developments. Based on the Mandurah Planning Strategy: Biodiversity Strategy a number of critical environmentally sensitive features will influence tree selection and Precinct Improvements. The following provides a summary of these core areas of consideration:

- **Rare and Significant Species of Flora:** Natural areas that contain significant habitat for priority listed species and other significant species that are to be protected within an ecologically viable natural area.
- **Significant Species of Fauna - Western Ring-tailed possum:** All verified habitat of WRT possums, consisting of naturally growing vegetation, is to be protected within ecologically viable areas.
- **Significant Species of Fauna – Carnaby’s Black Cockatoos:** It is the expectation that all verified breeding and roosting habitat is to be protected in ecologically viable natural areas on all lands and proposed targets seek to identify protection of feeding habitat for Carnaby’s Black Cockatoo.
- **Significant Species of Fauna – Forest Red-tailed Black Cockatoo:** It is the expectation that all verified breeding and roosting habitat is to be protected in ecologically viable natural areas on all lands and proposed targets seek to identify protection of feeding habitat for Forest Red-tailed Black Cockatoo.
- **Foreshores, Wetlands and Waterways:** Protect, where development is proposed, all wetlands verified as Conservation Category Wetland or Resource Enhancement Wetland (including estuarine foreshore wetlands) plus a buffer assessed to maintain ecological values. Buffers are to be planned using the Draft Guidelines for the Determination of Wetland Buffers. Protect all riparian vegetation associated with natural watercourses.
- **Ecological Linkage:** Ensure the impact of significant development proposals on ecological connectivity across the landscape is assessed by proponents using a recognised tool such as the South West Biodiversity Project Proximity Analysis Tool (Molloy et al, 2009). Ensure proponents protect, restore or revegetate areas in proximity to South West Regional Ecological Linkages axes.
- **Coastal Natural Areas:** Retain all-natural areas of the Quindalup vegetation complex where they are in Good or better condition; Where development is supported in the Quindalup vegetation complex, and sound planning grounds exist, protect remaining coastal areas through conservation covenant, zoning or reservation.

Cultural and Historical Values

The City has a rich and complex Aboriginal and European history which is reflected through the number of registered sites, diverse community and built form that makes up the character of Mandurah.

There are a number of Aboriginal Sites across the Precincts within Mandurah and these will require consideration when undertaking any works in or around these areas.

The City also, has a number of State heritage listed sites including Allandale, Hall’s Cottage and Sutton’s Farm. As part of the heritage register, the City also has a Register of Significant Trees. The Significant Tree Register is an initiative by the City of Mandurah, under the Town Planning Scheme No 3, Clause 6.52 and 6.5.4, to protect trees of significance in our community.

Critical to the success of street tree planting will be the community support and adherence to the proposed Precinct Master Plans.

Built and Natural Influences

There are a number of built and natural influences that will define the species selection and assist in guiding the spatial arrangement. Key aspects that will be considered which are specific to the City of Mandurah include:

Built Influences

- Footpath locations
- Overhead power lines
- Cross overs and driveway locations
- Road types
- Open space and natural reserves
- Built form and land use.

Natural Influences

- Microclimate
- Exposure to climatic conditions
- Geology and soil profile of each Precinct
- Pre-development vegetation communities
- Existing street tree population.

Landscape Character Approach to Masterplans

Based on the biophysical and socio-cultural landscape values of Mandurah, the Locality Street Tree Master Plan has been determined based on the following key landscape characters:

- Coastal
- Coastal Ridge
- Woodland
- Riverine
- Estuary.

Within each Precinct particular tree species are allocated to each of the landscape character types above. Some species will be in multiple character types. Each of the character types can be either randomly planted, providing a more natural and rural character or in a structured approach, providing a formal avenue or urban approach to planting arrangement. Each Precinct has a distinct list of species and character types which best describe the character of that Precinct based on the environmental, historical land use as well as the built and natural influences.

5.2 PRECINCTS

The Masterplan is based on a Precinct approach providing a template for future tree planting within the City's streets. The Precincts are based on the existing defined City localities.

All new planting will be based on a Precinct approach where tree species selection and planting will reinforce the distinct physical character of each area and be responsive to its unique environmental conditions. The precincts defined in our area are demarcated by physical boundaries such as landform, streets and built context.

The Precincts are:

- Precinct 1 Madora Bay
- Precinct 2 Lakelands
- Precinct 3 San Remo
- Precinct 4 Meadow Springs
- Precinct 5 Parklands
- Precinct 6 Silver Sands
- Precinct 7 Mandurah CBD (West)
- Precinct 8 Mandurah CBD (East)
- Precinct 9 Greenfields (North)
- Precinct 10 Greenfields (South)
- Precinct 11 Halls Head (North)
- Precinct 12 Halls Head (South)
- Precinct 13 Dudley Park
- Precinct 14 Coodanup

- Precinct 15 Erskine
- Precinct 16 Falcon
- Precinct 17 Wannanup
- Precinct 18 Dawesville (North)
- Precinct 19 Dawesville (South)
- Precinct 20 Bouvard
- Precinct 21 Herron
- Precinct 22 Clifton.

The major design objectives for each Precinct are outlined, including existing conditions. Detailed masterplans for each Precinct indicate the nominated tree species based on biophysical and socio-cultural characteristics.

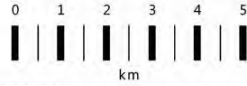
Precinct Overview, indicates the locations and numbering of the Precincts across the City.

PRECINCT OVERVIEW

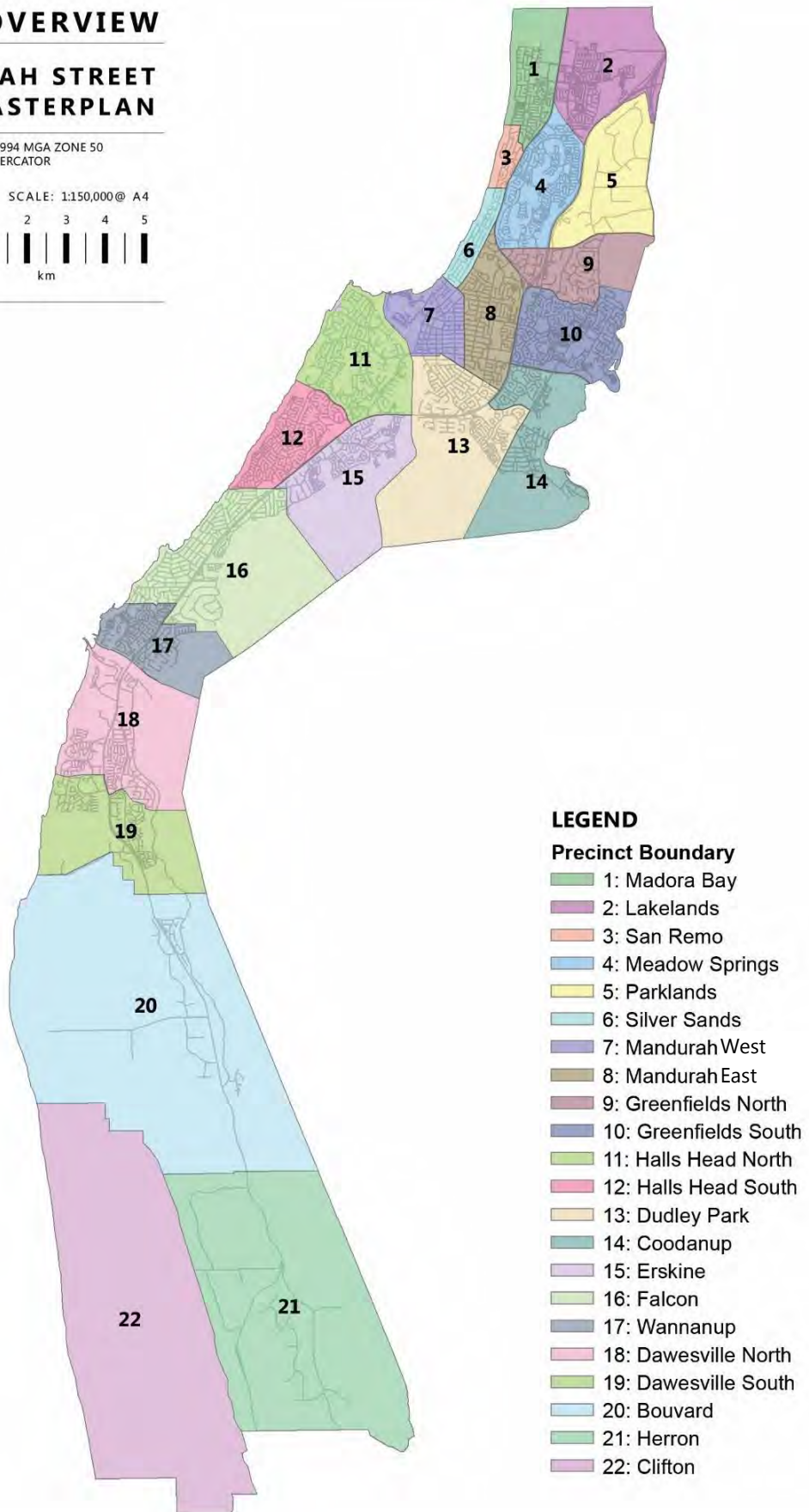
MANDURAH STREET TREE MASTERPLAN

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:150,000 @ A4



PROJECT NO: 4158-18



LEGEND

Precinct Boundary

- 1: Madora Bay
- 2: Lakelands
- 3: San Remo
- 4: Meadow Springs
- 5: Parklands
- 6: Silver Sands
- 7: Mandurah West
- 8: Mandurah East
- 9: Greenfields North
- 10: Greenfields South
- 11: Halls Head North
- 12: Halls Head South
- 13: Dudley Park
- 14: Coodanup
- 15: Erskine
- 16: Falcon
- 17: Wannanup
- 18: Dawesville North
- 19: Dawesville South
- 20: Bouvard
- 21: Herron
- 22: Clifton

5.2.2 PRECINCT 1 MADORA BAY

Madora Bay is bounded by the City of Rockingham boundary in the north, Fremantle Road in the east, Karinga Road in the south and the Indian Ocean in the west. Madora Bay is a quiet beachside community and its pristine beach is a valued natural and recreational asset. Madora Bay has a history as a popular holiday destination, a place for walking, swimming, surfing, and fishing. Parks, bushland and walking tracks are also important to the community for recreational, environmental and aesthetic reasons.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 1:

1. Increasing habitat and biodiversity
2. Providing shade and cooling
3. Aesthetics
4. Reducing energy cost of residents
5. Encouraging outdoor activity.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 1:

1. *Agonis flexuosa*, Weeping Peppermint
2. *Banksia attenuata*, Candlestick Banksia
3. *Corymbia calophylla*, Marri
4. *Cupaniopsis anacardioides*, Tuckeroo
5. *Eucalyptus gomphocephala*, Tuart.

Agonis flexuosa was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a coastal Australian native landscape character throughout the Precinct complementing the existing established native and exotic species. This will be reinforced through a mix of randomly placed tree planting arrangements providing a stronger connection to the natural coastal environment.



Precinct Conditions

Microclimate & Exposure

Madora Bay is a coastal Precinct, located on the primary and secondary dune systems with exposure to harsh coastal climatic conditions.

Soils & Geology

Quindalup South

- Foredune/blowout complexes (semi-erosional) with very low relief ridge and swale topography with deep uniform calcareous sands.
- Relict foredunes and gently undulating beach ridge plain with deep uniform calcareous sands.
- Complex of nested low relief parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.

Spearwood

- Stony plain with extremely low ridges (relict beach ridges) and shallow to moderately deep siliceous yellow-brown sands.

Vegetation Complex

- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*; closed heath on the limestone outcrops.
- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and foredune alliance and the mobile and stable dune alliance. Local variations include closed scrub of *Acacia rostellifera*.

Existing Trees

- | | |
|---|---|
| • <i>Agonis flexuosa</i> | • <i>Eucalyptus rudis</i> |
| • <i>Brachychiton populneus</i> | • <i>Eucalyptus torquata</i> |
| • <i>Callistemon Kings Park Special</i> | • <i>Gleditsia tricanthos</i> 'Shademaster' |
| • <i>Casuarina cunninghamiana</i> | • <i>Jacaranda mimosifolia</i> |
| • <i>Casuarina equisetifolia</i> | • <i>Melaleuca quinquenervia</i> |
| • <i>Corymbia ficifolia</i> | • <i>Metrosideros excelsa</i> |
| • <i>Eucalyptus gomphocephala</i> | • <i>Ulmus parvifolia</i> . |

Road Types & Open Space

- | | |
|----------------------------|-----------------------|
| • Residential (VERGE >3M) | • Residential (POS) |
| • Residential (VERGE <3M) | • Foreshore (COASTAL) |
| • Residential (ROUNDABOUT) | • Bushland. |

Overhead Power

One third of the Precinct has overhead power. This is primarily located in the north-western corner of the precinct on the coast.

Built Form

Predominantly owner occupied residential dwellings with some recreational community amenity.

Major Parks

- Madora Foreshore
- McLennan Park
- Madora Bay Lookout
- Harry Perry Park.

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Angophora costata</i>	Smooth Barked Apple
<i>Banksia attenuata</i>	Candlestick Banksia
<i>Casuarina obesa</i>	Salt Sheoak
<i>Corymbia calophylla</i>	Marri
<i>Corymbia eximia</i>	Yellow Bloodwood
<i>Cupaniopsis anacardioides</i>	Tuckeroo
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus todtiana</i> #	Coastal Blackbutt
<i>Metrosideros excelsa</i>	New Zealand Christmas Tree
<i>Metrosideros thomasi</i> #	New Zealand Christmas Bush

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

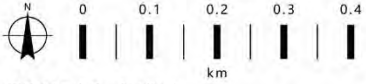
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 1

MADORA BAY

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:10,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



LEGEND

- Precinct Boundary
- Agonis flexuosa* (Weeping Peppermint)
- Angophora costata* (Smooth Barked-Apple)
- Casuarina obesa* (Swamp Sheoak)
- Casuarina obesa/Metrosideros thomasi*
- Corymbia calophylla* (Marri)
- Corymbia eximia* (Yellow Bloodwood)
- Cupaniopsis anacardioides* (Tuckeroo)
- Cupaniopsis anacardioides/Metrosideros thomasi*
- Eucalyptus tottiana* (Coastal Blackbutt)
- Metrosideros excelsa/thomasi* (New Zealand Christmas Tree/Bush)
- Main road
- Distribution and other overhead lines
- Reserve Zoned Land
- Cadastre Boundary
- Reserve trees to verges**
- Eucalyptus gomphocephala* (Tuart)
- Banksia attenuata*

5.2.3 PRECINCT 2 LAKELANDS

Lakelands is bounded by the City of Rockingham boundary in the north, Stock Road in the east, Kwinana Freeway in the south and Fremantle Road in the west. The estate has the natural beauty of two lakes, a wetland and a central parkland. Future development includes a town centre with a major supermarket and specialty stores, and a proposed high school. The estate currently has a private high and primary college, and a government primary school.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 2:

1. Increasing habitat and biodiversity
2. Providing shade and cooling
3. Improved air quality
4. Reducing energy cost of residents
5. Reducing stormwater runoff.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 2:

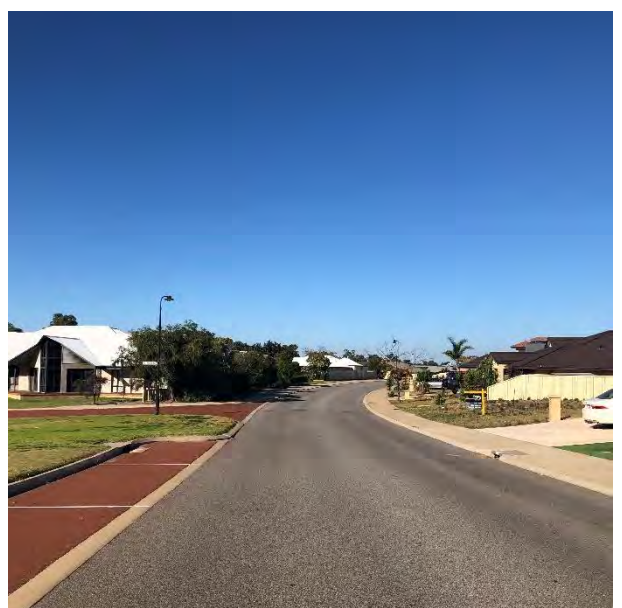
1. *Pyrus ussuriensis*, Ussurian pear
2. *Corymbia ficifolia*, Red Flowering Gum
3. *Eucalyptus leucoxylon rosea*, Pink Flowering Gum
4. *Angophora costata*, Smooth Barked Apple
5. *Agonis flexuosa*, Weeping Peppermint

Pyrus ussuriensis was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a coastal ridge native character on the western boundary and woodland native landscape character throughout the Precinct complementing the existing established native and exotic species. This will be reinforced through a mix of random and structured planting arrangements providing a stronger connection to the natural coastal environment.



Precinct Conditions

Microclimate & Exposure

Lakelands is located east of the primary and secondary dune systems on the plain and is protected from the harsh coastal climatic conditions.

Soils & Geology

Spearwood

- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.
- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Spearwood Swamp.

Vegetation Complex

- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.
- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.
- **Karrakatta -Central And South:** Predominantly low open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla* and woodland of *E. marginata* - *Banksia spp.*

Existing Trees

- | | |
|--|---|
| • <i>Agonis flexuosa</i> | • <i>Eucalyptus leucoxylon</i> 'Macrocarpa' |
| • <i>Araucaria heterophylla</i> | • <i>Eucalyptus todtiana</i> |
| • <i>Banksia integrifolia</i> | • <i>Eucalyptus torquata</i> |
| • <i>Corymbia ficifolia</i> | • <i>Erythrina indica</i> |
| • <i>Corymbia ficifolia</i> 'Summer Red' | • <i>Fraxinus oxycarpa</i> 'Raywoodii' |
| • <i>Corymbia maculata</i> | • <i>Melaleuca leucadendra</i> |
| • <i>Eucalyptus gomphocephala</i> | • <i>Melaleuca linariifolia</i> |
| • <i>Eucalyptus leucoxylon rosea</i> | • <i>Melaleuca quinquenervia</i> |
| • <i>Eucalyptus sideroxylon rosea</i> | • <i>Platanus acerifolia</i> |

Road Types & Open Space

- | | |
|---------------------------|---------------------------------|
| • Urban (VERGE >3M) | • Residential (VERGE <3M) |
| • Urban (VERGE <3M) | • Residential (ROUNDABOUT) |
| • Urban (ROUNDABOUT) | • Residential (POS) |
| • Urban (MEDIAN) | • Rural Residential (VERGE <3M) |
| • Residential (VERGE >3M) | • Bushland |

Overhead Power

No overhead power lines as this is a new subdivision and all power is located underground.

Built Form

Predominantly owner occupied residential dwellings with commercial amenity, schools and recreational spaces.

Major Parks

- Jane Kennaugh Reserve
- Neil Bradley
- Black Swan Lake Park
- Yindana Lakes.

Proposed Tree Species Palette

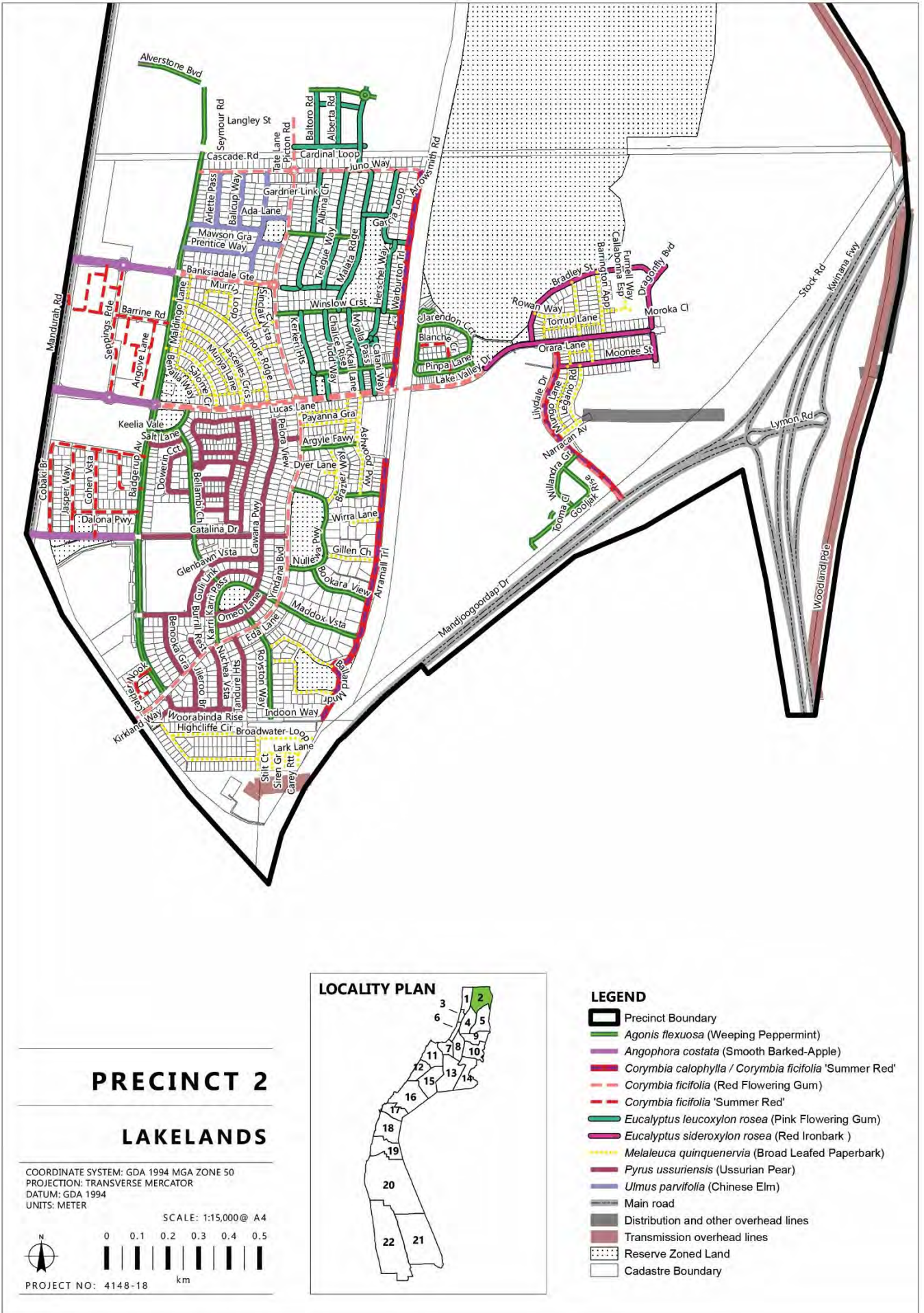
The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Angophora costata</i>	Smooth Barked Apple
<i>Corymbia calophylla</i>	Marri
<i>Corymbia ficifolia</i>	Red Flowering Gum
<i>Corymbia ficifolia</i> 'Summer Red' #	Red Flowering Gum
<i>Eucalyptus leucoxylon rosea</i>	Pink Flowering Gum
<i>Eucalyptus sideroxylon rosea</i>	Red Ironbark
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark
<i>Pyrus ussuriensis</i>	Ussurian pear
<i>Ulmus parvifolia</i>	Chinese Elm

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.



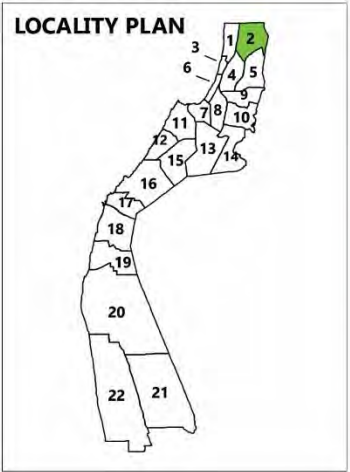
PRECINCT 2 LAKELANDS

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:15,000 @ A4

0 0.1 0.2 0.3 0.4 0.5
 km

PROJECT NO: 4148-18



- LEGEND**
- Precinct Boundary
 - Agonis flexuosa* (Weeping Peppermint)
 - Angophora costata* (Smooth Barked-Apple)
 - Corymbia calophylla* / *Corymbia ficifolia* 'Summer Red'
 - Corymbia ficifolia* (Red Flowering Gum)
 - Corymbia ficifolia* 'Summer Red'
 - Eucalyptus leucoxylon rosea* (Pink Flowering Gum)
 - Eucalyptus sideroxylon rosea* (Red Ironbark)
 - Melaleuca quinquenervia* (Broad Leafed Paperbark)
 - Pyrus ussuriensis* (Ussurian Pear)
 - Ulmus parvifolia* (Chinese Elm)
 - Main road
 - Distribution and other overhead lines
 - Transmission overhead lines
 - Reserve Zoned Land
 - Cadastre Boundary

5.2.4 PRECINCT 3 SAN REMO

San Remo is a sought-after suburb on the northern beach side of Mandurah. The beach extends from the northern Wade Street groyne, where it is called Watersun Beach, due north for 4km, with the San Remo development occupying 3km of the shoreline. It also features Mandurah Surf Living Club.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 3:

1. Providing shade and cooling
2. Absorbing carbon dioxide
3. Providing windbreaks or visual screening
4. Improved air quality
5. Fire safety by reducing ember attack.

The following tree species were highlighted as the top 4 preferred street tree species within Precinct 3:

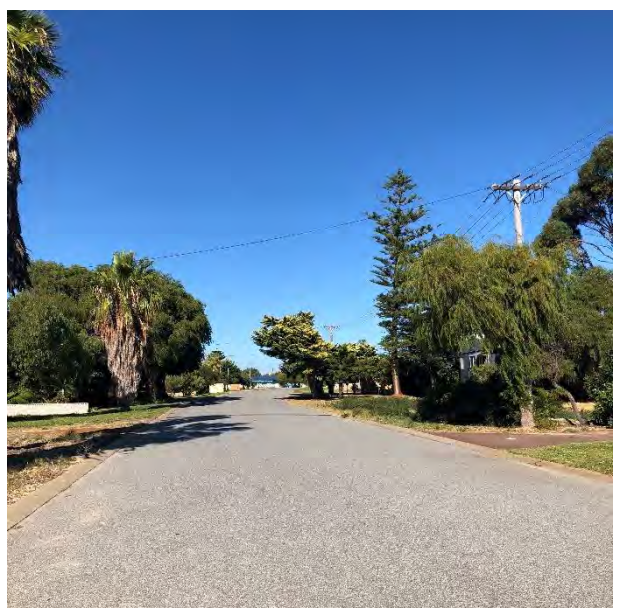
1. *Metrosideros thomasi*, New Zealand Christmas Bush
2. *Agonis flexuosa*, Weeping Peppermint
3. *Eucalyptus gomphocephala*, Tuart
4. *Metrosideros excelsa*, New Zealand Christmas Tree.

Metrosideros thomasi was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a coastal Australian native landscape character throughout the Precinct complementing the existing established native and exotic species. This will be reinforced through a mix of random planting arrangements providing a stronger connection to the natural coastal environment.



Precinct Conditions

Microclimate & Exposure

San Remo is a coastal Precinct, located on the primary and secondary dune systems with exposure to harsh coastal climatic conditions.

Soils & Geology

Quindalup:

- Relict foredunes and gently undulating beach ridge plain with deep uniform calcareous sands.
- Complex of nested low relief parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.

Vegetation Complex

- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.
- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and foredune alliance and the mobile and stable dune alliance. Local variations include the closed scrub of *Acacia rostelifera*

Existing Trees

- | | |
|---|--|
| • <i>Araucaria heterophylla</i> | • <i>Eucalyptus platypus</i> |
| • <i>Agonis flexuosa</i> | • <i>Eucalyptus leucoxydon</i> |
| • <i>Agonis flexuosa</i> "After Dark" | • <i>Eucalyptus erythrocorys</i> |
| • <i>Archontophoenix cunninghamiana</i> | • <i>Ficus rubiginosa</i> |
| • <i>Bauhinia</i> sp. | • <i>Ficus microcarpa</i> var. <i>hillii</i> |
| • <i>Callistemon Kings Park Special</i> | • <i>Hibiscus tiliaceus</i> |
| • <i>Callistemon viminalis</i> | • <i>Jacaranda mimosifolia</i> |
| • <i>Casuarina cunninghamiana</i> | • <i>Melaleuca nesophila</i> |
| • <i>Casuarina equisetifolia</i> | • <i>Melaleuca preissiana</i> |
| • <i>Casuarina obesa</i> | • <i>Metrosideros excelsa</i> |
| • <i>Cupaniopsis anacardioides</i> | • <i>Phoenix canariensis</i> |
| • <i>Cupressus</i> sp | • <i>Washingtonia filifera</i> |
| • <i>Eucalyptus gomphocephala</i> | |
| • <i>Eucalyptus rudis</i> | |
| • <i>Eucalyptus torquata</i> | |

Road Types & Open Space

- | | |
|---------------------------|-----------------------|
| • Residential (VERGE >3M) | • Foreshore (COASTAL) |
| • Residential (VERGE <3M) | • Bushland. |
| • Residential (POS) | |

Overhead Power

Half of the Precinct has overhead power. This is primarily located in the north half of the precinct.

Built Form

Predominantly owner occupied residential dwellings with some recreational community amenity.

Major Parks

- Eros Reserve
- Karinga Reserve
- Tuart Park.

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Casuarina obesa</i>	Salt Sheoak
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus tottiana</i> #	Coastal Blackbutt
<i>Eucalyptus utilis</i>	Coastal Mort
<i>Hibiscus tiliaceus rubra</i>	Red Cottonwood
<i>Metrosideros excelsa</i>	New Zealand Christmas Tree
<i>Metrosideros thomasi</i> #	New Zealand Christmas Bush

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

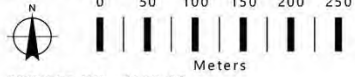
Street Tree Planting Arrangement

Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 3

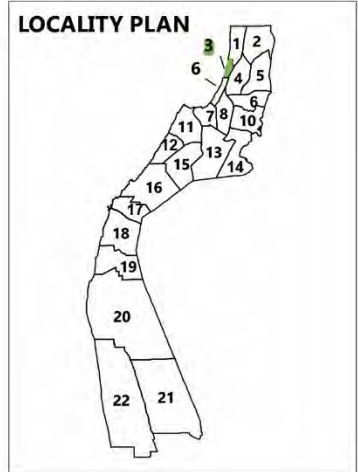
SAN REMO

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER
 SCALE: 1:7,000 @ A4
 PROJECT NO: 4158-18



LEGEND

- Agonis flexuosa/Eucalyptus totiana*
 - Casuarina obesa* (Swamp Sheoak)
 - Casuarina obesa / Eucalyptus totiana*
 - Eucalyptus gomphocephala* (Tuart)
 - Eucalyptus totiana* (Coastal Blackbutt)
 - Eucalyptus utilis* (Coastal Mort)
 - Hibiscus tiliaceus rubra* (Red Cottonwood)
 - Metrosideros excelsa/thomasii* (New Zealand Christmas Tree/Bush)
 - Main road
 - Distribution and other overhead lines
 - Reserve Zoned Land
 - Cadastre Boundary
- Reserve trees to verges**
- Eucalyptus gomphocephala* (Tuart)
 - Agonis flexuosa* (Peppermint)



5.2.5 PRECINCT 4 MEADOW SPRINGS

Meadow Springs is bounded by the Mandjoogoordap Drive in the east, Gordon Road in the south and Fremantle Road in the west. This suburb includes Meadow Springs Estate and golf course and was formed in 1988. Meadow Springs has a local shopping centre, two non-government schools and government primary school.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 4:

1. Absorbing carbon dioxide
2. Increasing habitat and biodiversity
3. Community health and wellbeing
4. Providing windbreaks or visual screening
5. Aesthetics.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 4:

1. *Jacaranda mimosifolia*, Jacaranda
2. *Corymbia ficifolia* 'Summer Red', Red Flowering Gum
3. *Eucalyptus leucoxylon rosea*, Pink Flowering Gum
4. *Melaleuca quinquenervia*, Broad Leafed Paperbark
5. *Fraxinus oxycarpa* 'Raywoodii', Claret Ash

Jacaranda mimosifolia was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a woodland Australian native landscape character throughout the Precinct complementing the existing established native and exotic species and providing a stronger connection to the natural environment. This will be reinforced through distinct structured planting arrangements.



Precinct Conditions

Microclimate & Exposure

Meadow Springs is located east of the primary and secondary dune systems on the plain and is protected from the harsh coastal climatic conditions.

Soils & Geology

Spearwood

- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.
- Inter-dunal swales and depressions with gently inclined side slopes and deep rapidly drained siliceous yellow-brown sands.

Vegetation Complex

- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.
- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.

Existing Trees

- | | |
|---|----------------------------------|
| • <i>Eucalyptus leucoxylon rosea</i> | • <i>Melaleuca quinquenervia</i> |
| • <i>Eucalyptus leucoxylon ssp. Megalocarpa</i> | • <i>Olea europaea</i> |
| • <i>Eucalyptus sideroxylon rosea</i> | • <i>Prunus nigra</i> |
| • <i>Erythrina indica</i> | • <i>Ulmus parvifolia</i> |
| • <i>Fraxinus oxycarpa</i> 'Raywoodii' | • <i>Sapium sebiferum</i> |
| • <i>Jacaranda mimosifolia</i> | • <i>Vachellia robusta</i> |

Road Types & Open Space

- | | |
|---------------------------|----------------------------|
| • Urban (VERGE >3M) | • Residential (VERGE <3M) |
| • Urban (VERGE <3M) | • Residential (ROUNDABOUT) |
| • Urban (ROUNDABOUT) | • Residential (POS) |
| • Urban (MEDIAN) | • Bushland |
| • Residential (VERGE >3M) | |

Overhead Power

No overhead power lines as this is a new subdivision and all power is located underground.

Built Form

Predominantly owner occupied residential dwellings with commercial amenity, schools and recreational spaces.

Major Parks

- Meadow Springs Reserve
- Meadow Springs Golf and Country Club
- Quarry Adventure Park
- Scott Cook Park, Meadow Springs
- Bruce Cresswell Reserve.

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Corymbia ficifolia</i> 'Summer Red' #	Red Flowering Gum
<i>Erythrina indica</i>	Coral Tree
<i>Eucalyptus leucoxydon rosea</i>	Pink Flowering Gum
<i>Eucalyptus sideroxylon rosea</i>	Red Ironbark
<i>Fraxinus oxycarpa</i> 'Raywoodii'	Claret Ash
<i>Jacaranda mimosifolia</i>	Jacaranda
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark
<i>Olea europaea</i>	Olive Tree

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 4

MEADOW SPRINGS

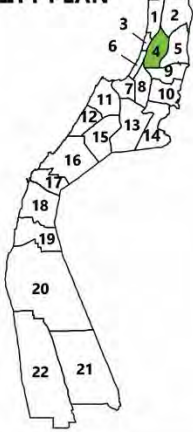
COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:15,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



- LEGEND**
- Precinct boundary
 - Corymbia ficifolia* 'Summer Red'
 - Erythrina indica* (Coral Tree)
 - Eucalyptus leucosylon rosea* (Pink Flowering Gum)
 - Eucalyptus sideroxylon rosea* (Red Ironbark)
 - Fraxinus oxycarpa* 'Raywoodii'
 - Jacaranda mimosifolia* (Jacaranda)
 - Melaleuca quinquenervia* (Broad Leaved Paperbark)
 - Olea europaea* (Olive Tree)
 - Main road
 - Local road
 - Distribution and other overhead lines
 - Transmission overhead lines
 - Reserve Zoned Land
 - Cadastre boundary
 - Tree Masterplan approved for this area

5.2.6 PRECINCT 5 PARKLANDS

This suburb is so named because of the 'Parkland' development of the area (Farmlet development etc). The name was approved in 1990 and is mainly rural-residential. It borders the Stock Road to the east and Mandjoogordap Drive to the west.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 5:

1. Aesthetics
2. Increasing habitat and biodiversity
3. Providing shade and cooling
4. Absorbing carbon dioxide
5. Fire safety by reducing ember attack.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 5:

1. *Eucalyptus decipiens*, Redheart Moit
2. *Corymbia ficifolia* 'Summer Red', Red Flowering Gum
3. *Corymbia ficifolia*, Red Flowering Gum
4. *Corymbia calophylla*, Marri
5. *Banksia grandis*, Bull Banksia

Precinct Objectives

To integrate a woodland Australian native landscape character throughout the Precinct complementing the existing established native species and landscape character within the Precinct. This will be reinforced through a mix of random planting arrangements.

Precinct Conditions

Microclimate & Exposure

Parklands is located east of the primary and secondary dune systems on the plain and is protected from the harsh coastal climatic conditions.

Soils & Geology

Spearwood

- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Inter-dunal swales and depressions with gently inclined side slopes and deep rapidly drained siliceous yellow-brown sands.



- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.
- Swamp.

Bassendean (*associated with Herdsman vegetation complex*)

- Closed depressions and poorly defined stream channels with moderately deep, poorly to very poorly drained bleached sands with an iron-organic pan, or clay subsoil. Surfaces are dark grey sand or sandy loam.
- Flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2 m.

Vegetation Complex

- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.
- **Herdsman:** Sedgelands and fringing woodland of *E. rudis* - *Melaleuca spp.*

Existing Trees

- *Agonis flexuosa*
- *Corymbia calophylla*
- *Eucalyptus gomphocephala*
- *Eucalyptus marginata*
- *Eucalyptus rudis*
- *Melaleuca raphiophylla*

Road Types & Open Space

- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Rural Residential (POS RESERVE)
- Bushland

Overhead Power

The majority of the precinct has overhead power.

Built Form

Predominantly owner occupied rural residential dwellings with recreational spaces.

Major Parks

- Marlee Reserve.

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Banksia attenuata</i>	Candlestick Banksia
<i>Banksia grandis</i>	Bull Banksia
<i>Corymbia calophylla</i>	Marri
<i>Corymbia ficifolia</i>	Red Flowering Gum
<i>Corymbia ficifolia</i> 'Summer Red' #	Red Flowering Gum
<i>Eucalyptus decipiens</i>	Redheart Moit
<i>Eucalyptus nutans</i> #	Red-flowered Moort

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

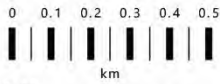
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 5

PARKLANDS

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:17,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



LEGEND

- Precinct boundary
- Agonis flexuosa*/*Banksia* sp./*Corymbia calophylla* (Peppermint/*Banksia*/*Marri*)
- Corymbia calophylla*
- Corymbia ficifolia*/*Corymbia ficifolia* 'Summer Red'
- Eucalyptus decipiens* (Redheart Moit)/*E. nutans* (Red-flowered Moort)
- Main road
- Distribution and other overhead lines
- Transmission overhead lines
- Reserve Zoned Land
- Cadastre boundary



Precinct Conditions

Microclimate & Exposure

Silver Sands is a coastal Precinct, located on the primary and secondary dune systems with exposure to harsh coastal climatic conditions.

Soils & Geology

Quindalup South

- Foredune/blowout complexes (semi-erosional) with very low relief ridge and swale topography with deep uniform calcareous sands.
- Relict foredunes and gently undulating beach ridge plain with deep uniform calcareous sands.

Vegetation Complex

- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.
- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and foredune alliance and the mobile and stable dune alliance. Local variations include the closed scrub of *Acacia rostellifera*.
- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.

Existing Trees

- *Agonis flexuosa*
- *Banksia menziesii*
- *Casuarina cunninghamiana*
- *Eucalyptus decipiens*
- *Eucalyptus erythrocorys*
- *Eucalyptus gomphocephala*
- *Erythrina indica*
- *Erythrina sykesii*
- *Melaleuca lanceolata*
- *Melaleuca raphiophylla*
- *Metrosideros excelsa*
- *Tipuana tipu*

Road Types & Open Space

- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDAABOUT)
- Residential (POS)
- Foreshore (COASTAL).

Overhead Power

Half of the Precinct has overhead power. This is primarily located in the south half of the precinct.

Built Form

Predominantly owner occupied residential dwellings with commercial amenity and tourist accommodation.

Major Parks

- Henson Park.

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Callistemon viminalis</i>	Common Bottlebrush
<i>Casuarina obesa</i>	Salt Sheoak
<i>Eucalyptus forrestiana</i> #	Fuchsia Gum
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus sideroxylon rosea</i>	Red Ironbark
<i>Eucalyptus todtiana</i> #	Coastal Blackbutt
<i>Eucalyptus utilis</i>	Coastal Mort
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

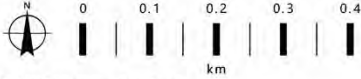
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 6

SILVER SANDS

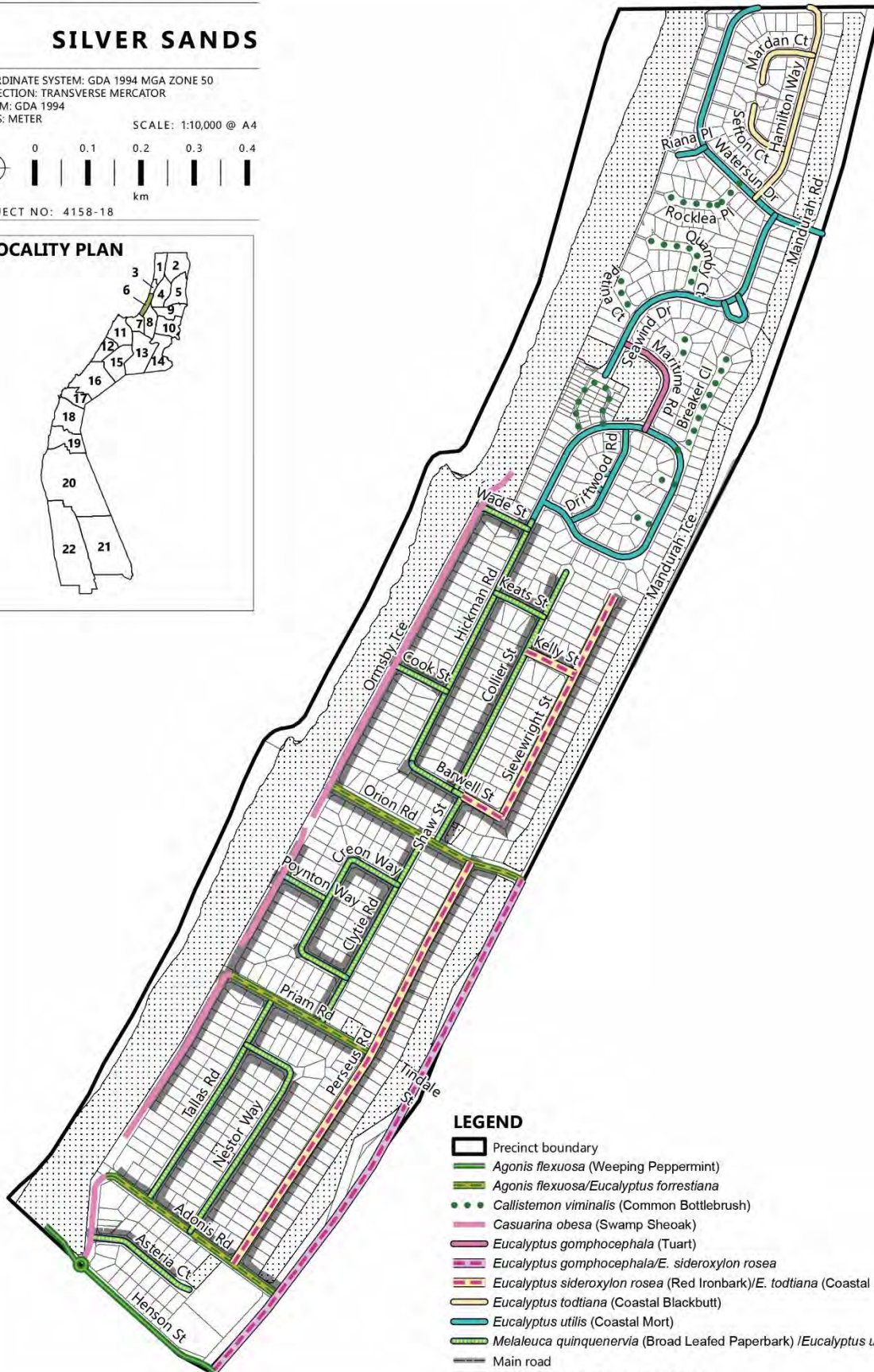
COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:10,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



LEGEND

- Precinct boundary
- Agonis flexuosa* (Weeping Peppermint)
- Agonis flexuosa/Eucalyptus forrestiana*
- Callistemon viminalis* (Common Bottlebrush)
- Casuarina obesa* (Swamp Sheoak)
- Eucalyptus gomphocephala* (Tuart)
- Eucalyptus gomphocephala/E. sideroxylon rosea*
- Eucalyptus sideroxylon rosea* (Red Ironbark)/*E. todtiana* (Coastal Blackbutt)
- Eucalyptus todtiana* (Coastal Blackbutt)
- Eucalyptus utilis* (Coastal Mort)
- Melaleuca quinquenervia* (Broad Leafed Paperbark) / *Eucalyptus utilis* (Coastal Mort)
- Main road
- Distribution and other overhead lines
- Reserve Zoned Land
- Cadastre boundary

5.2.8 PRECINCT 7 MANDURAH CBD (WEST)

Mandurah CBD West is bounded by the Indian Ocean and Henson Street in the north, Boundary Road and Pinjarra Road in the south and Anstruther Road in the west. Mandurah is the major retail centre with a range of restaurants, shopping, tourism operators and local businesses. Mandurah is now one of the top tourist destinations in Western Australia, with a performing arts centre of international standard, cinema complex, spectacular waterways, first class holiday accommodation and overall a proud community spirit.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 7:

1. Increasing habitat and biodiversity
2. Providing shade and cooling
3. Reducing energy cost of residents
4. Absorbing carbon dioxide
5. Aesthetics.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 7:

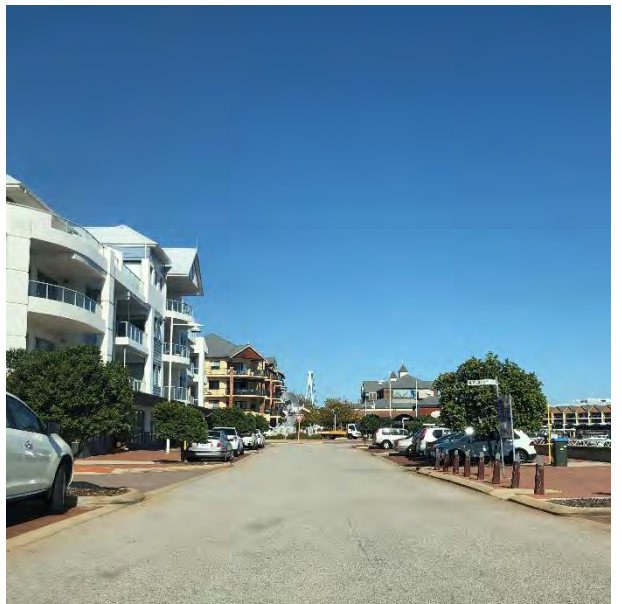
1. *Agonis flexuosa*, Weeping Peppermint
2. *Jacaranda mimosifolia*, Jacaranda
3. *Eucalyptus sideroxylon rosea*, Red Ironbark
4. *Banksia integrifolia*, Coast Banksia
5. *Callistemon 'Dawson River Weeper'*, Dawson River Weeper

Agonis flexuosa was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a mix of the core landscape character types within Mandurah including coastal, coastal ridge, estuarine and woodland throughout the Precinct. This will be



reinforced through structured planting arrangements complementing the existing established native and exotic species.

Precinct Conditions

Microclimate & Exposure

Mandurah West is the urban CBD centre in a coastal zone with exposure to harsh coastal climatic conditions.

Soils & Geology

Quindalup South

- Fore-dune/blowout complexes (semi-erosional) with very low relief ridge and swale topography with deep uniform calcareous sands.
- Relict foredunes and gently undulating beach ridge plain with deep uniform calcareous sands.

Vasse

- Low level storm beach ridges and terraces with shallow to moderately deep uniform alkaline black sandy loams to loams overlying unconsolidated shell beds or clayey marl.

Spearwood

- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Flat to gently undulating sandplain with shallow to moderately deep siliceous yellow-brown and grey-brown sands with minor limestone outcrop.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.

Vegetation Complex

- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.

Existing Trees

- | | |
|---|---|
| • <i>Acmena smithii</i> | • <i>Eucalyptus erythrocorys</i> |
| • <i>Agonis flexuosa</i> | • <i>Eucalyptus erythronema</i> |
| • <i>Allocasuarina fraseriana</i> | • <i>Eucalyptus gomphocephala</i> |
| • <i>Angophora costata</i> | • <i>Eucalyptus leucoxylon ssp. Megalocarpa</i> |
| • <i>Araucaria heterophylla</i> | • <i>Eucalyptus marginata</i> |
| • <i>Banksia attenuata</i> | • <i>Eucalyptus platypus platypus</i> |
| • <i>Banksia grandis</i> | • <i>Eucalyptus torquata</i> |
| • <i>Banksia integrifolia</i> | • <i>Erythrina indica</i> |
| • <i>Banksia menziesii</i> | • <i>Ficus macrophylla</i> |
| • <i>Brachychiton acerifolius</i> | • <i>Fraxinus oxycarpa 'Raywoodii'</i> |
| • <i>Brachychiton populneus</i> | • <i>Hibiscus tiliaceus</i> |
| • <i>Callistemon Kings Park Special</i> | • <i>Jacaranda mimosifolia</i> |
| • <i>Callitris preissii</i> | • <i>Melaleuca lanceolata</i> |
| • <i>Casuarina cunninghamiana</i> | • <i>Melaleuca quinquenervia</i> |
| • <i>Casuarina obesa</i> | • <i>Metrosideros excelsa</i> |
| • <i>Corymbia maculata</i> | • <i>Platanus acerifolia</i> |
| • <i>Eucalyptus botryoides</i> | • <i>Phoenix canariensis</i> |
| • <i>Eucalyptus cladocalyx</i> | • <i>Pyrus ussuriensis</i> |
| • <i>Eucalyptus decipiens</i> | • <i>Robinia pseudoacacia</i> |

- *Sapium sebiferum*
- *Syagrus romanzoffiana*

Road Types & Open Space

- Urban (VERGE >3M)
- Urban (VERGE <3M)
- Urban (ROUNDAABOUT)
- Urban (MEDIAN)

Overhead Power

The majority of the Precinct has overhead power.

Built Form

Mixture of commercial and medium density residential development and recreational amenity and schools.

Major Parks

- Keith Holmes Reserve
- Samuel Renfey Reserve
- George Robinson Gardens
- Vivaldi Reserve
- Eastern Foreshore.

Proposed Tree Species Palette

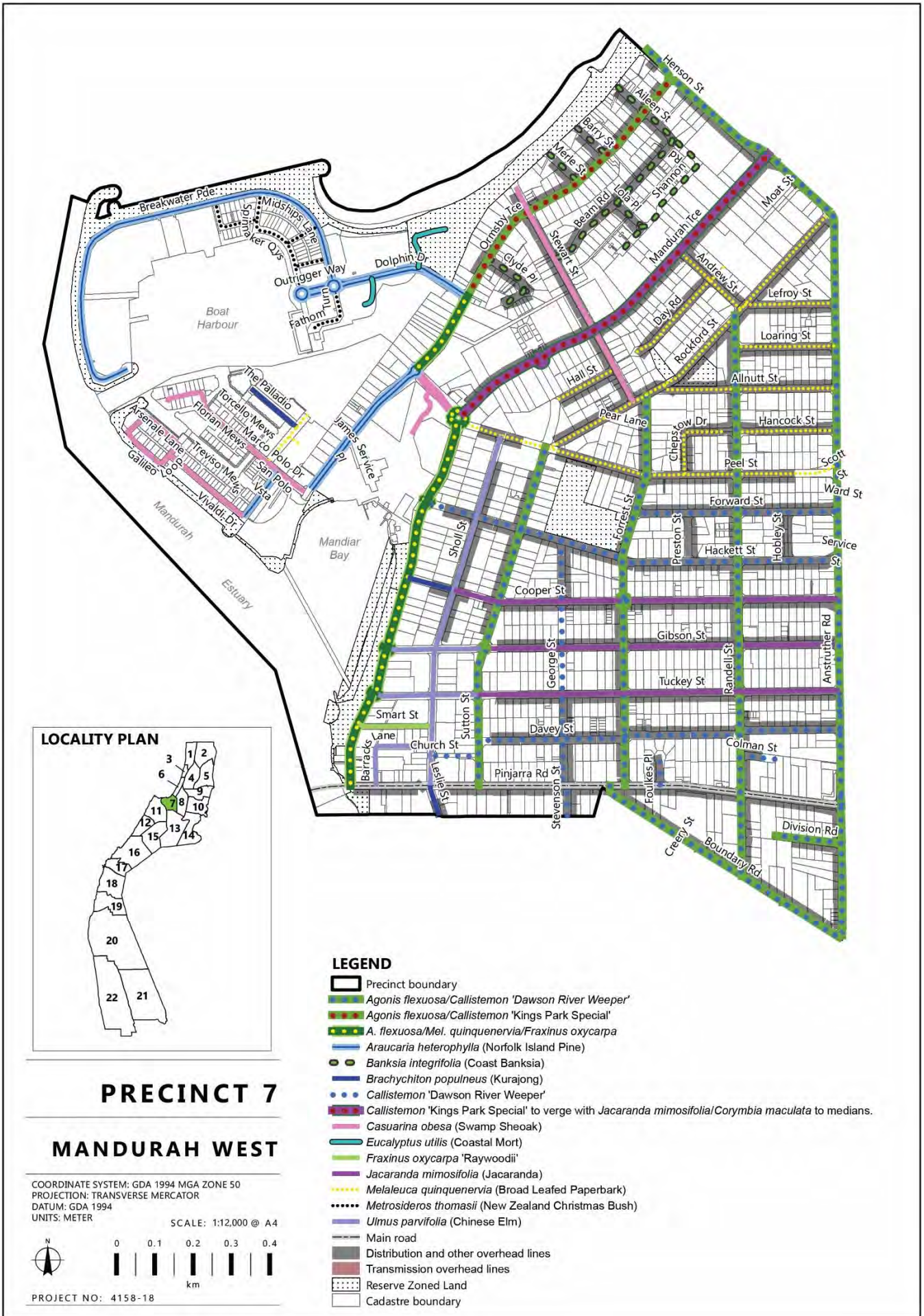
The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Araucaria heterophylla</i>	Norfolk Island pine
<i>Banksia integrifolia</i>	Coast Banksia
<i>Brachychiton populneus</i>	Kurajong
<i>Callistemon 'Dawson River Weeper' #</i>	Dawson River Weeper
<i>Callistemon Kings Park Special #</i>	Bottlebrush
<i>Casuarina obesa</i>	Salt Sheoak
<i>Corymbia maculata</i>	Spotted Gum
<i>Eucalyptus utilis</i>	Coastal Mort
<i>Fraxinus oxycarpa 'Raywoodii'</i>	Claret Ash
<i>Hibiscus tiliaceus rubra</i>	Red Cottonwood
<i>Jacaranda mimosifolia</i>	Jacaranda
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark
<i>Metrosideros thomasi #</i>	New Zealand Christmas Bush
<i>Ulmus parvifolia</i>	Chinese Elm

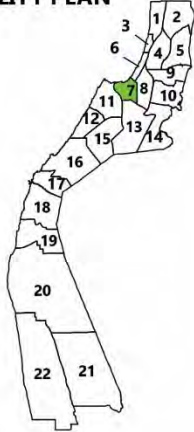
Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.



LOCALITY PLAN



PRECINCT 7

MANDURAH WEST

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:12,000 @ A4



PROJECT NO: 4158-18

LEGEND

- Precinct boundary
- Agonis flexuosa*/*Callistemon* 'Dawson River Weeper'
- Agonis flexuosa*/*Callistemon* 'Kings Park Special'
- A. flexuosa*/*Mel. quinquenervia*/*Fraxinus oxycarpa*
- Araucaria heterophylla* (Norfolk Island Pine)
- Banksia integrifolia* (Coast Banksia)
- Brachychiton populneus* (Kurajong)
- Callistemon* 'Dawson River Weeper'
- Callistemon* 'Kings Park Special' to verge with *Jacaranda mimosifolia*/*Corymbia maculata* to medians.
- Casuarina obesa* (Swamp Sheoak)
- Eucalyptus utilis* (Coastal Mort)
- Fraxinus oxycarpa* 'Raywoodii'
- Jacaranda mimosifolia* (Jacaranda)
- Melaleuca quinquenervia* (Broad Leafed Paperbark)
- Metrosideros thomasi* (New Zealand Christmas Bush)
- Ulmus parvifolia* (Chinese Elm)
- Main road
- Distribution and other overhead lines
- Transmission overhead lines
- Reserve Zoned Land
- Cadastre boundary

5.2.9 PRECINCT 8 MANDURAH CBD (EAST)

Mandurah CBD East is bounded by the Mandurah Terrace in the north, Mandurah Road in the east, Boundary Road in the south and Anstruther Road in the west. This area is predominantly residential and fringes the main urban centre of Mandurah.

Community Values

No results from the public engagement survey were received for this Precinct.

Precinct Objectives

To integrate a mix of the core landscape character types within Mandurah including costal, coastal ridge, estuarine and woodland throughout the Precinct. This will be reinforced through structured planting arrangements complementing the existing established native and exotic species.

Precinct Conditions

Microclimate & Exposure

Mandurah East is located east of Mandurah West and east of the primary and secondary dune systems on the plain and is protected from the harsh coastal climatic conditions.

Soils & Geology

Quindalup South

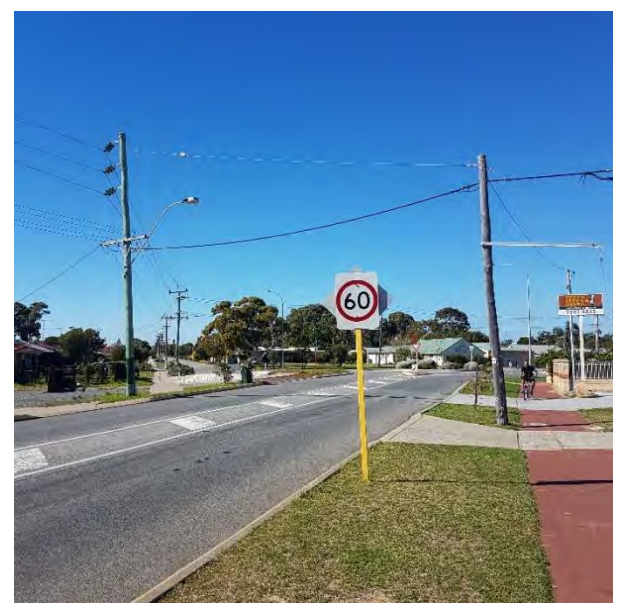
- Relict foredunes and gently undulating beach ridge plain with deep uniform calcareous sands.

Vasse

- Low level storm beach ridges and terraces with shallow to moderately deep uniform alkaline black sandy loams to loams overlying unconsolidated shell beds or clayey marl.

Spearwood

- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Flat to gently undulating sandplain with shallow to moderately deep siliceous yellow-brown and grey-brown sands with minor limestone outcrop.
- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.



- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Flat stony plain with poorly drained shallow siliceous sands and large areas of bare limestone pavement.

Vegetation Complex

- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.
- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* – *C. calophylla*.

Existing Trees

- | | |
|---|---|
| • <i>Acmena smithii</i> | • <i>Eucalyptus gomphocephala</i> |
| • <i>Agonis flexuosa</i> | • <i>Eucalyptus leucoxydon ssp. Megalocarpa</i> |
| • <i>Allocasuarina fraseriana</i> | • <i>Eucalyptus marginata</i> |
| • <i>Angophora costata</i> | • <i>Eucalyptus platypus platypus</i> |
| • <i>Araucaria heterophylla</i> | • <i>Eucalyptus torquata</i> |
| • <i>Banksia attenuata</i> | • <i>Erythrina indica</i> |
| • <i>Banksia grandis</i> | • <i>Ficus macrophylla</i> |
| • <i>Banksia integrifolia</i> | • <i>Fraxinus oxycarpa 'Raywoodii'</i> |
| • <i>Banksia menziesii</i> | • <i>Jacaranda mimosifolia</i> |
| • <i>Brachychiton acerifolius</i> | • <i>Melaleuca lanceolata</i> |
| • <i>Brachychiton populneus</i> | • <i>Melaleuca quinquenervia</i> |
| • <i>Callistemon Kings Park Special</i> | • <i>Metrosideros excelsa</i> |
| • <i>Callitris preissii</i> | • <i>Platanus acerifolia</i> |
| • <i>Casuarina cunninghamiana</i> | • <i>Phoenix canariensis</i> |
| • <i>Casuarina obesa</i> | • <i>Pyrus ussuriensis</i> |
| • <i>Corymbia maculata</i> | • <i>Robinia pseudoacacia</i> |
| • <i>Eucalyptus botryoides</i> | • <i>Sapium sebiferum</i> |
| • <i>Eucalyptus cladocalyx</i> | • <i>Syagrus romanzoffiana</i> |
| • <i>Eucalyptus decipiens</i> | • <i>Ulmus parvifolia</i> |
| • <i>Eucalyptus erythrocorys</i> | • <i>Washingtonia robusta</i> |
| • <i>Eucalyptus erythronema</i> | |

Road Types & Open Space

- | | |
|---------------------------|-----------------------------|
| • Urban (VERGE >3M) | • Residential (VERGE <3M) |
| • Urban (VERGE <3M) | • Residential (ROUNDBABOUT) |
| • Urban (ROUNDBABOUT) | • Residential (POS) |
| • Urban (MEDIAN) | • Bushland |
| • Residential (VERGE >3M) | |

Overhead Power

The majority of the precinct has overhead power.

Built Form

Mixture of commercial, medium and low density residential development and recreational amenity and education institutions.

Major Parks

- Rushton Park
- Rigel Park
- Mandurah Cemetery
- Boundary Reserve
- Jack Ireland Park
- Caterpillar Park
- Tindale Reserve
- Jack Coyle Park.

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Brachychiton populneus</i>	Kurajong
<i>Callistemon 'Dawson River Weeper' #</i>	Dawson River Weeper
<i>Callistemon 'Kings Park Special' #</i>	Kings Park Special
<i>Corymbia ficifolia 'Summer Red' #</i>	Red Flowering Gum
<i>Eucalyptus cneorifolia</i>	Kangaroo Island Narrow-leaf Mallee
<i>Eucalyptus decipiens</i>	Redheart Moit
<i>Eucalyptus sideroxylon rosea</i>	Red Ironbark
<i>Melaleuca viridiflora</i>	Broad Leafed Paperbark

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

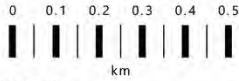
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 8

MANDURAH EAST

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:15,500 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



LEGEND

- Precinct Boundary
- Agonis flexuosa* (Weeping Peppermint)
- Agonis flexuosa*/*Callistemon* 'Dawson River Weeper'
- Brachychiton populneus* (Kurajong)
- Callistemon* 'Dawson River Weeper'
- Callistemon* 'Kings Park Special'
- Corymbia ficifolia* 'Summer Red'
- Eucalyptus cneorifolia* (Kangaroo Is. Narrow Leaf Mallee)
- Eucalyptus decipiens* (Redheart Moit)/*Callistemon* 'Kings Park Special'
- Eucalyptus sideroxylon rosea* (Red Ironbark)
- Melaleuca viridiflora* (Broad Leafed Paperbark)
- Main road
- Distribution and other overhead lines
- Transmission overhead lines
- Reserve Zoned Land
- Cadastre Boundary

Agonis flexuosa /
Callistemon 'Dawson River Weeper'
 Shown on Precinct 13 →

5.2.10 PRECINCT 9 GREENFIELDS (NORTH)

This Precinct is the northern section of the suburb Greenfields. It is named after 'Greenfields Estate', a promotional developers name used for the area in 1980. It was previously known as Goegrup, East Mandurah and Riverside Gardens. Greenfields comprises several other smaller communities including Country Roads, Norfolk Gardens and Central Park. It has a local shopping centre, three primary and high school, as well as higher education campuses. This Precinct bordered by the Goegrup Lake Nature Reserve on the eastern boundary.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 9:

1. Encouraging outdoor activity
2. Providing shade and cooling
3. Absorbing carbon dioxide
4. Improved air quality
5. Community health and wellbeing.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 9:

1. *Corymbia ficifolia* 'Summer Red', Red Flowering Gum
2. *Eucalyptus marginata*, Jarrah
3. *Eucalyptus nutans*, Red-flowered Moort
4. *Eucalyptus gomphocephala*, Tuart
5. *Corymbia maculata*, Spotted Gum

Corymbia ficifolia was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a woodland Australian native landscape character throughout the Precinct complementing the existing established native and exotic species and providing a stronger connection to the natural environment. This will be reinforced through a mix of random and structured planting arrangements.

Precinct Conditions

Microclimate & Exposure

Greenfields North is located on the plain between the dunes and fringing the dampland areas including estuaries / rivers / lakes.

Soils & Geology

Spearwood

- Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.

Bassendean

- Flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2 m.

Vasse

- Saline tidal flats composed of grey, black and brown foetid muds and humic sandy clays with locally common shell and limestone fragments.

Vegetation Complex

- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.
- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.
- **Herdsmen:** Sedgelands and fringing woodland of *E. rudis* - *Melaleuca spp.*

Existing Trees

- | | |
|-------------------------------------|---------------------------------------|
| • <i>Agonis flexuosa</i> | • <i>Eucalyptus leucoxydon rosea</i> |
| • <i>Agonis flexuosa After Dark</i> | • <i>Eucalyptus marginata</i> |
| • <i>Banksia attenuata</i> | • <i>Eucalyptus sideroxydon rosea</i> |
| • <i>Banksia menziesii</i> | • <i>Eucalyptus spathulata</i> |
| • <i>Brachychiton populneus</i> | • <i>Eucalyptus torquata</i> |
| • <i>Casuarina obesa</i> | • <i>Erythrina sykesii</i> |
| • <i>Corymbia calophylla</i> | • <i>Fraxinus griffithii</i> |
| • <i>Corymbia ficifolia</i> | • <i>Jacaranda mimosifolia</i> |
| • <i>Eucalyptus decipiens</i> | • <i>Melaleuca lanceolata</i> |
| • <i>Eucalyptus gomphocephala</i> | • <i>Melaleuca quinquenervia</i> |
| • <i>Eucalyptus lansdowneana</i> | • <i>Melaleuca raphiophylla</i> |

- *Platanus acerifolia*
- *Schinus molle*
- *Ulmus parvifolia*

Road Types & Open Space

- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDAABOUT)
- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Rural Residential (POS RESERVE)
- Foreshore (ESTUARY)
- Bushland

Overhead Power

The majority of the precinct has overhead power.

Built Form

Primarily owner occupied a mixture of rural residential and residential built form including large recreational / educational facilities such as Greyhounds WA and Murdoch University Mandurah Campus and South Metropolitan TAFE.

Major Parks

- Goegrup Lake Nature Reserve
- Bardoc Reserve

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Corymbia eximia</i>	Yellow Bloodwood
<i>Corymbia ficifolia</i>	Red Flowering Gum
<i>Corymbia ficifolia 'Summer Red' #</i>	Red Flowering Gum
<i>Corymbia maculata</i>	Spotted Gum
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus marginata</i>	Jarrah
<i>Eucalyptus nutans #</i>	Red-flowered Moort
<i>Eucalyptus spathulata #</i>	Swamp Mallet
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

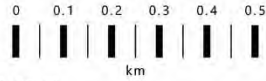
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 9

GREENFIELDS NORTH

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:14,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



LEGEND

- Precinct number
- Corymbia eximia* (Yellow Bloodwood)
- Corymbia exima/Eucalyptus nutans*
- Corymbia ficifolia* 'Summer Red'
- Corymbia ficifolia/Eucalyptus nutans*
- Corymbia maculata* (Spotted Gum)
- Eucalyptus gomphocephala* (Tuart)
- Eucalyptus marginata* (Jarrah)
- Eucalyptus nutans* (Red-flowered Moort)
- Eucalyptus spathulata* (Swamp Mallet)
- Melaleuca quinquenervia* (Broad Leafed Paperbark)
- Melaleuca quinquenervia/Callistemon* 'Kings Park Special'
- Main Road
- Private Road
- Distribution and other overhead lines
- Transmission overhead lines
- Reserve Zoned Land
- Cadastre Boundary



5.2.11 PRECINCT 10 GREENFIELDS (SOUTH)

This Precinct is the southern section of the suburb Greenfields. It is named after 'Greenfields Estate', a promotional developers name used for the area in 1980. It was previously known as Goegrup, East Mandurah and Riverside Gardens. The Greenfields South Precinct comprises several other smaller communities including Riverside Gardens and is home to many retirement and lifestyle communities such as Lady Brand Village and St Ives. It has primary and high school, higher education campuses, several ovals including Bortolo Reserve. This Precinct has a strong connection with the Serpentine River on the eastern boundary.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 10:

1. Absorbing carbon dioxide
2. Increasing habitat and biodiversity
3. Providing windbreaks or visual screening
4. Improved air quality
5. Providing shade and cooling.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 10:

1. *Corymbia ficifolia* 'Summer Red', Red Flowering Gum
2. *Banksia ilicifolia*, Holly-leaved Banksia
3. *Agonis flexuosa*, Weeping Peppermint
4. *Melaleuca raphiophylla*, Swamp Paperbark
5. *Corymbia maculata*, Spotted Gum

Corymbia ficifolia was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a woodland and riverine Australian native landscape character throughout the Precinct complementing the existing established native and exotic species and providing a stronger connection to the natural environment. This will be reinforced through a mix of random and structured planting arrangements.

Precinct Conditions

Microclimate & Exposure

Greenfields South is located on the plain between the dunes and fringing the dampland areas including estuaries / rivers / lakes.

Soils & Geology

Spearwood

- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.

Bassendean

- Flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2 m.

Vasse

- Saline tidal flats composed of grey, black and brown foetid muds and humic sandy clays with locally common shell and limestone fragments.

Vegetation Complex

- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.
- **Herdsmen:** Sedgeland and fringing woodland of *E. rudis* - *Melaleuca spp.*
- **Vasse:** Mixture of the closed scrub of *Melaleuca spp.*, fringing woodland of *E. rudis* - *Melaleuca spp.* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.
- **Bassendean -Central and South:** Vegetation ranges from woodland of *E. marginata* - *C. fraseriana* - *Banksia spp.* to low woodland of *Melaleuca spp.* and sedgelands on the moister sites. This area includes the transition of *E. marginata* to *E. todtiana* in the vicinity of Perth.

Existing Trees

- | | |
|------------------------------|---------------------------------------|
| • <i>Agonis flexuosa</i> | • <i>Eucalyptus sideroxylon rosea</i> |
| • <i>Corymbia ficifolia</i> | • <i>Melaleuca quinquenervia</i> |
| • <i>Eucalyptus nicholii</i> | • <i>Ulmus parvifolia</i> . |

Road Types & Open Space

- | | |
|---------------------------|----------------------------|
| • Urban (VERGE >3M) | • Residential (ROUNDABOUT) |
| • Urban (VERGE <3M) | • Residential (POS) |
| • Urban (ROUNDABOUT) | • Foreshore (ESTUARY) |
| • Urban (MEDIAN) | • Foreshore (RIVERINE) |
| • Residential (VERGE >3M) | • Bushland |
| • Residential (VERGE <3M) | |

Overhead Power

Approximately half of the precinct has overhead power.

Built Form

Primarily owner occupied residential dwellings with a number of commercial and recreational community facilities and educational facilities.

Major Parks

- Goegrup Lake Nature Reserve
- Bortolo Park
- Kangaroo Paw Park
- Waldron Reserve
- Bedingfield Reserve
- Eacott Park
- Riverside Gardens Reserve
- Cambridge Reserve
- Flame Tree Park
- Amazon Drive Reserve
- Marungi Park.

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Banksia ilicifolia</i>	Holly-leaved Banksia
<i>Banksia littoralis</i>	Swamp Banksia
<i>Brachychiton populneus</i>	Kurajong
<i>Corymbia eximia</i>	Yellow Bloodwood
<i>Corymbia ficifolia 'Summer Red' #</i>	Red Flowering Gum
<i>Corymbia maculata</i>	Spotted Gum
<i>Eucalyptus diversifolia #</i>	Soap Mallee
<i>Eucalyptus lansdowneana #</i>	Port Lincoln Gum
<i>Eucalyptus leucoxydon Rosea Dwarf 'Little Euky' #</i>	Euky Dwarf
<i>Eucalyptus nutans #</i>	Red-flowered Moort
<i>Eucalyptus rudis</i>	Flooded Gum
<i>Eucalyptus spathulata #</i>	Swamp Mallet
<i>Eucalyptus tottiana #</i>	Coastal Blackbutt
<i>Melaleuca linarifolia</i>	Narrow-Leaved Paperbark
<i>Melaleuca raphiophylla</i>	Swamp Paperbark

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

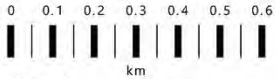
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 10

GREENFIELDS SOUTH

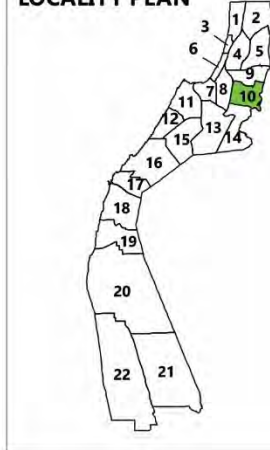
COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
PROJECTION: TRANSVERSE MERCATOR
DATUM: GDA 1994
UNITS: METER

SCALE: 1:16,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



LEGEND

- Precinct number
- Agonis flexuosa* (Weeping Peppermint)
- Agonis flexuosa/Brachychiton populneus*
- Agonis flexuosa/Corymbia ficifolia* 'Summer Red'
- Banksia illicifolia/Corymbia ficifolia* 'Summer Red'
- Banksia littoralis* (Swamp Banksia)/*Corymbia ficifolia* 'Summer Red'
- Corymbia eximia* (Yellow Bloodwood)
- Corymbia ficifolia* 'Summer Red'
- Corymbia maculata* (Spotted Gum)/*Corymbia ficifolia* 'Summer Red'
- Eucalyptus diversifolia* (Soap Mallee)
- Eucalyptus lansdowneana* (Port Lincoln Gum)
- Eucalyptus nutans* (Red-flowered Moort)
- Eucalyptus rudis/E. leucoxylon rosea* Dwarf 'Little Euky'
- Eucalyptus spathulata* (Swamp Mallet)
- Melaleuca linarifolia/Eucalyptus Spathulata*
- Melaleuca raphiophylla* (Swamp Paperbark)
- Melaleuca raphiophylla/Eucalyptus spathulata*
- Main Road
- Private Road
- Distribution and other overhead lines
- Transmission overhead lines
- Reserve Zoned Land
- Cadastre Boundary



5.2.12 PRECINCT 11 HALLS HEAD (NORTH)

Halls Head (North) is the northern section of the overall Halls Head Precinct. It is bounded by the Old Coast Road to the east, Peel Harvey Inlet to the north and the Indian Ocean to the west. The majority of the Precinct is residential development and canal estates. A major golf course is located central to the Precinct and the Water Corporation have a large land holding on the Indian Ocean foreshore.

Community Values

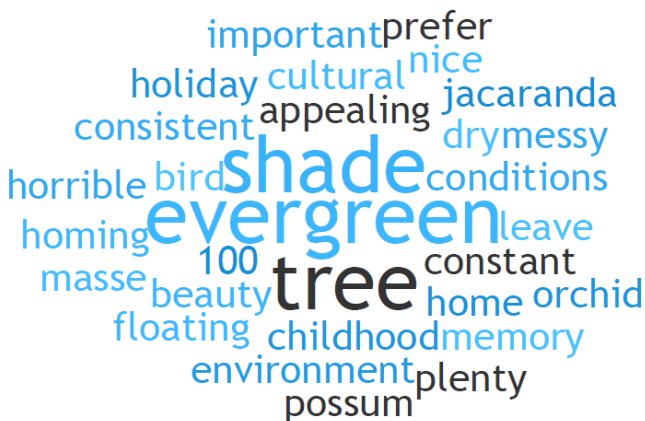
The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 11:

1. Providing shade and cooling
2. Increasing habitat and biodiversity
3. Reducing energy cost of residents
4. Encouraging outdoor activity
5. Community health and wellbeing.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 11:

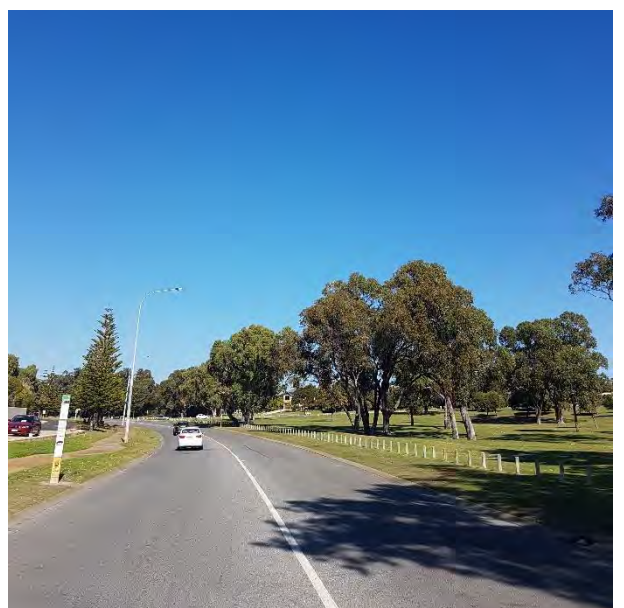
1. *Agonis flexuosa*, Weeping Peppermint
2. *Eucalyptus gomphocephala*, Tuart
3. *Eucalyptus leucoxylon rosea*, Pink Flowering Gum
4. *Callistemon 'Kings Park Special'*, Kings Park Special Bottlebrush
5. *Corymbia calophylla*, Marri

Agonis flexuosa was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a coastal Australian native landscape character throughout the Precinct complementing the existing established exotic species and providing a stronger connection to the natural environment. This will be reinforced through a mix of random and structured planting arrangements.



Precinct Conditions

Microclimate & Exposure

Halls Head North is south of the urban CBD centre in a coastal zone with exposure to harsh coastal climatic conditions.

Soils & Geology

Quindalup

- Actively eroding, poorly vegetated, flat to gently undulating sand sheet with deep uniform calcareous sands.
- Fore-dune/blowout complexes (semi-erosional) with very low relief ridge and swale topography with deep uniform calcareous sands.
- Complex of nested low relief parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.
- Small gently undulating plains (deflation basins) enclosed by discrete parabolic dunes with moderately deep to very deep calcareous sands over limestone.

Spearwood

- Stony plain with extremely low ridges (relict beach ridges) and shallow to moderately deep siliceous yellow-brown sands.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Flat stony plain with poorly drained shallow siliceous sands and large areas of bare limestone pavement.
- Dune ridges with deep siliceous yellow brown sands or pale sands with yellow-brown subsoil and slopes up to 15%.
- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Flat to gently undulating sandplain with shallow to moderately deep siliceous yellow-brown and grey-brown sands with minor limestone outcrop.

Vasse

- Low level storm beach ridges and terraces with shallow to moderately deep uniform alkaline black sandy loams to loams overlying unconsolidated shell beds or clayey marl.
- Samphire covered sand and mud flats marginally higher than V1 and frequently inundated; with deep alkaline alluvial sands and clayey sands.
- Saline tidal flats composed of grey, black and brown foetid muds and humic sandy clays with locally common shell and limestone fragments.
- Sand flats marginally higher than V2. Frequently inundated; with deep alkaline alluvial sands and clayey sands, commonly supporting stands of *Melaleuca* spp.

Vegetation Complex

- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of *M. lanceolata* - *Callitris preissii* and the closed scrub of *Acacia rostellifera*
- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*; closed heath on the limestone outcrops.
- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.

Existing Trees

- *Agonis flexuosa*
- *Allocasuarina fraseriana*

- *Araucaria heterophylla*
- *Banksia grandis*
- *Banksia menziesii*
- *Brachychiton acerifolius*
- *Callitris preissii*
- *Casuarina obesa*
- *Corymbia ficifolia*
- *Eucalyptus decipiens*
- *Eucalyptus gomphocephala*
- *Eucalyptus marginata*
- *Eucalyptus rudis*
- *Eucalyptus sideroxylon rosea*
- *Eucalyptus spathulata*
- *Eucalyptus torquata*
- *Eucalyptus utilis*
- *Fraxinus oxycarpa 'Raywoodii'*
- *Jacaranda mimosifolia*
- *Melaleuca lanceolata*
- *Melaleuca quinquenervia*
- *Metrosideros excelsa*
- *Platanus acerifolia*
- *Santalum acuminatum*
- *Sapium sebiferum*
- *Schinus molle*
- *Syagrus romanzoffiana*
- *Tipuana tipu*
- *Ulmus parvifolia*
- *Washingtonia filifera*
- *Xylomelum occidentale*

Road Types & Open Space

- Urban (VERGE >3M)
- Urban (VERGE <3M)
- Urban (ROUNDAABOUT)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDAABOUT)
- Residential (POS)
- Foreshore (COASTAL)
- Foreshore (ESTUARY)
- Foreshore (RIVERINE)
- Bushland

Overhead Power

A quarter of the precinct has overhead power – located in the north-western corner of the precinct on the coast.

Built Form

Predominantly owner occupied residential dwellings with commercial amenity and recreational spaces.

Major Parks

- Janis Street Reserve
- Joseph Cooper Park
- Victor Adam Park
- Kingsley Fairbridge Reserve
- Henry Sutton Grove

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Allocasuarina fraseriana</i>	Common Sheoak
<i>Angophora costata</i>	Smooth Barked Apple
<i>Bauhinia blakeana</i>	Hong Kong Orchid Tree
<i>Callistemon 'Kings Park Special' #</i>	Kings Park Special
<i>Corymbia calophylla</i>	Marri
<i>Eucalyptus diversifolia #</i>	Soap Mallee
<i>Eucalyptus forrestiana #</i>	Fuchsia Gum
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus leucoxylon rosea</i>	Pink Flowering Gum
<i>Eucalyptus tottiana #</i>	Coastal Blackbutt
<i>Eucalyptus utilis</i>	Coastal Mort
<i>Melaleuca linarifolia</i>	Narrow-Leaved Paperbark
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark
<i>Melaleuca raphiophylla</i>	Swamp Paperbark
<i>Melaleuca viridiflora</i>	Broad Leafed Paperbark
<i>Santalum acuminatum #</i>	Quandong

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

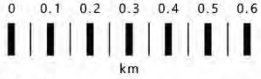
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 11

HALLS HEAD NORTH

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:17,000 @ A4



PROJECT NO: 4158-18



LEGEND

- Precinct number
- Agonis flexuosa*/*Callistemon* 'Kings Park Special'
- Allocasuarina fraseriana* (Common Sheoak)
- Angophora costata* (Smooth Barked-Apple)
- Angophora costata*/*Euc. forrestiana*
- Bauhinia blakeana* (Hong Kong Orchid Tree)
- Callistemon* 'Kings Park Special'
- Corymbia calophylla* (Marri)
- Eucalyptus diversifolia* (Soap Mallee)
- Eucalyptus forrestiana* (Fuchsia Gum)
- Eucalyptus gomphocephala*/*Eucalyptus todtiana*
- Eucalyptus leucoxylon rosea*/*Euc. forrestiana*
- Eucalyptus leucoxylon rosea*/*Eucalyptus todtiana*
- Eucalyptus todtiana* (Coastal Blackbutt)
- Melaleuca linarifolia* (Narrow-Leaved Paperbark)
- Melaleuca quinquenervia* (Broad Leafed Paperbark)
- Melaleuca raphiophylla* (Swamp Paperbark)
- Melaleuca viridiflora* (Broad Leafed Paperbark)
- Santalum acuminatum* (Quandong)
- Main Road
- Distribution and other overhead lines
- Reserve Zoned Land
- Cadastre Boundary

LOCALITY PLAN



5.2.13 PRECINCT 12 HALLS HEAD (SOUTH)

Halls Head (South) is the southern section of the overall Halls Head Precinct. It is bounded by the Old Coast Road to the east and the Indian Ocean to the west. The majority of the Precinct is residential development and formal estates.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 12:

1. Increasing habitat and biodiversity
2. Absorbing carbon dioxide
3. Aesthetics
4. Improved air quality
5. Community health and wellbeing.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 12:

1. *Agonis flexuosa*, Weeping Peppermint
2. *Banksia integrifolia*, Coast Banksia
3. *Metrosideros excelsa*, New Zealand Christmas Tree
4. *Eucalyptus leucoxylon ssp. Megalocarpa*, Large-fruited Blue Gum
5. *Allocasuarina fraseriana*, Common Sheoak

Agonis flexuosa was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a coastal Australian native landscape character throughout the Precinct complementing the existing established exotic species and providing a stronger connection to the natural environment. This will be reinforced through a mix of random and structured planting arrangements.



Precinct Conditions

Microclimate & Exposure

Halls Head South is a coastal Precinct, located on the primary and secondary dune systems with exposure to harsh coastal climatic conditions.

Soils & Geology

Quindalup

- Actively eroding, poorly vegetated, flat to gently undulating sand sheet with deep uniform calcareous sands.
- Complex of nested low relief parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.

Spearwood

- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Flat stony plain with poorly drained shallow siliceous sands and large areas of bare limestone pavement.
- Dune ridges with deep bleached grey sands with yellow-brown subsoils, and slopes up to 15%.
- Dune ridges with deep siliceous yellow brown sands or pale sands with yellow-brown subsoil and slopes up to 15%.
- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.

Vegetation Complex

- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and foredune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of *M. lanceolata* - *Callitris preissii* and the closed scrub of *Acacia rostellifera*.
- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.

Existing Trees

- | | |
|---------------------------------------|-----------------------------------|
| • <i>Agonis flexuosa</i> | • <i>Hibiscus tiliaceus rubra</i> |
| • <i>Araucaria heterophylla</i> | • <i>Melaleuca quinquenervia</i> |
| • <i>Casuarina equisetifolia</i> | • <i>Metrosideros excelsa</i> |
| • <i>Eucalyptus platypus platypus</i> | • <i>Platanus acerifolia</i> |
| • <i>Erythrina indica</i> | • <i>Ulmus parvifolia</i> |

Road Types & Open Space

- | | |
|---------------------------|-----------------------|
| • Residential (VERGE >3M) | • Residential (POS) |
| • Residential (VERGE <3M) | • Foreshore (COASTAL) |
| • Residential (ROUNABOUT) | • Bushland |

Overhead Power

No overhead power lines and all power is located underground.

Built Form

Predominantly owner occupied residential dwellings with commercial amenity, schools and recreational spaces.

Major Parks

- Merlin Street Reserve
- Mogum Park
- Lilac Park
- Quandong Parkway Park
- Woodlands Park
- Lavender Gardens Reserve
- Peelwood Reserve
- Banksia Park
- Melaleuca Park

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Allocasuarina fraseriana</i>	Common Sheoak
<i>Araucaria columnaris</i>	Cook Pine
<i>Banksia integrifolia</i>	Coast Banksia
<i>Corymbia haematoxylon</i>	Mountain Marri
<i>Erythrina indica</i>	Coral Tree
<i>Eucalyptus cneorifolia</i>	Kangaroo Island Narrow-leaf Mallee
<i>Eucalyptus diversifolia</i>	Soap Mallee
<i>Eucalyptus eremophila</i> #	Tall Sand Mallee
<i>Eucalyptus leucoxylon ssp. Megalocarpa</i>	Large-fruited Blue Gum
<i>Eucalyptus utilis</i>	Coastal Mort
<i>Hibiscus tiliaceus rubra</i>	Red Cottonwood
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark
<i>Metrosideros excelsa</i>	New Zealand Christmas Tree
<i>Ulmus parvifolia</i>	Chinese Elm

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

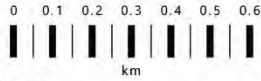
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 12

HALLS HEAD SOUTH

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:17,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



LEGEND

- Precinct number
- Agonis flexuosa* (Weeping Peppermint)
- Allocasuarina fraseriana* (Common Sheoak)
- Araucaria columnaris* (Cook Pine)
- Banksia integrifolia* (Coast Banksia)
- Corymbia haematoxylon* (Mountain Marri)
- Eucalyptus cneorifolia* (Kangaroo Is. Narrow Leaf Mallee)
- Eucalyptus diversifolia* (Soap Mallee)
- Eucalyptus eremophila* (Tall Sand Mallee)
- Eucalyptus leucoxylon ssp. Megalocarpa*
- Eucalyptus utilis* (Coastal Malt)
- Hibiscus tiliaceus rubra* (Red Cottonwood)
- Melaleuca quinquenervia* (Broad Leafed Paperbark)
- Metrosideros excelsa* (New Zealand Christmas Tree)
- Ulmus parvifolia* (Chinese Elm)
- Main Road
- Distribution and other overhead lines
- Reserve Zoned Land
- Cadastre Boundary

5.2.14 PRECINCT 13 DUDLEY PARK

Dudley Park is located immediately south of Mandurah’s CBD area. The Precinct has a number of land uses including natural wetland reserves and public open spaces, residential, canal developments and estates. Murdoch Catholic College is also a main land use within the Precinct.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 13:

1. Increasing habitat and biodiversity
2. Community health and wellbeing
3. Providing shade and cooling
4. Encouraging outdoor activity
5. Absorbing carbon dioxide.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 13:

1. *Corymbia ficifolia* ‘Summer Red’, Red Flowering Gum
2. *Agonis flexuosa*, Weeping Peppermint
3. *Callistemon* ‘Kings Park Special’, Kings Park Special Bottlebrush
4. *Fraxinus oxycarpa* ‘Raywoodii’, Claret Ash
5. *Melaleuca linarifolia*, Narrow-Leaved Paperbark

Corymbia ficifolia was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate an estuarine Australian native landscape character throughout the Precinct complementing the existing established exotic species and providing a stronger connection to the natural environment. This will be reinforced through a mix of random and structured planting arrangements.



Precinct Conditions

Microclimate & Exposure

Dudley Park is an estuarine precinct located east of the primary and secondary dune systems on the plain and is protected from the harsh coastal climatic conditions.

Soils & Geology

Spearwood

- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Flat to gently undulating sandplain with shallow to moderately deep siliceous yellow-brown and grey-brown sands with minor limestone outcrop.

Vasse

- Saline tidal flats composed of grey, black and brown foetid muds and humic sandy clays with locally common shell and limestone fragments.
- Samphire covered sand and mud flats marginally higher than V1 and frequently inundated; with deep alkaline alluvial sands and clayey sands.
- Sand flats marginally higher than V2. Frequently inundated; with deep alkaline alluvial sands and clayey sands, commonly supporting stands of *Melaleuca* spp.
- Upper level sandy terrace and gently undulating beach ridges with deep grey or bleached pale brown siliceous sands overlying soft shelly limestone.

Vegetation Complex

- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.
- **Vasse:** Mixture of the closed scrub of *Melaleuca* spp., fringing woodland of *E. rudis* - *Melaleuca* spp. and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.

Existing Trees

- *Acmena smithii*
- *Agonis flexuosa*
- *Agonis flexuosa* "After Dark"
- *Allocasuarina fraseriana*
- *Angophora costata*
- *Araucaria heterophylla*
- *Araucaria columnaris*
- *Archontophoenix cunninghamiana*
- *Banksia attenuata*
- *Banksia grandis*
- *Bauhinia blakeana*
- *Callistemon viminalis*
- *Callistemon 'Kings Park Special'*
- *Callistemon salignus*
- *Callitris preissii*
- *Casuarina obesa*
- *Corymbia calophylla*
- *Corymbia ficifolia*
- *Corymbia maculata*
- *Corymbia citriodora*
- *Cupressus* sp
- *Delonix regia*
- *Eucalyptus gomphocephala*
- *Eucalyptus sideroxylon*
- *Eucalyptus rudis*
- *Eucalyptus leucoxylon rosea*
- *Ficus* var. *hillii*
- *Fraxinus griffithii*
- *Hakea laurina*
- *Hymenosporum flavum*
- *Liquidambar styraciflua*
- *Jacaranda mimosifolia*
- *Magnolia grandiflora*
- *Melaleuca quinquenervia*
- *Melaleuca spathulata*
- *Metrosideros excelsa*
- *Phoenix canariensis*
- *Phoenix roebelenii*

- *Platanus x acerifolia*
- *Prunus cerasifera*
- *Prunus cerasifera 'Nigra'*
- *Pyrus calleryana*
- *Sapium sebiferum*
- *Ulmus parvifolia*
- *Washingtonia filifera*

Road Types & Open Space

- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNABOUT)
- Residential (POS)
- Foreshore (ESTUARY)
- Foreshore (RIVERINE)
- Bushland

Overhead Power

Approximately half of the precinct has overhead power.

Built Form

Predominantly owner occupied residential dwellings with some commercial amenity and recreational spaces.

Major Parks

- Duck Park
- Creery Wetland Nature Reserve
- Roy Tuckey Reserve
- Leslie Street Reserve
- Blackwood Park
- Blythwood Reserve
- Harold Thompson Park
- Hermitage Reserve.

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Angophora costata</i>	Smooth Barked Apple
<i>Callistemon 'Dawson River Weeper' #</i>	Bottlebrush
<i>Callistemon 'Kings Park Special' #</i>	Kings Park Special
<i>Casuarina obesa</i>	Salt Sheak
<i>Corymbia ficifolia 'Summer Red' #</i>	Red Flowering Gum
<i>Eucalyptus marginata</i>	Jarrah
<i>Fraxinus oxycarpa 'Raywoodii'</i>	Claret Ash
<i>Hibiscus tiliaceus rubra</i>	Red Cottonwood
<i>Jacaranda mimosifolia</i>	Jacaranda
<i>Melaleuca linarifolia</i>	Narrow-Leaved Paperbark
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark
<i>Melaleuca raphiophylla</i>	Swamp Paperbark
<i>Olea europaea</i>	Olive Tree
<i>Pyrus calleryana</i>	Callery Pear

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

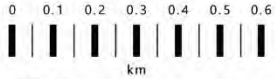
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 13

DUDLEY PARK

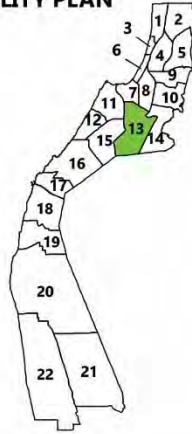
COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:16,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



LEGEND

- Precinct number
- Agonis flexuosa* (Weeping Peppermint)
- Agonis flexuosa/Callistemon 'Dawson River Weeper'*
- Agonis flexuosa/Corymbia ficifolia 'Summer Red'*
- Angophora costata* (Smooth Barked-Apple)
- Callistemon 'Kings Park Special'*
- Casuarina obesa* (Salt Sheoak)
- Corymbia ficifolia 'Summer Red'*
- Eucalyptus marginata/Corymbia ficifolia 'Summer Red'*
- Eucalyptus marginata* (Jarrah)
- Fraxinus oxycarpa 'Raywoodii'/Callistemon 'Kings Park Special'*
- Hibiscus tiliaceus rubra* (Red Cottonwood)
- Hibiscus tiliaceus rubra/Callistemon 'Kings Park Special'*
- Jacaranda mimosifolia* (Jacaranda)
- Melaleuca linarifolia* (Narrow-Leaved Paperbark)
- Melaleuca quinquenervia* (Broad Leafed Paperbark)
- Melaleuca raphiophylla* (Swamp Paperbark)
- Pyrus calleryana* (Callery Pear)
- Main Road
- Distribution and other overhead lines
- Reserve Zoned Land
- Cadastre Boundary



5.2.15 PRECINCT 14 COODANUP

Coodanup is located in the south-eastern corner of Mandurah. It is bounded by the Serpentine River to the east, Peel Inlet to the south, Pinjarra Road to the north and Mandurah Bypass and Wanjeep Street to the west. The Precinct is primarily residential with a number of different estates and excellent riverine and estuary foreshore public open space.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 14:

1. Aesthetics
2. Increasing habitat and biodiversity
3. Providing shade and cooling
4. Absorbing carbon dioxide
5. Encouraging outdoor activity.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 14:

1. *Corymbia ficifolia*, Red Flowering Gum
2. *Hakea laurina*, Pin Cushion Hakea
3. *Eucalyptus leucoxylon Rosea Dwarf* 'Little Euky', Euky Dwarf
4. *Banksia attenuata*, Candlestick Banksia
5. *Eucalyptus leucoxylon ssp. Megalocarpa*, Large Fruited Blue Gum

Corymbia ficifolia was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a riverine and estuarine Australian native landscape character throughout the Precinct, connecting the street network to the natural environment. This will be reinforced through a mix of random and structured planting arrangements.



Precinct Conditions

Microclimate & Exposure

Coodanup is an estuarine and riverine precinct located east of the primary and secondary dune systems on the plain and is protected from the harsh coastal climatic conditions. It is exposed along Peel Parade with south / southwest winds.

Soils & Geology

Spearwood

- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.

Vasse

- Saline tidal flats composed of grey, black and brown foetid muds and humic sandy clays with locally common shell and limestone fragments.
- Sand flats marginally higher than V2. Frequently inundated; with deep alkaline alluvial sands and clayey sands, commonly supporting stands of *Melaleuca* spp.

Vegetation Complex

- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* – *E. spathulata* – *C. calophylla*.
- **Vasse:** Mixture of the closed scrub of *Melaleuca* spp., fringing woodland of *E. rudis* – *Melaleuca* spp. And open forest of *E. gomphocephala* – *E. spathulata* – *C. calophylla*.

Existing Trees

- | | |
|--|---------------------------------------|
| • <i>Agonis flexuosa</i> | • <i>Eucalyptus macrandra</i> |
| • <i>Allocasuarina fraseriana</i> | • <i>Eucalyptus spathulata</i> |
| • <i>Angophora costata</i> | • <i>Eucalyptus nicholii</i> |
| • <i>Araucaria heterophylla</i> | • <i>Eucalyptus platypus platypus</i> |
| • <i>Archontophoenix cunninghamiana</i> | • <i>Eucalyptus sideroxylon</i> |
| • <i>Banksia attenuata</i> | • <i>Eucalyptus torquate</i> |
| • <i>Banksia grandis</i> | • <i>Ficus benjamina</i> |
| • <i>Banksia integrifolia</i> | • <i>Franxinus griffithii</i> |
| • <i>Brachychiton acerifolius</i> | • <i>Hakea laurina</i> |
| • <i>Callistemon viminalis</i> | • <i>Hibiscus tiliaceus</i> |
| • <i>Callistemon 'Kings Park Special'</i> | • <i>Hymenosporum flavum</i> |
| • <i>Casuarina obesa</i> | • <i>Jacaranda mimosifolia</i> |
| • <i>Corymbia calophylla</i> | • <i>Melaleuca quinquenervia</i> |
| • <i>Corymbia ficifolia</i> | • <i>Melaleuca preissiana</i> |
| • <i>Cupaniopsis anacardioides</i> | • <i>Melaleuca linariifolia</i> |
| • <i>Eucalyptus erythrocorys</i> | • <i>Metrosideros excelsa</i> |
| • <i>Eucalyptus gomphocephala</i> | • <i>Pyrus calleryana</i> |
| • <i>Eucalyptus lansdowneana</i> | • <i>Sapium sebiferum</i> |
| • <i>Eucalyptus leucoxydon rosea</i> | • <i>Ulmus parvifolia</i> |
| • <i>Eucalyptus leucoxydon Rosea Dwarf 'Little Euky'</i> | |

Road Types & Open Space

- | | |
|---------------------------|----------------------------|
| • Residential (VERGE >3M) | • Residential (ROUNDABOUT) |
| • Residential (VERGE <3M) | • Residential (POS) |

- Foreshore (ESTUARY)
- Foreshore (RIVERINE)
- Bushland

Overhead Power

Approximately half of the precinct has overhead power.

Built Form

Predominantly owner occupied residential dwellings with some commercial amenity and recreational spaces.

Major Parks

- Templetonia Park
- Revesby Reserve
- Duverney Park
- Birchley Park
- Beacham Reserve
- Riverview Foreshore
- Coodanup Reserve

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Allocasuarina fraseriana</i>	Common Sheoak
<i>Banksia attenuata</i>	Candlestick Banksia
<i>Callistemon viminalis</i>	Common Bottlebrush
<i>Casuarina obesa</i>	Salt Sheoak
<i>Corymbia calophylla</i>	Marri
<i>Corymbia ficifolia</i>	Red Flowering Gum
<i>Corymbia ficifolia 'Summer Red' #</i>	Red Flowering Gum
<i>Eucalyptus drummondii</i>	Drummond's Gum
<i>Eucalyptus leucoxylon Rosea Dwarf 'Little Euky' #</i>	Euky Dwarf
<i>Eucalyptus leucoxylon ssp. Megalocarpa</i>	Large-fruited Blue Gum
<i>Eucalyptus rudis</i>	Flooded Gum
<i>Eucalyptus sideroxylon rosea</i>	Red Ironbark
<i>Eucalyptus spathulata</i>	Swamp Mallet
<i>Hakea laurina #</i>	Pin-cushion Hakea
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark
<i>Melaleuca raphiophylla</i>	Swamp Paperbark

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

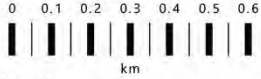
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 14

COODANUP

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:17,000 @ A4



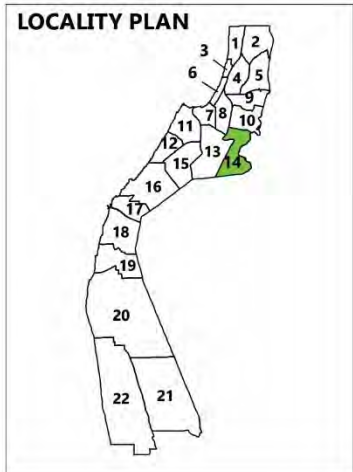
PROJECT NO: 4158-18

LEGEND

- Precinct number
- Agonis flexuosa* (Weeping Peppermint)
- Allocasuarina fraseriana* (Common Sheoak)
- Banksia attenuata* (Candlestick Banksia)
- Callistemon viminalis* (Common Bottlebrush)
- Casuarina obesa* (Salt Sheoak)
- Corymbia calophylla* (Marri)
- Corymbia ficifolia* (Red Flowering Gum)
- Corymbia ficifolia* 'Summer Red'
- Eucalyptus drummondii*/Hakea laurina
- Euc leucoxylon* ssp. *Megalocarpa*/Hakea laurina
- Eucalyptus rudis* (Flooded Gum)
- Eucalyptus sideroxylon rosea* (Red Ironbark)
- Eucalyptus spathulata*/*Euc leucoxylon rosea* Dwarf 'Little Euky'
- Melaleuca quinquenervia*/Hakea laurina
- Melaleuca raphiophylla* (Swamp Paperbark)
- Main Road
- Distribution and other overhead lines
- Transmission overhead lines
- Reserve Zoned Land
- Cadastre Boundary



Wanjeep Street trees shown on Precinct 13 →



5.2.16 PRECINCT 15 ERSKINE

Erskine is one of four Mandurah suburbs that lie on an island bound by The Old Coast Road, Mandurah Estuary and the Peel-Harvey Estuary to the east. The eastern boundary fronting the estuary is dominated by the Len Howard Conservation Park. The Precinct is a mixture of residential, commercial and tourist development.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 15:

1. Providing shade and cooling
2. Aesthetics
3. Absorbing carbon dioxide
4. Improved air quality
5. Increasing habitat and biodiversity.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 15:

1. *Corymbia ficifolia*, Red Flowering Gum
2. *Pyrus ussuriensis*, Ussurian pear
3. *Banksia attenuata*, Candlestick Banksia
4. *Agonis flexuosa*, Weeping Peppermint
5. *Corymbia calophylla*, Marri.

Corymbia ficifolia was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a robust Australian native landscape character throughout the Precinct. This will be reinforced through a mix of random and structured planting arrangements.

Precinct Conditions

Microclimate & Exposure

Erskine is an estuarine precinct located east of the primary and secondary dune systems on the plain and is protected from the harsh coastal climatic conditions.



Soils & Geology

Spearwood

- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Flat to gently undulating sandplain with shallow to moderately deep siliceous yellow-brown and grey-brown sands with minor limestone outcrop.

Vasse

- Saline tidal flats composed of grey, black and brown foetid muds and humic sandy clays with locally common shell and limestone fragments.
- Upper level sandy terrace and gently undulating beach ridges with deep grey or bleached pale brown siliceous sands overlying soft shelly limestone.

Vegetation Complex

- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.

Existing Trees

- *Agonis flexuosa*
- *Casuarina cunninghamiana*
- *Corymbia ficifolia*
- *Corymbia maculata*
- *Eucalyptus leucoxylon*
- *Melaleuca quinquenervia*
- *Pyrus ussuriensis*

Road Types & Open Space

- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNABOUT)
- Residential (POS)
- Foreshore (ESTUARY)
- Bushland

Overhead Power

No overhead power is within this precinct.

Built Form

Predominantly owner occupied residential dwellings with aged care facilities, commercial amenity, tourism facilities and recreational spaces.

Major Parks

- Chimneys Reserve
- Len Howard Conservation Park

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Banksia attenuata</i>	Candlestick Banksia
<i>Bauhinia blakeana</i>	Hong Kong Orchid Tree
<i>Callistemon 'Dawson River Weeper' #</i>	Dawson River Weeper

Botanical Name	Common Name
<i>Corymbia calophylla</i>	Marri
<i>Corymbia ficifolia</i>	Red Flowering Gum
<i>Corymbia maculata</i>	Spotted Gum
<i>Eucalyptus rudis</i>	Flooded Gum
<i>Eucalyptus tottiana</i> #	Coastal Blackbutt
<i>Eucalyptus vitrix</i>	Dwarf Ghost Gum
<i>Melaleuca linarifolia</i>	Narrow-Leaved Paperbark
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark
<i>Melaleuca raphiophylla</i>	Swamp Paperbark
<i>Pyrus ussuriensis</i>	Ussurian pear

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

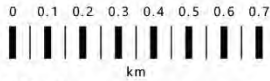
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 15

ERSKINE

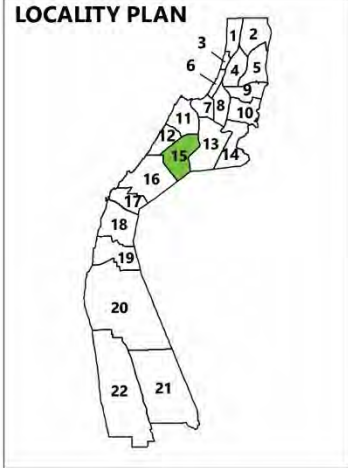
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PROJECTION: TRANSVERSE MERCATOR
DATUM: GDA 1994
UNITS: METER

SCALE: 1:19,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



LEGEND

- Precinct number
- Agonis flexuosa* (Weeping Peppermint)
- Banksia attenuata* (Candlestick Banksia)
- Bauhinia blakeana* (Hong Kong Orchid Tree)
- Callistemon 'Dawson River Weeper'*
- Corymbia ficifolia* (Red Flowering Gum)
- Corymbia maculata* (Spotted Gum)
- Eucalyptus tottiana* (Coastal Blackbutt)
- Eucalyptus vitrix* (Dwarf Ghost Gum)
- Melaleuca linearifolia* (Narrow-Leaved Paperbark)
- Melaleuca quinquenervia* (Broad Leafed Paperbark)
- Pyrus ussuriensis* (Ussurian Pear)
- Main Road
- Minor/Private Road
- Distribution and other overhead lines
- Reserve Zoned Land
- Cadastre Boundary

Reserve trees to verges

- Eucalyptus Rudis*, *Melaleuca Rhapsiophylla*, *Corymbia calophylla*
(Flooded Gum / Swamp Paperbark / Marri)



5.2.17 PRECINCT 16 FALCON

Falcon is one of four Mandurah suburbs that lie on an island bound by the Mandurah Estuary, the Peel-Harvey Estuary to the east, and the Indian Ocean. The Old Coast Road cuts the Precinct in two. Falcon was formerly known as Miami. The Precinct is a mixture of residential, commercial and tourist development.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 16:

1. Community health and wellbeing
2. Providing shade and cooling
3. Absorbing carbon dioxide
4. Improved air quality
5. Encouraging outdoor activity.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 16:

1. *Agonis flexuosa*, Weeping Peppermint
2. *Callistemon viminalis*, Common Bottlebrush
3. *Melaleuca quinquenervia*, Broad-Leaved Paperbark
4. *Melaleuca raphiophylla*, Swamp Paperbark
5. *Casuarina obesa*, Salt Sheoak

Agonis flexuosa was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a robust Australian native landscape character throughout the Precinct. This will be reinforced through a mix of random and structured planting arrangements.

Precinct Conditions

Microclimate & Exposure

Falcon is a coastal and estuarine Precinct, located on the primary and secondary dune systems with exposure to



harsh coastal climatic conditions on the western side and protected from these conditions on the eastern estuary side.

Soils & Geology

Quindalup

- Foredune/blowout complexes (semi-erosional) with very low relief ridge and swale topography with deep uniform calcareous sands.
- Relict foredunes and gently undulating beach ridge plain with deep uniform calcareous sands.

Spearwood

- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Dune ridges with deep siliceous yellow brown sands or pale sands with yellow-brown subsoil and slopes up to 15%.
- Dune ridges with deep bleached grey sands with yellow-brown subsoils, and slopes up to 15%.
- Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Flat to gently undulating sandplain with shallow to moderately deep siliceous yellow-brown and grey-brown sands with minor limestone outcrop.

Vasse

- Sand flats marginally higher than V2. Frequently inundated; with deep alkaline alluvial sands and clayey sands, commonly supporting stands of *Melaleuca* spp.
- Low level storm beach ridges and terraces with shallow to moderately deep uniform alkaline black sandy loams to loams overlying unconsolidated shell beds or clayey marl.
- Upper level sandy terrace and gently undulating beach ridges with deep grey or bleached pale brown siliceous sands overlying soft shelly limestone.

Vegetation Complex

- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.
- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and foredune alliance and the mobile and stable dune alliance. Local variations include the closed scrub of *Acacia rostellifera*.

Existing Trees

- | | |
|---|-----------------------------------|
| • <i>Agonis flexuosa</i> | • <i>Casuarina obesa</i> |
| • <i>Allocasuarina fraseriana</i> | • <i>Corymbia calophylla</i> |
| • <i>Araucaria columnaris</i> | • <i>Corymbia ficifolia</i> |
| • <i>Araucaria heterophylla</i> | • <i>Corymbia maculata</i> |
| • <i>Banksia attenuata</i> | • <i>Delonix regia</i> |
| • <i>Banksia grandis</i> | • <i>Erythrina crista-galli</i> |
| • <i>Banksia integrifolia</i> | • <i>Eucalyptus erythrocorys</i> |
| • <i>Brachychiton acerifolius</i> | • <i>Eucalyptus gomphocephala</i> |
| • <i>Callistemon 'Kings Park Special'</i> | • <i>Eucalyptus leucoxydon</i> |
| • <i>Callistemon viminalis</i> | • <i>Eucalyptus macrandra</i> |
| • <i>Callitris preissii</i> | • <i>Eucalyptus marginata</i> |

- *Eucalyptus sideroxylon*
- *Eucalyptus torquata*
- *Eucalyptus rudis*
- *Ficus microcarpa* var. *hillii*
- *Fraxinus griffithii*
- *Fraxinus oxycarpa* 'Raywoodii'
- *Gleditsia triacanthos* 'Sunburst'
- *Hakea laurina*
- *Hibiscus tiliaceus*
- *Jacaranda mimosifolia*
- *Melaleuca lanceolata*
- *Melaleuca quinquenervia*
- *Melia azedarach*
- *Metrosideros excelsa*
- *Prunus cerasifera*
- *Pyrus calleryana*
- *Platanus acerifolia*
- *Phoenix canariensis*
- *Sapium sebiferum*
- *Tipuana tipu*

Road Types & Open Space

- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDABOUT)
- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Rural Residential (POS RESERVE)
- Foreshore (COASTAL)
- Foreshore (ESTUARY)
- Bushland

Overhead Power

The majority of the precinct has overhead power.

Built Form

Predominantly owner occupied residential dwellings with aged commercial amenity, tourism facilities and recreational spaces.

Major Parks

- Dampier Reserve
- Novara Beach Reserve
- Olive Reserve
- Pleasant Grove Reserve
- Alfred Ward Park
- Harold Bassett Scarfe Park
- Linville Reserve
- Rakoa Reserve
- Falcon Reserve
- Josephine Te-puni Reserve
- Merlin Street Reserve

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Araucaria columnaris</i>	Cook Pine
<i>Araucaria heterophylla</i>	Norfolk Island pine
<i>Banksia ilicifolia</i>	Holly-leaved Banksia
<i>Banksia littoralis</i>	Swamp Banksia
<i>Callistemon viminalis</i>	Common Bottlebrush
<i>Casuarina obesa</i>	Salt Sheoak
<i>Corymbia calophylla</i>	Marri
<i>Cupaniopsis anacardiodes</i>	Tuckeroo
<i>Eucalyptus eremophila</i> #	Tall Sand Mallee

Botanical Name	Common Name
<i>Eucalyptus forrestiana</i> #	Fuchsia Gum
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus leucoxylon Rosea Dwarf 'Little Euky'</i> #	Euky Dwarf
<i>Eucalyptus leucoxylon ssp. Megalocarpa</i>	Large-fruited Blue Gum
<i>Eucalyptus nutans</i> #	Red-flowered Moort
<i>Eucalyptus sideroxylon rosea</i>	Red Ironbark
<i>Eucalyptus todtiana</i> #	Coastal Blackbutt
<i>Eucalyptus rudis</i>	Flooded Gum
<i>Melaleuca quinquenervia</i>	Broad-Leaved Paperbark
<i>Melaleuca raphiophylla</i>	Swamp Paperbark
<i>Metrosideros excelsa</i>	New Zealand Christmas Tree
<i>Metrosideros thomasi</i> #	New Zealand Christmas Bush

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 16

FALCON

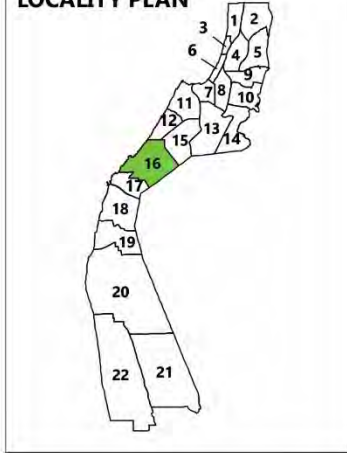
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 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:22,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



LEGEND

- Precinct number
 - Agonis flexuosa* (Weeping Peppermint)
 - Agonis flexuosa/Eucalyptus nutans*
 - Araucaria columnaris* (Cook Pine)
 - Araucaria heterophylla* (Norfolk Island Pine)
 - Banksia illicifolia/Banksia littoralis*
 - Callistemon viminalis* (Common Bottlebrush)
 - Corymbia calophylla* (Marri)
 - Cupaniopsis anacardioides* (Tuckeroo)/*Eucalyptus sideroxylon rosea* Dwarf 'Little Euky'
 - Eucalyptus eremophila* (Tall Sand Mallee)
 - Eucalyptus gomphocephala* (Tuart)
 - Eucalyptus leucoxyton* ssp. *Megalocarpa/Eucalyptus forrestiana*
 - Eucalyptus sideroxylon rosea* (Red Ironbark)/*Euclyptus forrestiana* (Fushia Gum)
 - Eucalyptus todtiana* (Coastal Blackbutt)
 - Melaleuca quinquenervia* (Broad Leafed Paperbark)
 - Melaleuca raphiophylla* (Swamp Paperbark)
 - Metrosideros excelsa/thomasii* (New Zealand Christmas Tree/Bush)
 - Main Road
 - Distribution and other overhead lines
 - Reserve Zoned Land
 - Cadastre Boundary
- Reserve trees to verges**
- Casuarina obesa* (Salt Sheoak)
 - Eucalyptus Rudis*, *Melaleuca Rhapsiophylla*, *Corymbia calophylla* (Flooded Gum / Swamp Paperbark / Marri)



5.2.18 PRECINCT 17 WANNANUP

Wannanup is a residential suburb which was created as a result of the development of the Dawesville Channel. The landscape of Wannanup has evolved since the 1990's, with the development of Port Bouvard transforming the community from that of a sleepy fishing settlement to a commuter suburb and holiday destination. The Northport estate to the suburb's west lies close to Avalon and Village beaches and consists of modern townhouses based around a small shopping centre surrounded by a network of canals and modern mansions. Meanwhile, the Eastport estate is home to the Port Bouvard Marina, which is a popular area for activities such as boating and fishing.

Community Values

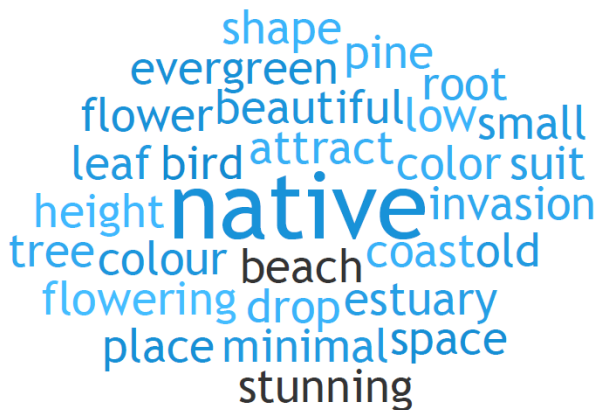
The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 17:

1. Absorbing carbon dioxide
2. Community health and wellbeing
3. Providing shade and cooling
4. Improved air quality
5. Increasing habitat and biodiversity.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 17:

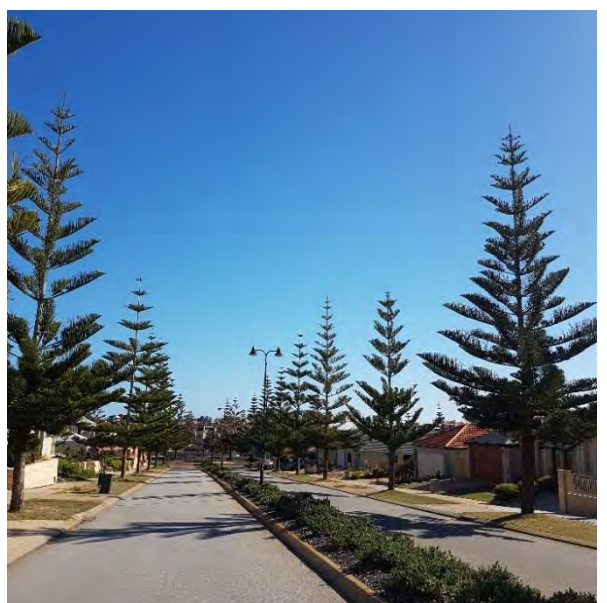
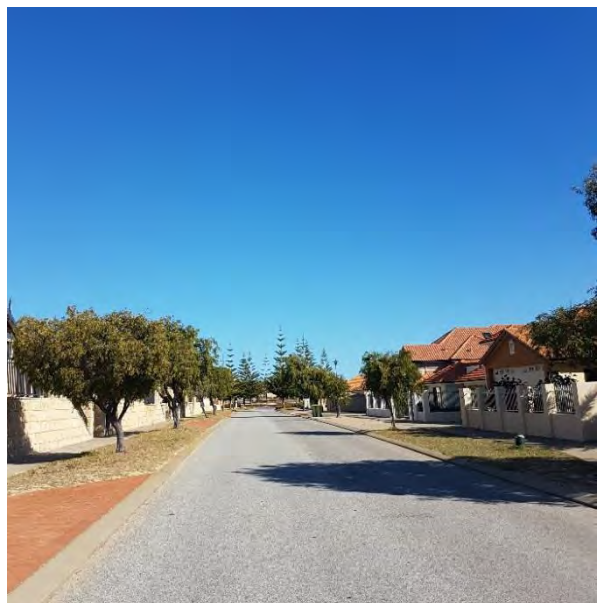
1. *Corymbia ficifolia* 'Summer Red', Red Flowering Gum
2. *Metrosideros thomasi*, New Zealand Christmas Bush
3. *Corymbia calophylla*, Marri
4. *Araucaria columnaris*, Cook Pine
5. *Cupaniopsis anacardioides*, Tuckeroo.

Corymbia ficifolia was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To integrate a robust coastal Australian native landscape character through the mix of structured and random spaced tree plantings and species within the canal developments.



Precinct Conditions

Microclimate & Exposure

Wannanup is a coastal and estuarine Precinct, located on the primary and secondary dune systems with exposure to harsh coastal climatic conditions on the western side and protected from these conditions on the eastern estuary side.

Soils & Geology

Quindalup

- Fore-dune/blowout complexes (semi-erosional) with very low relief ridge and swale topography with deep uniform calcareous sands.
- Relict foredunes and gently undulating beach ridge plain with deep uniform calcareous sands.

Spearwood

- Dune ridges with deep bleached grey sands with yellow-brown subsoils, and slopes up to 15%.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Flat stony plain with poorly drained shallow siliceous sands and large areas of bare limestone pavement.
- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.

Vasse

- Samphire covered sand and mud flats marginally higher than V1 and frequently inundated; with deep alkaline alluvial sands and clayey sands.
- Upper level sandy terrace and gently undulating beach ridges with deep grey or bleached pale brown siliceous sands overlying soft shelly limestone.

Vegetation Complex

- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.
- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the closed scrub of *Acacia rostellifera*.

Existing Trees

- | | |
|--|-----------------------------------|
| • <i>Agonis flexuosa</i> | • <i>Eucalyptus leucoxylon</i> |
| • <i>Allocasuarina fraseriana</i> | • <i>Eucalyptus rudis</i> |
| • <i>Araucaria heterophylla</i> | • <i>Eucalyptus diversicolor</i> |
| • <i>Araucaria columnaris</i> | • <i>Eucalyptus torquata</i> |
| • <i>Banksia attenuata</i> | • <i>Eucalyptus macrandra</i> |
| • <i>Banksia grandis</i> | • <i>Eucalyptus gomphocephala</i> |
| • <i>Callistemon 'Kings Park Special'</i> | • <i>Fraxinus griffithii</i> |
| • <i>Callistemon viminalis</i> | • <i>Hibiscus tiliaceus</i> |
| • <i>Casuarina equisetifolia</i> | • <i>Jacaranda mimosifolia</i> |
| • <i>Casuarina obesa</i> | • <i>Melaleuca linariifolia</i> |
| • <i>Corymbia calophylla</i> | • <i>Melaleuca preissiana</i> |
| • <i>Corymbia ficifolia</i> | • <i>Metrosideros excelsa</i> |
| • <i>Eucalyptus marginata</i> | • <i>Tipuana tipu</i> |
| • <i>Eucalyptus caesia 'Silver Princess'</i> | |

Road Types & Open Space

- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDABOUT)
- Residential (POS)
- Foreshore (COASTAL)
- Foreshore (ESTUARY)
- Bushland

Overhead Power

Approximately a quarter of the precinct has overhead power.

Built Form

Predominantly owner occupied residential dwellings with aged commercial amenity, tourism facilities and recreational spaces.

Proposed Tree Species Palette

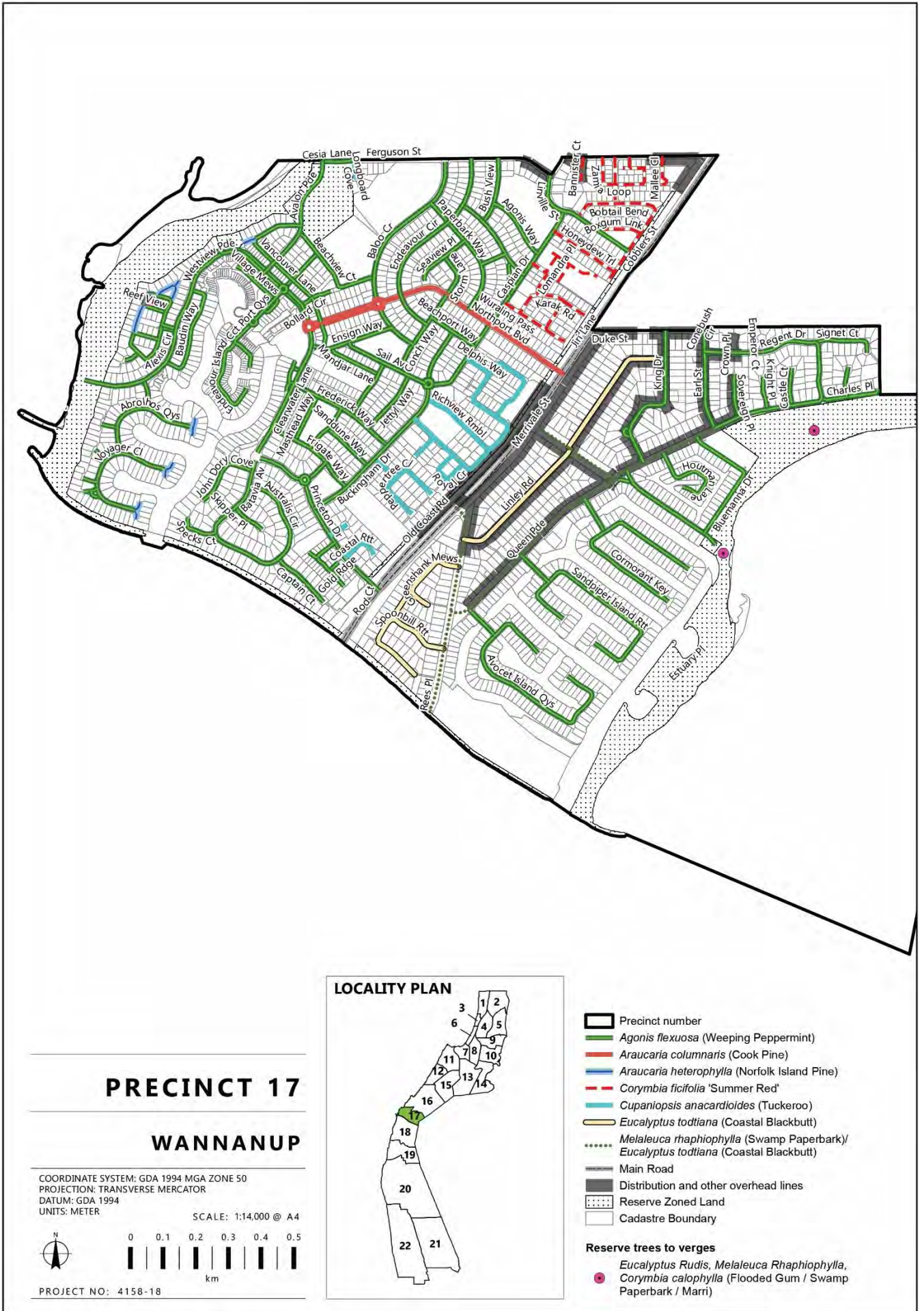
The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Araucaria columnaris</i>	Cook Pine
<i>Araucaria heterophylla</i>	Norfolk Island pine
<i>Corymbia calophylla</i>	Marri
<i>Corymbia ficifolia</i> 'Summer Red' #	Red Flowering Gum
<i>Cupaniopsis anacardiodes</i>	Tuckeroo
<i>Eucalyptus rudis</i>	Flooded Gum
<i>Eucalyptus spathulata</i>	Swamp Mallet
<i>Eucalyptus todtiana</i> #	Coastal Blackbutt
<i>Melaleuca raphiophylla</i>	Swamp Paperbark
<i>Metrosideros thomasi</i> #	New Zealand Christmas Bush

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

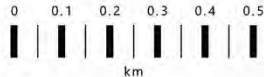


PRECINCT 17

WANNANUP

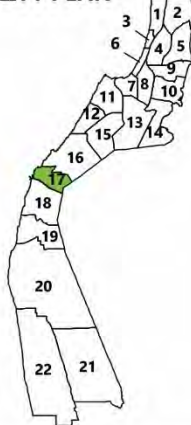
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 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:14,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



- Precinct number
- Agonis flexuosa* (Weeping Peppermint)
- Araucaria columnaris* (Cook Pine)
- Araucaria heterophylla* (Norfolk Island Pine)
- Corymbia ficifolia* 'Summer Red'
- Cupaniopsis anacardioides* (Tuckeroo)
- Eucalyptus totidiana* (Coastal Blackbutt)
- Melaleuca raphiophylla* (Swamp Paperbark)/
Eucalyptus totidiana (Coastal Blackbutt)
- Main Road
- Distribution and other overhead lines
- Reserve Zoned Land
- Cadastre Boundary

Reserve trees to verges

- Eucalyptus Rudis*, *Melaleuca Rhapsiophylla*,
Corymbia calophylla (Flooded Gum / Swamp Paperbark / Marri)

5.2.19 PRECINCT 18 DAWESVILLE (NORTH)

Dawesville (North) is located between the Harvey Estuary and the Indian Ocean and is the northern half of the suburb of Dawesville. The Dawesville Cut is located directly to the north. Over half of this Precinct is natural vegetation with a major golf course on the western coastal ridge. The majority of the development is situated on the southern side of the Precinct and around the coastal and estuary foreshores.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 18:

1. Aesthetics
2. Increasing habitat and biodiversity
3. Providing shade and cooling
4. Improved air quality
5. Encouraging outdoor activity.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 18:

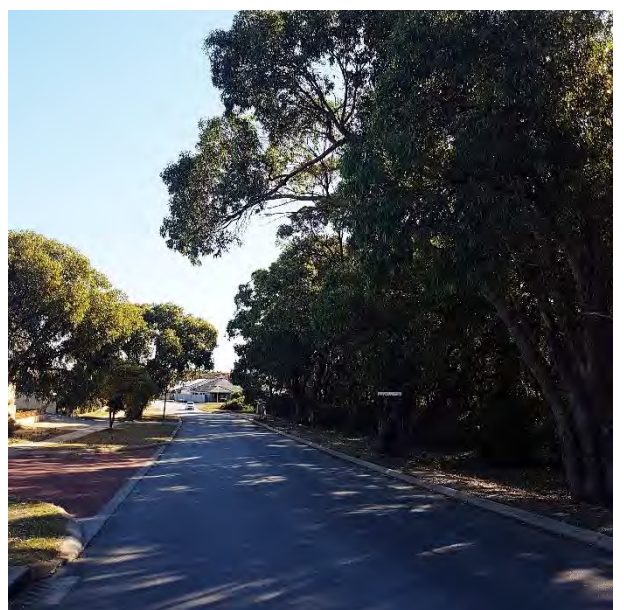
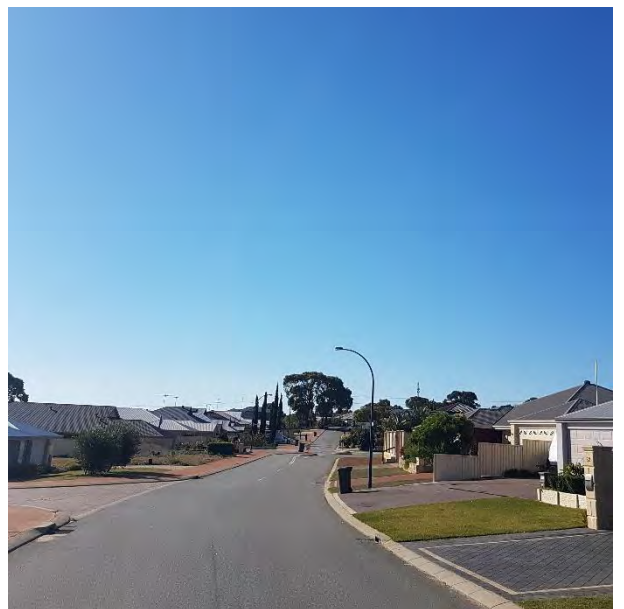
1. *Agonis flexuosa*, Weeping Peppermint
2. *Corymbia ficifolia*, Red Flowering Gum
3. *Callistemon 'Dawson River Weeper'*, Bottlebrush
4. *Eucalyptus marginata*, Jarrah
5. *Melaleuca raphiophylla*, Swamp Paperbark

Agonis flexuosa was selected as the number one preferred species for the reasons summarised in the below graphic.



Precinct Objectives

To maintain a West Australian native landscape character through a mix of structured and random spaced tree plantings and species that are part of the same vegetation complex found within this Precinct.



Precinct Conditions

Microclimate & Exposure

Dawesville North is a coastal and estuarine Precinct, located on the primary and secondary dune systems with exposure to harsh coastal climatic conditions on the western side and protected from these conditions on the eastern estuary side.

Soils & Geology

Quindalup

- Fore-dune/blowout complexes (semi-erosional) with very low relief ridge and swale topography with deep uniform calcareous sands.
- Complex of nested low relief parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.
- Small gently undulating plains (deflation basins) enclosed by discrete parabolic dunes with moderately deep to very deep calcareous sands over limestone.

Spearwood

- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Stony plain with extremely low ridges (relict beach ridges) and shallow to moderately deep siliceous yellow-brown sands.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Flat stony plain with poorly drained shallow siliceous sands and large areas of bare limestone pavement.
- Dune ridges with deep siliceous yellow brown sands or pale sands with yellow-brown subsoil and slopes up to 15%.
- Dune ridges with moderately deep to very deep siliceous yellow-brown sands, rare limestone outcrop and slopes 3-20% occurring on the eastern slipface.
- Inter-dunal swales and depressions with gently inclined side slopes and deep rapidly drained siliceous yellow-brown sands.

Vasse

- Sapphire covered sand and mud flats marginally higher than V1 and frequently inundated; with deep alkaline alluvial sands and clayey sands.
- Upper level sandy terrace and gently undulating beach ridges with deep grey or bleached pale brown siliceous sands overlying soft shelly limestone.

Vegetation Complex

- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the closed scrub of *Acacia rostellifera*
- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.
- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.

Existing Trees

- | | |
|-----------------------------------|-------------------------------|
| • <i>Agonis flexuosa</i> | • <i>Corymbia calophylla</i> |
| • <i>Allocasuarina fraseriana</i> | • <i>Casuarina obesa</i> |
| • <i>Eucalyptus gomphocephala</i> | • <i>Melaleuca lanceolata</i> |
| • <i>Eucalyptus marginata</i> | • <i>Prunus sp.</i> |

Road Types & Open Space

- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDABOUT)
- Residential (POS)
- Foreshore (COASTAL)
- Foreshore (ESTUARY)
- Bushland

Overhead Power

Approximately half of the precinct has overhead power.

Built Form

Mix of recreational open space (golf course), bushland and owner occupied residential dwellings with educational facilities, tourism facilities and commercial.

Major Parks

- The Cut Golf Course
- Caddadup Reserve
- Dawesville Reserve
- Dawesville Foreshore Reserve

Proposed Tree Species Palette

The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Allocasuarina fraseriana</i>	Common Sheoak
<i>Araucaria heterophylla</i>	Norfolk Island pine
<i>Banksia attenuata</i>	Candlestick Banksia
<i>Callistemon 'Dawson River Weeper' #</i>	Dawson River Weeper
<i>Casuarina obesa</i>	Salt Sheoak
<i>Corymbia ficifolia</i>	Red Flowering Gum
<i>Eucalyptus decipiens</i>	Redheart Moit
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus marginata</i>	Jarra
<i>Eucalyptus sideroxylon rosea</i>	Red Ironbark
<i>Eucalyptus spathulata</i>	Swamp Mallet
<i>Eucalyptus tottiana #</i>	Coastal Blackbutt
<i>Eucalyptus utilis</i>	Coastal Mort
<i>Melaleuca rhaphiophylla</i>	Swamp Paperbark

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

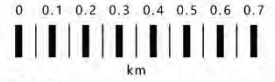
Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

PRECINCT 18

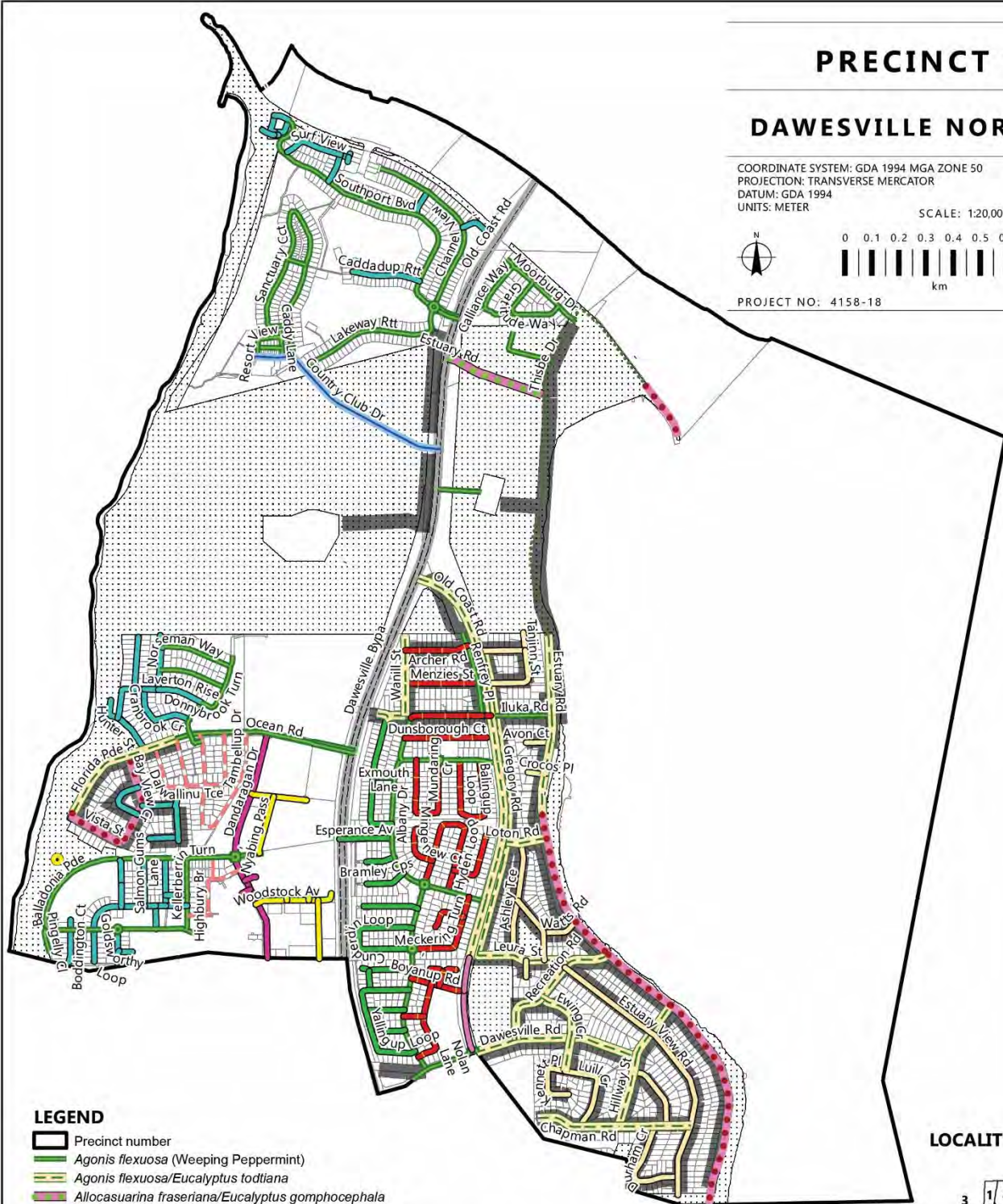
DAWESVILLE NORTH

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:20,000 @ A4



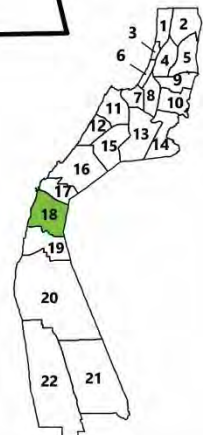
PROJECT NO: 4158-18



LEGEND

- Precinct number
- Agonis flexuosa* (Weeping Peppermint)
- Agonis flexuosa/Eucalyptus totiana*
- Allocasuarina fraseriana/Eucalyptus gomphocephala*
- Araucaria heterophylla* (Norfolk Island Pine)
- Casuarina obesa* (Swamp Sheoak)/*Callistemon 'Dawson River Weeper'*
- Corymbia ficifolia* (Red Flowering Gum)
- Eucalyptus decipiens* (Redheart Moit)
- Eucalyptus gomphocephala* (Tuart)
- Eucalyptus marginata* (Jarrah)
- Eucalyptus sideroxylon rosea* (Red Ironbark)
- Eucalyptus spathulata* (Swamp Mallet)
- Eucalyptus totiana* (Coastal Blackbutt)
- Eucalyptus utilis* (Coastal Mort)/*Eucalyptus totiana* (Coastal Blackbutt)
- Melaleuca raphiophylla* (Swamp Paperbark)
- Main Road
- Distribution and other overhead lines
- Reserve Zoned Land
- Cadastre Boundary
- Reserve trees to verges**
- *Banksia attenuata* (Candlestick Banksia)

LOCALITY PLAN



5.2.20 PRECINCT 19 DAWESVILLE (SOUTH)

Dawesville (South) is located between the Harvey Estuary and the Indian Ocean and is the southern half of the suburb of Dawesville. Over half of this Precinct is natural vegetation and not developed. The majority of the development is situated on the eastern side of the Precinct on the Harvey Estuary.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 19:

1. Aesthetics
2. Increasing habitat and biodiversity
3. Providing shade and cooling
4. Improved air quality
5. Community health and wellbeing.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 19:

1. *Agonis flexuosa*, Weeping Peppermint
2. *Corymbia ficifolia*, Red Flowering Gum
3. *Banksia attenuata*, Candlestick Banksia
4. *Eucalyptus sideroxylon rosea*, Red Iron Bark
5. *Metrosideros thomasi*, New Zealand Christmas Bush

Agonis flexuosa was selected as the number one preferred species for the reasons summarised in the below graphic.



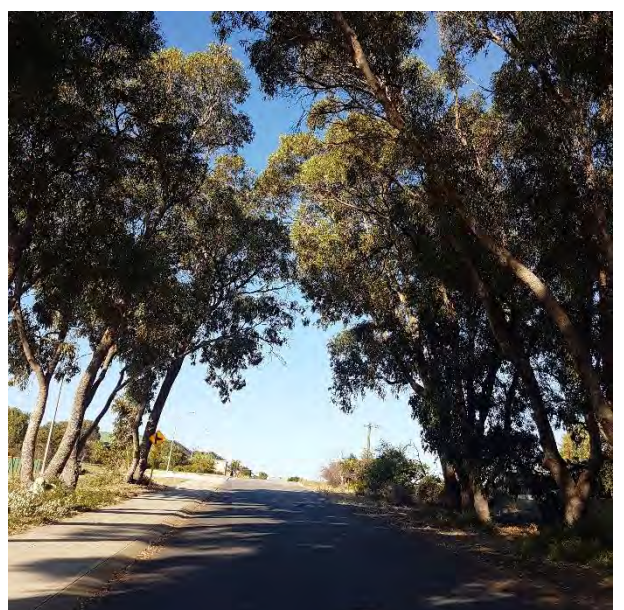
Precinct Objectives

To maintain a West Australian native landscape character through a mix of structured and random spaced tree plantings and species that are part of the same vegetation complex found within this Precinct.

Precinct Conditions

Microclimate & Exposure

Dawesville South is a coastal and estuarine Precinct, located on the primary and secondary dune systems with



exposure to harsh coastal climatic conditions on the western side and protected from these conditions on the eastern estuary side.

Soils & Geology

Quindalup

- Foredune/blowout complexes (semi-erosional) with very low relief ridge and swale topography with deep uniform calcareous sands.
- Complex of nested low relief parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.
- Actively eroding, poorly vegetated, flat to gently undulating sand sheet with deep uniform calcareous sands.
- Long walled discrete parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.
- Small gently undulating plains (deflation basins) enclosed by discrete parabolic dunes with moderately deep to very deep calcareous sands over limestone.

Spearwood

- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Flat stony plain with poorly drained shallow siliceous sands and large areas of bare limestone pavement.
- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.
- Stony plain with extremely low ridges (relict beach ridges) and shallow to moderately deep siliceous yellow-brown sands.
- Dune ridges with moderately deep to very deep siliceous yellow-brown sands, rare limestone outcrop and slopes 3-20% occurring on the eastern slipface.
- Inter-dunal swales and depressions with gently inclined side slopes and deep rapidly drained siliceous yellow-brown sands.
- Dune ridges with deep siliceous yellow brown sands or pale sands with yellow-brown subsoil and slopes up to 15%.
- Flat to gently undulating sandplain with shallow to moderately deep siliceous yellow-brown and grey-brown sands with minor limestone outcrop.

Vasse

- Sapphire covered sand and mud flats marginally higher than V1 and frequently inundated; with deep alkaline alluvial sands and clayey sands.
- Upper level sandy terrace and gently undulating beach ridges with deep grey or bleached pale brown siliceous sands overlying soft shelly limestone.

Vegetation Complex

- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and foredune alliance and the mobile and stable dune alliance. Local variations include the closed scrub of *Acacia rostellifera*.
- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.
- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*; closed heath on the limestone outcrops.

- **Karrakatta -Central and South:** Predominantly low open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla* and woodland of *E. marginata* - *Banksia spp.*

Existing Trees

- *Araucaria heterophylla*
- *Eucalyptus gomphocephala*
- *Eucalyptus marginata*
- *Corymbia calophylla*
- *Casuarina obesa*
- *Melaleuca lanceolata*

Road Types & Open Space

- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDABOUT)
- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)
- Foreshore (ESTUARY)
- Bushland

Overhead Power

Approximately half of the precinct has overhead power.

Built Form

A mix of urban and rural residential dwellings with some commercial businesses and tourist accommodation.

Major Parks

- Warrungup Spring Reserve
- Melros Reserve
- Wilderness Reserve
- Dawesville Foreshore Reserve

Proposed Tree Species Palette

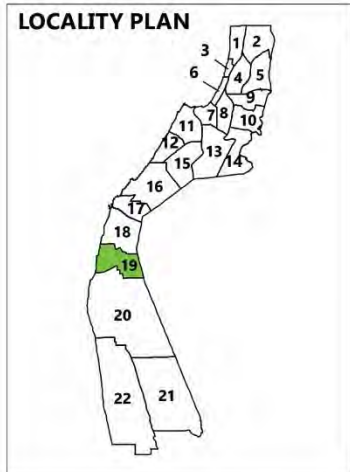
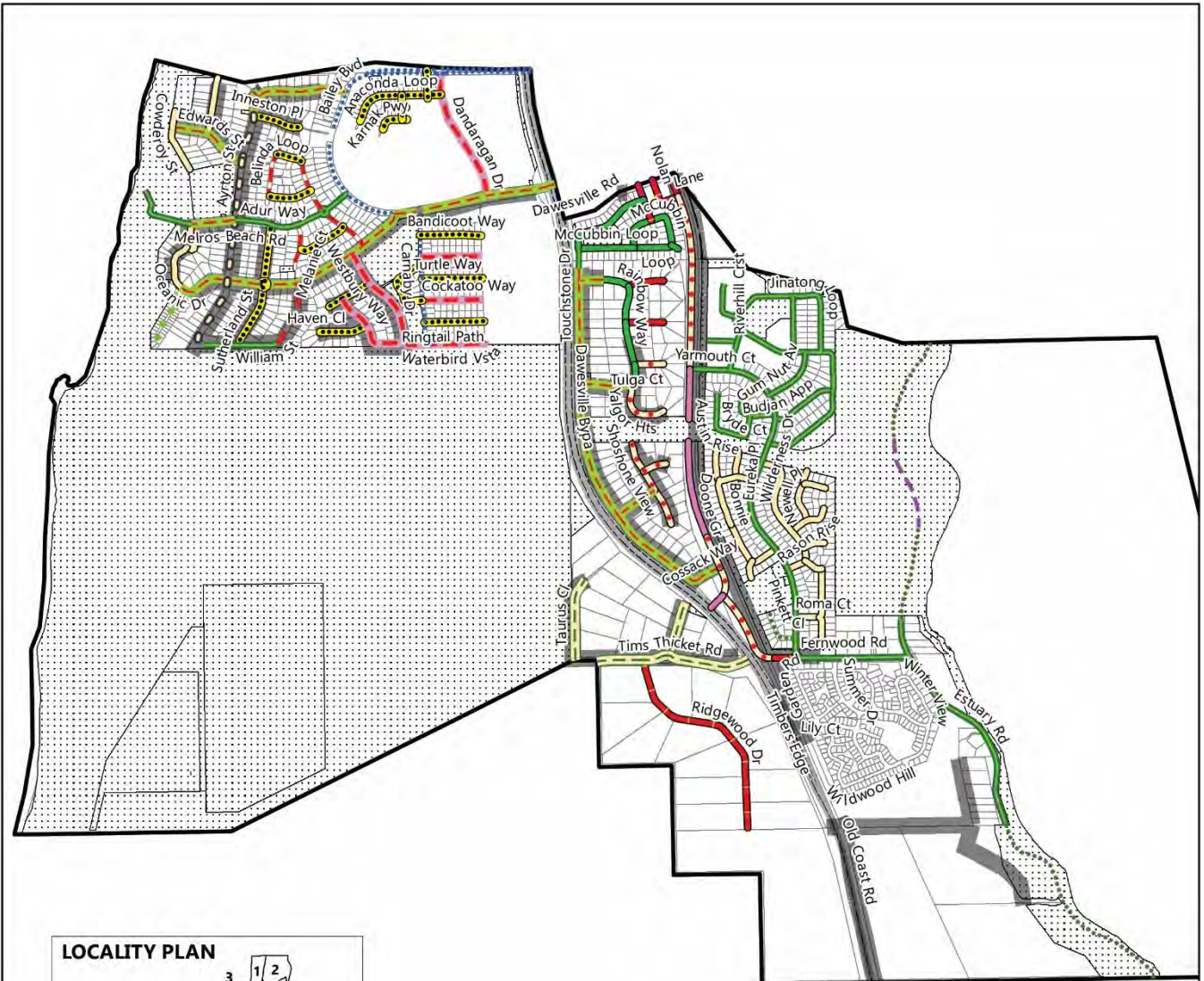
The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Allocasuarina fraseriana</i>	Common Sheoak
<i>Banksia attenuata</i>	Candlestick Banksia
<i>Corymbia calophylla</i>	Marri
<i>Corymbia ficifolia 'Summer Red' #</i>	Red Flowering Gum
<i>Eucalyptus decipiens</i>	Redheart Moit
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus marginata</i>	Jarra
<i>Eucalyptus sideroxylon rosea</i>	Red Ironbark
<i>Eucalyptus spathulata</i>	Swamp Mallet
<i>Eucalyptus todtiana #</i>	Coastal Blackbutt
<i>Eucalyptus utilis</i>	Coastal Mort
<i>Melaleuca raphiophylla</i>	Swamp Paperbark
<i>Melaleuca viridiflora</i>	Broad Leafed Paperbark
<i>Metrosideros thomasi #</i>	New Zealand Christmas Bush

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

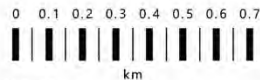


PRECINCT 19

DAWESVILLE SOUTH

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:20,000 @ A4



PROJECT NO: 4158-18

LEGEND

- Precinct number
- Agonis flexuosa* (Weeping Peppermint)
- Agonis flexuosa/Corymbia ficifolia* 'Summer Red'
- Agonis flexuosa/Eucalyptus tottiana*
- Allocasuarina fraseriana* (Common Sheoak)
- Banksia attenuata* (Candlestick Banksia)/*Eucalyptus tottiana* (Coastal Blackbutt)
- Corymbia calophylla* (Marri)
- Corymbia ficifolia* 'Summer Red'
- Eucalyptus decipiens* (Redheart Moit)/*Metrosideros thomasi*
- Eucalyptus gomphocephala* (Tuart)
- Eucalyptus marginata* (Jarrah)
- Eucalyptus marginata* (Jarrah)/*Eucalyptus tottiana* (Coastal Blackbutt)
- Eucalyptus sideroxylon rosea/Corymbia ficifolia* 'Summer Red'
- Eucalyptus spathulata* (Swamp Mallet)
- Eucalyptus tottiana* (Coastal Blackbutt)
- Melaleuca raphiophylla* (Swamp Paperbark)
- Melaleuca viridiflora* (Broad Leafed Paperbark)
- Main Road
- Distribution and other overhead lines
- Reserve Zoned Land
- Cadastre Boundary

5.2.21 PRECINCT 20 BOUVARD

Bouvard is named after Cape Bouvard, located 5km to the east. Bouvard consists of a narrow strip of land along both sides of the Old Coast Road, the main route between Mandurah and Bunbury and part of National Highway 1) between Yalgorup National Park and the Harvey Estuary. The Park Ridge estate was developed in the 1990s, and other estates have been built or proposed. Bouvard Coastcare, a volunteer group dedicated to maintaining the fragile coastal and dune environment, has won awards and grants for its work.

Community Values

The results of the public engagement survey highlighted the following as the top community values for trees within Precinct 20:

1. Aesthetics
2. Increasing habitat and biodiversity
3. Providing shade and cooling
4. Reducing stormwater runoff.

The following tree species were highlighted as the top 5 preferred street tree species within Precinct 20:

1. *Agonis flexuosa*, Weeping Peppermint
2. *Melaleuca raphiophylla*, Swamp Paperbark
3. *Eucalyptus decipiens*, Redheart Moit
4. *Eucalyptus nutans*, Red-flowered Moort
5. *Eucalyptus tottiana*, Coastal Blackbutt

Precinct Objectives

To maintain a West Australian native landscape character through random spaced tree plantings and species that are part of the same vegetation complex found within this Precinct.

Precinct Conditions

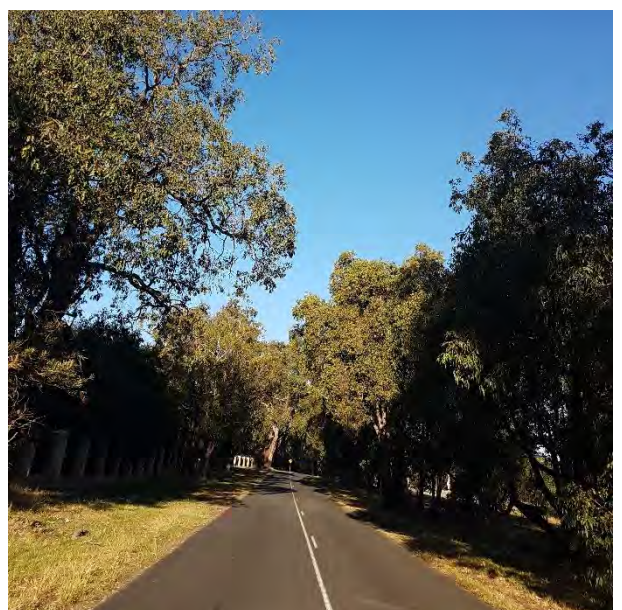
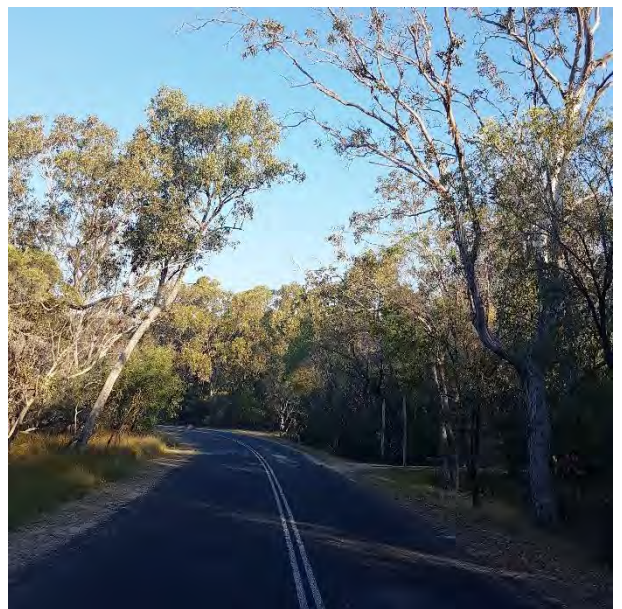
Microclimate & Exposure

Bouvard is a coastal and estuarine Precinct, located on the primary and secondary dune systems with exposure to harsh coastal climatic conditions on the western side and protected from these conditions on the eastern estuary side.

Soils & Geology

Quindalup

- Actively eroding, poorly vegetated, blowout with rim and bowl (parabolic) morphology. Calcareous sands
- Small gently undulating plains (deflation basins) enclosed by discrete parabolic dunes with moderately deep to very deep calcareous sands over limestone.



- Foredune/blowout complexes (semi-erosional) with very low relief ridge and swale topography with deep uniform calcareous sands.
- Complex of nested low relief parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.
- Long walled discrete parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.

Spearwood

- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Dune ridges with deep siliceous yellow brown sands or pale sands with yellow-brown subsoil and slopes up to 15%.
- Dune ridges with deep bleached grey sands with yellow-brown subsoils, and slopes up to 15%.
- Dune ridges with moderately deep to very deep siliceous yellow-brown sands, rare limestone outcrop and slopes 3-20% occurring on the eastern slipface.
- Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Inter-dunal swales and depressions with gently inclined side slopes and deep rapidly drained siliceous yellow-brown sands.
- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Flat to gently undulating sandplain with shallow to moderately deep siliceous yellow-brown and grey-brown sands with minor limestone outcrop.
- Stony plain with extremely low ridges (relict beach ridges) and shallow to moderately deep siliceous yellow-brown sands.
- Flat stony plain with poorly drained shallow siliceous sands and large areas of bare limestone pavement.
- Swamp.

Vasse

- Upper level sandy terrace and gently undulating beach ridges with deep grey or bleached pale brown siliceous sands overlying soft shelly limestone.

Vegetation Complex

- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and foredune alliance and the mobile and stable dune alliance. Local variations include the closed scrub of *Acacia rostellifera*.
- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.
- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*; closed heath on the limestone outcrops.
- **Karrakatta -Central and South:** Predominantly low open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla* and woodland of *E. marginata* - *Banksia spp.*

Existing Trees

- *Agonis flexuosa*
- *Allocasuarina fraseriana*
- *Banksia attenuata*
- *Corymbia calophylla*
- *Eucalyptus decipiens*
- *Eucalyptus gomphocephala*
- *Eucalyptus marginata*

Road Types & Open Space

- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)
- Foreshore (ESTUARY)
- Bushland

Overhead Power

The majority of the streets within this precinct have overhead power.

Built Form

Predominantly rural residential dwellings with some commercial businesses and tourist accommodation.

Major Parks

- Not applicable - no major parks.

Proposed Tree Species Palette

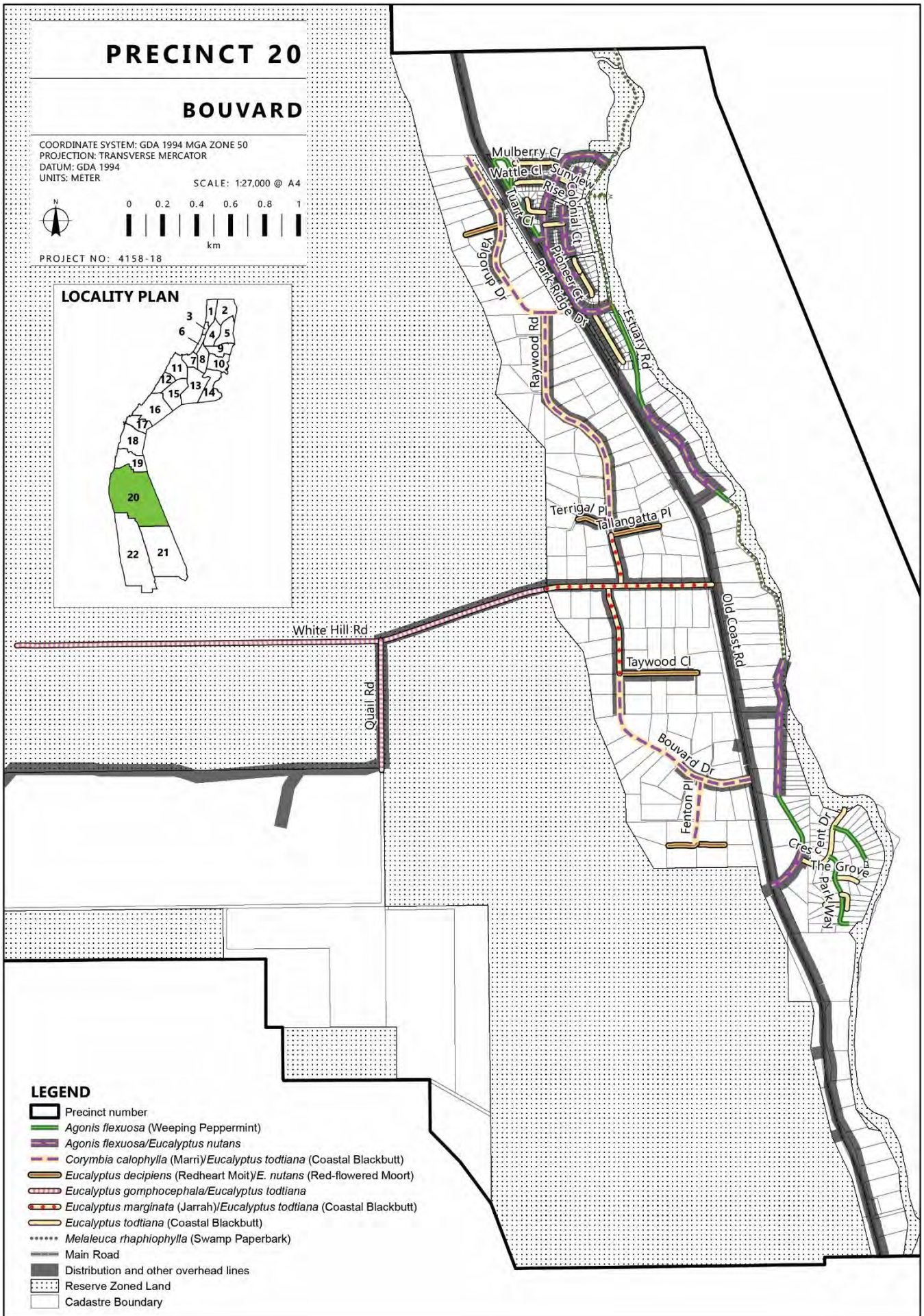
The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Corymbia calophylla</i>	Marri
<i>Eucalyptus decipiens</i>	Redheart Moit
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus marginata</i>	Jarrah
<i>Eucalyptus nutans</i> #	Red-flowered Moort
<i>Eucalyptus todtiana</i> #	Coastal Blackbutt
<i>Melaleuca raphiophylla</i>	Swamp Paperbark

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.



5.2.22 PRECINCT 21 HERRON

Herron is a small town located in the Peel region of Western Australia just off the Old Coast Road, between Mandurah and Bunbury just beyond Mandurah's urban area. It is on a narrow strip between Lake Clifton and Yalgorup National Park to the west, and Harvey Estuary to the east.

Community Values

No results from the public engagement survey were received for this Precinct.

Precinct Objectives

To maintain a West Australian native landscape character through random spaced tree plantings and species that are part of the same vegetation complex found within this Precinct.

Precinct Conditions

Microclimate & Exposure

Herron is an estuarine Precinct, located east of the primary and secondary dune systems on the plain and is protected from the harsh coastal climatic conditions.

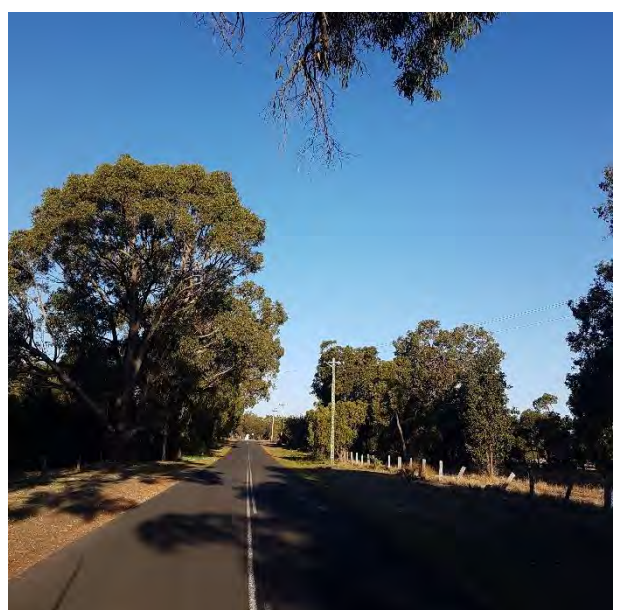
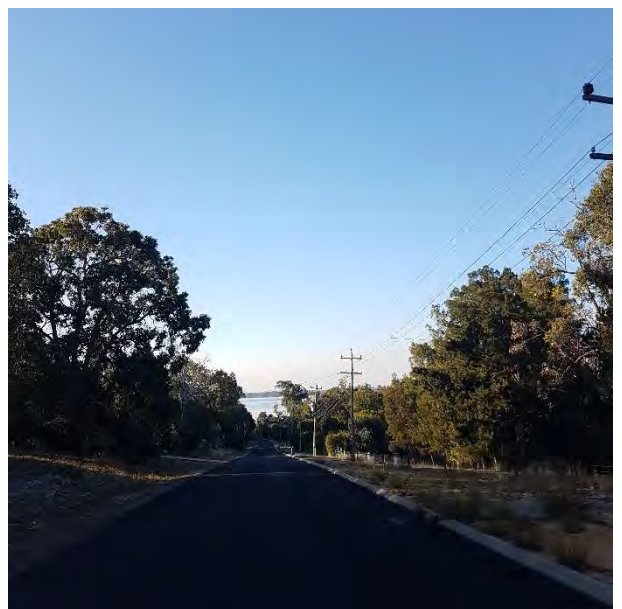
Soils & Geology

Bassendean

- Flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2 m.

Spearwood

- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Dune ridges with deep siliceous yellow brown sands or pale sands with yellow-brown subsoil and slopes up to 15%.
- Dune ridges with deep bleached grey sands with yellow-brown subsoils, and slopes up to 15%.
- Dune ridges with moderately deep to very deep siliceous yellow-brown sands, rare limestone outcrop and slopes 3-20% occurring on the eastern slipface.
- Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.



- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Inter-dunal swales and depressions with gently inclined side slopes and deep rapidly drained siliceous yellow-brown sands.
- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.

Vasse

- Saline tidal flats composed of grey, black and brown foetid muds and humic sandy clays with locally common shell and limestone fragments.
- Samphire covered sand and mud flats marginally higher than V1 and frequently inundated; with deep alkaline alluvial sands and clayey sands.
- Sand flats marginally higher than V2. Frequently inundated; with deep alkaline alluvial sands and clayey sands, commonly supporting stands of *Melaleuca* spp.
- Low level storm beach ridges and terraces with shallow to moderately deep uniform alkaline black sandy loams to loams overlying unconsolidated shell beds or clayey marl.
- Upper level sandy terrace and gently undulating beach ridges with shallow to moderately deep grey siliceous sands overlying soft shelly limestone or shell beds.
- Upper level sandy terrace and gently undulating beach ridges with deep grey or bleached pale brown siliceous sands overlying soft shelly limestone.

Vegetation Complex

- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.
- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*; closed heath on the limestone outcrops.
- **Karrakatta -Central and South:** Predominantly low open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla* and woodland of *E. marginata* - *Banksia* spp.

Existing Trees

- | | |
|-----------------------------------|-----------------------------------|
| • <i>Agonis flexuosa</i> | • <i>Corymbia calophylla</i> |
| • <i>Allocasuarina fraseriana</i> | • <i>Eucalyptus decipiens</i> |
| • <i>Banksia attenuata</i> | • <i>Eucalyptus gomphocephala</i> |
| • <i>Banksia grandis</i> | • <i>Eucalyptus marginata</i> . |

Road Types & Open Space

- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Rural Residential (POS RESERVE)
- Foreshore (ESTUARY)
- Bushland

Overhead Power

The majority of the streets within this precinct have overhead power.

Built Form

Predominantly rural residential dwellings.

Major Parks

- Island Point Reserve

Proposed Tree Species Palette

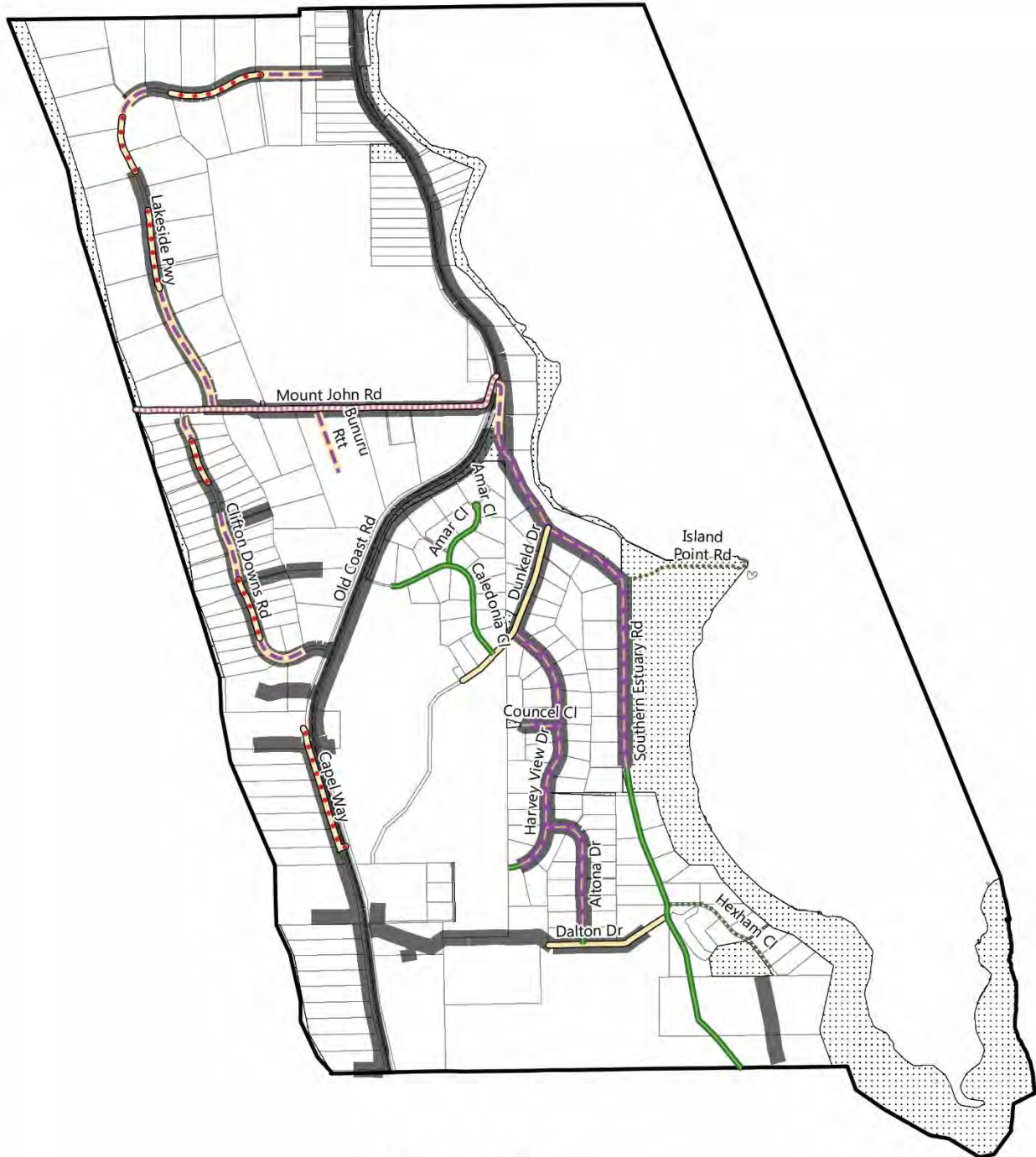
The palette selected below is the preferred species diversity for this Precinct. Species nominated for each street is a preferred species however, an alternate species from the list below could be selected at the discretion of the City of Mandurah.

Botanical Name	Common Name
<i>Agonis flexuosa</i>	Weeping Peppermint
<i>Corymbia calophylla</i>	Marri
<i>Eucalyptus decipiens</i>	Redheart Moit
<i>Eucalyptus gomphocephala</i>	Tuart
<i>Eucalyptus marginata</i>	Jarra
<i>Eucalyptus nutans</i> #	Red-flowered Moort
<i>Eucalyptus todtiana</i> #	Coastal Blackbutt
<i>Melaleuca raphiophylla</i>	Swamp Paperbark

Note: # Can be planted under Powerlines as it has a maximum height of 6m. Assuming powerlines are 8m in height, a minimum clearance of 2m would be achievable.

Street Tree Planting Arrangement

Planting arrangement should conform to the guidelines outlined in Section 4.4 addressing appropriate planting locations. For planting consistency (ie formal avenue or random clump tree planting) refer to the Plan for this Precinct.

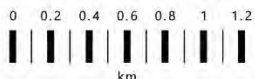


PRECINCT 21

HERRON

COORDINATE SYSTEM: GDA 1994 MGA ZONE 50
 PROJECTION: TRANSVERSE MERCATOR
 DATUM: GDA 1994
 UNITS: METER

SCALE: 1:35,000 @ A4



PROJECT NO: 4158-18

LOCALITY PLAN



- Precinct number
- Agonis flexuosa* (Weeping Peppermint)
- Agonis flexuosa/Eucalyptus nutans*
- Corymbia calophylla* (Marri)/*Eucalyptus tottiana* (Coastal Blackbutt)
- Eucalyptus gomphocephala/Eucalyptus tottiana*
- Eucalyptus marginata* (Jarrah)/*Eucalyptus tottiana* (Coastal Blackbutt)
- Eucalyptus tottiana* (Coastal Blackbutt)
- Melaleuca rhaphiophylla* (Swamp Paperbark)
- Main Road
- Distribution and other overhead lines
- Reserve Zoned Land
- Cadastre Boundary

5.2.23 PRECINCT 22 CLIFTON

Yalgorup National Park stretches from just south of Mandurah to north of Myalup and covers an area of 12,888 hectares, including ten magnificent lakes and is managed by the Department of Biodiversity, Conservation and Attractions. It protects a wetland system that has achieved international recognition as an important area for migratory waterbirds, and it supports several threatened plant and animal species. Yalgorup National Park is known for its elongated lakes, beautiful tuart and peppermint woodlands and, above all, for the microscopic communities that reside in Lake Clifton and form thrombolites.

Community Values

Not Applicable, as this Precinct is part of Yalgorup National Park.

Precinct Objectives

Not Applicable, as this Precinct is part of Yalgorup National Park.

Precinct Conditions

Microclimate & Exposure

Clifton is a coastal Precinct, located on the primary and secondary dune systems with exposure to harsh coastal climatic conditions.

Soils & Geology

Quindalup

- Actively eroding, poorly vegetated, blowout with rim and bowl (parabolic) morphology. Calcareous sands
- Small gently undulating plains (deflation basins) enclosed by discrete parabolic dunes with moderately deep to very deep calcareous sands over limestone.
- Foredune/blowout complexes (semi-erosional) with very low relief ridge and swale topography with deep uniform calcareous sands.
- Complex of nested low relief parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.
- Long walled discrete parabolic dunes with moderate to steep slopes and uniform calcareous sands showing variable depths of surface darkening.

Spearwood

- Dune ridges with shallow to moderately deep siliceous yellow-brown sands, very common limestone outcrop and slopes up to 15%.
- Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.
- Lower slopes (1-5%) of dune ridge with shallow to deep siliceous yellow-brown sands and common limestone outcrop.
- Flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.
- Flat to gently undulating sandplain with shallow to moderately deep siliceous yellow-brown and grey-brown sands with minor limestone outcrop.

Vasse

- Low level storm beach ridges and terraces with shallow to moderately deep uniform alkaline black sandy loams to loams overlying unconsolidated shell beds or clayey marl.
- Upper level sandy terrace and gently undulating beach ridges with shallow to moderately deep grey siliceous sands overlying soft shelly limestone or shell beds.

- Upper level sandy terrace and gently undulating beach ridges with deep grey or bleached pale brown siliceous sands overlying soft shelly limestone.

Vegetation Complex

- **Quindalup:** Coastal dune complex consisting mainly of two alliances - the strand and foredune alliance and the mobile and stable dune alliance. Local variations include the closed scrub of *Acacia rostellifera*
- **Cottesloe - Central and South:** Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*, closed heath on the limestone outcrops.
- **Yoongarillup:** Woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey. Less consistently an open forest of *E. gomphocephala* - *E. marginata* - *C. calophylla*.

Existing Trees

Not Applicable, as this Precinct is part of Yalgorup National Park.

Road Types & Open Space

No LGA roads as this Precinct is part of Yalgorup National Park.

Overhead Power

No built form, this Precinct is part of Yalgorup National Park.

Built Form

No built form, this Precinct is part of Yalgorup National Park.

Major Parks

This Precinct is part of Yalgorup National Park.

Proposed Tree Species Palette

This Precinct is part of Yalgorup National Park and will not be included in the Locality Street Tree Masterplan.

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APPENDIX ONE TREE SPECIES SUMMARY

#	Botanical Name	Common Name	Native / Exotic	Evergreen / Deciduous	Height x width (m)	Tree Classification	Special Flowering	Powerline Appropriate (max height <6m)
1	<i>Agonis flexuosa</i>	Weeping Peppermint	WA Native*	Evergreen	8 x 6 m	Medium (6-12m)	NO	
2	<i>Allocasuarina fraseriana</i>	Common Sheoak	WA Native*	Evergreen	8 x 8 m	Medium (6-12m)	NO	
3	<i>Angophora costata</i>	Smooth Barked Apple	Native	Evergreen	15 x 8 m	Tall (12-20m)	YES	
4	<i>Araucaria columnaris</i>	Cook Pine	Exotic	Evergreen	20-40 x 10 m	Very Tall (20+m)	NO	
5	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Exotic	Evergreen	30 x 15 m	Very Tall (20+m)	NO	
6	<i>Banksia attenuata</i>	Candlestick Banksia	WA Native*	Evergreen	10 x 8 m	Medium (6-12m)	YES	
7	<i>Banksia grandis</i>	Bull Banksia	WA Native*	Evergreen	12 x 5 m	Medium (6-12m)	YES	
8	<i>Banksia ilicifolia</i>	Holly-leaved Banksia	WA Native*	Evergreen	10 x 8 m	Medium (6-12m)	YES	
9	<i>Banksia integrifolia</i>	Coast Banksia	Native	Evergreen	15 x 5 m	Tall (12-20m)	YES	
10	<i>Banksia littoralis</i>	Swamp Banksia	WA Native*	Evergreen	8 x 6 m	Medium (6-12m)	YES	
11	<i>Banksia menziesii</i>	Firewood	WA Native*	Evergreen	7 x 8 m	Medium (6-12m)	YES	
12	<i>Bauhinia blakeana</i>	Hong Kong Orchid Tree	Exotic	Evergreen	9 x 5 m	Medium (6-12m)	YES	
13	<i>Brachychiton populneus</i>	Kurajong	Native	Evergreen	10 x 4 m	Medium (6-12m)	YES	
14	<i>Callistemon 'Dawson River Weeper'</i>	Dawson River Weeper	Native	Evergreen	6 x 4 m	Medium (6-12m)	YES	YES
15	<i>Callistemon 'Kings Park Special'</i>	Kings Park Special	WA Native	Evergreen	5 x 3 m	Small (<6m)	YES	YES
16	<i>Callistemon viminalis</i>	Common Bottlebrush	Native*	Evergreen	8 x 4 m	Medium (6-12m)	NO	
17	<i>Casuarina obesa</i>	Salt Sheoak	WA Native	Evergreen	10 x 5 m	Medium (6-12m)	NO	
18	<i>Corymbia calophylla</i>	Marri	WA Native*	Evergreen	15 x 8 m	Tall (12-20m)	YES	
19	<i>Corymbia eximia</i>	Yellow Bloodwood	Native	Evergreen	15 x 7 m	Tall (12-20m)	YES	
20	<i>Corymbia ficifolia</i>	Red Flowering Gum	WA Native*	Evergreen	9 x 5 m	Medium (6-12m)	YES	
21	<i>Corymbia ficifolia 'Summer Red'</i>	Red Flowering Gum	WA Native*	Evergreen	5 x 4 m	Small (<6m)	YES	YES
22	<i>Corymbia haematoxylon</i>	Mountain Marri	WA Native	Evergreen	8 x 6 m	Medium (6-12m)	YES	
23	<i>Corymbia maculata</i>	Spotted Gum	Native	Evergreen	20 x 15 m	Tall (12-20m)	YES	

#	Botanical Name	Common Name	Native / Exotic	Evergreen / Deciduous	Height x width (m)	Tree Classification	Special Flowering	Powerline Appropriate (max height <6m)
24	<i>Cupaniopsis anacardioides</i>	Tuckeroo	Native	Evergreen	8 x 6 m	Medium (6-12m)	NO	
25	<i>Erythrina indica</i>	Coral Tree	Exotic	Deciduous flowering	8 x 8 m	Medium (6-12m)	YES	
26	<i>Eucalyptus cneorifolia</i>	Kangaroo Island narrow-leaf Mallee	Native	Evergreen	8 x 6 m	Medium (6-12m)	NO	
27	<i>Eucalyptus decipiens</i>	Redheart Moit	WA Native	Evergreen	15 x 5 m	Tall (12-20m)	NO	
28	<i>Eucalyptus diversifolia</i>	Soap Mallee	WA Native	Evergreen	5 x 3 m	Small (<6m)	NO	YES
29	<i>Eucalyptus drummondii</i>	Drummond's Gum	WA Native	Evergreen	8 x 4 m	Medium (6-12m)	YES	
30	<i>Eucalyptus eremophila</i>	Tall Sand Mallee	WA Native	Evergreen	5 x 5 m	Small (<6m)	NO	YES
31	<i>Eucalyptus erythrocorys</i>	Red Capped Gum	WA Native	Evergreen	7 x 5 m	Medium (6-12m)	YES	YES
32	<i>Eucalyptus erythronema</i>	Red Flowered Mallee	WA Native	Evergreen	7 x 5 m	Medium (6-12m)	YES	YES
33	<i>Eucalyptus foecunda</i>	Common Red Mallee	WA Native	Evergreen	4 x 3 m	Small (<6m)	NO	YES
34	<i>Eucalyptus forrestiana</i>	Fuchsia Gum	WA Native	Evergreen	4 x 4 m	Small (<6m)	YES	YES
35	<i>Eucalyptus gomphocephala</i>	Tuart	WA Native*	Evergreen	20 x 10 m	Very Tall (20+m)	NO	
36	<i>Eucalyptus lansdowneana</i>	Port Lincoln Gum	Native	Evergreen	5 x 3 m	Small (<6m)	YES	YES
37	<i>Eucalyptus leucoxyloides rosea</i>	Pink Flowering Gum	Native	Evergreen	10 x 7 m	Medium (6-12m)	YES	
38	<i>Eucalyptus leucoxyloides Rosea Dwarf 'Little Euky'</i>	Euky Dwarf	Native	Evergreen	6 x 3 m	Medium (6-12m)	YES	YES
39	<i>Eucalyptus leucoxyloides ssp. Megalocarpa</i>	Large-fruited Blue Gum	Native	Evergreen	8 x 7 m	Medium (6-12m)	NO	
40	<i>Eucalyptus marginata</i>	Jarra	WA Native*	Evergreen	10-35 x 35 m	Very Tall (20+m)	YES	
41	<i>Eucalyptus nutans</i>	Red-flowered Moort	WA Native	Evergreen	4 x 4 m	Small (<6m)	YES	YES
42	<i>Eucalyptus rudis</i>	Flooded Gum	WA Native	Evergreen	15 x 8 m	Tall (12-20m)	YES	
43	<i>Eucalyptus sideroxyloides rosea</i>	Red Ironbark	Native	Evergreen	12 x 6 m	Tall (12-20m)	YES	
44	<i>Eucalyptus spathulata</i>	Swamp Mallet	WA Native	Evergreen	7 x 10 m	Medium (6-12m)	NO	YES
45	<i>Eucalyptus todtiana</i>	Coastal Blackbutt	WA Native*	Evergreen	6 x 10 m	Medium (6-12m)	NO	YES

#	Botanical Name	Common Name	Native / Exotic	Evergreen / Deciduous	Height x width (m)	Tree Classification	Special Flowering	Powerline Appropriate (max height <6m)
46	<i>Eucalyptus utilis</i>	Coastal Mort	WA Native	Evergreen	8 x 8 m	Medium (6-12m)	NO	
47	<i>Eucalyptus vitrix</i>	Dwarf Ghost Gum	WA Native	Evergreen	7 x 6 m	Medium (6-12m)	NO	YES
48	<i>Ficus macrophylla</i>	Morton Bay Fig	Native	Evergreen	15-35 x 15-25 m	Very Tall (20+m)	YES	
49	<i>Ficus rubiginosa</i>	Port Jackson Fig	Native	Evergreen	25 x 20 m	Very Tall (20+m)	NO	
50	<i>Fraxinus oxycarpa</i> 'Raywoodii'	Claret Ash	Exotic	Deciduous foliage	12 x 6 m	Medium (6-12m)	NO	
51	<i>Hakea laurina</i>	Pin-cushion Hakea	WA Native*	Evergreen	6 x 4 m	Small (<6m)	YES	YES
52	<i>Hibiscus tiliaceus rubra</i>	Red Cottonwood	Native*	Evergreen	8 x 5 m	Medium (6-12m)	YES	
53	<i>Jacaranda mimosifolia</i>	Jacaranda	Exotic*	Deciduous flowering	15 x 12 m	Tall (12-20m)	YES	
54	<i>Melaleuca linarifolia</i>	Narrow-Leaved Paperbark	WA Native	Evergreen	10 x 4 m	Medium (6-12m)	YES	
55	<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark	Native	Evergreen	10 x 8 m	Medium (6-12m)	YES	
56	<i>Melaleuca raphiophylla</i>	Swamp Paperbark	WA Native	Evergreen	8 x 5 m	Medium (6-12m)	YES	
57	<i>Melaleuca viridiflora</i>	Broad Leafed Paperbark	WA Native	Evergreen	8 X 5 m	Medium (6-12m)	YES	
58	<i>Metrosideros excelsa</i>	New Zealand Christmas Tree	Exotic	Evergreen	8 x 6 m	Medium (6-12m)	YES	
59	<i>Metrosideros thomasi</i>	New Zealand Christmas Bush	Exotic	Evergreen	5 x 5 m	Small (<6m)	YES	YES
60	<i>Olea europaea</i>	Olive Tree	Exotic	Evergreen	7 x 5 m	Medium (6-12m)	NO	YES
61	<i>Phoenix canariensis</i>	Canary Island Palm	Exotic	Evergreen	13 x 9 m	Tall (12-20m)	NO	
62	<i>Pyrus calleryana</i>	Callery Pear	Exotic	Deciduous foliage	10 x 5 m	Medium (6-12m)	YES	
63	<i>Pyrus ussuriensis</i>	Ussurian pear	Exotic	Deciduous foliage	10 x 6 m	Medium (6-12m)	YES	
64	<i>Santalum acuminatum</i>	Quandong	WA Native	Evergreen	5 x 2 m	Small (<6m)	NO	YES

#	Botanical Name	Common Name	Native / Exotic	Evergreen / Deciduous	Height x width (m)	Tree Classification	Special Flowering	Powerline Appropriate (max height <6m)
65	<i>Sapium sebiferum</i>	Chinese Tallow	Exotic	Deciduous foliage	10 x 8 m	Medium (6-12m)	NO	
66	<i>Ulmus parvifolia</i>	Chinese Elm	Exotic	Deciduous foliage	10 x 10 m	Medium (6-12m)	NO	
67	<i>Xylomelum occidentale</i>	Woody Pear	WA Native	Evergreen	6 X 6 m	Small (<6m)	YES	YES

Notes:

* Carnaby Cockatoo Foraging Species

APPENDIX TWO : TREE SPECIES DESCRIPTION



Mature tree
Photo: Ecoscape



Foliage and flower
Photo: Keyserver.lucidcentral.org
https://keyserver.lucidcentral.org/weeds/data/media/Html/agonis_flexuosa.htm

BOTANICAL NAME

Agonis flexuosa

COMMON NAME

Weeping Peppermint

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 6 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

No

Foraging Species

- Carnaby Cockatoo
- Western Ringtail Possum

Appropriate Locations

- Urban (VERGE <3M)
- Urban (ROUNDABOUT)
- Urban (MEDIAN)
- Residential (VERGE <3M)
- Residential (ROUNDABOUT)
- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Rural Residential (POS RESERVE)
- Foreshore (COASTAL)
- Bushland



Mature tree
Photo: Ecoscape



Foliage
Photo: ideasforgardens.net
<http://www.ideasforgardens.net/ColSmith/Nativeplants/Nativeplants0004.htm>

BOTANICAL NAME

Allocasuarina fraseriana

COMMON NAME

Common Sheoak

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 8 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

No

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Residential (POS)
- Rural Residential (POS RESERVE)
- Foreshore (COASTAL)
- Bushland

Note:

- Only used in natural bush verges adjacent to reserves.



Mature tree

Photo: [treesales.com.au](https://www.treesales.com.au)

<https://www.treesales.com.au/catalogue-pt-2/2016/2/7/smooth-barked-apple>



Foliage and flower

Photo: [treesales.com.au](https://www.treesales.com.au)

<https://www.treesales.com.au/catalogue-pt-2/2016/2/7/smooth-barked-apple>

BOTANICAL NAME

Angophora costata

COMMON NAME

Smooth Barked Apple

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

15 x 8 m | Tall (12-20m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (ROUNDABOUT)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (POS)



Mature tree

Photo: Iliffe.com

http://www.iliffe.com/Encyclopedia/TREES/Family/Araucariaceae/30754/Araucaria_columnaris



Foliage

Photo: conifersociety.org

<http://conifersociety.org/conifers/conifer/araucaria/columnaris/>

BOTANICAL NAME

Araucaria columnaris

COMMON NAME

Cook Pine

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

20-40 x 10 m | Very Tall (20+m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (ROUNDAABOUT)
- Urban (MEDIAN)
- Residential (ROUNDAABOUT)
- Residential (POS)
- Foreshore (COASTAL)

Note:

- Retain in the following locations: boulevard, avenue and roundabout planting.



Mature tree
Photo: Ecoscape



Foliage
Photo: flickr.com
<https://www.flickr.com/photos/heliconus/2284784976>
8

BOTANICAL NAME

Araucaria heterophylla

COMMON NAME

Norfolk Island pine

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

30 x 15 m | Very Tall (20+m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (ROUNDAABOUT)
- Urban (MEDIAN)
- Residential (ROUNDAABOUT)
- Residential (POS)
- Foreshore (COASTAL)

Note:

- Retain in the following locations: boulevard, avenue and roundabout planting.



Mature tree
Photo: Ecoscape



Foliage and flower
Photo: australianseed.com
<https://www.australianseed.com/shop/item/banksia-attenuata-dwarf>

BOTANICAL NAME

Banksia attenuata

COMMON NAME

Candlestick Banksia

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

10 x 8 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Residential (POS)
- Rural Residential (POS RESERVE)
- Bushland

Note:

- Only used in natural bush verges adjacent to reserves.



Mature tree

Photo: [lullfitz.com](http://www.lullfitz.com)

<http://www.lullfitz.com.au/banksia-grandis-dwarf/>



Foliage and flower

Photo: [australianseed.com](https://www.australianseed.com)

[https://www.australianseed.com/shop/item/banksia-](https://www.australianseed.com/shop/item/banksia-grandis-)
[grandis-](https://www.australianseed.com/shop/item/banksia-grandis-)

BOTANICAL NAME

Banksia grandis

COMMON NAME

Bull Banksia

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

12 x 5 m | Xxxx (0-0m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Residential (POS)
- Rural Residential (POS RESERVE)
- Bushland

Note:

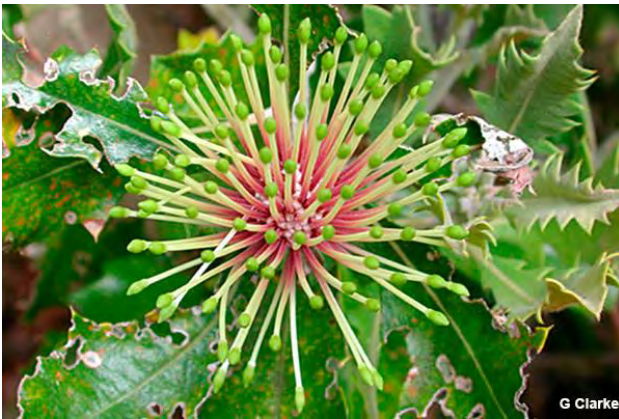
- Only used in natural bush verges adjacent to reserves.



Mature tree

Photo: anpsa.org.au

<http://anpsa.org.au/APOL16/dec99-4a.html>



Foliage and flower

Photo: ideasforgardens.net

BOTANICAL NAME

Banksia ilicifolia

COMMON NAME

Holly-Leaved Banksia

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

10 x 8 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Residential (POS)
- Rural Residential (POS RESERVE)
- Foreshore (COASTAL)
- Foreshore (ESTUARY)
- Bushland

Note:

- Only used in natural bush verges adjacent to reserves.



Mature tree

Photo: mywalkaboutplants.com

<http://mywalkaboutplants.com/banksia-integrifolia/>



Foliage and flowers

Photo: gardensonline.com.au

https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_1538.aspx

BOTANICAL NAME

Banksia integrifolia

COMMON NAME

Coast Banksia

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

15 x 5 m | Tall (12-20m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (POS)
- Foreshore (COASTAL)

Note:

- To be applied to coastal verges and medians as street tree.



Mature tree

Photo: Wikipedia.com

https://commons.wikimedia.org/wiki/File:Banksia_littoralis_roadside_Bunbury_2.JPG



Foliage and flowers

Photo: walkgps.com.au

<https://www.walkgps.com.au/walk/windsor-rocks-north-walk/>

BOTANICAL NAME

Banksia littoralis

COMMON NAME

Swamp Banksia

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 6 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Rural Residential (POS RESERVE)
- Foreshore (RIVERINE)
- Bushland

Note:

- Only used in natural bush verges adjacent to reserves in low lying areas.



Mature tree
Photo: Ecoscape



Foliage and flowers
Photo: gardensonline.com.au
https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_2976.aspx

BOTANICAL NAME

Banksia menziesii

COMMON NAME

Firewood

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

7 x 8 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Residential (POS)
- Rural Residential (POS RESERVE)
- Foreshore (COASTAL)
- Bushland

Note:

- Only used in natural bush verges adjacent to reserves.



Mature tree

Photo: [Arborwest.com.au](https://www.arborwest.com.au)

<https://www.arborwest.com.au/perth/Trees/Deciduous/hongkongorchidtree/Hong-Kong-Orchid-Tree>



Foliage and flowers

Photo: [Wikipedia.org](https://commons.wikimedia.org/wiki/File:Bauhinia_blakeana_(14519226763).jpg)

[https://commons.wikimedia.org/wiki/File:Bauhinia_blakeana_\(14519226763\).jpg](https://commons.wikimedia.org/wiki/File:Bauhinia_blakeana_(14519226763).jpg)

BOTANICAL NAME

Bauhinia blakeana

COMMON NAME

Hong Kong Orchid Tree

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

9 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE <3M)



Mature tree

Photo: selectree.calpoly.edu

<https://selectree.calpoly.edu/tree-detail/brachychiton-populneus>



Foliage and flowers

Photo: selectree.calpoly.edu

<https://selectree.calpoly.edu/tree-detail/brachychiton-populneus>

BOTANICAL NAME

Brachychiton populneus

COMMON NAME

Kurajong

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

10 x 4 m | Medium (6-12m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (ROUNDAABOUT)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (ROUNDAABOUT)

Note:

- Do not use adjacent to bushland reserves.



Mature tree

Photo: warragulgardenclub.com

<http://www.warragulgardenclub.com/339592383>



Foliage and flowers

Photo: gardensonline.com.au

https://www.gardensonline.com.au/Shopping/GardenShop/Show_4552.aspx

BOTANICAL NAME

Callistemon 'Dawson River Weeper'

COMMON NAME

Bottlebrush

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

6 x 4 m | Medium (6-12m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE <3M)
- Rural Residential (VERGE <3M)

Note:

- Useful under powerlines.



Mature tree

Photo: [know.vic.gov.au](http://www.knox.vic.gov.au)

http://www.knox.vic.gov.au/Page/Page.aspx?Page_Id=4575



Foliage and flowers

Photo: [gardensonline.com.au](https://www.gardensonline.com.au)

https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_1068.aspx

BOTANICAL NAME

Callistemon 'Kings Park Special'

COMMON NAME

Kings Park Special

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

5 x 3 m | Small (<6m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE <3M)
- Residential (POS)
- Foreshore (COASTAL)

Note:

- Useful under powerlines.



Mature tree

Photo: mywalkaboutplants.com

<http://mywalkaboutplants.com/callistemon-viminalis/>



Foliage and flowers

Photo: [gardensonline.com.au](https://www.gardensonline.com.au)

https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_2149.aspx

BOTANICAL NAME

Callistemon viminalis

COMMON NAME

Common Bottlebrush

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE <3M)
- Rural Residential (VERGE <3M)



Mature tree
Photo: Ecoscape



Foliage and flowers
Photo: apacewa.org.au
<https://apacewa.org.au/plant/casuarina-obesa/>

BOTANICAL NAME

Casuarina obesa

COMMON NAME

Salt Sheoak

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

10 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (MEDIAN)
- Residential (POS)
- Foreshore (COASTAL)
- Foreshore (ESTUARY)
- Foreshore (RIVERINE)



*Mature tree
Mandurah Street Tree Inventory 2018*



*Foliage and flowers
Photo: [bgpa.wa.gov.au](https://www.bgpa.wa.gov.au)
<https://www.bgpa.wa.gov.au/about-us/conservation/plant-of-the-month/2341-march-2017>*

BOTANICAL NAME

Corymbia calophylla

COMMON NAME

Marri

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

15 x 8 m | Tall (12-20m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Urban (MEDIAN)
- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (POS RESERVE)
- Foreshore (RIVERINE)
- Bushland

Note:

- Do not use over foot paths.
- Do not use over turf.
- Apply to locations where space permits for example bush verges wide medians.



Mature tree

Photo: Mandurah Street Tree Inventory 2018



Foliage and flowers

Photo: gardeningwithangus

<https://www.gardeningwithangus.com.au/corymbia-eximia-nana-dwarf-yellow-bloodwood/>

BOTANICAL NAME

Corymbia eximia

COMMON NAME

Yellow Bloodwood

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

15 x 7 m | Tall (12-20m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE <3M)
- Residential (ROUNDAABOUT)
- Rural Residential (VERGE <3M)



Mature tree

Photo: gardendrum.com

<https://gardendrum.com/2012/02/01/native-trees-around-walpole-wa/corymbia-ficifolia/>



Foliage and flowers

Photo: [gardensonline.com.au](https://www.gardensonline.com.au)

https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_2769.aspx

BOTANICAL NAME

Corymbia ficifolia

COMMON NAME

Red Flowering Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

9 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE <3M)
- Residential (POS)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)



Mature tree

Photo: [gardeningwithangus.com.au](https://www.gardeningwithangus.com.au)

<https://www.gardeningwithangus.com.au/corymbia-hybrid-summer-red-flowering-gum/>



Foliage and flowers

Photo: [gardeningwithangus.com.au](https://www.gardeningwithangus.com.au)

<https://www.gardeningwithangus.com.au/corymbia-hybrid-summer-red-flowering-gum/>

BOTANICAL NAME

Corymbia ficifolia 'Summer Red'

COMMON NAME

Red Flowering Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

5 x 4 m | Small (<6m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Urban (VERGE >3M)
- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE <3M)
- Rural Residential (VERGE <3M)

Note:

- Useful under powerlines and feature in medians.



Mature tree

Photo: lucidcentral.com

http://keyserver.lucidcentral.org:8080/euclid/data/02050e02-0108-490e-8900-0e0601070d00/media/Html/Corymbia_haematoxylon.htm



Foliage and flowers

Photo: apacewa.org.au

<https://apacewa.org.au/plant/corymbia-haematoxylon/>

BOTANICAL NAME

Corymbia haematoxylon

COMMON NAME

Mountain Marri

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 6 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (ROUNDAABOUT)
- Residential (VERGE <3M)
- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)

Note:

- Tree species to be trialed before designating as street tree.



Mature tree

Photo: onlinetrees.com.au

<http://www.onlinetrees.com.au/p/4167658/corymbia-maculata---eucalyptus-maculata---spotted-gum-.html>



Foliage and flowers

Photo: flickr.com

<https://www.flickr.com/photos/87791108@N00/5605297836/lightbox/>

BOTANICAL NAME

Corymbia maculata

COMMON NAME

Spotted Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

20 x 15 m | Tall (12-20m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (POS)
- Foreshore (COASTAL)



Mature tree

Photo: gardensonline.com.au

https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_1674.aspx



Foliage and fruit

Photo: gardensonline.com.au

https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_1674.aspx

BOTANICAL NAME

Cupaniopsis anacardiodes

COMMON NAME

Tuckeroo

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 6 m | Medium (6-12m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE <3M)
- Foreshore (COASTAL)



Mature tree

Photo: mapio.net

<http://mapio.net/pic/p-48621015/>



Foliage and flowers

Photo: Dawsonsgardenworld.com.au

<https://www.dawsonsgardenworld.com.au/product/erythrina-indica-common-name-coral-tree-500mm-pot/>

BOTANICAL NAME

Erythrina indica

COMMON NAME

Coral Tree

TREE DESCRIPTION

Deciduous / Evergreen

Deciduous flowering

Average Height x Width m | Tree Classification

8 x 8 m | Medium (6-12m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (ROUNDABOUT)
- Urban (MEDIAN)
- Foreshore (COASTAL)



Mature tree
Photo: Mandurah Street Tree Inventory 2018



Foliage and flowers
Photo: flickr.com
<https://www.flickr.com/photos/pedallingpete/24220675381>

BOTANICAL NAME

Eucalyptus cneorifolia

COMMON NAME

Kangaroo Island Narrow-Leaf Mallee

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 6 m | Medium (6-12m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE <3M)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)
- Bushland

Note:

- Tree species to be trialed before designating as street tree.



Mature tree

Photo: lucidcentral.org

http://keyserver.lucidcentral.org:8080/euclid/data/02050e02-0108-490e-8900-0e0601070d00/media/Html/Eucalyptus_decipiens_subsp_adesmophloia.htm



Foliage and flowers

Photo: apacewa.org.au

<https://apacewa.org.au/plant/eucalyptus-decipiens/>

BOTANICAL NAME

Eucalyptus decipiens

COMMON NAME

Redheart Moit

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

15 x 5 m | Tall (12-20m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE <3M)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)

Note:

- Needs formative pruning for residential street tree.



Mature tree

Photo: lucidcentral.org

http://keyserver.lucidcentral.org:8080/euclid/data/02050e02-0108-490e-8900-0e0601070d00/media/Html/Eucalyptus_diversifolia_subsp_diversifolia.htm



Foliage

Photo: saseedbank.com.au

http://saseedbank.com.au/species_information.php?rid=1812

BOTANICAL NAME

Eucalyptus diversifolia

COMMON NAME

Soap Mallee

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

5 x 3 m | Small (<6m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Residential (VERGE <3M)
- Rural Residential (VERGE <3M)

Note:

- Useful under powerlines.
- Tree species to be trialed before designating as street tree.



Mature tree

Photo: lucidcentral.org

http://keyserver.lucidcentral.org:8080/euclid/data/02050e02-0108-490e-8900-0e0601070d00/media/Html/Eucalyptus_drummondii.htm



Foliage

Photo: bgpa.wa.gov.au

<https://www.bgpa.wa.gov.au/about-us/conservation/plant-of-the-month/2358-may-2017>

BOTANICAL NAME

Eucalyptus drummondii

COMMON NAME

Drummond's Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 4 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE <3M)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)

Note:

- Tree species to be trialed before designating as street tree.



Mature tree

Photo: lucidcentral.org

<http://keyserver.lucidcentral.org:8080/euclid/data/0205>

0e02-0108-490e-8900-

0e0601070d00/media/Html/Eucalyptus_eremophila.htm



Foliage and flowers

Photo: selectree.calpoly.edu

[https://selectree.calpoly.edu/tree-detail/eucalyptus-](https://selectree.calpoly.edu/tree-detail/eucalyptus-eremophila)

eremophila

BOTANICAL NAME

Eucalyptus eremophila

COMMON NAME

Tall Sand Mallee

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m / Tree Classification

5 x 5 m | Small (<6m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE <3M)
- Rural Residential (VERGE <3M)

Note:

- Useful under powerlines.



Mature tree
Photo: flickr.com
<https://www.flickr.com/photos/dinlin47/5530889638>



Foliage and flowers
Photo: gardeningwithangus.com.au
<https://www.gardeningwithangus.com.au/eucalyptus-erythrocorys-illyarrie/>

BOTANICAL NAME

Eucalyptus erythrocorys

COMMON NAME

Red Capped Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

7 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (ROUNDAABOUT)
- Residential (ROUNDAABOUT)
- Residential (POS)
- Rural Residential (POS RESERVE)
- Foreshore (COASTAL)

Note:

- Useful under powerlines.
- Useful in landscape situations but form not reliable for street tree.



Mature tree

Photo: Wikipedia.org

https://en.wikipedia.org/wiki/Eucalyptus_erythronema



Foliage and flowers

Photo: Wikipedia.org

https://en.wikipedia.org/wiki/Eucalyptus_erythronema

BOTANICAL NAME

Eucalyptus erythronema

COMMON NAME

Red Flowered Mallee

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

7 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (ROUNDAABOUT)
- Residential (ROUNDAABOUT)
- Residential (POS)
- Rural Residential (POS RESERVE)
- Foreshore (COASTAL)

Note:

- Useful under powerlines.
- Useful in landscape situations but form not reliable for street tree



Mature tree

Photo: flickr.com

<https://www.flickr.com/photos/westflora/7701805490>



Foliage

Photo: flickr.com

<https://www.flickr.com/photos/58828131@N07/26478335370>

BOTANICAL NAME

Eucalyptus foecunda

COMMON NAME

Common Red Mallee

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

4 x 3 m | Small (<6m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (ROUNDAABOUT)
- Residential (ROUNDAABOUT)
- Residential (POS)
- Rural Residential (POS RESERVE)
- Foreshore (COASTAL)

Note:

- Useful under powerlines.
- Useful in landscape situations but form not reliable for street tree.



Mature tree

Photo: [lullfitz.com.au](http://www.lullfitz.com.au)

<http://www.lullfitz.com.au/eucalyptus-forrestiana/>



Foliage and flowers

Photo: [Wikipedia.org](https://en.wikipedia.org/wiki/Eucalyptus_forrestiana)

https://en.wikipedia.org/wiki/Eucalyptus_forrestiana

BOTANICAL NAME

Eucalyptus forrestiana

COMMON NAME

Fuchsia Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

4 x 4 m | Small (<6m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE <3M)
- Residential (POS)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)

Note:

- Useful under powerlines.
- Tree species to be trialed before designating as street tree.



*Mature tree
Mandurah Street Tree Inventory 2018*



*Foliage
Photo: [australianseed.com](https://www.australianseed.com)
<https://www.australianseed.com/shop/item/eucalyptus-gomphocephala>*

BOTANICAL NAME

Eucalyptus gomphocephala

COMMON NAME

Tuart

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

20 x 10 m | Very tall (20+m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

No

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (POS RESERVE)
- Foreshore (COASTAL)
- Foreshore (RIVERINE)
- Bushland

Note:

- Only used in natural bush verges adjacent to reserves.



Mature tree

Photo: westgrow.com.au

<http://westgrow.com.au/product/eucalyptus-lansdowneana/>



Foliage and flowers

Photo: austplants.com.au

<https://austplants.com.au/Eucalyptus-lansdowneana-Crimson-Mallee>

BOTANICAL NAME

Eucalyptus lansdowneana

COMMON NAME

Port Lincoln Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

5 x 3 m | Small (<6m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE <3M)
- Residential (POS)

Note:

- Useful under powerlines.
- Retain as with formative pruning has potential as a small street tree.



*Mature tree
Mandurah Street Tree Inventory 2018*



*Foliage and flowers
Photo: [onlineplants.com.au](http://www.onlineplants.com.au)
[http://www.onlineplants.com.au/shopping-
cart/eucalyptus-leucoxylon-rosea](http://www.onlineplants.com.au/shopping-cart/eucalyptus-leucoxylon-rosea)*

BOTANICAL NAME

Eucalyptus leucoxylon rosea

COMMON NAME

Pink Flowering Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

10 x 7 m | Medium (6-12m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)
- Bushland



Mature tree

Photo: davesgarden.com

<https://davesgarden.com/community/forums/fp.php?pid=9168095&extraimg=0>



Foliage and flowers

Photo: [advancedtrees.com.au](https://www.advancedtrees.com.au)

<https://www.advancedtrees.com.au/tree-index-2/28-advanced-trees/tree-list-info/evergreen/native-evergreen/317-eucalyptus-euky-dwarf.html>

BOTANICAL NAME

Eucalyptus leucoxylon Rosea Dwarf 'Little Euky'

COMMON NAME

Euky Dwarf

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

6 x 3 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)
- Bushland

Note:

- Useful under powerlines.



Mature tree
Mandurah Street Tree Inventory 2018



Foliage and flowers
Photo: gardeningwithangus.com.au
<https://www.gardeningwithangus.com.au/eucalyptus-leucoxyton-subspecies-megalocarpa-large-fruited-yellow-gum/>

BOTANICAL NAME

Eucalyptus leucoxyton ssp. Megalocarpa

COMMON NAME

Large-fruited Blue Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 7 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (VERGE <3M)
- Urban (ROUNDABOUT)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (ROUNDABOUT)
- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)
- Bushland



Mature tree
Photo: Ecoscape



Foliage and flowers
Photo: perthwildflowers
<https://perthwildflowers.wordpress.com/category/bold-park/>

BOTANICAL NAME

Eucalyptus marginata

COMMON NAME

Jarrah

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

10-35 x 35 m | Very tall (20+m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

Yes

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Residential (POS)
- Rural Residential (POS RESERVE)
- Foreshore (ESTUARY)
- Foreshore (RIVERINE)
- Bushland

Note:

- Natural bush verges adjacent to reserves too slow as a street tree.



Mature tree
Photo: trees.stanford.edu
<https://trees.stanford.edu/ENCYC/EUCnut.htm>



Foliage and flowers
Photo: [australianseed.com](https://www.australianseed.com)
<https://www.australianseed.com/shop/item/eucalyptus-cernua->

BOTANICAL NAME

Eucalyptus nutans

COMMON NAME

Red-Flowered Moort

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

4 x 4 m | Small (<6m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (VERGE <3M)
- Urban (ROUNDABOUT)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (POS)
- Rural Residential (VERGE >3M)
- Rural Residential (VERGE <3M)
- Foreshore (ESTUARY)

Note:

- Useful under powerlines.
- Tree species to be trialed before designating as street tree.



Mature tree
Photo: Ecoscape



Foliage and flowers
Photo: ifriendsofqueensparkbushland.org.au
<https://www.friendsofqueensparkbushland.org.au/eucalyptus-rudis/>

BOTANICAL NAME

Eucalyptus rudis

COMMON NAME

Flooded Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

15 x 8 m | Tall (12-20m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Foreshore (ESTUARY)
- Foreshore (RIVERINE)

Note:

- Natural bush verges adjacent to reserves or medians where width permits.



Mature tree
Photo: Ecoscape



Foliage and flowers
Photo: trevorsbirding.com
<https://www.trevorsbirding.com/red-wattlebirds-and-eucalypts/>

BOTANICAL NAME

Eucalyptus sideroxylon rosea

COMMON NAME

Red Iron Bark

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

12 x 6 m | Tall (12-20m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Rural Residential (VERGE >3M)
- Foreshore (ESTUARY)
- Foreshore (RIVERINE)

Note:

- Avenue planting only and does not like wet feet.



Mature tree

Photo: florabank.org.au

http://www.florabank.org.au/lucid/key/species%20navigator/media/html/Eucalyptus_spathulata.htm



Foliage and flowers

Photo: westgrow.com.au

<http://westgrow.com.au/product/eucalyptus-spathulata/>

BOTANICAL NAME

Eucalyptus spathulata

COMMON NAME

Swamp Mallet

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

7 x 10 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Residential (VERGE <3M)
- Foreshore (ESTUARY)
- Foreshore (RIVERINE)

Note:

- Useful under powerlines.
- Tree species to be trialed before designating as street tree.



Mature tree

Photo: [friendsofqueensparkbushland.org.au](https://www.friendsofqueensparkbushland.org.au/eucalyptus-todtiana/)
<https://www.friendsofqueensparkbushland.org.au/eucalyptus-todtiana/>



Foliage and nut

Photo: [friendsofqueensparkbushland.org.au](https://www.friendsofqueensparkbushland.org.au/eucalyptus-todtiana/)
<https://www.friendsofqueensparkbushland.org.au/eucalyptus-todtiana/>

BOTANICAL NAME

Eucalyptus todtiana

COMMON NAME

Coastal Blackbutt

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

6 x 10 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE <3M)
- Residential (POS)
- Rural Residential (VERGE <3M)
- Bushland

Note:

- Useful under powerlines.
- Tree species to be trialed before designating as street tree.



Mature tree

Photo: [florabank.org.au](http://www.florabank.org.au)

http://www.florabank.org.au/lucid/key/species%20navigator/media/html/Eucalyptus_utilis.htm



Foliage

Photo: [biodiversidadvirtual.org](https://www.biodiversidadvirtual.org)

<https://www.biodiversidadvirtual.org/herbarium/Eucalyptus-utilis-Brooker-y-Hopper-img34567.html>

BOTANICAL NAME

Eucalyptus utilis

COMMON NAME

Coastal Mort

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 8 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE <3M)
- Residential (POS)
- Rural Residential (VERGE <3M)
- Foreshore (COASTAL)
- Bushland



Mature tree
Photo: [lullfitz.com.au](http://www.lullfitz.com.au)
<http://www.lullfitz.com.au/eucalyptus-victrix-little-ghost-gum/>



Foliage
Photo: ellenbytreefarm.com
<http://ellenbytreefarm.com/products/eucalyptus-victrix-little-ghost-gum>

BOTANICAL NAME

Eucalyptus vitrix

COMMON NAME

Dwarf Ghost Gum

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

7 x 6 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Residential (VERGE <3M)
- Residential (POS)
- Foreshore (COASTAL)

Note:

- Useful under powerlines.
- Tree species to be trialed before designating as street tree.



Mature tree
Photo: Ecoscape



Foliage and fruit
Photo: anpsa.org.au
<http://anpsa.org.au/f-mac.html>

BOTANICAL NAME

Ficus macrophylla

COMMON NAME

Morton Bay Fig

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m / Tree Classification

15-35 x 15-25 m | Very tall (20+m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Urban (ROUNDAABOUT)
- Residential (POS)
- Foreshore (COASTAL)
- Foreshore (RIVERINE)

Note:

- Applied to roundabouts, adjacent parks and where space permits.



Mature tree

Photo: wikipedia.org

https://en.wikipedia.org/wiki/Ficus_rubiginosa



Foliage and fruit

Photo: wikipedia.org

https://en.wikipedia.org/wiki/Ficus_rubiginosa

BOTANICAL NAME

Ficus rubiginosa

COMMON NAME

Port Jackson Fig

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

25 x 20 m | Very tall (20+m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Urban (ROUNABOUT)
- Residential (POS)
- Foreshore (COASTAL)
- Foreshore (RIVERINE)

Note:

- Applied to roundabouts, adjacent parks and where space permits.



Mature tree

Photo: greenleafnurseries.co.nz

<https://greenleafnurseries.co.nz/product/fraxinus-oxycarpa-raywoodii-claret-ash-tree-hardy-deciduous-purple-green-nz-new-zealand/>



Foliage

Photo: [gardensonline.com.au](https://www.gardensonline.com.au)

https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_1310.aspx

BOTANICAL NAME

Fraxinus oxycarpa 'Raywoodii'

COMMON NAME

Claret Ash

TREE DESCRIPTION

Deciduous / Evergreen

Deciduous foliage

Average Height x Width m | Tree Classification

12 x 6 m | Medium (6-12m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (VERGE <3M)



Mature tree

Photo: Mandurah Street Tree Inventory 2018



Foliage and flower

Photo: watercorporation.com.au

BOTANICAL NAME

Hakea laurina

COMMON NAME

Pin-cushion Hakea

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

6 x 4 m | Small (<6m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Urban (ROUNDAABOUT)
- Residential (ROUNDAABOUT)
- Residential (POS)
- Rural Residential (POS RESERVE)
- Bushland

Note:

- Useful under powerlines.
- Useful in landscape situations but form not reliable for street tree



Mature tree

Photo: Mandurah Street Tree Inventory 2018



Foliage and flower

Photo: [australianplantsonline.com.au](http://www.australianplantsonline.com.au)

<http://www.australianplantsonline.com.au/hibiscus-tiliaceus-rubra.html>

BOTANICAL NAME

Hibiscus tiliaceus rubra

COMMON NAME

Red Cottonwood

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m / Tree Classification

8 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Urban (VERGE <3M)



Mature tree
Photo: Ecoscape



Foliage and flower
Photo: ellenbytreefarm.com
<http://ellenbytreefarm.com/products/jacaranda-mimosaefolia-purple-jacaranda>

BOTANICAL NAME

Jacaranda mimosifolia

COMMON NAME

Jacaranda

TREE DESCRIPTION

Deciduous / Evergreen

Deciduous flowering

Average Height x Width m | Tree Classification

15 x 12 m | Tall (12-20m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- Carnaby Cockatoo

Appropriate Locations

- Urban (VERGE >3M)
- Urban (VERGE <3M)
- Urban (ROUNDABOUT)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDABOUT)
- Residential (POS)



Mature tree

Photo: selecttree.calpoly.edu

<https://selecttree.calpoly.edu/tree-detail/melaleuca-linariifolia>



Foliage and flower

Photo: [gardensonline.com.au](https://www.gardensonline.com.au)

https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_1363.aspx

BOTANICAL NAME

Melaleuca linariifolia

COMMON NAME

Narrow-Leaved Paperbark

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

10 x 4 m | Medium (6-12m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDBOUT)
- Residential (POS)
- Rural Residential (VERGE <3M)



Mature tree
Photo: Ecoscape



Foliage and flower
Photo: gardensonline.com.au
https://www.gardensonline.com.au/gardenshed/PlantFinder/Show_1289.aspx

BOTANICAL NAME

Melaleuca quinquenervia

COMMON NAME

Broad Leafed Paperbark

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m / Tree Classification

10 x 8 m | Medium (6-12m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (ROUNDABOUT)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDABOUT)
- Residential (POS)
- Foreshore (COASTAL)
- Foreshore (ESTUARY)
- Foreshore (RIVERINE)



Mature tree

Photo: mandurahtreadvocates.myclub.org.au
<http://mandurahtreadvocates.myclub.org.au/4.htm>



Foliage and flower

Photo: [Wikipedia.org](https://en.wikipedia.org/wiki/Melaleuca_raphiophylla)
https://en.wikipedia.org/wiki/Melaleuca_raphiophylla

BOTANICAL NAME

Melaleuca raphiophylla

COMMON NAME

Swamp Paperbark

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m / Tree Classification

8 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Residential (POS)
- Foreshore (ESTUARY)
- Foreshore (RIVERINE)
- Bushland



Mature tree

Photo: <http://www.lullfitz.com.au/melaleuca-viridiflora/>



Foliage and flower

Photo: <http://anpsa.org.au/m-vir.html>

BOTANICAL NAME

Melaleuca viridiflora

COMMON NAME

Broad Leafed Paperbark

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (ROUNDABOUT)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (VERGE <3M)
- Residential (ROUNDABOUT)
- Residential (POS)
- Foreshore (COASTAL)



Mature tree
Photo: Ecoscape



Foliage and flower
Photo: ellenbytreefarm.com
<http://ellenbytreefarm.com/products/metrosideros-excelsa-nz-christmas-tree>

BOTANICAL NAME

Metrosideros excelsa

COMMON NAME

New Zealand Christmas Tree

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

8 x 6 m | Medium (6-12m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE <3M)
- Foreshore (COASTAL)



Mature tree

Photo: [waverley.nsw.gov.au](http://www.waverley.nsw.gov.au)

http://www.waverley.nsw.gov.au/_data/assets/pdf_file/0006/3003/Metrosideros_thomasi.pdf



Foliage and flower

Photo: ellenbytreefarm.com

<http://ellenbytreefarm.com/products/metrosideros-thomasi-new-zealand-christmas-tree>

BOTANICAL NAME

Metrosideros thomasi

COMMON NAME

New Zealand Christmas Bush

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

5 x 5 m | Small (<6m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE <3M)
- Foreshore (COASTAL)

Note:

- Useful under powerlines.



Mature tree

Photo: plantinfo.co.za

<http://plantinfo.co.za/plant/olea-europaea/>



Foliage and fruit

Photo: gardensonline.com.au

https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_1302.aspx

BOTANICAL NAME

Olea europaea

COMMON NAME

Olive Tree

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

7 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Residential (VERGE <3M)
- Residential (POS)
- Foreshore (COASTAL)

Note:

- Do not locate over paths or close to bush reserves.
- Useful under powerlines.
- An alternative species variety "Swan Hill" with no seeds / fruit could also be used.



Mature tree

Photo: [gardensonline.com.au](https://www.gardensonline.com.au)

https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_1284.aspx



Foliage

Photo: keyserver.lucidcentral.org

https://keyserver.lucidcentral.org/weeds/data/media/html/phoenix_canariensis.htm

BOTANICAL NAME

Phoenix canariensis

COMMON NAME

Canary Island Palm

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

13 x 9 m | Tall (12-20m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE >3M)
- Urban (ROUNDABOUT)
- Urban (MEDIAN)
- Foreshore (COASTAL)

Note:

- Only for use in roundabouts.



Mature tree
Photo: gardensonline.com.au



Foliage – seasonal
Photo: gardensonline.com.au



Flower
Photo: gardensonline.com.au
https://www.gardensonline.com.au/GardenShed/PlantFinder/Show_1900.aspx

BOTANICAL NAME

Pyrus calleryana

COMMON NAME

Callery Pear

TREE DESCRIPTION

Deciduous / Evergreen

Deciduous

Average Height x Width m | Tree Classification

10 x 5 m | Medium (6-12m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (VERGE <3M)



Mature tree

Photo: [dawsonsgardenworld.com.au](https://www.dawsonsgardenworld.com.au)

<https://www.dawsonsgardenworld.com.au/product/pyrus-ussuriensis-common-name-manchurian-pear-305mm-pot/>



Foliage and flower

Photo: [Wikipedia.org](https://en.wikipedia.org)

https://en.wikipedia.org/wiki/Pyrus_ussuriensis

BOTANICAL NAME

Pyrus ussuriensis

COMMON NAME

Ussurian Pear

TREE DESCRIPTION

Deciduous / Evergreen

Deciduous foliage

Average Height x Width m | Tree Classification

10 x 6 m | Medium (6-12m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Urban (MEDIAN)
- Residential (VERGE >3M)
- Residential (VERGE <3M)



Mature tree
Photo: anbg.gov.au



Foliage and fruit
Photo: anbg.gov.au
<https://www.anbg.gov.au/gnp/interns-2002/santalum-acuminatum.html>

BOTANICAL NAME

Santalum acuminatum

COMMON NAME

Quandong

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

5 x 2 m | Small (<6m)

Native / Exotic / WA Native

WA Native

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Residential (POS)
- Rural Residential (POS RESERVE)
- Bushland

Note:

- Useful under powerlines.
- Only used in natural bush verges adjacent to reserves.



Mature tree

Photo: arbornet.com.au

<http://arbornet.com.au/sapium-sebiferumchinesetallowtree-p-246.html>



Foliage – seasonal

Photo: ellenbytreefarm.com

<http://ellenbytreefarm.com/products/sapium-sebiferum-chinese-tallow-tree>



Foliage

Photo: [ehorticulture.com](http://www.ehorticulture.com)

<http://www.ehorticulture.com/tree-plants-seeds/multi-purpose-tree/sapium-sebiferum-detail.html>

BOTANICAL NAME

Sapium sebiferum

COMMON NAME

Chinese Tallow

TREE DESCRIPTION

Deciduous / Evergreen

Deciduous foliage

Average Height x Width m | Tree Classification

10 x 8 m | Medium (6-12m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE >3M)
- Residential (VERGE <3M)



Mature tree

Photo: selectree.calpoly.edu

<https://selectree.calpoly.edu/tree-detail/ulmus-parvifolia-allee>



Foliage

Photo: selectree.calpoly.edu

<https://selectree.calpoly.edu/tree-detail/ulmus-parvifolia-allee>

BOTANICAL NAME

Ulmus parvifolia

COMMON NAME

Chinese Elm

TREE DESCRIPTION

Deciduous / Evergreen

Deciduous foliage

Average Height x Width m | Tree Classification

10 x 10 m | Medium (6-12m)

Native / Exotic / WA Native

Exotic

Appropriate for Priority Conservation Areas

No

Special Flowering

No

Foraging Species

- N/A

Appropriate Locations

- Urban (VERGE <3M)
- Residential (VERGE >3M)
- Residential (VERGE <3M)



Mature tree

Photo: [friendsofqueensparkbushland.org.au](https://www.friendsofqueensparkbushland.org.au)
<https://www.friendsofqueensparkbushland.org.au/xylomelum-occidentale/>



Foliage and flower

Photo: [friendsofqueensparkbushland.org.au](https://www.friendsofqueensparkbushland.org.au)
<https://www.friendsofqueensparkbushland.org.au/xylomelum-occidentale/>

BOTANICAL NAME

Xylomelum occidentale

COMMON NAME

Woody Pear

TREE DESCRIPTION

Deciduous / Evergreen

Evergreen

Average Height x Width m | Tree Classification

6 x 6 m | Small (<6m)

Native / Exotic / WA Native

Native

Appropriate for Priority Conservation Areas

No

Special Flowering

Yes

Foraging Species

- N/A

Appropriate Locations

- Residential (POS)
- Rural Residential (POS RESERVE)
- Bushland

Note:

- Useful under powerlines.
- Only used in natural bush verges adjacent to reserves.

APPENDIX THREE LIST OF TREES BY SIZE AND CATEGORY

VERY TALL TREES (>20M)

Botanical Name	Common Name	Deciduous Foliage	Deciduous Flowering	Evergreen
<i>Araucaria columnaris</i>	Cook Pine			Evergreen
<i>Araucaria heterophylla</i>	Norfolk Island Pine			Evergreen
<i>Eucalyptus gomphocephala</i>	Tuart			Evergreen
<i>Eucalyptus marginata</i>	Jarrah			Evergreen
<i>Ficus macrophylla</i>	Morton Bay Fig			Evergreen
<i>Ficus rubiginosa</i>	Port Jackson Fig			Evergreen

TALL TREES (12-20M)

Botanical Name	Common Name	Deciduous Foliage	Deciduous Flowering	Evergreen
<i>Angophora costata</i>	<i>Smooth Barked Apple</i>			<i>Evergreen</i>
<i>Banksia integrifolia</i>	<i>Coast Banksia</i>			<i>Evergreen</i>
<i>Corymbia calophylla</i>	<i>Marri</i>			<i>Evergreen</i>
<i>Corymbia eximia</i>	<i>Yellow Bloodwood</i>			<i>Evergreen</i>
<i>Corymbia maculata</i>	<i>Spotted Gum</i>			<i>Evergreen</i>
<i>Eucalyptus decipiens</i>	<i>Redheart Moit</i>			<i>Evergreen</i>
<i>Eucalyptus rudis</i>	<i>Flooded Gum</i>			<i>Evergreen</i>
<i>Eucalyptus sideroxylon rosea</i>	<i>Red Ironbark</i>			<i>Evergreen</i>
<i>Jacaranda mimosifolia</i>	<i>Jacaranda</i>		<i>Purple flowering</i>	
<i>Phoenix canariensis</i>	<i>Canary Island Palm</i>			<i>Evergreen</i>

MEDIUM TREES (6-12M)

Botanical Name	Common Name	Deciduous Foliage	Deciduous Flowering	Evergreen
<i>Agonis flexuosa</i> *	Weeping Peppermint			Evergreen
<i>Allocasuarina fraseriana</i> *	Common Sheoak			Evergreen
<i>Banksia attenuata</i> *	Candlestick Banksia			Evergreen
<i>Banksia grandis</i> *	Bull Banksia			Evergreen
<i>Banksia ilicifolia</i> *	Holly-leaved Banksia			Evergreen
<i>Banksia littoralis</i> *	Swamp Banksia			Evergreen
<i>Banksia menziesii</i> *	Firewood			Evergreen
<i>Bauhinia blakeana</i>	Hong Kong Orchid Tree			Evergreen
<i>Brachychiton populneus</i>	Kurajong			Evergreen
<i>Callistemon 'Dawson River Weeper'</i>	Dawson River Weeper			Evergreen
<i>Callistemon viminalis</i>	Common Bottlebrush			Evergreen
<i>Casuarina obesa</i> *	Salt Sheoak			Evergreen
<i>Corymbia ficifolia</i>	Red Flowering Gum			Evergreen
<i>Corymbia haematoxylon</i>	Mountain Marri			Evergreen
<i>Cupaniopsis anacardiodes</i>	Tuckeroo			Evergreen
<i>Erythrina indica</i>	Coral Tree		Red flowering	
<i>Eucalyptus cneorifolia</i>	Kangaroo Island Narrow-leaf Mallee			Evergreen
<i>Eucalyptus drummondii</i>	Drummond's Gum			Evergreen
<i>Eucalyptus erythrocorys</i>	Red Capped Gum			Evergreen
<i>Eucalyptus erythronema</i>	Red Flowered Mallee			Evergreen
<i>Eucalyptus leucoxylon rosea</i>	Pink Flowering Gum			Evergreen
<i>Eucalyptus leucoxylon Rosea Dwarf 'Little Euky'</i>	Euky Dwarf			Evergreen
<i>Eucalyptus leucoxylon ssp. Megalocarpa</i>	Large-fruited Blue Gum			Evergreen
<i>Eucalyptus spathulata</i>	Swamp mallet			Evergreen
<i>Eucalyptus todtiana</i>	Coastal Blackbutt			Evergreen
<i>Eucalyptus utilis</i>	Coastal Mort			Evergreen
<i>Eucalyptus vitrix</i>	Dwarf Ghost Gum			Evergreen
<i>Fraxinus oxycarpa 'Raywoodii'</i>	Claret Ash	Deep green to claret		
<i>Hibiscus tiliaceus rubra</i>	Red Cottonwood			Evergreen
<i>Melaleuca linarifolia</i>	Narrow-Leaved Paperbark			Evergreen
<i>Melaleuca quinquenervia</i>	Broad Leafed Paperbark			Evergreen
<i>Melaleuca raphiophylla</i> *	Swamp Paperbark			Evergreen
<i>Melaleuca viridiflora</i>	Broad Leafed Paperbark			Evergreen
<i>Metrosideros excelsa</i>	New Zealand Christmas Tree			Evergreen
<i>Olea europaea</i>	Olive Tree			Evergreen
<i>Pyrus calleryana</i>	Callery Pear	Deep green to burgundy to scarlet	White flowering	

LIST OF TREES BY SIZE AND CATEGORY

Botanical Name	Common Name	Deciduous Foliage	Deciduous Flowering	Evergreen
<i>Pyrus ussuriensis</i>	Ussurian pear	Deep green to purple bronze to deep scarlet with orange and golds	White flowering	
<i>Sapium sebiferum</i>	Chinese Tallow	Mid-green leaves turn crimson, with some yellow, orange and ruby-red		
<i>Ulmus parvifolia</i>	Chinese Elm	A creamy yellow in Spring turn green with a white edge in		

SMALL TREES (<6M)

Botanical Name	Common Name	Deciduous Foliage	Deciduous Flowering	Evergreen
<i>Callistemon 'Kings Park Special'</i>	Kings Park Special			Evergreen
<i>Corymbia ficifolia 'Summer Red'</i>	Red Flowering Gum			Evergreen
<i>Eucalyptus diversifolia</i>	Soap Mallee			Evergreen
<i>Eucalyptus eremophila</i>	Tall Sand Mallee			Evergreen
<i>Eucalyptus foecunda</i>	Common Red Mallee			Evergreen
<i>Eucalyptus forrestiana</i>	Fuchsia Gum			Evergreen
<i>Eucalyptus lansdowneana</i>	Port Lincoln Gum			Evergreen
<i>Eucalyptus nutans</i>	Red-flowered moort			Evergreen
<i>Hakea laurina</i>	Pin-cushion Hakea			Evergreen
<i>Metrosideros thomasi</i>	New Zealand Christmas Bush			Evergreen
<i>Santalum acuminatum</i>	Quandong			Evergreen
<i>Xylomelum occidentale</i>	Woody Pear			Evergreen

Note: * Trees are local native species to Mandurah.

APPENDIX FOUR PRECINCT DETAILS



Locality Street Tree Masterplan – Public Engagement Stage 1 Results



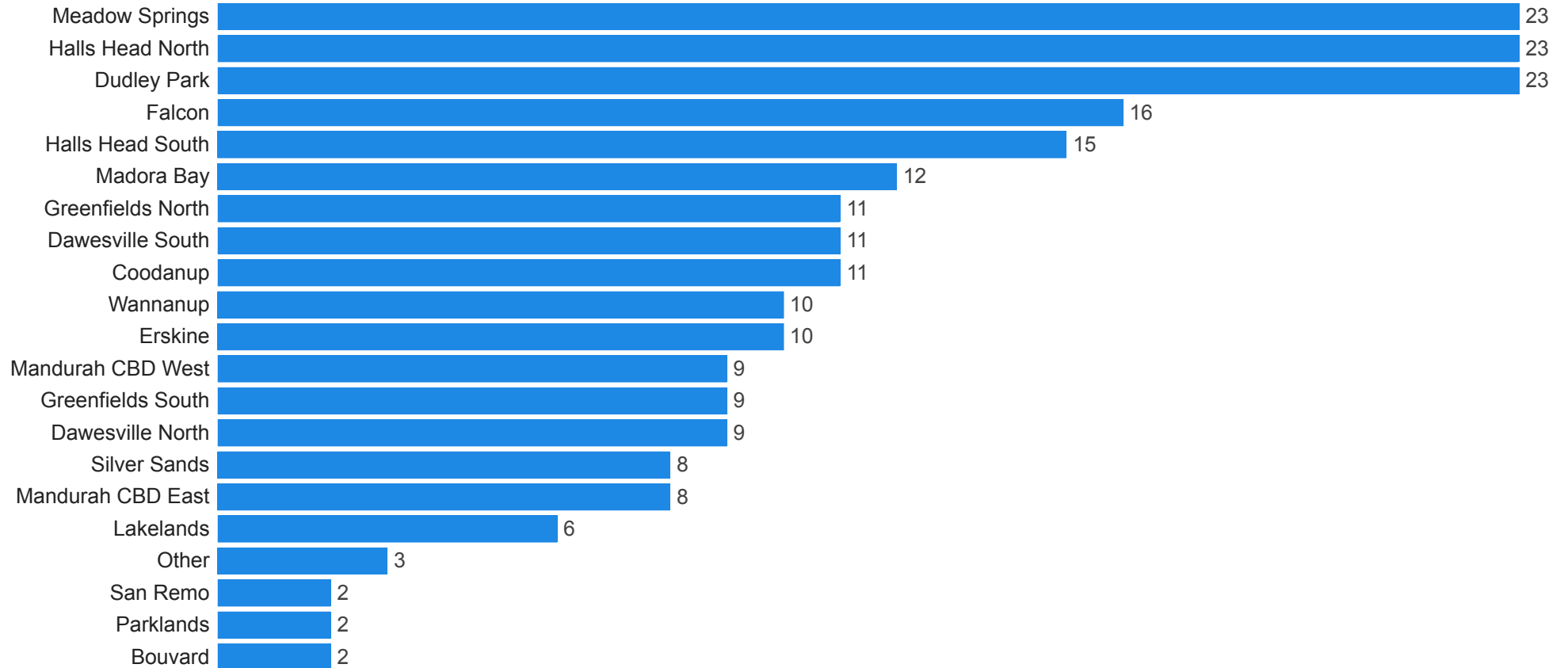
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1.	Overall Mandurah Responses Report
<i>Individual Precincts Reports:</i>	
2.	Bouvard Report
3.	Coodanup Report
4.	Dawesville North Report
5.	Dawesville South Report
6.	Dudley Park Report
7.	Erskine Report
8.	Falcon Report
9.	Greenfields North Report
10.	Greenfields South Report
11.	Halls Head North Report
12.	Halls Head South Report
13.	Lakelands Report
14.	Madora Bay Report
15.	Mandurah CBD West Report
16.	Meadow Springs Report
17.	Parklands Report
18.	San Remo Report
19.	Silver Sands Report
20.	Wannanup Report

Overall Mandurah Responses

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Locality



Trees Selected

Field	Responses
Weeping Peppermint	80
Red Flowering Gum	74
Broad Leafed Paperbark	28
Jacaranda	21
Marri	20
Candlestick Banksia	19
Pink Flowering Gum	18
Red Iron Bark	17
Tuart	17
Kings Park Special Bottlebrush	15
Claret Ash	14
Coastal Blackbutt	14
Jarraah	14
Swamp Paperbark	11
Bottlebrush	10
Common Bottlebrush	10
Fuchsia Gum	10
Narrow-Leaved Paperbark	10
Salt Sheoak	10
Coast Banksia	9
New Zealand Christmas Bush	7
New Zealand Christmas Tree	7
Olive Tree	7
Common Sheoak	6
Coral Tree	6
Euky Dwarf	6
Holly-Leaved Banksia	6
Hong Kong Orchid Tree	6

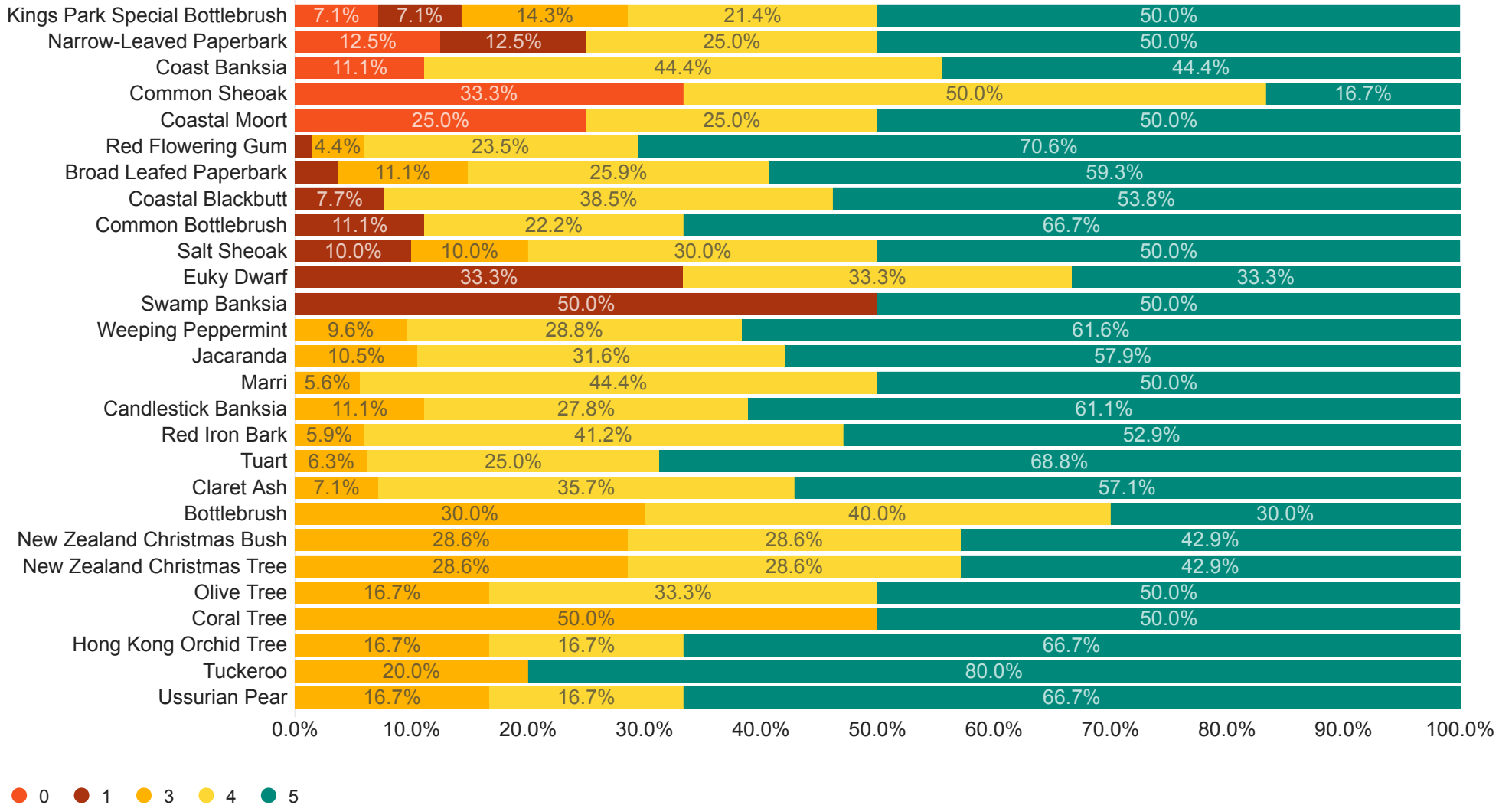


Field	Responses
Tuckeroo	6
Ussurian Pear	6
Cook Pine	5
Large-fruited Blue Gum	5
Red-Flowered Moort	5
Redheart Moit	5
Smooth Barked Apple	5
Spotted Gum	5
Coastal Moort	4
Norfolk Island Pine	4
Pin-Cushion Hakea	4
Callery Pear	3
Chinese Elm	3
Flooded Gum	3
Quandong	3
Chinese Tallow	2
Dwarf Ghost Gum	2
Kurajong	2
Red Cottonwood	2
Red Flowered Moort	2
Red Flowering Gum Summer Red	2
Swamp Banksia	2
Swamp Mallet	2
Tall Sand Mallee	2
Bull Banksia	1
Soap Mallee	1
Yellow Bloodwood	1

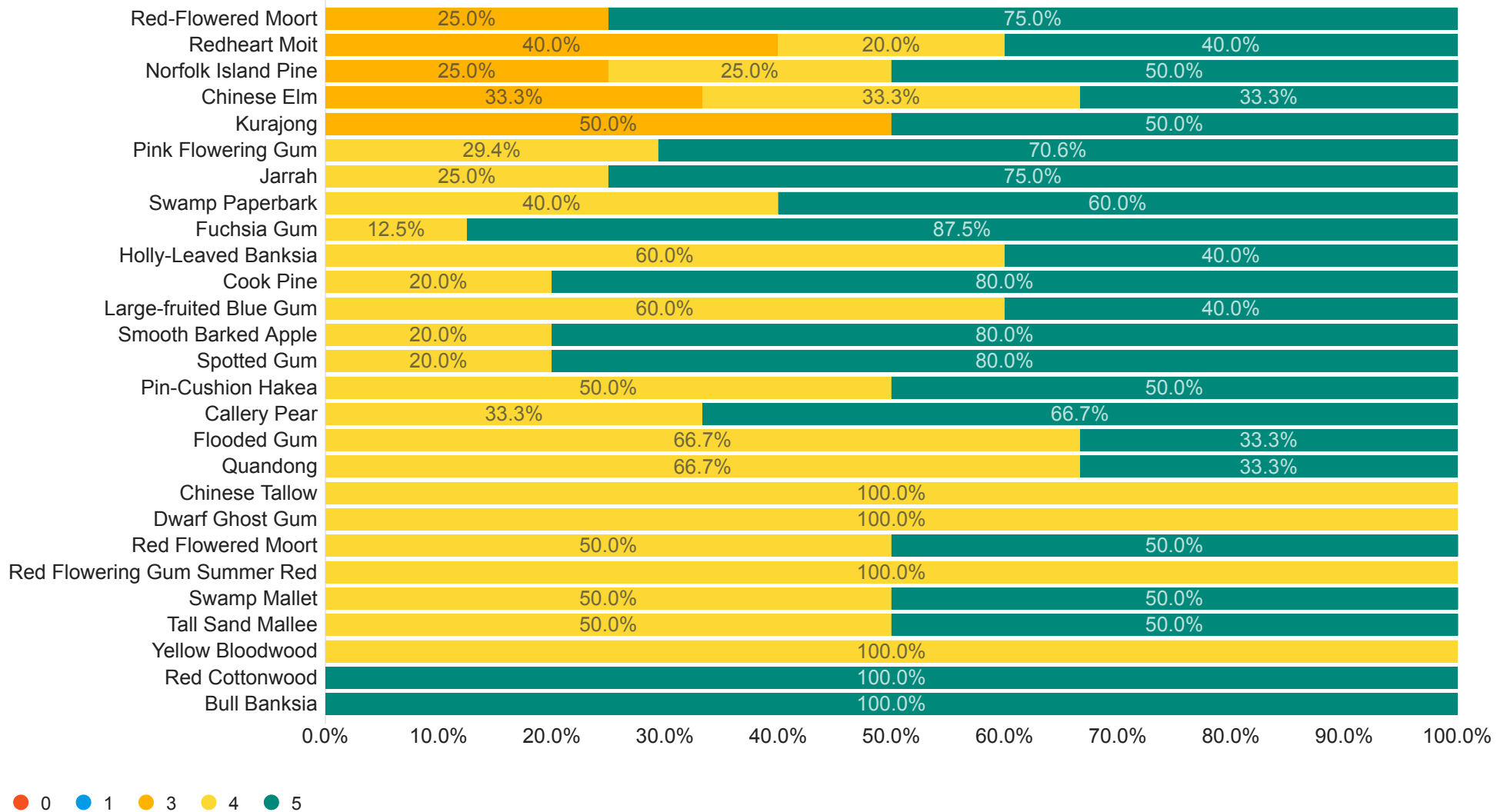
Suburb you live in...

Field	Responses
Bouvard	2
Coodanup	11
Dawesville	20
Dudley Park	23
Erskine	10
Falcon	16
Greenfields	20
Halls Head	38
Herron	0
Lakelands	6
Madora Bay	12
Mandurah	17
Meadow Springs	23
Parklands	2
San Remo	2
Silver Sands	8
Wannanup	10
Other	3

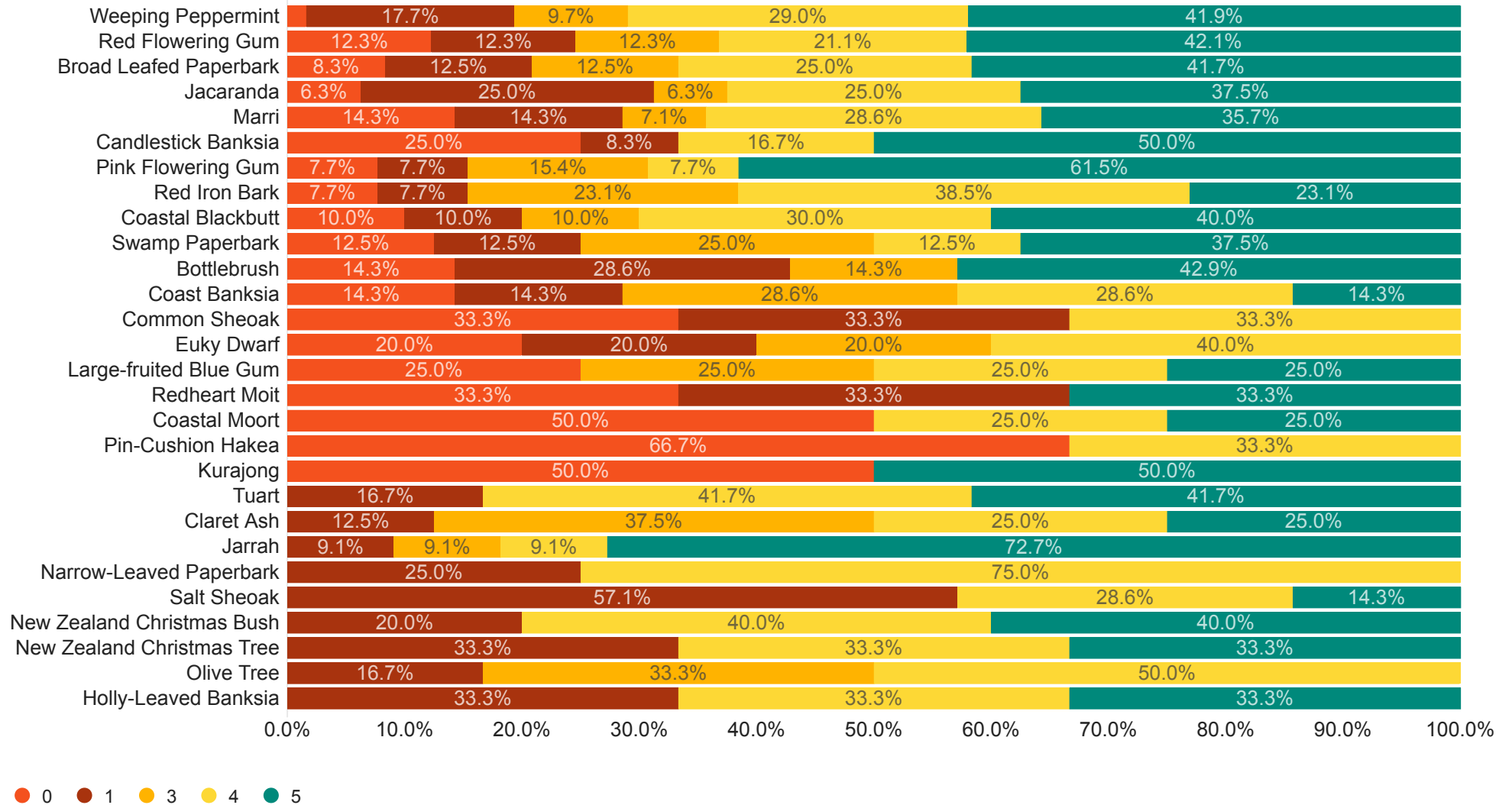
Aesthetics – Enhancing the streetscape vs. Trees Selected



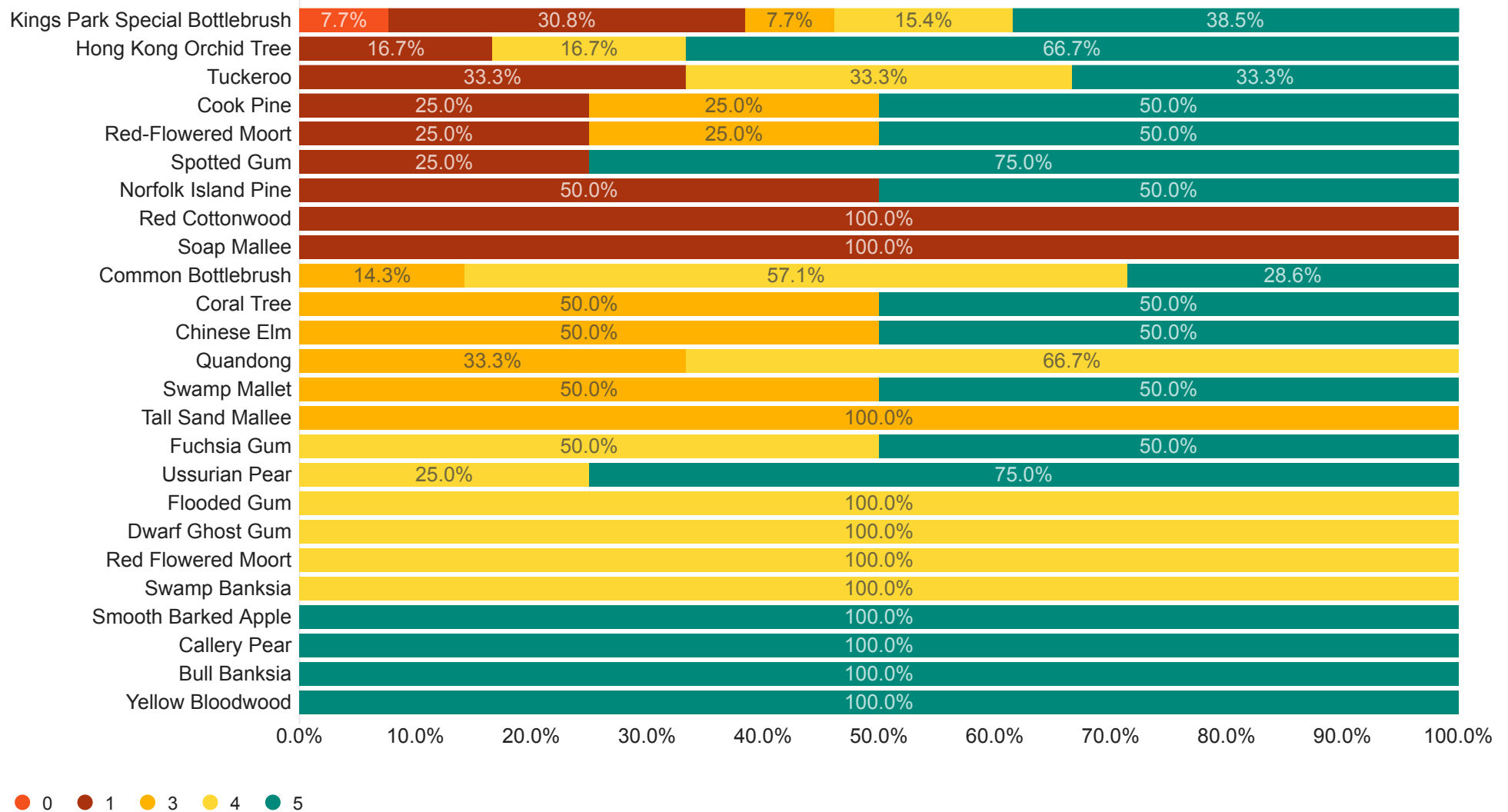
Aesthetics – Enhancing the streetscape vs. Trees Selected



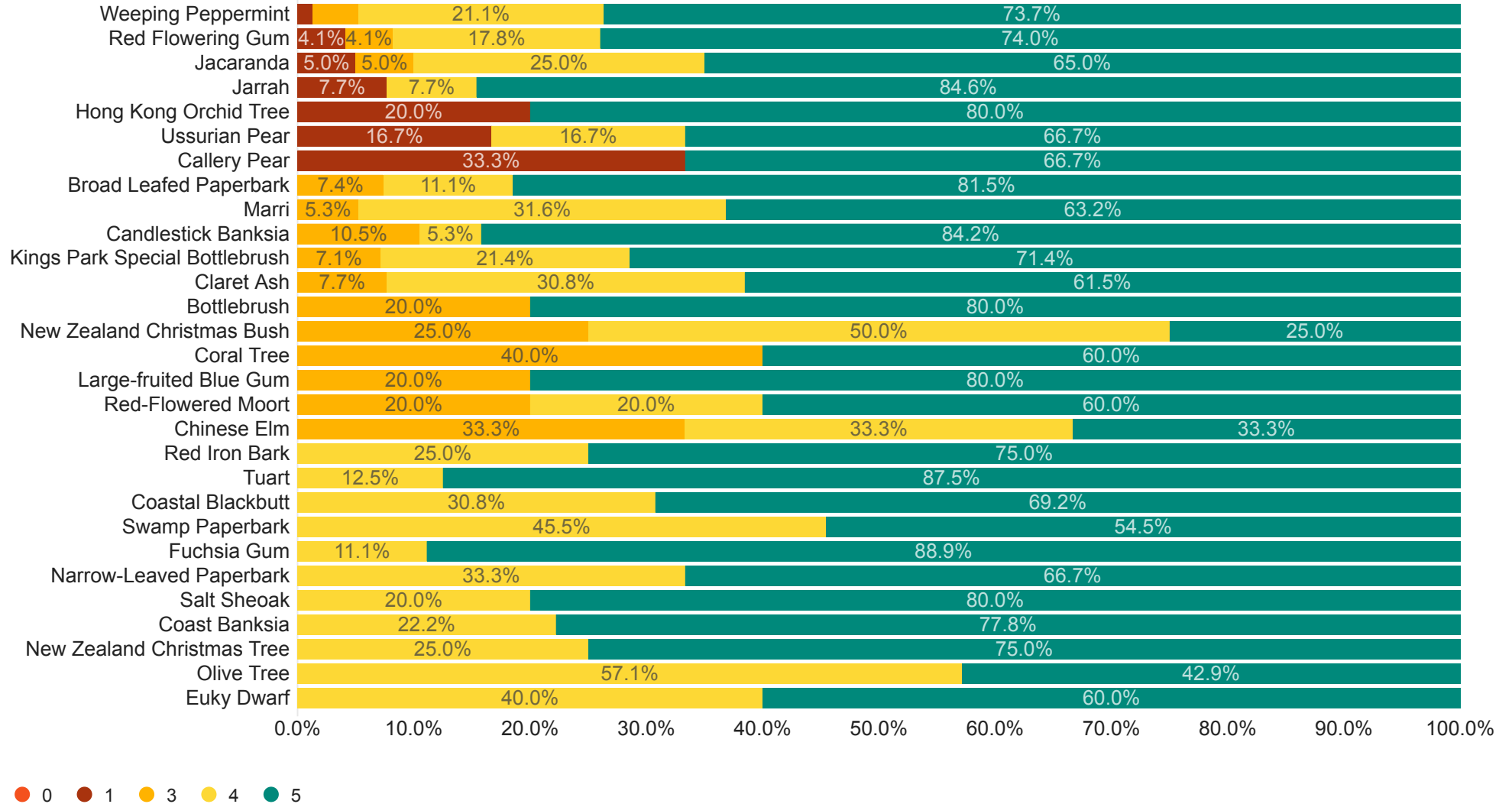
Increasing property values vs. Trees Selected



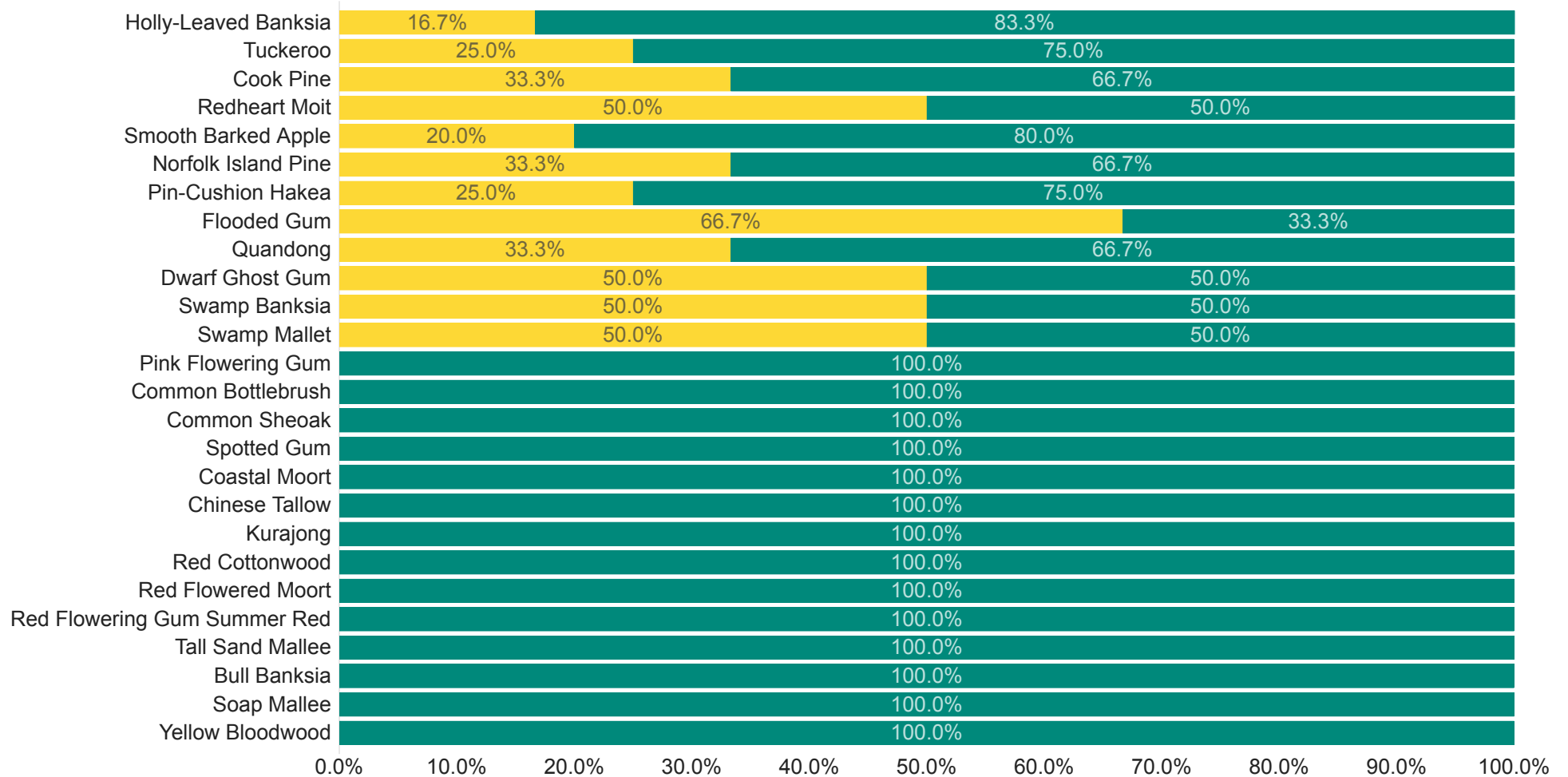
Increasing property values vs. Trees Selected



Increasing habitat and biodiversity vs. Trees Selected

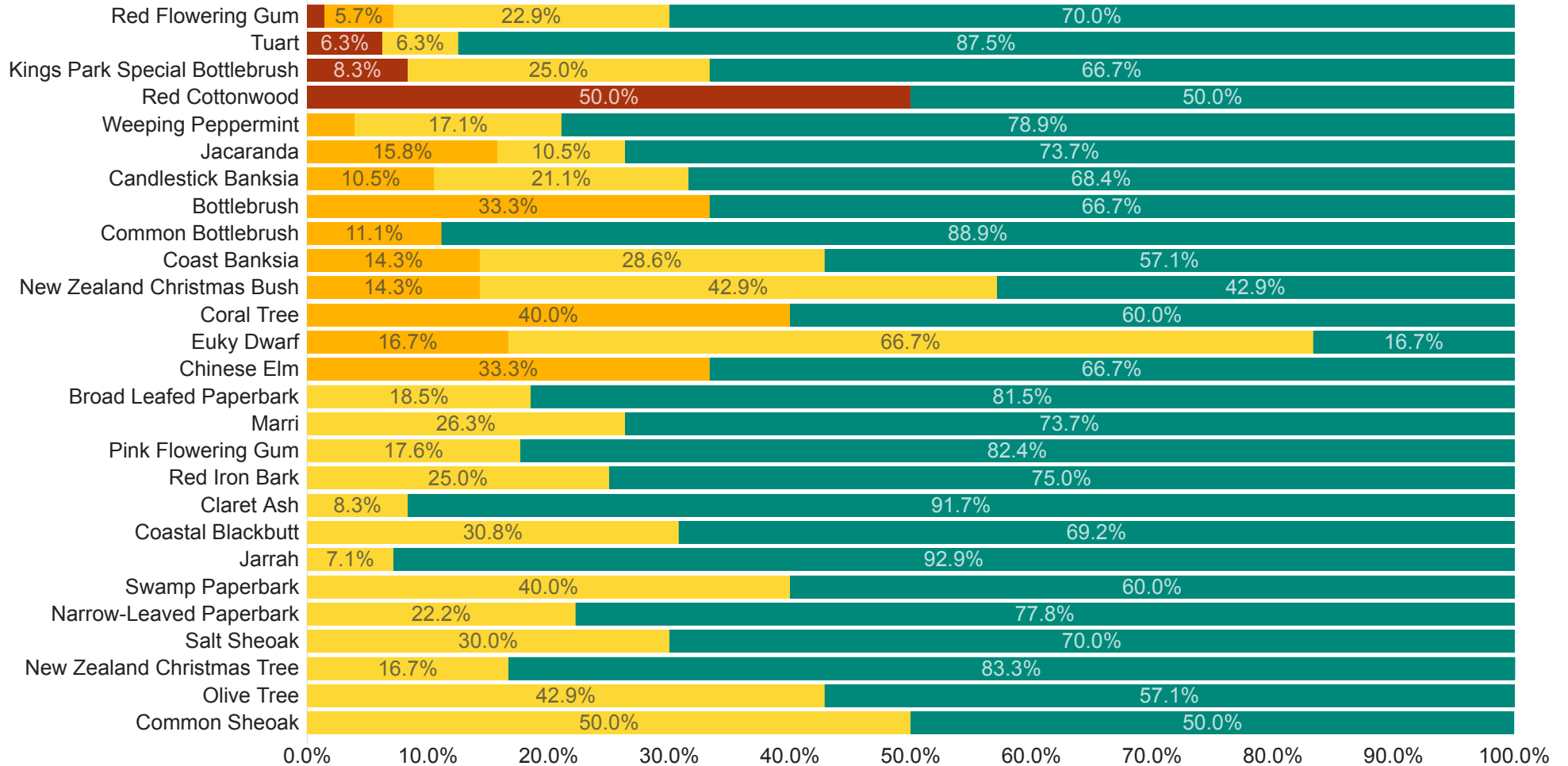


Increasing habitat and biodiversity vs. Trees Selected



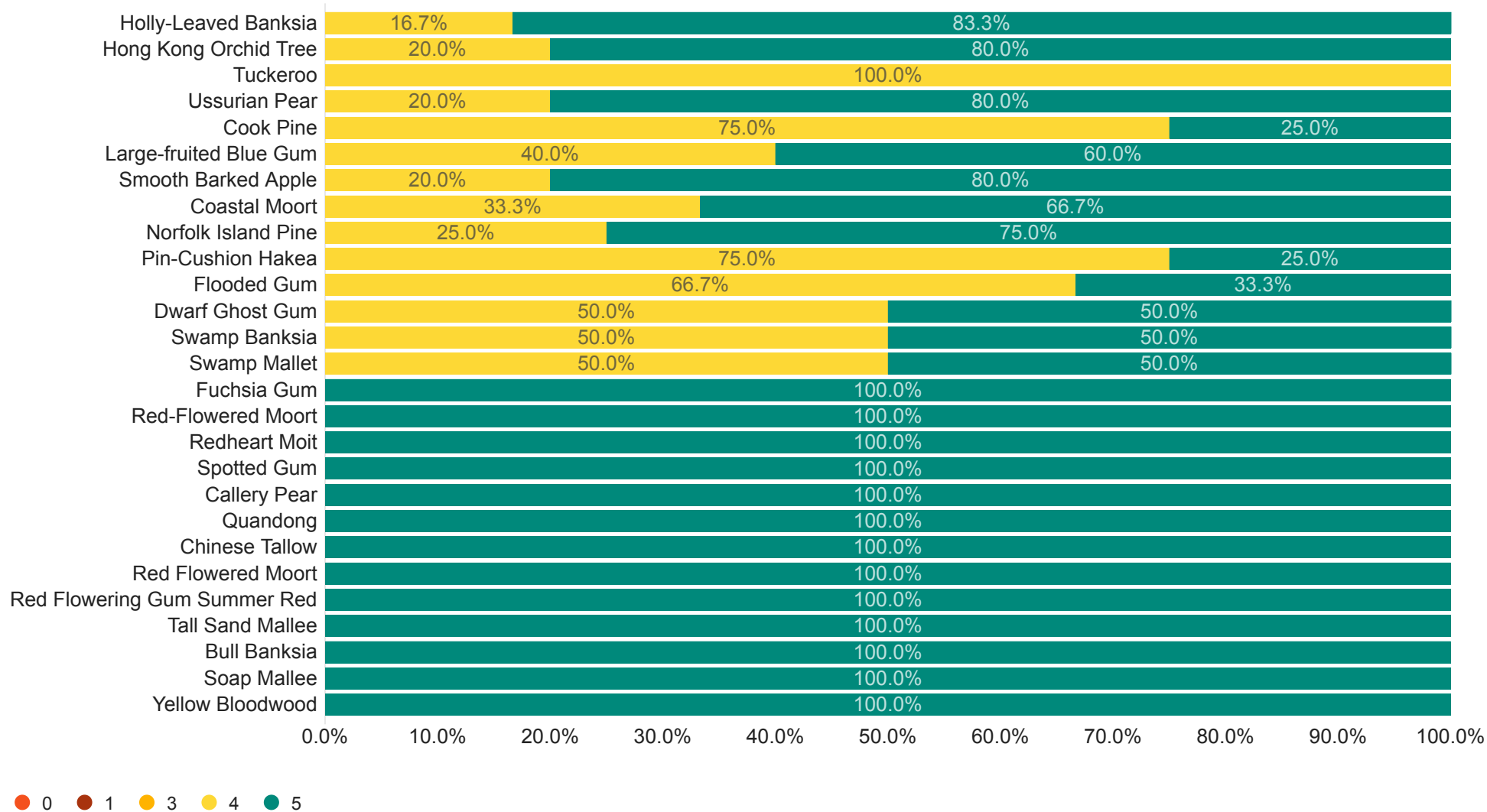
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Providing shade and cooling vs. Trees Selected

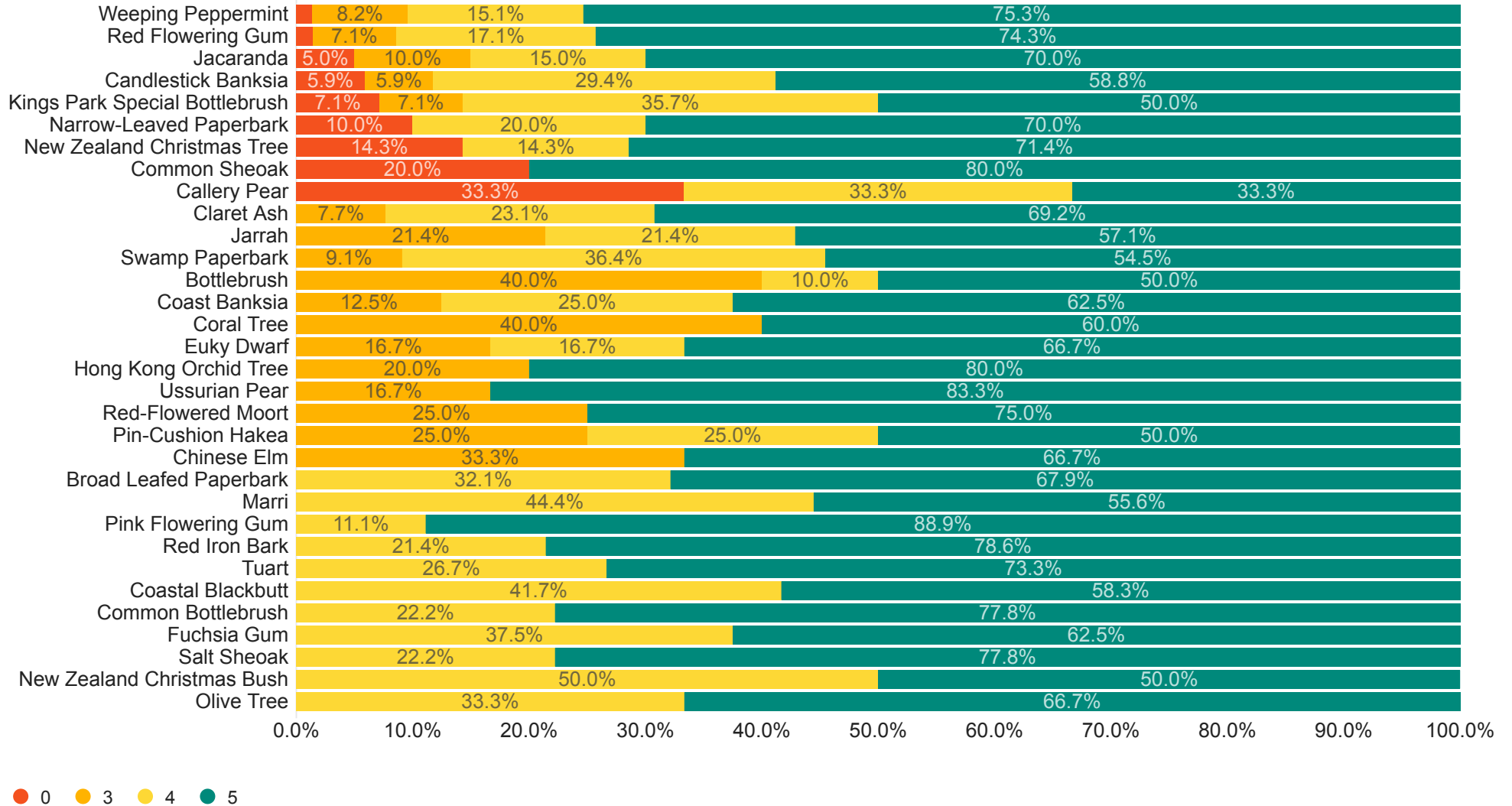


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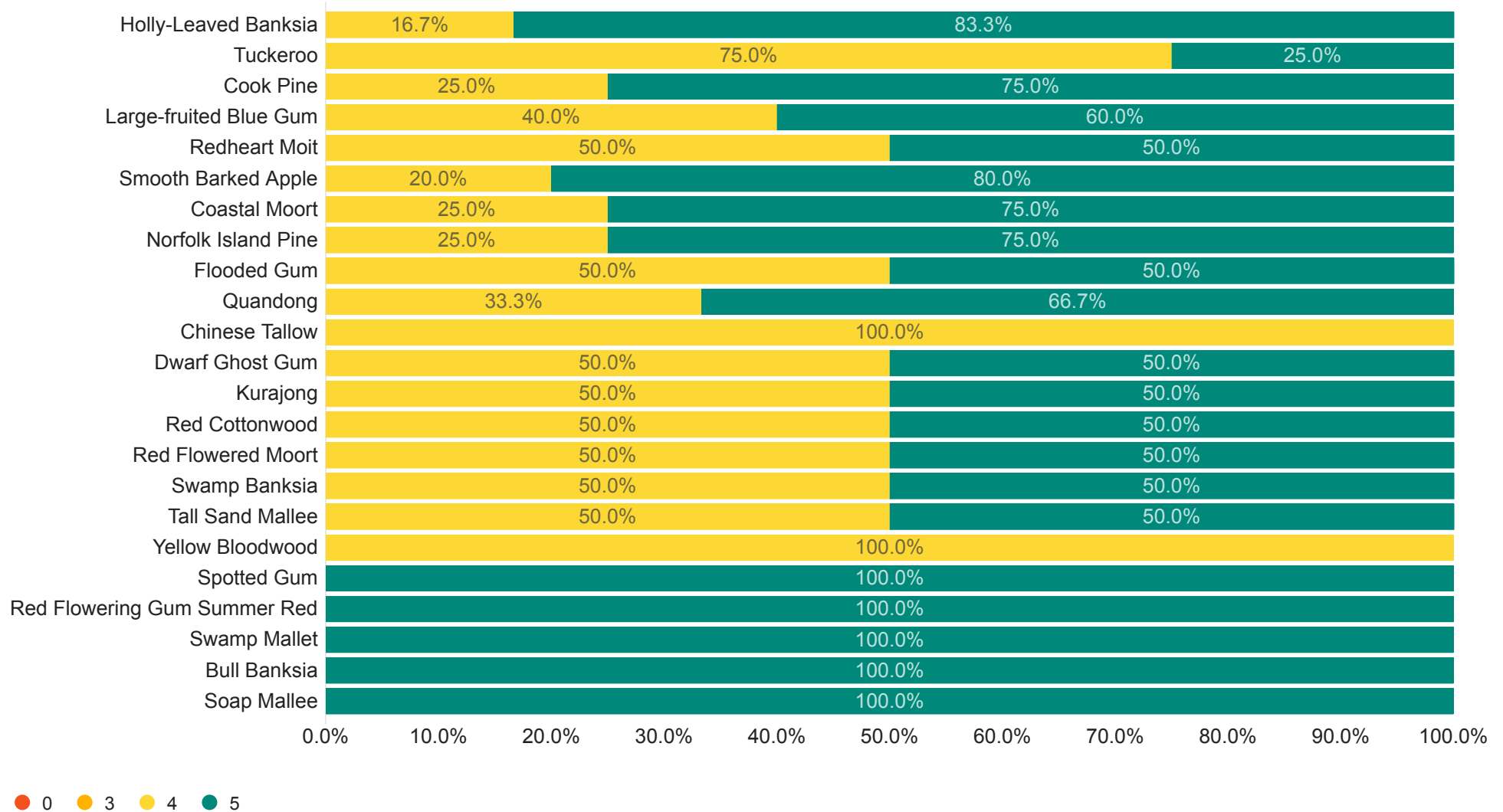
Providing shade and cooling vs. Trees Selected



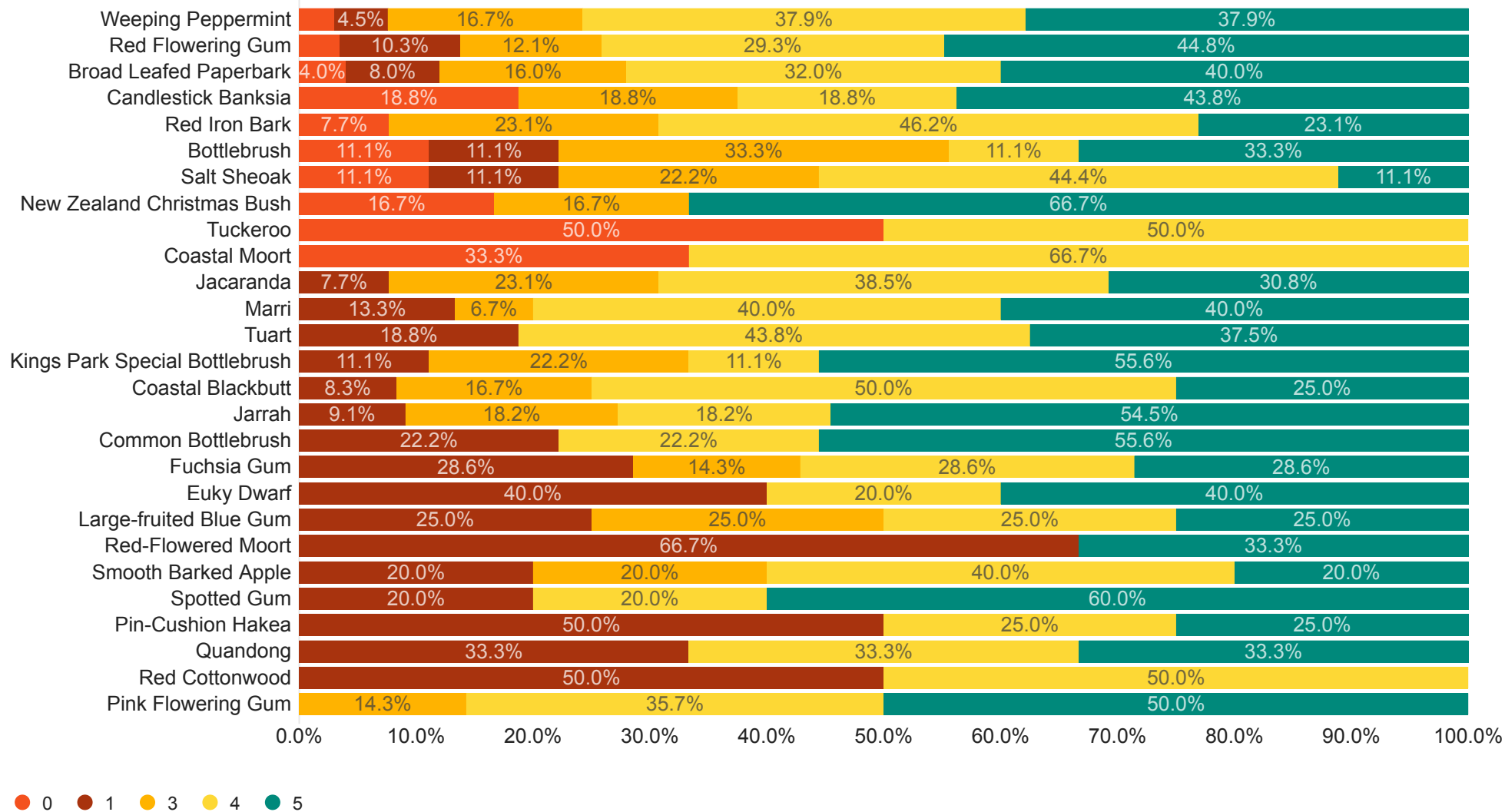
Absorbing carbon dioxide (reducing the impact of climate change) vs. Trees Selected



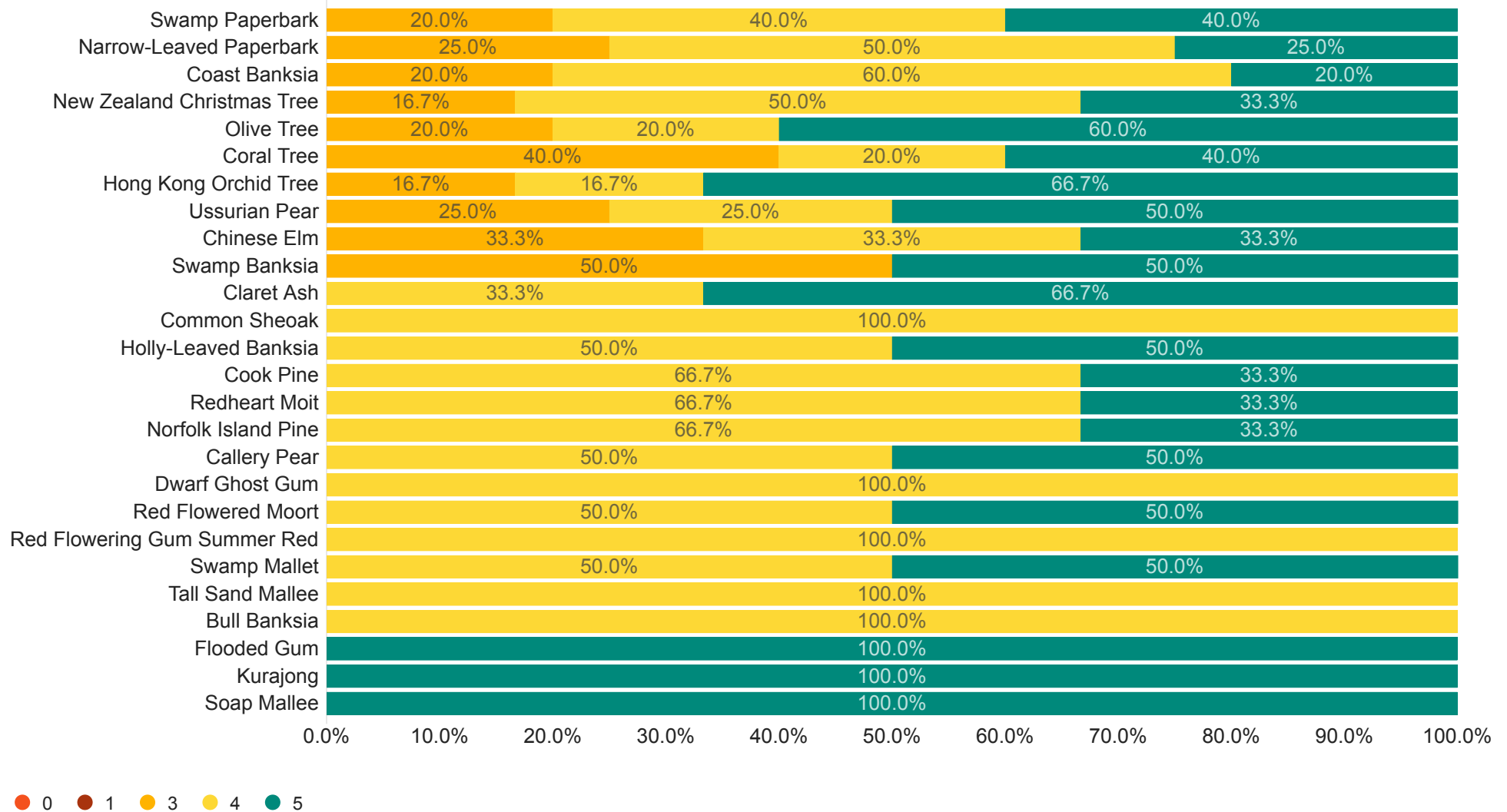
Absorbing carbon dioxide (reducing the impact of climate change) vs. Trees Selected



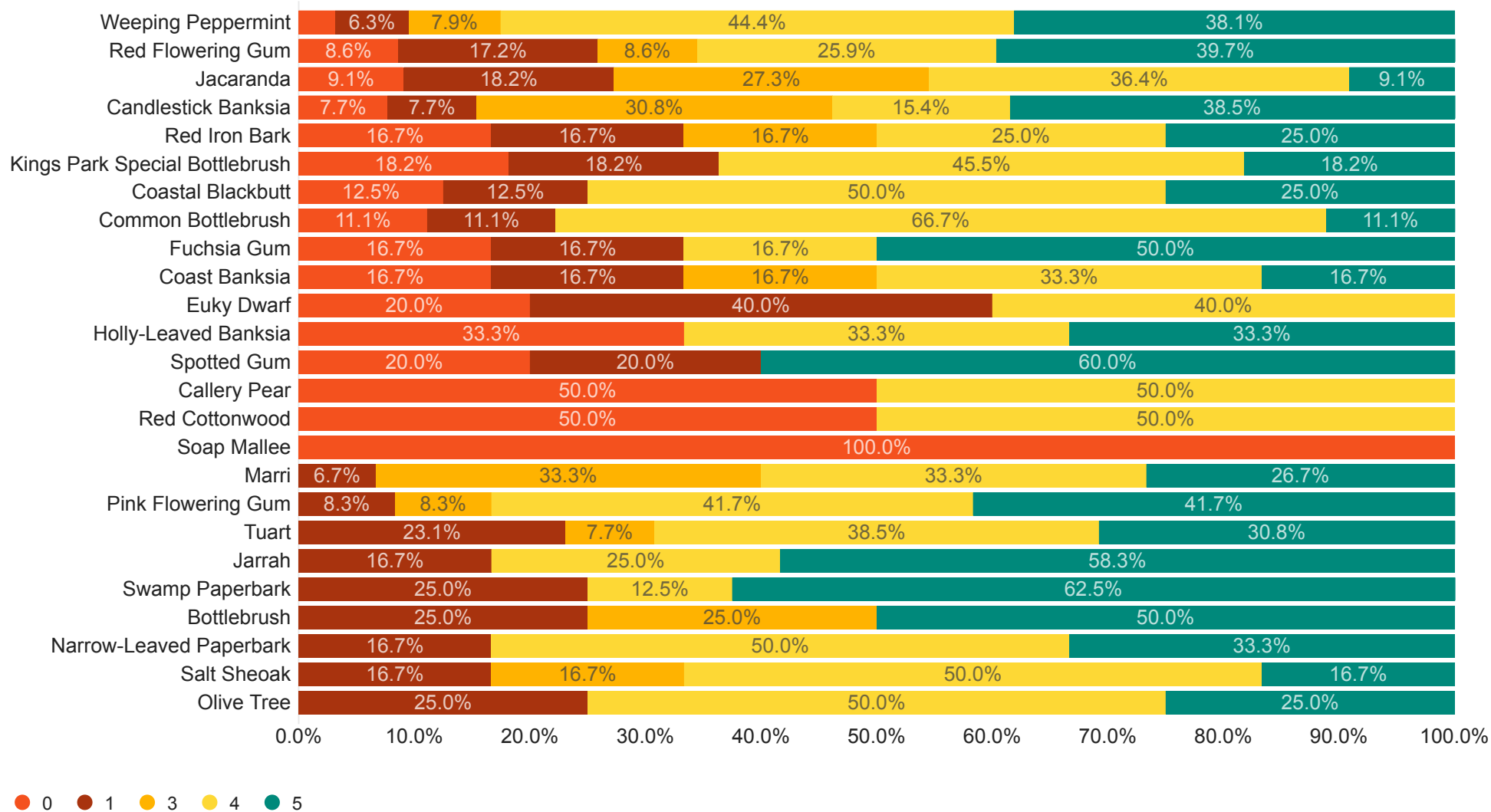
Providing windbreaks or visual screening vs. Trees Selected



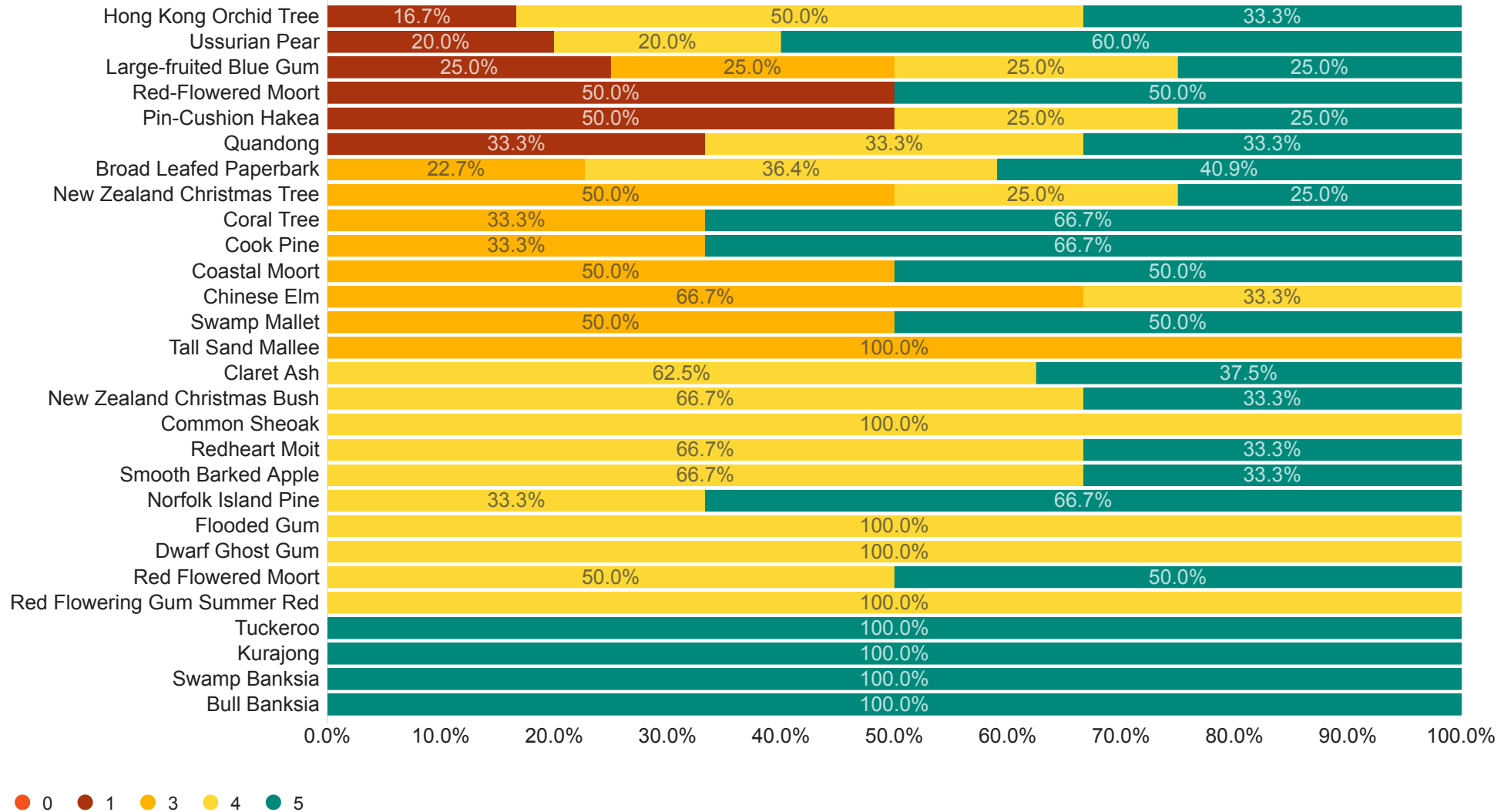
Providing windbreaks or visual screening vs. Trees Selected



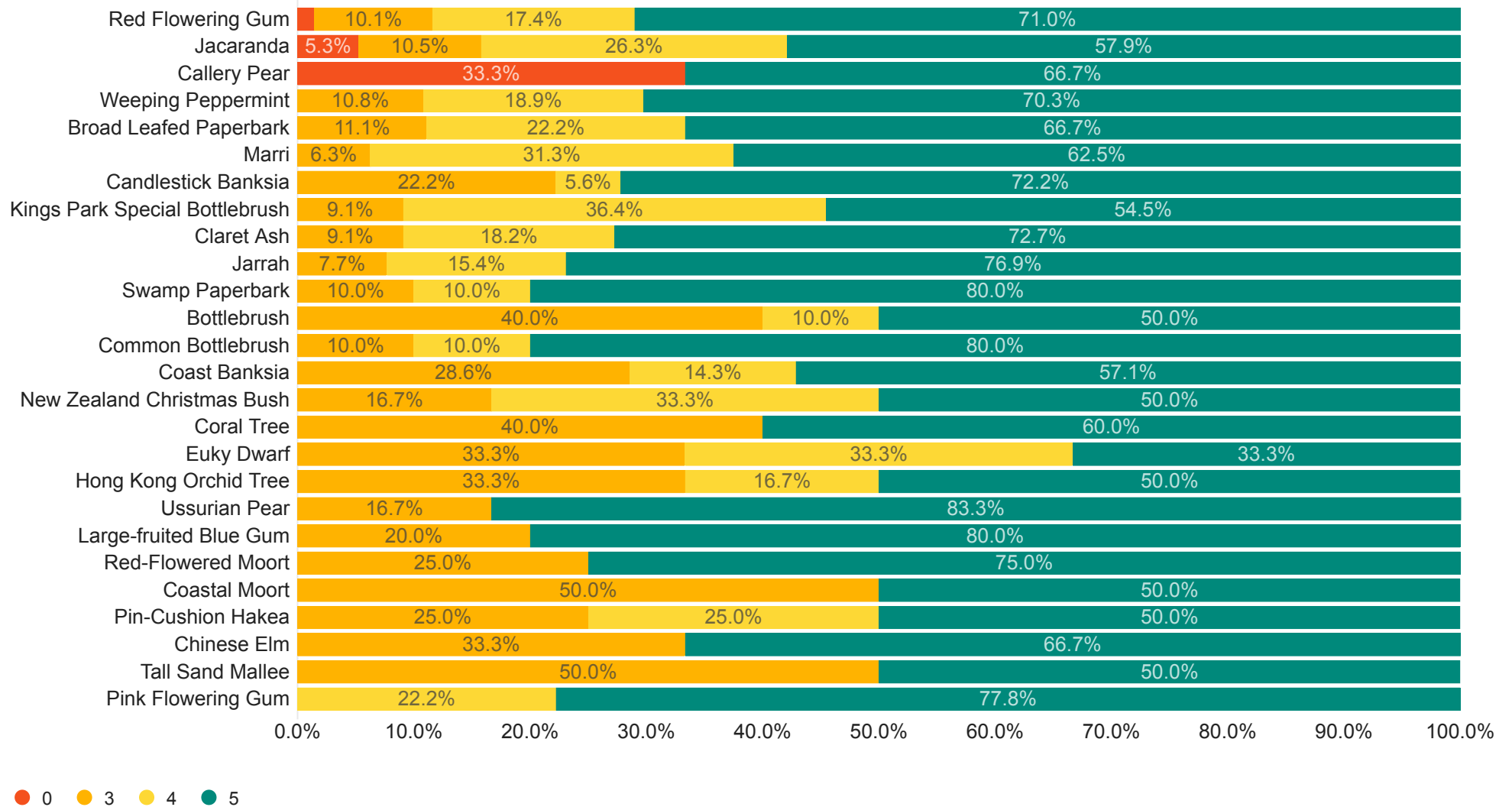
Encouraging drivers to reduce speed vs. Trees Selected



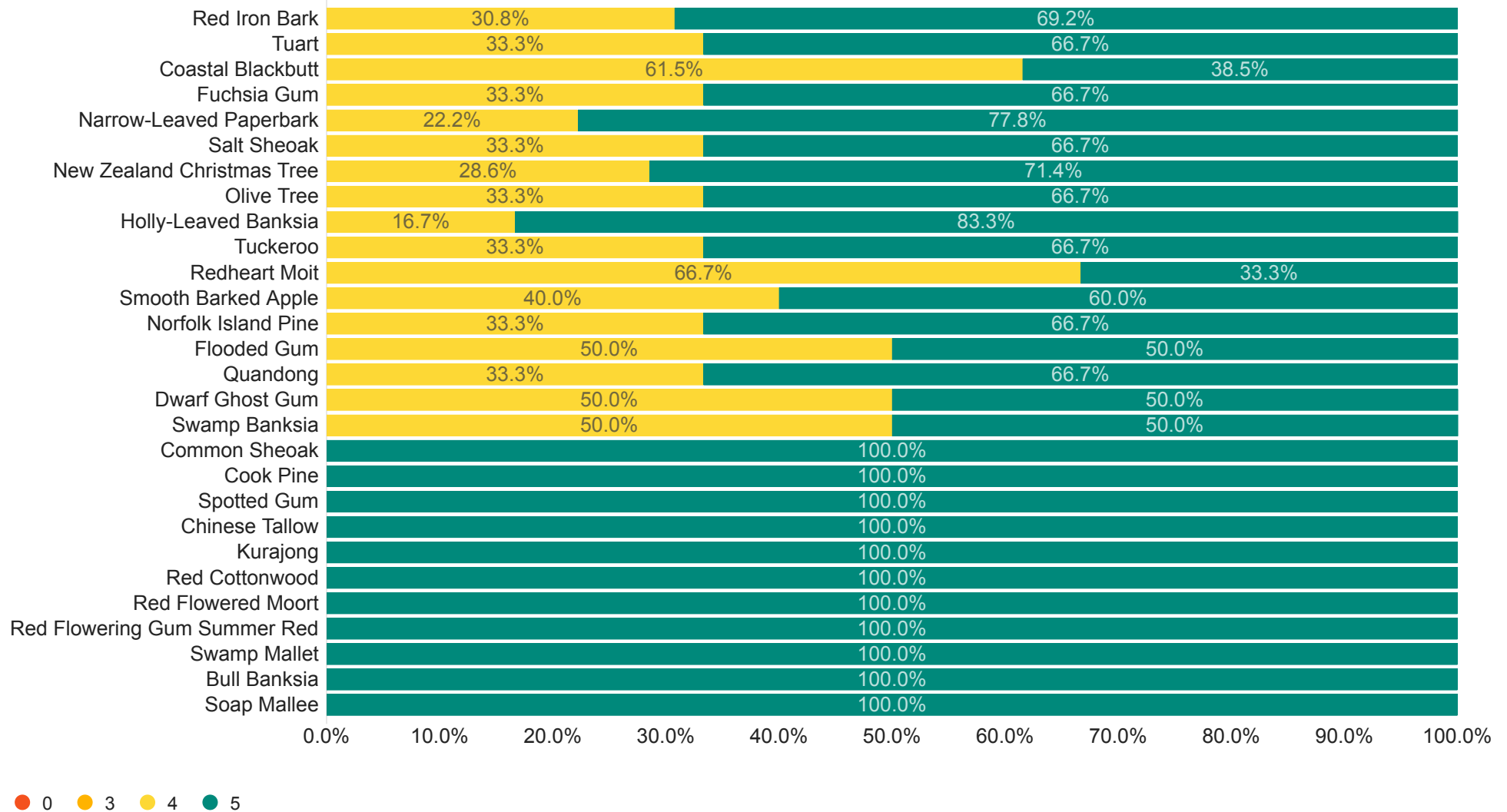
Encouraging drivers to reduce speed vs. Trees Selected



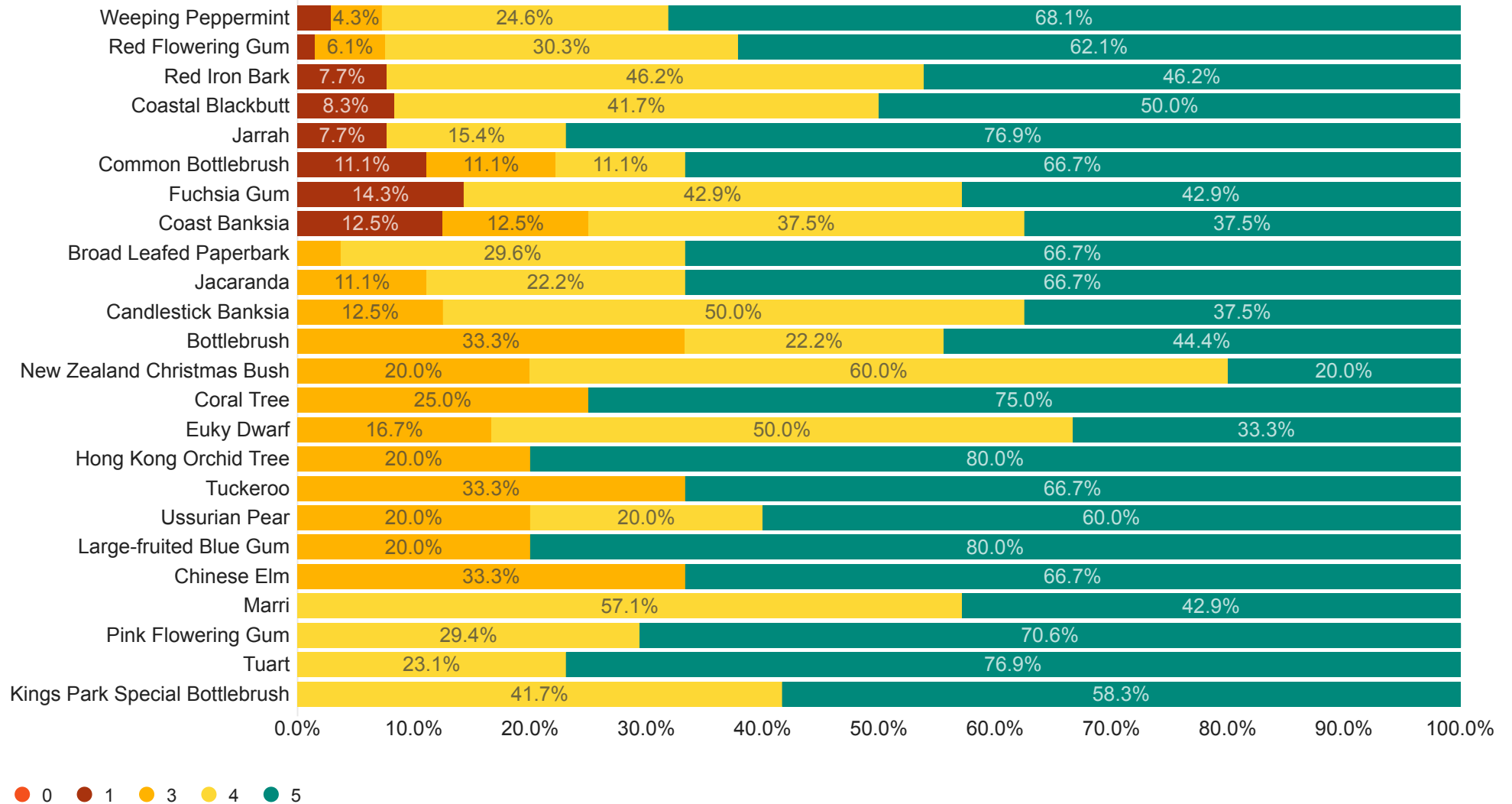
Improved air quality vs. Trees Selected



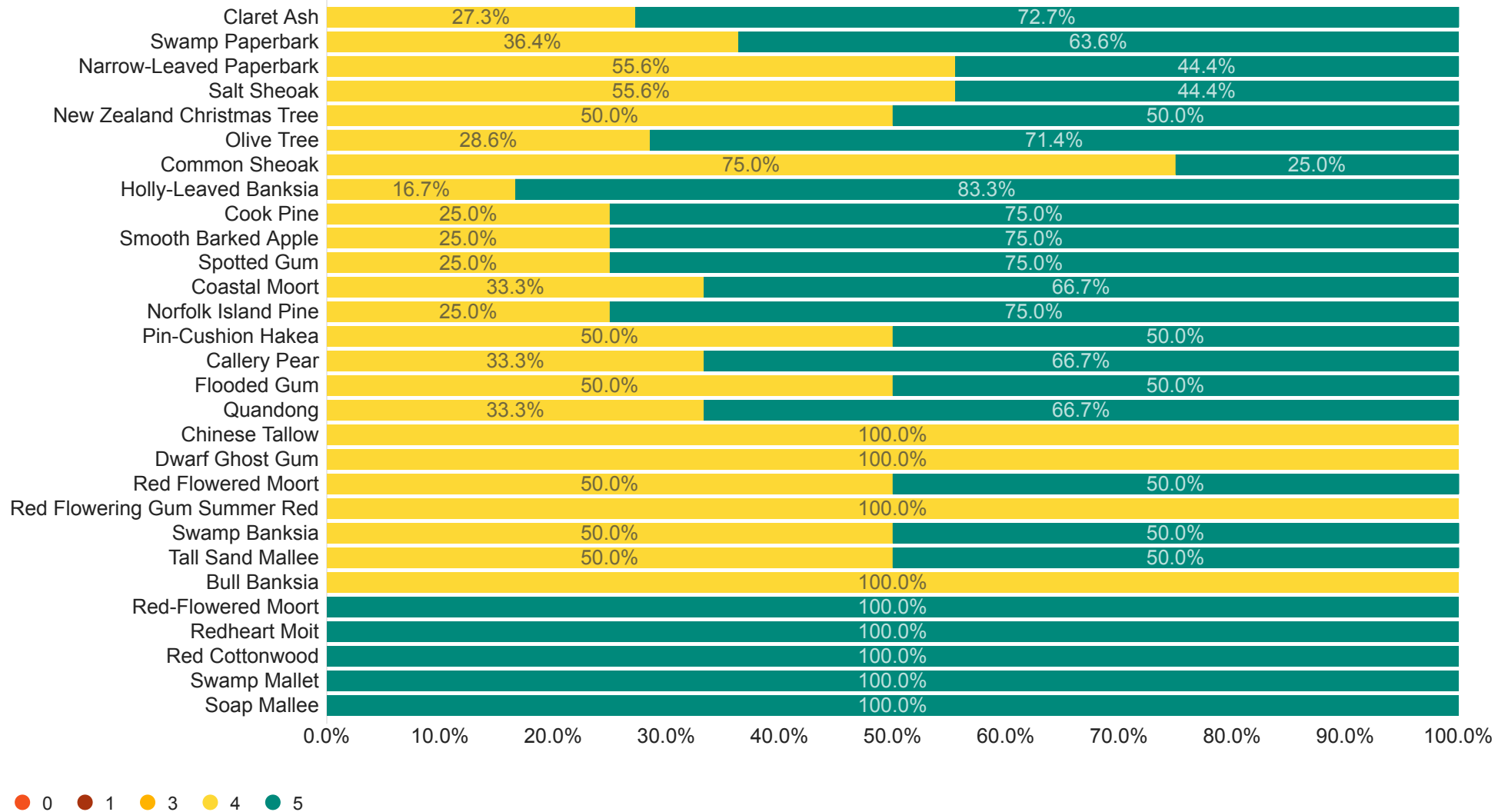
Improved air quality vs. Trees Selected



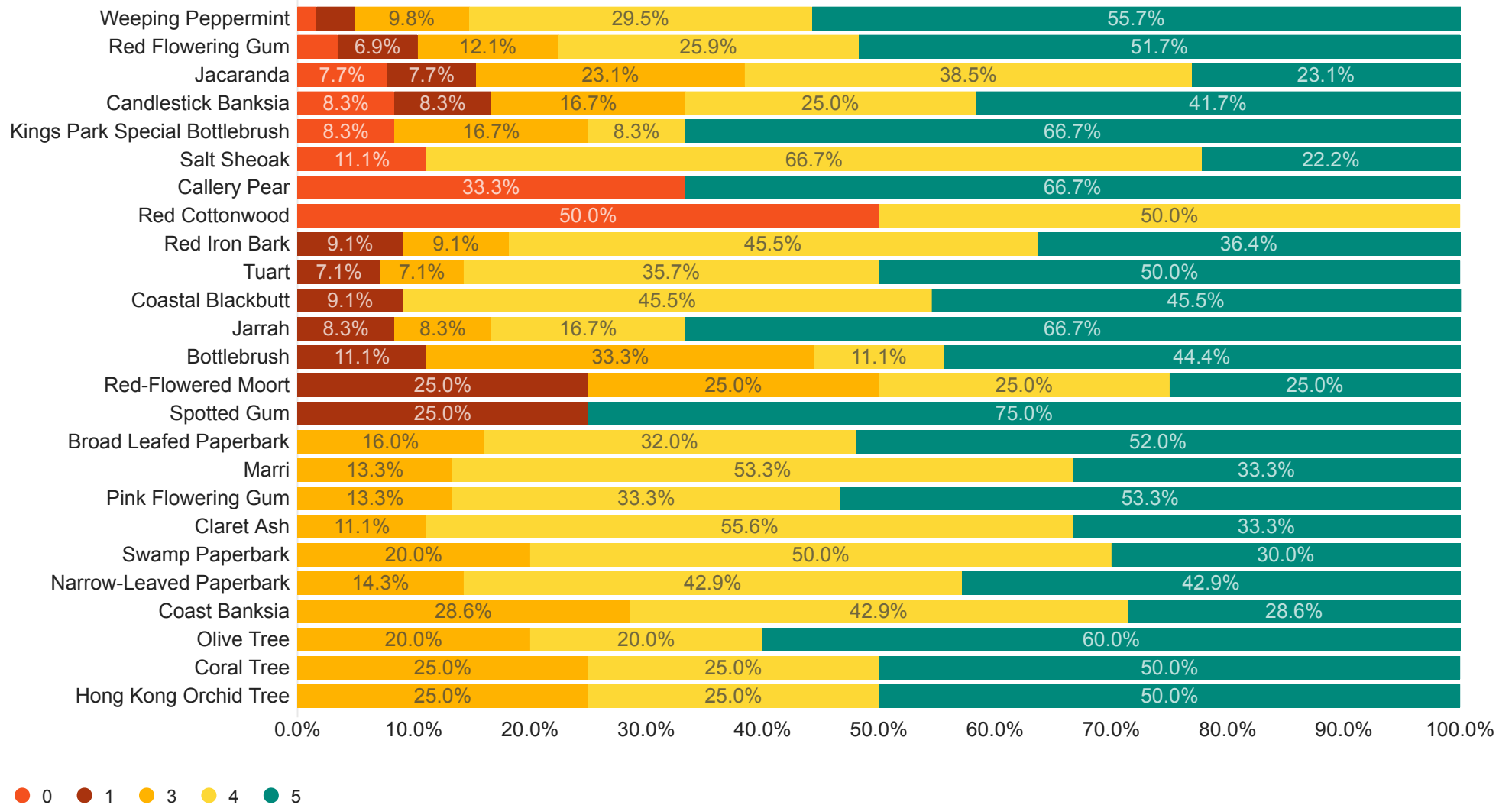
Community health and wellbeing vs. Trees Selected



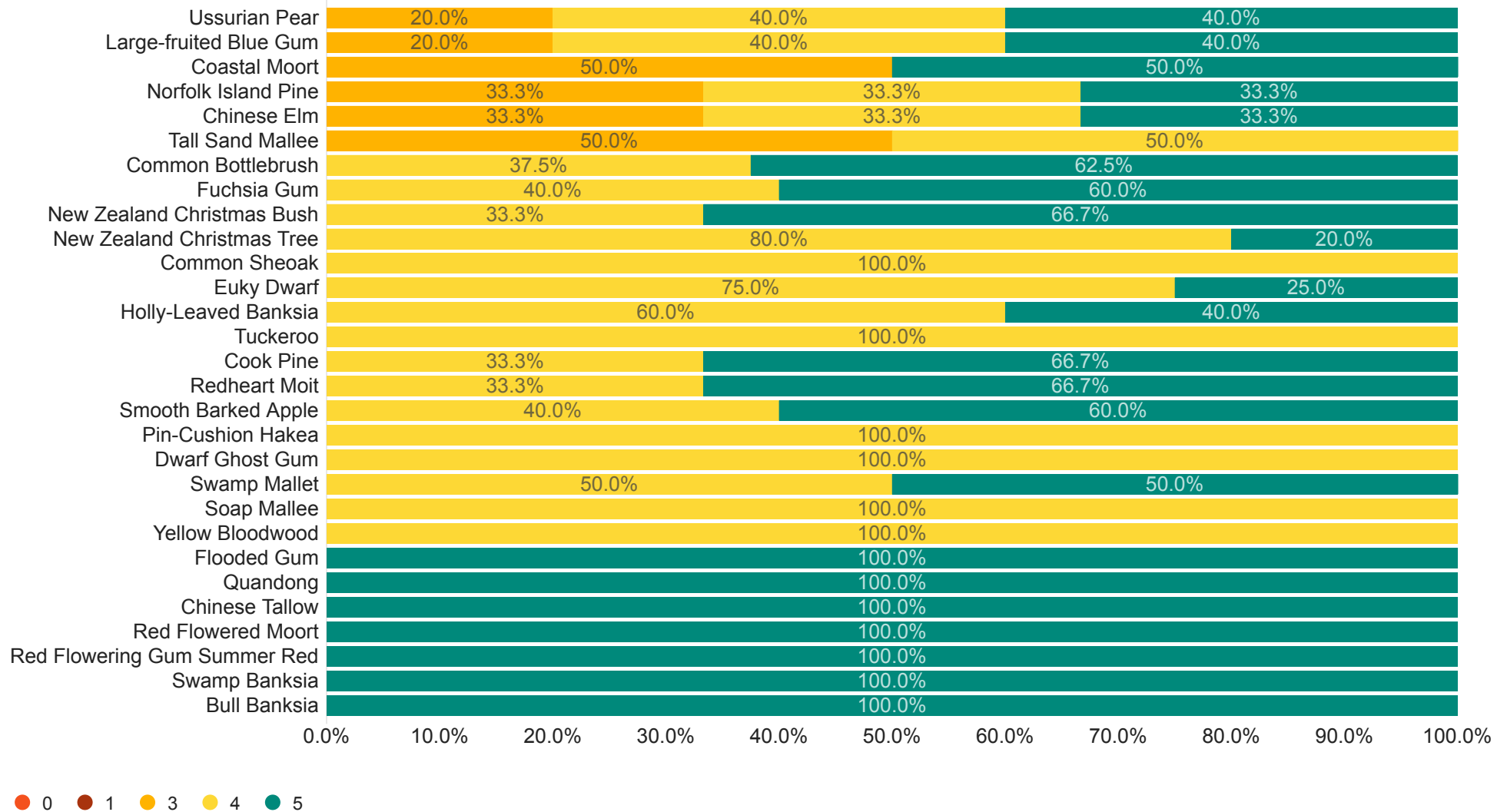
Community health and wellbeing vs. Trees Selected



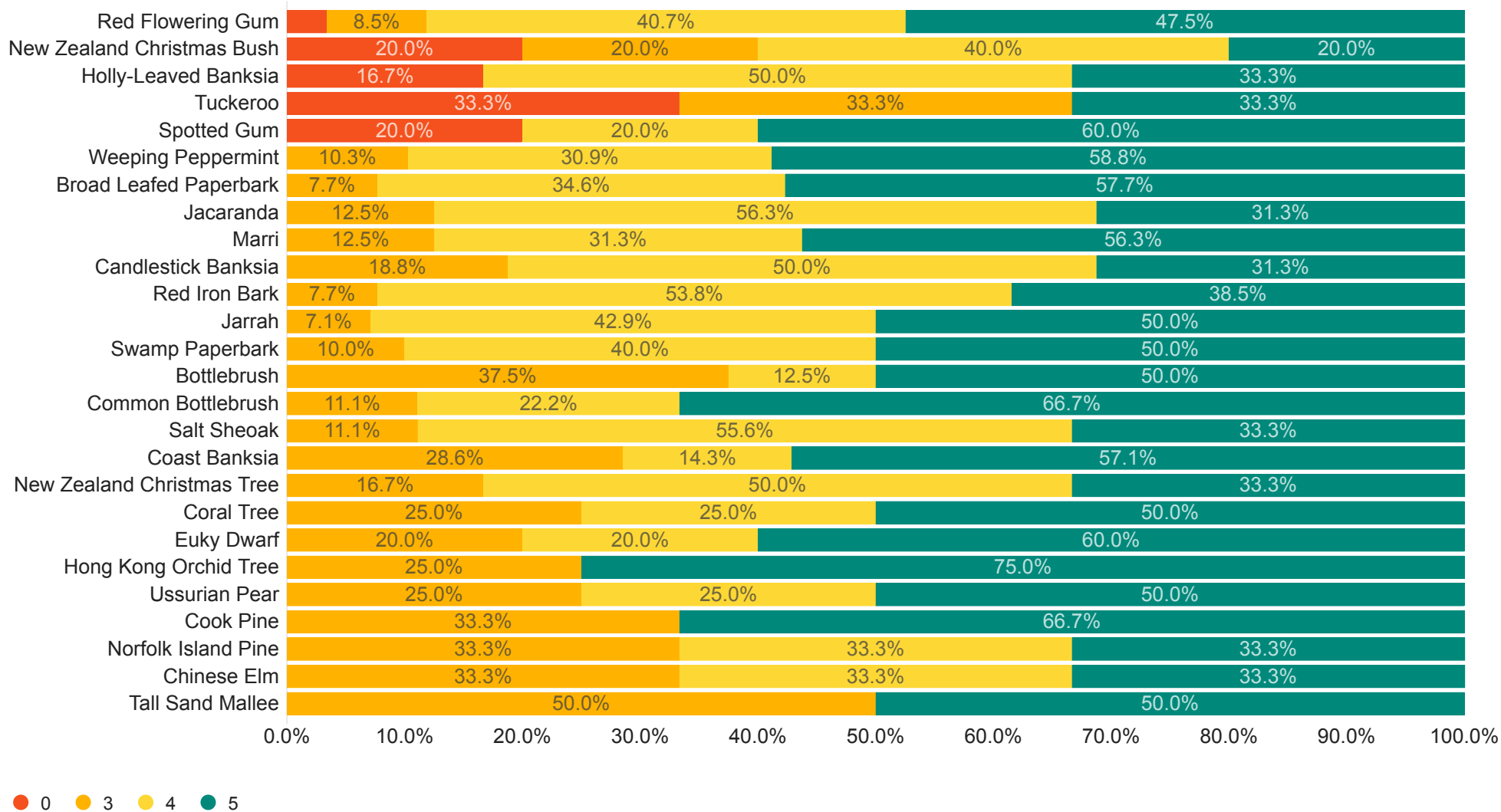
Reducing stormwater runoff vs. Trees Selected



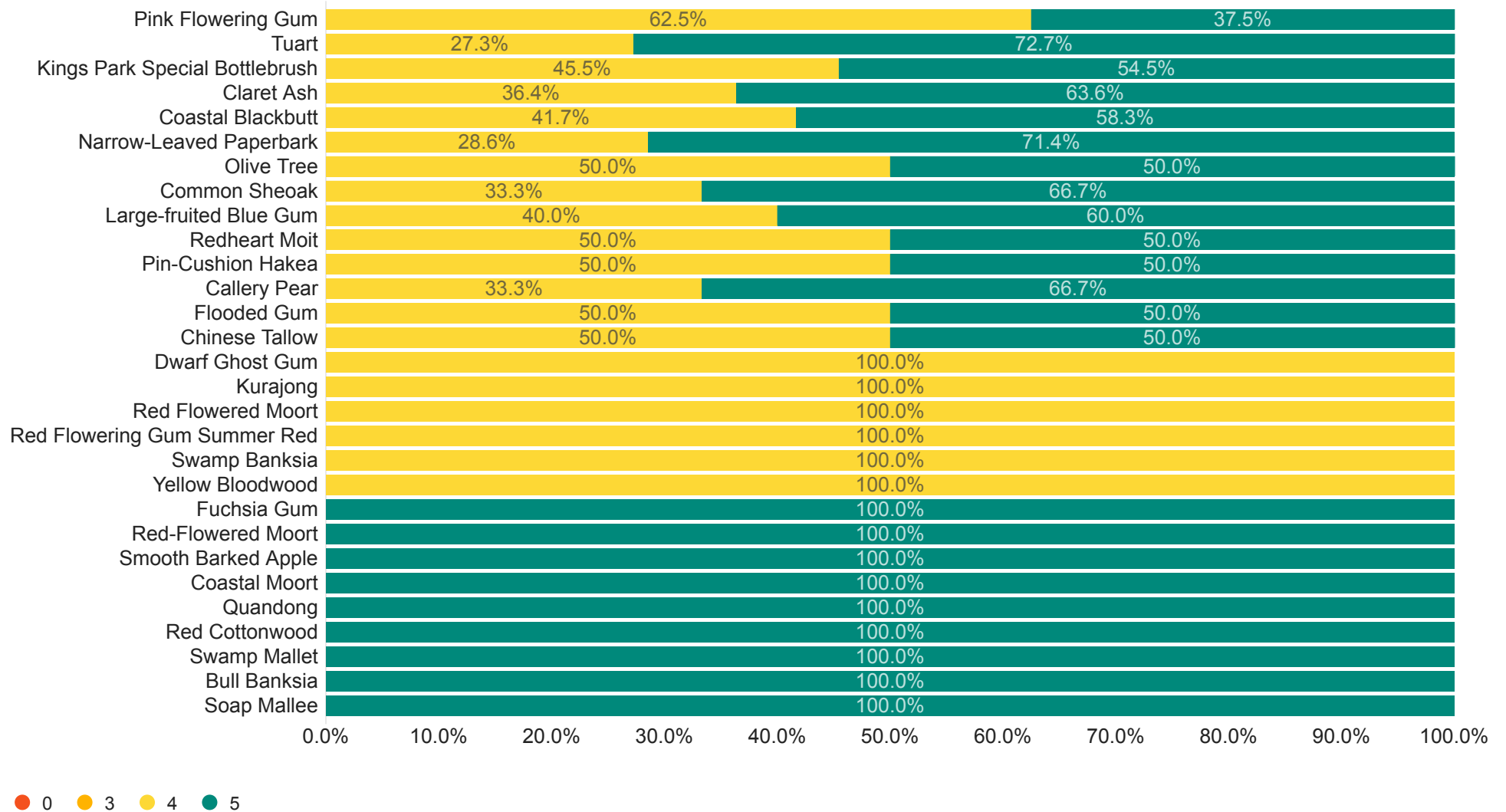
Reducing stormwater runoff vs. Trees Selected



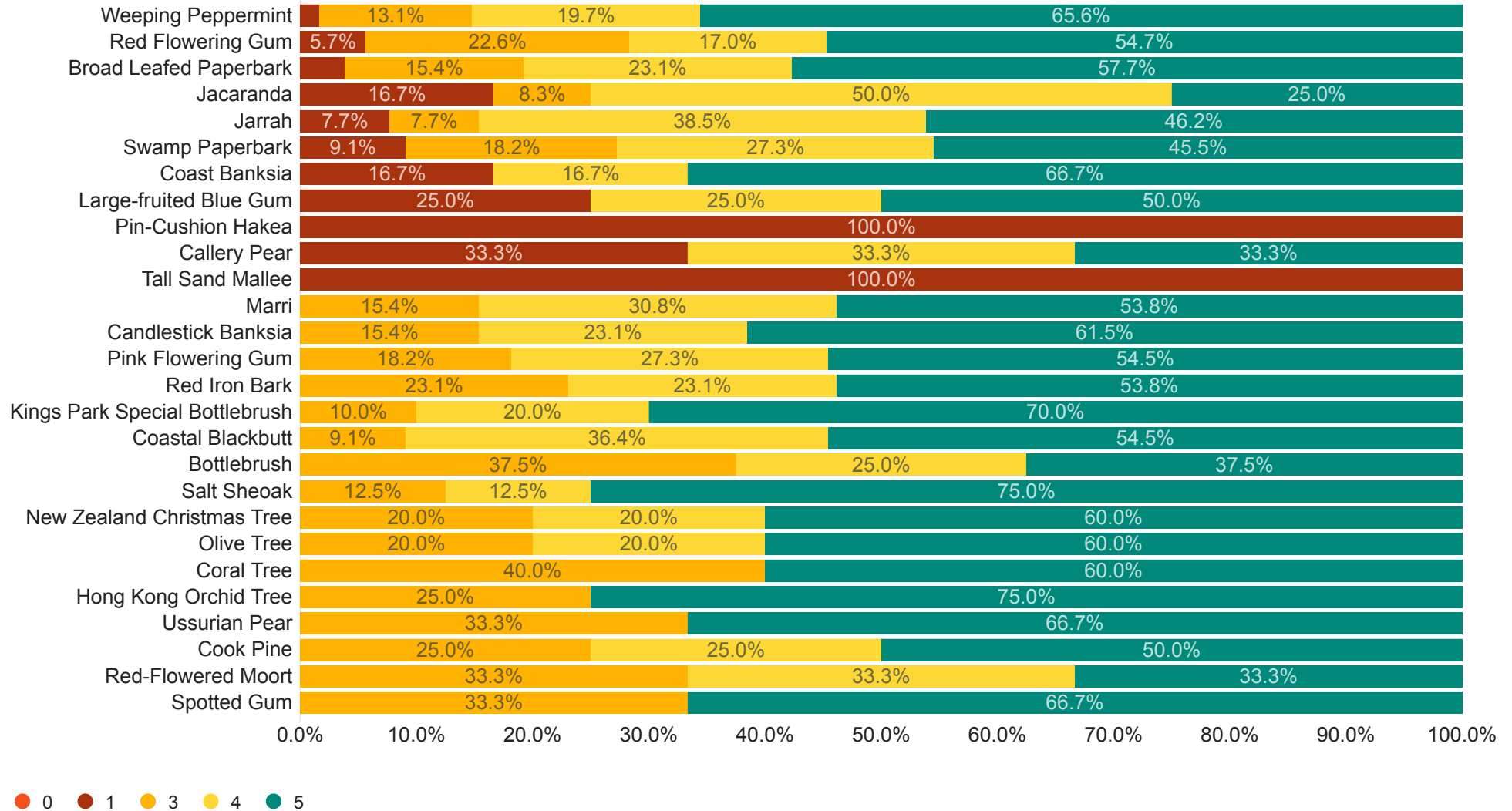
Encouraging outdoor activity vs. Trees Selected



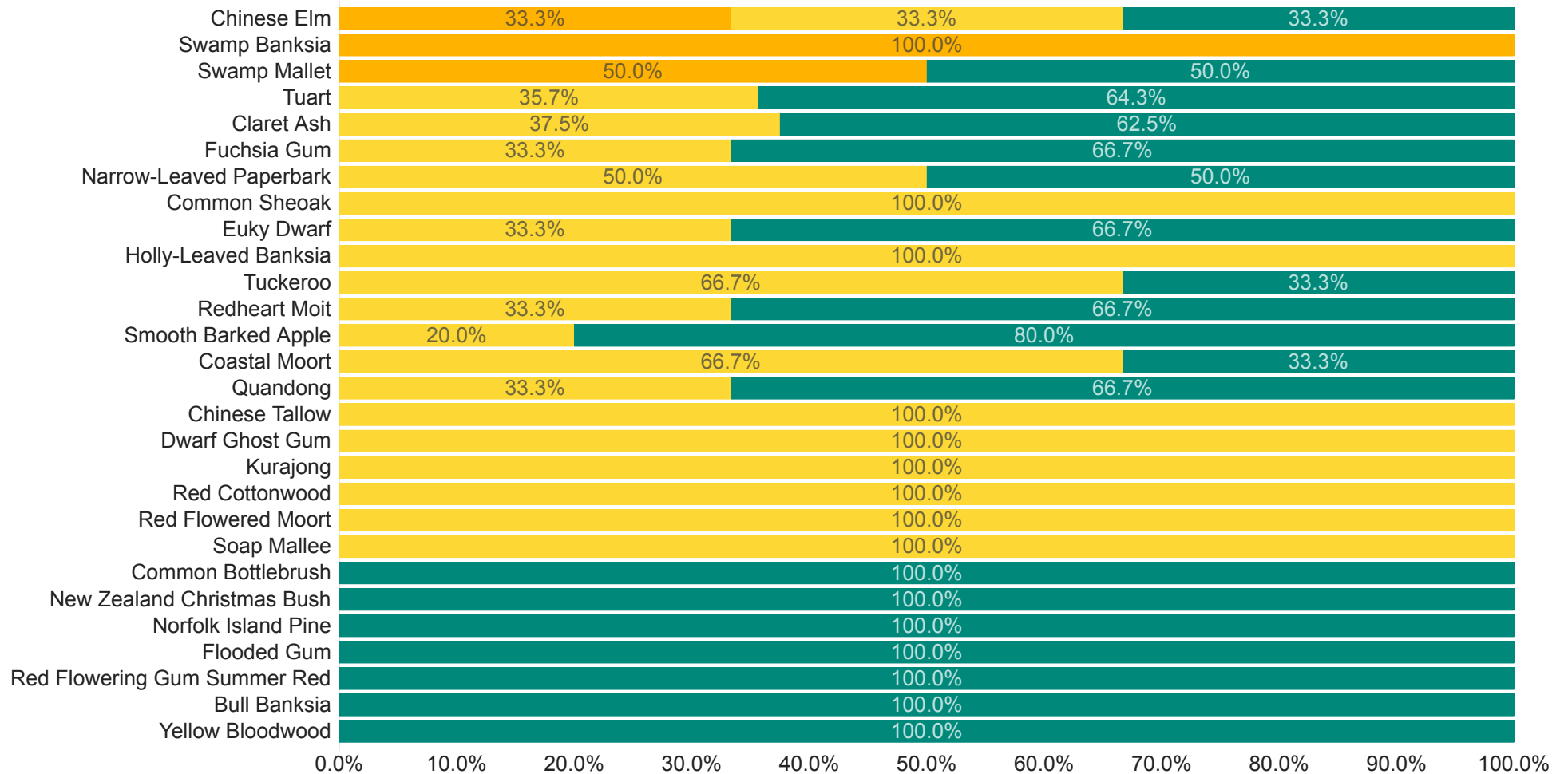
Encouraging outdoor activity vs. Trees Selected



Reducing energy costs of residents vs. Trees Selected

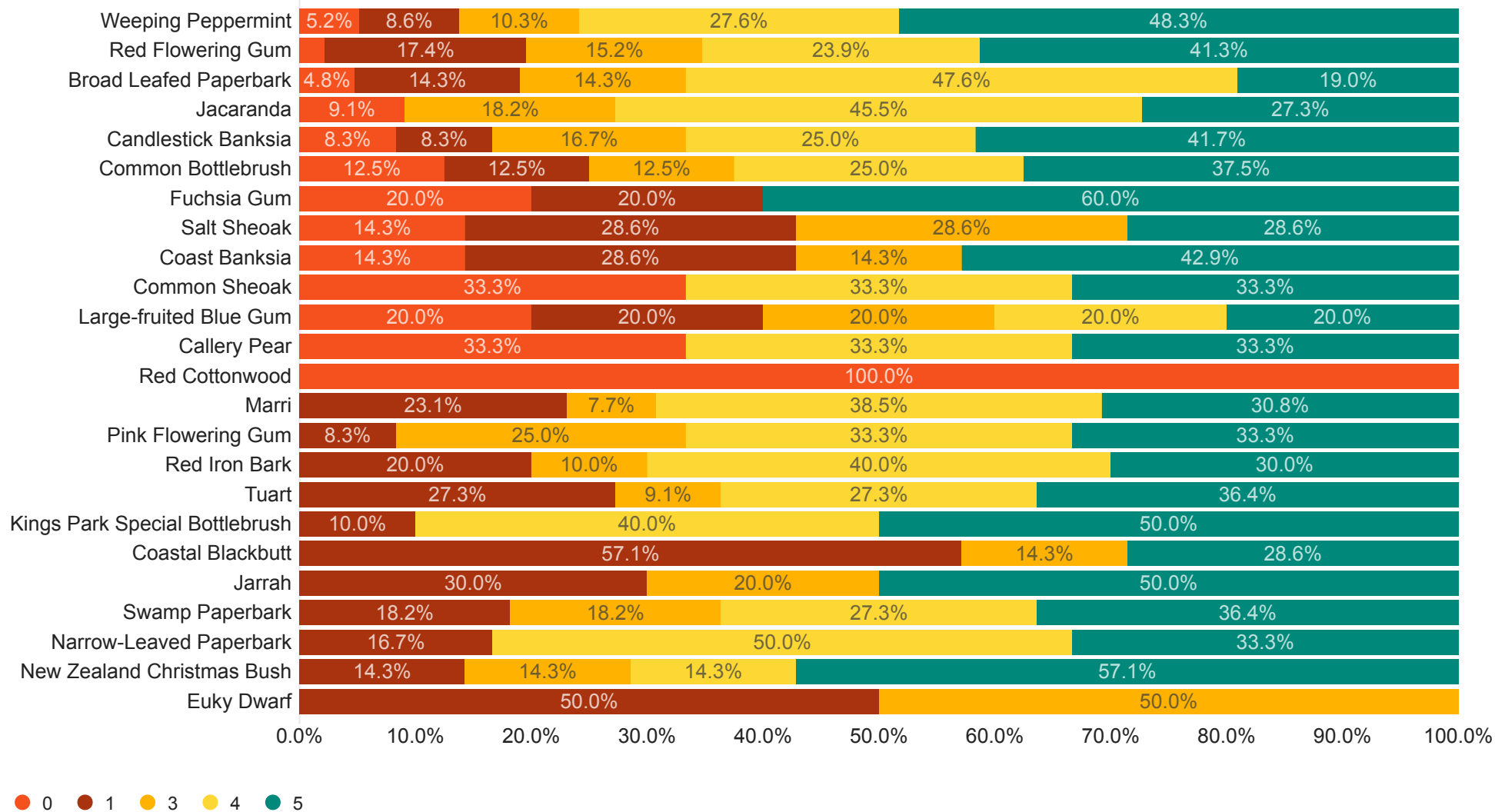


Reducing energy costs of residents vs. Trees Selected

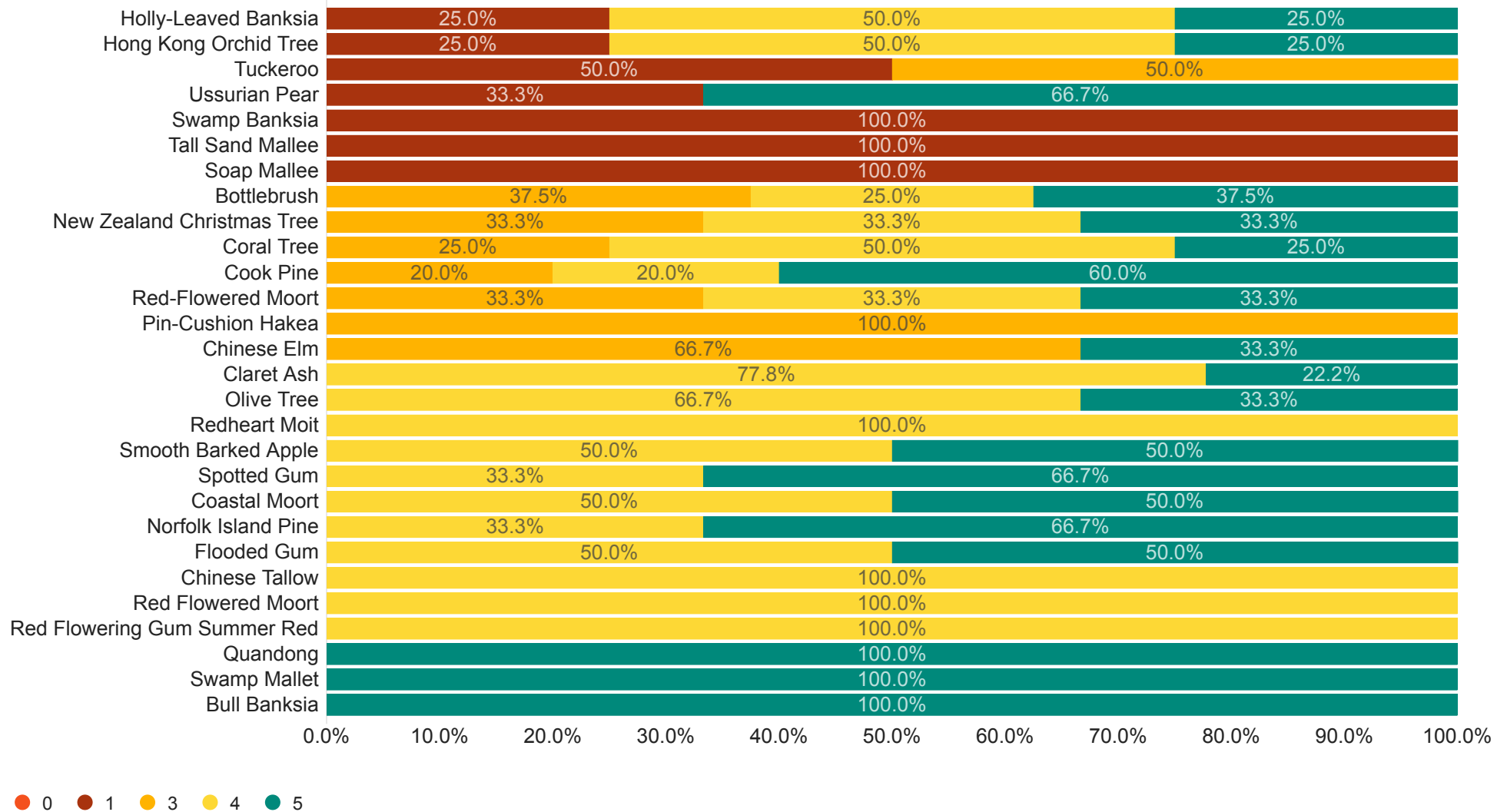


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Fire safety by reducing ember attack on roofs (some species are flame retardant) vs. Trees Selected

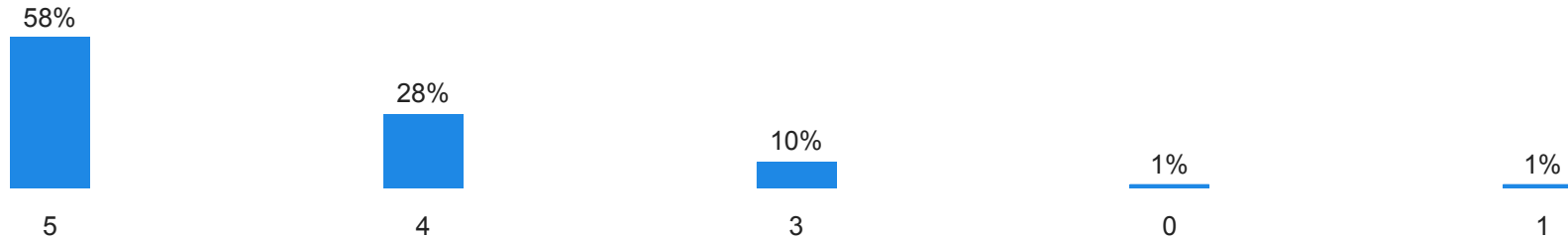


Fire safety by reducing ember attack on roofs (some species are flame retardant) vs. Trees Selected

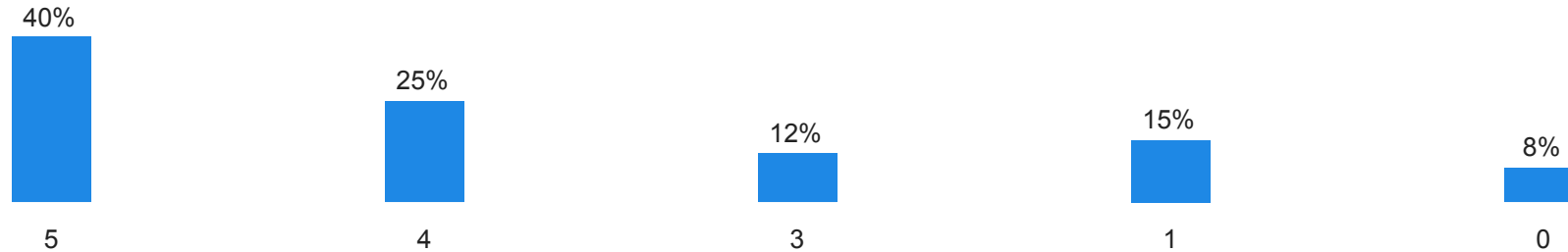


Overall - In regard to street trees, how important are each of these statements to you

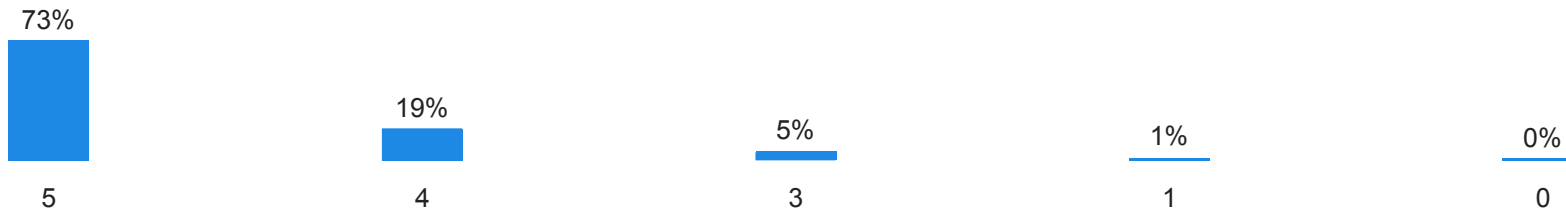
Aesthetics – Enhancing the streetscape



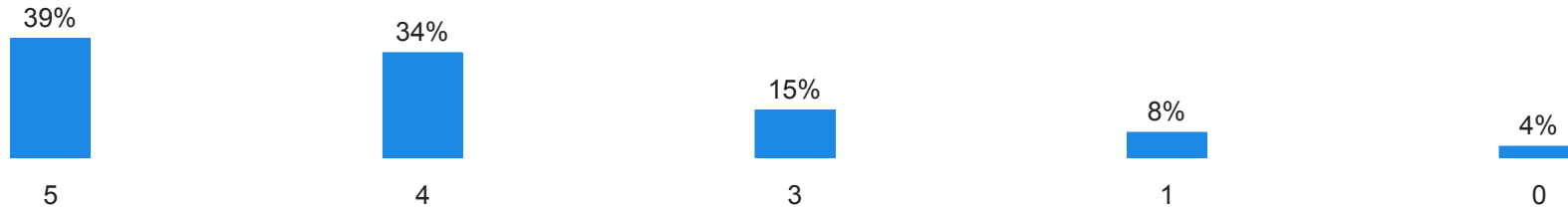
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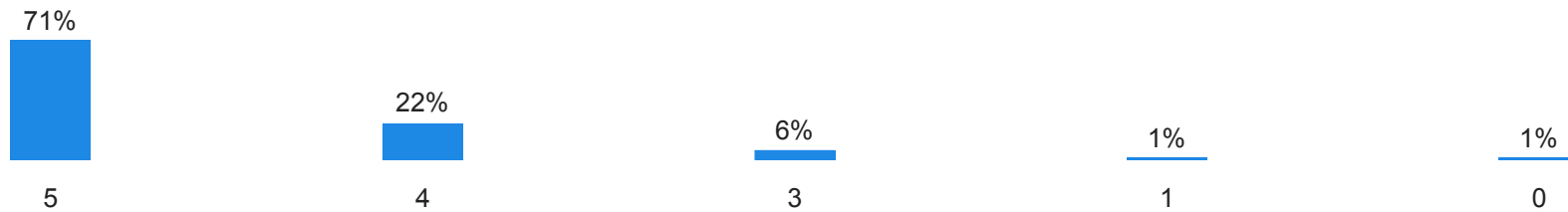
Increasing habitat and biodiversity



Providing windbreaks or visual screening



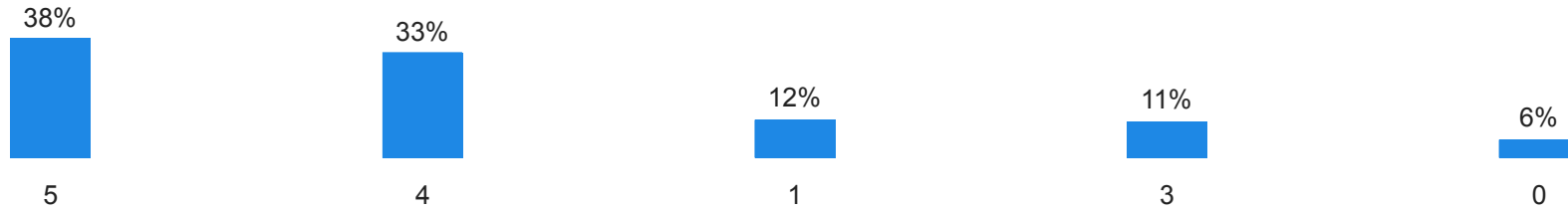
Providing shade and cooling



Absorbing carbon dioxide (reducing the impact of climate change)



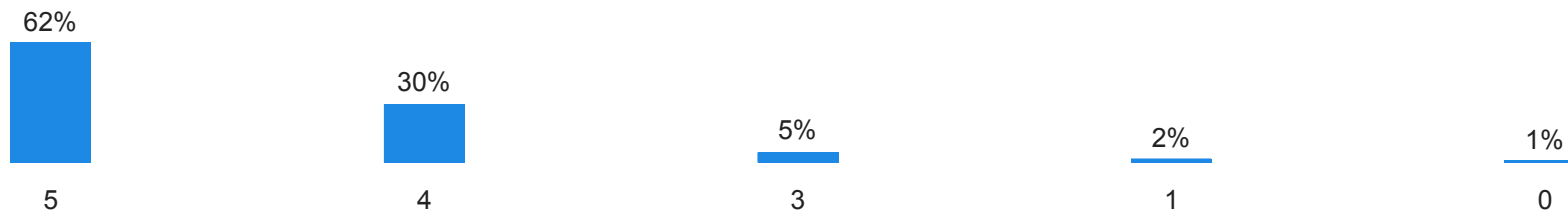
Encouraging drivers to reduce speed



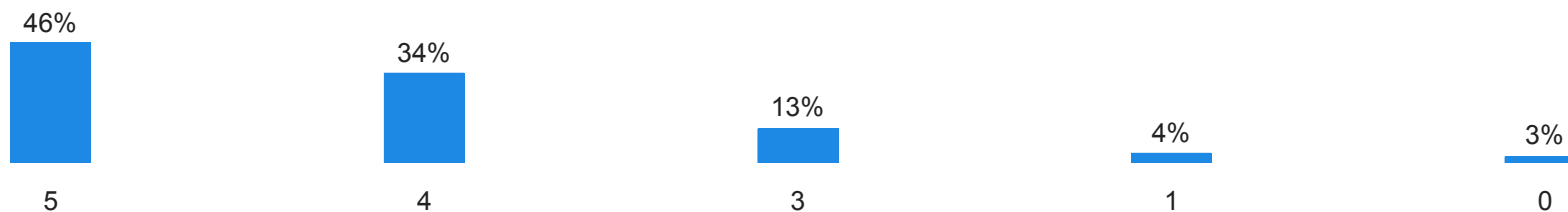
Improved air quality



Community health and wellbeing



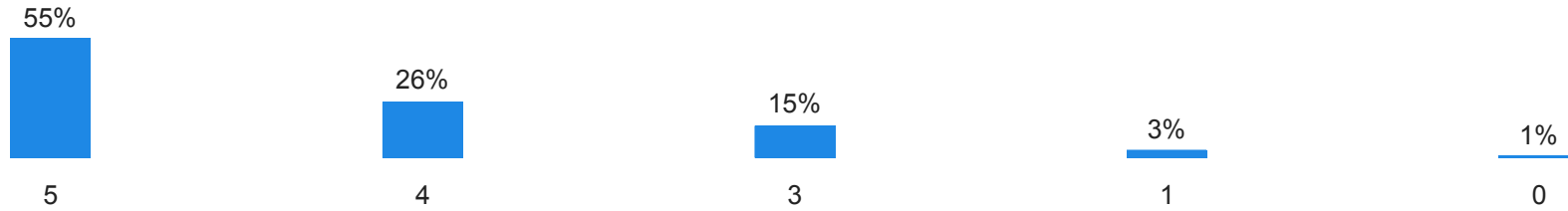
Reducing stormwater runoff



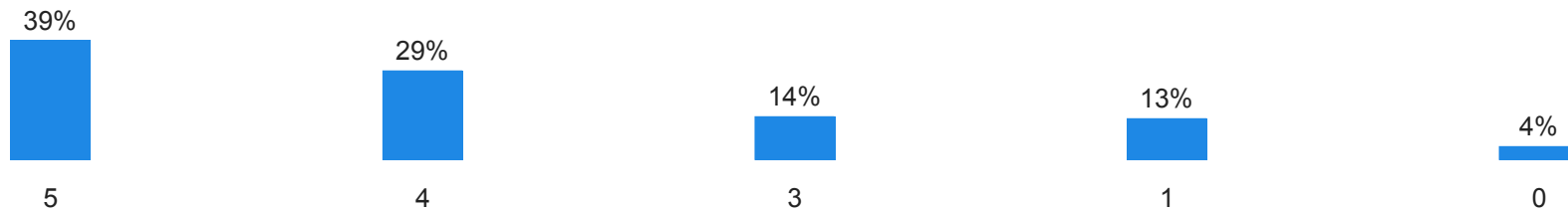
Encouraging outdoor activity



Reducing energy costs of residents

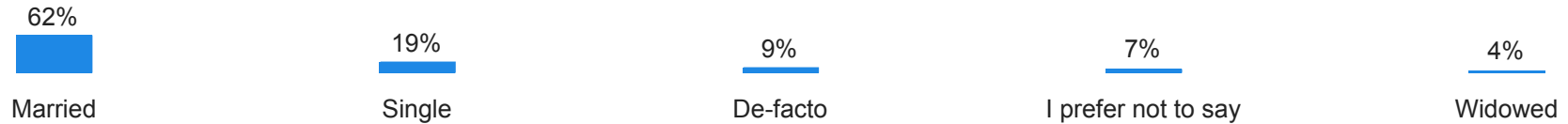


Fire safety by reducing ember attack on roofs (some species are flame retardant)



Demographics

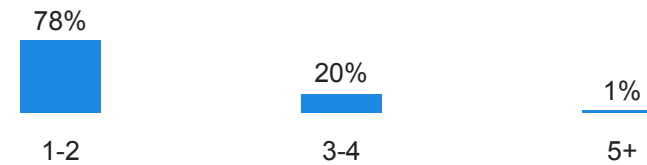
Marital Status



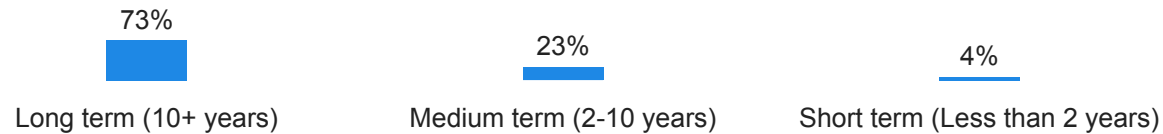
Do you have children living at home?



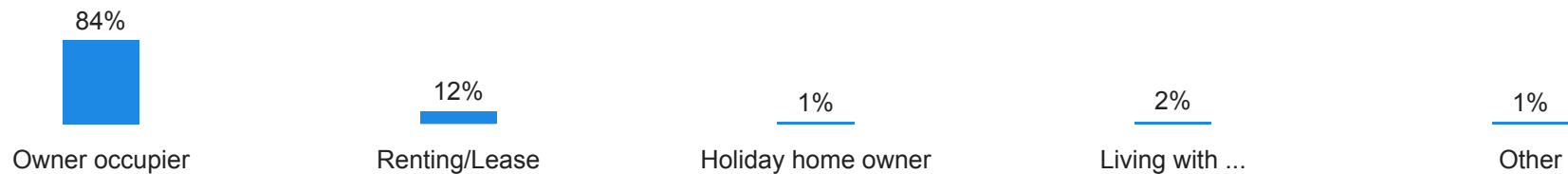
How many children are living at home?



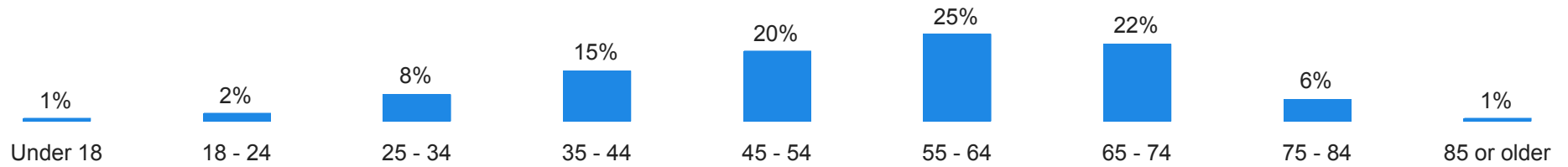
Describe your residency in Mandurah



Which best applies to you:



Age range



Gender



Bouvard



FinalTreeSelected



Why do you prefer...

No data found - your filters may be too exclusive!

No data found - your filters may be too exclusive!

Are there specific reasons why any of the other trees are not your preferred options?

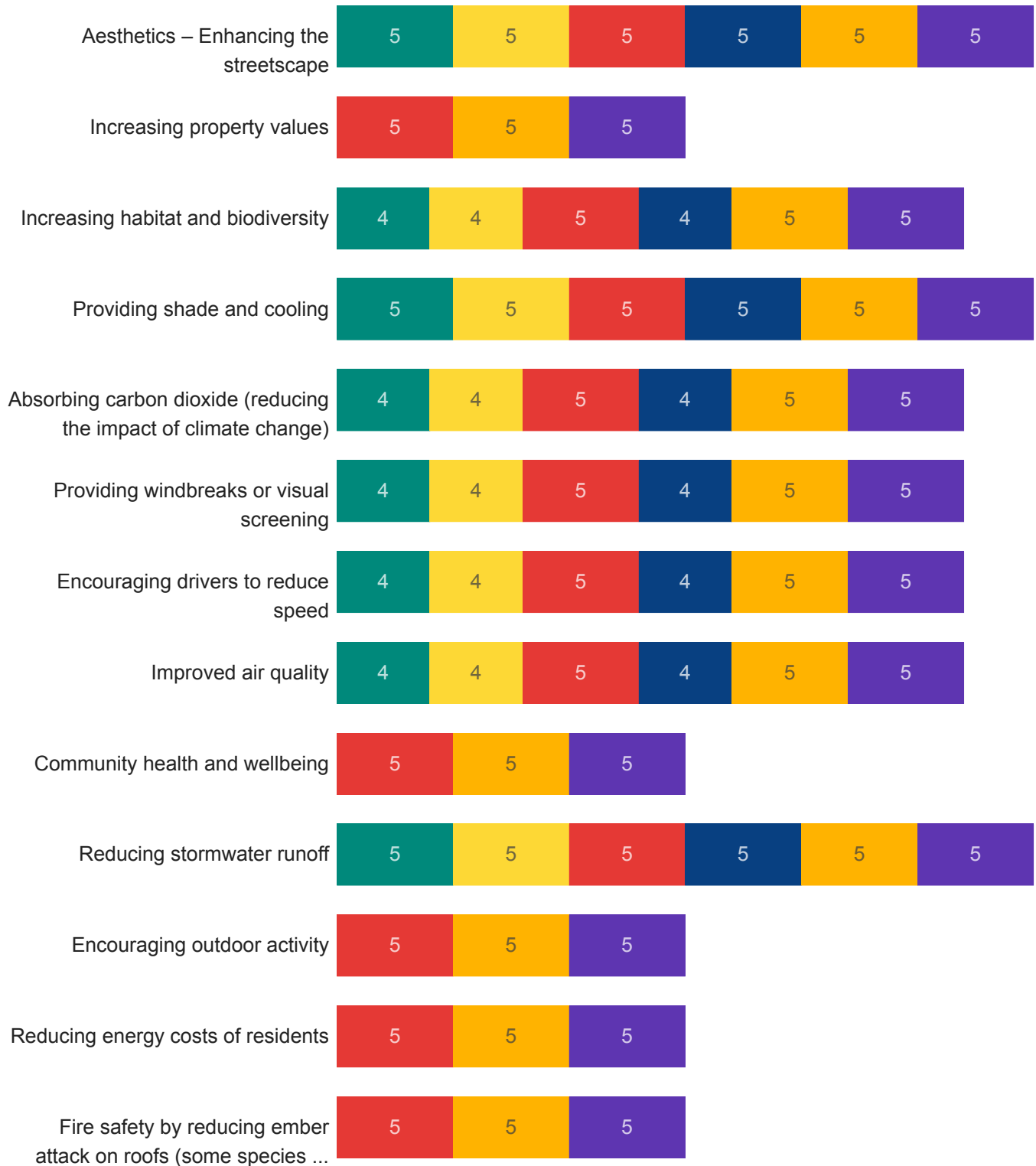
looks
better

Are there specific reasons why any of the other trees are not your preferred options?

No, we just like the looks of the others better

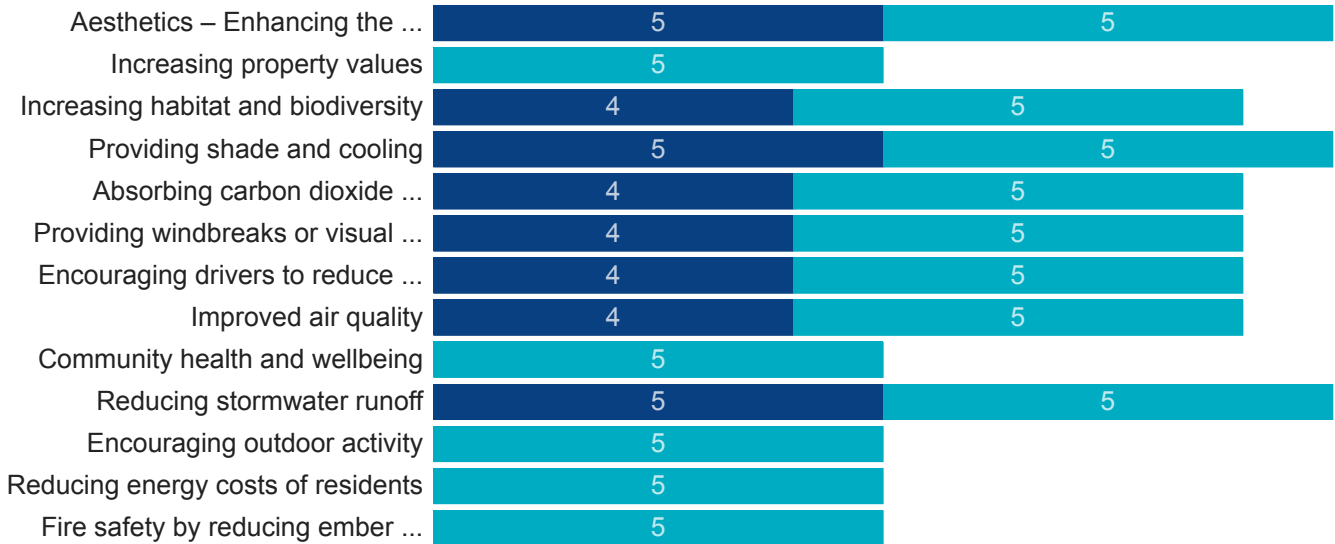
Not really

Importance ratings(Average) - Bouvard

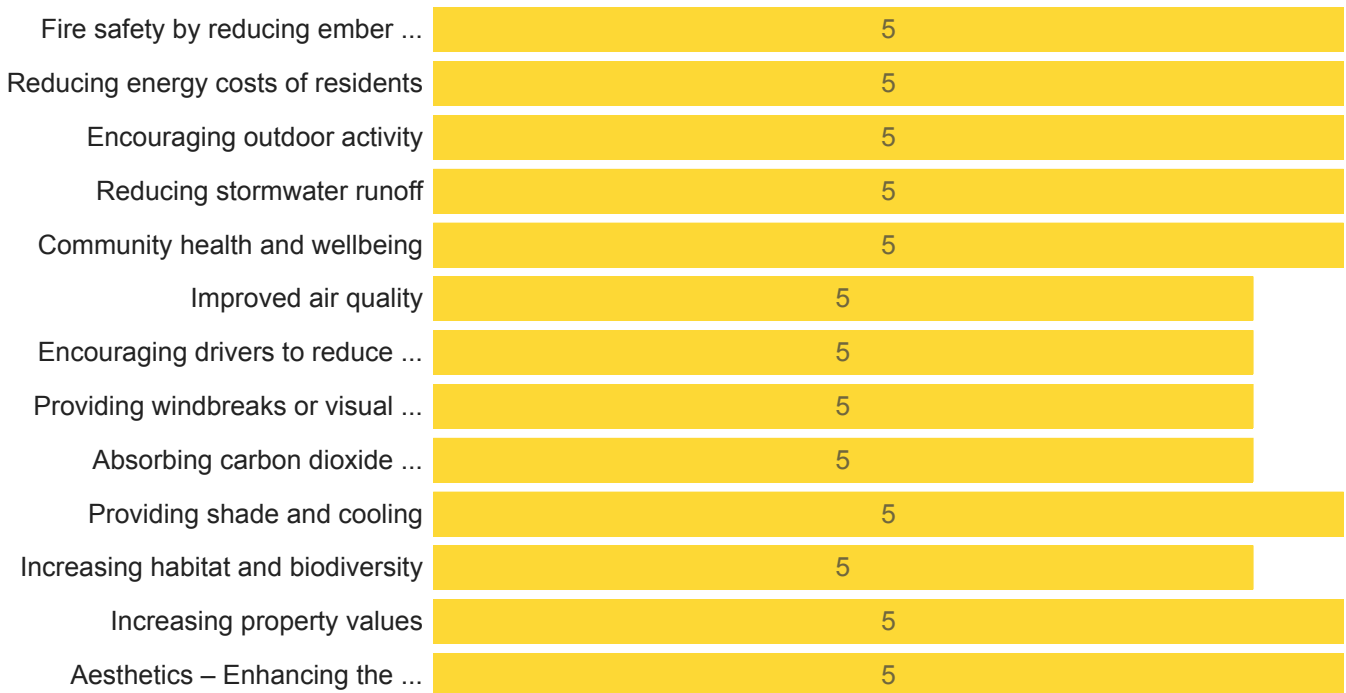


● Coastal Blackbutt
 ● Marri
 ● Red-Flowered Moort
 ● Redheart Moit
 ● Swamp Paperbark
 ● Weeping Peppermint

Importance ratings by Age - Bouvard



Importance ratings by Gender- Bouvard

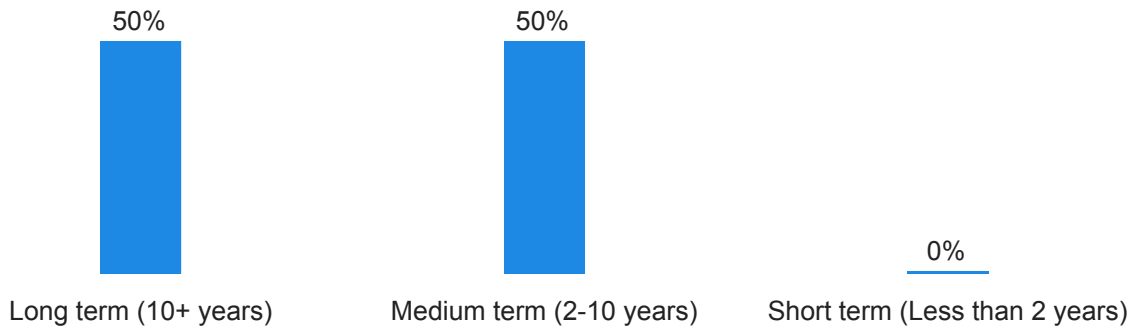


Is there anything else that you would like to add about street trees in your neighbourhood?

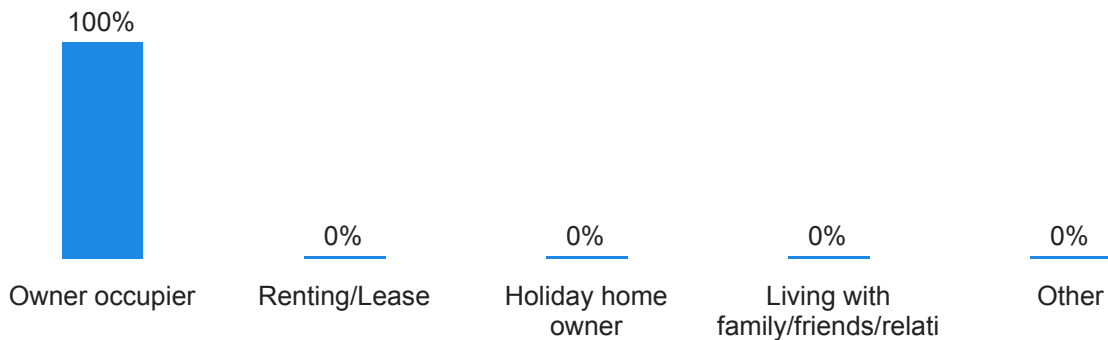
messy
flame
amber
dear
liquid

Demographics

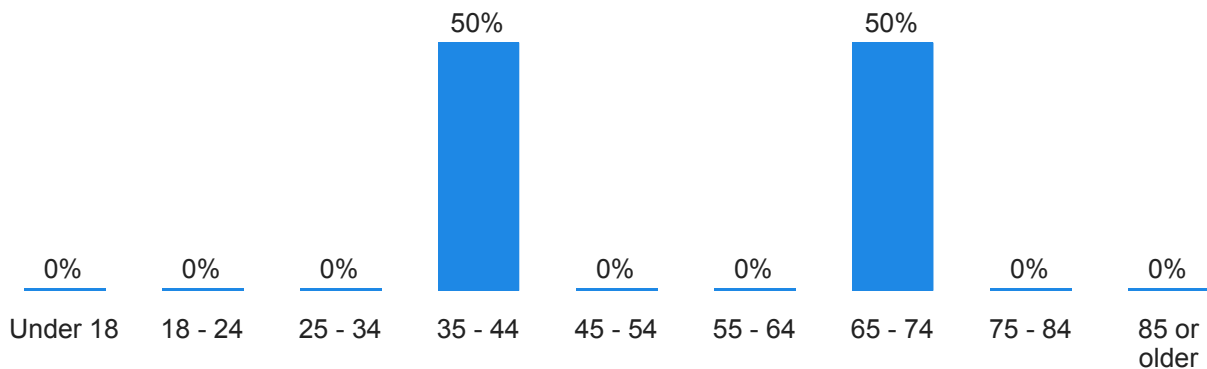
Describe your residency in Mandurah



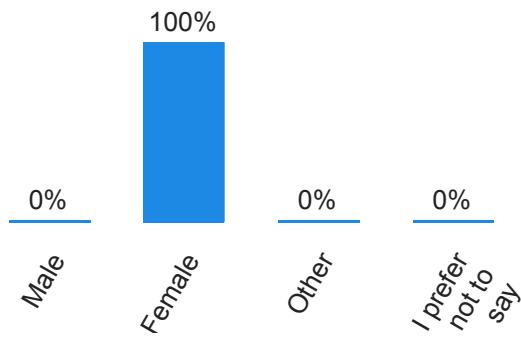
Which best applies to you:



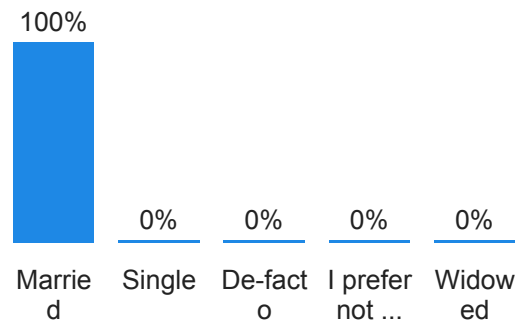
Age range



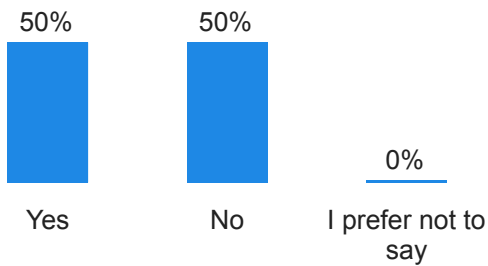
Gender identity:



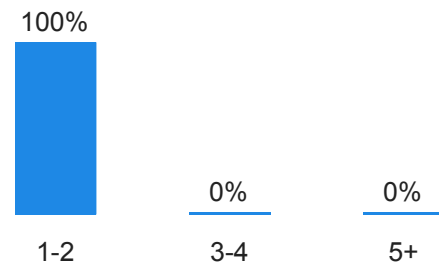
Marital Status:



Do you have children living at home?



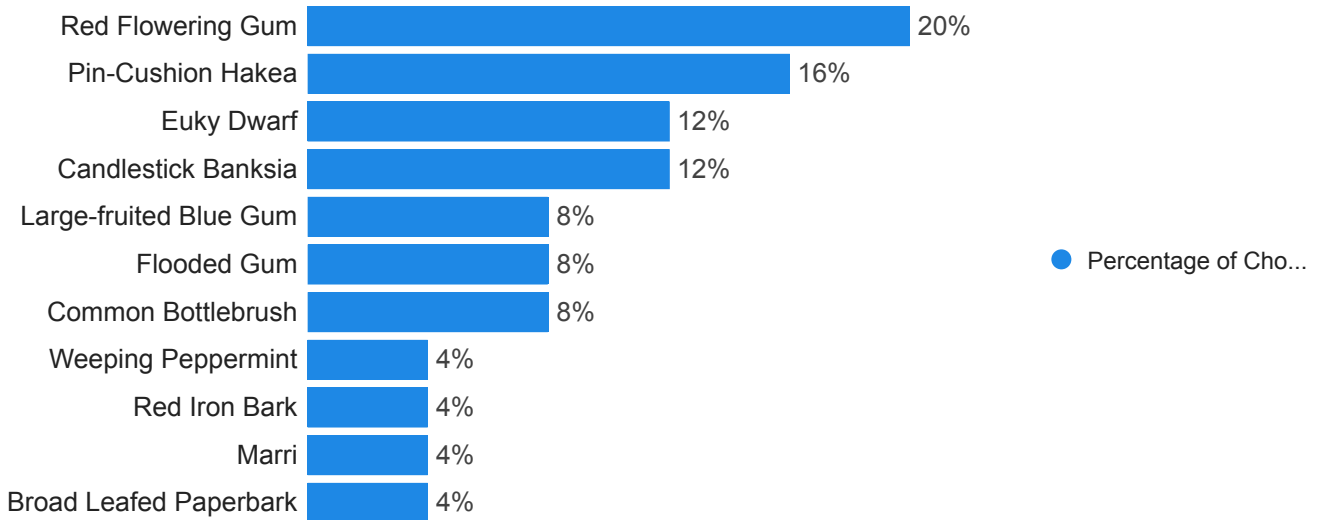
How many children are living at home?



Coodanup

11

FinalTreeSelected



Why do you prefer...

Red Flowering Gum



Pin-Cushion Hakea



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

some of these are very large and are known to drop lots of foliage in surrounding areas. To be planted in parks and reserves would be ok but consideration for verges and median strips would be good. Variety of different species would be great but just in well thought out locations.

WA Peppermint is too big for streets, Ok in parks. Also several of the Eucalypts listed grow into huge trees. Again fine for parks, no good near houses. Also quite a few of your species are NOT in Florabase and therefore NOT WA Natives (m. quinquenervia, E. sideroxylon, E. Leucoxylon (either sub species listed, c. viminalis)).

Bushy, scrubby trees look scruffy. Weeping trees will need constant trimming. Not keen on too many gumnuts etc that will blunt mower blades and require a lot of maintenance.

no

just don't appeal

Don't really like trees near my property, most are messy

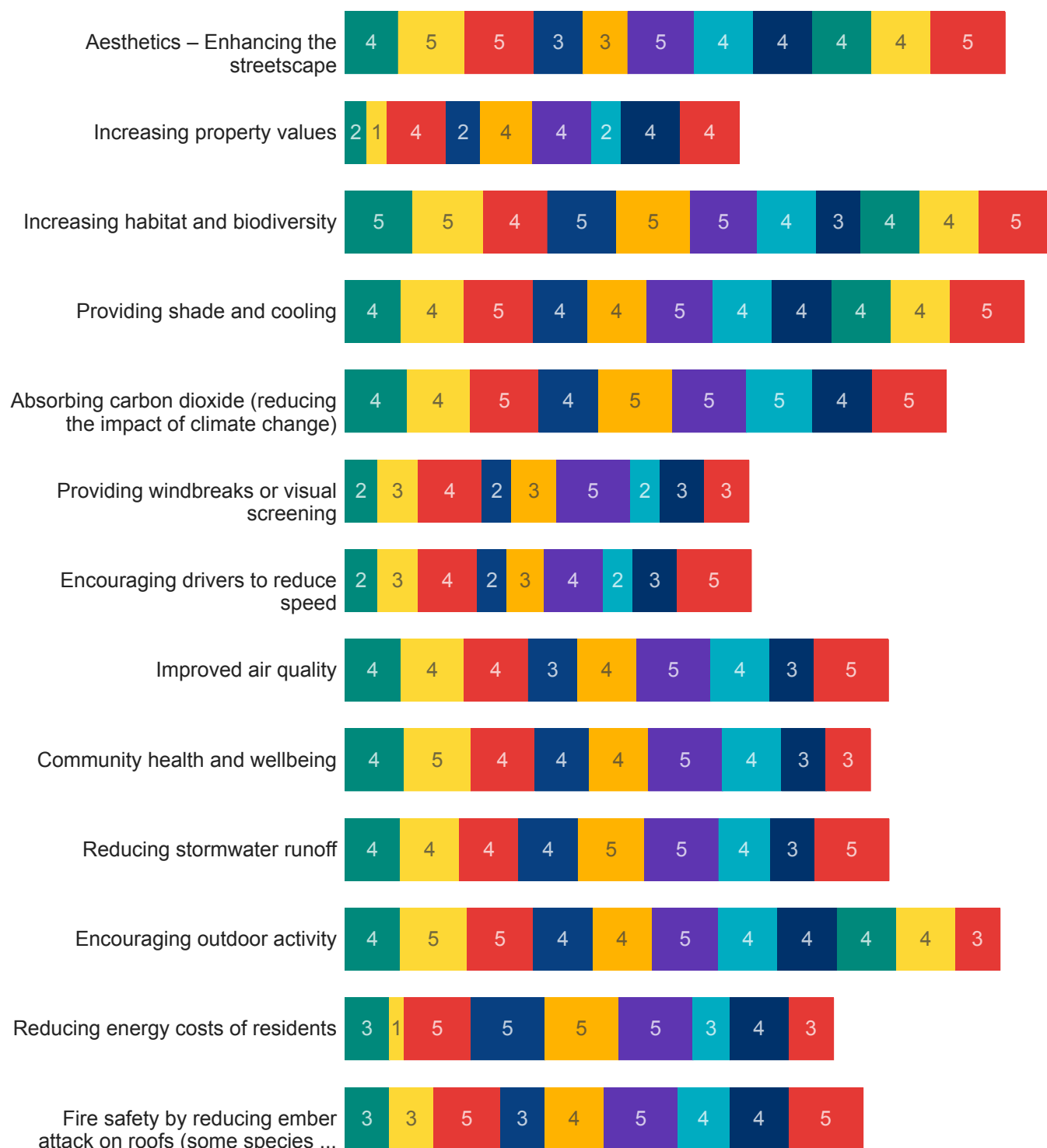
Power lines in way

They are all lovely x

I am highly allergic to peppermint trees

N/A

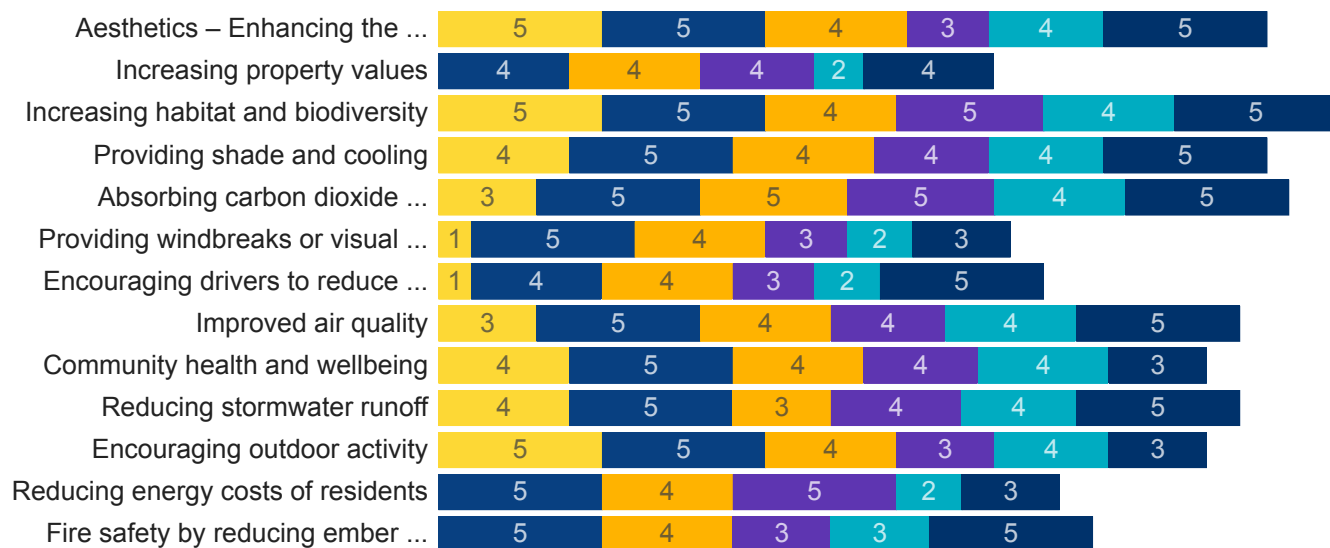
Importance ratings(Average) - Coodanup



- Red Flowering Gum
- Pin-Cushion Hakea
- Candlestick Banksia
- Euky Dwarf
- Common Bottlebrush
- Flooded Gum
- Large-fruited Blue Gum
- Broad Leafed Paperbark
- Marri
- Red Iron Bark
- Weeping Peppermint

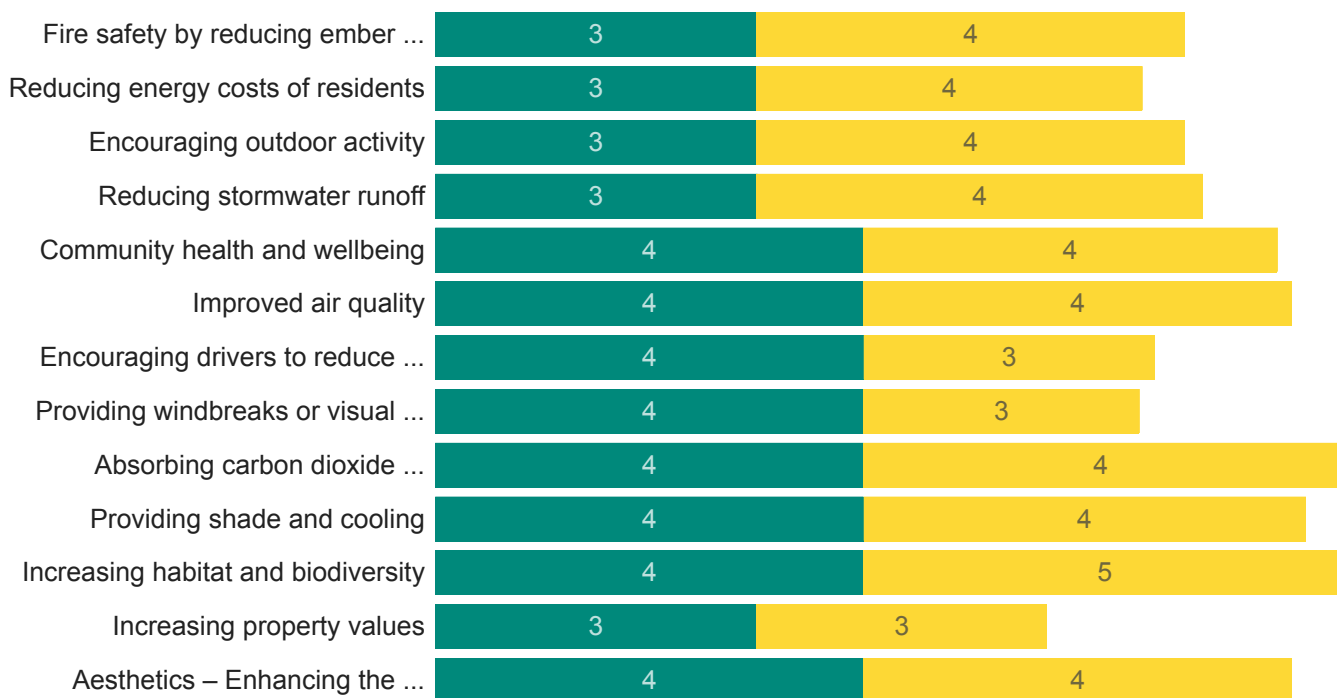
Importance ratings by Age - Coodanup

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



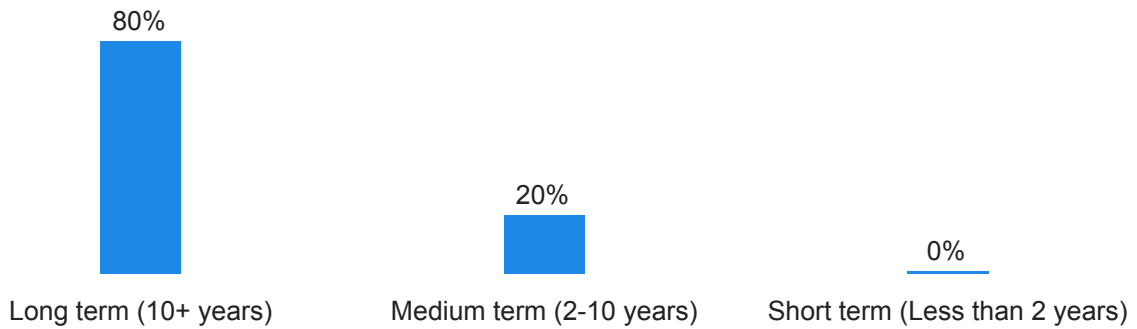
Importance ratings by Gender- Coodanup

● Male
 ● Female
 ● Other
 ● I prefer not to say

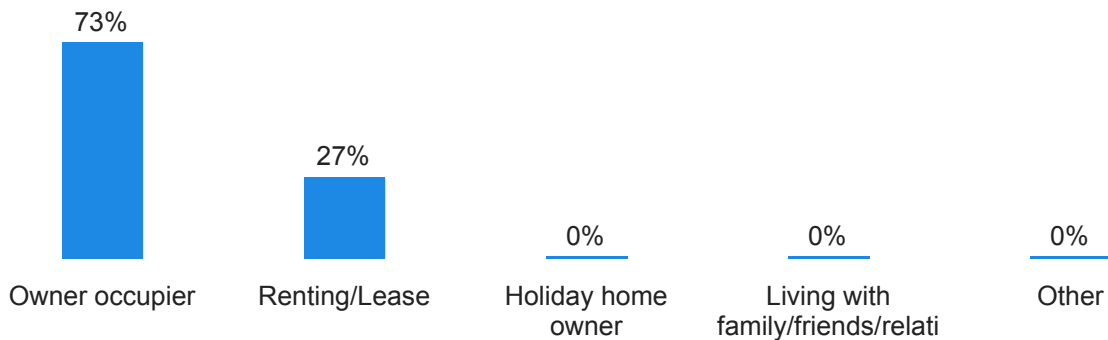


Demographics

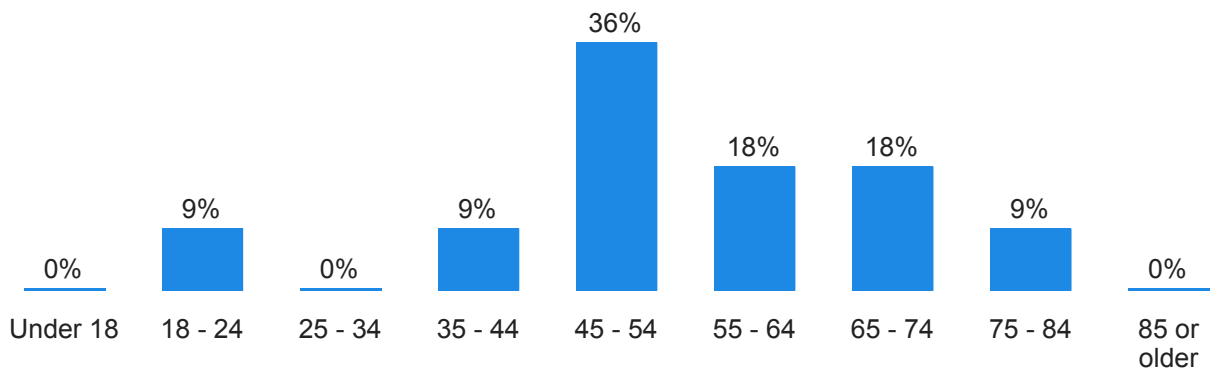
Describe your residency in Mandurah



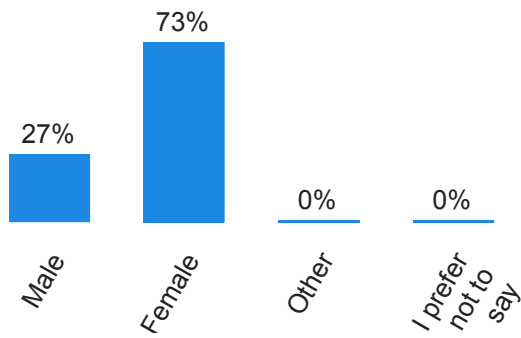
Which best applies to you:



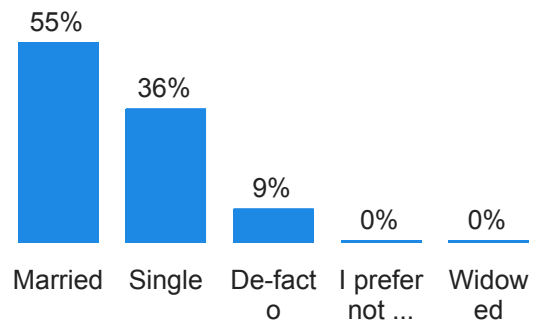
Age range



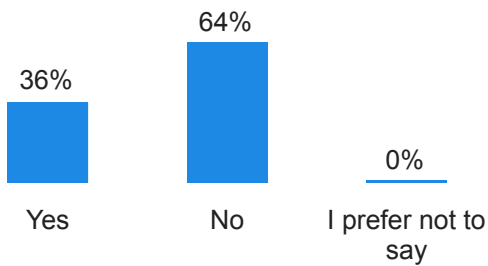
Gender identity:



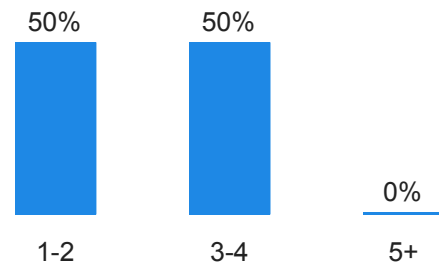
Marital Status:



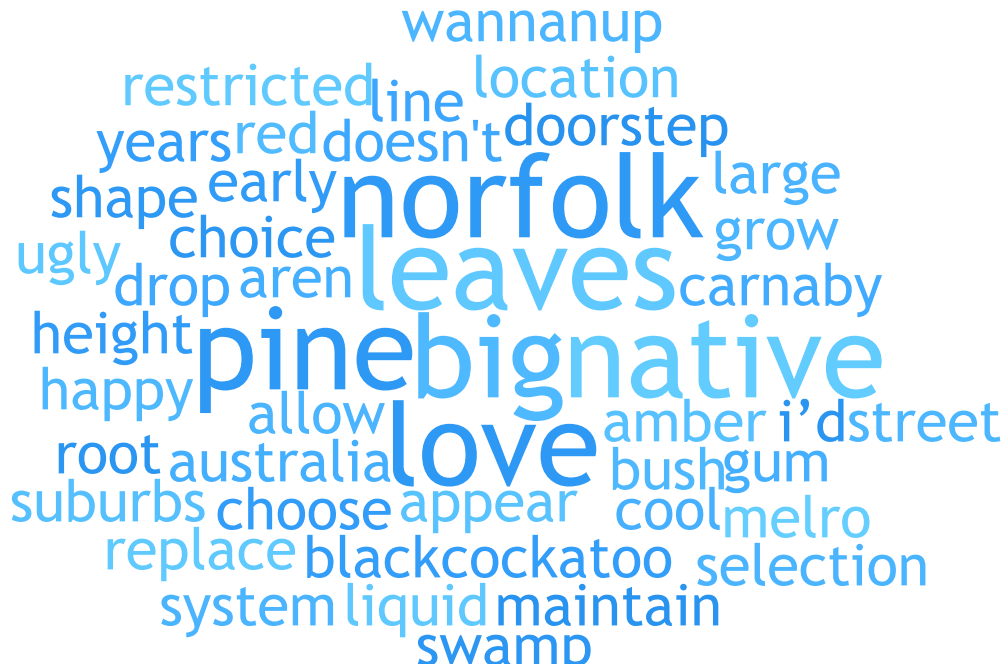
Do you have children living at home?



How many children are living at home?



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

Norfolk pine doesn't appear as 'native' for me

Was only allowed to choose three

Not really. I'd be happy with any trees really just to cool down the suburbs.

there aren 't any swamps near my location. you restricted the choice by your selection of trees I would love to see the red gums replaced in Melros for the Carnabys and blackcockatoos

They grow too big and drop many leaves. Their shape would need to be thoroughly maintained during the early years. I love Australian natives in the bush but not right on my doorstep. I would love to see my street lined with Liquid Ambers

Some are too big.

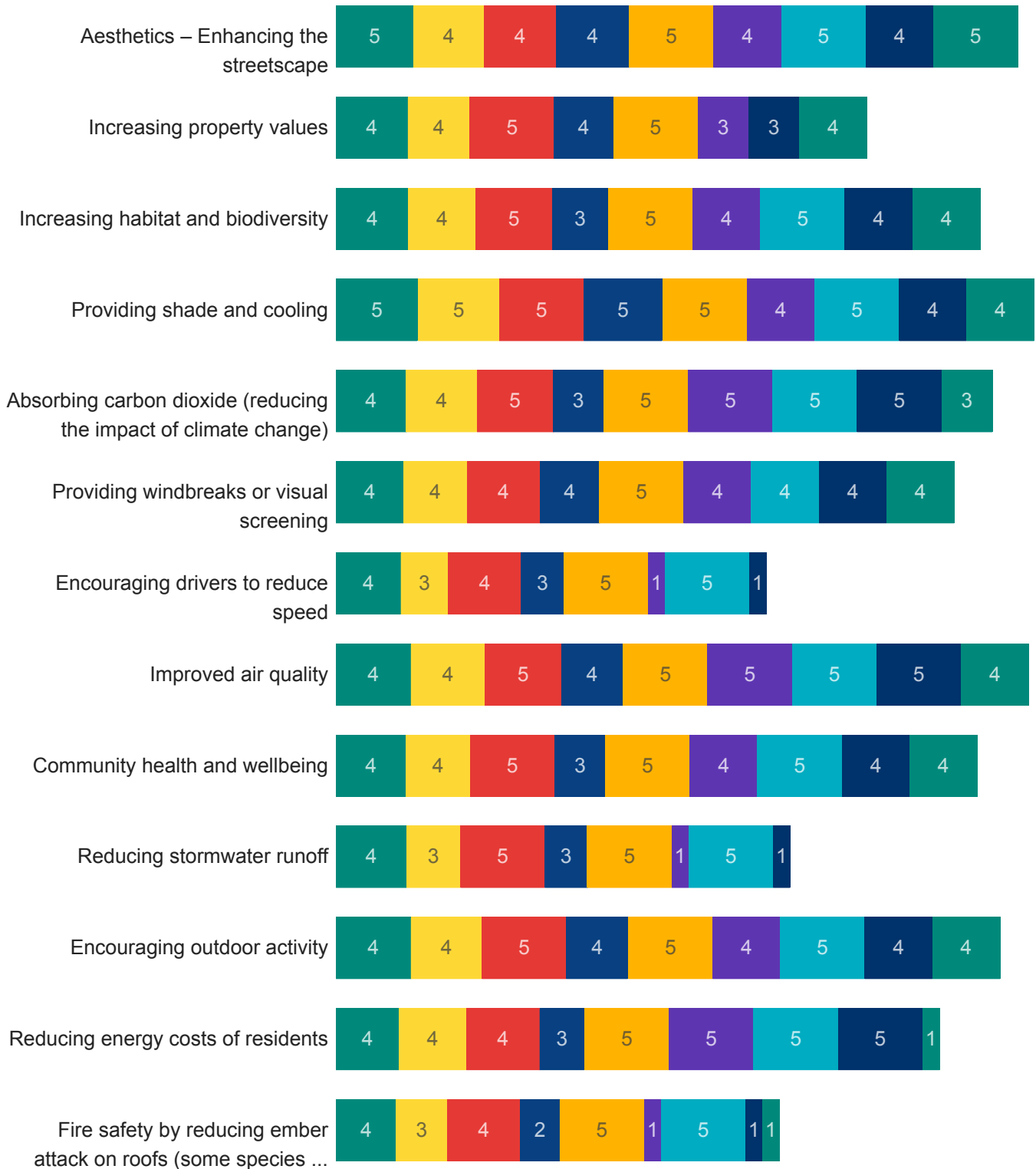
Too large. Too many leaves

No



Norfolk pine ugly tree has them though wannanup, plus height and root system

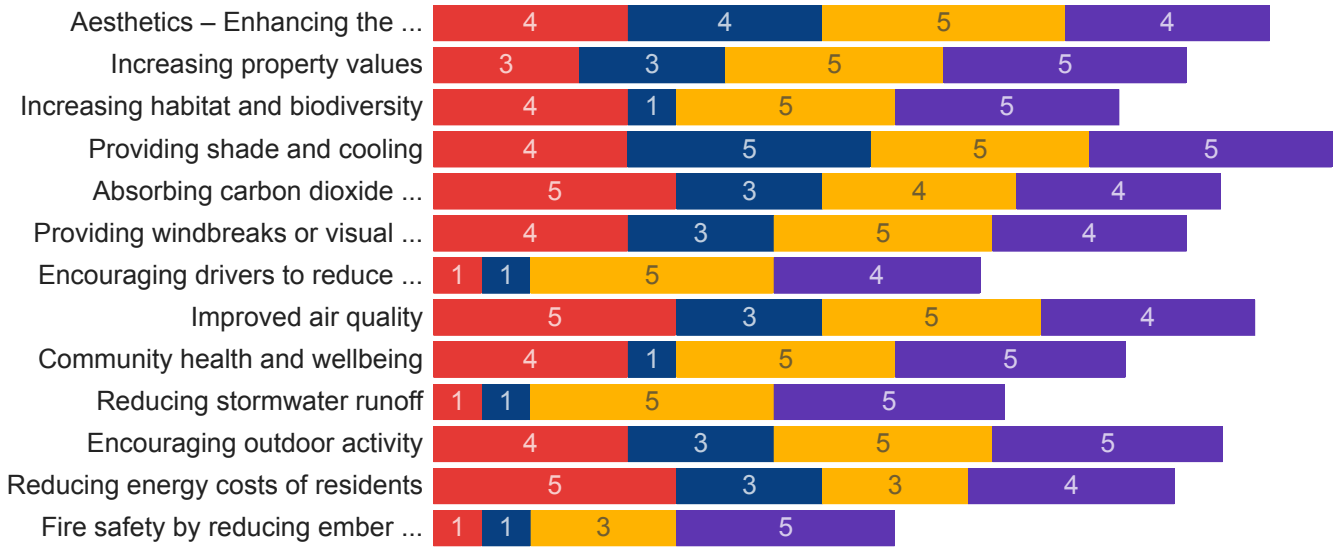
Importance ratings(Average) - Dawesville North



● Weeping Peppermint
 ● Red Flowering Gum
 ● Bottlebrush
 ● Jarrah
 ● Candlestick Banksia
● Coastal Blackbutt
 ● Norfolk Island Pine
 ● Red Iron Bark
 ● Swamp Paperbark

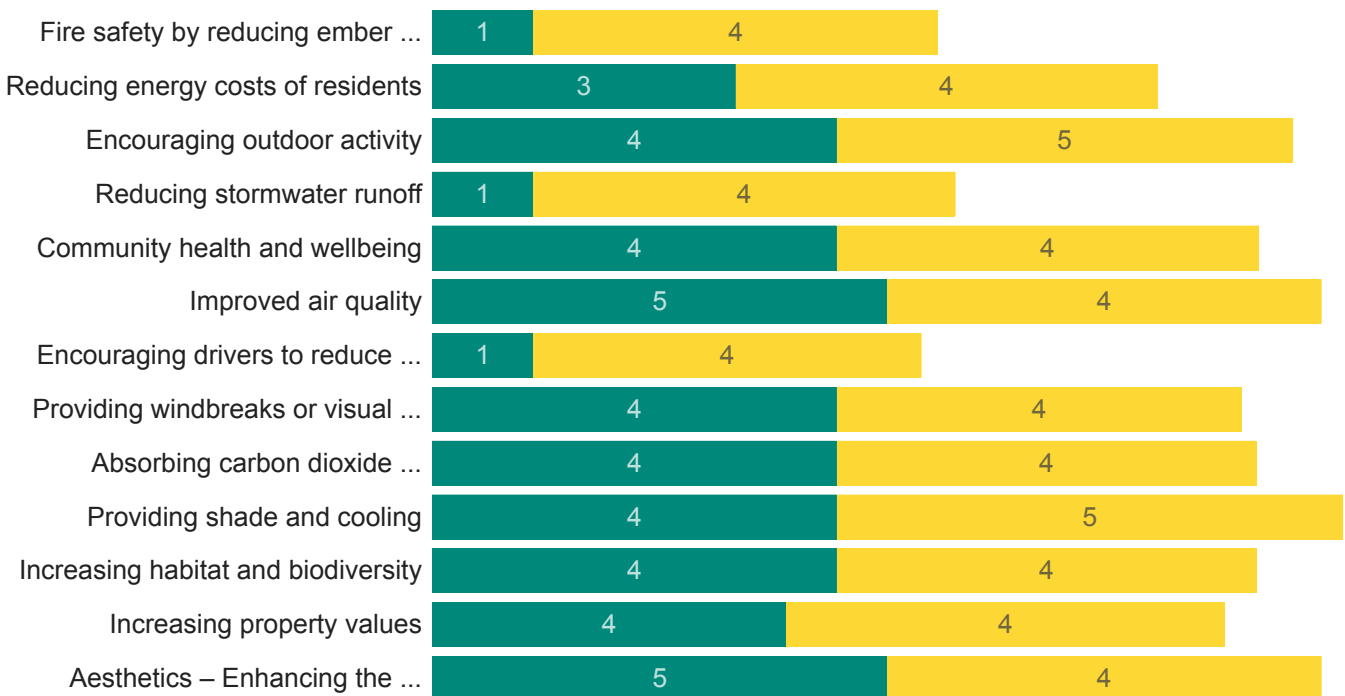
Importance ratings by Age - Dawesville North

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



Importance ratings by Gender- Dawesville North

● Male
 ● Female
 ● Other
 ● I prefer not to say

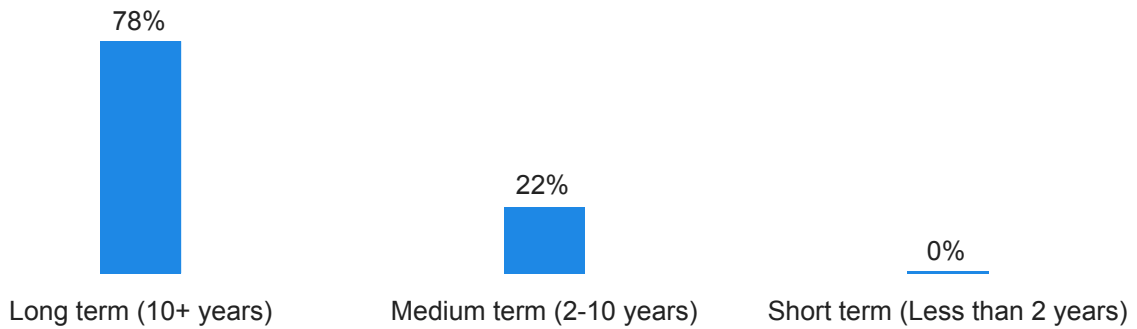


Is there anything else that you would like to add about street trees in your neighbourhood?

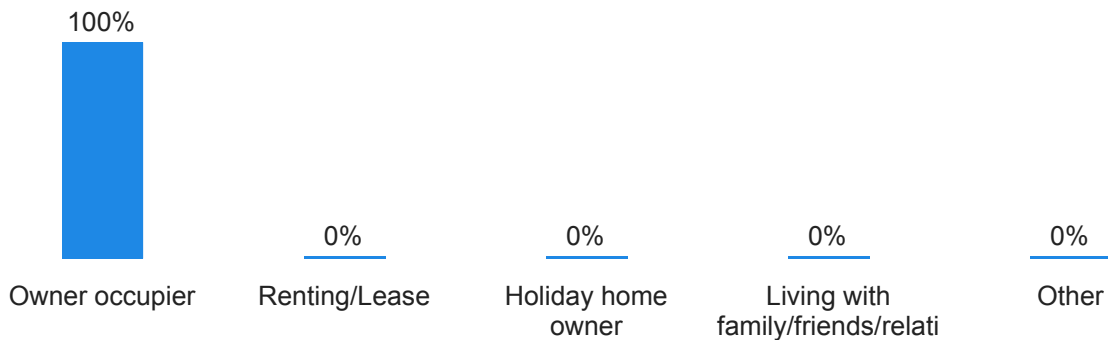


Demographics

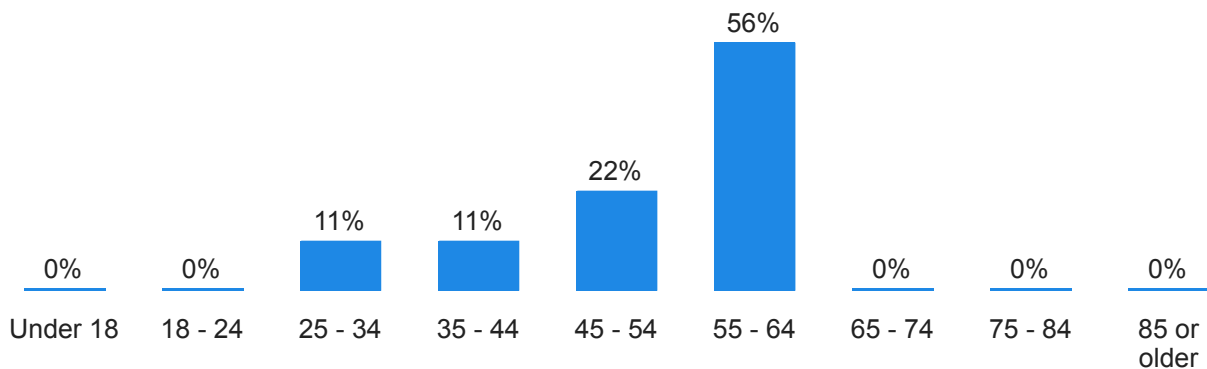
Describe your residency in Mandurah



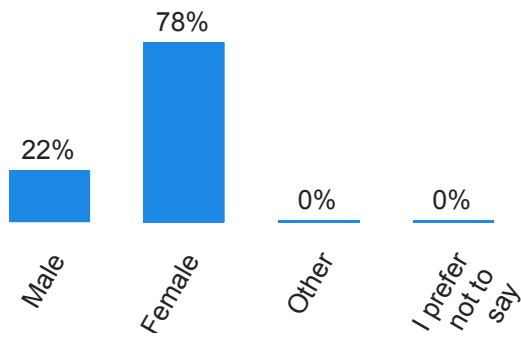
Which best applies to you:



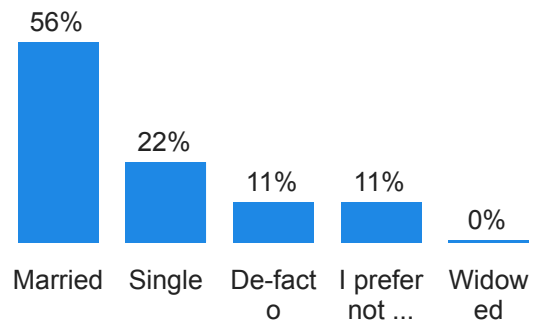
Age range



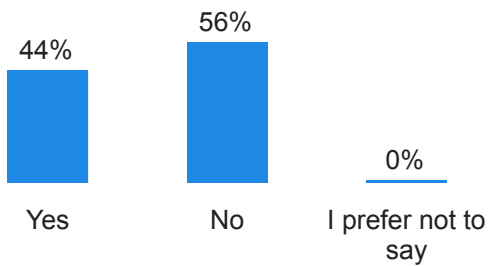
Gender identity:



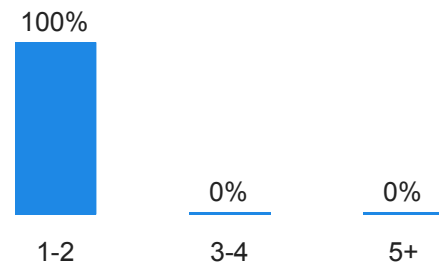
Marital Status:



Do you have children living at home?



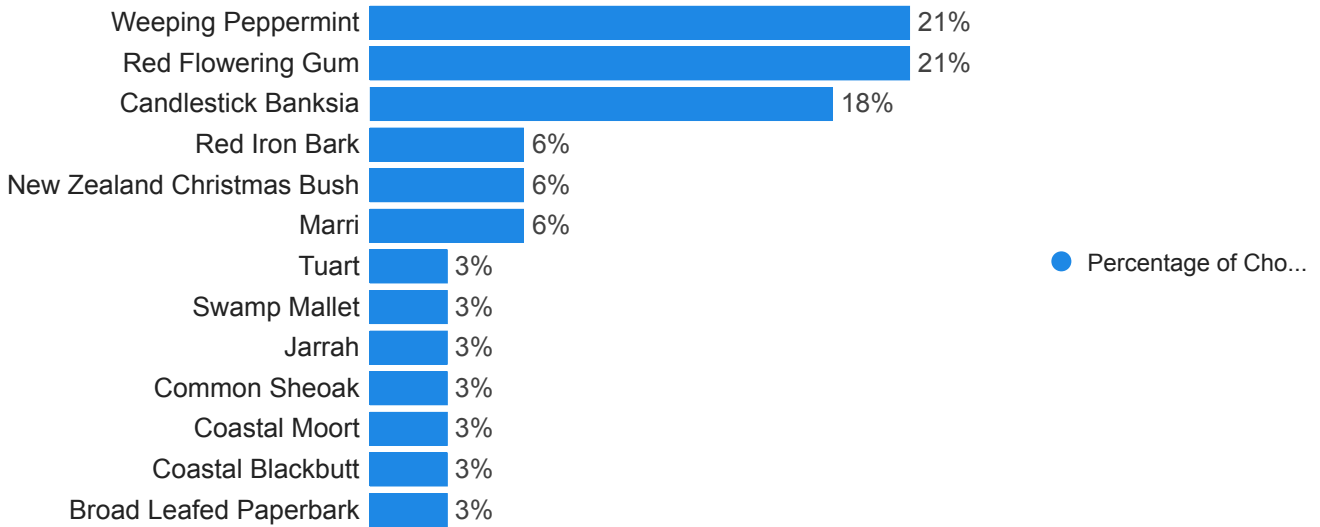
How many children are living at home?



Dawesville South

11

FinalTreeSelected



Why do you prefer...

Weeping Peppermint



Red Flowering Gum



Are there specific reasons why any of the other trees are not your preferred options?

scraggly
timelanky native
tall christmas, zealand
grow 3 don't
lines choose spindly
verge interfere
power
unsuited

Are there specific reasons why any of the other trees are not your preferred options?

N/A

As they get scraggly over time.

Yes, many are unsuited for verge use as they grow too tall and interfere with power lines etc.

New Zealand Christmas tree not native

Some are too lanky and spindly.

no

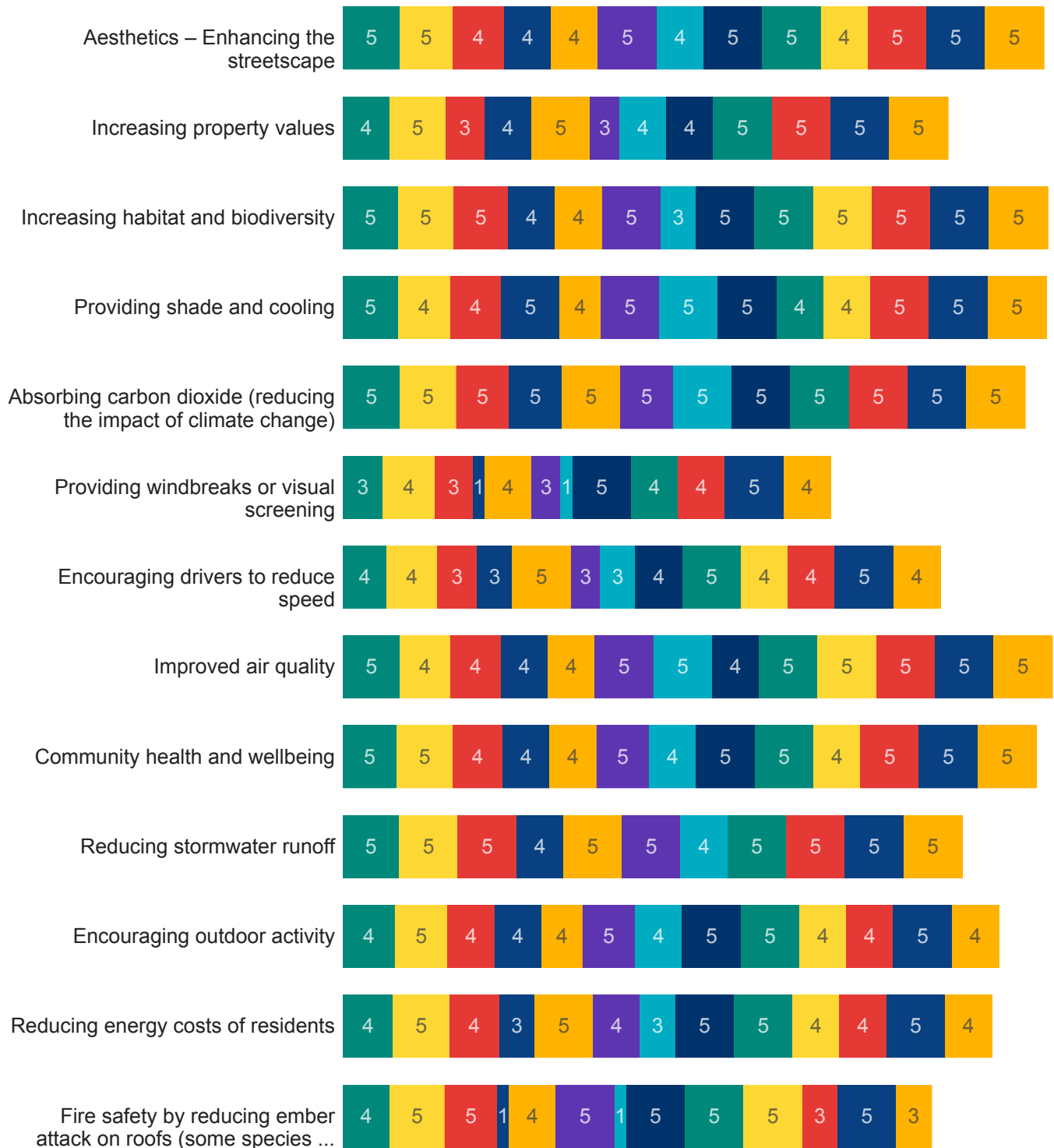
No

No not at all but I could only choose 3

No

N/A

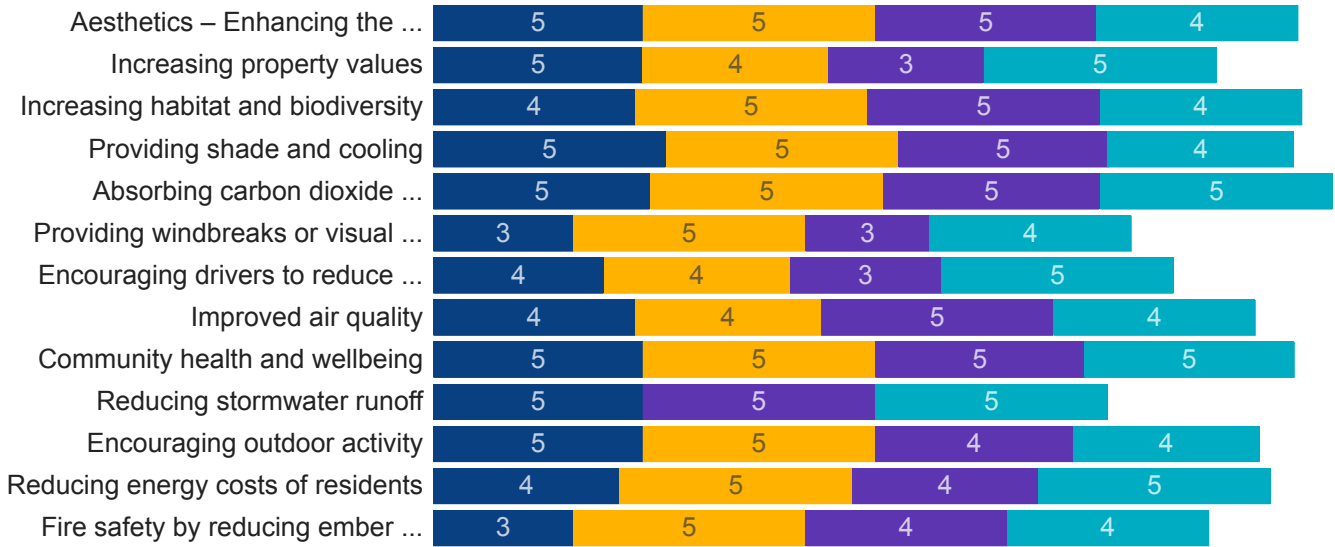
Importance ratings(Average) - Dawesville South



- Red Flowering Gum ● Weeping Peppermint ● Candlestick Banksia ● Marri
- New Zealand Christmas Bush ● Red Iron Bark ● Broad Leafed Paperbark ● Coastal Blackbutt
- Coastal Moort ● Common Sheoak ● Jarrah ● Swamp Mallet ● Tuart

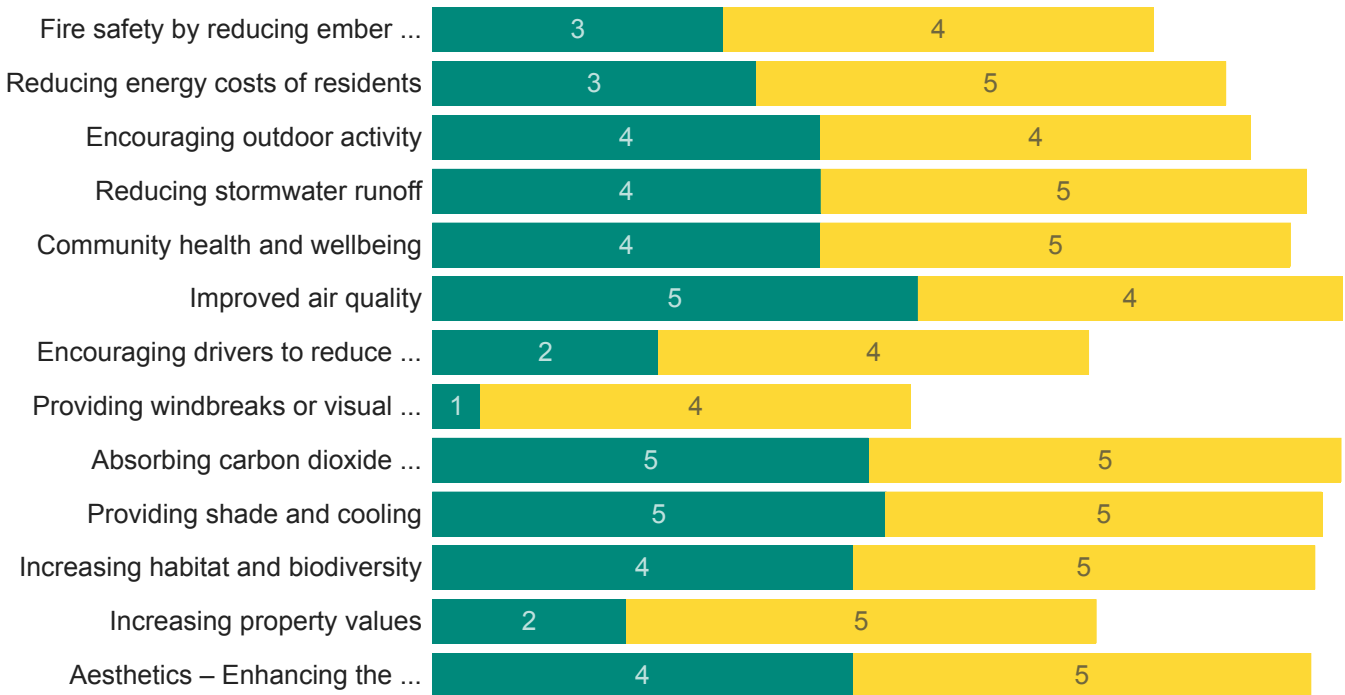
Importance ratings by Age - Dawesville South

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



Importance ratings by Gender- Dawesville South

● Male
 ● Female
 ● Other
 ● I prefer not to say

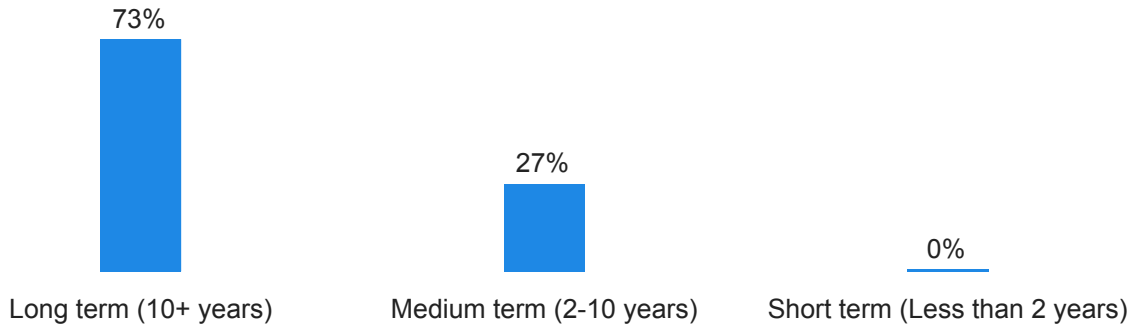


Is there anything else that you would like to add about street trees in your neighbourhood?



Demographics

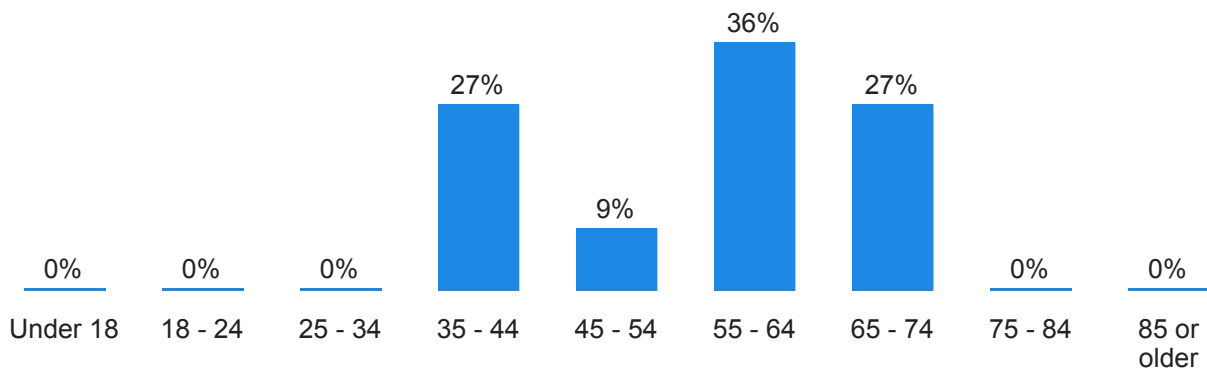
Describe your residency in Mandurah



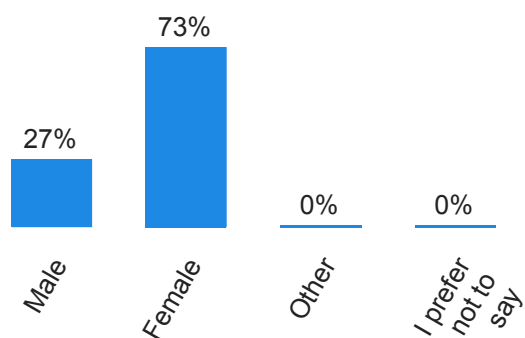
Which best applies to you:



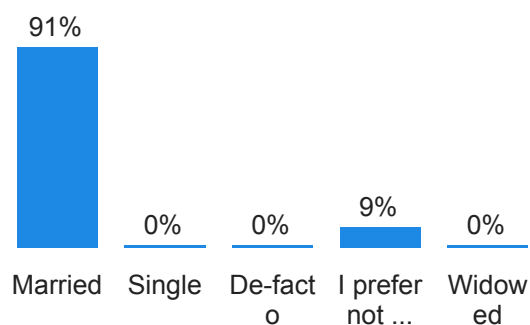
Age range



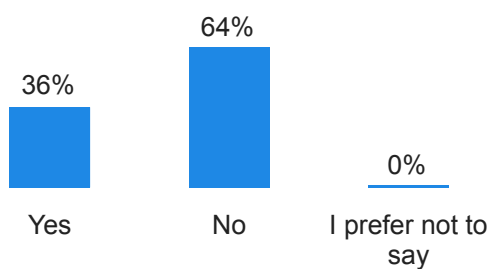
Gender identity:



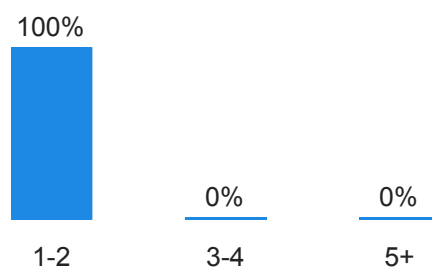
Marital Status:



Do you have children living at home?



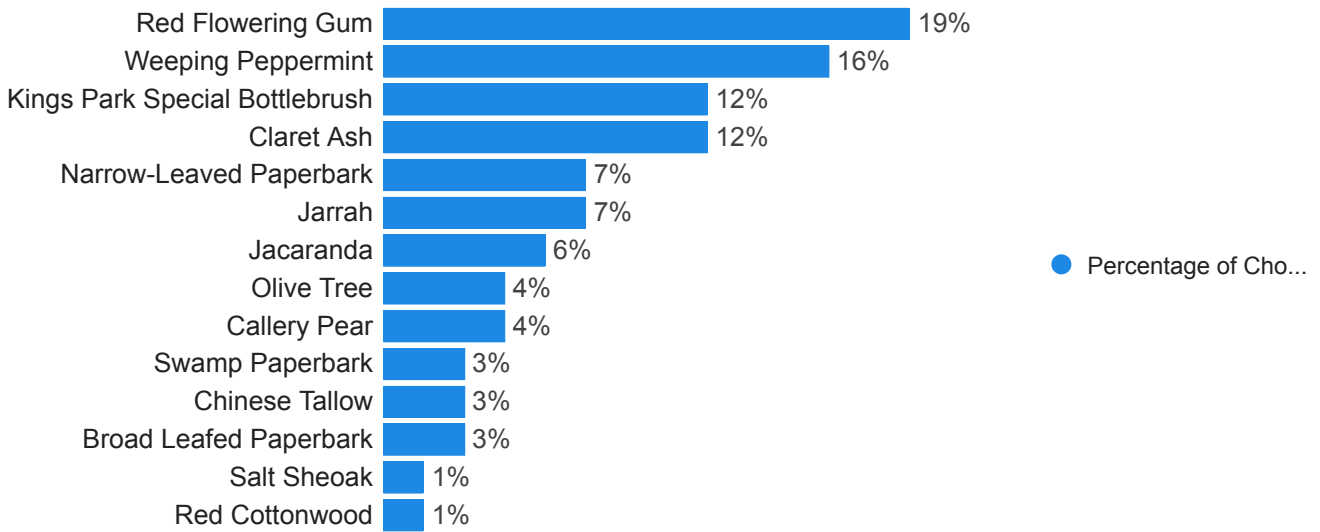
How many children are living at home?



Dudley Park



FinalTreeSelected



Why do you prefer...

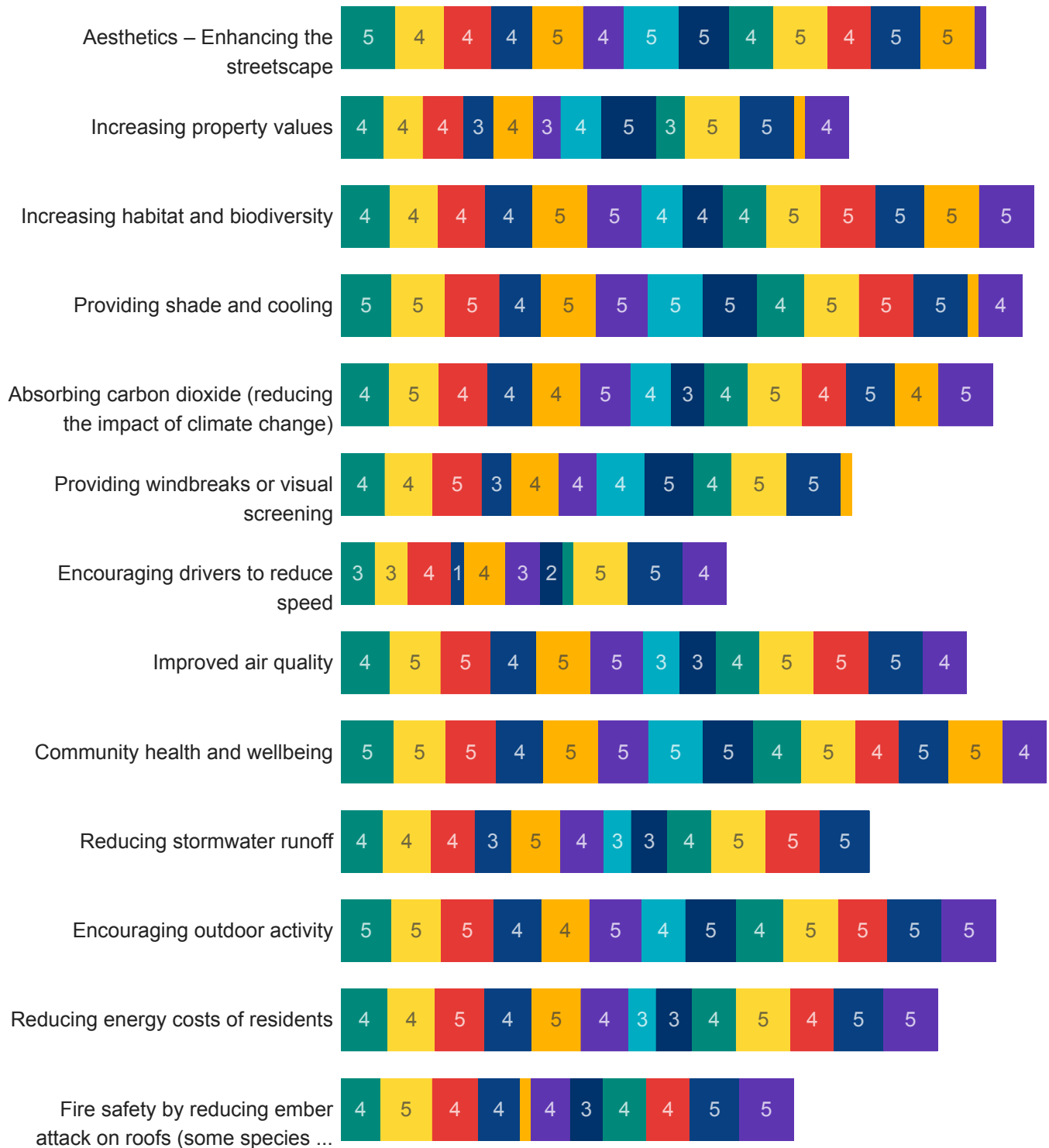
Red Flowering Gum



Weeping Peppermint



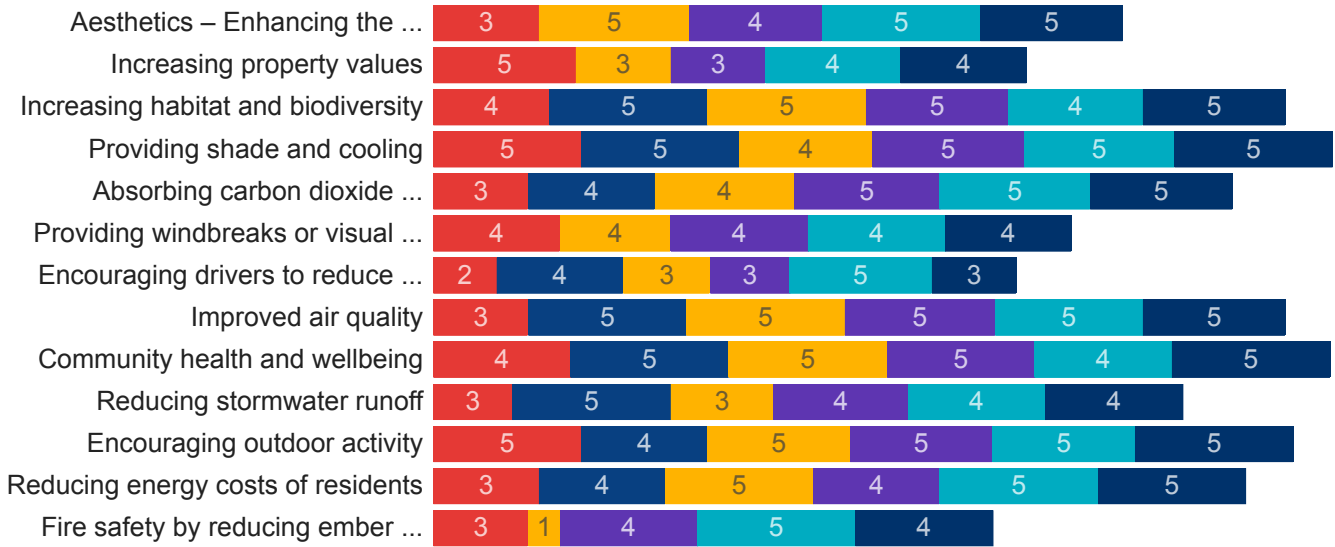
Importance ratings(Average) - Dudley Park



- Red Flowering Gum
- Weeping Peppermint
- Claret Ash
- Kings Park Special Bottlebrush
- Jarrah
- Narrow-Leaved Paperbark
- Jacaranda
- Callery Pear
- Olive Tree
- Broad Leafed Paperbark
- Chinese Tallow
- Swamp Paperbark
- Red Cottonwood
- Salt Sheoak

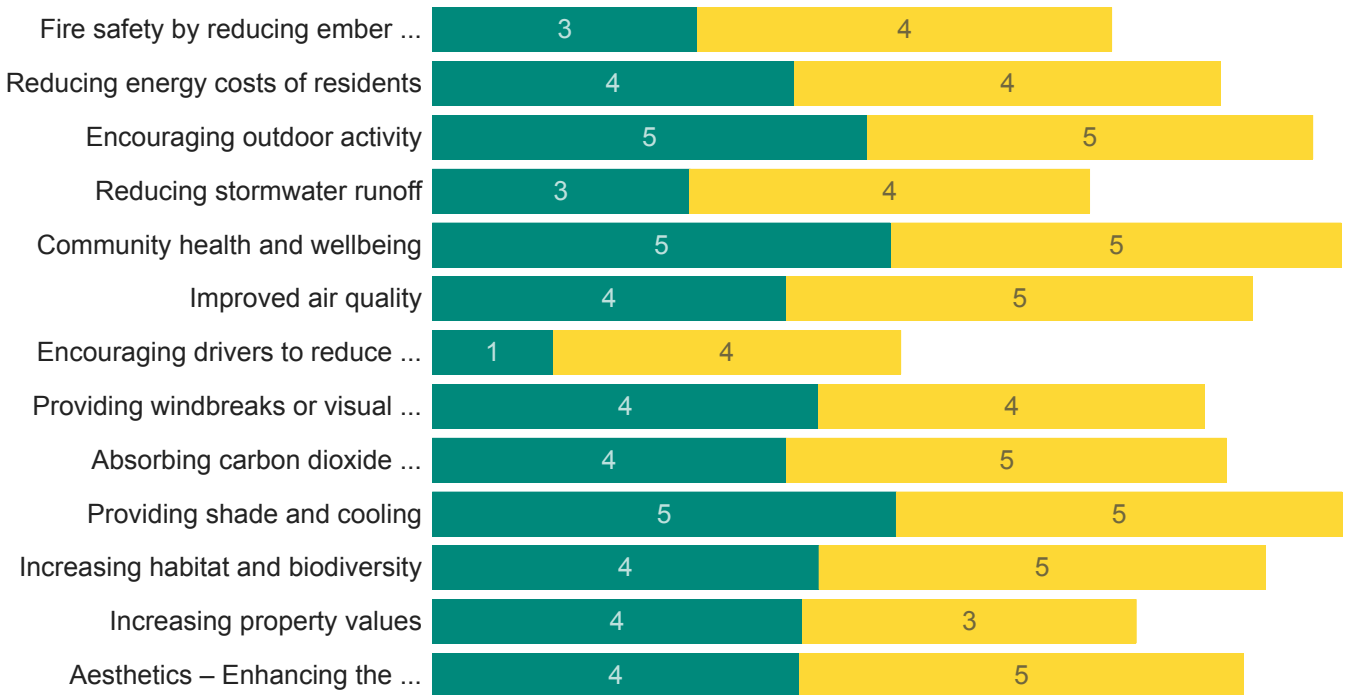
Importance ratings by Age - Dudley Park

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



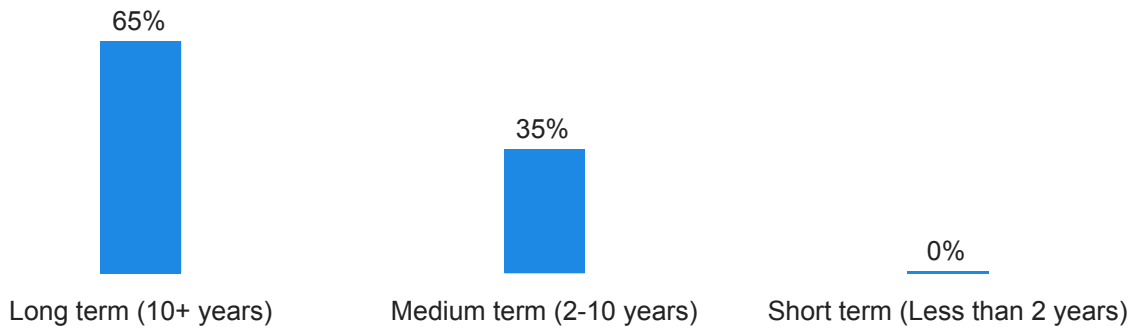
Importance ratings by Gender- Dudley Park

● Male
 ● Female
 ● Other
 ● I prefer not to say

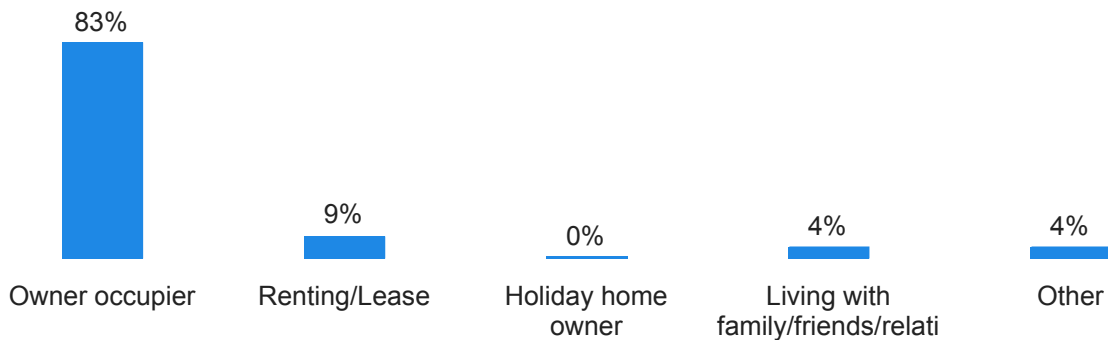


Demographics

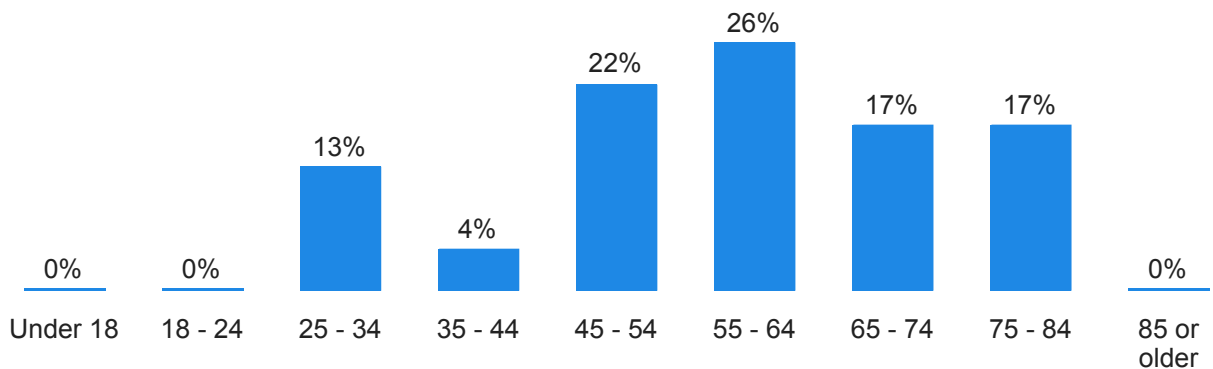
Describe your residency in Mandurah



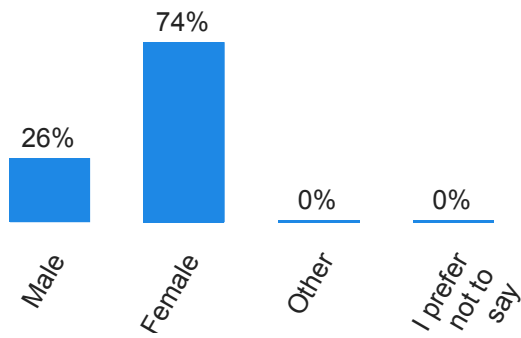
Which best applies to you:



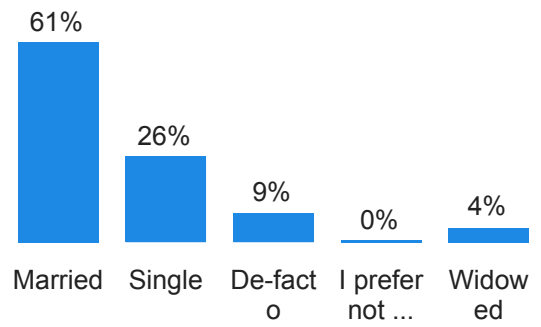
Age range



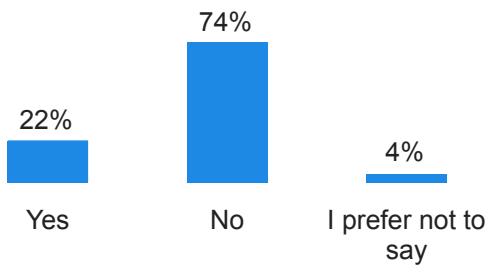
Gender identity:



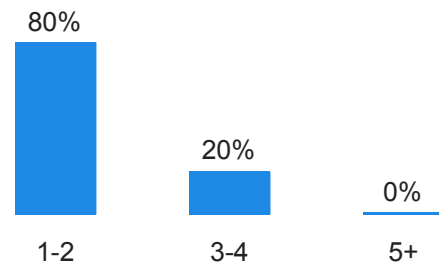
Marital Status:



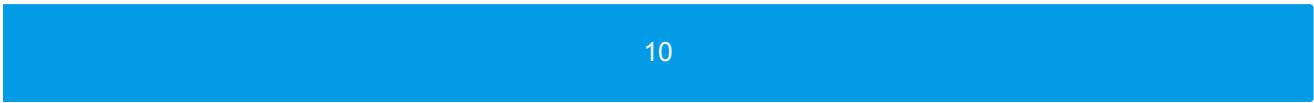
Do you have children living at home?



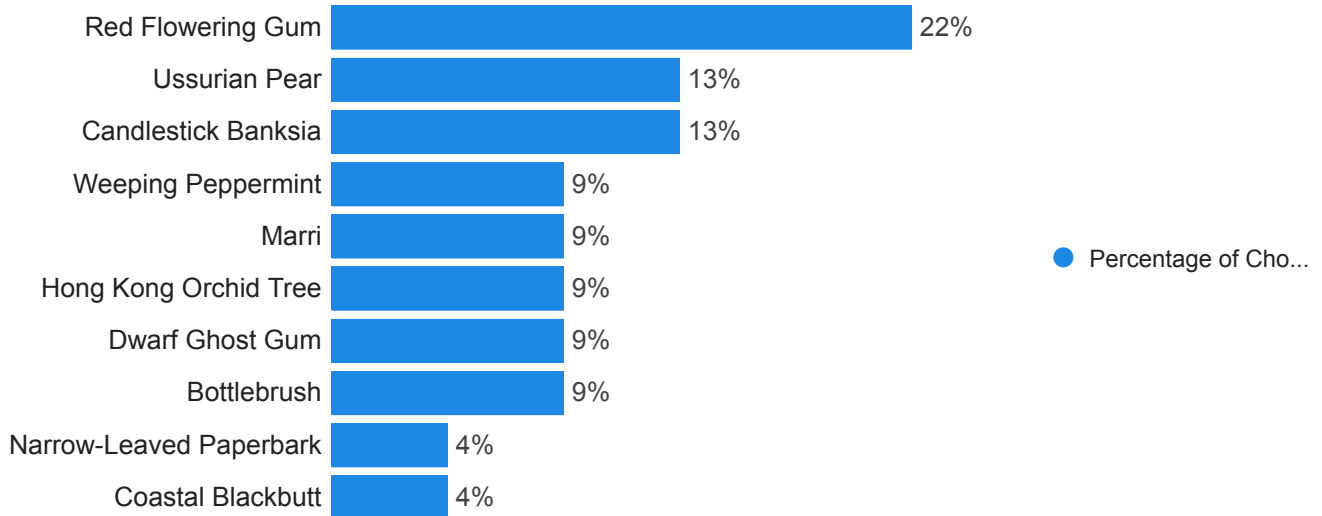
How many children are living at home?



Erskine



FinalTreeSelected

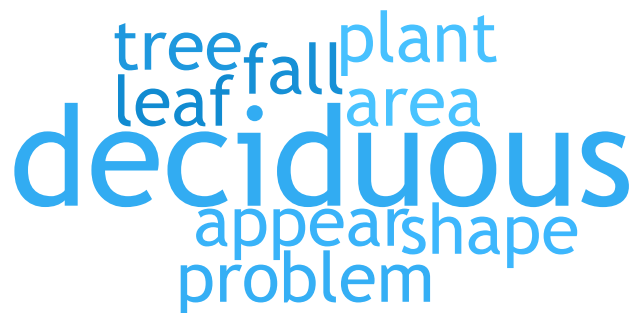


Why do you prefer...

Red Flowering Gum



Ussurian Pear



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

they can look untidy

Even if I don't like the variety of free, I would have anything rather than nothing!

Love the willow but not sure if it damages retic and drains. Would really love native frangipani or Jacaranda tree

No

Not really. Would have chosen grevillia too if I could have had 4 choices....lol..

Please don't plant things that don't belong here. People do that enough in their gardens. And PLEASE NO MORE NORFOLK PINES! Tuarts are just as glorious and much more used by wildlife -- and endangered.

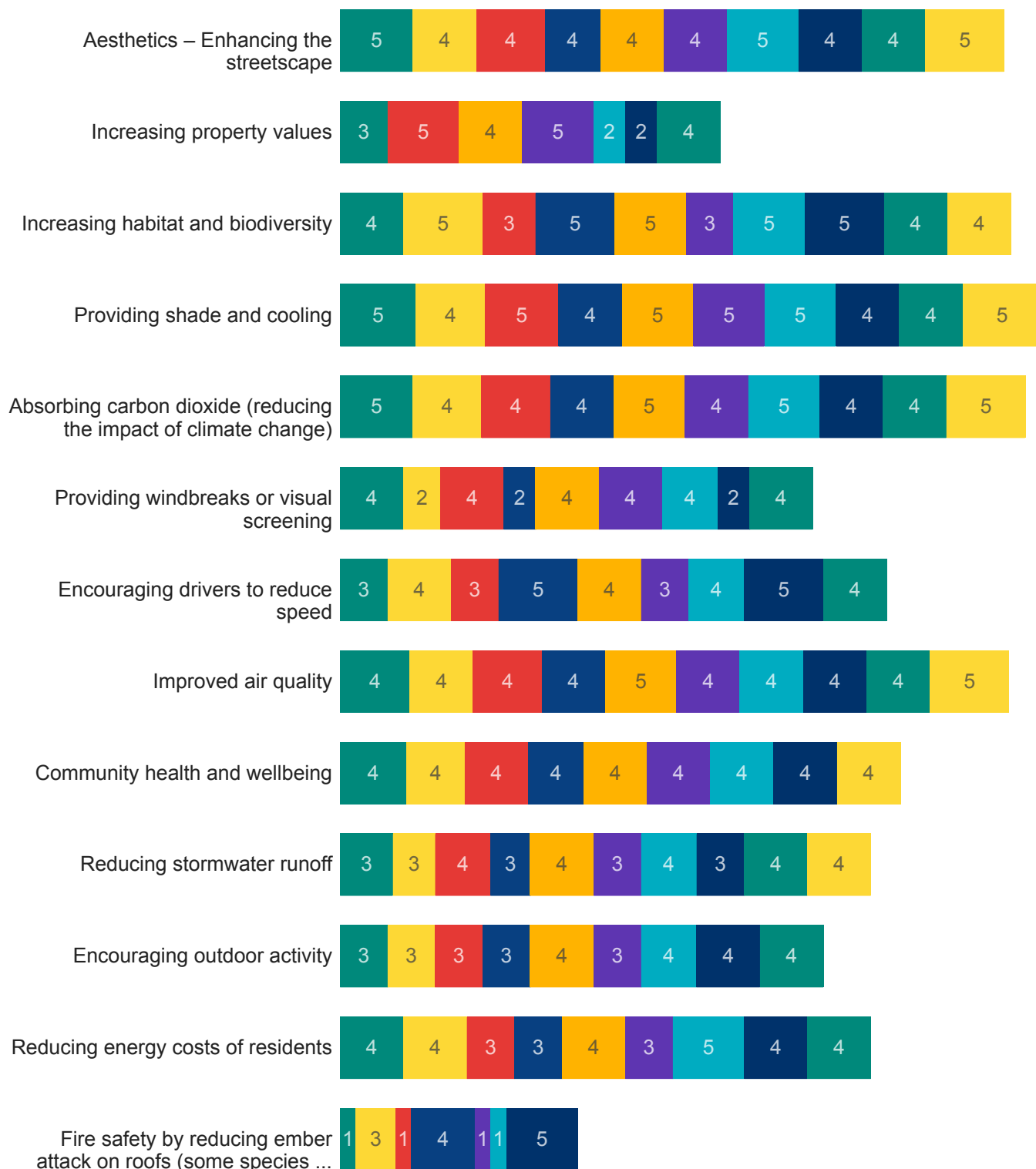
Preference is for WA natives. Any exotic species should not be planted at all. Whilst I think it's good that the City wants Mandurah to be greener, it's important to promote our native flora and fauna through connectivity with existing parks and reserves such as Len Howard Conservation Reserve. Asking residents at a precinct level is also not appropriate as what might be suitable for one street may not be suitable for another. Moreover, residents are likely to choose trees based on their aesthetic value rather than their ecological value. Is there a wider overarching plan for the City as to how trees selected in adjacent precincts will enable connectivity between precincts? The old coast road is a huge segregation between habits and has effectively created island habitats each side. Tree planting along this route should be done in such a way that green bridges are created between precincts.

Some grow Way too big and would become a problem when they reach maturity. However they certainly have their place in parks and reserves

Most gum trees grow too big resulting in roots affecting paving and driveways, large trees affect house insurance, difficult to plant a garden around gum trees.

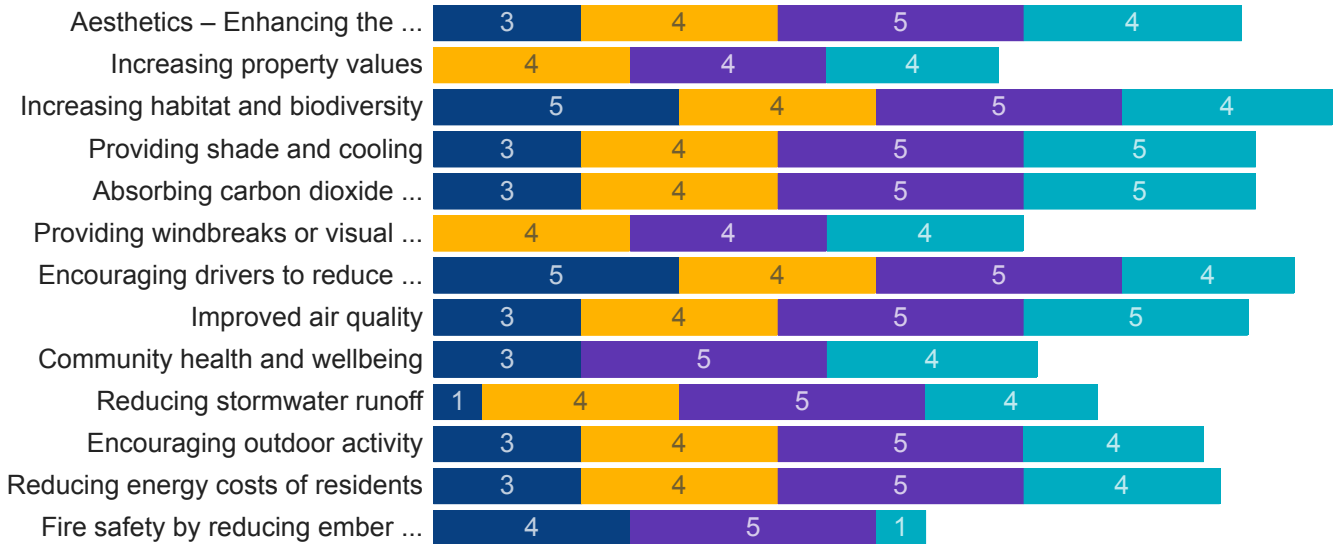
Trees that don't drop crap all over the place

Importance ratings(Average) - Erskine

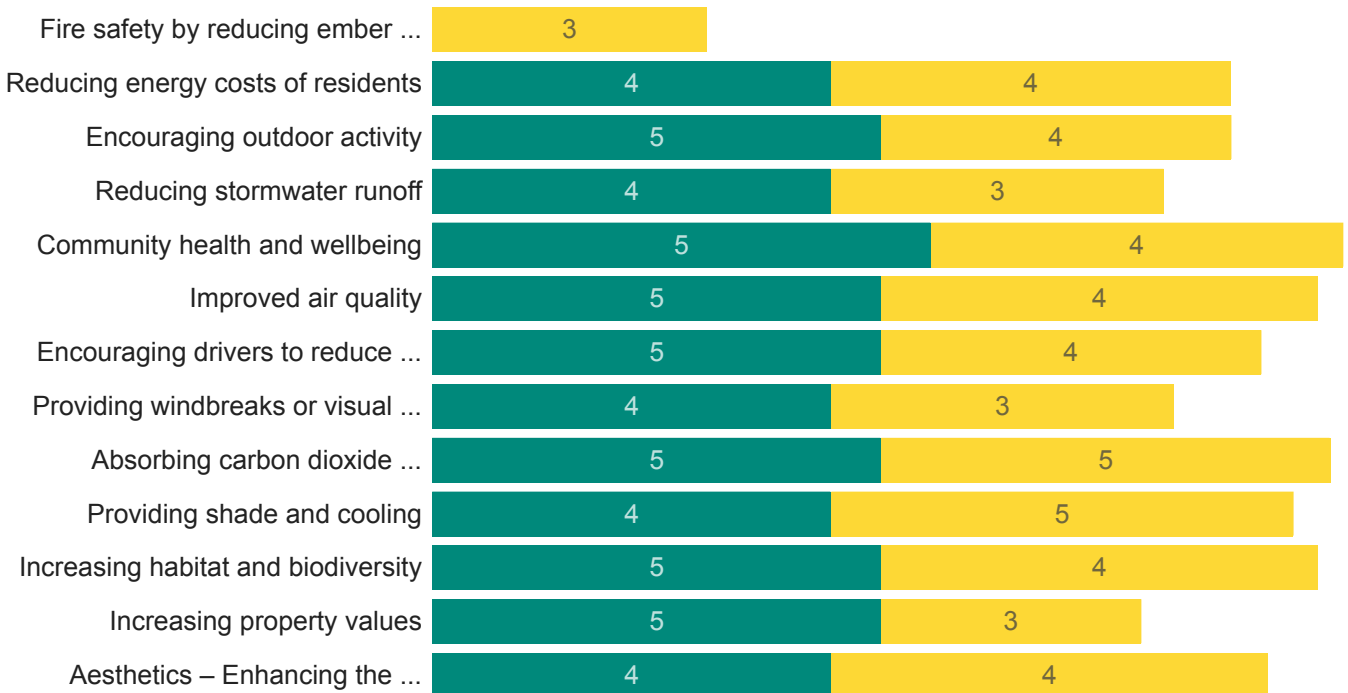


● Red Flowering Gum
 ● Candlestick Banksia
 ● Ussurian Pear
 ● Bottlebrush
 ● Dwarf Ghost Gum
● Hong Kong Orchid Tree
 ● Marri
 ● Weeping Peppermint
 ● Coastal Blackbutt
 ● Narrow-Leaved Paperbark

Importance ratings by Age - Erskine

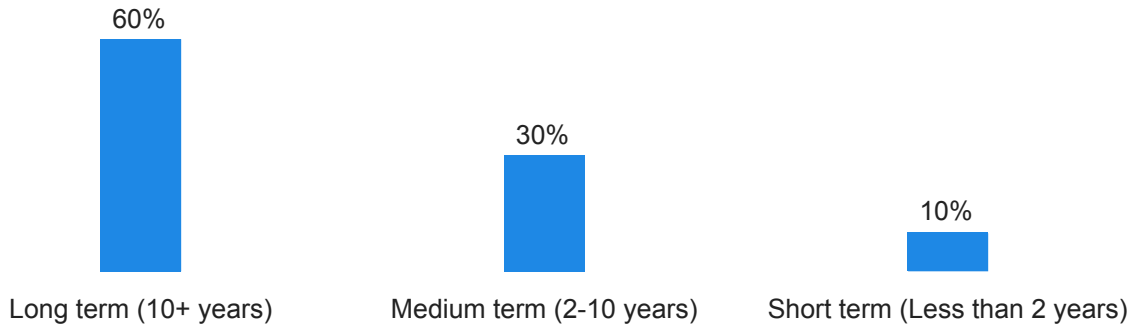


Importance ratings by Gender- Erskine

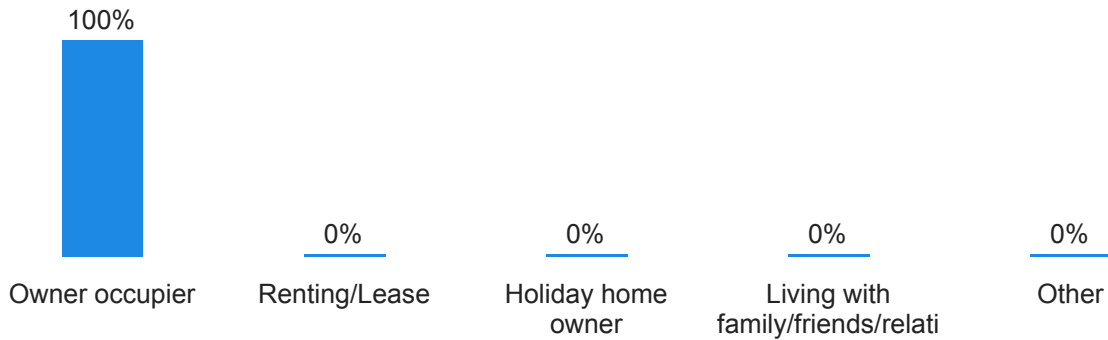


Demographics

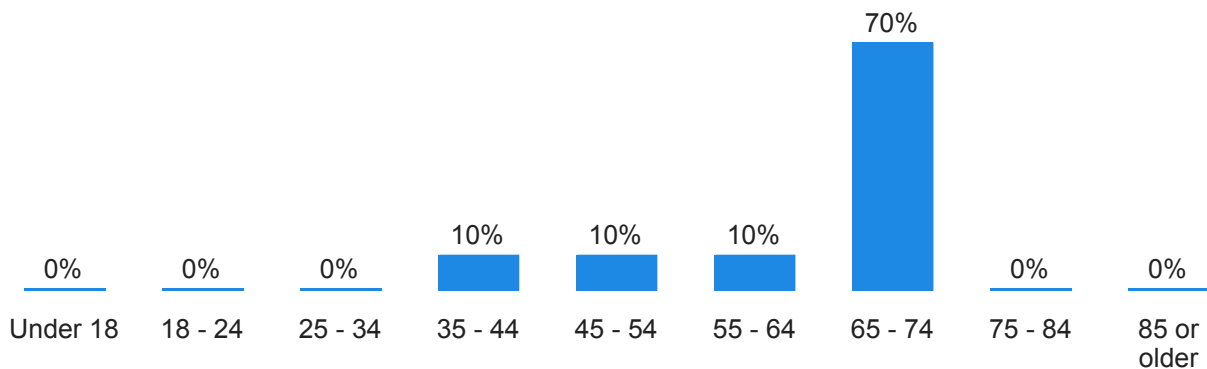
Describe your residency in Mandurah



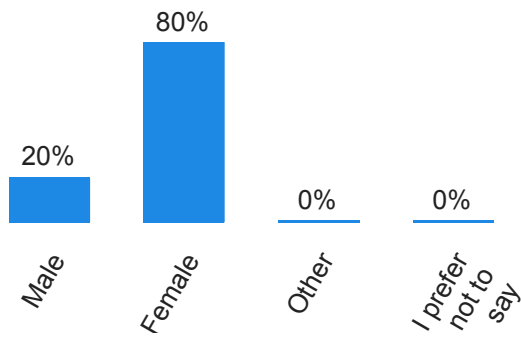
Which best applies to you:



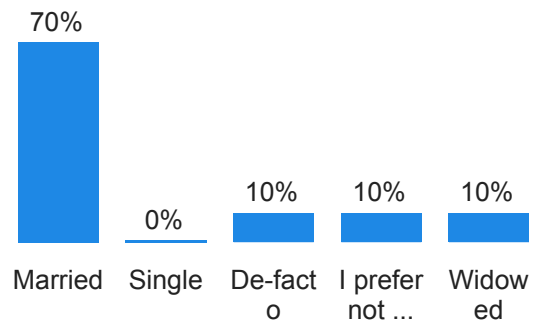
Age range



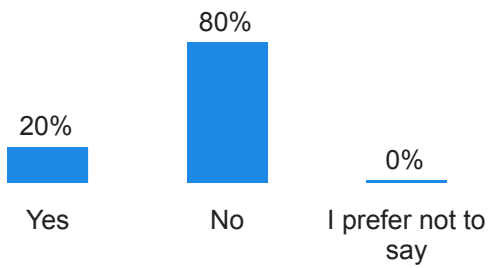
Gender identity:



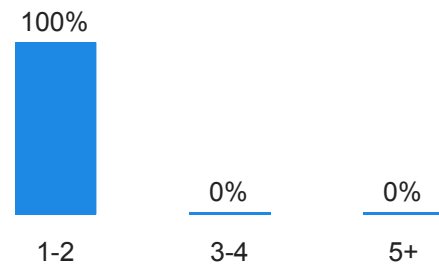
Marital Status:



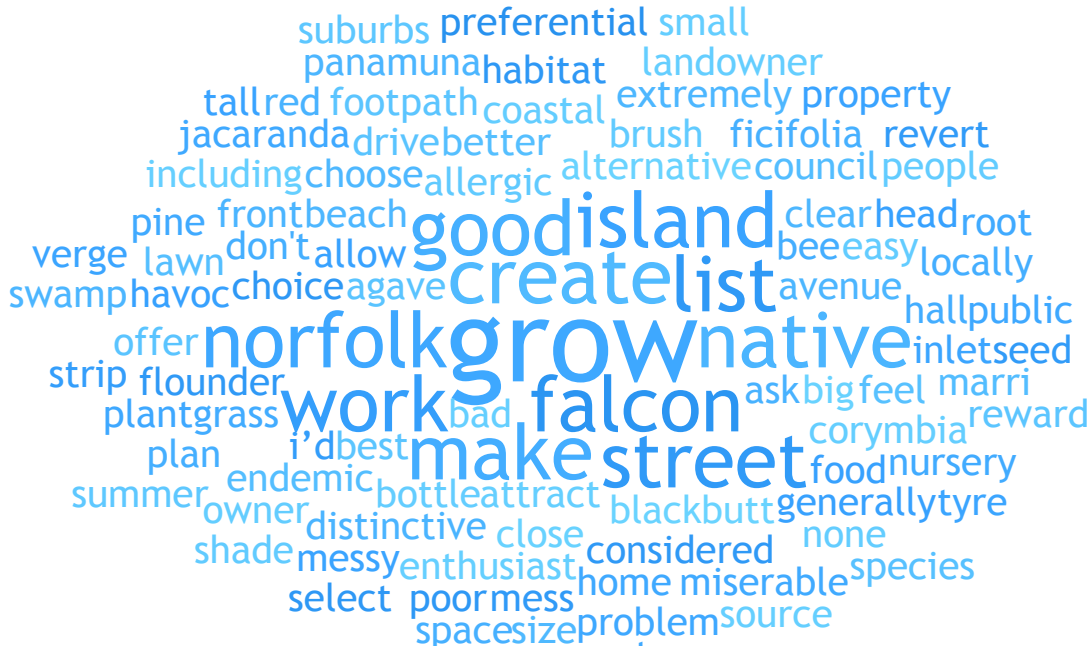
Do you have children living at home?



How many children are living at home?



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

yes

N/A

N/A

no, i like these best. The swamp trees are good closer to the inlet

Not know locally...but worth trying

Non endemic/native. Size, landowners generally don't like 'messy' species, poor habitat-food source trees

Would prefer to see less Norfolk Island pines in Falcon than in other suburbs that already have them as avenue trees, including Halls Head, to create a distinctive beach feel for Falcon. Norfolk Pines would work well on the very front beach streets such as Panamuna, as good clear views available with them. Would prefer WA local trees...but any tree is better than none as the footpaths need more shade in Falcon.

No, I like most of the trees on the plan.

No, you just asked for three only. I also would like to see more Marri and coastal blackbutt in public spaces. I also think any tree that grows well and makes people enthusiastic about having a tree on their verge should be considered as even a non-native tree is preferential to a miserable strip of floundering grass and agave on the verge. All too often home owners revert to these as an easy alternative. I'd like to see home owners who are allowing trees to grow on their property rewarded by the council in a small way.

Jacaranda wasn't on the list.

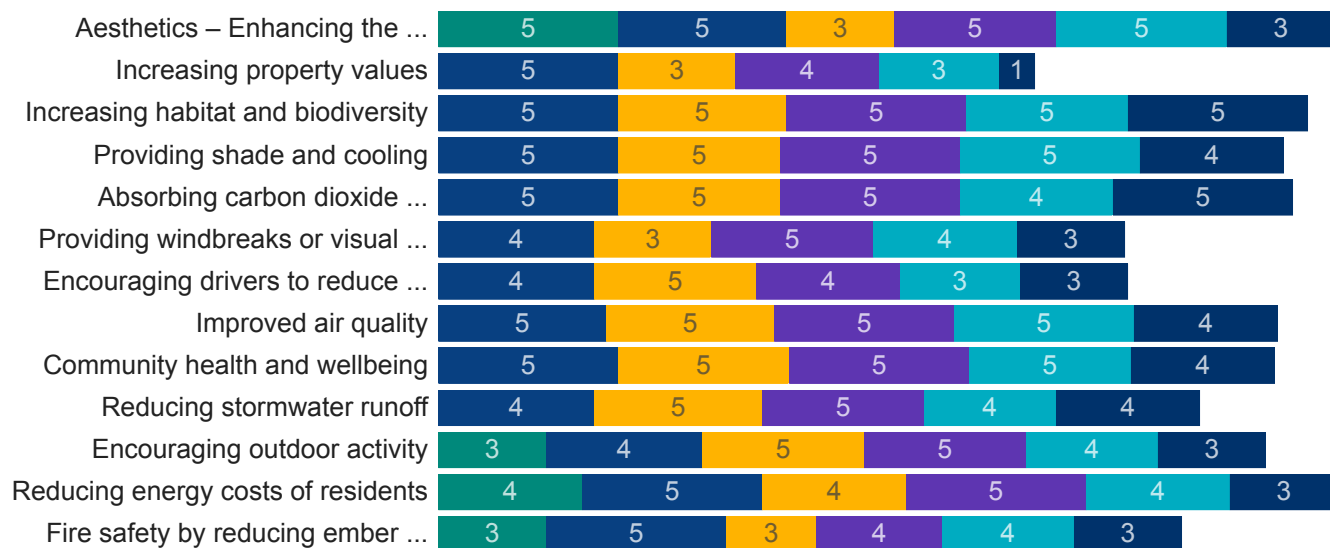
Importance ratings(Average) - Falcon



- Weeping Peppermint
- Broad Leafed Paperbark
- Common Bottlebrush
- Fuchsia Gum
- Holly-Leaved Banksia
- Marri
- Salt Sheoak
- Swamp Paperbark
- Red Flowered Moort
- Tuart
- Tuckeroo
- Coastal Blackbutt
- Cook Pine
- Euky Dwarf
- New Zealand Christmas Tree
- Norfolk Island Pine
- Swamp Banksia

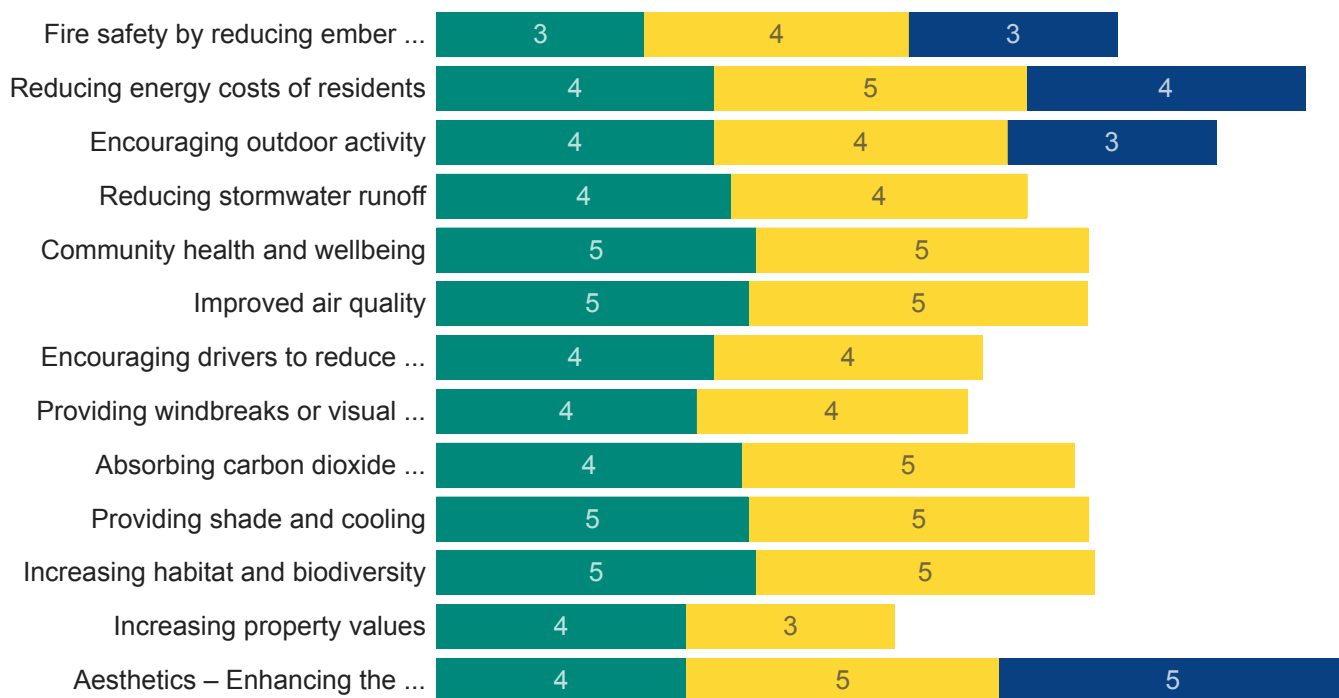
Importance ratings by Age - Falcon

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



Importance ratings by Gender- Falcon

● Male
 ● Female
 ● Other
 ● I prefer not to say

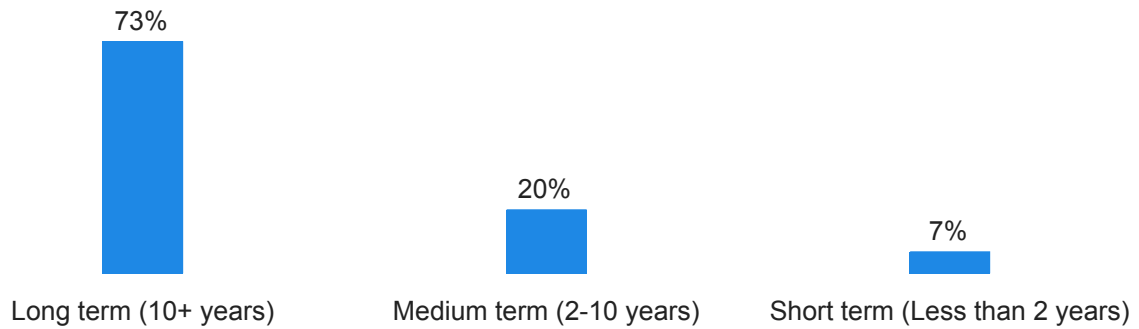


Is there anything else that you would like to add about street trees in your neighbourhood?

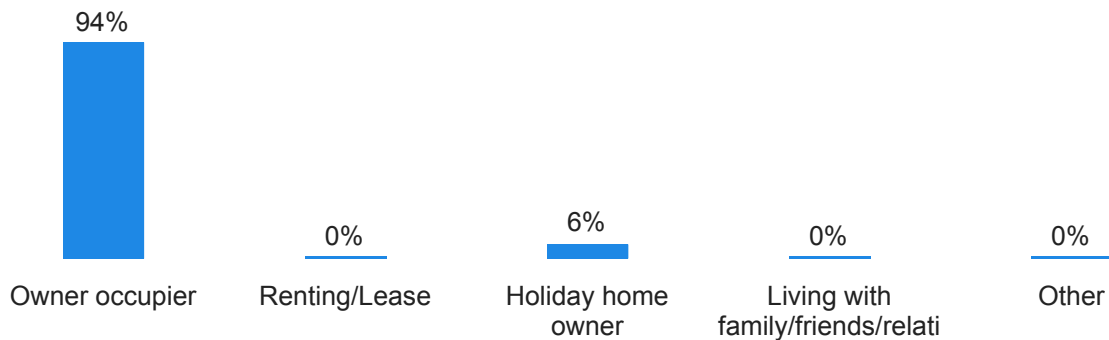


Demographics

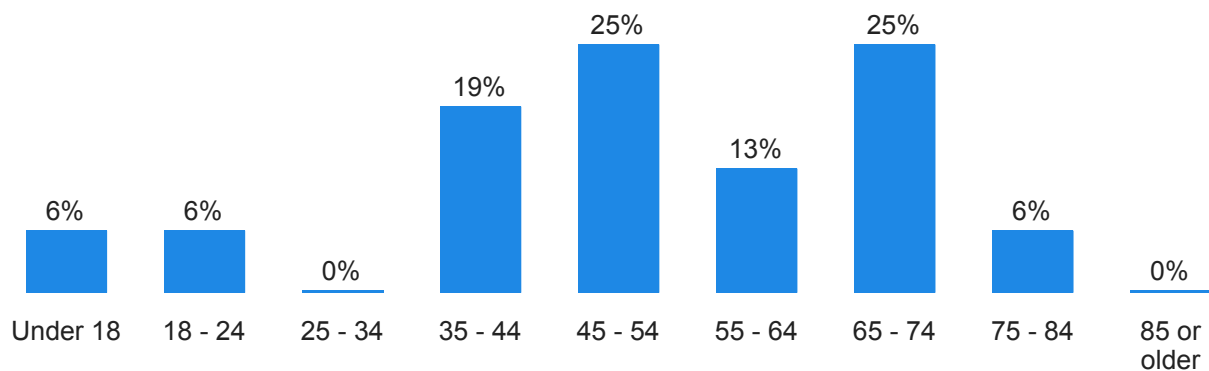
Describe your residency in Mandurah



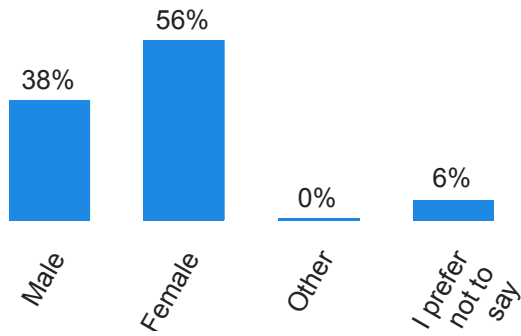
Which best applies to you:



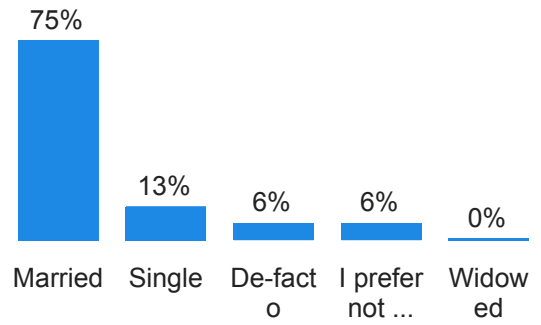
Age range



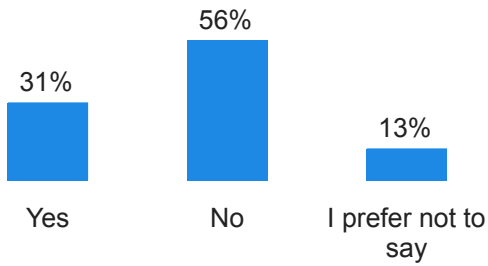
Gender identity:



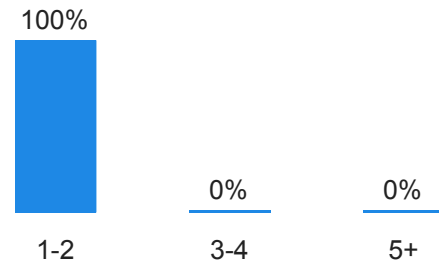
Marital Status:



Do you have children living at home?



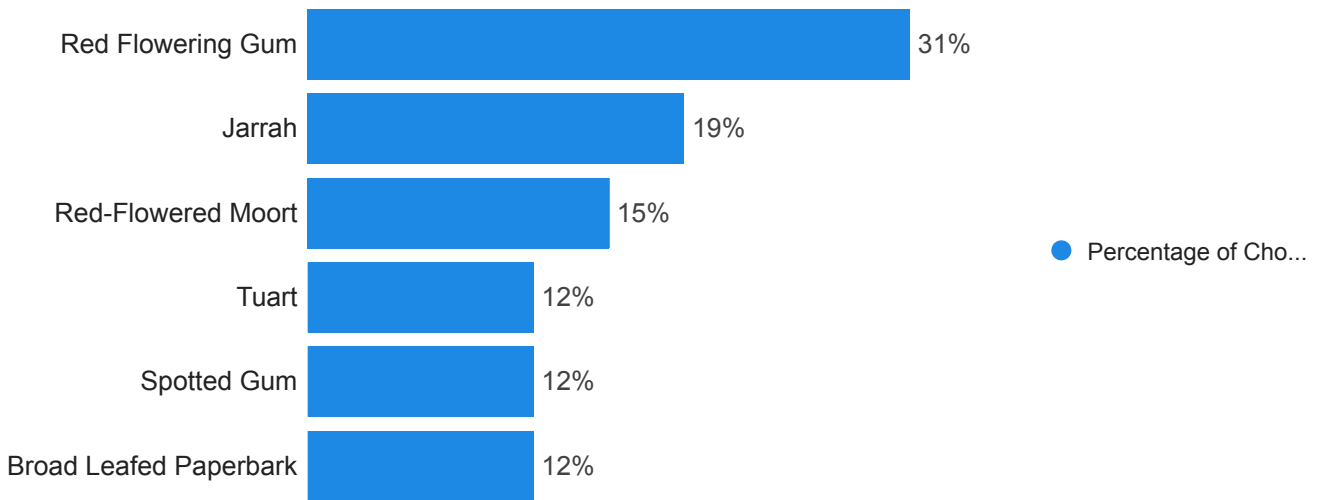
How many children are living at home?



Greenfields North

11

FinalTreeSelected

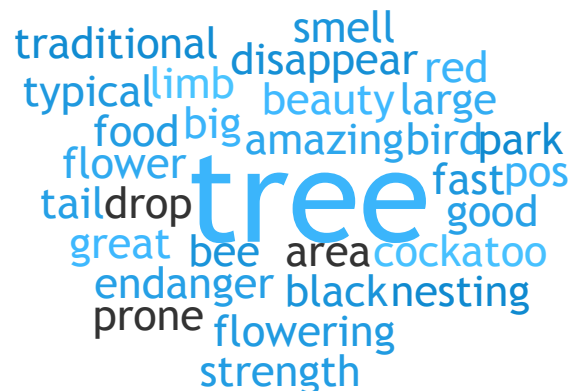


Why do you prefer...

Red Flowering Gum



Jarrah



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

I prefer the trees that look more like a traditional tree and less like a bush. The trees that have a single trunk and with branches which are higher off the ground.

Need photos

No, any trees planted are a great thing, as they provide shade and habitat and food for wild life. Along with beauty for our community .

We have tuarts both on our block and in the parkland near us. They are a lovely tree but they grow too big for any block under 2ha and are very prone to limbdrop without warning. Have had significant damage to our property from tuarts and a very near miss personally.

No. Just didn't know how many I could choose

I know very little about them

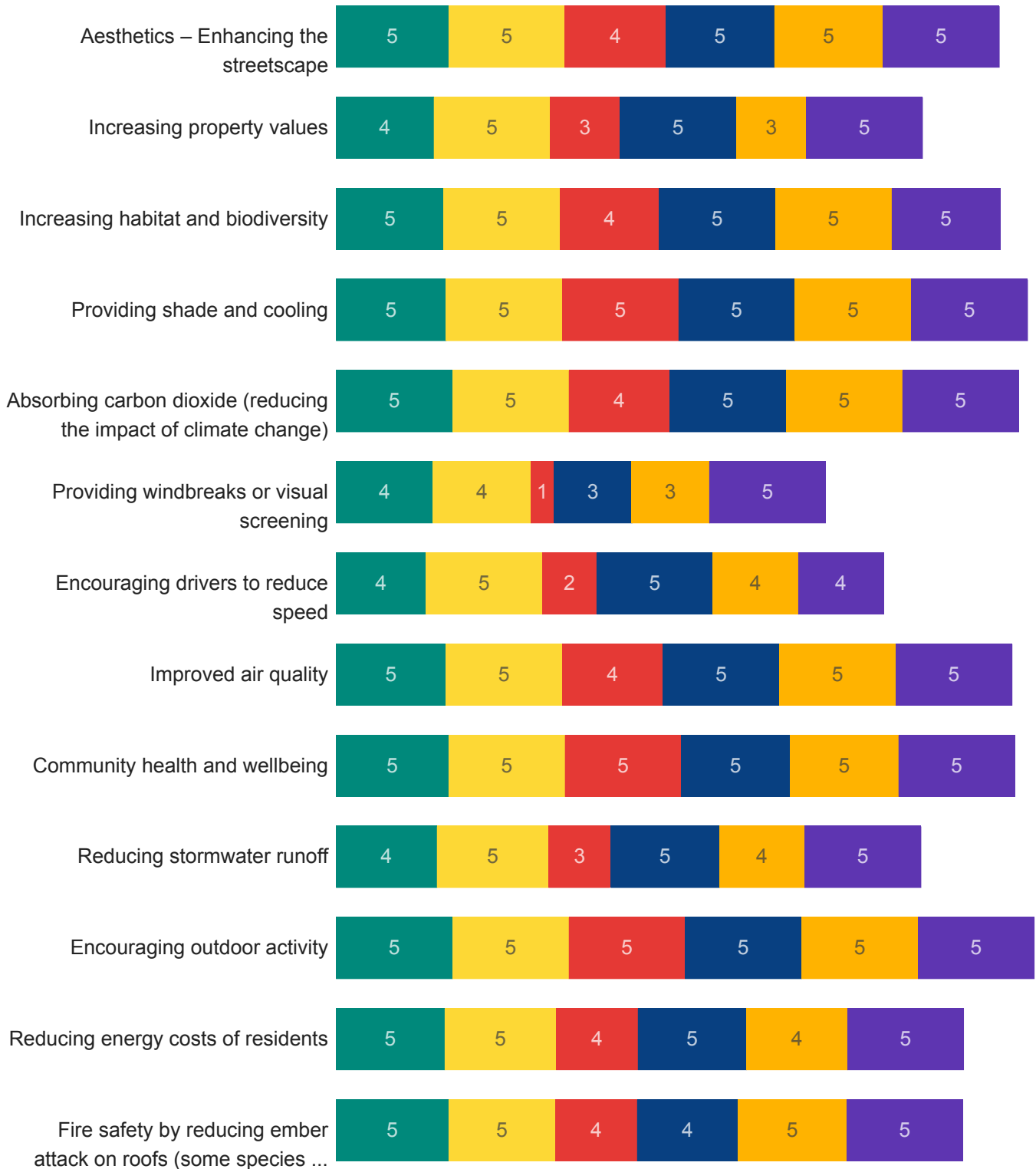
Paper bark are messy and the others are ugly

N/A

No I'd like them all but those three are some of my fav's

Already over populated by tuarts.

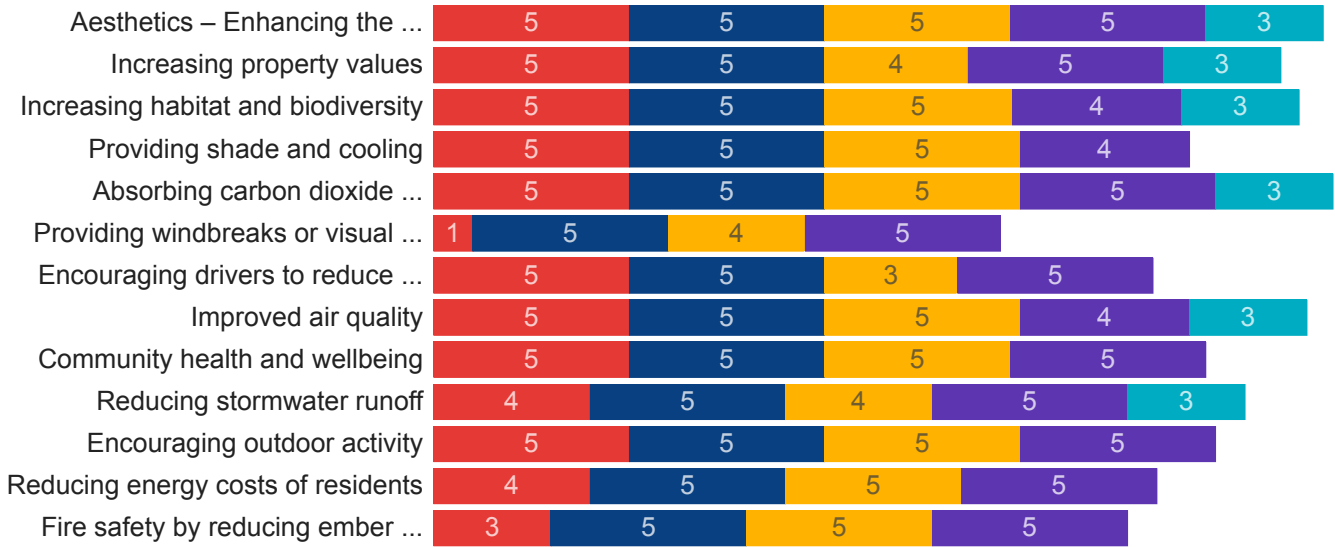
Importance ratings(Average) - Greenfields North



● Red Flowering Gum
 ● Jarrah
 ● Red-Flowered Moort
 ● Broad Leafed Paperbark
 ● Spotted Gum
 ● Tuart

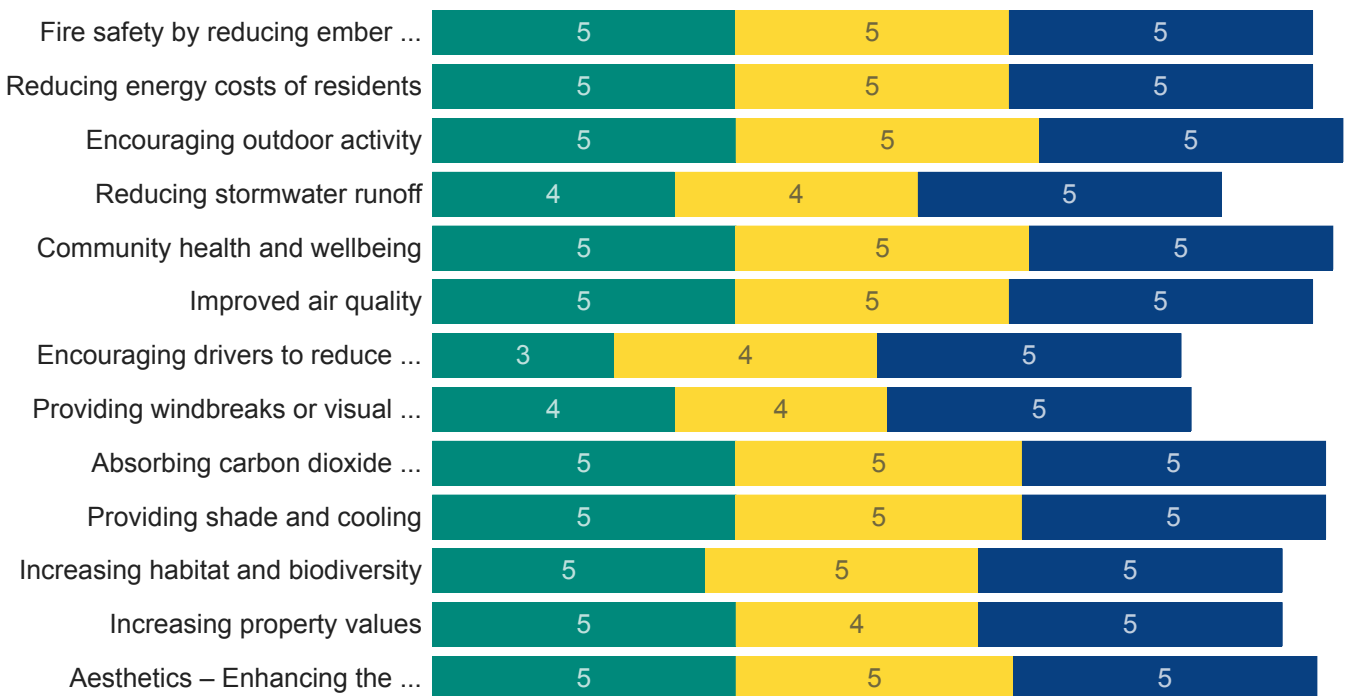
Importance ratings by Age - Greenfields North

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older

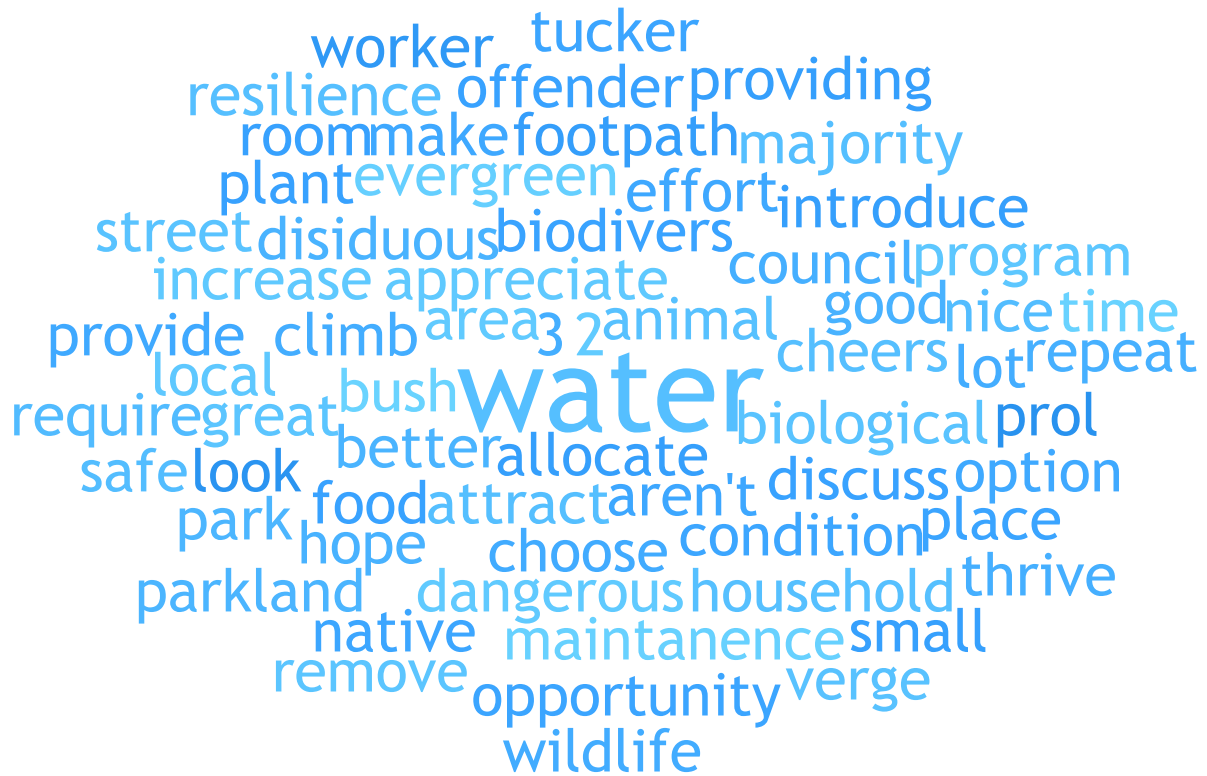


Importance ratings by Gender- Greenfields North

● Male
 ● Female
 ● Other
 ● I prefer not to say

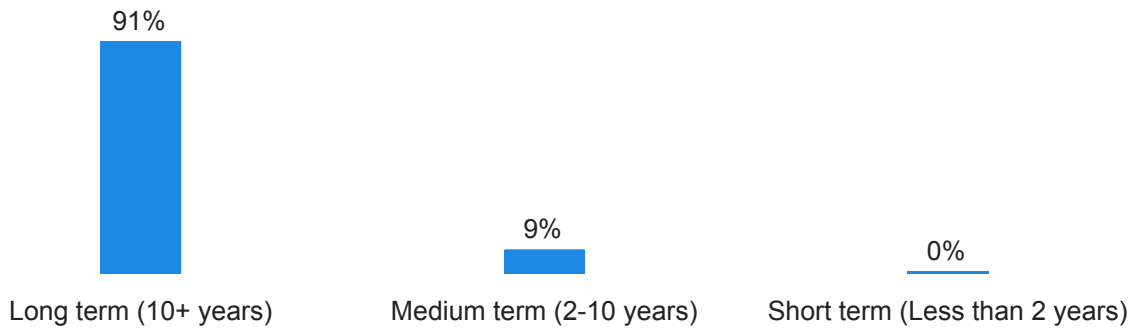


Is there anything else that you would like to add about street trees in your neighbourhood?

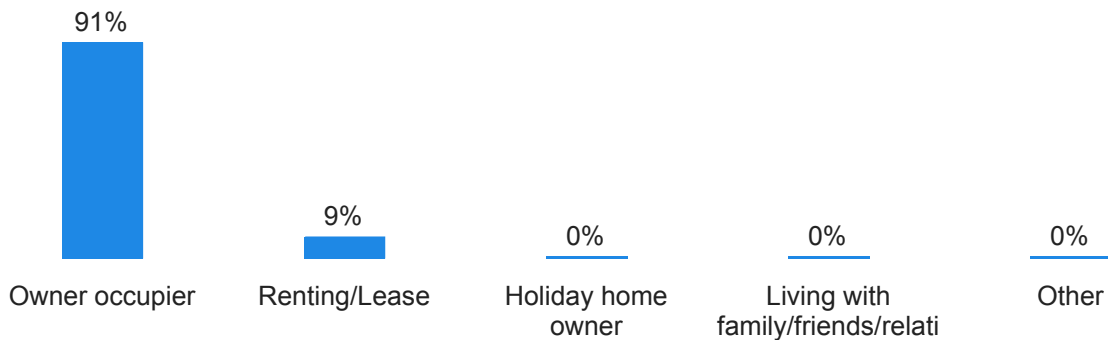


Demographics

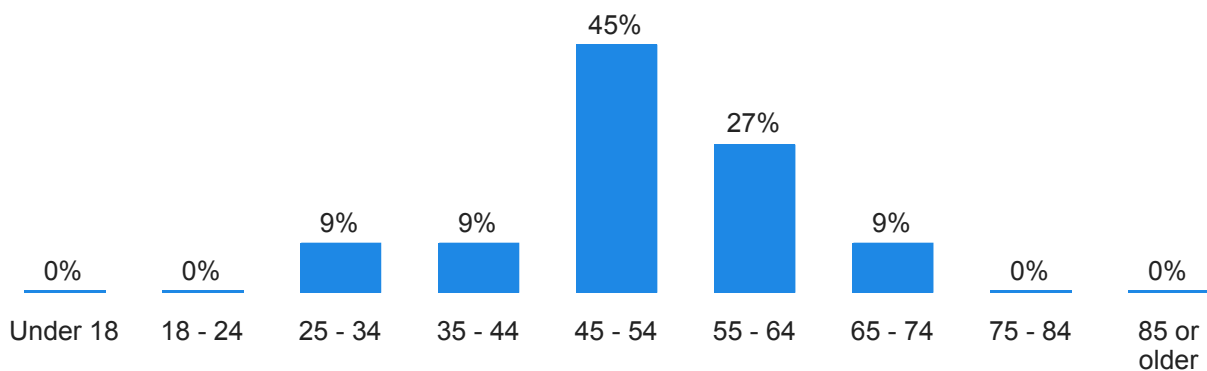
Describe your residency in Mandurah



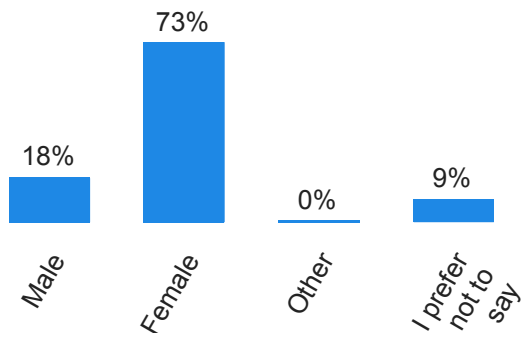
Which best applies to you:



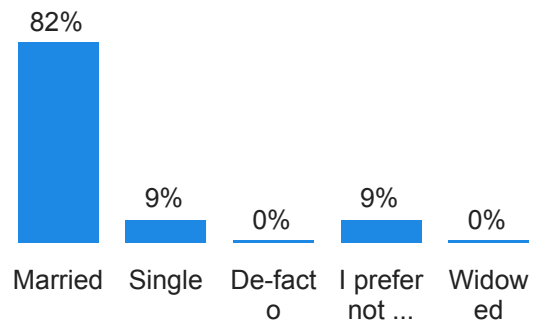
Age range



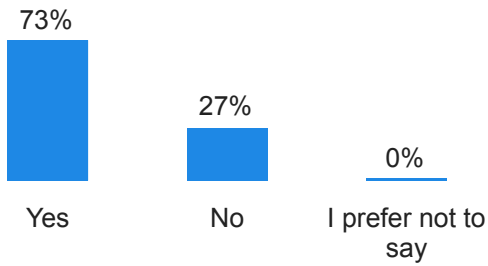
Gender identity:



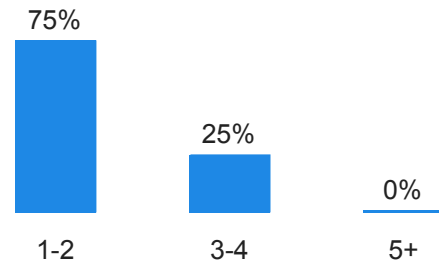
Marital Status:



Do you have children living at home?



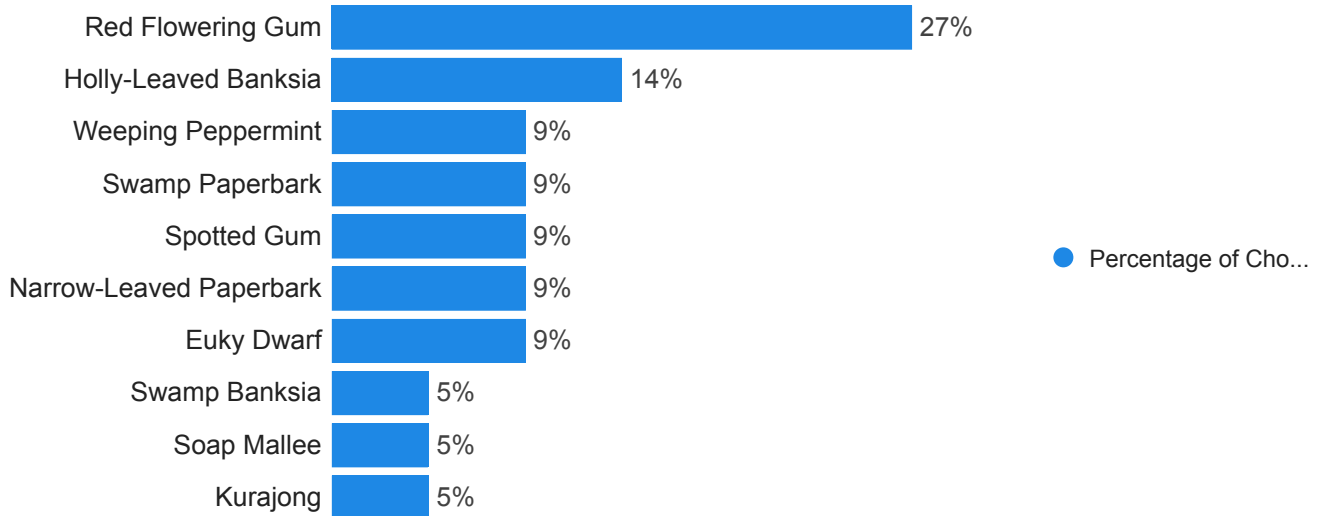
How many children are living at home?



Greenfields South



FinalTreeSelected



Why do you prefer...

Red Flowering Gum



Holly-Leaved Banksia



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

I love the idea of the Jacaranda trees. However everyone else doesn't because other local governments have already claimed them. Also other people don't like the idea of cleaning up after them (I don't mind)

I don't mind what trees are used as long as they provide a food source for the birds. They're ones that have been most impacted by land clearing for development as have Brushtail Possums.

No

most of them are not useful for native birds or fauna. So feel there is no advantage for local wildlife

No

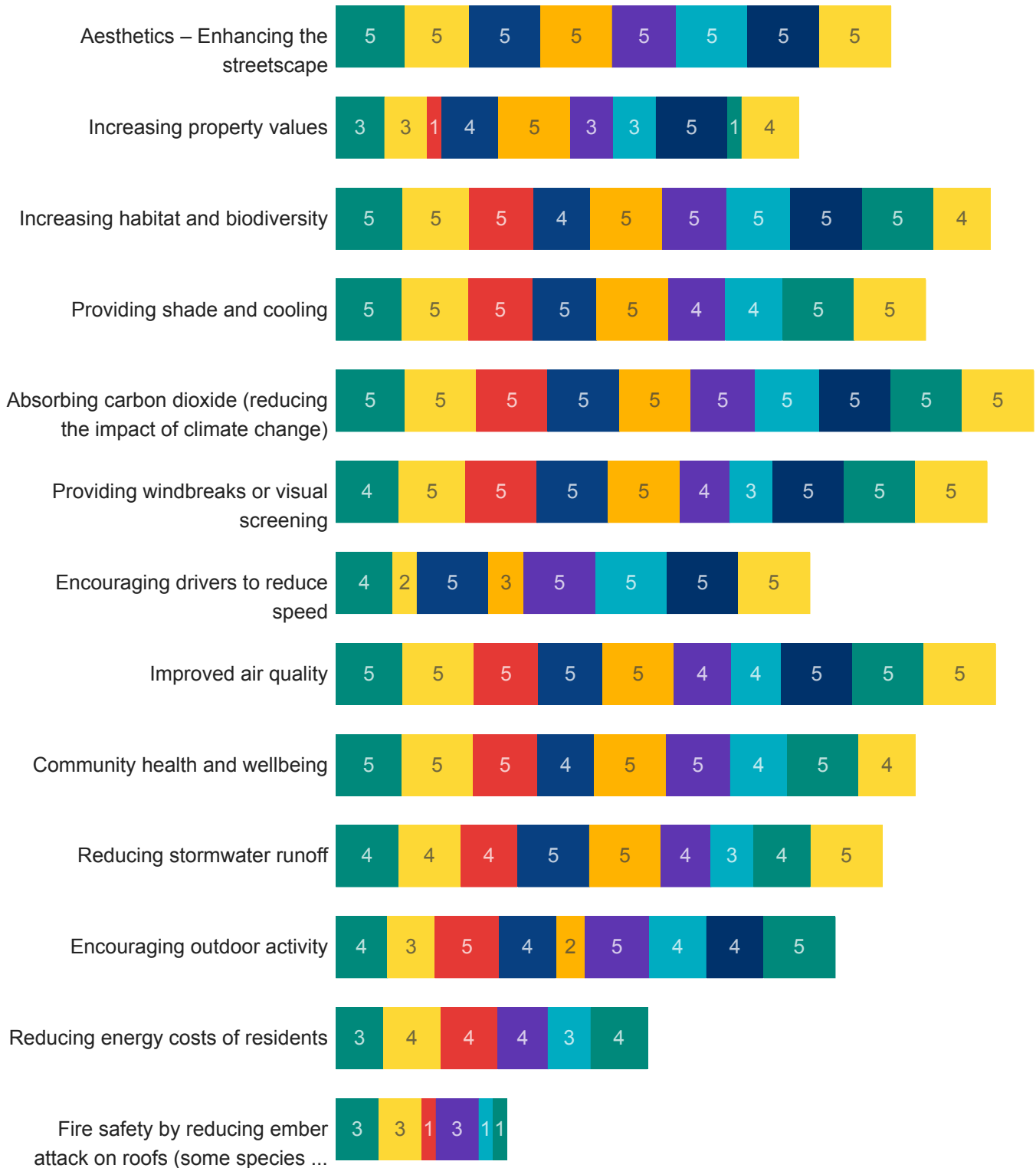
No

No, the ones I have chosen would look pretty in my street

yes, i feel that for every 2 australian native tree there should be at least one eatable fruit tree that the community can use, it will also help with the bee population

Have a preference for Western Australian species or their hybrids

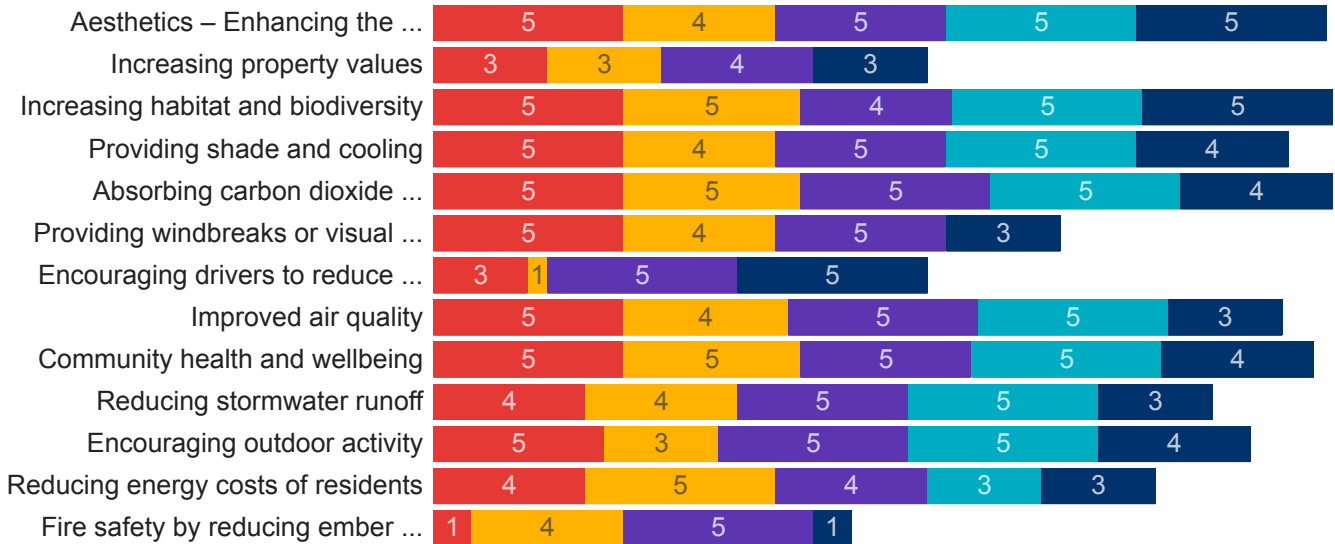
Importance ratings(Average) - Greenfields South



● Red Flowering Gum
 ● Holly-Leaved Banksia
 ● Euky Dwarf
 ● Narrow-Leaved Paperbark
 ● Spotted Gum
● Swamp Paperbark
 ● Weeping Peppermint
 ● Kurajong
 ● Soap Mallee
 ● Swamp Banksia

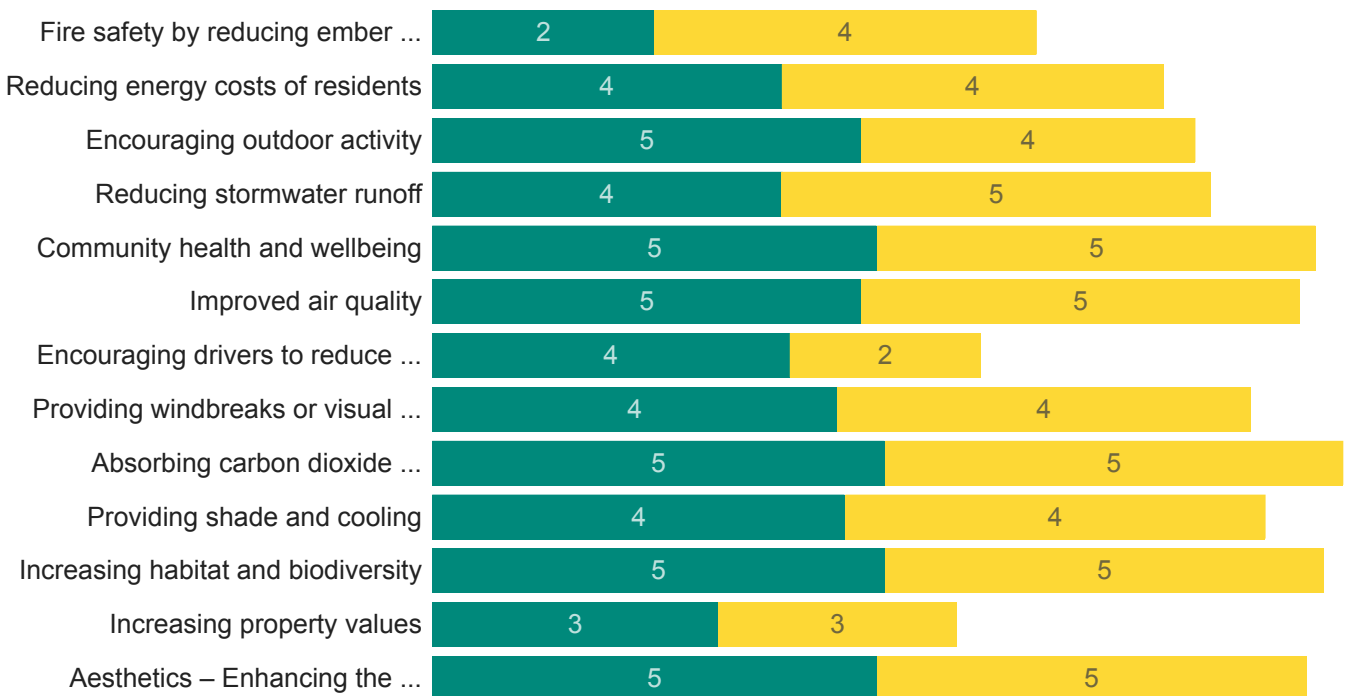
Importance ratings by Age - Greenfields South

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



Importance ratings by Gender- Greenfields South

● Male
 ● Female
 ● Other
 ● I prefer not to say

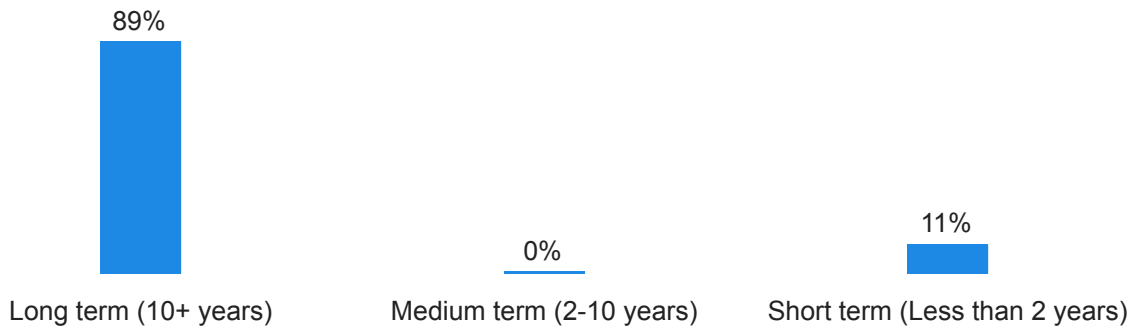


Is there anything else that you would like to add about street trees in your neighbourhood?

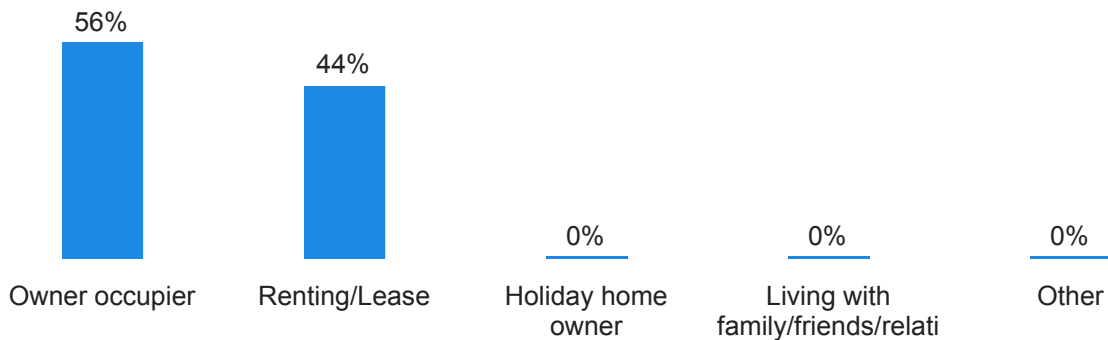


Demographics

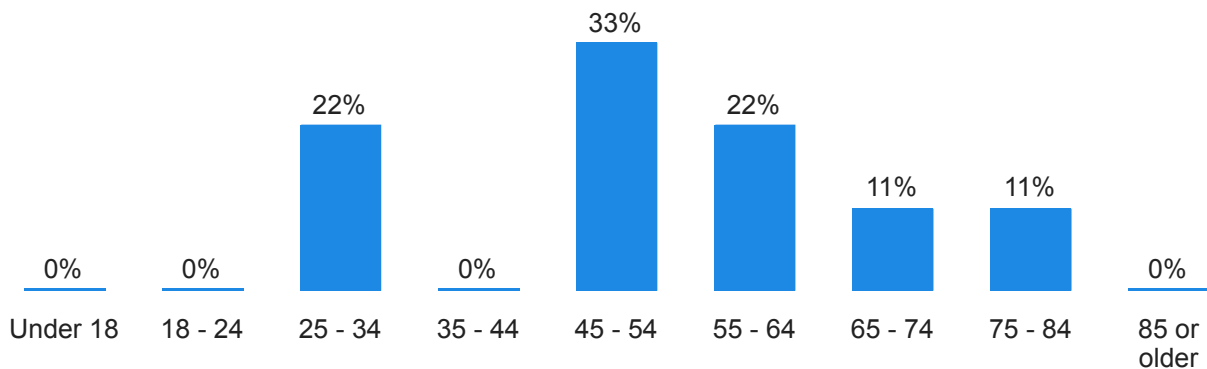
Describe your residency in Mandurah



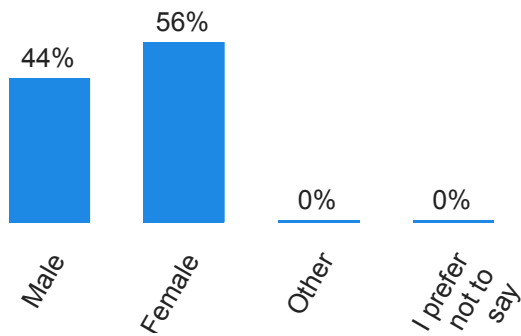
Which best applies to you:



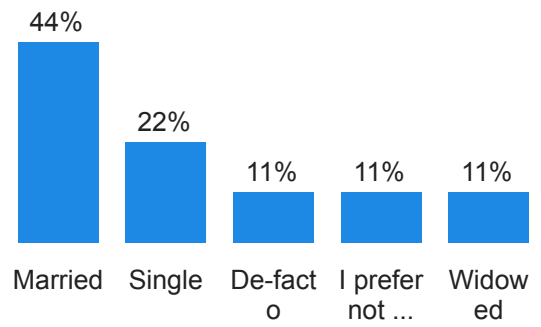
Age range



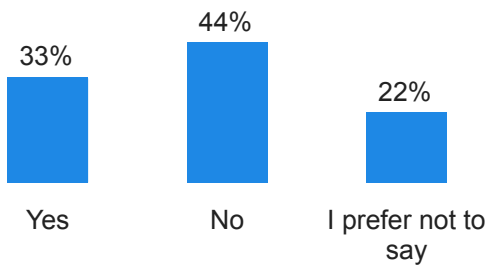
Gender identity:



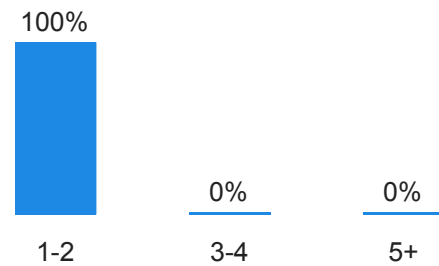
Marital Status:



Do you have children living at home?



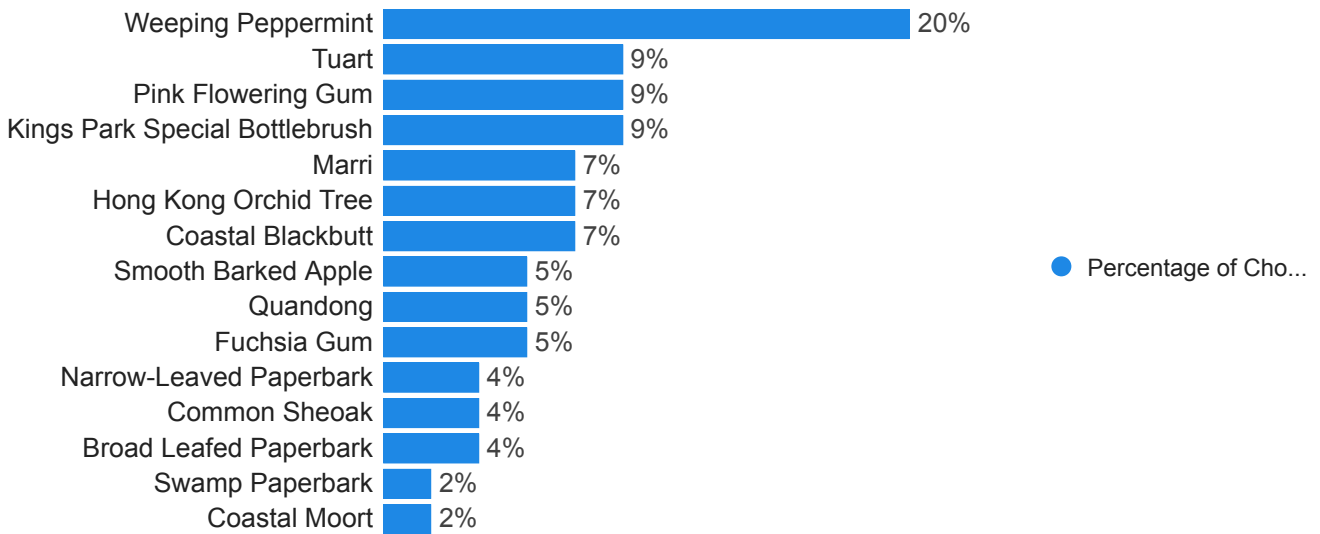
How many children are living at home?



Halls Head North



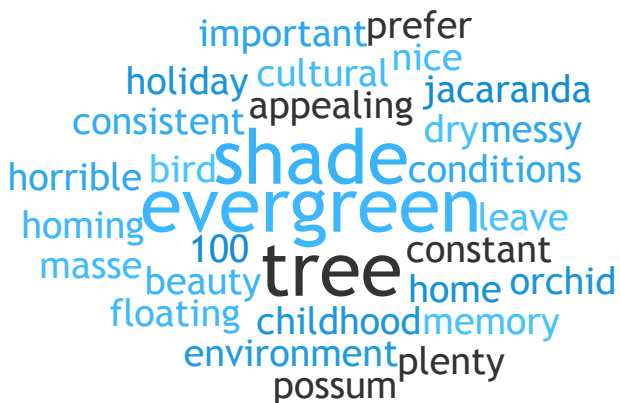
FinalTreeSelected



Why do you prefer...

Weeping Peppermint

Tuart



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

Some are either too large or small. Eg tuart or King's Park bottlebrush ... could be used in parks but not as a street tree.

just don't look as "cool and shady"

No

all the other trees are inconsistent in size and shape and look very tatty as they age

No

Prefer trees that don't drop bark and leaves

N/A

We currently have the dirty Hong Kong Orchid trees that leave us with a very very messy problem! I seriously loath the mess they leave!

Yes I hate messy leaves from trees that blow into our street constantly!

Tuarts and mallee are self pruning i.e drop branches. Jacara dahs beautiful but messy. Fruit trees didnt work in Arnadale 50yrs ago thieving mainly

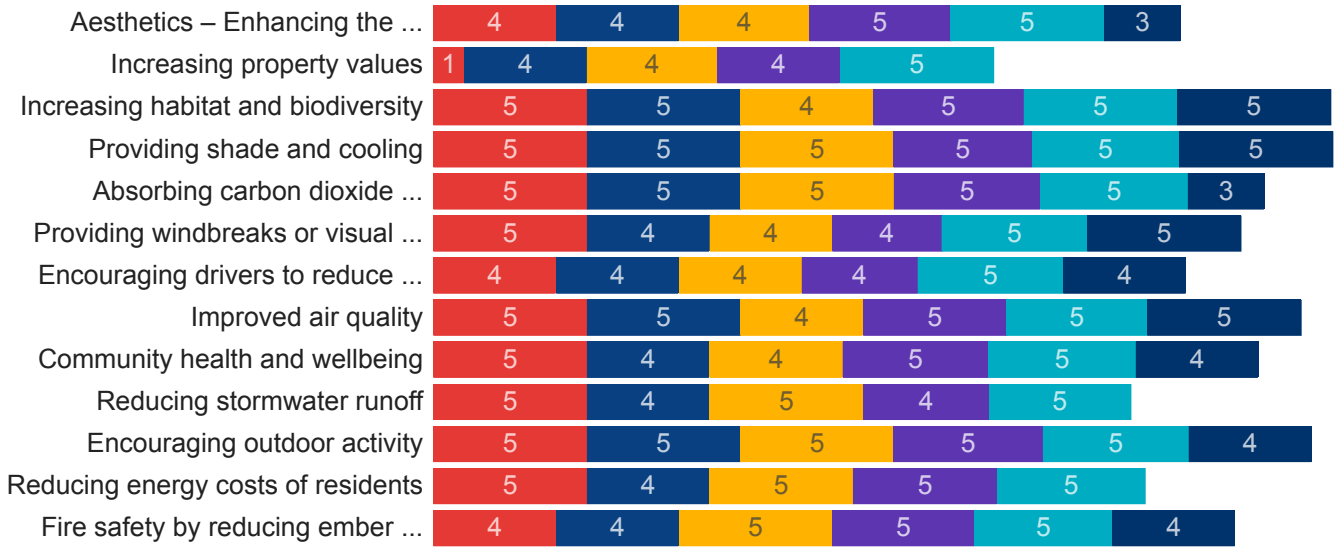
Importance ratings(Average) - Halls Head North



- Weeping Peppermint
- Kings Park Special Bottlebrush
- Pink Flowering Gum
- Tuart
- Coastal Blackbutt
- Hong Kong Orchid Tree
- Marri
- Fuchsia Gum
- Quandong
- Smooth Barked Apple
- Broad Leafed Paperbark
- Common Sheoak
- Narrow-Leaved Paperbark
- Coastal Moort
- Swamp Paperbark

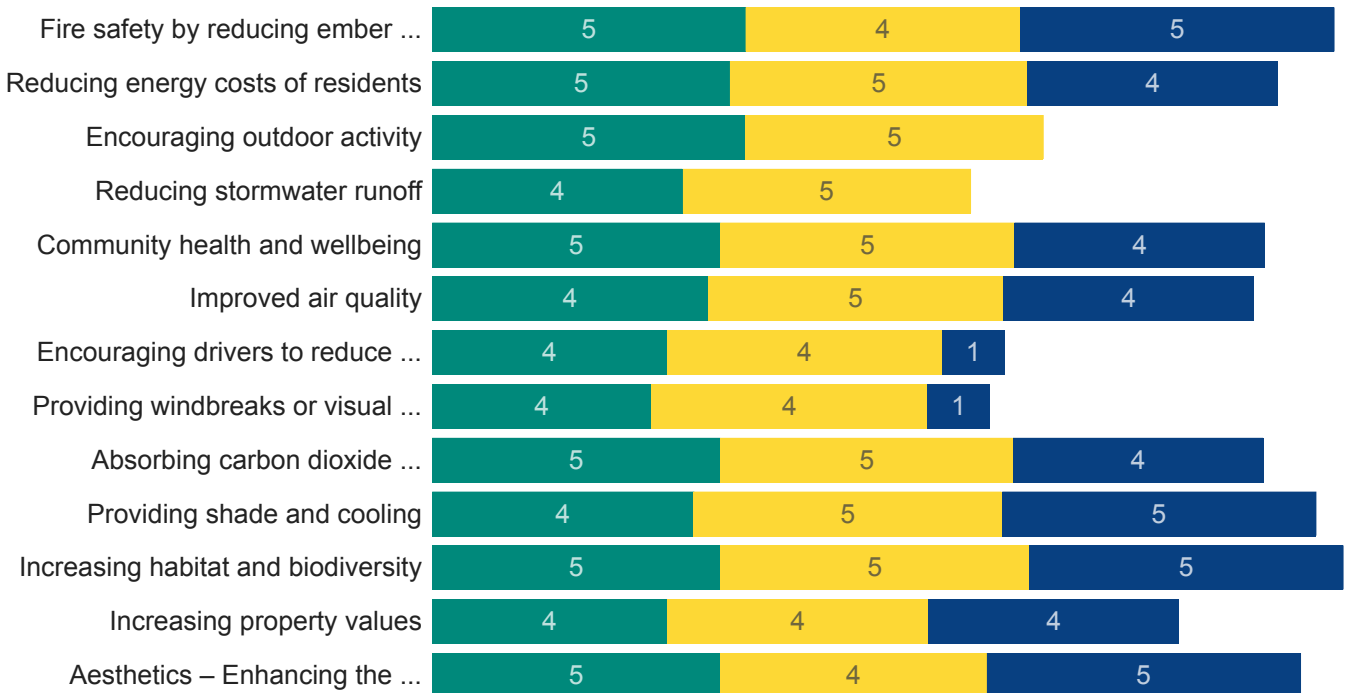
Importance ratings by Age - Halls Head North

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



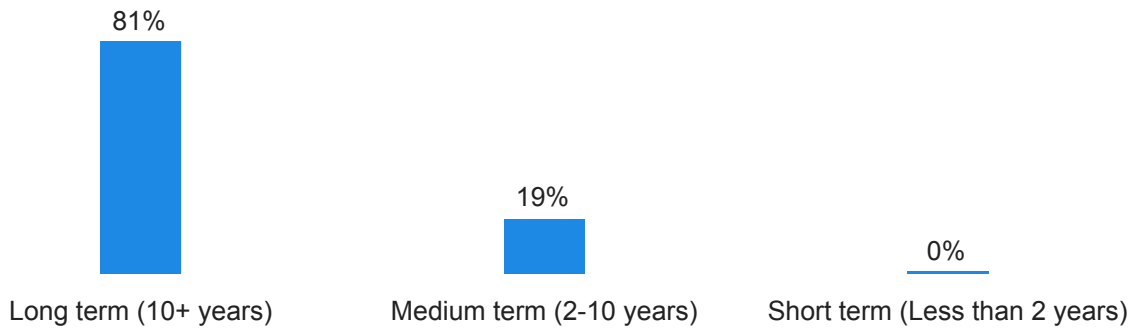
Importance ratings by Gender- Halls Head North

● Male
 ● Female
 ● Other
 ● I prefer not to say

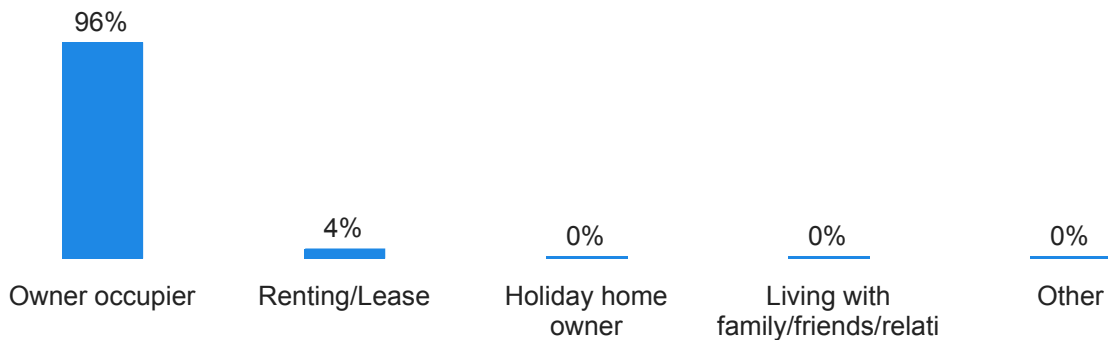


Demographics

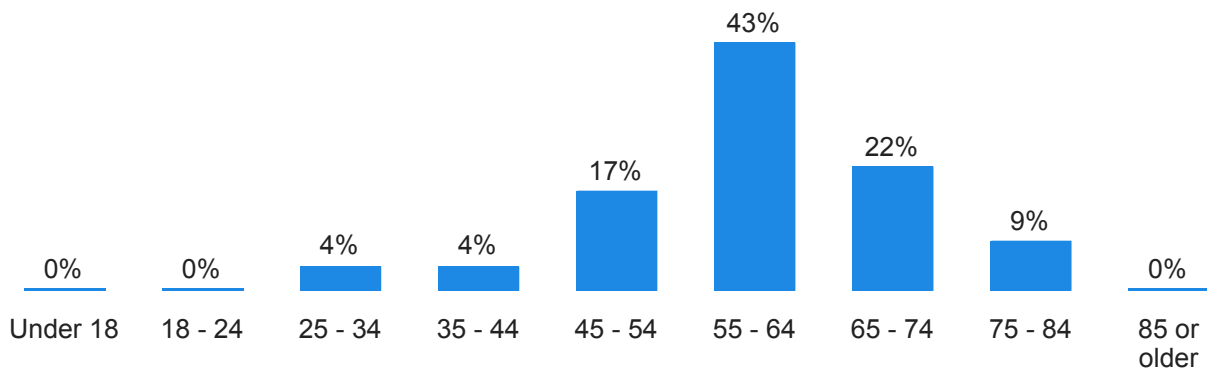
Describe your residency in Mandurah



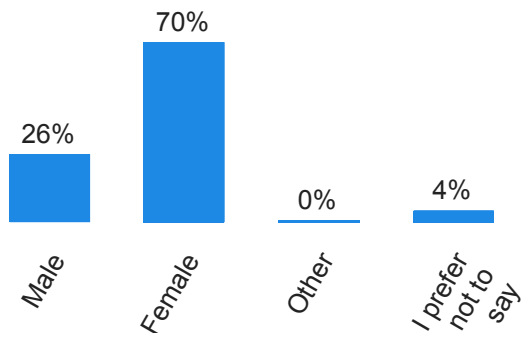
Which best applies to you:



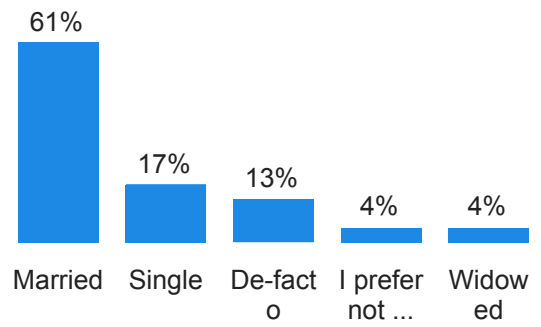
Age range



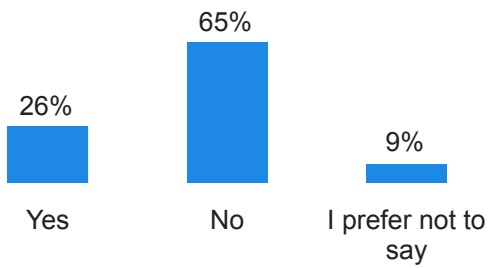
Gender identity:



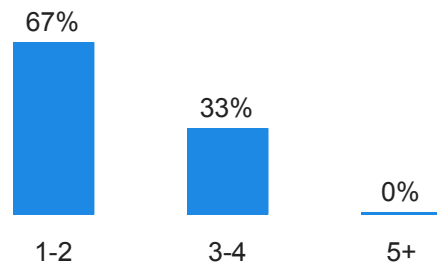
Marital Status:



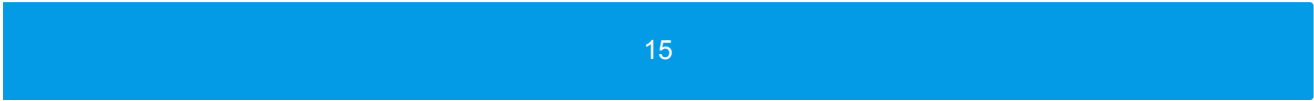
Do you have children living at home?



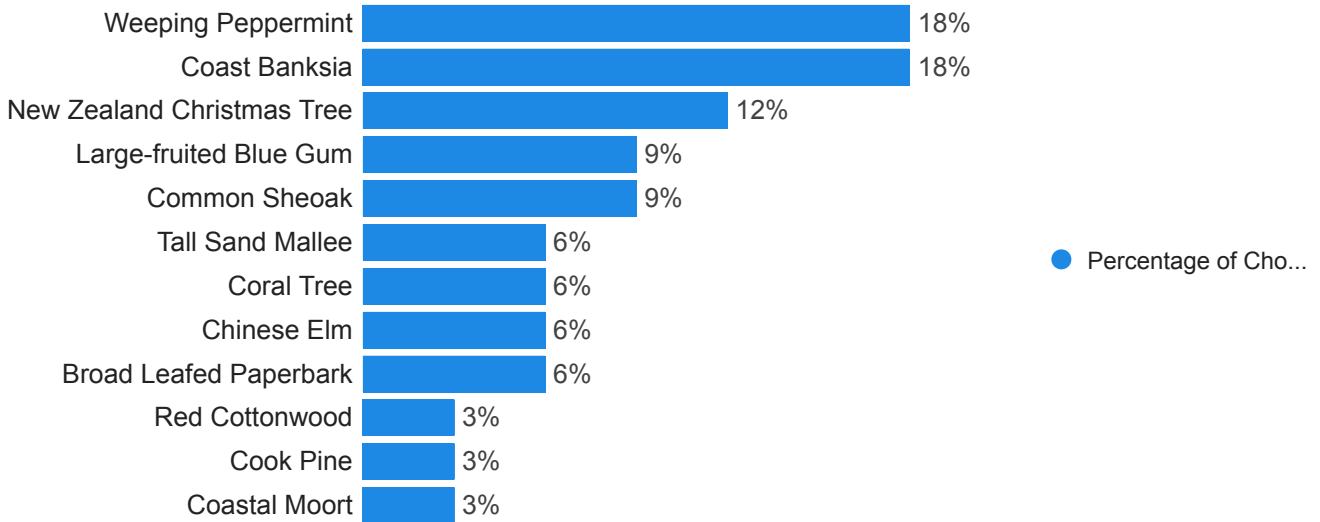
How many children are living at home?



Halls Head South



FinalTreeSelected



Why do you prefer...

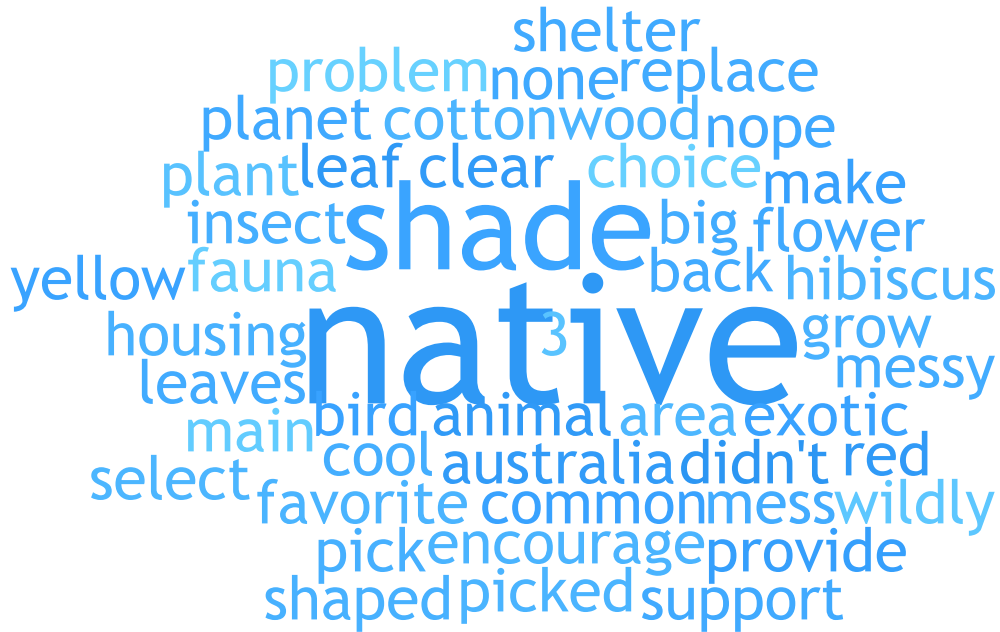
Weeping Peppermint



Coast Banksia



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

because you can only pick 3 - I would have selected several more - but none of the exotics

Some of them are not native to Australia and some like the cottonwoods are already very common.

They can be messy

No

No

Nope

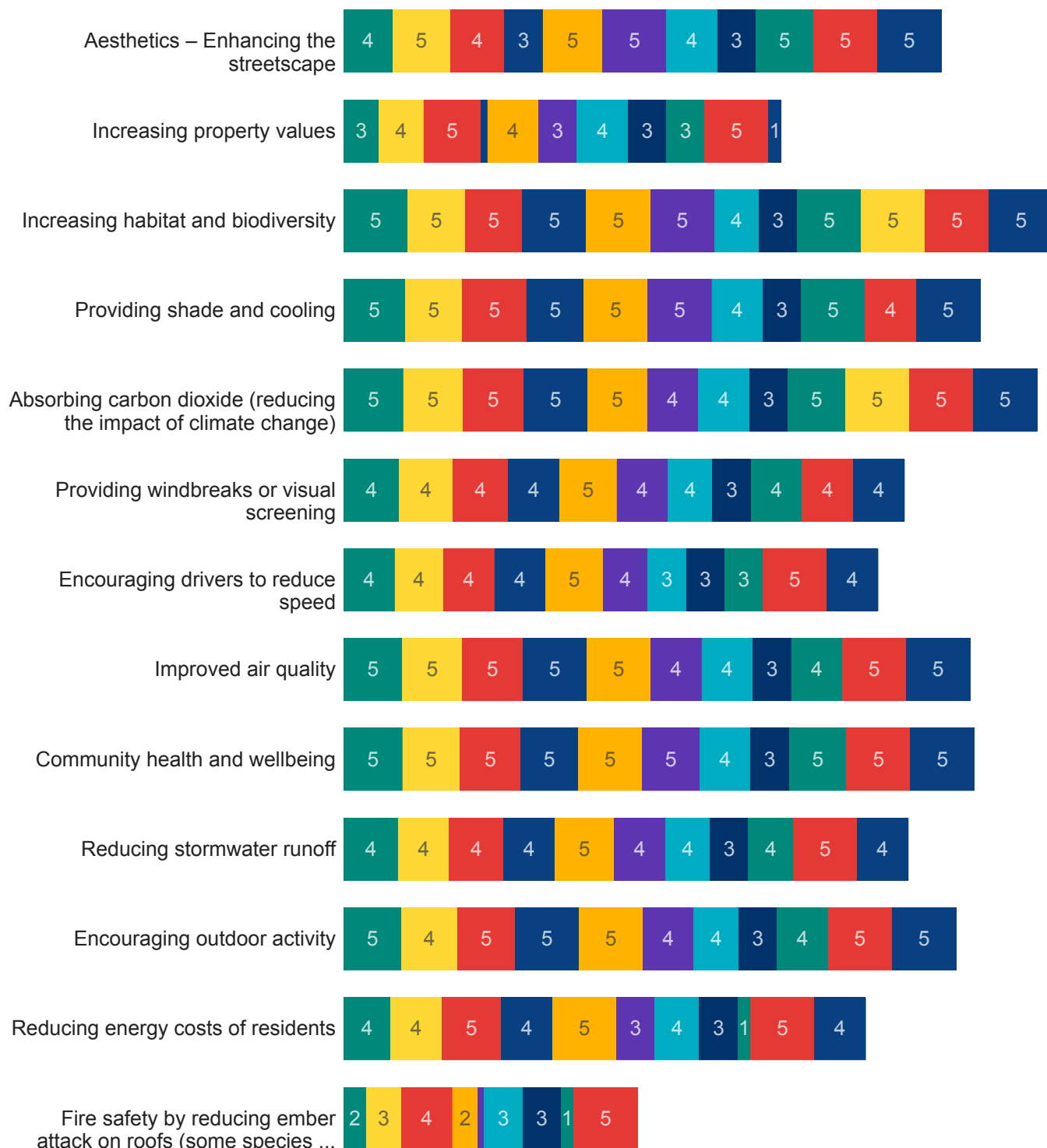
No

I liked any tree that will support insects, birds and other native animals and provide shelter and shade and cooling for the planet. So not problems with others, some I really didn't know.

Would have liked the Hibiscus red leaf yellow flower big leaves and shade or shaped

These are my three main choices because I believe we should replace with the same that has been cleared for the housing to encourage back our native fauna. Why plant something that is not native to the area?

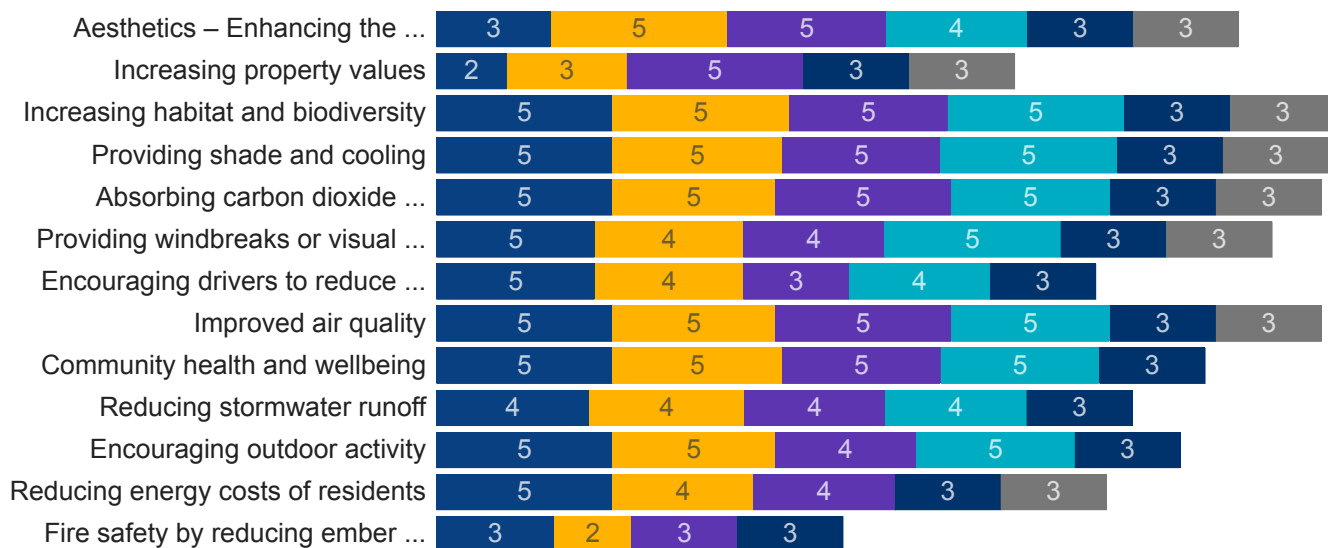
Importance ratings(Average) - Halls Head South



- Coast Banksia ● Weeping Peppermint ● New Zealand Christmas Tree ● Common Sheoak
- Large-fruited Blue Gum ● Broad Leafed Paperbark ● Chinese Elm ● Coral Tree ● Tall Sand Mallee
- Coastal Moort ● Cook Pine ● Red Cottonwood

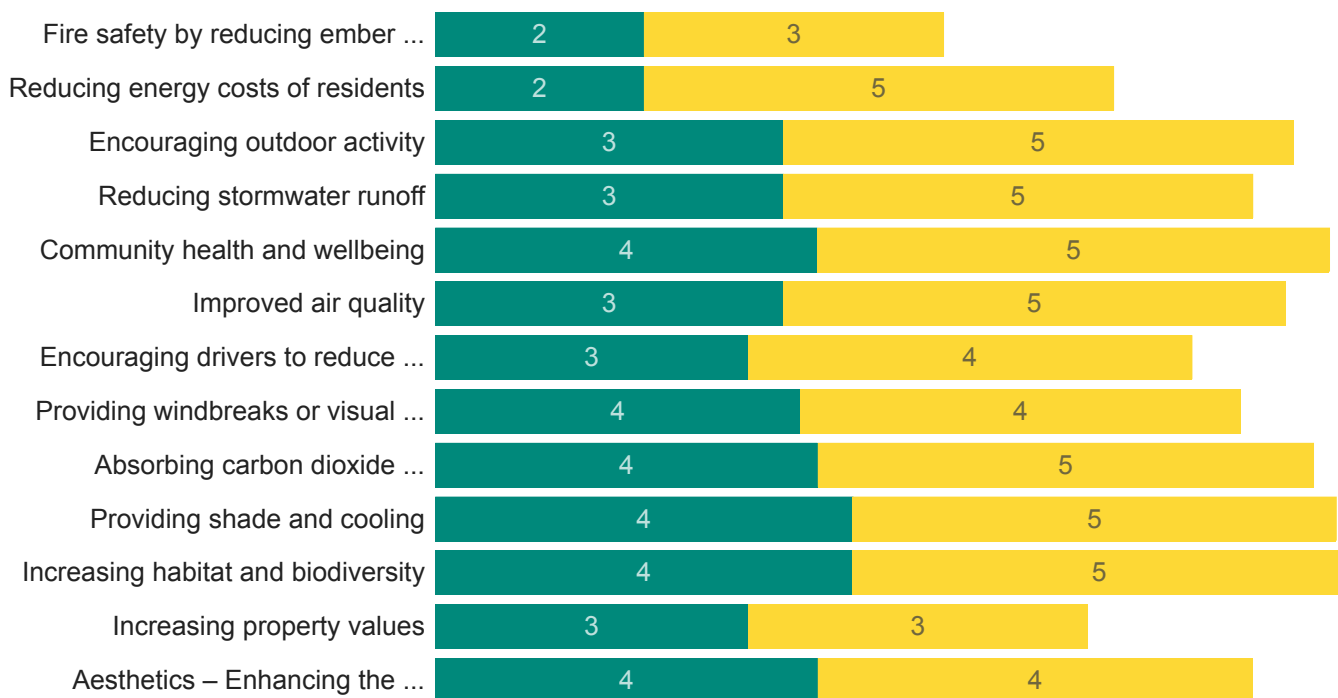
Importance ratings by Age - Halls Head South

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
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 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



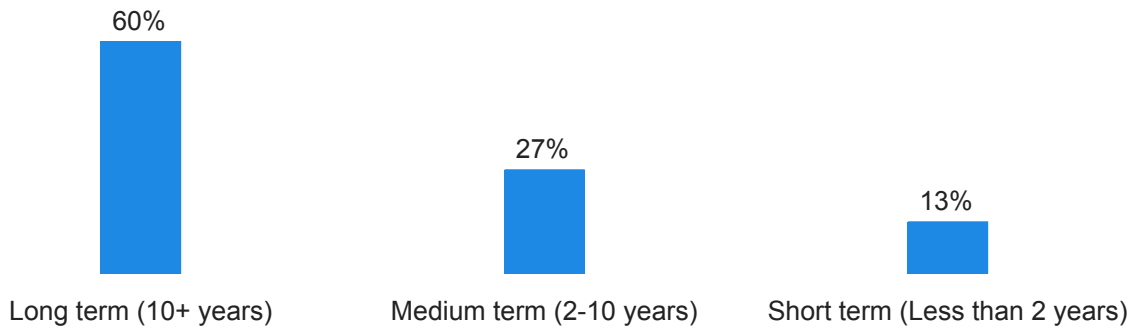
Importance ratings by Gender- Halls Head South

● Male
 ● Female
 ● Other
 ● I prefer not to say

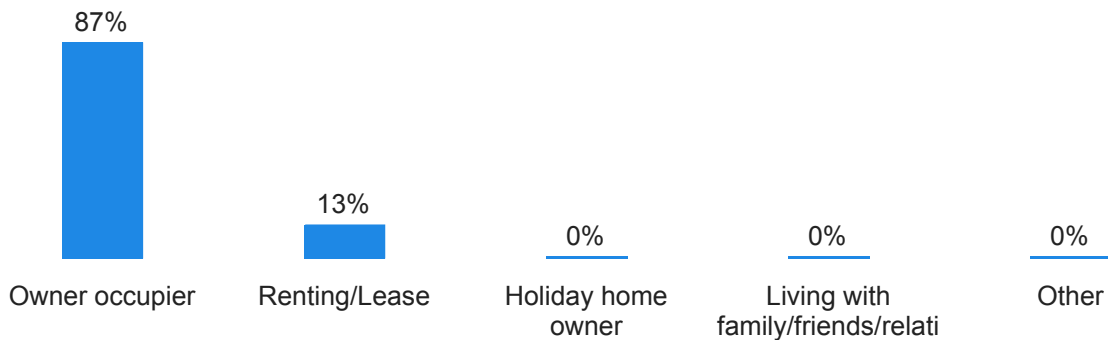


Demographics

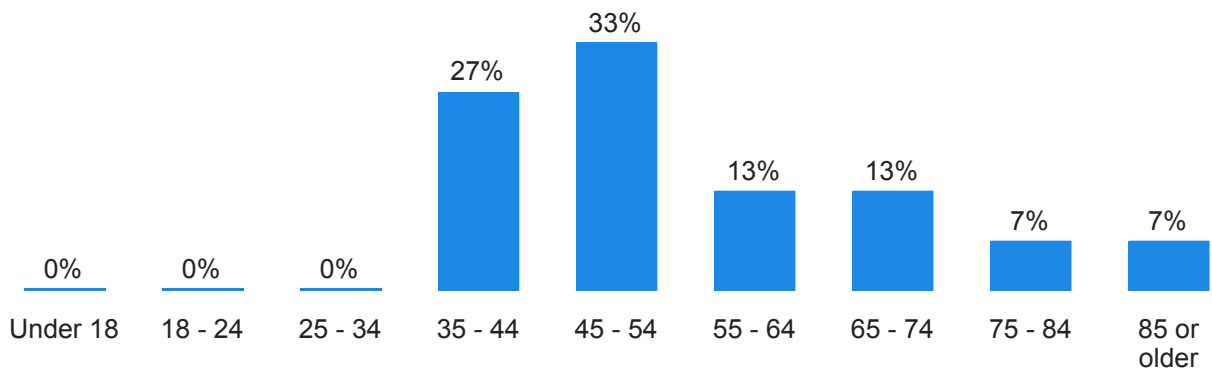
Describe your residency in Mandurah



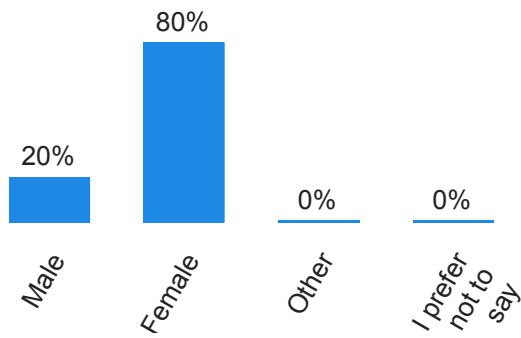
Which best applies to you:



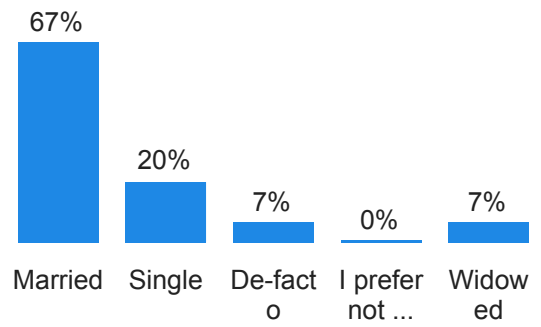
Age range



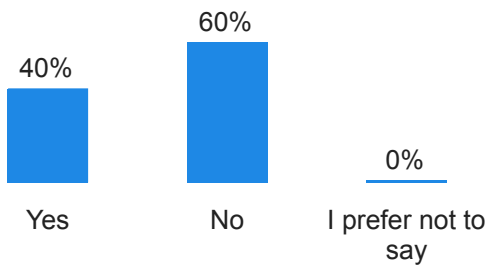
Gender identity:



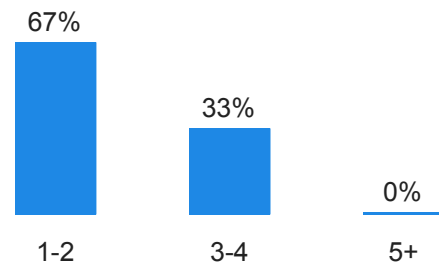
Marital Status:



Do you have children living at home?



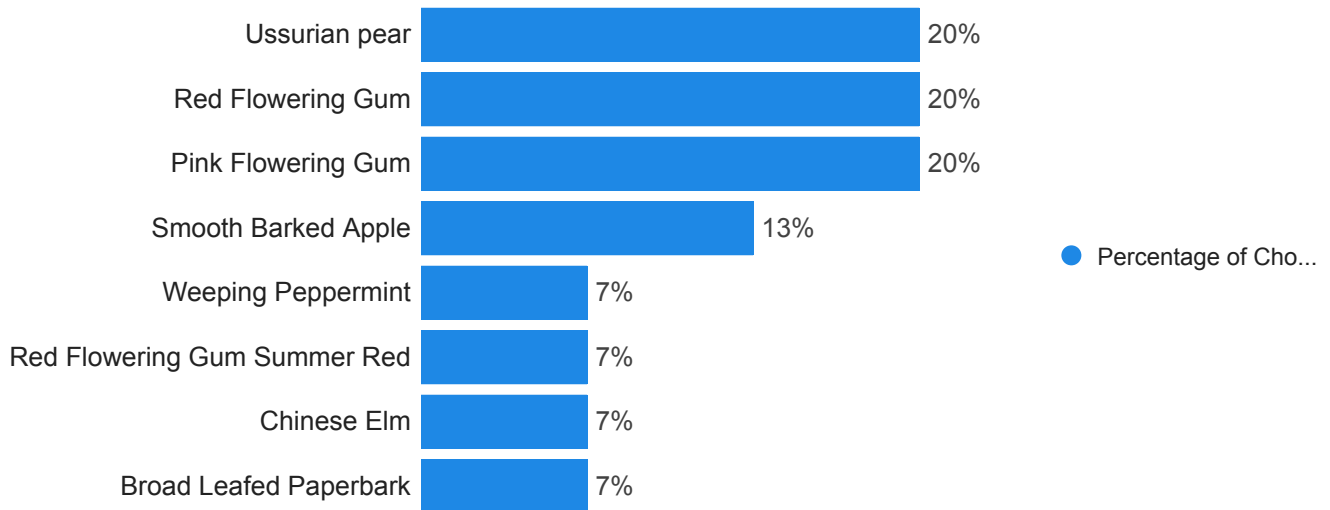
How many children are living at home?



Lakelands



FinalTreeSelected



Why do you prefer...

Ussurian pear



Red Flowering Gum



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

Not really. I could only choose three

I prefer natives over exotic trees. Also prefer to mix the flower colours for better effect. However I am open to having all of the listed species as we need lots planted in our now large estate.

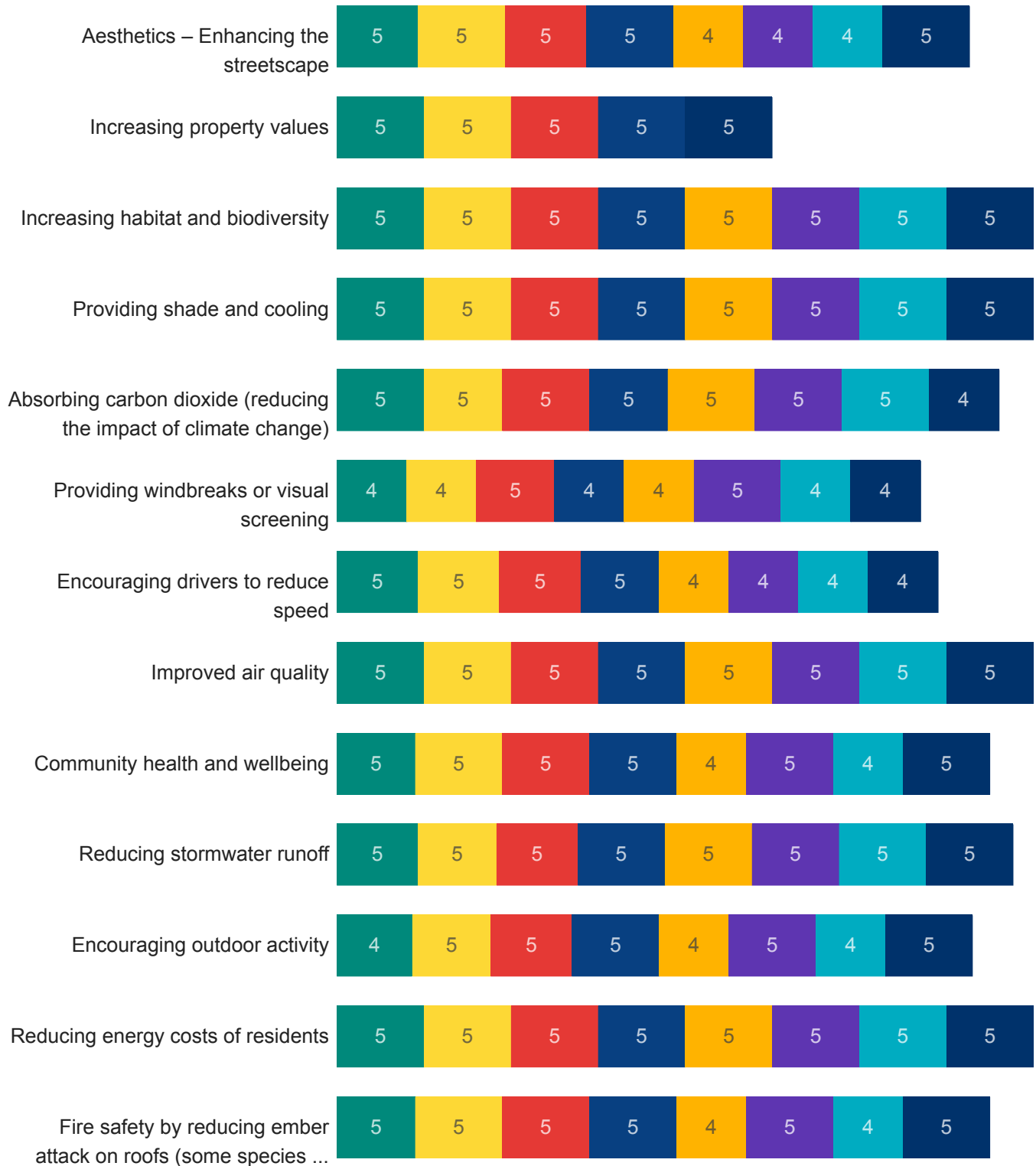
no

No

Any tree which is not native or which drop all their leaves at the same time should not be considered. Others in the list similar to the gums are also suitable. The water quality of the lakes is a major consideration and a reason to avoid a nutrient dump such as is provided by trees which shed all or most leaves in Autumn.

N/A

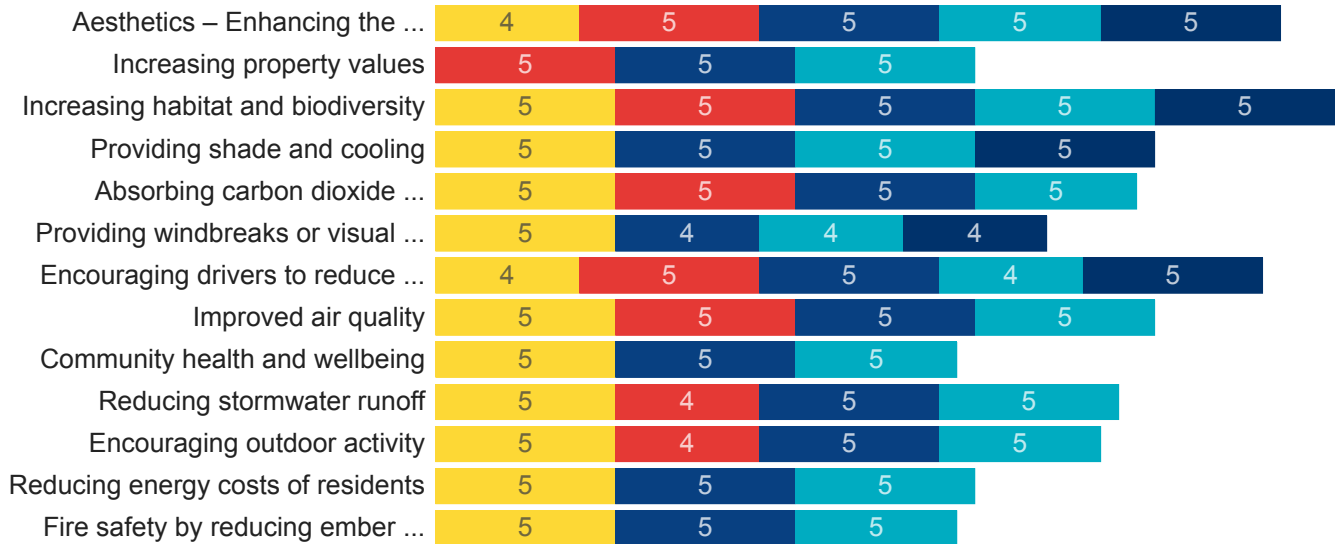
Importance ratings(Average) - Lakelands



● Pink Flowering Gum
 ● Red Flowering Gum
 ● Ussurian pear
 ● Smooth Barked Apple
● Broad Leafed Paperbark
 ● Chinese Elm
 ● Red Flowering Gum Summer Red
 ● Weeping Peppermint

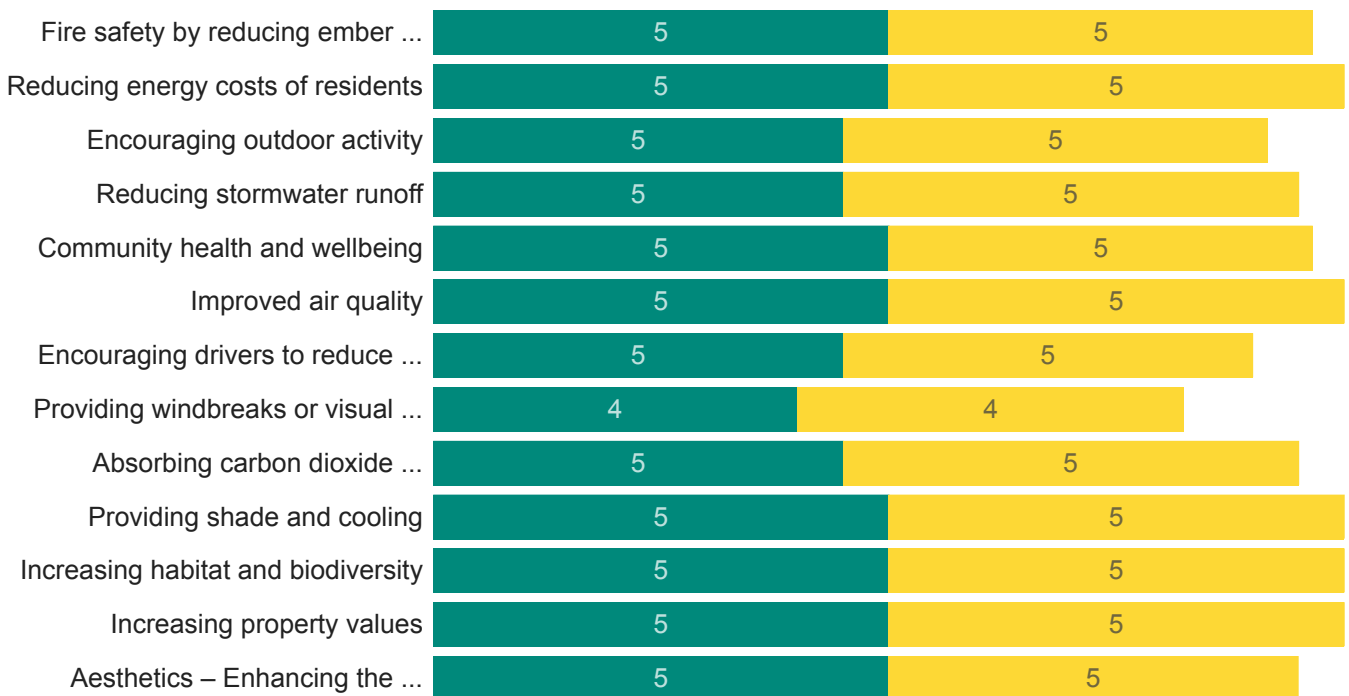
Importance ratings by Age - Lakelands

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older

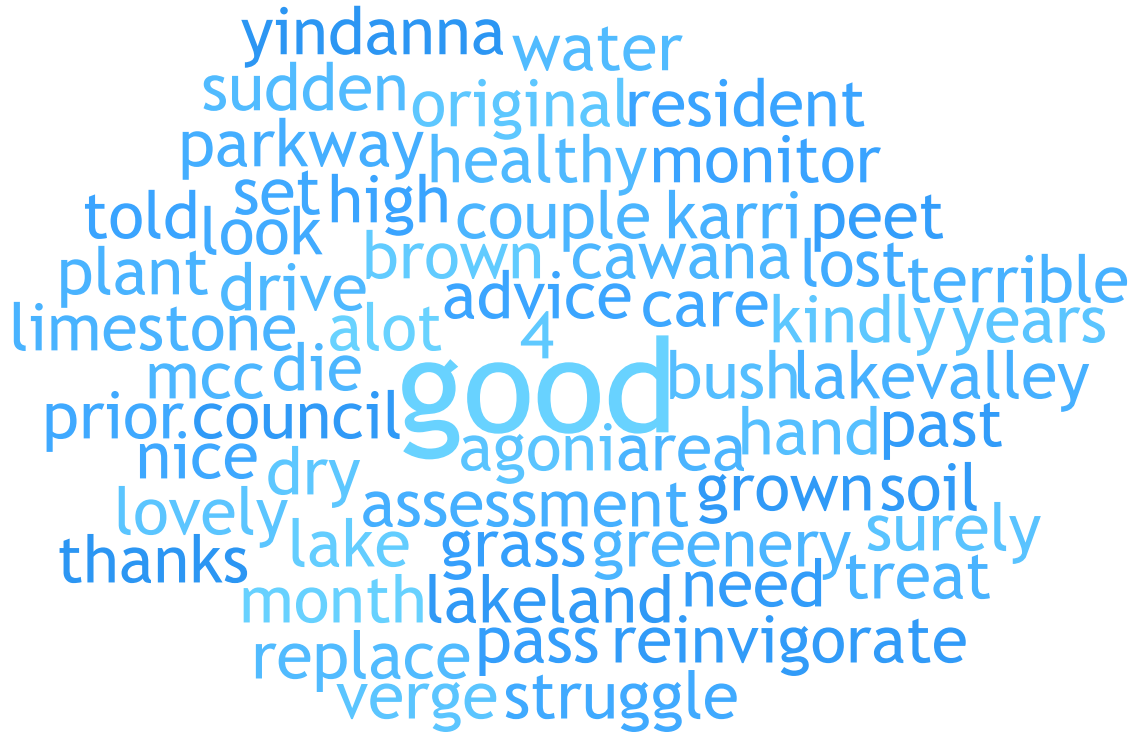


Importance ratings by Gender- Lakelands

● Male
 ● Female
 ● Other
 ● I prefer not to say

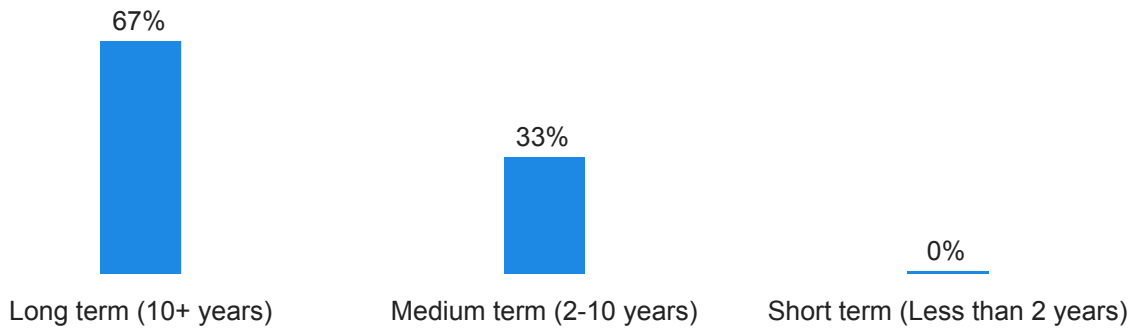


Is there anything else that you would like to add about street trees in your neighbourhood?

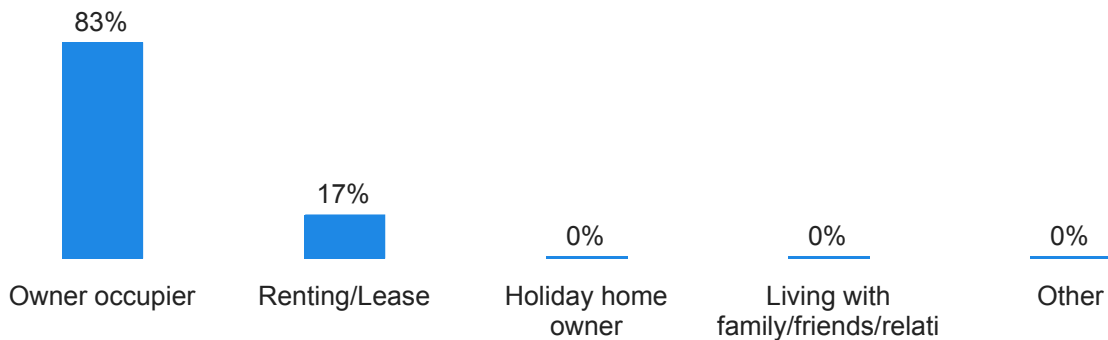


Demographics

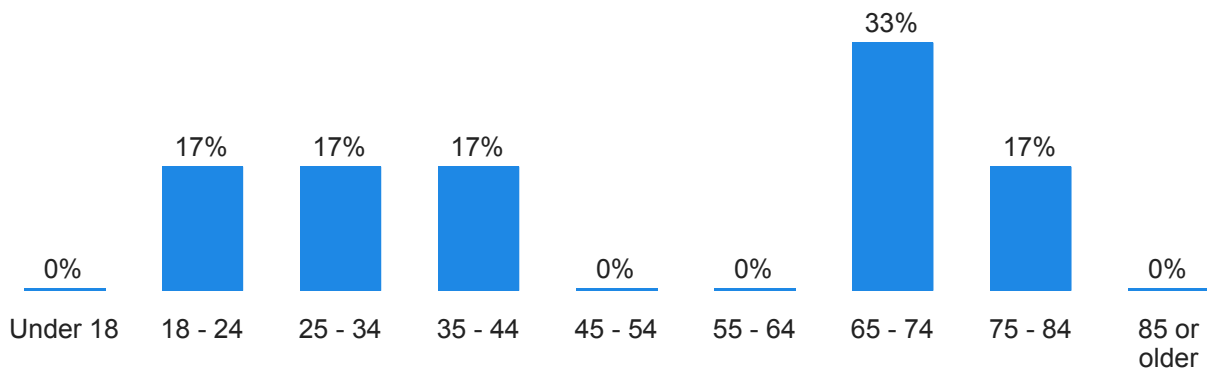
Describe your residency in Mandurah



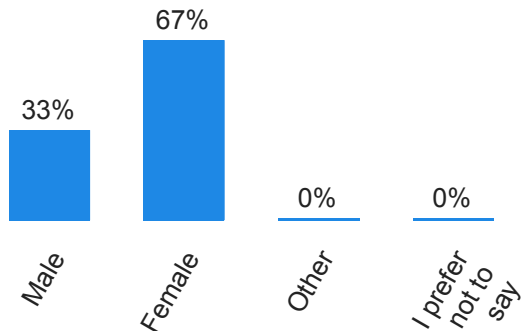
Which best applies to you:



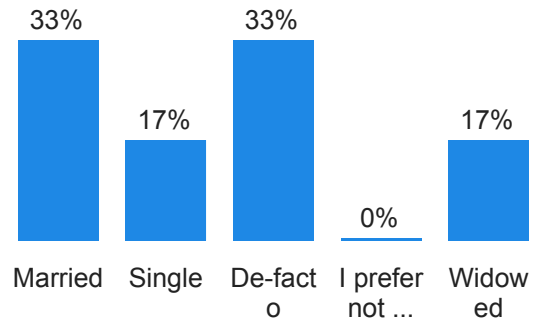
Age range



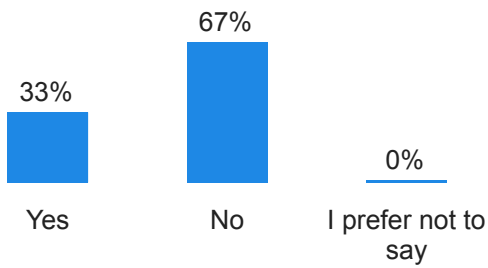
Gender identity:



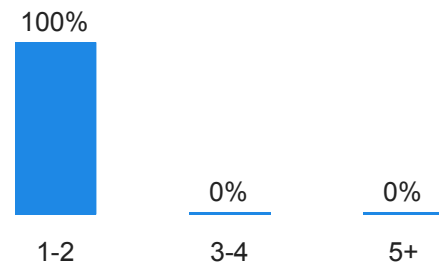
Marital Status:



Do you have children living at home?



How many children are living at home?



N/A

Would prefer smaller more manageable trees. Less leave drop and fit with the small verges that exist.

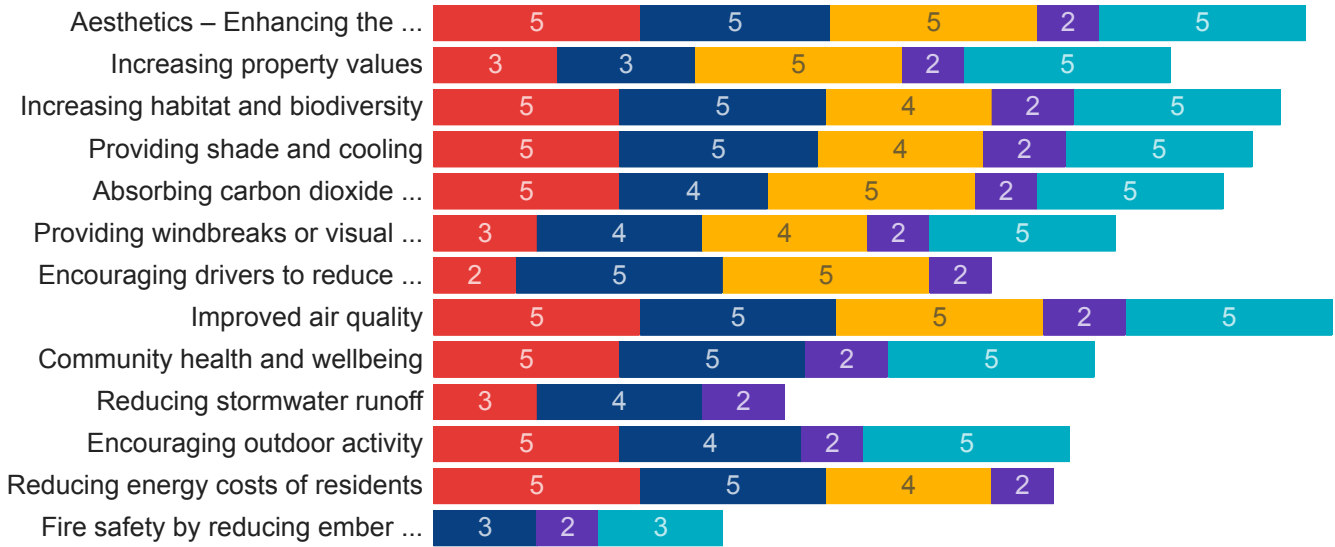
Importance ratings(Average) - Madora Bay



● Candlestick Banksia
 ● Weeping Peppermint
 ● Marri
 ● Coastal Blackbutt
 ● Salt Sheoak
 ● Tuart
● Tuckeroo
● New Zealand Christmas Tree
● Yellow Bloodwood

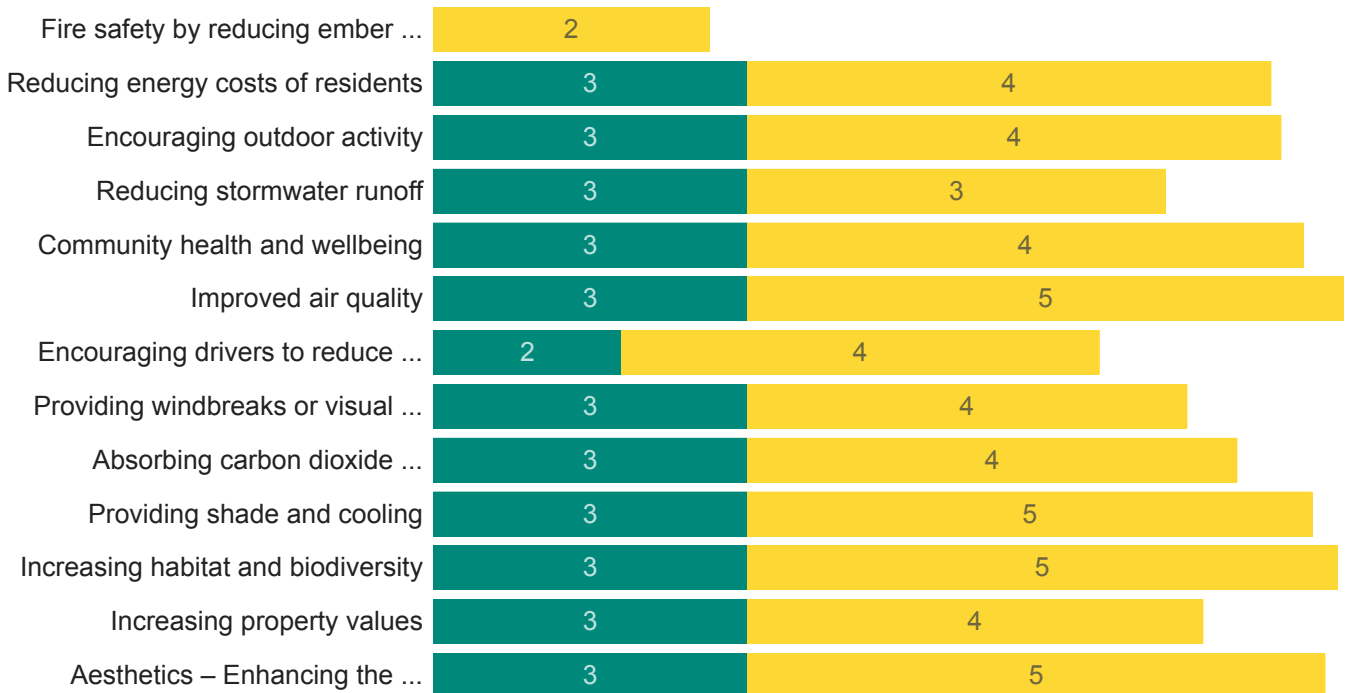
Importance ratings by Age - Madora Bay

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



Importance ratings by Gender- Madora Bay

● Male
 ● Female
 ● Other
 ● I prefer not to say

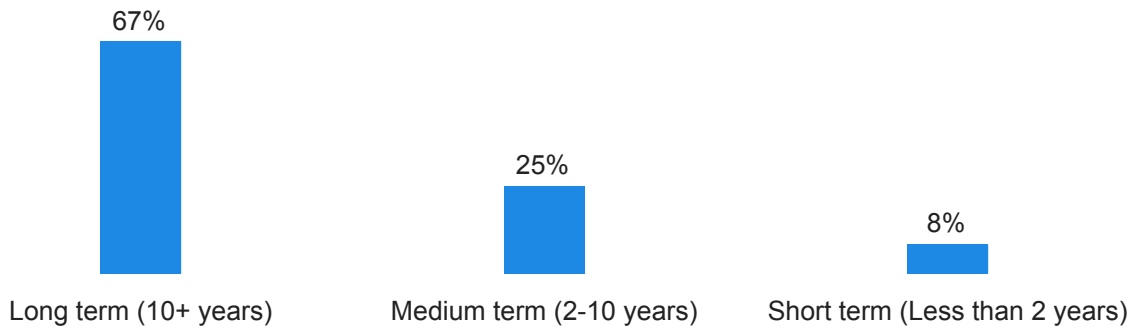


Is there anything else that you would like to add about street trees in your neighbourhood?

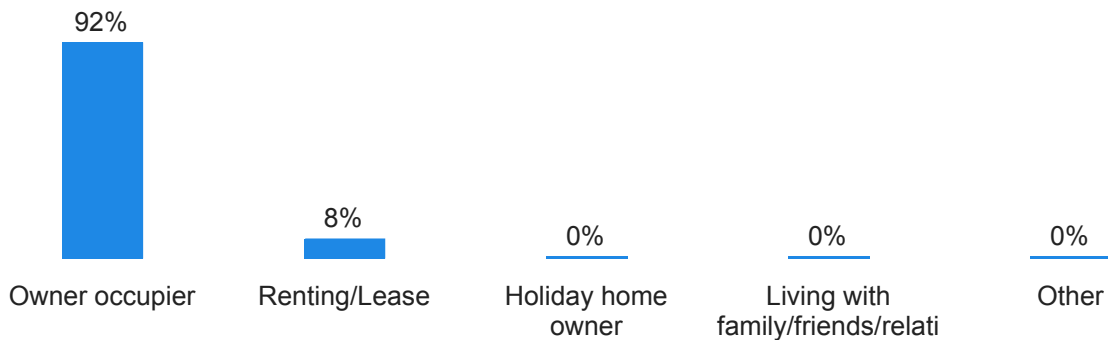


Demographics

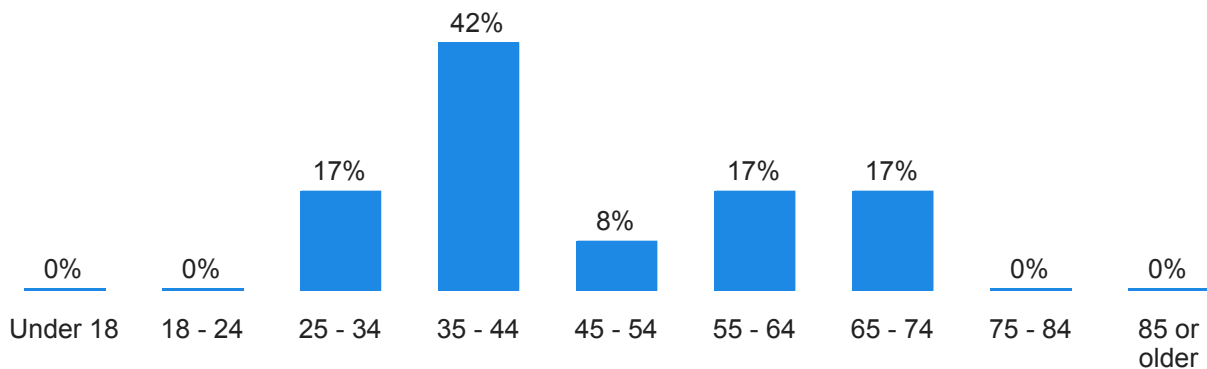
Describe your residency in Mandurah



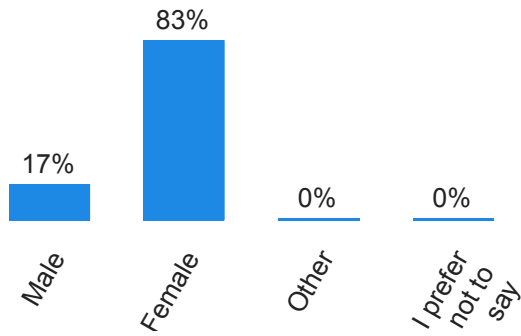
Which best applies to you:



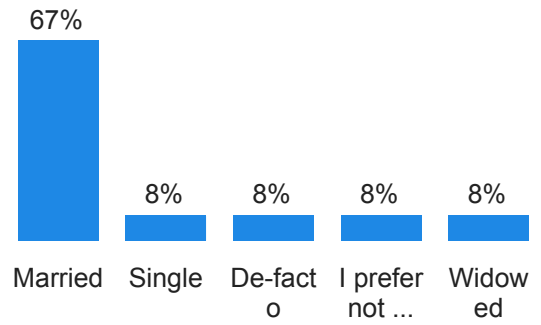
Age range



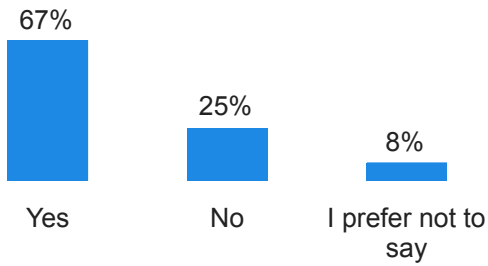
Gender identity:



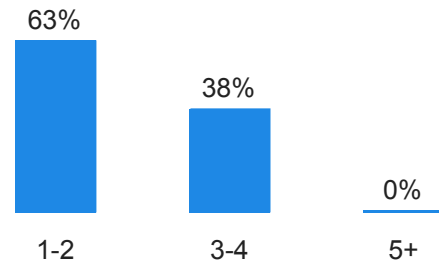
Marital Status:



Do you have children living at home?



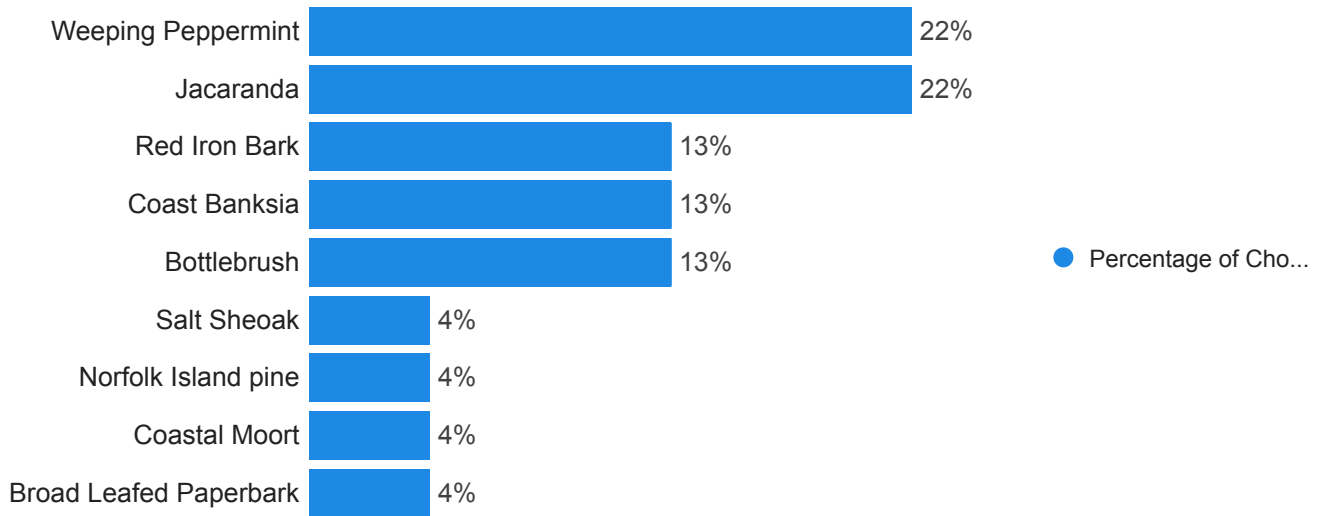
How many children are living at home?



Mandurah CBD West



FinalTreeSelected



Why do you prefer...

Weeping Peppermint



Jacaranda



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

I want to see the road shaded to keep it from storing heat in summer. The shade also is good to walk under. So big shady trees are better.

most get to big ,and dont shape well

No reason other than I like the way my first two choices look. I love Norfolk Island Pines but they will grow huge troublesome roots in time.

No, happy with any tree..

N/A

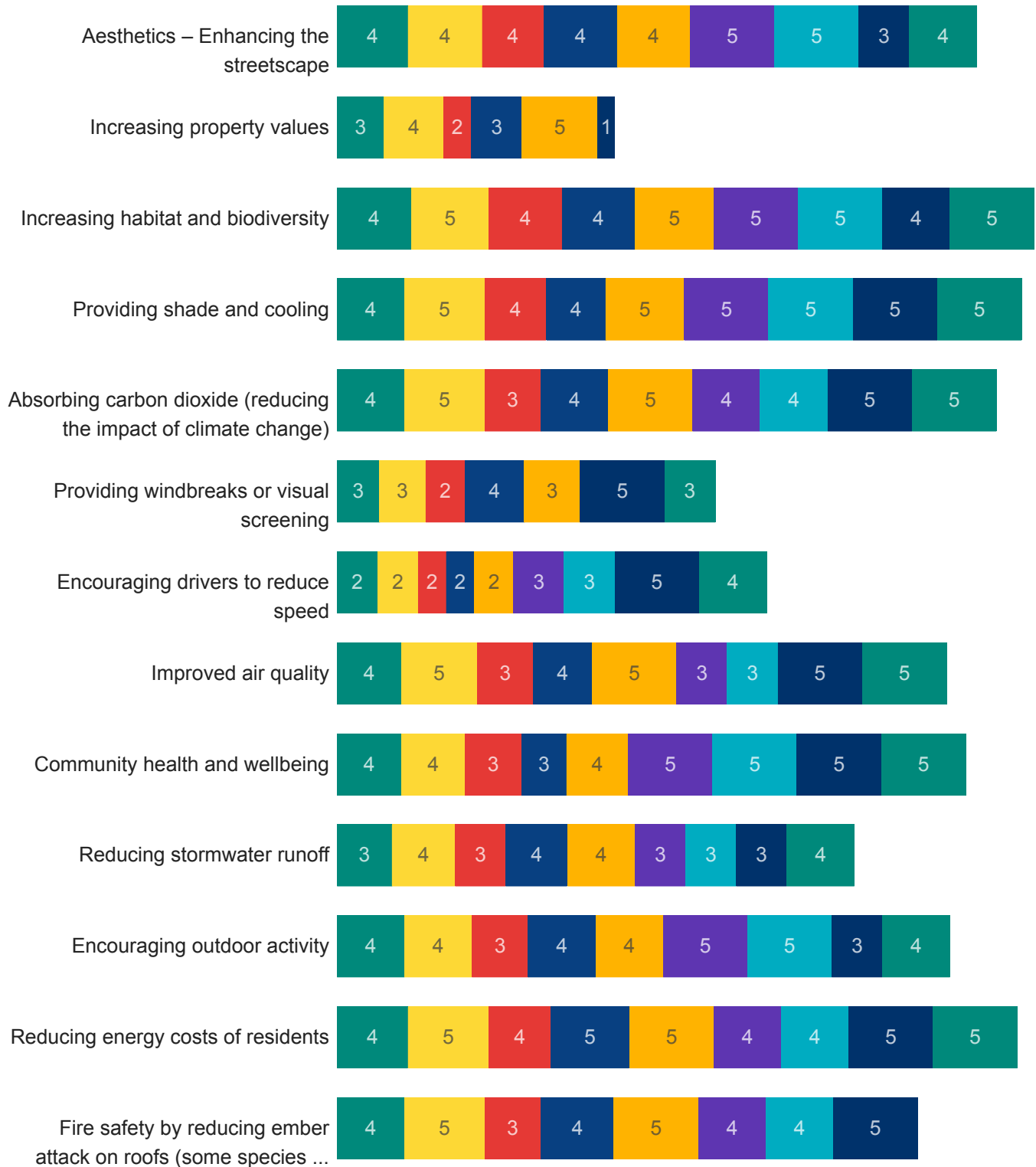
N/A

Some need a lot of future maintenance as they grow large, others need constant fertiliser and water, therefore council would be wasting money carrying out this or removing when they become hazards

Need to be quick to establish and water wise

Some don't provide enough shade or don't do as well in the area. I don't think the New Zealand Christmas Trees and Jacarandas do very well here. Some of the others don't provide good shade.

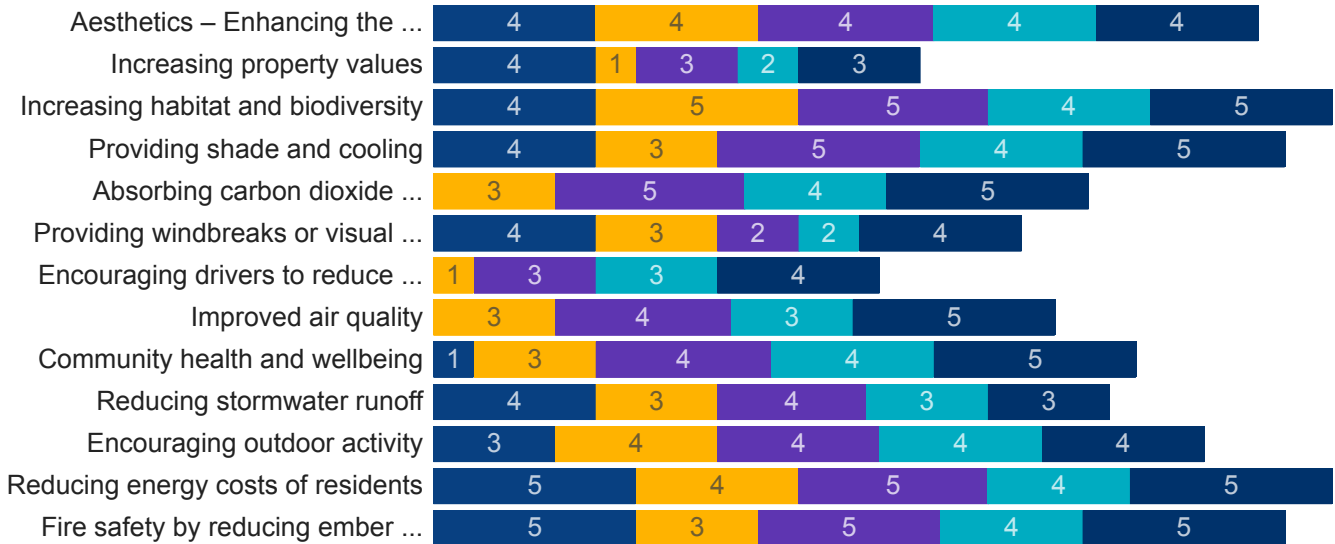
Importance ratings(Average) - Mandurah CBD West



● Jacaranda
 ● Weeping Peppermint
 ● Bottlebrush
 ● Coast Banksia
 ● Red Iron Bark
● Broad Leafed Paperbark
● Coastal Moort
● Norfolk Island pine
● Salt Sheoak

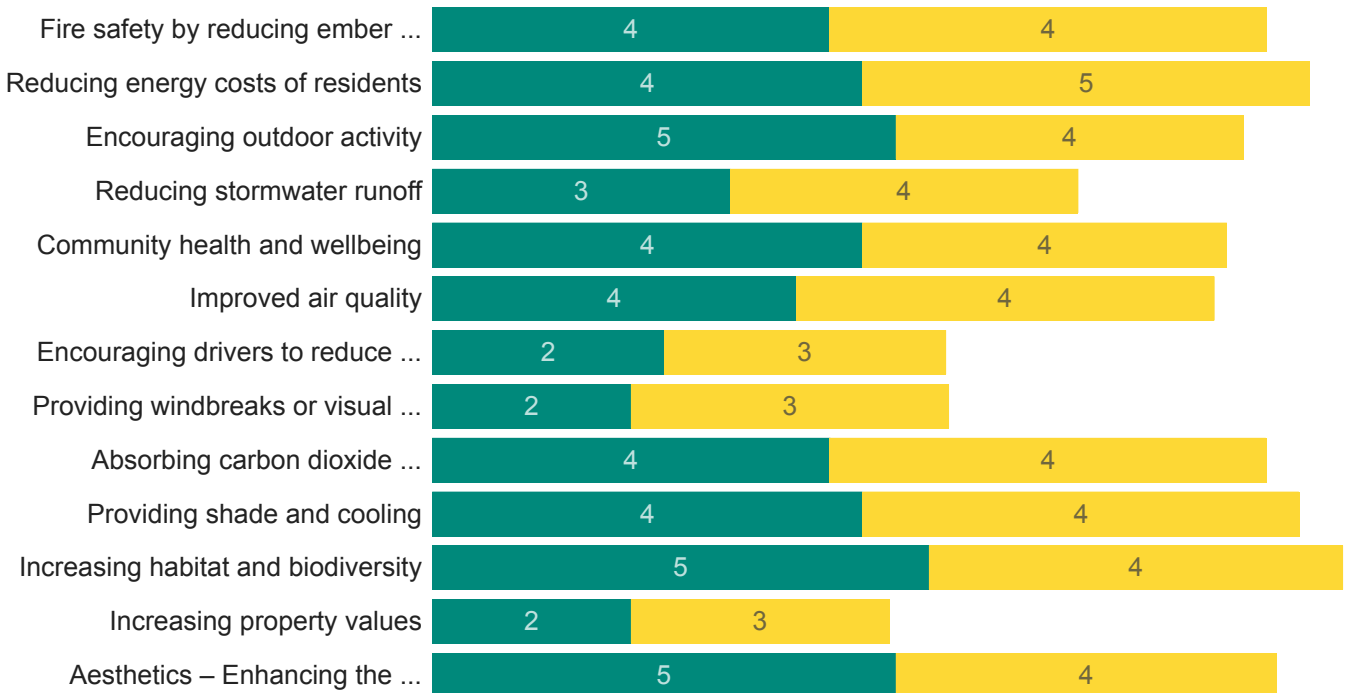
Importance ratings by Age - Mandurah CBD West

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



Importance ratings by Gender- Mandurah CBD West

● Male
 ● Female
 ● Other
 ● I prefer not to say

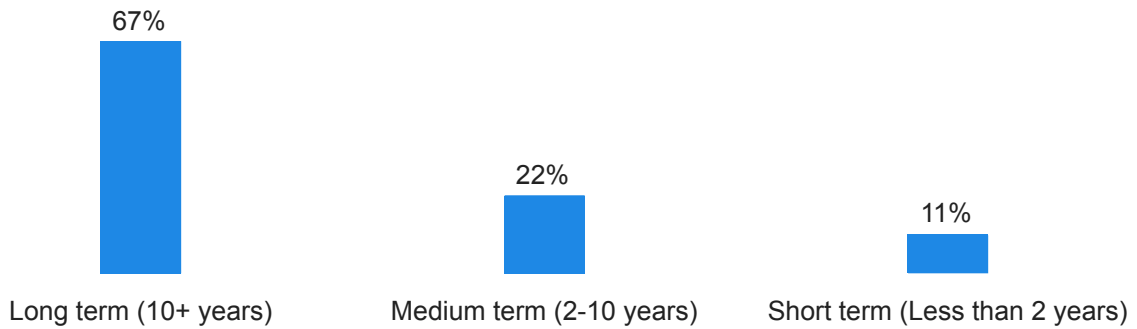


Is there anything else that you would like to add about street trees in your neighbourhood?

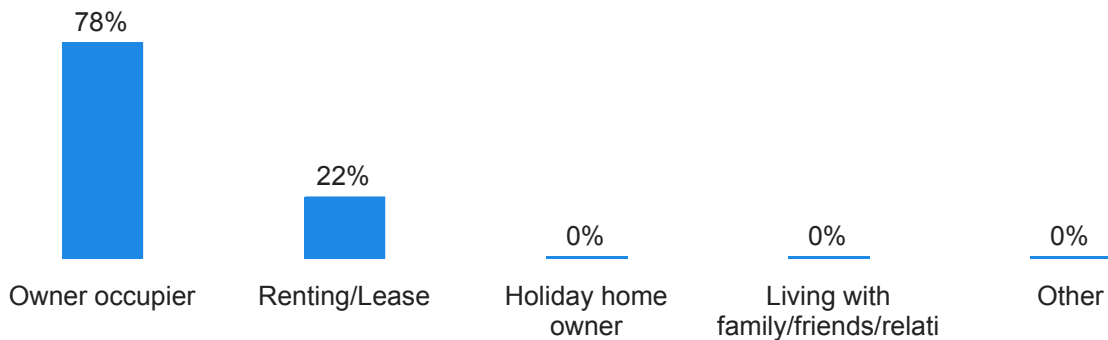


Demographics

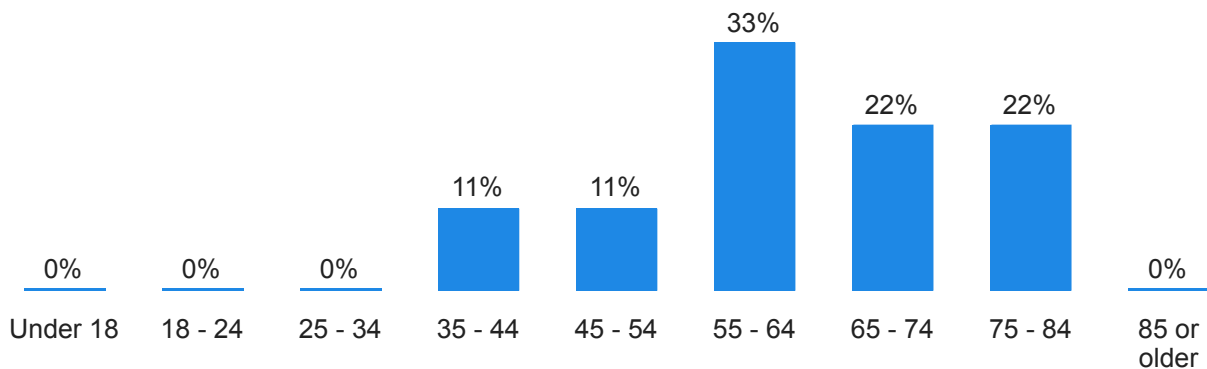
Describe your residency in Mandurah



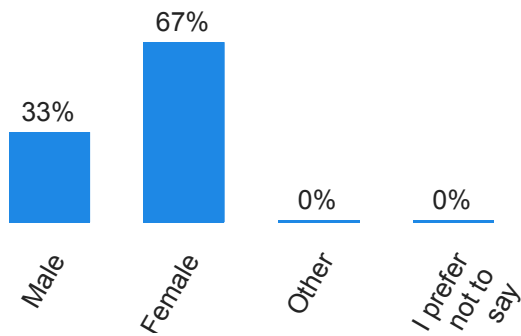
Which best applies to you:



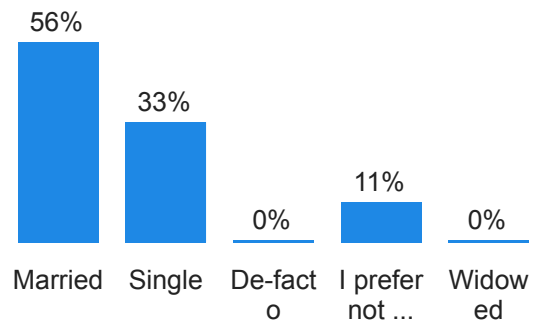
Age range



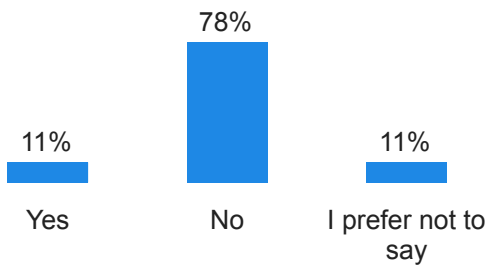
Gender identity:



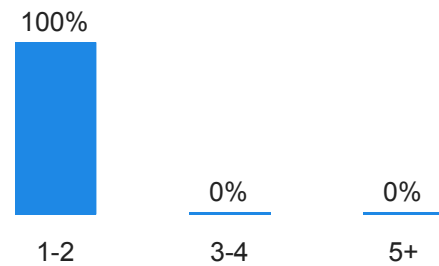
Marital Status:



Do you have children living at home?



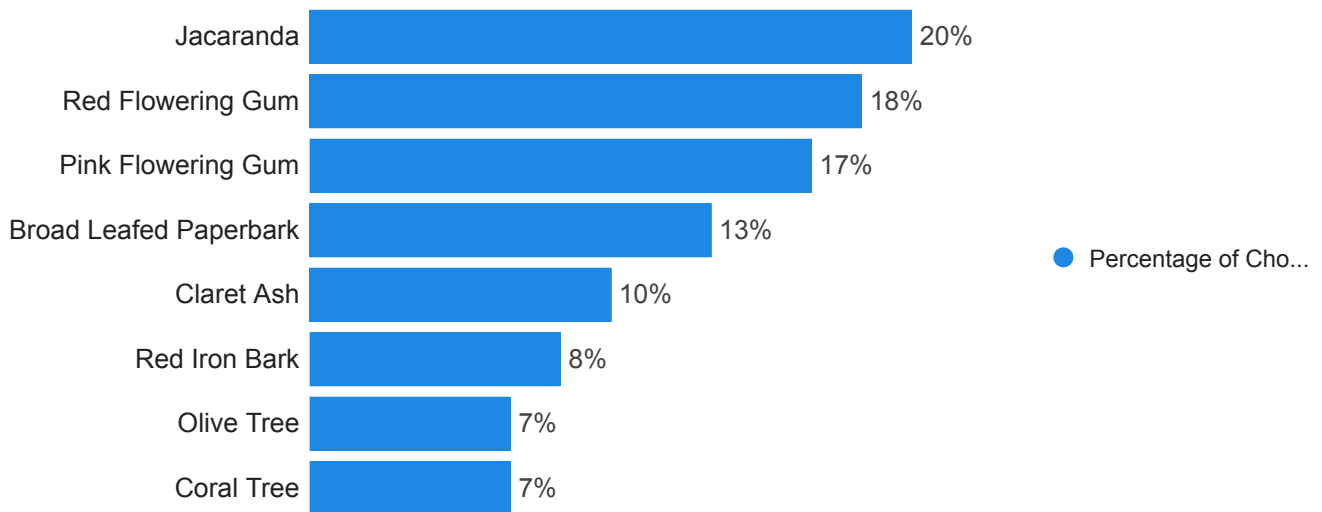
How many children are living at home?



Meadow Springs



FinalTreeSelected



Why do you prefer...

Jacaranda



Red Flowering Gum



No. Just these are my favourites. Jacarandas are beautiful too.

I like all of them but you asked for my top 3

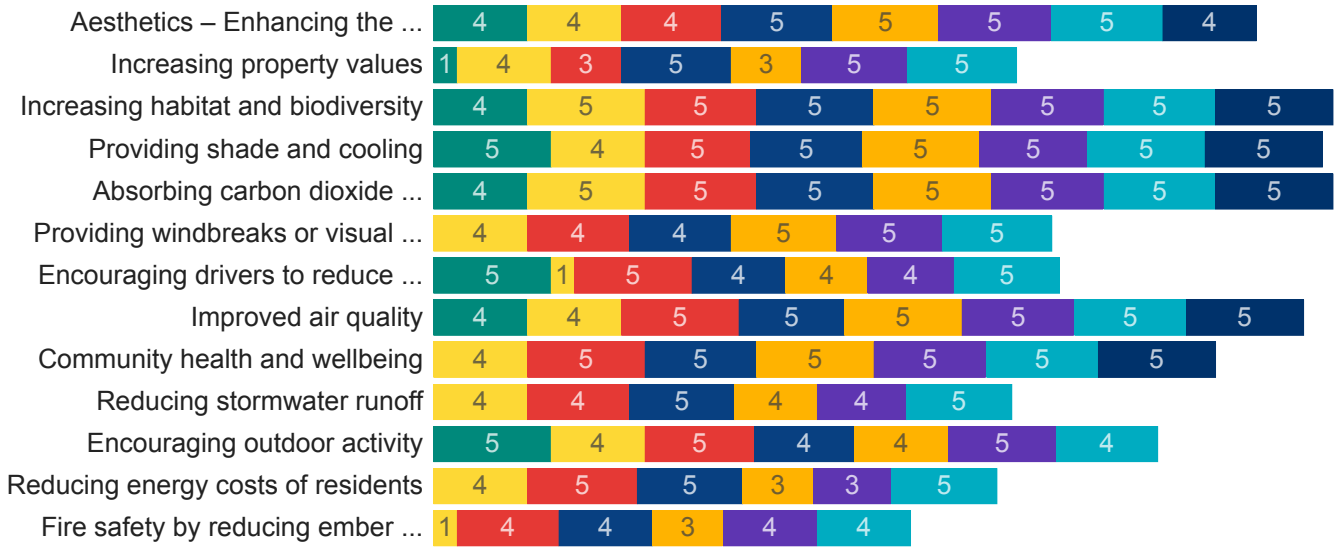
Importance ratings(Average) - Meadow Springs



● Jacaranda
 ● Red Flowering Gum
 ● Pink Flowering Gum
 ● Broad Leafed Paperbark
 ● Claret Ash
● Red Iron Bark
● Coral Tree
● Olive Tree

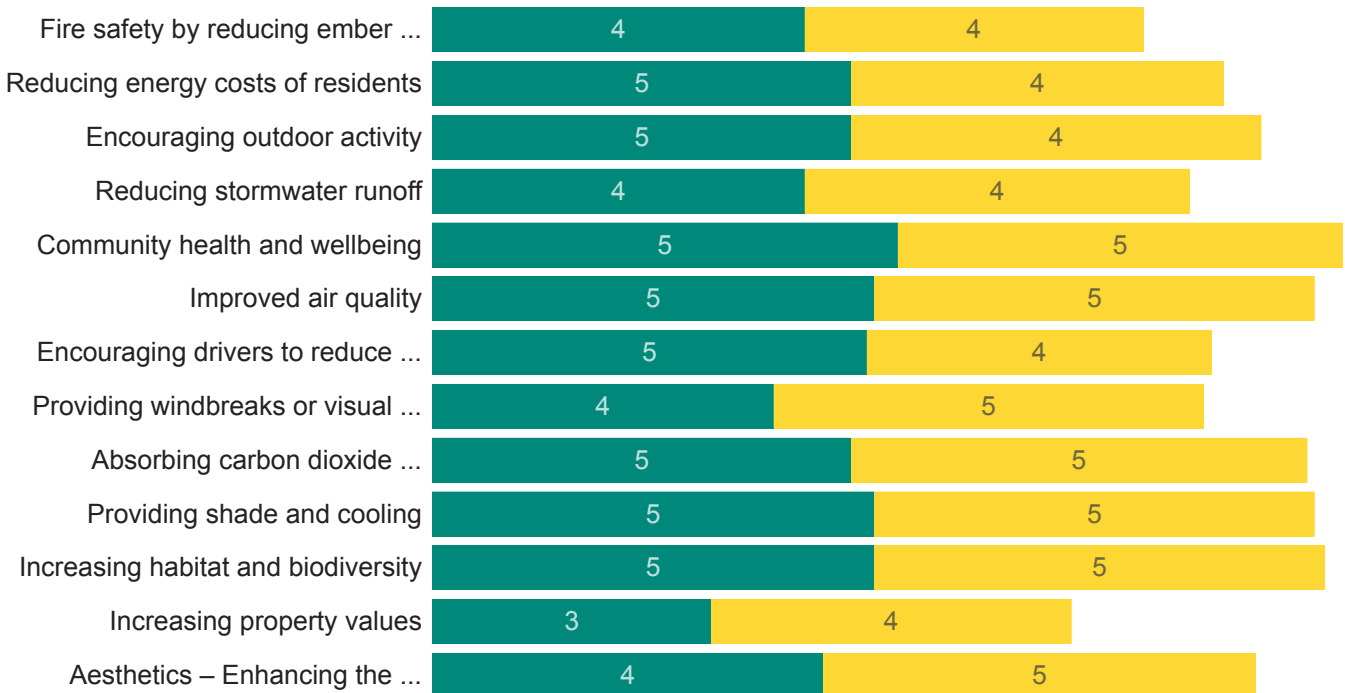
Importance ratings by Age - Meadow Springs

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



Importance ratings by Gender- Meadow Springs

● Male
 ● Female
 ● Other
 ● I prefer not to say

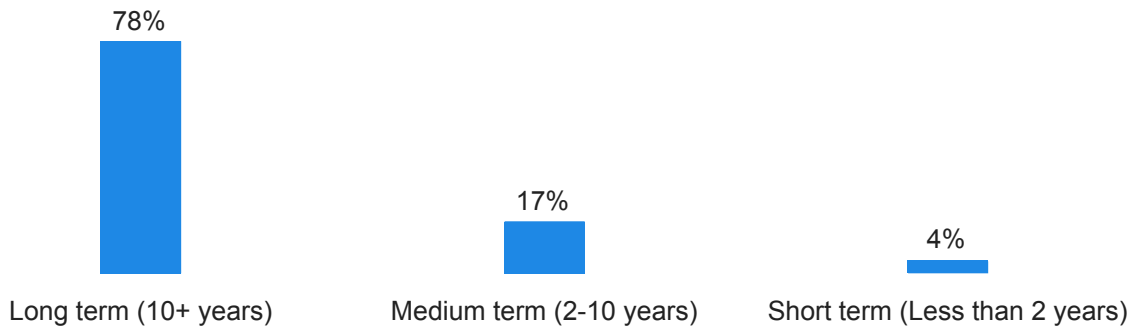


Is there anything else that you would like to add about street trees in your neighbourhood?

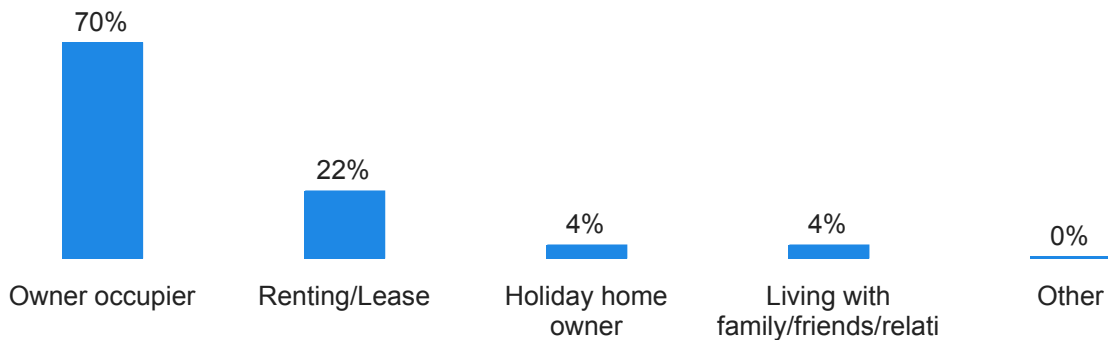


Demographics

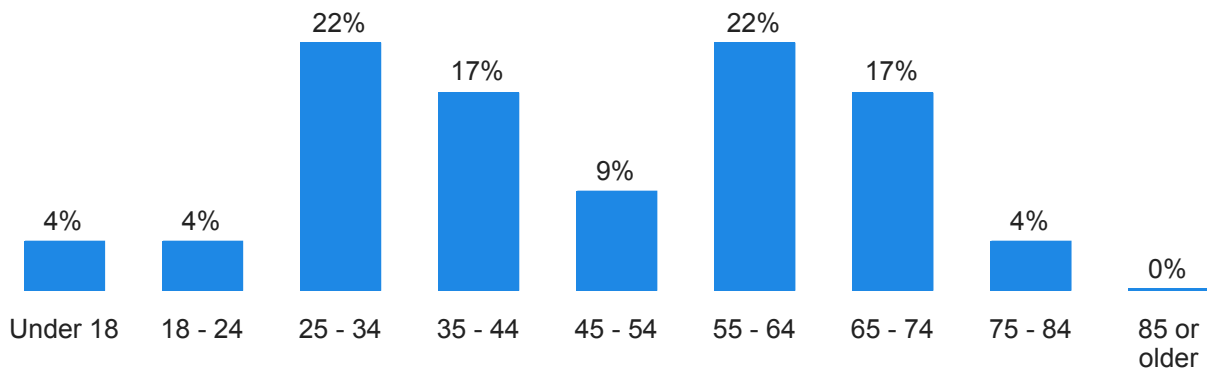
Describe your residency in Mandurah



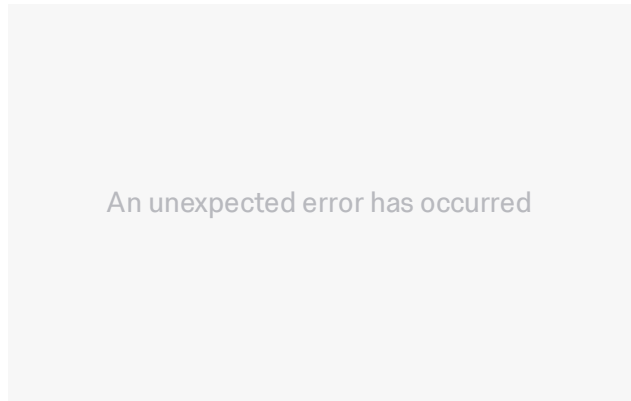
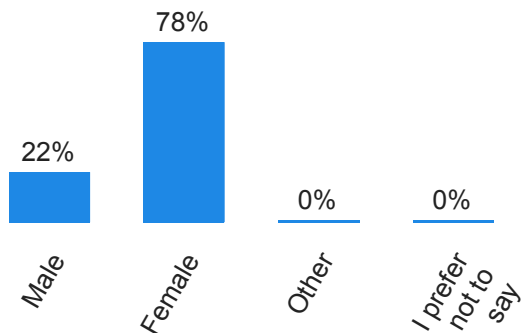
Which best applies to you:



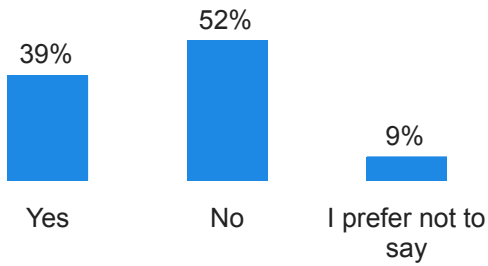
Age range



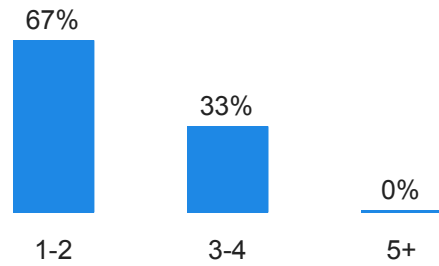
Gender identity:



Do you have children living at home?



How many children are living at home?



Parklands



FinalTreeSelected



Why do you prefer...

No data found - your filters may be too exclusive!

No data found - your filters may be too exclusive!

Are there specific reasons why any of the other trees are not your preferred options?

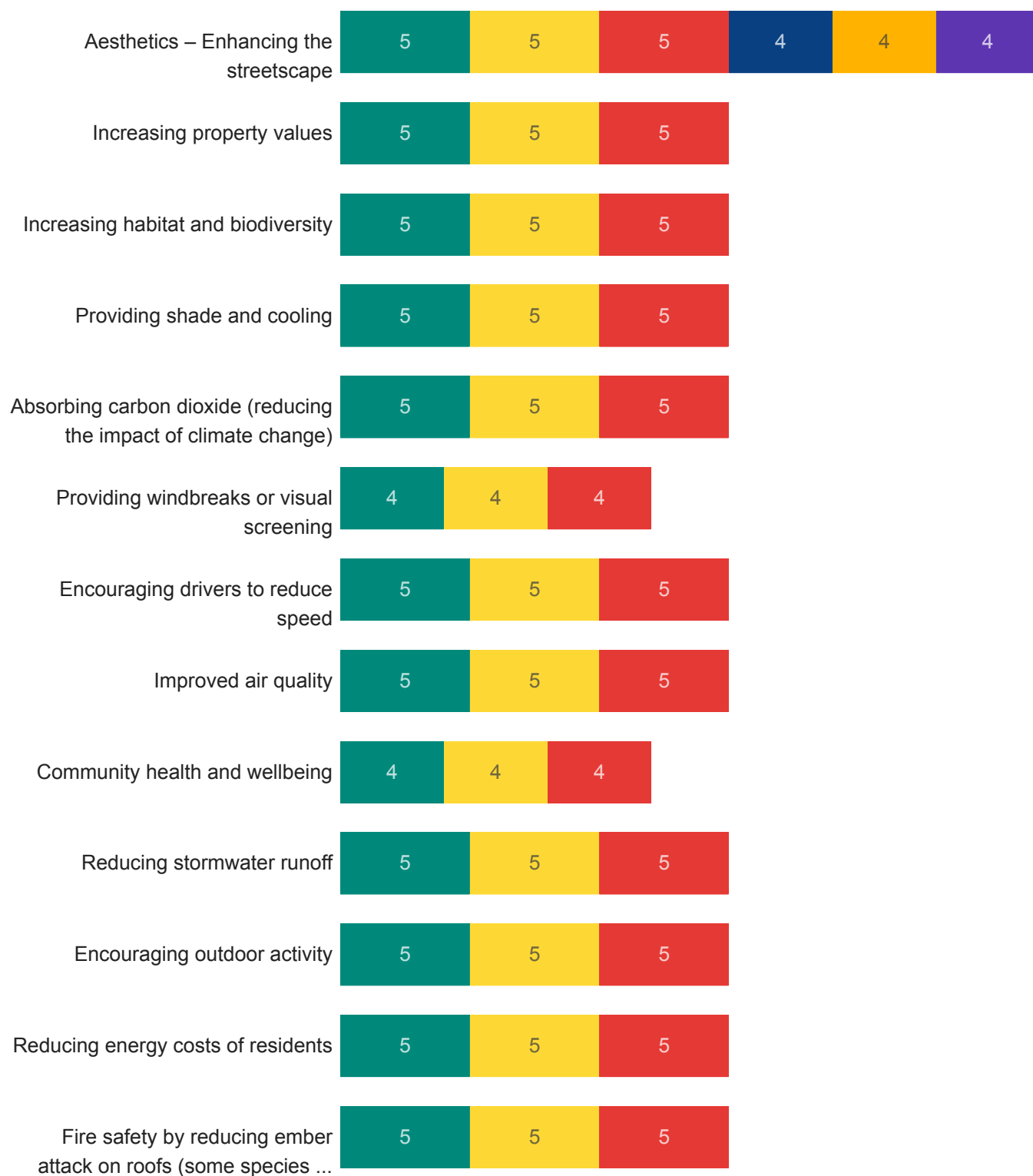
love

Are there specific reasons why any of the other trees are not your preferred options?

N/A

No I love all trees....

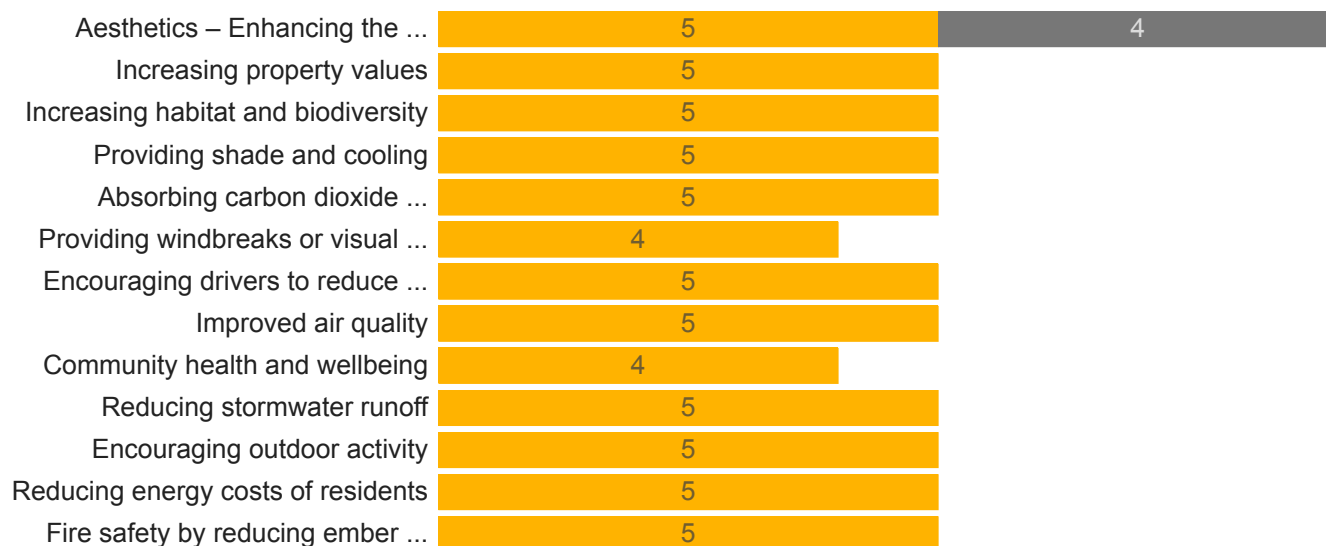
Importance ratings(Average) - Parklands



● Broad Leafed Paperbark
 ● Bull Banksia
 ● Marri
 ● Red Flowering Gum
● Red Flowering Gum Summer Red
 ● Redheart Moit

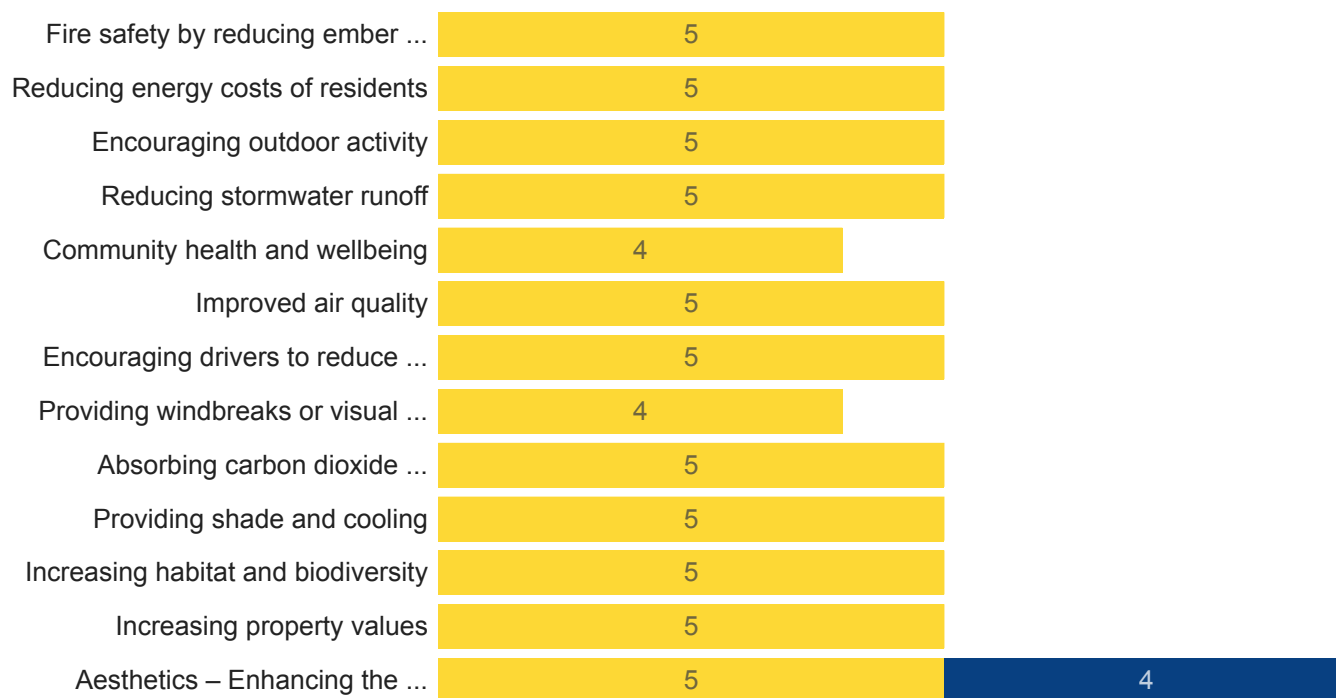
Importance ratings by Age - Parklands

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



Importance ratings by Gender- Parklands

● Male
 ● Female
 ● Other
 ● I prefer not to say

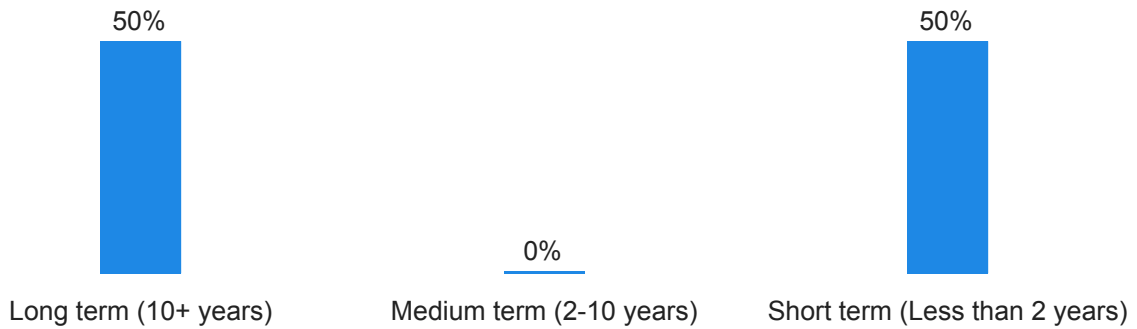


Is there anything else that you would like to add about street trees in your neighbourhood?

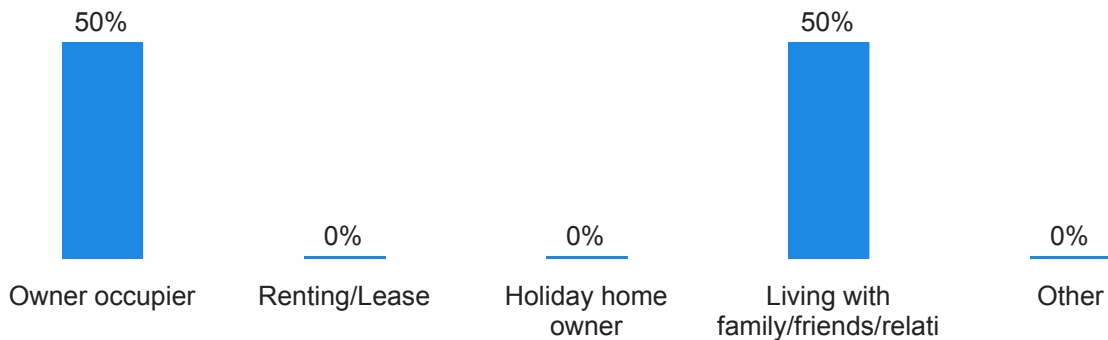
street
native
environment
improve
wildlife

Demographics

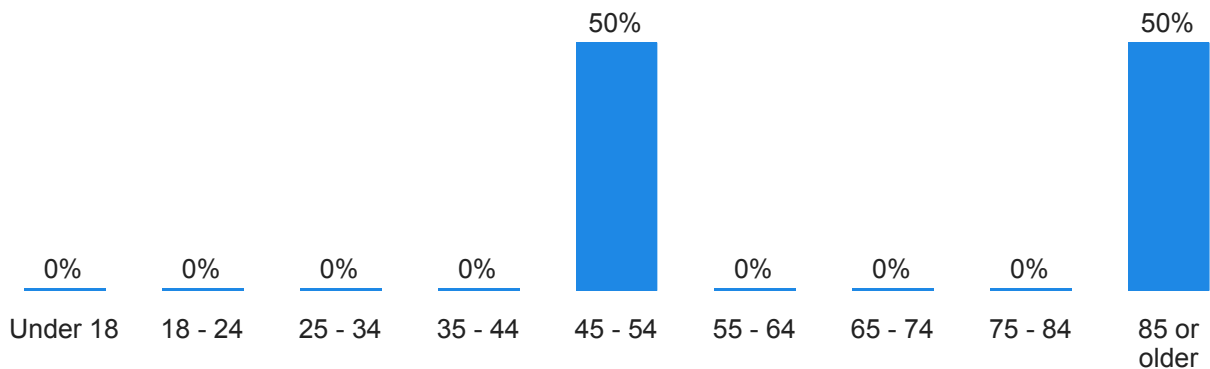
Describe your residency in Mandurah



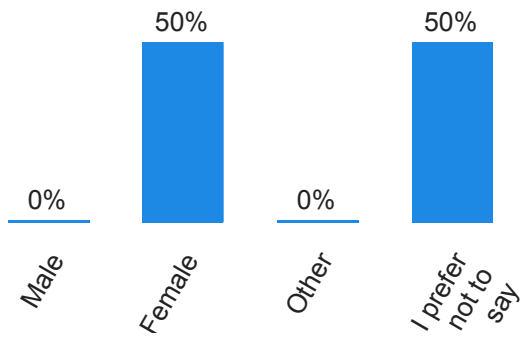
Which best applies to you:



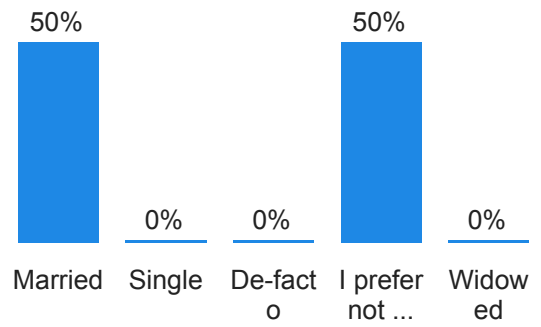
Age range



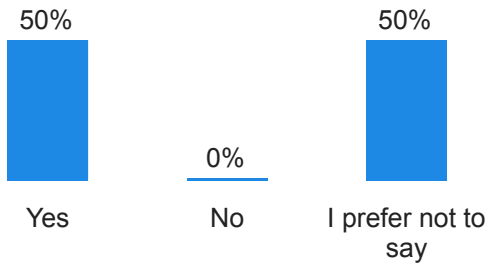
Gender identity:



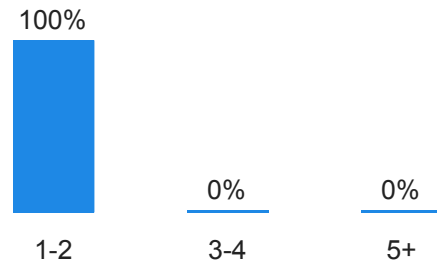
Marital Status:



Do you have children living at home?



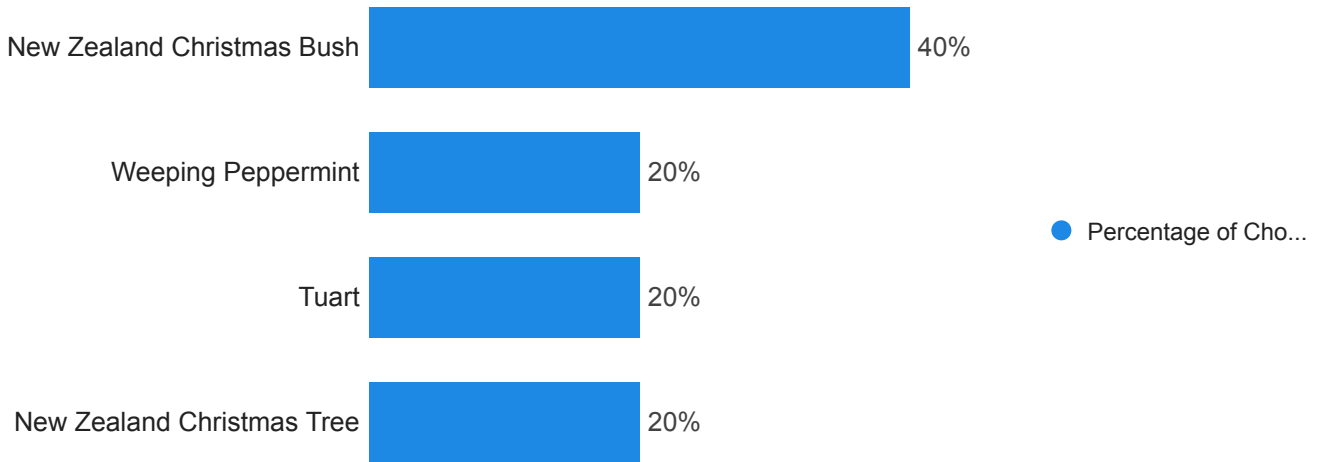
How many children are living at home?



San Remo



FinalTreeSelected



Why do you prefer...

New Zealand Christmas Bush

look
bloom
pretty

No data found - your filters may be too exclusive!

Are there specific reasons why any of the other trees are not your preferred options?

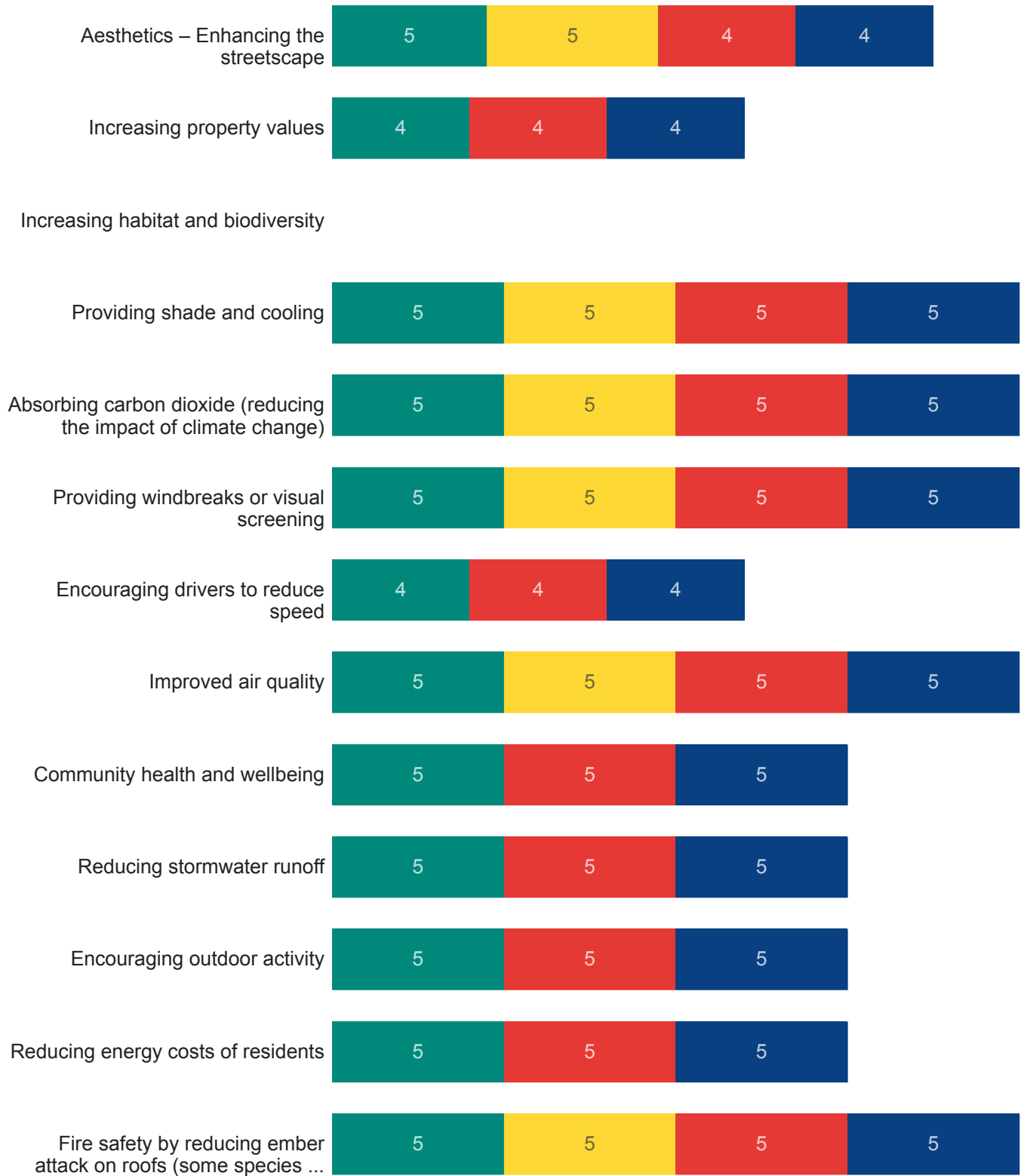
love
flower
jacaranda

Are there specific reasons why any of the other trees are not your preferred options?

N/A

I like trees that have a flower. Love the Jacaranda

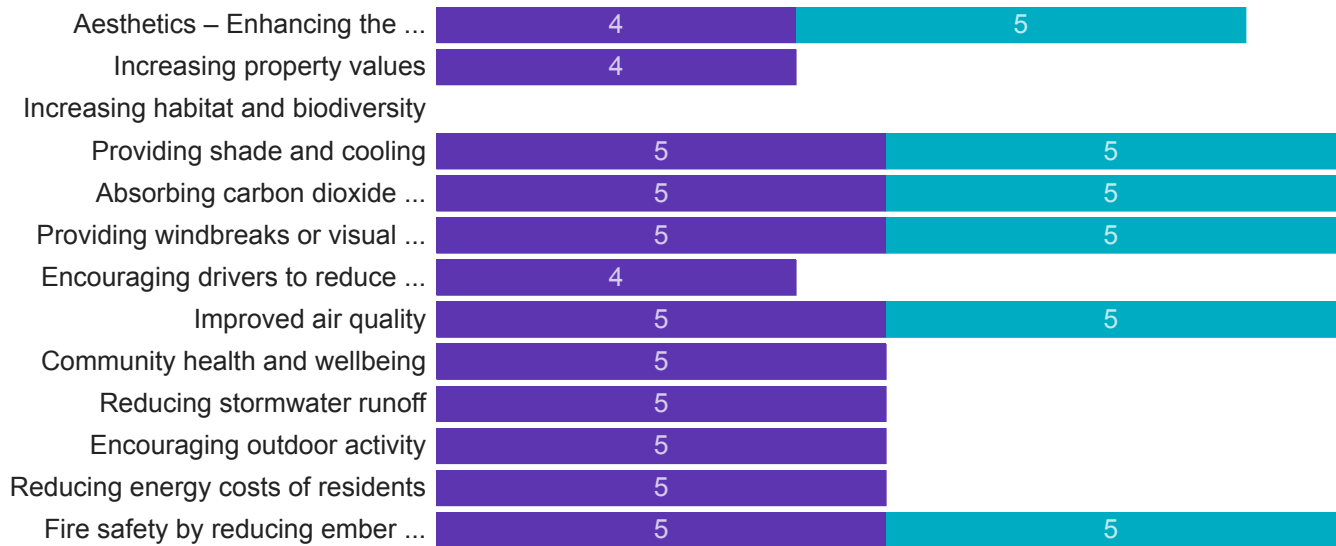
Importance ratings(Average) - San Remo



● New Zealand Christmas Bush
 ● New Zealand Christmas Tree
 ● Tuart
 ● Weeping Peppermint

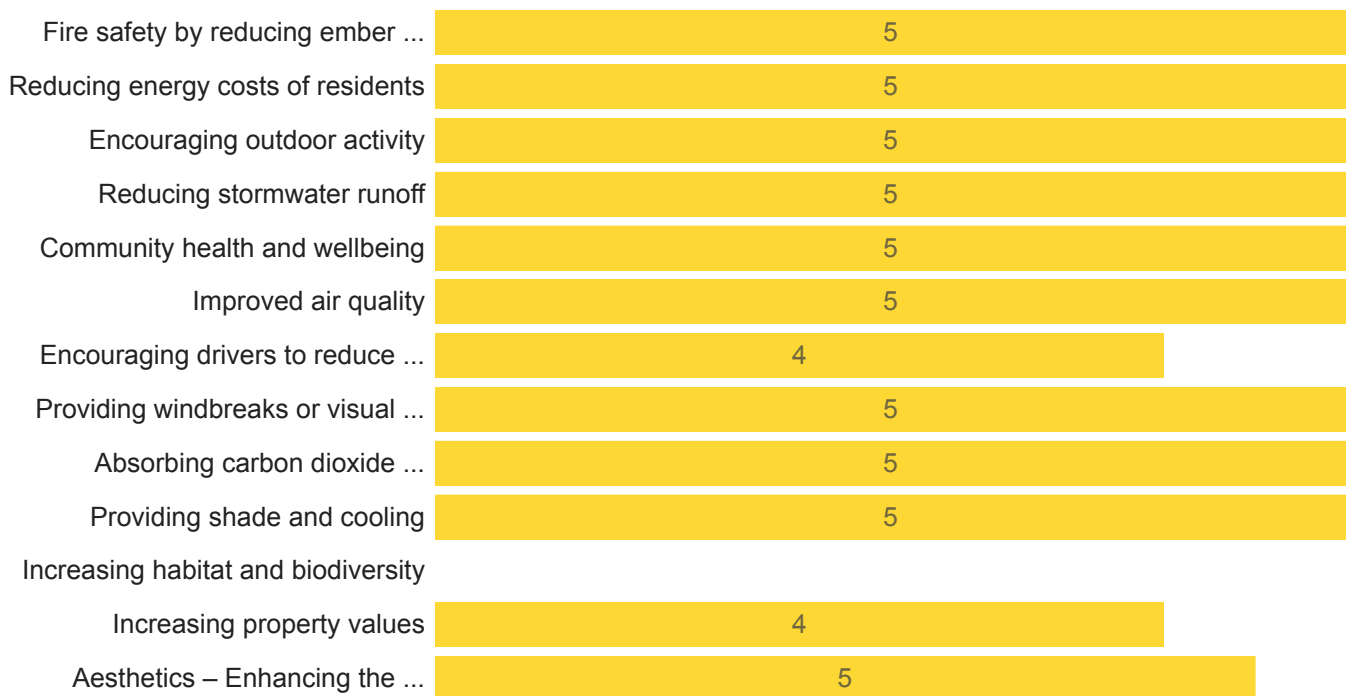
Importance ratings by Age - San Remo

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



Importance ratings by Gender- San Remo

● Male
 ● Female
 ● Other
 ● I prefer not to say

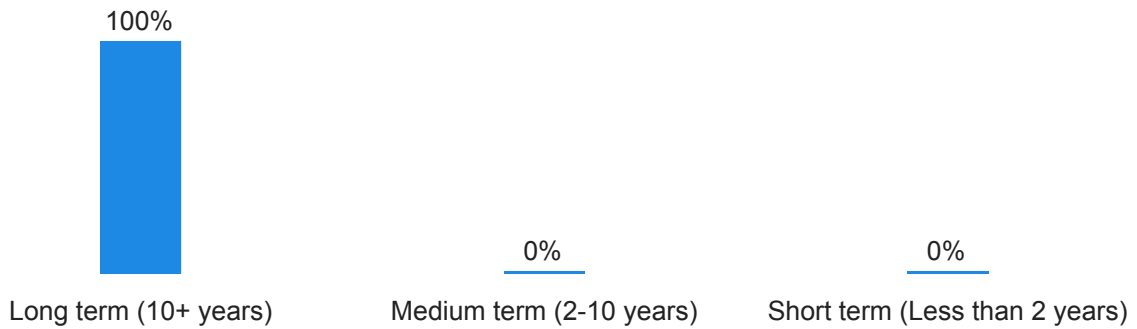


Is there anything else that you would like to add about street trees in your neighbourhood?

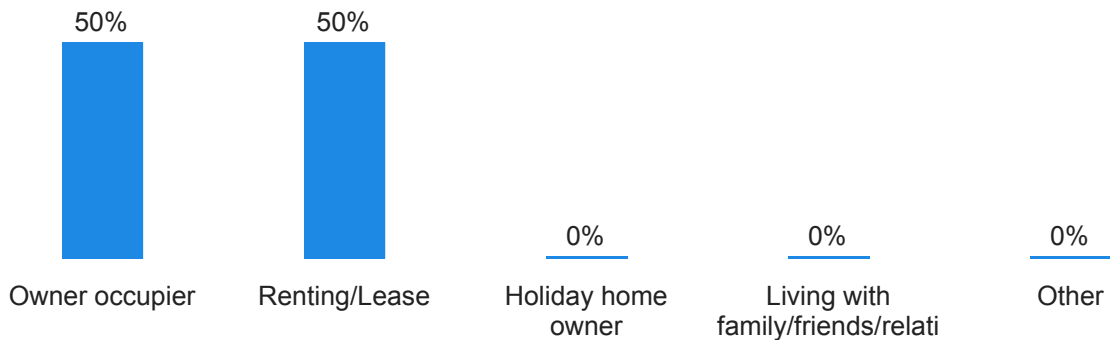
wonderful
grassroad
centenice
nativearealook
centre
centro
shop

Demographics

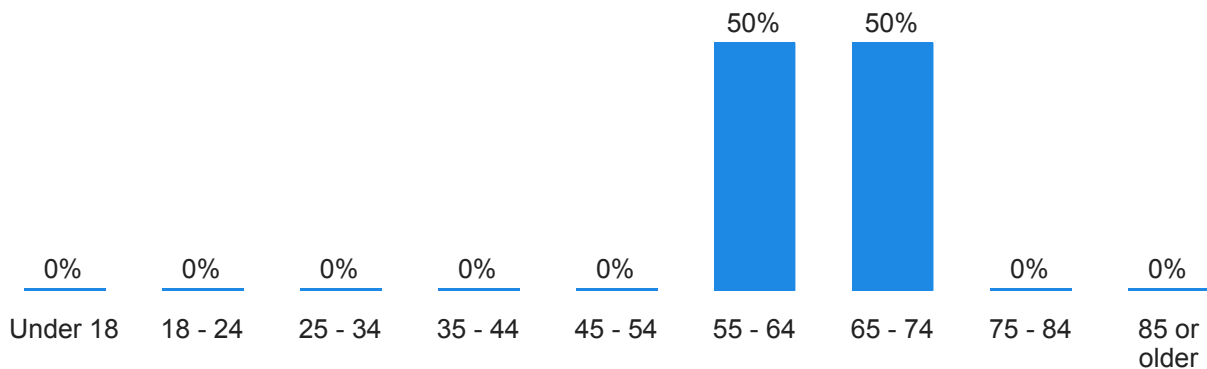
Describe your residency in Mandurah



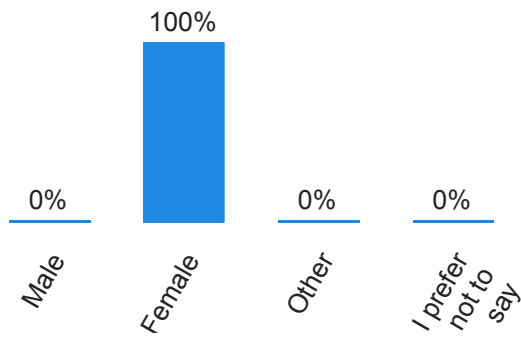
Which best applies to you:



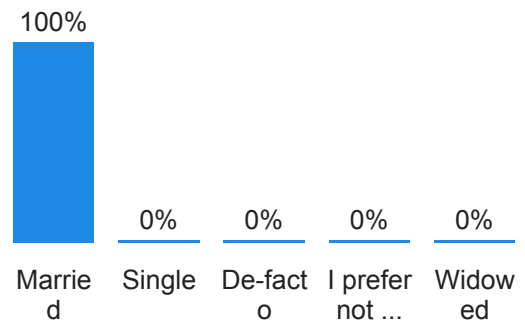
Age range



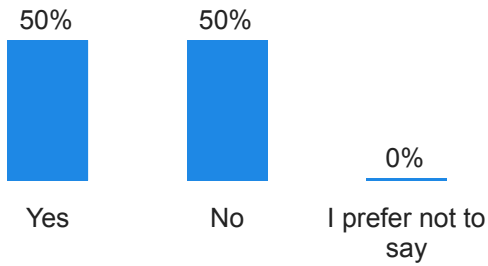
Gender identity:



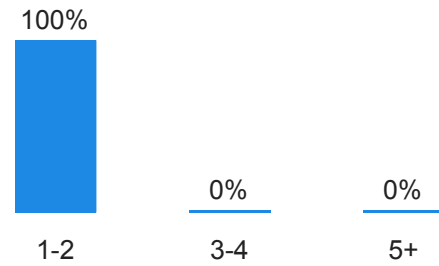
Marital Status:



Do you have children living at home?



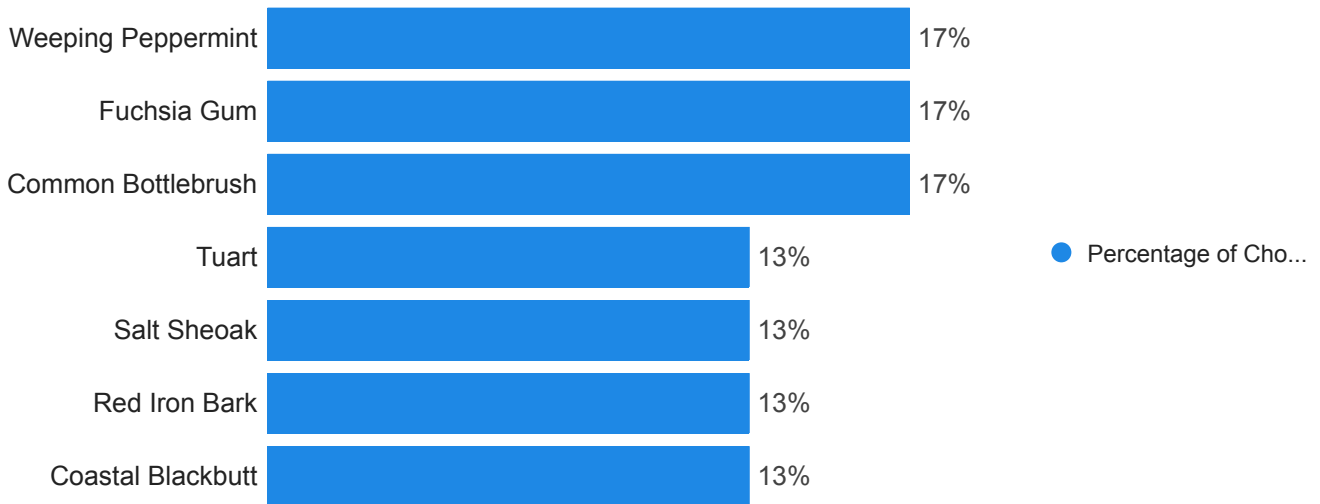
How many children are living at home?



Silver Sands



FinalTreeSelected



Why do you prefer...

Weeping Peppermint



Fuchsia Gum



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

Mostly because they are smaller and shorter living. They are small enough to fit in home gardens (I have some already) but only the street is large enough for the big trees - and they make the neighbourhood look shady, established and welcoming.

Mostly common garden ornamentals not necessarily native to the area that already in abundance.

I tried to find the trees that would be of the greatest benefit to our wildlife bees and birds etc plus prove shade

N/A

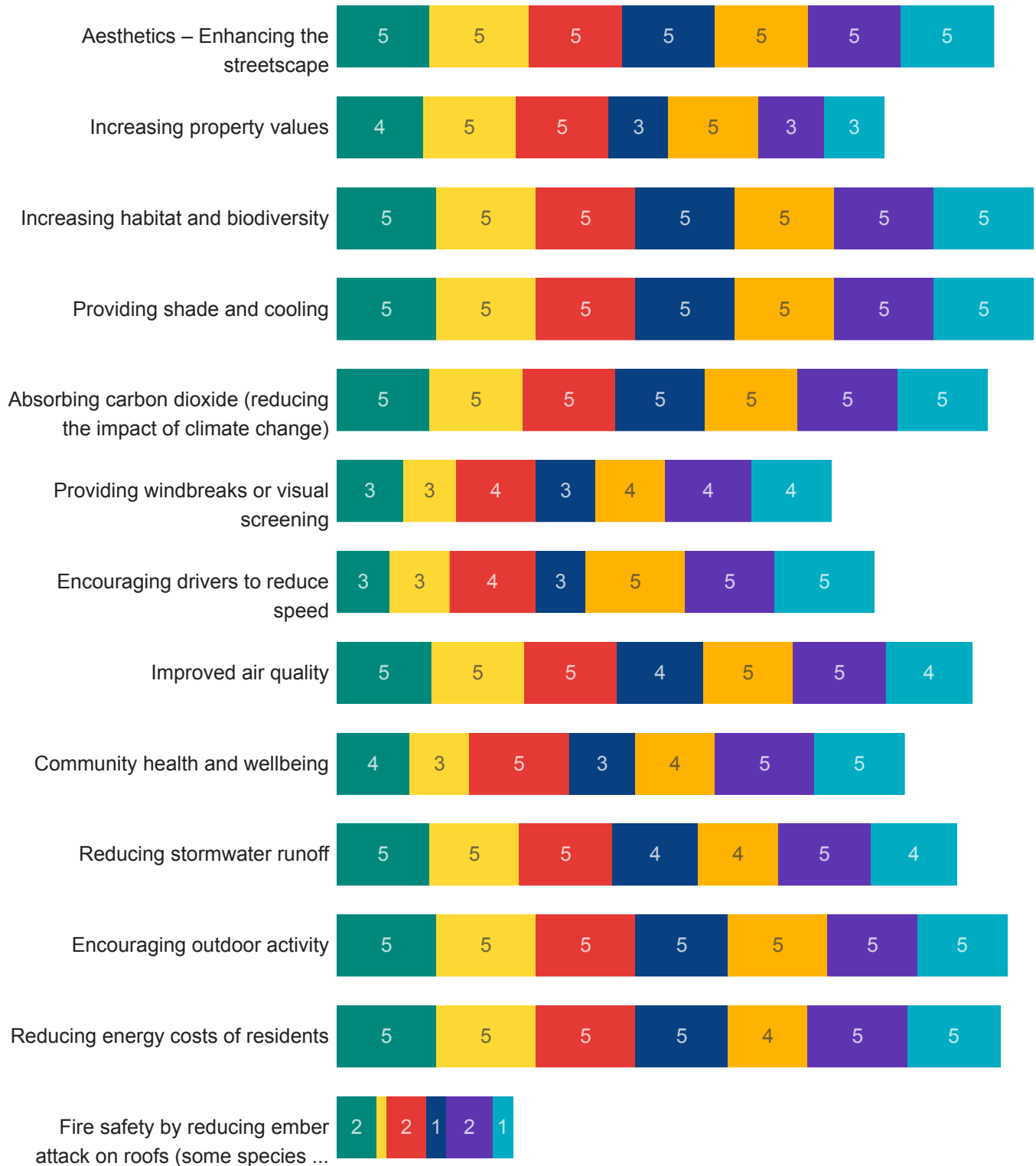
Th other trees develop such a massive root system that in 20 years time it can damage structures, underground pipes and service connections - tall trees with big roots do NOT belong in residential areas

No

No

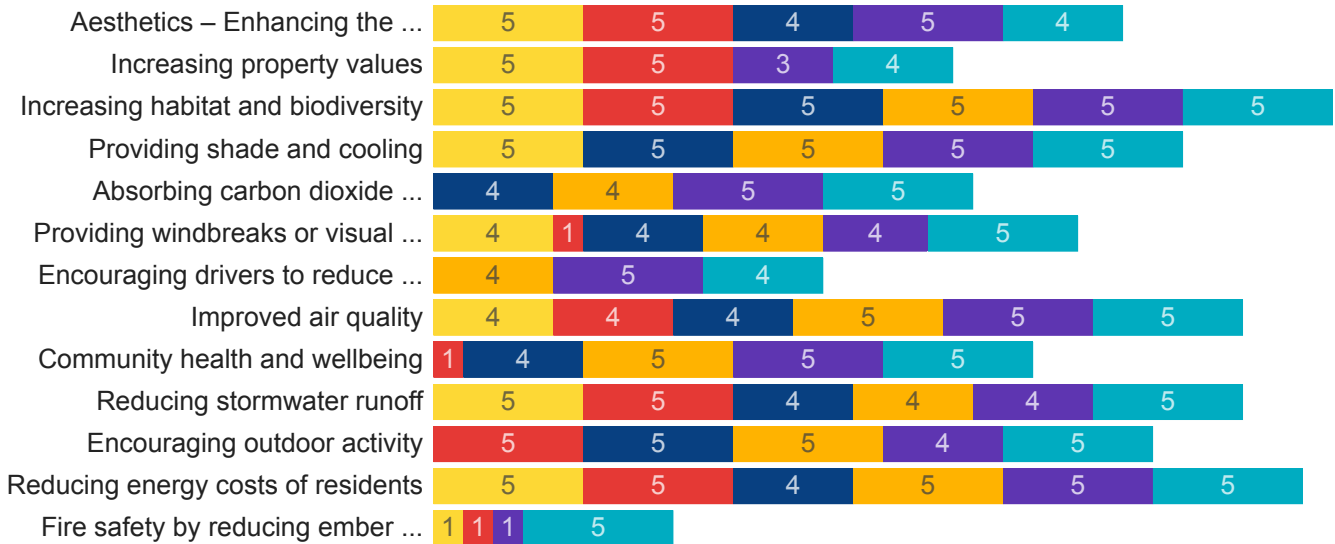
Some aren't attractive trees... some are messy

Importance ratings(Average) - Silver Sands

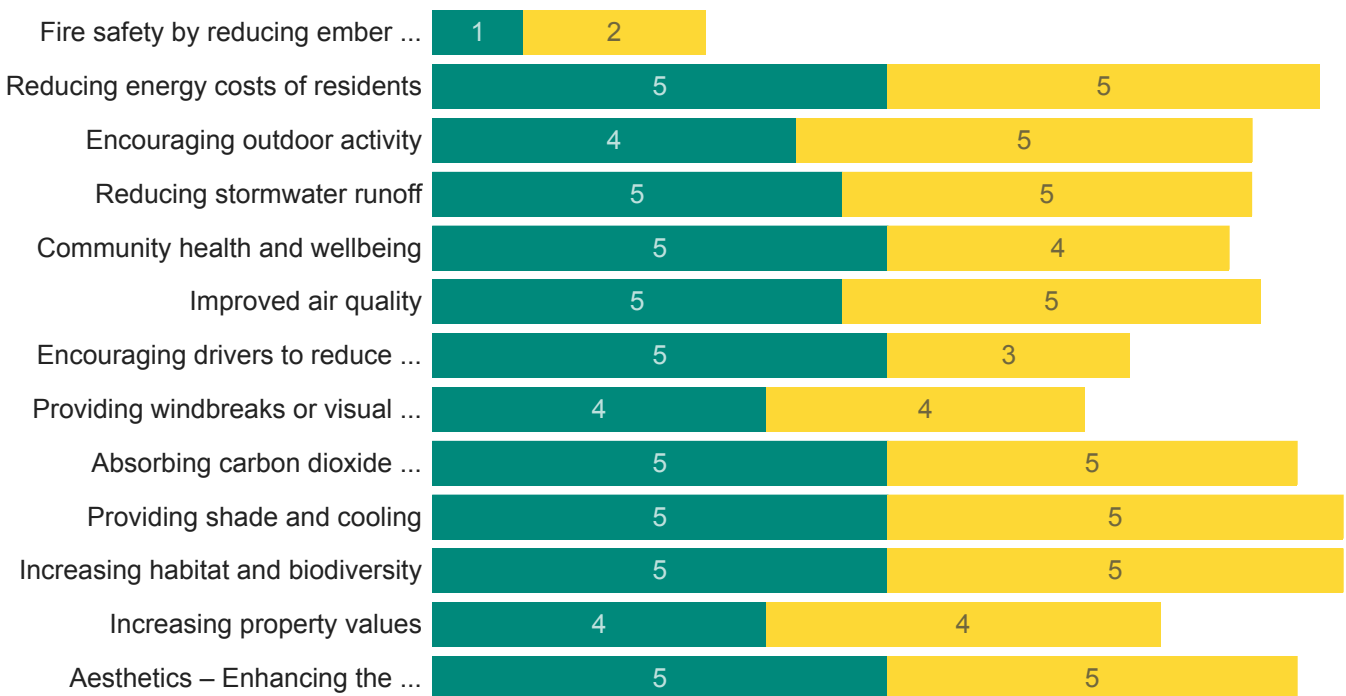


● Common Bottlebrush
 ● Fuchsia Gum
 ● Weeping Peppermint
 ● Coastal Blackbutt
 ● Red Iron Bark
 ● Salt Sheoak
 ● Tuart

Importance ratings by Age - Silver Sands



Importance ratings by Gender- Silver Sands

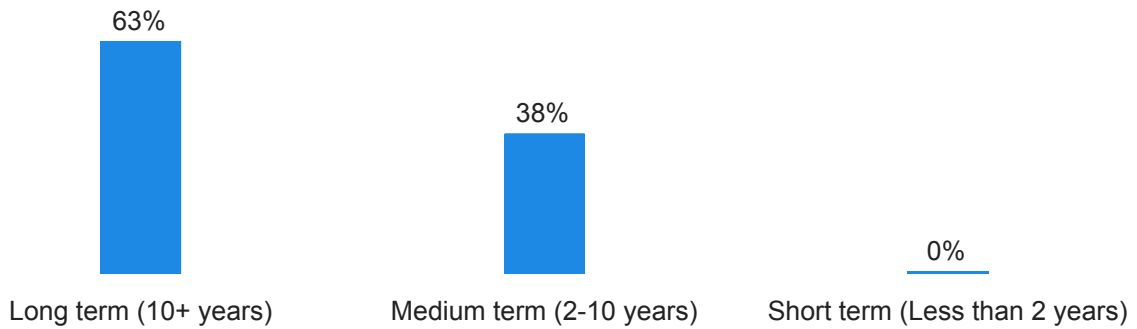


Is there anything else that you would like to add about street trees in your neighbourhood?

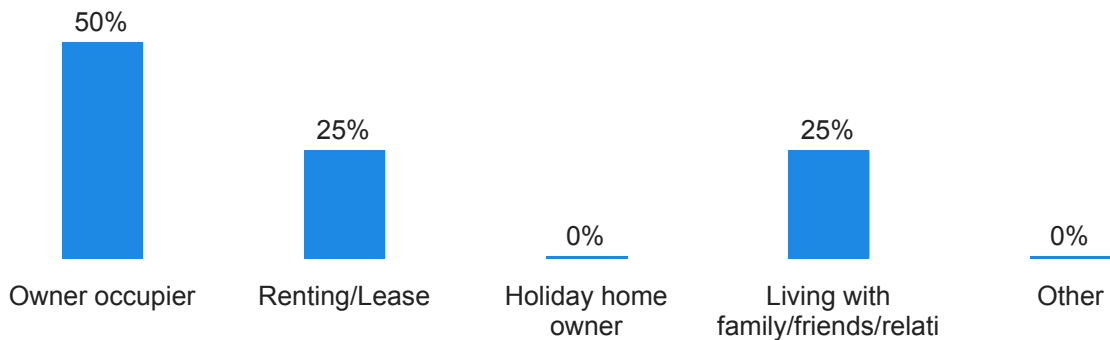


Demographics

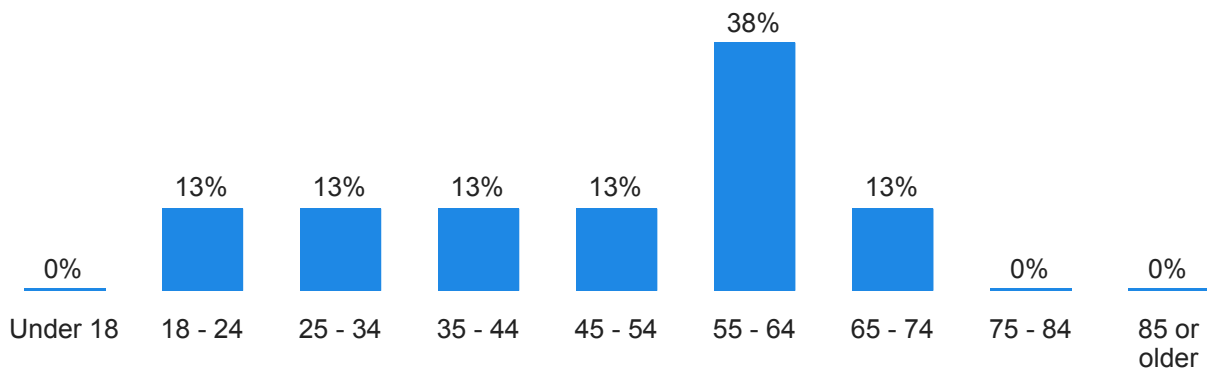
Describe your residency in Mandurah



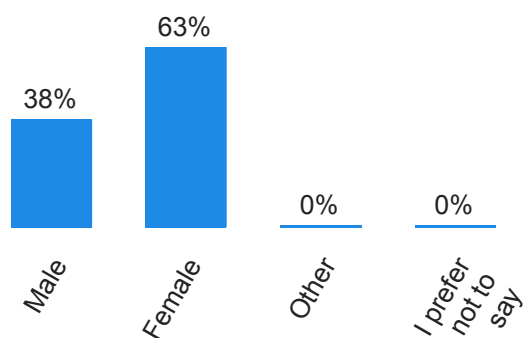
Which best applies to you:



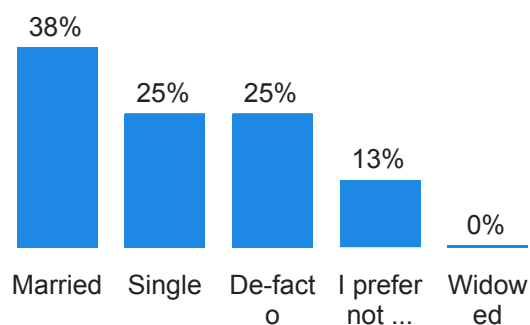
Age range



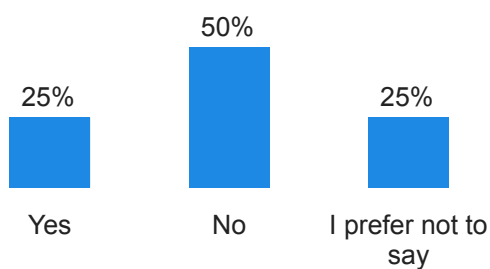
Gender identity:



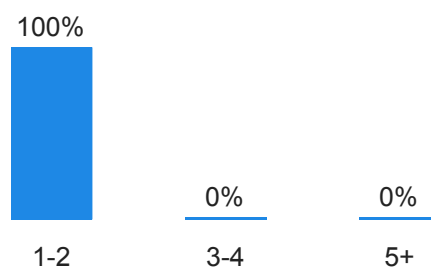
Marital Status:



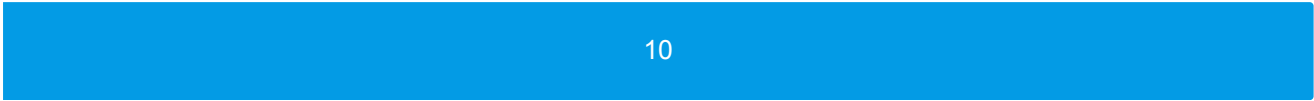
Do you have children living at home?



How many children are living at home?

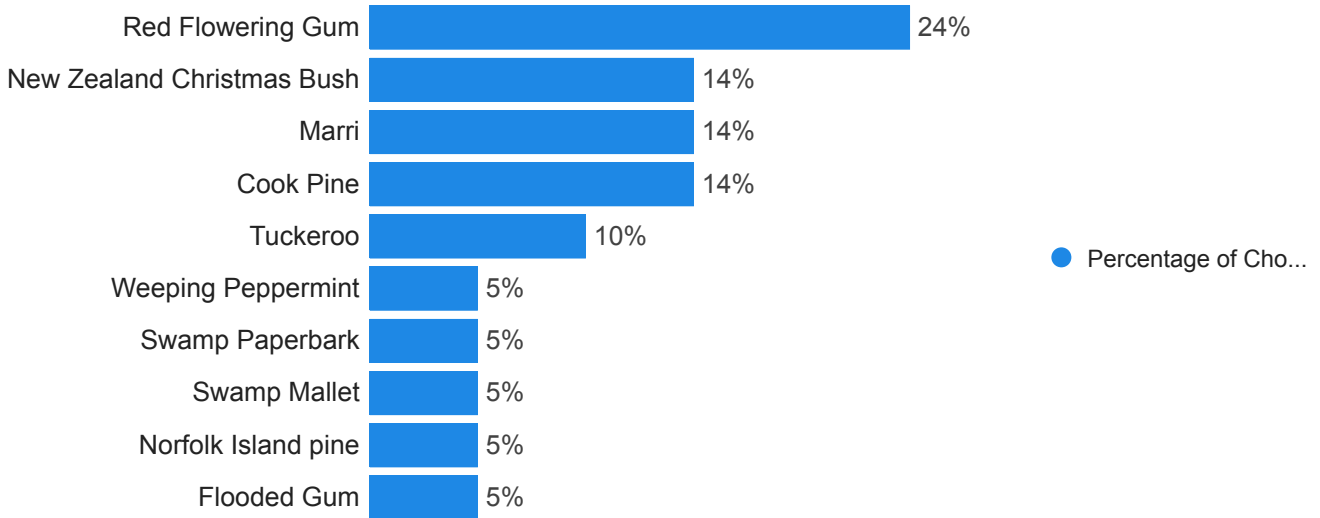


Wannanup



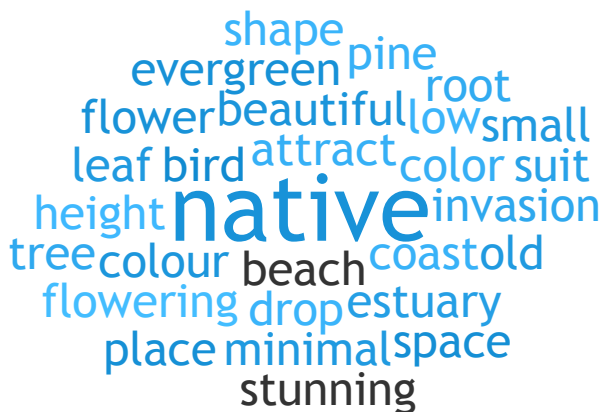
10

FinalTreeSelected



Why do you prefer...

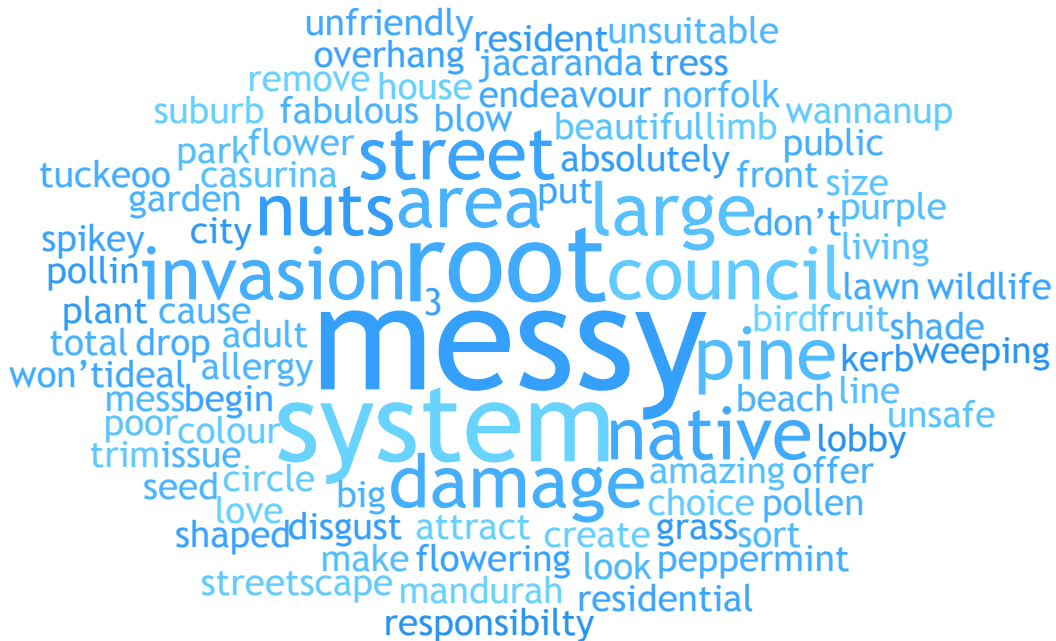
Red Flowering Gum



New Zealand Christmas Bush



Are there specific reasons why any of the other trees are not your preferred options?



Are there specific reasons why any of the other trees are not your preferred options?

Size of adult trees are large for streetscapes. Fruit on Tuckeroo is not ideal for a tree in a public area

Too big and this creates all sorts of issues for residents. We already have a tree in our front garden that is far too big and is damaging lawn and Kerbing. Even though the city of Mandurah planted the tree they won't take responsibility for any damage caused by them tree.

These trees are totally unsuitable for residential living. Some the root systems are damaging. Others are too messy etc.

Yes too much pollin in the flowering natives they drop there nuts and blow there flower seeds and look messy

The Casurina. Very poor choice by council. Unfriendly to other natives around it. Messy and unsafe, with large overhanging limbs, invasive root system. Unfriendly to beach grassed areas and parks because of spikey nuts. Will begin lobbying council to have them removed from my street and elsewhere in the suburb.

The pine tress that have been put in Wannanup are disgusting. They offer no shade they don't attract the birds or any other wildlife. And they make a mess and there root system is invasive.

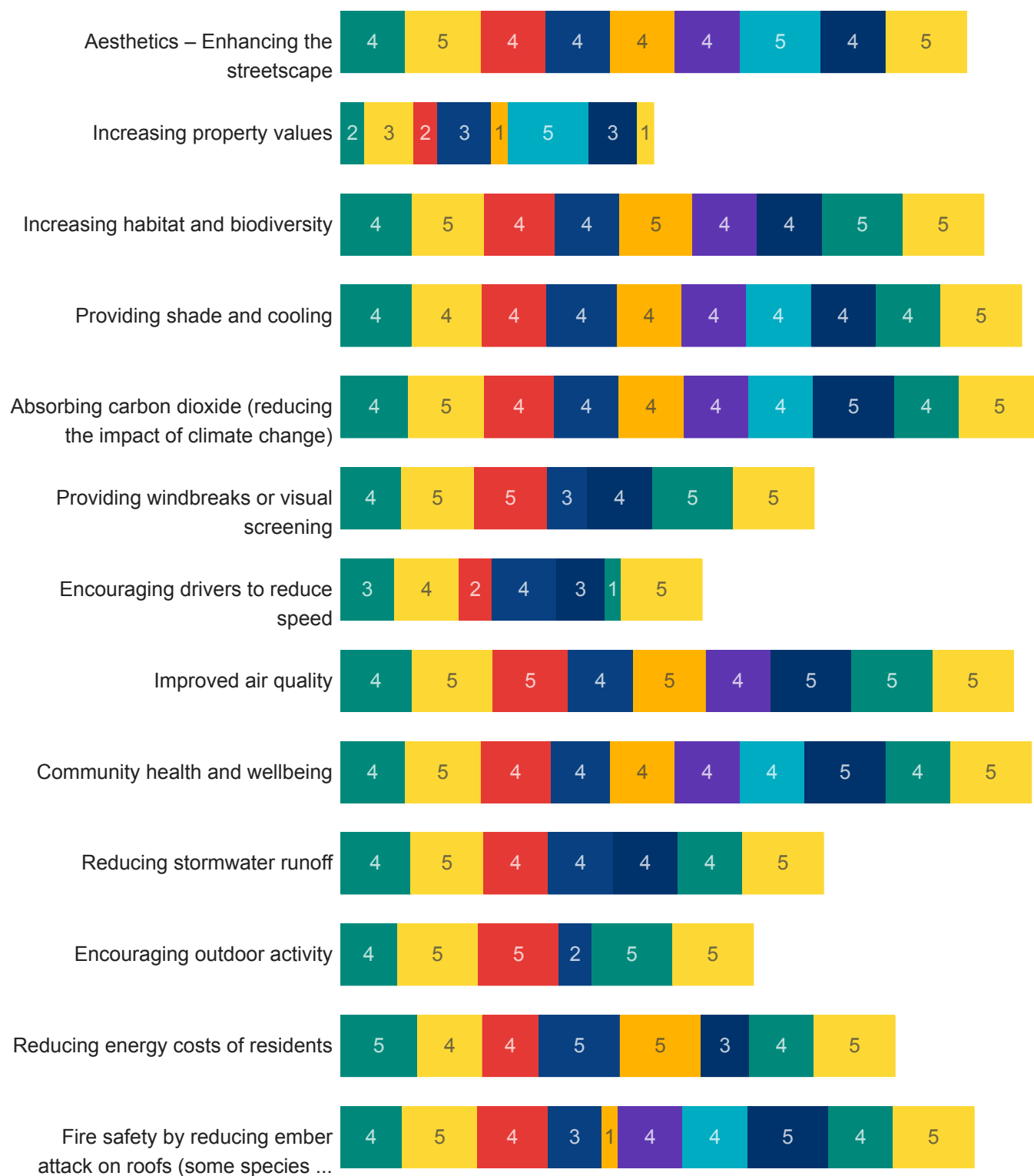
Pollen allergies

We currently have a Weeping a Peppermint just up from our house like the Norfolk pine they are so messy and council never seems to keep them well trimmed and shaped.

We would absolutely love some colour on our fabulous street 'Endeavour Circle' It would be just amazing to see the street lined with beautiful purple jacaranda's.

Only need 3

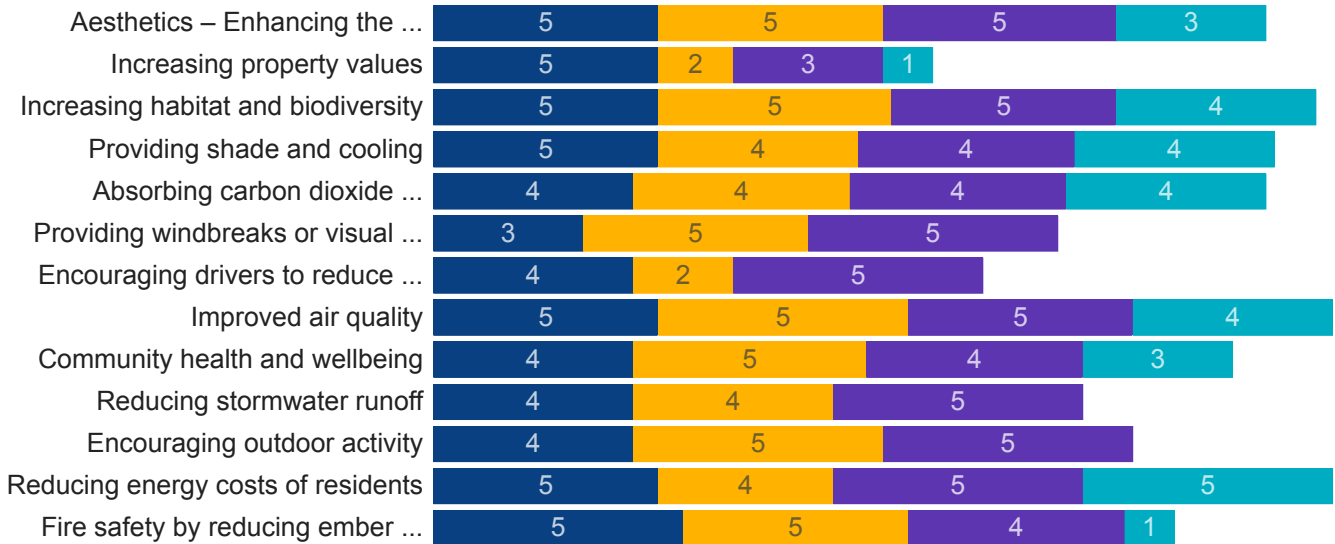
Importance ratings(Average) - Wannanup



● Red Flowering Gum
 ● Cook Pine
 ● Marri
 ● New Zealand Christmas Bush
 ● Tuckeroo
 ● Flooded Gum
● Norfolk Island pine
 ● Swamp Mallet
 ● Swamp Paperbark
 ● Weeping Peppermint

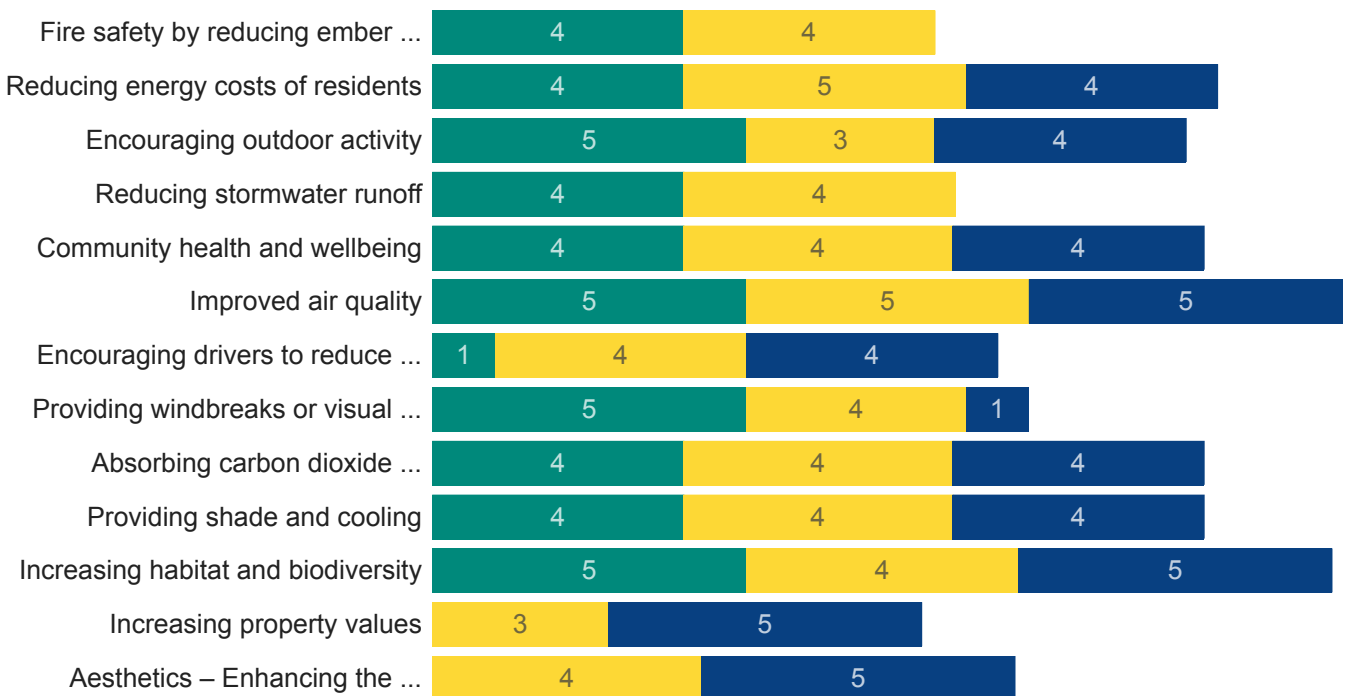
Importance ratings by Age - Wannanup

● Under 18
 ● 18 - 24
 ● 25 - 34
 ● 35 - 44
 ● 45 - 54
 ● 55 - 64
 ● 65 - 74
 ● 75 - 84
● 85 or older



Importance ratings by Gender- Wannanup

● Male
 ● Female
 ● Other
 ● I prefer not to say

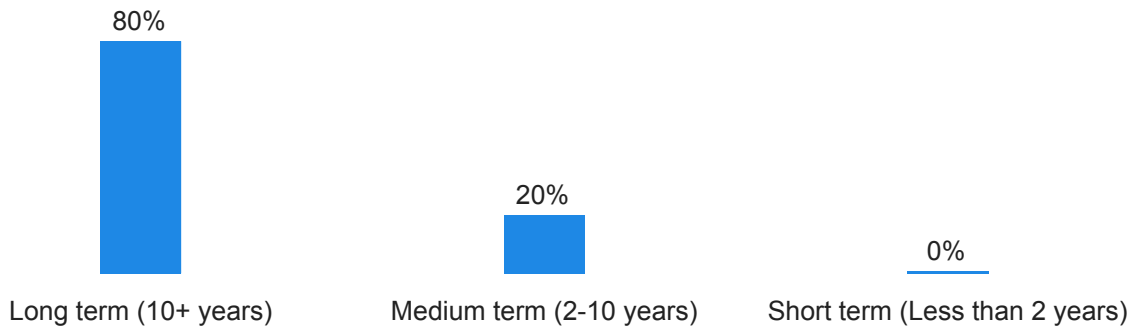


Is there anything else that you would like to add about street trees in your neighbourhood?

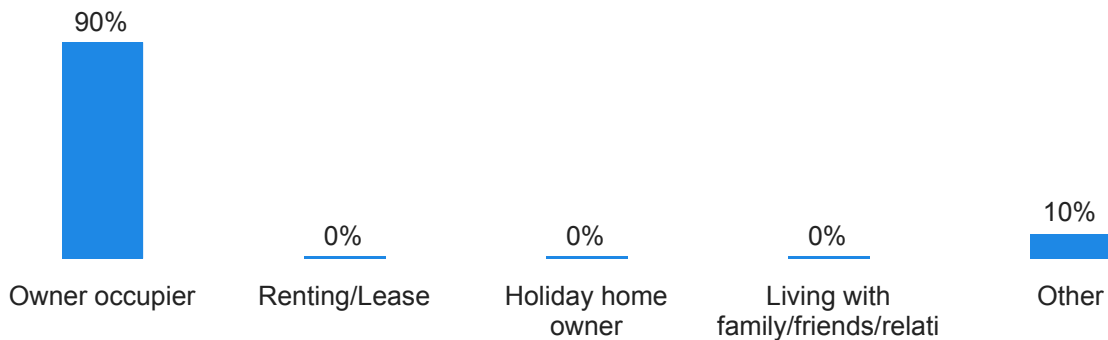


Demographics

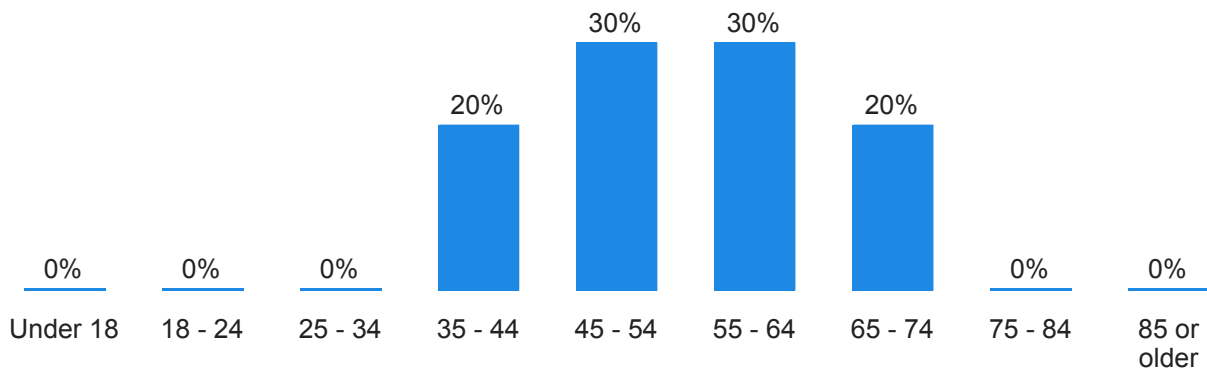
Describe your residency in Mandurah



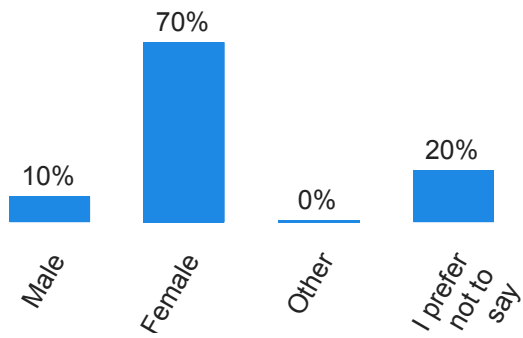
Which best applies to you:



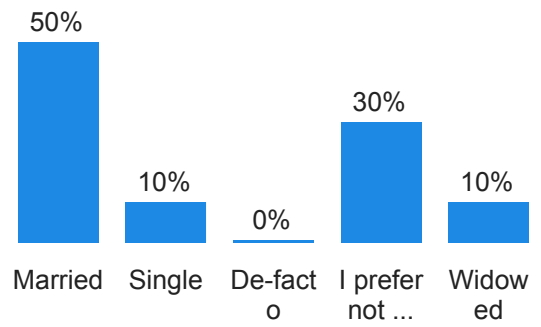
Age range



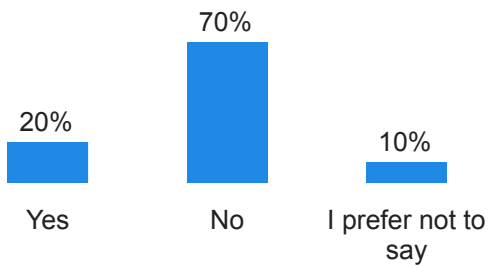
Gender identity:



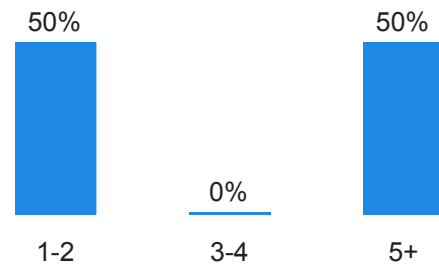
Marital Status:



Do you have children living at home?



How many children are living at home?



PUBLIC ENGAGEMENT SUMMARY

FOR THE CITY OF MANDURAH'S LOCALITY STREET TREE MASTERPLAN

THE PURPOSE

To support the City's strategic direction and policy on trees as well as inform the future tree planting initiatives creating a more sustainable City.

CONSULTATION

In March 2019, the City undertook a PUBLIC ENGAGEMENT process in the form of a survey through the "Mandurah Matters" website. The public engagement period was open from the 19th March to the 28th April 2019.

The survey included opportunities for the public to provide comment on the Precinct based on their residential address.

Key questions included:

- Demographics data
- Which tree do you prefer of the trees selected for your Precinct and why?

The following key values were also rated:

- Aesthetics
- Increasing property values
- Increasing habitat and biodiversity
- Providing shade and cooling
- Absorbing carbon dioxide
- Providing windbreaks or visual screening
- Encouraging drivers to reduce speed
- Improved air quality
- Community health and wellbeing
- Reducing stormwater runoff
- Encouraging outdoor activity
- Reducing energy cost of residents
- Fire safety by reducing ember attack.

IMPROVED AIR QUALITY



68%

Trees filter air pollutants, including ozone and particulates.

BIODIVERSITY



73%

Trees provide opportunities to increase habitat and biodiversity for local fauna.

COMMUNITY HEALTH



62%

More people use urban spaces with trees than those without, which increases opportunities for positive community interaction.

SHADE



71%

Trees provide shade and cooling to support community activity, health and wellbeing.

REMOVE CO2



67%

Trees remove carbon dioxide from the air.



TOP 5 TREES

35%

AGONIS FLEXUOSA



33%

CORYMBIA FICIFOLIA



13%

MELALEUCA QUINQUENERVIA



shade native canopy fragrance dense habitat calm wildlife weeping

native colour pretty flower bee shape bird

native wildlife shape shade flower tall community

WHAT'S NEXT?

The results of the consultation have informed the Locality Street Tree Masterplan that has been developed for every precinct within the City's boundary.

Madora Bay

TOP TREES
Agonis flexuosa, Weeping Peppermint
Banksia attenuata, Candlestick Banksia
TOP VALUE
 Habitat & biodiversity



San Remo

TOP TREES
Metrosideros thomasi, New Zealand Christmas Bush
Agonis flexuosa, Weeping Peppermint
TOP VALUE
 Shade & cooling



Meadow Springs

TOP TREES
Jacaranda mimosifolia, Jacaranda
Corymbia ficifolia, Red Flowering Gum
TOP VALUE
 Absorbing Carbon dioxide



Lakelands

TOP TREES
Pyrus ussuriensis, Ussurian pear
Corymbia ficifolia, Red Flowering Gum
TOP VALUE
 Habitat & biodiversity



Parklands

TOP TREES
Eucalyptus decipiens, Redheart Moit
Corymbia ficifolia, Red Flowering Gum
TOP VALUE
 Aesthetics



Greenfields (North)

TOP TREES
Corymbia ficifolia, Red Flowering Gum
Eucalyptus marginata, Jarrah
TOP VALUE
 Outdoor activities



Greenfields (South)

TOP TREES
Corymbia ficifolia, Red Flowering Gum
Banksia ilicifolia, Holly-leaved Banksia
TOP VALUE
 Absorbing carbon dioxide



Coodanup

TOP TREES
Corymbia ficifolia, Red Flowering Gum
Hakea Laurina, Pin Cushion Hakea
TOP VALUE
 Aesthetics



Dudley Park

TOP TREES
Corymbia ficifolia, Red Flowering Gum
Agonis flexuosa, Weeping Peppermint
TOP VALUE
 Habitat & biodiversity



Erskine

TOP TREES
Corymbia ficifolia, Red Flowering Gum
Pyrus ussuriensis, Ussurian pear
TOP VALUE
 Shade & cooling



Dawesville (North)

TOP TREES
Agonis flexuosa, Weeping Peppermint
Corymbia ficifolia, Red Flowering Gum
TOP VALUE
 Aesthetics



Bouvard

TOP TREES
Agonis flexuosa, Weeping Peppermint
Melaleuca raphiophylla, Swamp Paperbark
TOP VALUE
 Aesthetics



Mandurah CBD (West)

TOP TREES
Agonis flexuosa, Weeping Peppermint
Jacaranda mimosifolia, Jacaranda
TOP VALUE
 Habitat & biodiversity



Halls Head (North)

TOP TREES
Agonis flexuosa, Weeping Peppermint
Eucalyptus gomphocephala, Tuart
TOP VALUE
 Shade & cooling



Halls Head (South)

TOP TREES
Agonis flexuosa, Weeping Peppermint
Banksia integrifolia, Coast Banksia
TOP VALUE
 Habitat & biodiversity



Falcon

TOP TREES
Agonis flexuosa, Weeping Peppermint
Callistemon viminalis, Common Bottlebrush
TOP VALUE
 Community health & wellbeing



Wannanup

TOP TREES
Corymbia ficifolia, Red Flowering Gum
Metrosideros thomasi, New Zealand Christmas Bush
TOP VALUE
 Absorbing carbon dioxide



Dawesville (South)

TOP TREES
Agonis flexuosa, Weeping Peppermint
Corymbia ficifolia, Red Flowering Gum
TOP VALUE
 Aesthetics



MAP LEGEND PRECINCT WITH SAME TOP TREE

- Agonis flexuosa*, Weeping Peppermint
- Corymbia ficifolia*, Red Flowering Gum
- No preference selected
- Jacaranda mimosifolia*, Jacaranda
- Eucalyptus decipiens*, Redheart Moit
- Metrosideros thomasi*, New Zealand Christmas Bush
- Pyrus ussuriensis*, Ussurian Pear

9% JACARANDA MIMOSIFOLIA



shade
 magnificent
 colour exotic flower
 full cheerful
 shade

9% CORYMBIA CALOPHYLLA



native
 wildlife
 fragrance large tree
 habitat air quality
 shade