



# Coastal Management Plan 2021



*The City of Wanneroo acknowledges the Traditional Owners of the land, the Whadjuk Noongar people, and recognises their continuing connections to land, waters and community within our City. We pay our respects to them and their cultures; and to elders past, present and emerging.*





# EXECUTIVE SUMMARY

The City's coastline is one of its greatest natural assets, extending from Mindarie in the south to Two Rocks in the north. Unlike Perth's more established coastal areas, a significant proportion of the City's coastline remains undeveloped, and the coastal corridor faces rapid population growth that is expected to continue over the next 30 years.

Subjected to natural coastal processes such as waves, wind and storm events, the City's coastline is a dynamic and ever changing environment. Coastal erosion damages beaches, dunes, and adjacent coastal infrastructure, and have significant effects on beach appearance, usability, public safety and the loss of native flora and fauna. Climate change and the resultant sea-level rise is also expected to worsen the effects of coastal hazards in the future.

The Coastal Management Plan 2021 (CMP) has been developed in accordance with State Planning Policy 2.6: State Coastal Planning Policy (SPP 2.6), and reflects the City's strategic policies and plans, such as the Strategic Community Plan (SCP), the Local Environmental Strategy, Coastal Hazard Risk Management and Adaptation Plan (CHRMAP) and the Place Framework.

The CMP provides the City with a guiding framework for the management of the City's coastal foreshore. The CMP also provides developers with guidance for development within the foreshore area and informs the community about the City's coastline and the amenities which can be expected in the foreshore and around its coastal nodes.

In developing the CMP, a number of management challenges for the coastline were identified, these include:

- Meeting the demand from the community and visitors for access and enjoyment of the beach and foreshore areas;
- Creating vibrant and distinct coastal nodes through provision of infrastructure and facilities;
- Impacts from coastal processes including coastal erosion and sea wrack accumulation;
- Managing the natural environment to minimise the impacts from increased demand and preserve natural assets; and
- Conservation and promotion of Aboriginal and cultural heritage sites.

Having regard to these challenges, the key objectives of the CMP will be to facilitate appropriate access to the coast and vibrant and distinct coastal nodes that offer varied opportunities for enjoyment by the community, whilst ensuring that development is sustainable and sympathetic to the coastal location by conserving and protecting natural, cultural and heritage assets.

Providing a long-term plan to address the management challenges, the CMP outlines the actions required to address these challenges over the next 15 years. The actions include:

- Identifying a hierarchy of coastal nodes and providing a framework for the development of these nodes;
- Implementing the CHRMAP by identifying where community facilities and other coastal infrastructure can be located;
- Designation of new dog beaches;
- Continuation of the City's coastal dual use path network;
- Protection of the natural foreshore and revegetation of degraded reserves and Bush Forever areas;
- Continuation of beach nourishment initiatives;
- Trial program to manage the impact of sea-wrack deposition at Two Rocks;
- Audit coastal infrastructure to aid maintenance and management of coastal infrastructure;
- Management of unauthorised and illegal beach access of vehicles;
- Designation of motorised and other water sport areas; and
- Digitisation of the vegetation community mapping to aid with vegetation monitoring and protection.

Although most of the actions identified in the CMP are for the City to implement, the long-term protection of the City's coastal foreshore and beaches also requires support and involvement by State agencies, private developers and the wider community.

By providing a clear direction for the future of the coastline, the CMP aims to protect the City's most significant natural asset for continued community enjoyment into the future.



Figure 1 - City of Wanneroo coastline context

# MAYOR'S FOREWORD

Stretching 32 kilometres from Two Rocks in the north to Mindarie in the south, the City of Wanneroo covers a stunning stretch of largely undeveloped coastline.

As a local government authority, we are fortunate to care for this diverse and beautiful natural asset – a role that comes with significant responsibility and opportunity.

Our northern corridor has and will continue to experience substantial development and population growth, which in turn increases demand for new infrastructure and community facilities. By 2041, it is anticipated that the population of the City of Wanneroo's north coast growth corridor will exceed 130,000 people and account for 40 per cent of our total population.\*

This growth will be concentrated on coastal suburbs including Alkimos, Eglinton, Yanchep and Two Rocks – all of which have been planned for further development since the 1970s.

Economic and recreational opportunities along our coastline are abundant, and present the chance to attract locals and visitors in equal measure. However, it is important that the development and the use of our beaches and foreshore areas must not adversely impact the richness of our beautiful coastal environment.

In addition to balancing the influence of residential and commercial development, the City must also consider the long-term impacts of natural processes on our coastal environment, particularly as the consequences of climate change – such as

rising sea levels, coastal erosion and severe weather events – become more evident.

The Coastal Management Plan 2021 demonstrates the City of Wanneroo's ongoing commitment to protecting our coastal environment and creating thriving and sustainable communities in distinct coastal nodes.

It sets the agenda for the future of our coastline – by detailing how current challenges will be addressed, how development will occur and how the demand for infrastructure will be met.

Our community places great importance on the maintenance and responsible management of our beaches and foreshore areas, and the City of Wanneroo is committed to working with the community, our stakeholders and developers to ensure our natural assets are preserved and protected for future generations.

**Mayor Tracey Roberts JP**



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# INTRODUCTION

## Background

In 2012, Council adopted its Coastal Management Plan Part 1 (CMP 2012) to address a number of enquiries and petitions regarding animal beaches and to consolidate management practices along the coastline.

The CMP Part 1 captured data on a range of issues along the coastline and identified opportunities to address these issues. A further CMP was intended to supplement and implement the CMP Part 1, to address commitments made in foreshore management plans and to address the potential impacts of climate change and future community needs.

The development of the CMP was delayed by the Coastal Hazard Risk Management Adaptation Planning (CHRMAP) process, the City's response to sea-level rise, and this was finalised in 2018. The development of the CMP was identified as a project in the 2018/19 – 2021/22 City's Corporate Business Plan.

## Purpose

The purpose of this CMP is to provide a framework for:

- The identification of a hierarchy of coastal nodes and providing a framework for the development of these nodes;
- The sustainable management of the City's foreshore reserves and beaches over the next 15 year;
- Protection of the natural environment from naturally occurring and human impacts;
- The future development of beaches and foreshore reserves to ensure infrastructure and facilities are of an appropriate scale and sustainable for ongoing use and enjoyment; and
- Implementing the CHRMAP by identifying where community facilities and other coastal infrastructure can be located.

The CMP can be used by developers to guide the planning of development within the foreshore area and by the community to understand the future use of the coastline, and the location and level of infrastructure that will be provided in coastal nodes.

## Scope

This CMP applies to the foreshore reserve and beaches along the City's coastline. However, has taken into consideration areas adjacent to the coastline where they are indicated as being within CHRMAP affected areas.

## Objectives

- To develop vibrant and distinct coastal nodes that offer varied opportunities for enjoyment;
- To ensure development that is sustainable and sympathetic to the coastal location;
- To conserve and protect natural, cultural and heritage assets; and
- Minimise the impacts of sea-level rise and climate change.

## Our coastline

The City of Wanneroo's coastline extends 32 kilometres from Mindarie in the south to Two Rocks in the north. The coastline includes seven coastal suburbs, ranging from established residential areas to emerging new communities. The population in the City's coastal suburbs is expected to grow significantly over the next 20 years, increasing from approximately 51,700 residents now, to approximately over 152,000 residents by 2041.

Our coastline is generally sandy with intermittent limestone outcrops, featuring coastal dunes, nearshore reefs, islands and seagrass meadows. Four Bush Forever sites extend across the majority of our foreshore reserve.

The vegetation within the foreshore reserve includes vegetation species and ecological communities that are unique to the Western Australian coastline, including numerous priority flora and fauna species and pockets of State and Federally protected ecological communities such as Banksia and Tuart woodlands. Much of the vegetation is in very good condition, however, there are areas that are heavily degraded due to pedestrian and vehicle use.

The City has a number of key attractions along its coastline, including Mindarie Marina, Two Rocks Marina and Yanchep Lagoon; providing residents and visitors with retail, dining, short-stay accommodation and boat launching facilities.

In addition to a number of coastal parks and cafes scattered along the coastline, there are three dog beaches at Quinns Rocks, Yanchep and Two Rocks and Surf Life Saving Clubs at Quinns Mindarie, Alkimos and Yanchep.

The coastline is rich in Aboriginal and cultural heritage. There is strong Aboriginal connection and cultural values connected to the Emu Dreaming (a traditional Aboriginal story about the stars, planets and weather) and Creation Waugyl (believed to have created most of the major rivers, smaller creeks, springs and lakes) within the City's coastal areas.

A number of shipwrecks are located along the coast, including the Alex T. Brown, Alkimos and Eglinton. The Mary Lindsay Homestead, the first permanent homestead construction along the Yanchep coastline was constructed in 1926 and is now used as a community arts and culture hub.

## Our Challenges

There are many challenges associated with management of the City's coastline including:

- Meeting the demand from the community and visitors for access and enjoyment of the beach and foreshore areas;
- Creating vibrant and distinct coastal nodes through provision infrastructure and facilities;
- Impacts from coastal processes including coastal erosion and sea wrack accumulation;
- Managing the natural environment to minimise the impacts from increased demand and preserve natural assets; and
- Conservation and promotion of Aboriginal and cultural heritage sites.



# Summary of key issues

The table below summarises each key issue and how the CMP will address these. More detailed discussion, actions and guidance are provided in the Management Plan.

Issue	Comment
<i>Access &amp; enjoyment</i>	
Population growth is increasing the demand for accessible coastal recreational opportunities including dog beaches, areas for surfing, kite surfing and motorised water sports.	Actions to ensure sufficient access to coastal recreational opportunities and guidance for new development.
<i>Infrastructure &amp; facilities</i>	
The demand for infrastructure and facilities along our coastline is increasing due to population growth and increased visitation.  The City is responsible for ongoing maintenance of these assets once handed over by the developer.	The CMP identifies coastal nodes in accordance with SPP 2.6 to inform the level of infrastructure and facilities that will be provided along the coastline. Providing guidance on the durability of infrastructure and facilities to enable sustainable ongoing management and maintenance.
<i>Coastal processes</i>	
The vulnerability of the City's coastline to impacts associated with coastal processes including coastal erosion and sea wrack deposits.	Implementation of beach monitoring, nourishment and protection programs. Future development along the coastline should be in accordance with SPP 2.6 and the City's CHRMAP.
<i>Environmental management</i>	
Management of the natural environment including degraded vegetation, dune erosion and weed ingress.	Identifying actions to address and mitigate issues and guidance for new development. Limiting impact of infrastructure and maintaining defined access to the beach and throughout the foreshore reserve with a formalised path network.
<i>Heritage</i>	
Management and development of the coastline needs to have regard to Aboriginal and cultural heritage sites. Awareness of the significance of aboriginal heritage along the coastline needs to be increased.	The CMP identifies Aboriginal and cultural heritage sites, where possible. Providing guidance ensure management of the coastline and future development, in addition to raising awareness of the significance of aboriginal heritage.

Table 1 - Summary of Issues

# Management Plan Review

The CMP is a 15 year plan for the management of the City's coastline. The CMP will be reviewed no later than ten years from adoption or as required by Council, to ensure the management actions and guidelines remain relevant.





# Management Plan

## Issue 1: Access and Enjoyment

The City is one of the fastest growing local governments in Australia with the population in our coastal corridor expected to grow from 51,700 residents currently to 152,000 residents by 2041. More people means a greater demand for accessible coastal recreation opportunities.

People use our beaches in many different ways such as swimming, walking their dog, surfing or for motorised water sports. There is a strong correlation between physical activity and improved mental and physical health within the community. There are a range of matters the City must consider relating to access and enjoyment of its coastline including:

- Access to the beach;
- The coastal dual use path;
- Animal beaches; and
- Swimming and water sport only areas.

In addition to providing access and enjoyment of the City's coastal foreshore and beaches, it is also important to provide a safe coastal environment where the community can enjoy formal and informal recreational activities.

### 1.1 - Access Paths

An important element to supporting coastal recreation opportunities is providing physical access to the beach and around the foreshore area. A clearly defined path network ensures safe, controlled access that minimises impacts on the environment.

New access paths to the beach should enable universal access where possible. Wheelchair access to the waterline is currently provided at Quinns Beach and Yanchep Beach. Additional wheelchair access to the waterline should be considered when designing future Surf Life Saving Club facilities, regional coastal nodes, and the development of Marina facilities.

A Coastal Aquatic Risk Assessment will be used to consider requests for new access.

In some locations, it may be appropriate to consider provision of recreational trails to provide managed access to natural places beyond the main dual-use path network. Recreational trails are less formal than the dual-use path network and beach access paths, and will allow greater enjoyment of the foreshore reserve. Future development should consider the suitability of recreational trails, which can be sealed or unsealed.

All beach access points and recreational trails should be sited having regard to coastal processes, landforms, topography, and vegetation, in addition to supporting continuous vegetation areas within the foreshore. Beach access within and near coastal nodes, should have regard to access locations identified in Figure 2, 3 and 4 below. Suburb level detailed mapping for access paths can be found in Appendix 1.

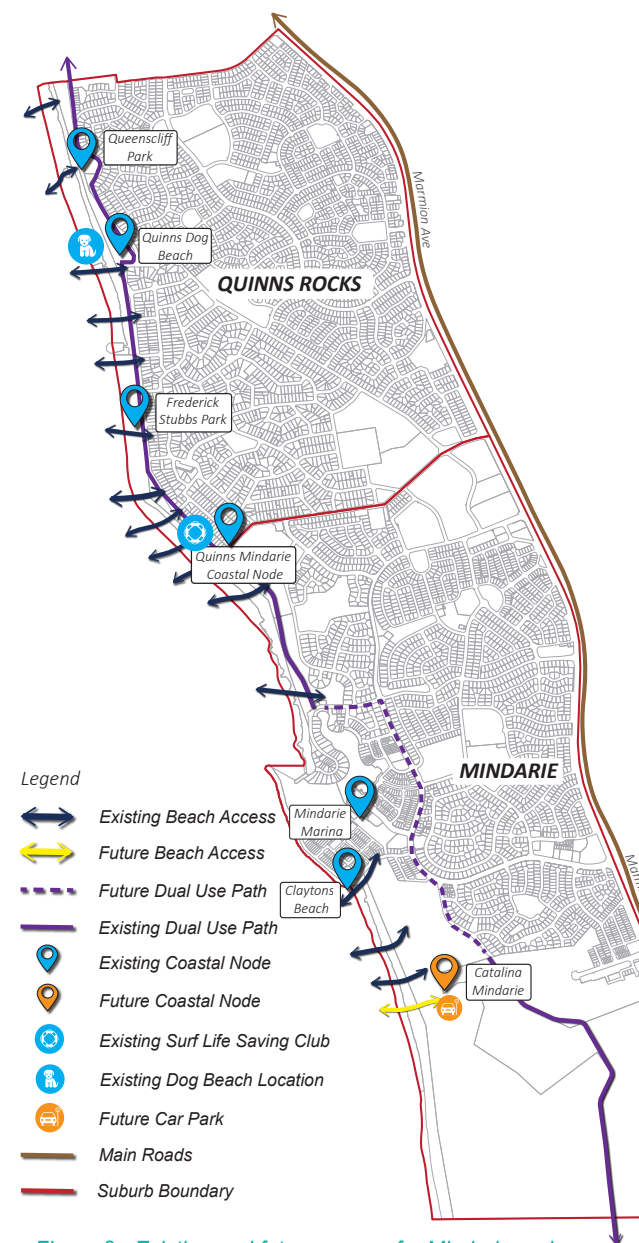


Figure 2 - Existing and future access for Mindarie and Quinns Rocks

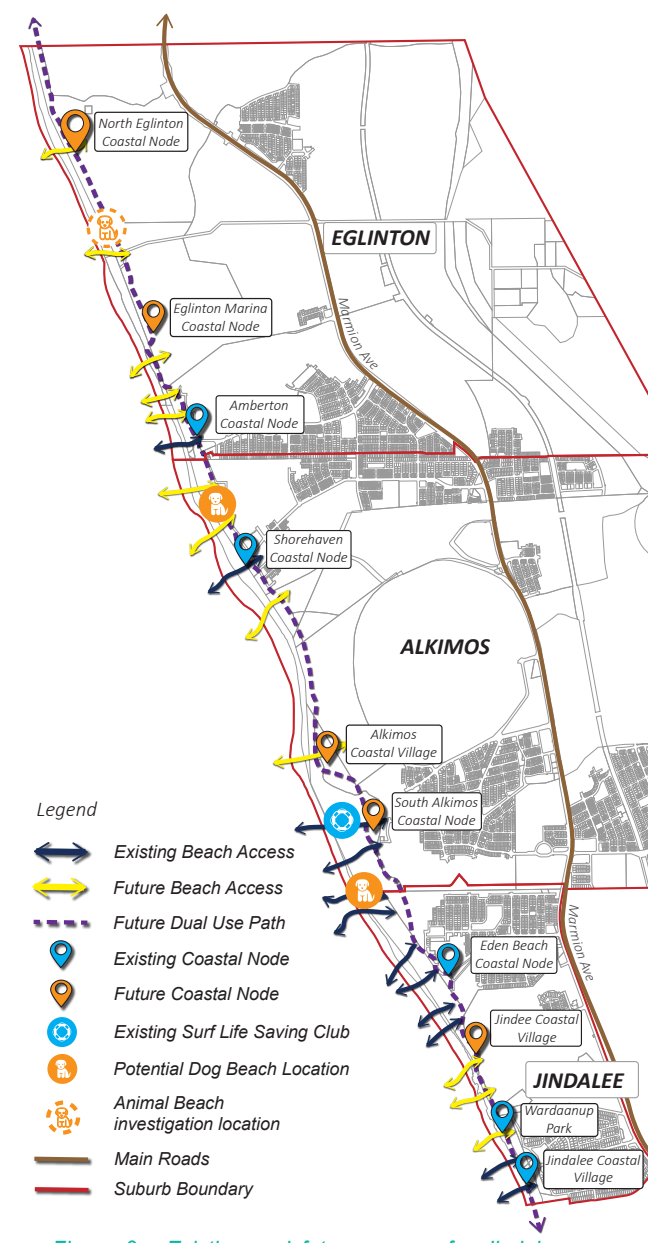


Figure 3 - Existing and future access for Jindalee, Alkimos and Eglinton

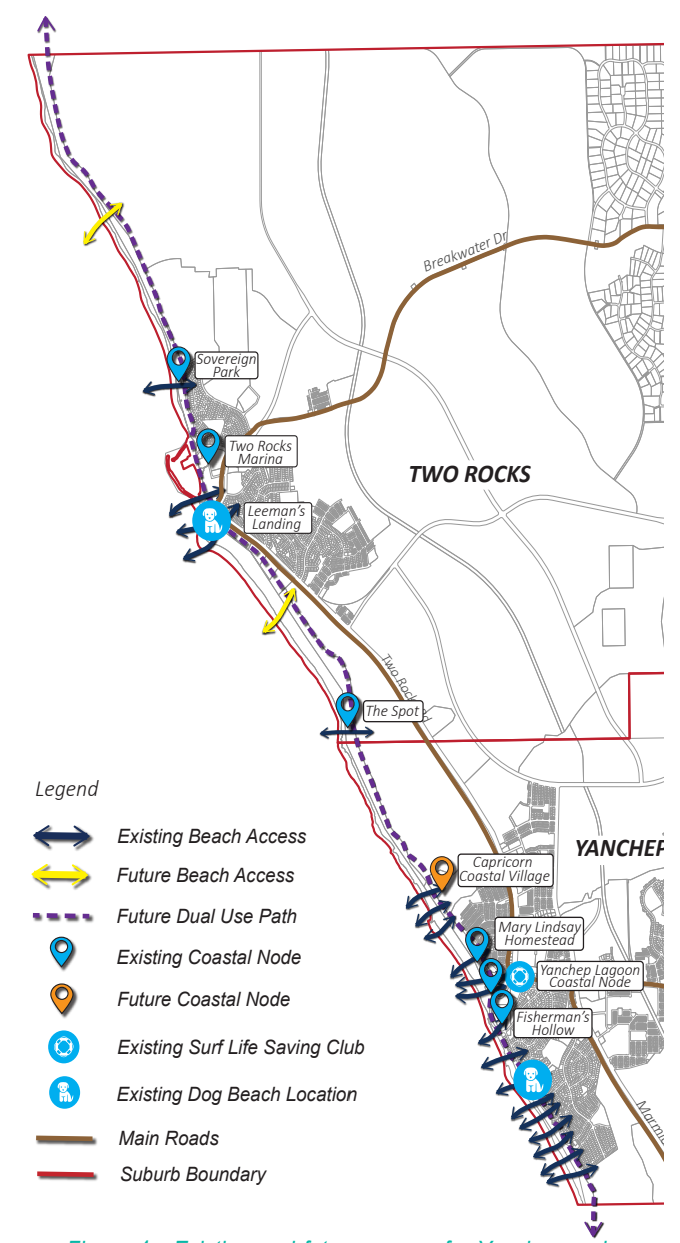


Figure 4 - Existing and future access for Yanchep and Two Rocks



## 1.2 - Coastal dual-use path

The long-term plan for the City's dual-use path network is to connect with the existing City of Joondalup dual-use path in Burns Beach all the way through to Two Rocks in the north.

A continuous dual use path will provide recreational and community health benefits, emergency access, greater connections between coastal nodes, tourism and encourage additional activation of public spaces.

The construction of new dual-use path should be undertaken in accordance with SPP 2.6 Guidelines, namely:

- Positioned landward of the coastal foreshore to allow for

- Coastal processes;
- Designed to promote safety to cyclists and pedestrians;
- Not result in fragmented remnant vegetation;
- Designed to avoid vegetation removal, alteration to natural topography and earthworks; and
- Constructed to provide clear demarcation between public and private land.

The coastal dual-use path network should be clearly delineated from the existing path network with use of distinctive red tarmac finish and 4 metres in width (or where this is not possible, of a width capable of accommodating safe movement of both pedestrians and cyclists traveling at opposing directions at any given time). This

may require existing dual-use paths to be upgraded to meet this standard, when they reach their end-of-life.

The indicative alignment of the dual-use path network has been informed by existing agreed structure plans, foreshore management plans and State's Long-term Cycle Network Plan.

Refer to Figure 5, 6 and 7 below, for the indicative dual-use path alignment for the coastal network. Suburb level detailed mapping of the indicative alignment for the coastal dual-use path network can be found in Appendix 1.

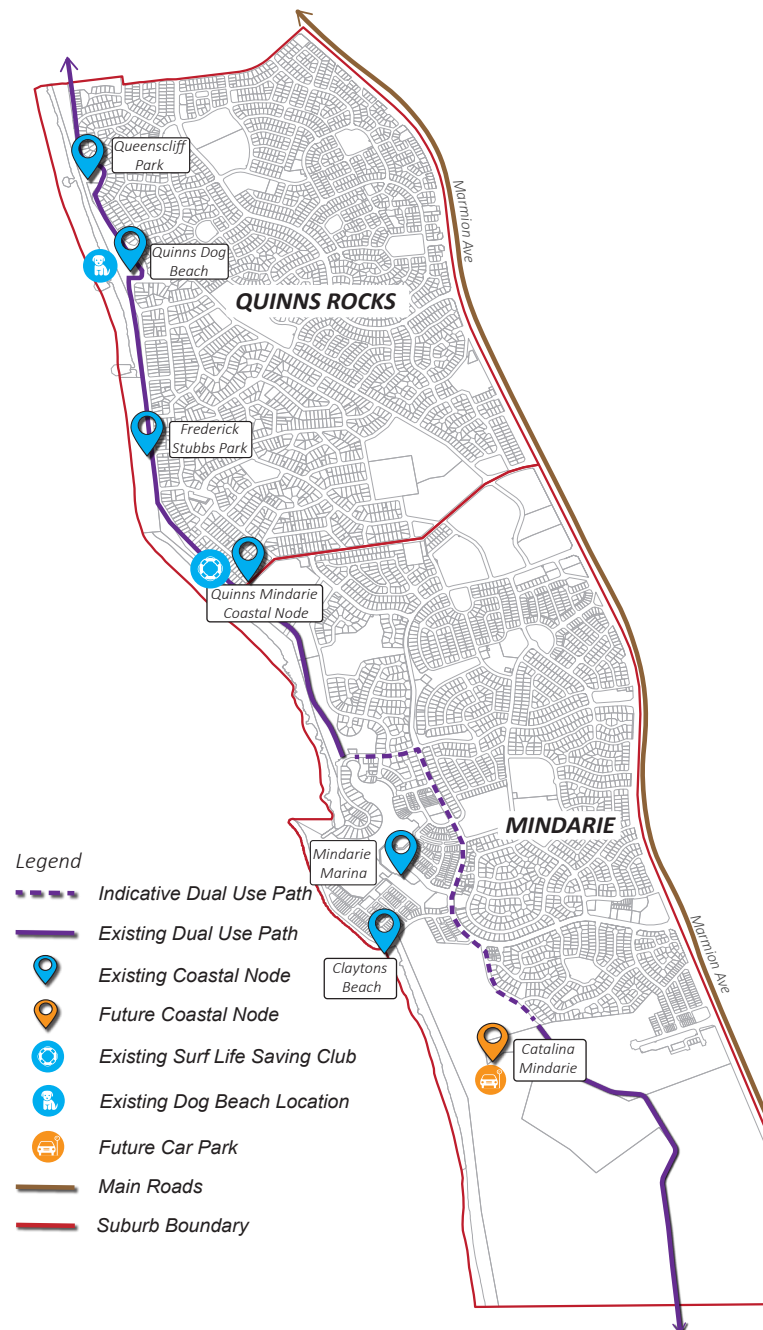


Figure 5 - Indicative coastal dual-use path alignment for Mindarie and Quinns Rocks

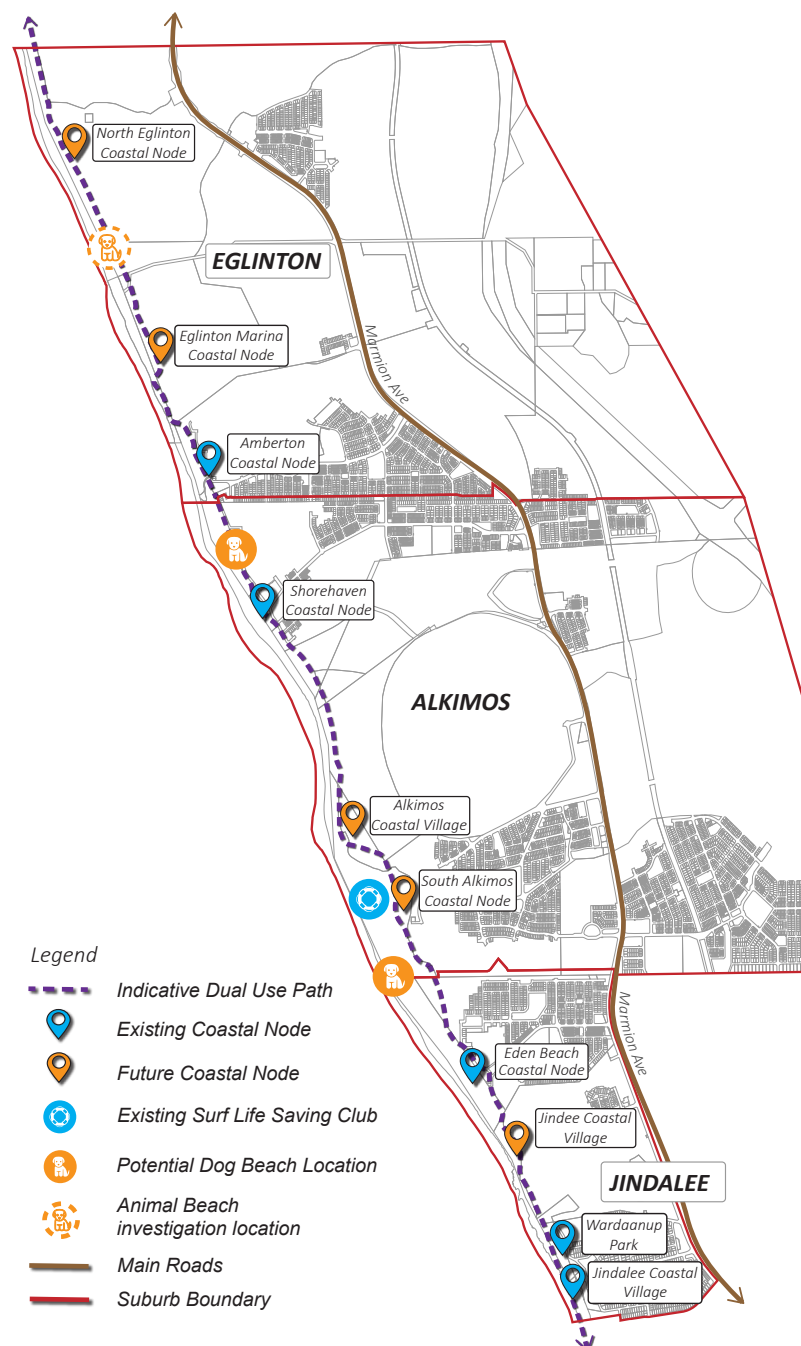


Figure 6 - Indicative coastal dual-use path alignment for Jindalee, Alkimos and Eglinton

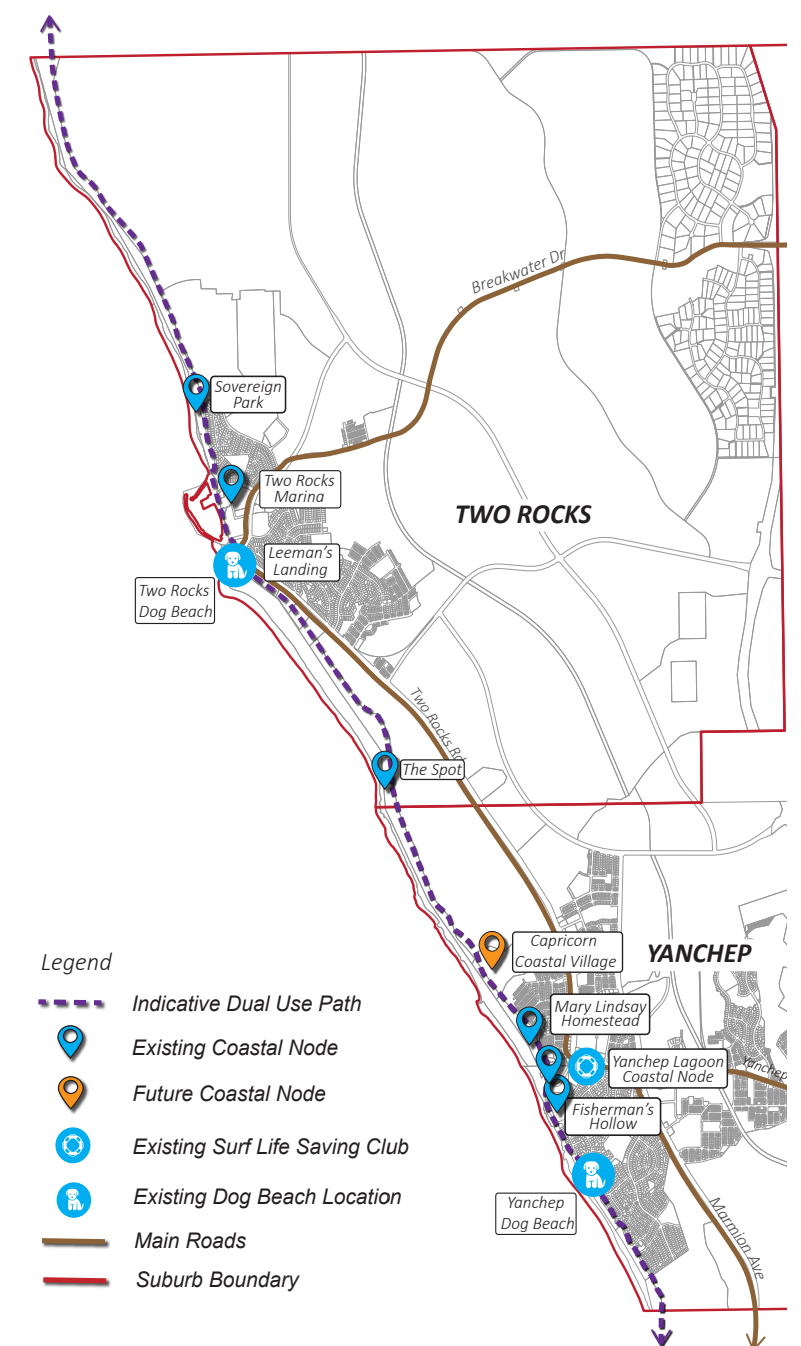


Figure 7 - Indicative coastal dual-use path alignment for Yanchep and Two Rocks



1.3 - Dog exercise beaches

At the time, the CMP Part 1 was prepared in 2012, there was approximately 18,500 dogs registered in the City, and there were three dog exercise beaches within the City, located at Quinns Rocks, Yanchep and Two Rocks with a combined length of approximately 1.8 kilometres. Since 2012, the City has experienced a growth rate of over 2100 dogs each year, with the only addition to dog beaches being a 340 metre extension to the Yanchep dog beach in 2014.

To ensure we meet the demands of our growing population, the City will need to provide an additional dog beach in the near future and an appropriate location for this is in Alkimos. The preferred location has been identified between the Alkimos Beach estate and the Eden Beach estate, due to the projected population growth of the surrounding area and the favourable beach conditions during winter months for users.

This option would commence just south of the temporary Alkimos Surf Life Saving Club (SLSC) to the beach access point situation approximately 1.5km south of the surf club.

The delivery of this dog beach would most likely be provided in two stages due to the temporary nature of the SLSC. The SLSC is likely to be relocated further north to a permanent facility in the short-term (approximately five years). To reduce potential conflict between surf lifesaving activities and dog exercise activities, the southern-most 1,045 metre portion of the exercise beach would be provided in 2022/23, with the northern 480 metre portion to be provided once the SLSC has been relocated (likely to occur after 2025).

An alternative Alkimos dog beach location could be considered between Shorehaven estate and Amberton Beach estate. This would commence south of the Amberton coastal node access point. The feasibility of this option would require further investigation into seasonal beach conditions limiting access during winter months, and the delivery of future access points in accordance with Figure 3.

Investigations into locations for additional dog exercise beaches will take into consideration future residential areas, access, potential conflict with existing and future uses, safety and seasonal weather patterns which drive annual changes to beach width (wider in summer and narrowing in winter). Mindarie, Eglinton, and North Two Rocks have been identified as potential locations for dog beaches, warranting further investigation. There is an

expectation that dog exercise beaches will be provided with access points at each end, where possible. Beyond 2035, population growth at Eglinton and North Two Rocks may trigger the need for investigations into additional dog exercise beaches at these locations.

Figure 8 provides an overview of the City’s existing and potential dog exercise beaches.

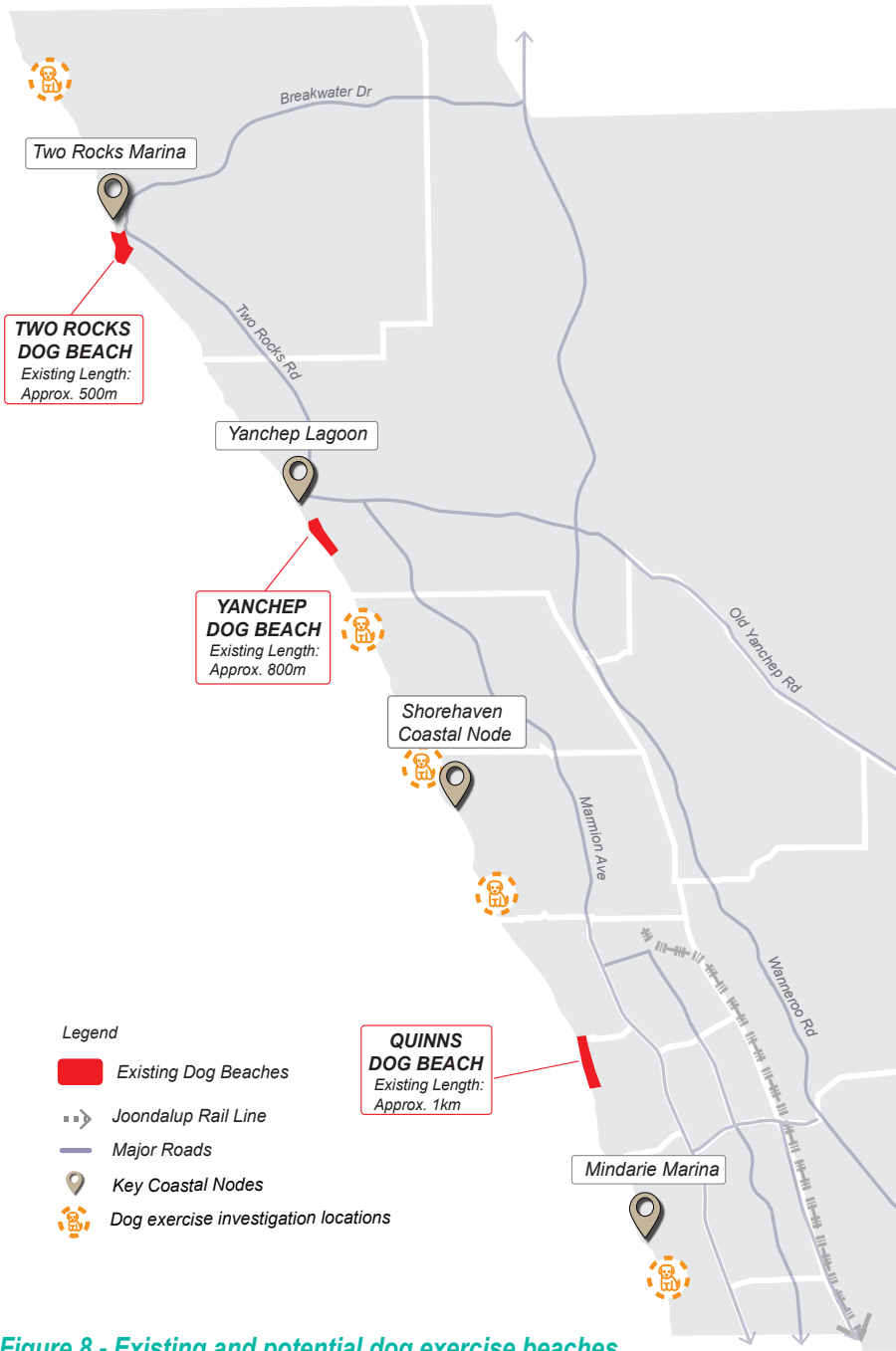


Figure 8 - Existing and potential dog exercise beaches

1.4 - Animal Waste

The issue of dog waste left uncollected by dog beach users continues to be a significant issue for the City, and significantly affects the community’s enjoyment of its beaches.

To address this, it is proposed that investigations into the installation of small waste bins beyond the high water mark along the dog beach be undertaken to determine if it encourages owners to pick up dog waste along the beaches.



Action	Responsibility	Timeframe
Investigate the suitable location for a dog beach in Alkimos	Strategic Land Use Planning & Environment Support: Ranger Services	2022/23
Investigate viability of installation of waste bins on beaches at dog beaches	Waste Services Support: Strategic Land Use Planning & Environment	2023/24

Table 2 - Actions table - dog exercise beaches



1.5 - Animal beaches

Following CMP Part 1, the City investigated the potential for a horse beach which found that the significant majority of the coastline is not suitable for horses due to submerged rocks along the shoreline making it unsafe for horse exercise.

This initial investigation identified Mindarie as the preferred location for a potential split use dog and horse beach. However, following this it was found that this location was not suitable for a horse beach due to the presence of priority vegetation where access would need to be provided, and the potential conflicts between horses and beach goers.

The significant environmental impacts associated with clearing priority vegetation to provide suitable access and parking for horse floats are considered to substantially outweigh the benefits gained from having a horse beach in this location.

Additionally, the City of Joondalup currently provides a horse beach at Whitfords with access and parking suitable for horse floats. Further investigations into the potential for a horse beach along the City’s coastline will need to consider impacts on the natural environment, access, coastal conditions and the potential conflict and safety of users.

1.6 - Swimming and water sports only areas

The CMP has reflected the areas along the City’s coastline that have been identified by SLSWA to be suitable for the purposes of recreational uses such as swimming. Appendix 1 provides the extent of the audited swimming beaches at suburb level.

A majority of the City’s beaches are relatively sheltered from large waves due to fringing reefs offshore, causing larger waves to break before they reach the nearshore zone, making swimming appealing to a lot of areas of the coastline. Despite this, in considering recreational activities and uses within the coastal foreshore reserve and beaches, due regard should be given to the SLSWA coastal audit and risk assessments regarding beach risk and safety.

In the long-term, the City will undertake a full safety audit of the City’s coastline at 15 years.

Water sports and activities are a popular past time for the City’s residents and visitors. The community has previously raised concerns surrounding the proximity of water vessels such as kite surf boards, jet skis and paddle boards to swimmers and requested the City to investigate the option of segregating jet skiing and kite surfing from other beach activities.

An opportunity exists for the City to investigate the potential for a ‘swimming only’ beach in Quinns Rocks inside the swimming enclosure. The trial segregation of swimmers from propelled water sport activities will allow the City to monitor user enjoyment and safety benefits, and determine if ongoing implementation is appropriate.

It is important to note that the designation of a swimming only beach at Quinns Rocks would not prevent the continuation of the surf lifesaving activities that currently take place within the Quinns Beach swimming enclosure area.

Presently, there is only one demarcated ‘water sports area’ along the City’s coastline, which is located off the coast of Quinns Beach, as shown in yellow on Figure 9. There is an opportunity for the City to investigate areas appropriate for water sports to support enjoyment of the City’s coastline, whilst minimising impact on other users.

A number of potential ‘water sport areas’ have been identified for further investigation along the coastline adjacent to coastal nodes at Mindarie, Jindalee, Alkimos, Eglinton, Yanchep and Two Rocks.

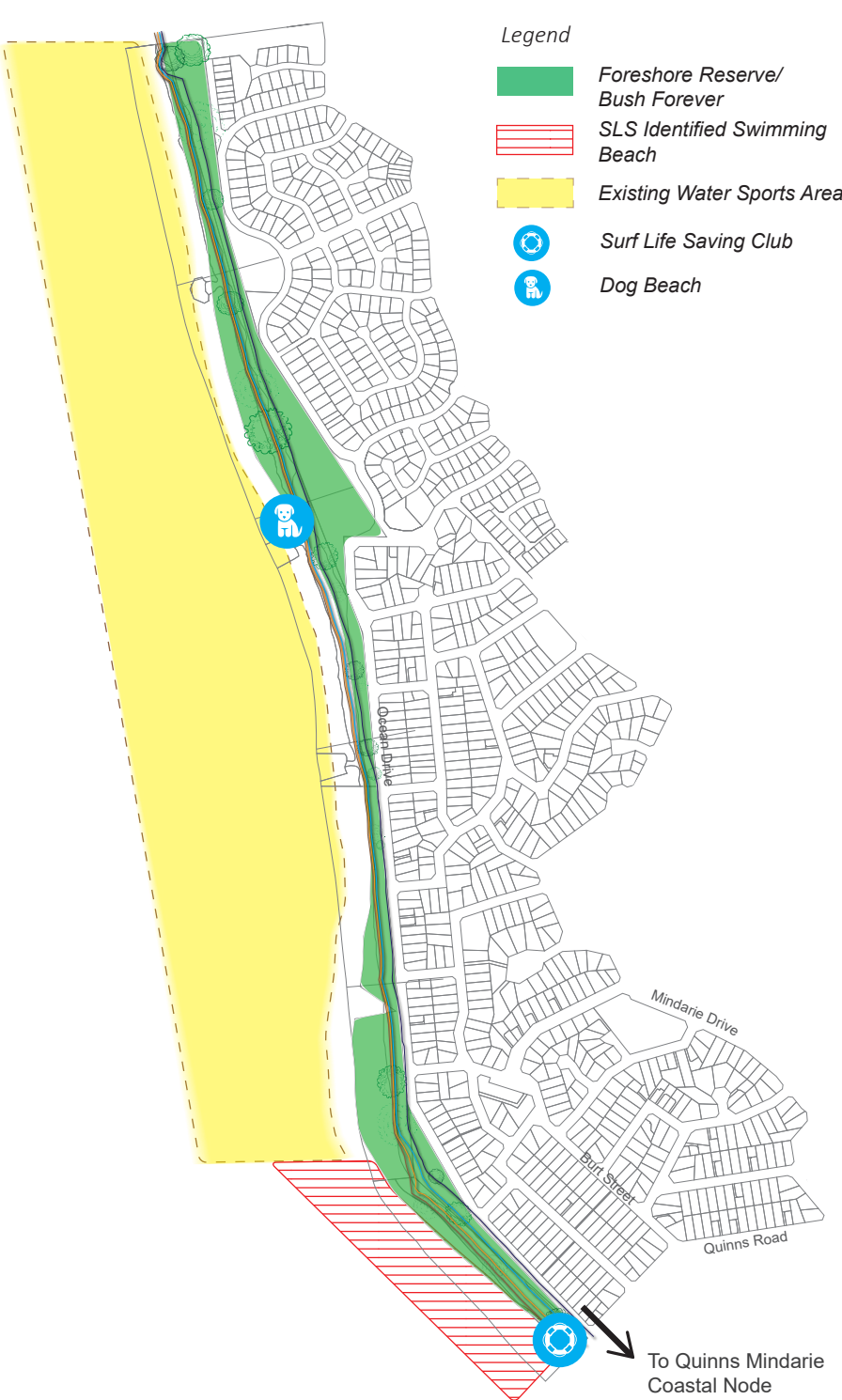


Figure 9 - Water sports area as depicted on the Department of Transport boating guide

Action	Responsibility	Timeframe
Investigate trial closure of Quinns Beach from water vessels	Strategic Land Use Planning & Environment	2022/23
Investigate motorised and propelled water sports areas, as shown in Appendix 1	Strategic Land Use Planning & Environment	2025/26
Investigate the feasibility of a horse beach location along the City’s coastline	Strategic Land Use Planning & Environment	2026/27
Undertake coastal safety audit of the City’s beaches adjacent to main coastal nodes	Strategic Land Use Planning & Environment	2033/34

Table 3 - Actions table - Swimming only and water sports areas





### 1.7 - Paragliding and hang gliding

The use of public places is administered by the City’s Public Places and Local Government Property Local Law 2015. The Local Law stipulates that a person must have a licence to parachute, hang glide, abseil or base jump from on onto local government property. The use of reserve land and clearing of vegetation also triggers the need for a development application.

Presently, the City has one approved paragliding / hang gliding launch area within the coastal reserve, located at Queenscliff Park (Reserve No.48306) on the southern suburb boundary of Jindalee, north of Quinns dog beach (refer to Figure 10 - Paragliding Hang Gliding Launch areas). The Queenscliff Park launch and landing area is regularly used, however, at present appears to sufficiently accommodate the number of users.

The CMP does not propose further areas of the coastline for the purposes of paragliding / hangliding launch and landing. In considering requests for additional launch and landing areas the City will take into consideration the following:

- Potential conflict with existing and future users;
- Risk to the public;
- Proximity to other launch areas;
- Native vegetation clearing;
- Potential impact on rare or threatened flora and fauna; and
- Impact on Aboriginal and cultural heritage.

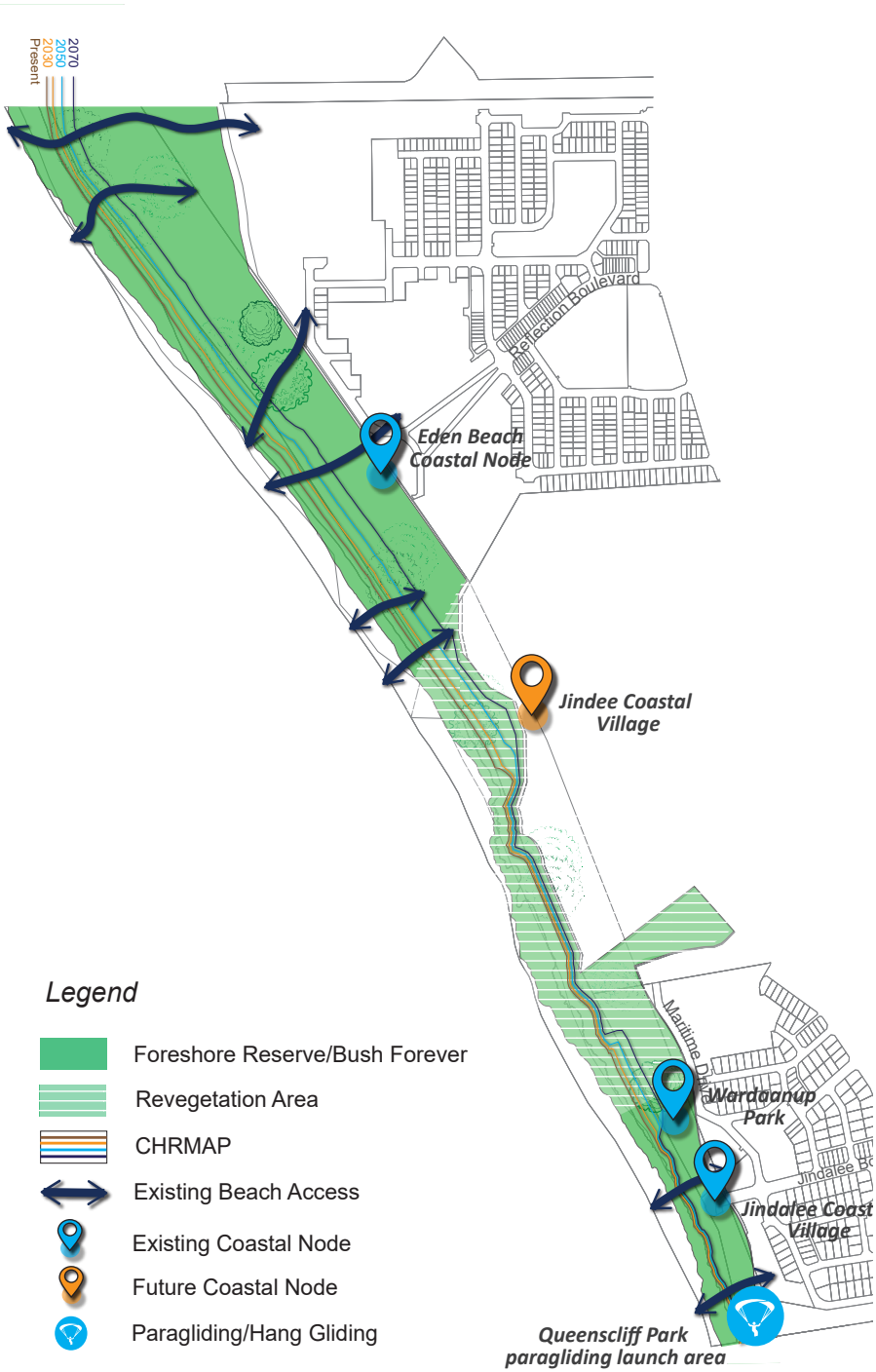


Figure 10 - Existing paragliding launch areas



# Issue 2: Infrastructure and Facilities

Going to the beach is a favourite pastime for many and the demand for the City’s beaches to provide infrastructure and facilities to improve and enhance the experience will continue to grow as the City’s population grows. Not everyone is looking for the same thing - some people enjoy busy and vibrant places with lots of activity whilst others just want a quiet beach to swim and read a book.

The coastline is arguably the City’s largest natural asset and it needs to provide a variety of places for everyone to enjoy it in their own unique way. As the City’s coastal suburbs develop, there is an opportunity for new coastal nodes to be attractive places with a range of facilities and providing recreational opportunities for the community.

The level of infrastructure and types of facilities provided has a significant impact on the amenity of the City’s beaches and the experience had by visitors. Infrastructure and facilities such as playgrounds, picnic areas, seating and cafes play an important role in creating high quality public spaces.

Issues relating to infrastructure and facilities include:

- The level of infrastructure and facilities that are provided within coastal nodes;
- The location of infrastructure and facilities; and
- The durability of materials used within a coastal environment.

## 2.1 - Level of infrastructure

The City will apply a hierarchy of coastal nodes in accordance with SPP 2.6, which outlines a coastal node hierarchy of regional, district and local nodes to guide the level of infrastructure that is provided at a particular location. Coastal nodes are distinct and discrete built areas located within the coastal foreshore reserve to provide infrastructure and facilities to the community.

The hierarchy of the City’s coastal node has been largely established through existing development and agreed structure planning, in particular higher order coastal nodes such as regional and district coastal nodes. Any future coastal nodes not identified in Table 4 will be considered to have a local coastal node designation by default, unless it can be sufficiently demonstrated that a higher order node is appropriate having due regard to potential adverse impacts on the natural coastal environment.

The level of infrastructure and facilities provided along our coastline will depend on the level of visitation a beach is expected to have and the proximity and nature of the neighbouring communities which need access to the beach. A beach with lower visitation will only need basic infrastructure whereas a beach intended to attract greater visitation will have more.

An over-provision of infrastructure can affect the viability of other ‘higher order’ coastal nodes and result in additional maintenance costs and community expectations that infrastructure will be replaced to a similar standard. To respond to this, the City will only permit development within a particular coastal node to a standard and scale appropriate to the level of the node in the hierarchy.

Coastal nodes provide infrastructure such as parks, playgrounds, seating and toilets and facilities such as surf lifesaving clubs and cafes to benefit the broader public. Development within the foreshore reserve will generally only be considered where a coastal node hierarchy has been identified by this CMP or a subsequent structure plan.

Where coastal nodes identified within Table 4 differ in hierarchy to that which is outlined within a relevant agreed structure plan, an amendment of the structure plan may be required.

Coastal Node	Agreed Structure Plan	Hierarchy	Comment
Mindarie Marina	ASP 13	Regional	Established
Jindee	ASP 84	Regional	Future
Alkimos Coastal Village	ASP 101	Regional	Future
Eglinton Marina	ASP 82	Regional	Future
Yanchep Lagoon	ASP 43	Regional*	Developing
Two Rocks Marina	ASP 43	Regional**	Developing
Quinns Mindarie		District	Established
Jindalee Coastal Village	ASP 78	District	Established
Eden Beach	ASP 88	District	Established
Shorehaven	ASP 73	District	Established
Capricorn Coastal Node	ASP 75	District	Future
Catalina - Mindarie		Local^	Future
Clayton’s - Mindarie		Local^	Established
Frederick Stubbs Park		Local	Established
Quinns Dog Beach		Local	Established
Queenscliff Park		Local	Established
Wardaanup Park		Local	Established
South Alkimos	ASP 72	Local	Future
Amberton	ASP 82	Local	Established
North Eglinton	ASP 82	Local	Future
Fisherman’s Hollow		Local	Established
Mary Lindsay		Local	Established
The Spot		Local^	Established
Leeman’s Landing		Local	Established
Sovereign Park		Local^	Established

\*Redevelopment in accordance with Yanchep Lagoon Masterplan  
\*\*Redevelopment in accordance with Department of Transport: Two Rocks Marina Masterplan  
^ Local coastal nodes with limited infrastructure, mainly providing beach access, small scale parking and seating

Table 4 - City of Wanneroo Coastal Nodes Hierarchy





## 2.2 Regional Coastal Nodes

The City currently has two existing regional coastal nodes - Two Rocks Marina and Mindarie Marina. Two future regional coastal nodes have been identified at Jindee Coastal Village and Alkimos Coastal Village. In addition, structure planning identifies a future marina at Eglinton that could see regional coastal node facilities; however, this depends on population growth and economic factors and is unlikely to occur over the next 15 years.

Coastal infrastructure that is considered typical at these nodes include a car park, large playgrounds and nature play areas, restaurants, cafes, kiosks, community facilities, surf lifesaving club house, seating, multiple picnic and barbecue facilities, shade facilities, multiple change rooms and public ablutions. Below is a summary of new regional coastal nodes to be developed, or where changes are anticipated within the next 15 years for existing coastal nodes.

### Two Rocks Marina

Initially developed in the 1970s, Two Rocks Marina provides both commercial and recreational boating facilities such as boat ramps, boat pens, a service wharf, and refuelling facilities. In 2020, the State adopted the Two Rocks Marina Masterplan which sets out the future redevelopment of the Marina to provide additional boating infrastructure, commercial and retail uses, accommodation and recreational development opportunities. Once redeveloped, Two Rocks Marina will be the City's largest marina facility accommodating both commercial fishing, recreational and tourism activities.

### Yanchep Lagoon

The Yanchep-Two Rocks District Structure Plan identifies Yanchep Lagoon as a district coastal node. Due to the projected population growth within the area and the development of Yanchep as a Strategic Metropolitan Centre, in the future, the level of infrastructure and facilities provided within in the foreshore area will be consistent with a regional coastal node. Development of the Yanchep Lagoon will be guided by the Yanchep Lagoon Masterplan and Foreshore Master Plan, which provides an environmentally sustainable blueprint to transform the Lagoon into a singular coastal destination with a range of facilities, experiences and opportunities.

### Eglinton Marina

Commencement of construction of Eglinton Marina, by private developers, is anticipated within the next 10 years. The Alkimos and Eglinton District Structure Plan has identified Eglinton Marina to be a regional coastal node, providing recreational boating, retail and commercial amenities for local and regional visitors.

### Alkimos Coastal Village

Construction of the Alkimos Coastal Village coastal node is anticipated to start within the next 5 years, as demand for housing continues. Higher order recreational and commercial amenities are expected to be provided at Alkimos. An FMP will be required to manage environmental constraints within the foreshore as the coastal node develops over time.

### Jindee

The development of Jindee coastal node is anticipated within the next 5-10 years, as the residential estate continues to develop. Structure planning has identified Jindee as a regional coastal node, providing high level of formal and informal recreational and commercial amenities within the foreshore. An FMP will be required to appropriately manage environmental constraints within the foreshore.



Figure 11 - City of Wanneroo Regional Coastal Nodes

## Regional coastal nodes

attract people from the region, intra state, national and international areas. Providing higher levels of amenity and infrastructure to support a higher number of visitors.

Often larger in scale and area, regional coastal nodes can offer commercial and retail opportunities, as well as being serviced by more frequent public transport services.

Mindarie Marina is an example of a regional coastal node within the City.



### 2.3 - District Coastal Nodes

There are three existing district coastal nodes located at Shorehaven Beach, Eden Beach, and Quinns Mindarie, and a future coastal node at Capricorn Coastal Village. Jindalee Coastal Village is an existing coastal node that is being assigned as a district coastal node under this CMP.

Similar to regional coastal nodes, although at a more modest scale, coastal infrastructure typically found within the foreshore of a district coastal node include playgrounds and/or nature play areas, restaurant, cafe, kiosk, community facility, surf lifesaving observation tower, picnic and barbecue facilities, shaded areas/seating, public ablutions.

Below is a summary of new district coastal nodes to be developed, or where changes are anticipated within the next 15 years for existing coastal nodes.

#### Capricorn

Development of Capricorn coastal node commenced in 2021, and is anticipated to be progressively developed over the next 5-10 years. The coastal node will provide formal and informal recreation and commercial amenities and include an upgrade of existing beach access tracks to Capricorn Beach and Yanchep Beach, and integration with the infrastructure and amenities of Mary Lindsay Homestead. Future works and level of infrastructure and amenities within the foreshore will be guided by the Capricorn Yanchep FMP.

#### Shorehaven Beach

Development of the Shorehaven coastal node commenced in mid-2014. The Shorehaven Beach coastal node provides seating, shade and barbecue facilities, restaurant and café, playground and open space amphitheatre. The North Alkimos Foreshore Management Plan will guide any future development with the Shorehaven Beach coastal node foreshore reserve.

#### Eden Beach

Development of the Eden Beach coastal node started in early-2015. The coastal node currently provides multiple seating, shade and barbecue facilities, public ablutions, outdoor showers, restaurant, community facility, playground, active play and event spaces. The Lot 9 Jindalee (Eden Beach) Foreshore Management Plan will guide any additional development within the coastal foreshore reserve, as further development of Eden Beach residential estate continues.

#### Jindalee Coastal Village

The precinct is intended to be a pedestrian friendly seaside

village that provides a small yet diverse range of land uses within an attractive setting, that services as a focus for the Jindalee Beachside estate and a meeting place and point of identify for the community. Presently, Jindalee provides a café, covered seating, barbecue facilities, seating, public ablutions, outdoor showers and grassed areas for picnic and recreation. This is expected to remain unchanged.

Structure planning designated Jindalee Beach as a regional beach. However, topography, accessibility and narrow beach depth during winter, limits the capacity and capability of the beach to accommodate large numbers of visitors. Jindalee is therefore been reclassified to a district level coastal node.



Figure 12 - City of Wanneroo District Coastal Nodes

**District coastal nodes** cater mainly for local residents and visitors from within the City, and usually accessed by foot, bicycle and car.

District coastal nodes provide moderate levels of recreational amenities and infrastructure, offering a more limited variety of commercial and retail opportunities in comparison to regional coastal nodes. District coastal nodes offer some recreational attractions in addition to the beach.

Shorehaven Beach is an example of district coastal node.



## 2.4 - Local Coastal Nodes

A majority of the City's coastal nodes are classified as local coastal nodes. Local coastal nodes are generally very small in scale and area. At their smallest scale, they can comprise of a small parking area, seating and beach access (Clayton's Beach in Mindarie). However, in some locations, a local coastal node can also include coastal infrastructure comprising of a modest playground, café and/or kiosk, picnic and barbecue facilities, shaded areas/seating (Mary Lindsay Park).

There are nine existing local coastal nodes, and three future coastal nodes identified at Catalina - Mindarie, South Alkimos and North Eglinton. The level of infrastructure within established local coastal nodes are considered to remain unchanged. Below is a summary of new local coastal nodes to be developed, or where changes are anticipated within the next 15 years for existing coastal nodes.

### Mindarie - Catalina

In the medium term, the Mindarie - Catalina local coastal node will provide minimal infrastructure, only facilitating beach access and parking within the coastal foreshore. Recreational and commercial amenities are not proposed for this coastal node within the next 15 years.

### South Alkimos

Identified as a local coastal node under the Alkimos-Eglinton District Structure Plan, the South Alkimos coastal node is expected to provide limited amenities and recreational activities, such as parking seating, water fountain and outdoor showers. The coastal foreshore in South Alkimos is expected to be remain mostly undeveloped, with the natural amenity of the area retained for conservation. Degraded areas are expected to undergo rehabilitation and revegetation to prevent further degradation and coastal erosion.

The temporary Alkimos SLS building is located at South Alkimos, with the development of the permanent Alkimos SLS building to be constructed further north within approximately 5 years when the neighbouring new residential areas are developed. The coastal node is anticipated to service the local residents of Alkimos and Eden Beach residential estate, providing access to Alkimos Beach and supporting the higher order coastal nodes of Alkimos Coastal Village and Eden Beach.

### Amberton

Construction of Amberton coastal node commenced mid-2018, and has progressively developed since that time. This node includes the Amberton Beach Lighthouse Park, in addition to outdoor barbecue facilities, water fountains, seating, shade tables,

barbecue facilities and a bar/cafe. Amberton is not a typical local coastal node as the scale of infrastructure provided considered to be of surplus to that expected at local nodes. The standard and scale of future replacement infrastructure will need to be carefully considered by the City to ensure that the cost of future maintenance is appropriately managed.

### North Eglinton

The North Eglinton local coastal node is dependent on the development of the surrounding urban areas and will eventually support the regional coastal node of the Eglinton Marina. North Eglinton would provide lower scale infrastructure and amenity such as seating, shaded areas, barbecue facilities and limited commercial facilities such as café/kiosk, catering to the surrounding local residents.

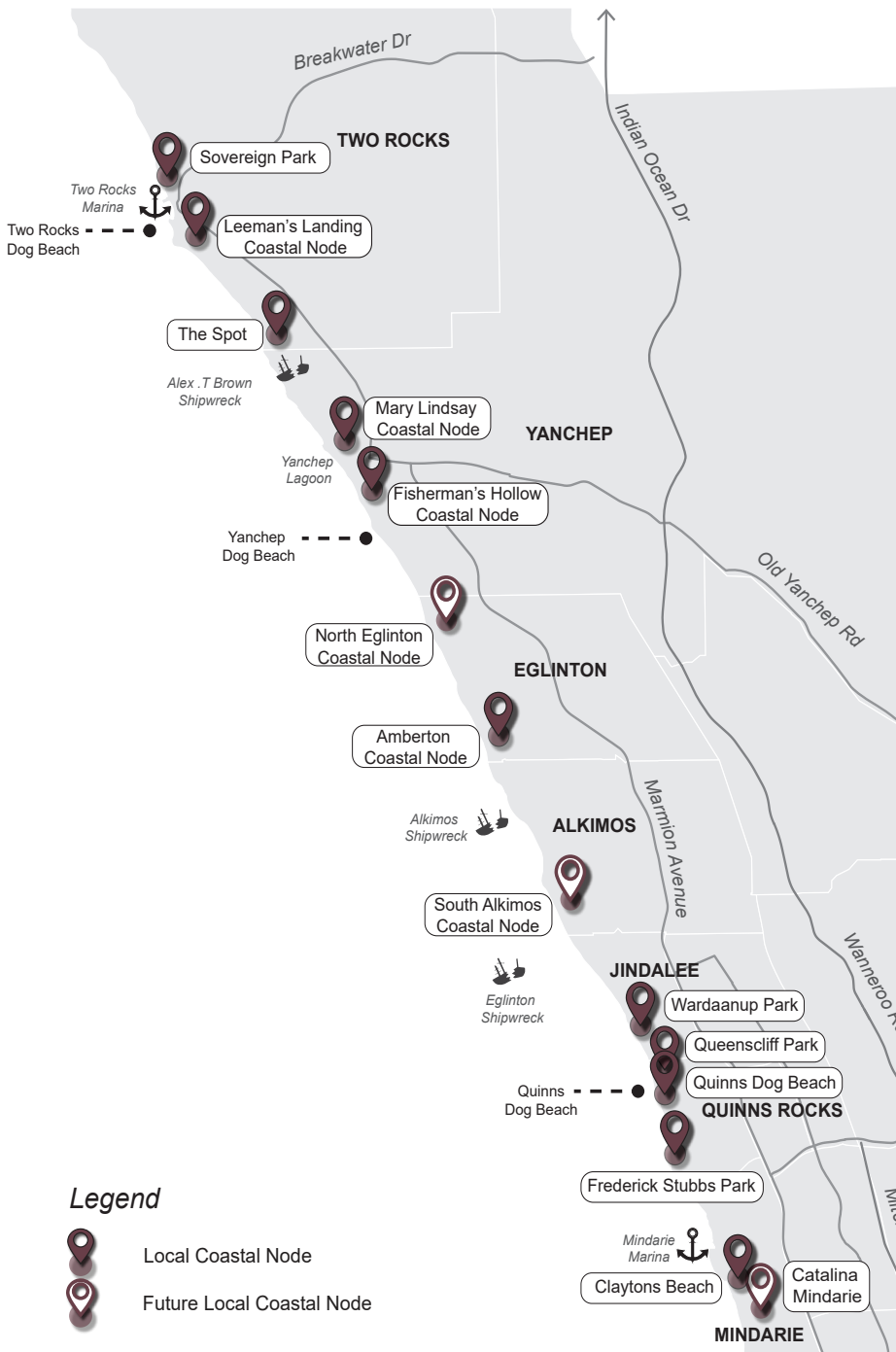


Figure 13 - City of Wanneroo Local Coastal Nodes

## Local coastal nodes

are those used by people living close by and are often accessed by foot or bicycle, as well as by car.

Local coastal nodes are the lowest order coastal node, with recreational amenities and infrastructure of a scale and capacity sufficient for catering for local residents.

Local coastal nodes generally record lower rates of use and the provision of limited facilities, infrastructure, and commercial opportunity reflect this.

Leeman's Landing is an example of a local coastal node within the City.





## 2.5 - Location and durability of infrastructure and facilities

The siting of infrastructure and facilities can impact maintenance requirements and long term sustainability. Although locating a park area to have ocean views may provide greater visual amenity, usability of the park is often affected by exposure to wind and sand drift. Therefore, careful consideration should be given to locating infrastructure appropriately to ensure maximum benefit can be achieved for everyday use and for ongoing maintenance.

Development of coastal infrastructure and facilities should enable the sustainable enjoyment of the City’s foreshore and beaches, with the provision of infrastructure and facilities reflective of the City’s coastal node hierarchy and the expected level of amenity at these coastal nodes. Additionally, consideration should be given to the CHRMAP vulnerability setbacks to minimise impacts caused by coastal processes and erosion.

Coastal parks and infrastructure should be designed and constructed in consultation with the City and in accordance with its guidelines. This will ensure the infrastructure is fit for purpose, of an appropriate scale, and of a suitable standard to withstand the coastal environment.

Infrastructure such as playground equipment, picnic facilities, seating and fencing within a foreshore reserve are generally provided by the developer with the assets handed over to the City after a preliminary maintenance period. Facilities such as surf living saving clubs are generally handed to the City immediately after

completion with the facility and then leased to clubs for operation and minor maintenance works.

Commercial development such as cafes and restaurants may remain in the care and control of the developer for several years before being handed over to the ultimate manager, which in many instances will be the City.

Careful consideration should be given to the materials and finishes used for all development within the foreshore reserve. Infrastructure within coastal areas is subject to harsher conditions due to wind, spray from salt water and sand draft. Substandard materials can result in increased maintenance costs and/or a requirement to replace infrastructure well before its expected lifespan.

Consultation between the City and developers about appropriate use and materials, including expected maintenance requirements should occur early in the planning process for all new development. Handover of assets to the City may be delayed where infrastructure and facilities have not been properly maintained or are of an insufficient quality for the City’s maintenance purposes.

Action	Responsibility	Timeframe
Undertake a coastal infrastructure audit for maintenance and management between Mindarie and Quinns Rocks	Strategic Asset Planning	2023/24 Ongoing
Undertake a coastal infrastructure audit for maintenance and management between Jindalee and Eglinton	Strategic Asset Planning	2026/27 Ongoing
Undertake a coastal infrastructure audit for maintenance and management between Yanchep and Two Rocks	Strategic Asset Planning	2029/30 Ongoing
Review and amend existing structure plans to reflect coastal node hierarchy as per Table 4 - City of Wanneroo Coastal Nodes Hierarchy	Strategic Land Use Planning & Environment	2024/25

Table 5 - Actions table -Infrastructure and facilities



# Issue 3: Coastal Processes

The City's coastline is impacted by coastal processes resulting in seasonal and long term coastal erosion issues at multiple locations and localised sea wrack accumulation in Two Rocks ,which results in coastal hazards that affect the environment, coastal infrastructure and community safety.

Coastal erosion is caused by impacts from waves and wind, particularly during extreme storm events, resulting in the loss of sand from the beach and dune and damage to adjacent coastal infrastructure and the dune environment. This can have significant effects on beach aesthetics, beach usability, public safety loss of native flora and fauna. Additionally, coastal impacts in the future are expected to worsen as a result of climate change and resultant sea level rise.

The Quinns Rocks coastline and Two Rocks Beach north of the marina have been identified by the State Government as two of Western Australia's coastal erosion hotspots. A number of coastal protection works have been undertaken at Quinns Beach over the last 20 years including the construction of groynes and seawalls and ongoing beach re-nourishment works.

The City's annual beach re-nourishment programme currently focuses on multiple Quinns Beach locations and the Yanchep Lagoon with sand volumes and locations dependent on recommendations from the City's coastal monitoring programme.

These works provide protection to coastal assets including coastal infrastructure and the dune environment, whilst enabling the community to continue to visit and enjoy these popular beaches.

## 3.1 - CHRMAP

In 2018, the City adopted a Coastal Hazard Risk Management and Adaptation Plan (CHRMAP) to provide a long term view of the potential future coastal hazards for the City, and to highlight strategies to adapt to the changing future oceanic and coastal conditions.

The City's CHRMAP includes 13 recommendations for the City to action, including:

- Long term monitoring of vulnerable coastal areas;
- Economic assessment to establish value/contribution of natural assets in key vulnerable areas;
- Notifications on title for land affected;
- Options assessments for the management of coastal vulnerability at Yanchep;
- Monitoring of coastal assets;
- Continued targeted beach nourishment in vulnerable areas;
- Identification of sediment sources and volumes for ongoing beach nourishment;
- Investigations into funding sources for ongoing coastal adaptation and management initiatives, including community's willingness to contribute to funding;
- Review of structure plans and the City's District Planning Scheme as it relates to CHRMAP; and
- Full review of the City's CHRMAP as necessary to incorporate relevant new information.

Since 2018 the City has progressed with actioning the 13 recommendations of CHRMAP, including requiring notifications on

title through the subdivision process for land within the CHRMAP hazard areas and continued beach nourishment initiatives at Quinns Beach.

The CMP has incorporated the relevant actionable recommendations as part of its Coastal Processes Actions (refer to Table 6) for delivery over the next 15 years.

The CHRMAP identifies areas of the coastline that are vulnerable to coastal hazards over a 100 year timeframe and includes a series of vulnerability lines based on future planning timeframes.

These vulnerability lines identify suitable coastal setbacks for future development along the coastline and will assist the City in planning for the future management of key areas which are likely to be impacted in the short to medium term (to 2050) including:

- Priority ecological communities in Mindarie and Two Rocks;
- Jindalee Boulevard carpark;
- 'The Spot' beach access road and carpark;
- Capricorn Groyne carpark;
- Brazier Road carpark;
- Residential lots in Yanchep and Mindarie; and
- Karli Springs Heritage site (Alkimos/Jindalee).

Over the long-term (beyond 2050) timeframe of CHRMAP, some residential areas within the City (parts of Quinns Rocks, Yanchep and Two Rocks) are indicated as being potentially affected by sea-level rise. Ongoing monitoring of the City's coastline will assist the City to appropriately manage these areas.





3.2 - Future development

All future development along the City’s coastline should have regard to the vulnerability lines shown in the CHRMAP, with an expectation that permanent infrastructures are not located within the 2070 vulnerability area. Developers should consult with the City in preliminary planning of foreshore development to ensure appropriate siting for infrastructure and facilities.

To assist with monitoring of the coastline, the City will be installing remote coastal monitoring cameras at Quins Beach and Yanchep Lagoon which will enable the City to quantitatively track seasonal and long term shoreline changes. This additional coastal monitoring data will assist with understanding coastal changes and identifying current and future coastal management requirements at these vulnerable locations.

3.3 - Sea wrack accumulation

Sea wrack (seaweed) accumulation is problematic south of the Two Rocks marina and results in large deposits of sea wrack across the beach. Sea wrack has an unpleasant odour and is also very difficult to walk on which affects the usability of the beach. During the summer of 2021/22, the City will be undertaking a trial for the removal of sea wrack by pushing it into the water during favourable environmental conditions to assist with its natural dispersion and movement offshore. The results of this trial will inform future coastal management actions to address this issue.

Action	Responsibility	Timeframe
Installation of remote coastal monitoring cameras at Quinns Beach and Yanchep lagoon	Asset Maintenance	2021/22
Trial for natural removal of sea wrack through tides	Asset Maintenance	Summer 2021/22
Annual beach nourishment at vulnerable beaches	Asset Maintenance	March / April annually
Yanchep Coastal Management Options Assessment	Asset Maintenance	2023/24
Investigate potential amendment to DPS 2 to introduce Special Control Areas over land identified as vulnerable by CHRMAP	Strategic Land Use Planning & Environment	2023/24
Review of structure plans to ensure compliance with CHRMAP and SPP 2.6	Strategic Land Use Planning & Environment	2024/25
Beach nourishment for extreme storm events	Asset Maintenance	As required
Ongoing coastal monitoring program <ul style="list-style-type: none"><li>• Bi-annual photos and coastal surveys;</li><li>• Annual condition assessments for protective infrastructure (groynes, seawalls, breakwaters; and</li><li>• 5 yearly structural engineering inspections of structural coastal assets (primarily beach access)</li></ul>	Asset Maintenance	Ongoing

Table 6 - Actions table - Coastal processes management





# Issue 4: Environmental Management

Protecting, conserving and enhancing the natural environment are critical to the sustainability of our coastline. It is therefore essential that the City’s planning for access to the coast, including the location and development of coastal nodes and infrastructure does not detrimentally impact on the natural environment.

An effect of increased demand to access the coast can damage the natural environment which can have serious long term impacts if this is not properly mitigated or managed. The impact of human activity and development can cause degradation to vegetation and dune erosion, in addition to loss of animal habitat and species diversity.

## 4.1 - Vegetation degradation & dune erosion

The City’s coastline is rich in flora, fauna and vegetation of high conservation value and priority ecological communities. Coastal vegetation provides structure for dunes and a habitat for fauna, protecting them from predators and extreme weather events. Much of the vegetation along the City’s coastline is classed as being in ‘good’ and ‘very good’ condition.

However, some parts of the coastline have been affected by natural processes, uncontrolled access by people and vehicles and stormwater run-off resulting in the vegetation becoming degraded and the dunes severely eroded. Loss or thinning of vegetation results in weed proliferation and accelerated dune erosion. This can also result in significant sand drift issues which can require intensive maintenance of coastal parks and public spaces.

The City experiences ongoing issues with unlawful 4WD access to the foreshore reserve and beaches, particularly in Eglinton and North Two Rocks. In addition, uncontrolled access by people can result in weed ingress that can further erode dunes and impact on coastal vegetation.

There are a number of introduced weed species within the City’s foreshore reserves which negatively impact on the biodiversity of flora and fauna, dune stability and erosion. Weeds are often the first response following land and habitat disturbance such as

clearing, uncontrolled access, fire and dumping of rubbish. Weeds compete with native vegetation and create a number of biodiversity issues including changes to vegetation structure, altering of soil acidity and loss of species and genetic diversity.

- Vegetation degradation and dune erosion can be addressed through:
- Rehabilitation of degraded and eroded areas;
  - Controlling pedestrian and vehicle access to formalised paths and roads where possible;
  - Installation of appropriate drainage infrastructure; and
  - Community education.

## 4.2 - Rehabilitation

Dune rehabilitation measures including weed control and management, collection and propagation of local provenance seed, direct planting with coastal species, windbreak fencing, brushing (laying branches over degraded areas which bury seeds and encourage germination) and matting (placing fibre mats over the dunes to suppress weeds and to stabilise the dunes). Rehabilitation initiatives are monitored with replacement of species undertaken to meet planting targets.

Degraded areas within development areas that will become the responsibility of City for ongoing management should be rehabilitated to the required standard by the developer before handover to the City. Developers should undertake early engagement regarding proposed rehabilitation initiatives with the City to ensure efforts will meet the City’s requirements for ongoing management.

Digital maps of vegetation community and condition information would allow monitoring of vegetation composition, condition and extent over time. This would assist the City to identify areas at risk of degradation and enable issues to be addressed earlier requiring less intensive efforts than if the area were to become fully degraded. The City will investigate the potential to digitise this information.

## 4.3 - Controlled Access

All pedestrian and vehicle access within the foreshore reserve should be limited to formalised paths and roads to prevent unnecessary degradation of vegetation and erosion of dunes. Unfortunately, the City does experience issues with people destroying gates and fences to get vehicle access to the dunes and the beach, and trampling across vegetation to get to the beach instead of travelling to the closest formalised access.

Access to the beach and foreshore using non-approved tracks can be deterred through preventing access to new tracks as these appear, installing fencing adjacent to formalised tracks and between coastal paths abutting a road and the dunes and installing signage to direct people to formalised paths and educate them on the impacts of using unauthorised tracks.

New developments should provide clear formalised access throughout the foreshore, with at risk areas fenced to deter access prior to the area being handed over to the City for ongoing management. Provision for wider paths or fencing along one side of path should be made to allow for emergency and maintenance vehicle access to beaches in appropriate locations.

Action	Responsibility	Timeframe
Coastal Foreshore and Bush Forever Reserve revegetation and protection works, as required	Infrastructure Capital Works Support: Parks & Conservation Management	2021/22 Ongoing
Investigate digitisation of vegetation community mapping and condition information to enable monitoring of vegetation composition, condition and extent over time	Strategic Land Use Planning & Environment Support: Customer & Information Services – GIS	2023/24
Ongoing monitoring of unauthorised and illegal beach access	Ranger Services	Ongoing
Routine monitoring of the coastline to identify areas requiring revegetation or protection works	Parks & Conservation Management	Ongoing

Table 7 - Actions table - Vegetation Management





#### 4.4 - Fauna Management

The City’s foreshore reserves are home to many different kinds of native and introduced fauna, including migratory species, birds, reptiles, invertebrates, frogs and small mammals. The foreshore reserve contains fauna habitat with high or moderate vulnerability including coastal shrub lands on shallow sands, acacia shrub lands on taller dunes and the environmentally sensitive areas of Bush Forever sites 397 and 322, in addition to species of moderate vulnerability including Carnaby’s Cockatoo and land snails.

It is important for the City to ensure fauna and important habitat are sufficiently protected from impacts associated with development and unauthorised access within the foreshore area. Failure to manage fauna and habitat appropriately may impact on species diversity and overall sustainability of the natural environment. Development (including clearing) and frequent activity (uncontrolled access) in the foreshore displaces fauna which results in them being pushed into smaller areas.

Declared pests such as foxes, feral cats and rabbits are also competing for this environment, which can put additional pressure on displaced or relocated fauna to survive. Foxes prey on small native fauna, resulting in a decline of population numbers and undermining recovery efforts of threatened and endangered species. Rabbits have a negative impact on the success of rehabilitation initiatives due to their foraging of native vegetation and burrowing resulting in heavy erosion and degradation of the foreshore and dunes. Connectivity between habitats also forms a significant issue for fauna management, especially where development within the foreshore, create fragmented areas of retained vegetation.

The City currently controls and manages declared pests such as foxes and rabbits within City-managed Foreshore Reserves through its Feral Animal Control Program. New development will be expected to provide appropriate control and management measures of declared pests, under approved foreshore management plans.

Figure 14 provides an overview of the coastal foreshore reserve and Bush Forever areas.



Figure 14 - Coastal foreshore reserve and Bush Forever areas

Action	Responsibility	Timeframe
Ongoing management and control of declared pests	Parks & Conservation Management Support: Infrastructure Capital Works	Ongoing
Investigate the installation of pest proof fencing within foreshore areas to protect sensitive vegetation areas and native species	Asset Planning Support: Infrastructure Capital Works	As required

Table 8 - Actions table - Fauna Management



# Issue 5: Heritage

There are a number of places located within the City's foreshore reserves which are of either Aboriginal or cultural heritage significance.

In collaboration with relevant Federal and State agencies, the City will continue to advocate for the protection of these sites, and will seek to further create awareness with the community on their value and importance.

There is an expectation that appropriate regard will be given to heritage matters when development is undertaken within the foreshore and beaches.

## 5.1 - Aboriginal Heritage

Many parts of the City's coastline have strong Aboriginal connections and cultural values linked to the Emu Dreaming (a traditional Aboriginal story about the stars, planets and weather) and the Creation Waugyl (believed to have created most of the major rivers, smaller creeks, springs and lakes), and remain important to Whadjuk Noongar people today.

All sites of Aboriginal heritage significance are afforded protection under the Aboriginal Heritage Act 1972, with Ministerial approval required for use and development of these sites under section 18 of this Act.

The Department of Planning, Lands and Heritage (DPLH) are the primary agency that administers this Act and oversees the protection of these important sites.

There may also be other sites of significance which are currently not recorded, and the City will seek to work with local elders to identify further places deserving of formal recognition and registration.

Table 9 lists Aboriginal heritage places and sites where the information is publicly available, however, it must be noted that there may be places and sites which are not listed for cultural privacy and protection.

Site Name	Location	Significance
Jindalee	Coastal Foreshore, Jindalee	Mythological, Natural Feature, Water Source
Karli Spring*	Coastal Foreshore, Alkimos	Mythological Water Source
Limestone Reef	Coastal Foreshore, Yanchep	Mythological
Mindarie Waugal	Part Coastal Foreshore, Yanchep	Artefacts/Scatter, Mythological
Rosslare Soak	Coastal Foreshore, Mindarie	Ceremonial, Mythological, Camp, Water Source
Yanchep Beach	Coastal Foreshore, Yanchep	Mythological

**Table 9 - Aboriginal Heritage Places and Sites**

The above sites have been identified using the DPLH Aboriginal Heritage Inquiry System.

\* Also included on the Local Heritage Survey

## 5.2 - Cultural Heritage

Places of cultural heritage significance are recognised and protected by both State Planning and Heritage legislation. There are many historic sites and places along the City's coastline, with some of the most significant being:

- **Lindsay Homestead** in Yanchep which was constructed in 1926 and was the first permanent homestead constructed on that stretch of coastal land;
- **Leeman's Landing Monument** (south of Two Rocks Marina) which marks the landing site of Abraham Leeman van Santwits who arrived onshore in 1658 looking for survivors of the Dutch shipwreck the Vergulde Draeck;
- **Yanchep Lagoon** and **Fisherman's Hollow** which are of historic significance for associations with Mary Lindsay, original owner of the Yanchep Estate. The area also has social significance for associations with the fishing and crayfishing industries until the 1970s.

Table 10 provides a summary of places of historical significance along the City's coastline, their location, along with relevant heritage listing.

Place Name	Location	Heritage Listing
Club Capricorn Resort	Two Rocks Rd, Yanchep	LHS
Fisherman's Hollow	Brazier Rd, Yanchep	LHS & LH List
Karli Spring**	Coastal Foreshore, Alkimos	LHS*
Leeman's Boat Landing	Cnr Marcon & Jordon St, Two Rocks	LHS
Lindsay Homestead	Capricorn Esplanade, Yanchep	LHS & LH List
Quinns Beach House and Shack*	68 Ocean Dr, Quinns Rocks	LHS
Two Rocks Limestone Retaining Wall	Pope St & Enterprise Ave, Two Rocks	LHS
Two Rocks Marina	Two Rocks	LHS
Yanchep Lagoon	Yanchep Foreshore, Yanchep	LHS

**Table 10 - Cultural Heritage sites / places**

\*Place located beyond foreshore reserve but either partly or fully within designated CHRMAP area

\*\*Also a registered Aboriginal heritage site

## 5.3 - Other Heritage Sites

In addition to the above, the City's coastline is also the resting place for shipwrecks of historic significance.

Wreck Name	Location	Heritage Listing
Alex T Brown	'The Spot' Foreshore, Two Rocks	LHS
Alkimos	Foreshore Alkimos	LHS
Eglinton	Offshore Jindalee	LHS & Register of the National Estate

**Table 11 - Other coastal heritage sites - Significant Shipwrecks**

The Underwater Cultural Heritage Act 2018 (UCH Act) provides automatic protection to shipwrecks that have been underwater for at least 75 years. This means that the Alex T Brown and Eglinton wrecks are currently protected under Federal legislation.



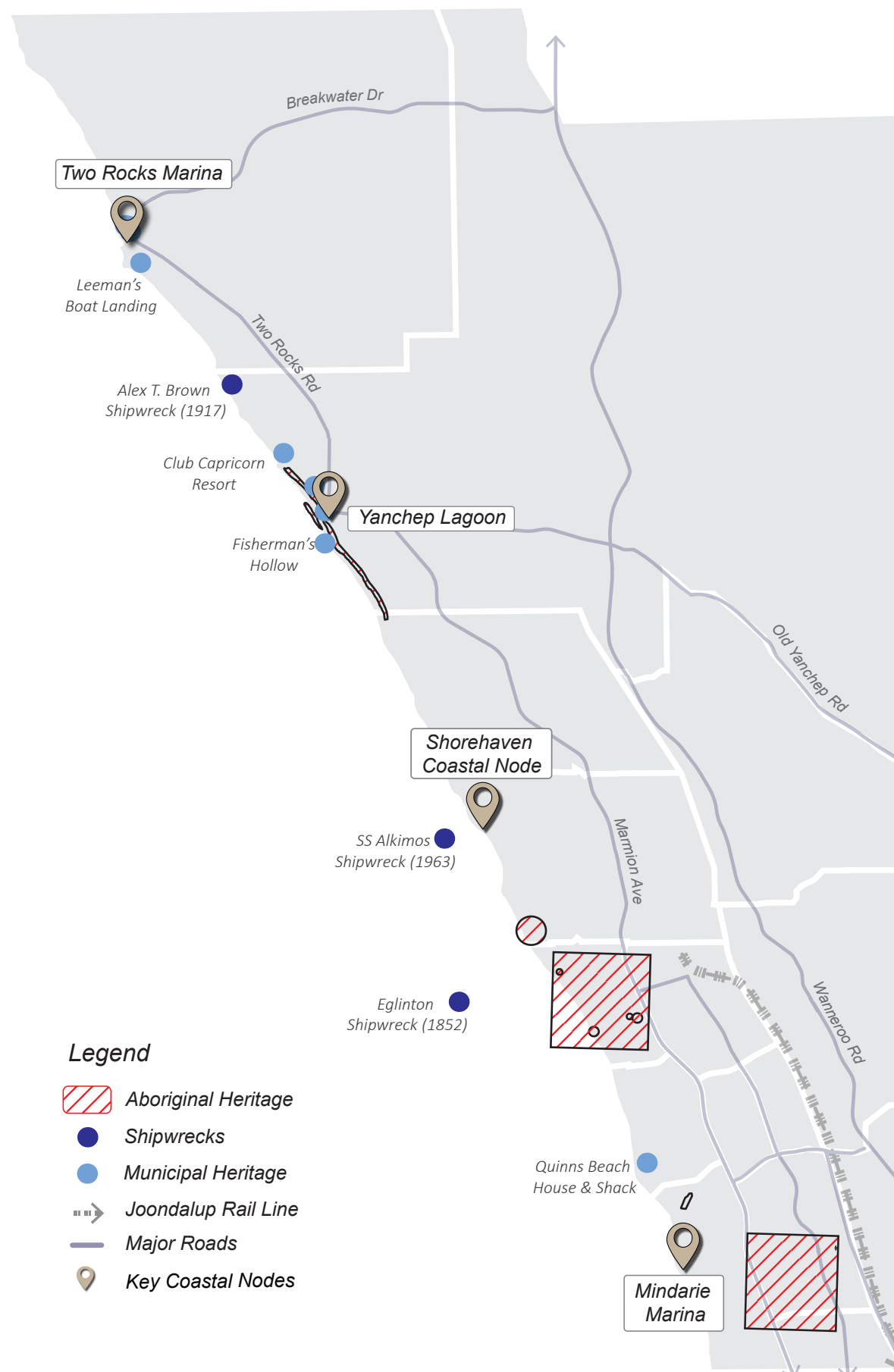


Figure 15 - City of Wanneroo coastal Aboriginal and cultural heritage sites and shipwreck sites

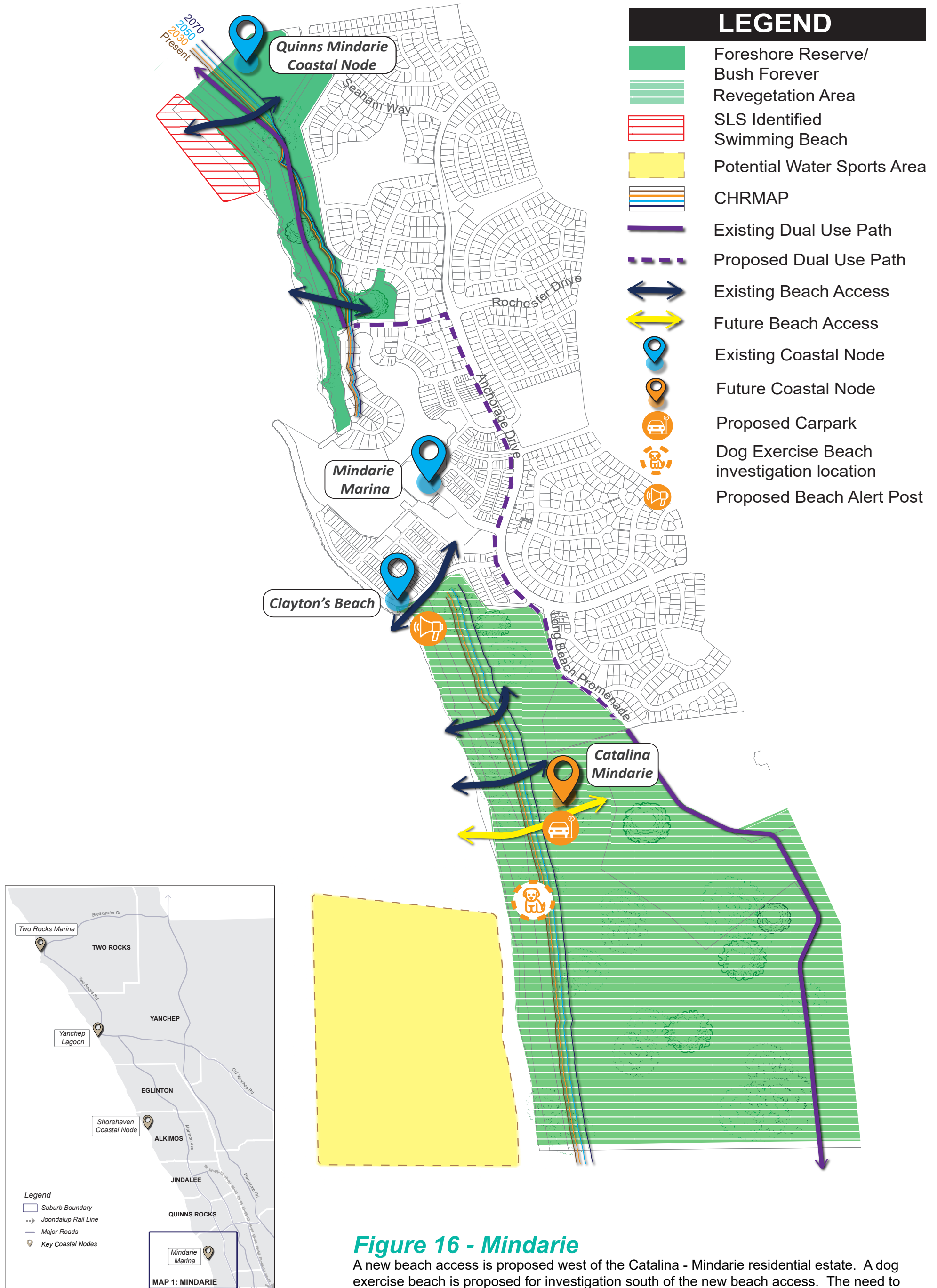




# APPENDIX 1

Existing and future infrastructure, access and vegetation detail by suburb

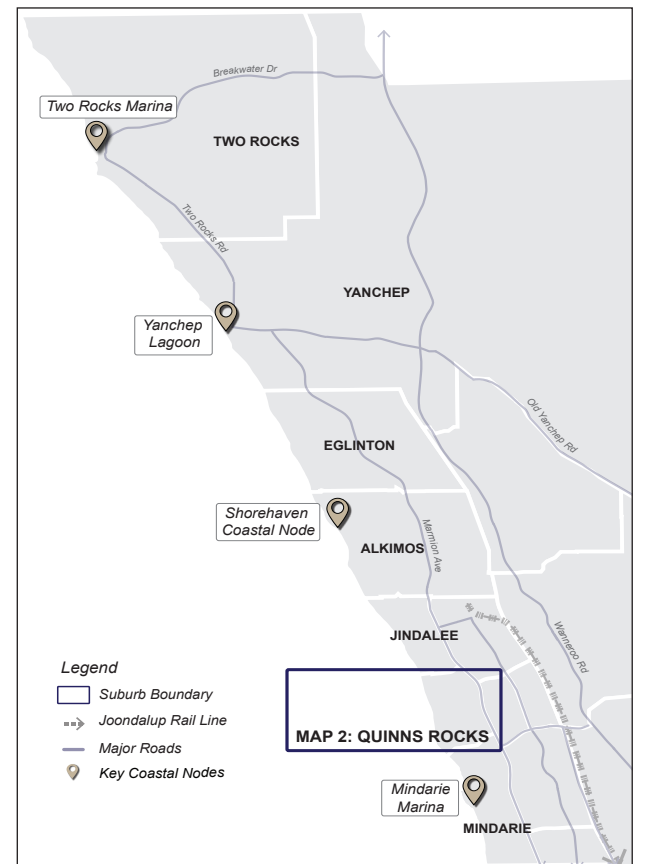
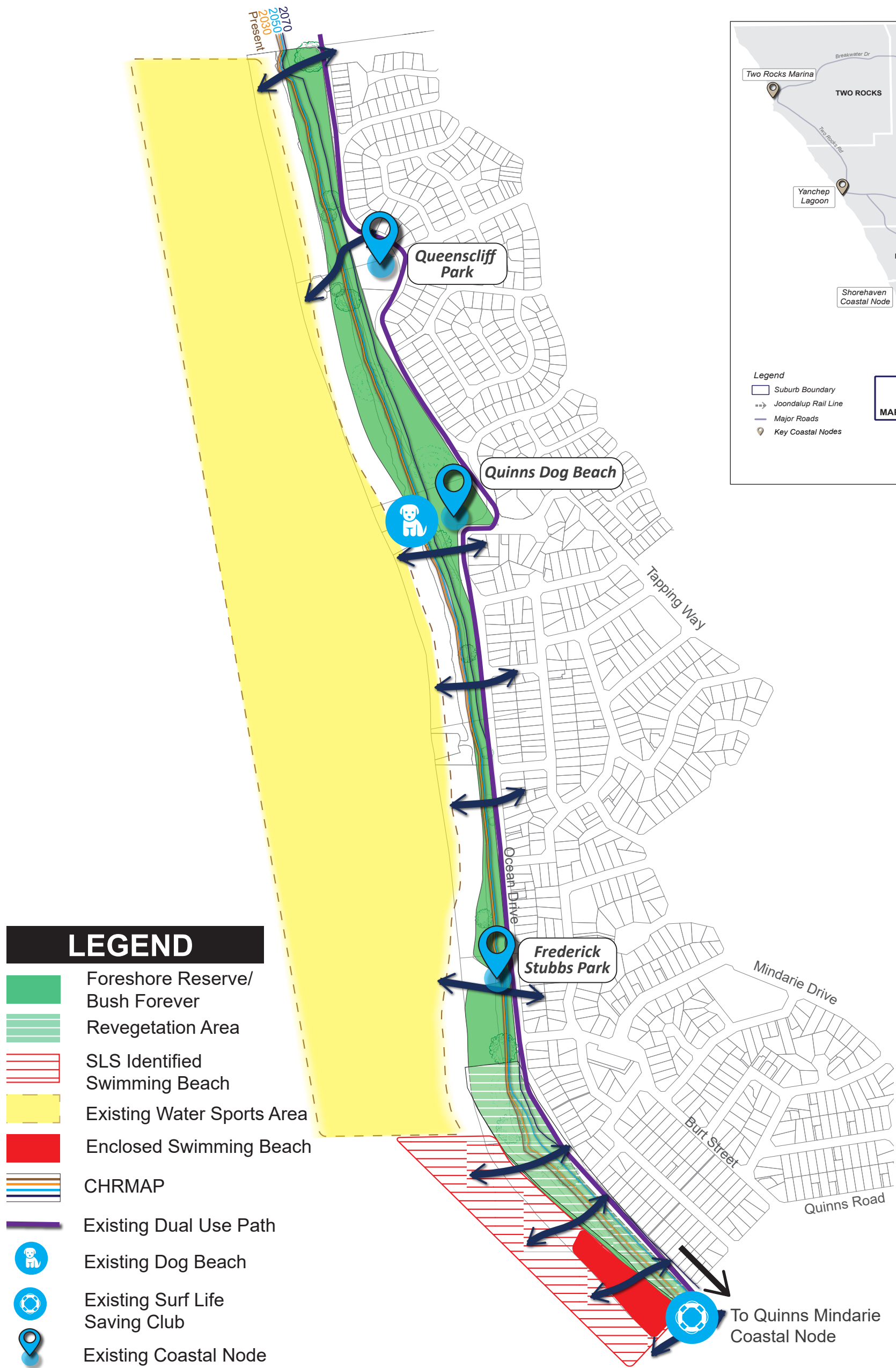




**Figure 16 - Mindarie**

A new beach access is proposed west of the Catalina - Mindarie residential estate. A dog exercise beach is proposed for investigation south of the new beach access. The need to formalise of a coastal dual-use path between Catalina -Mindarie and Rosslare Park has been identified. A potential water sports area adjacent to Mindarie Beach has been identified.

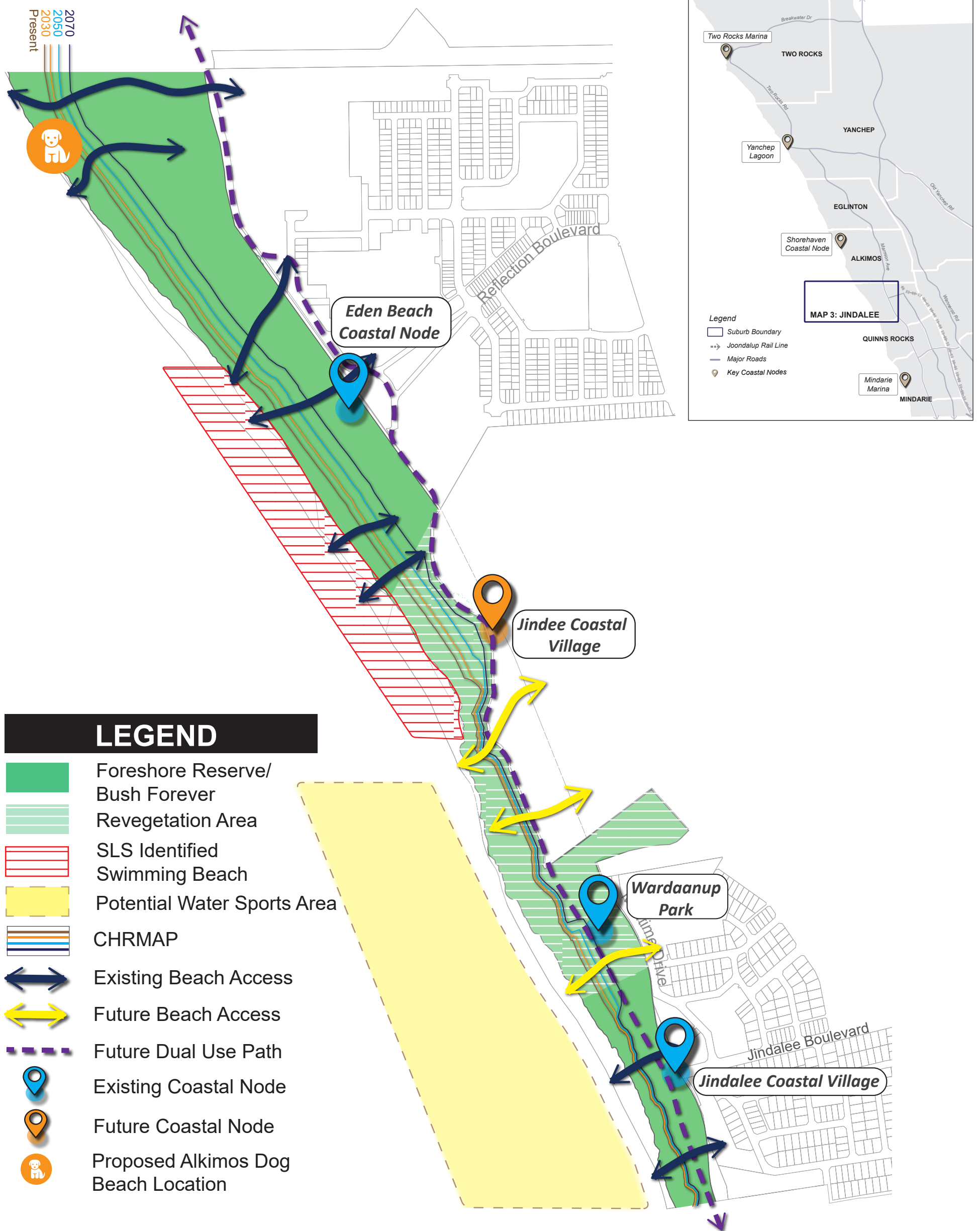




**Figure 17 - Quinns Rocks**

As an established suburb, there are limited changes proposed within Quinns Rocks. Investigation of the suitability of a 'swimming only' beach within the Quinns Beach has been identified.

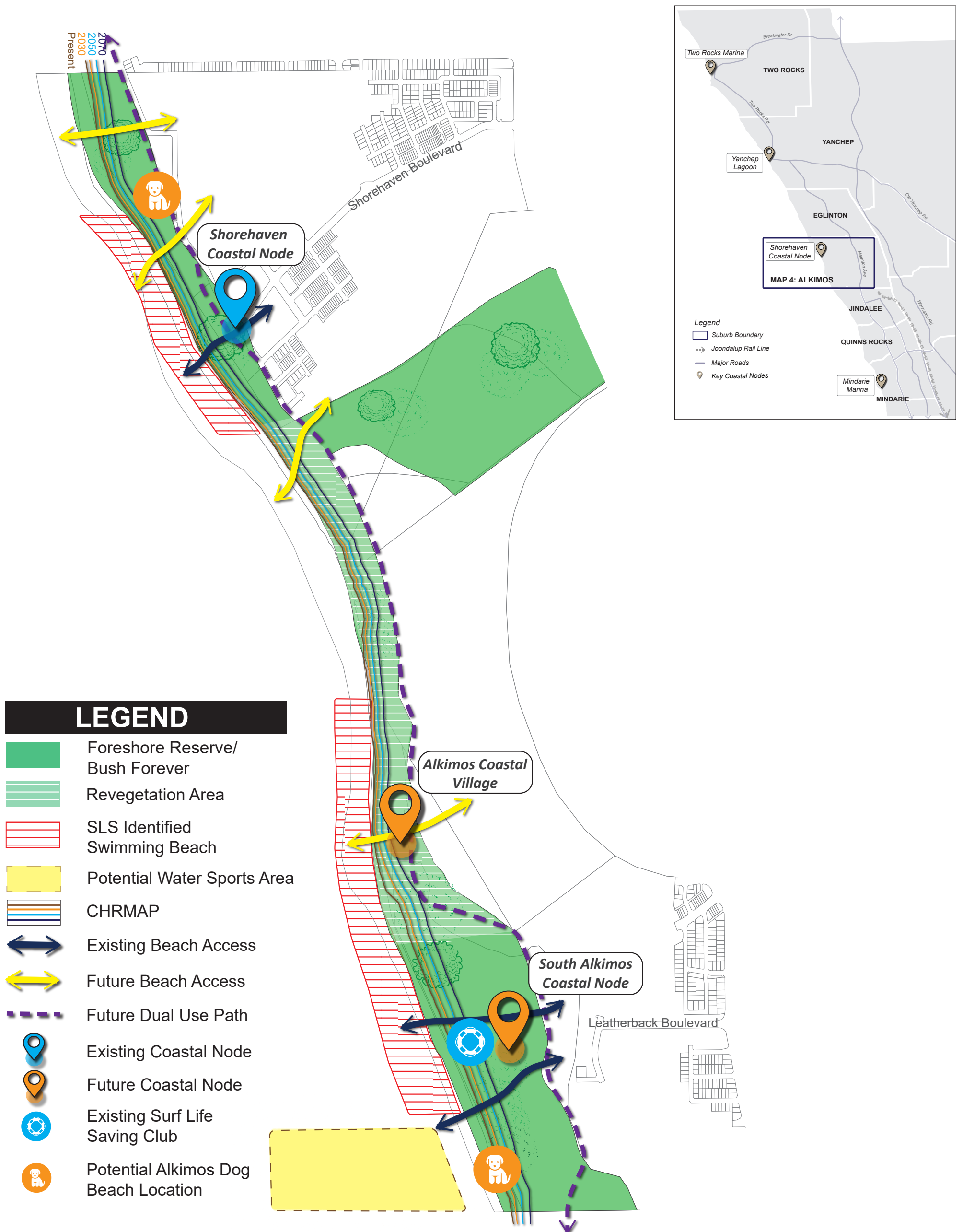




**Figure 18 - Jindalee**

Potential locations for new beach access for the future regional coastal node at Jindee have been identified. A proposed dog exercise beach north of Eden Beach coastal node is proposed (referred to as Alkimos dog exercise beach). The indicative alignment of the coastal dual-use path network and the potential extent of the water sports area have been identified.





**Figure 19 - Alkimos**

Potential locations for new beach access have been identified for future regional coastal node at Alkimos Coastal Village and adjacent to Shorehaven coastal node. A dog exercise beach is proposed for Alkimos (south of the temporary SLSC). The indicative alignment of the coastal dual-use path network for Alkimos has been identified to connect existing coastal development with future nodes. A potential water sports area adjacent to Alkimos Beach has been identified.









**Figure 21 - Yanchep**

Development relating to Capricorn coastal node, including upgrade of existing beach access is anticipated. The indicative alignment of the coastal dual-use path network for Yanchep has been identified, connecting existing coastal development with future nodes and connecting Yanchep with the suburbs of Eglinton and Two Rocks. A potential water sports area adjacent to South Yanchep Beach has been identified.





**Figure 22 - Two Rocks**

A potential beach access has been identified south of Leeming's Landing. The indicative alignment of the coastal dual-use path network for Two Rocks has been identified, connecting existing coastal development in Two Rocks with Yanchep's coastal dual use path network. A potential water sports area adjacent to Sovereign Park Beach (north of Two Rocks Marina) has been identified, in addition to an investigation area for a potential dog beach in North Two Rocks.



# GLOSSARY

**Bush Forever areas** - refer to a classification of land in the Metropolitan Region Scheme to protect and manage regionally significant bushland.

**City** - City of Wanneroo

**Coastal Management Plan** - plan designating areas for various purposes such as public access, car parks, animal exercise locations, toilets and surf life saving clubrooms, and providing advice of management needs.

**Coastal hazard** - means the consequence of coastal processes that affect the environment and safety of people. Coastal hazards include erosion, accretion and inundation.

**Coastal node** - a built area located within a coastal foreshore reserve, and can include recreational, commercial and/or tourism facilities or accommodation. Does not include permanent residential development.

**Coastal processes** - means any action of natural forces on the coastal environment.

**Development** - same meaning as in the Planning and Development Act 2005.

**Dual use path** - paved paths providing off-street travel for both pedestrians and cyclists, paths may or may not have a central dividing line to guide direction of travel.

**Erosion** - shoreline movement where the shoreline shifts landward reducing the width of a coastal foreshore reserve and/or the distance to a fixed feature on the adjoining land.

**Foreshore Management Plan (FMP)** - designate areas for various purposes such as access, car parks, infrastructure. FMPs generally

deal with smaller areas compared to CMPs, are more detailed and are prepared as part of a planning approval process or ongoing maintenance or upgrading program.

**Foreshore reserve** - is the area of land on the coast set aside in public ownership to allow for likely impacts of coastal hazards and provide protection of public access, recreation and safety, biodiversity and ecosystem integrity, landscape, visual landscape, indigenous and cultural heritage.

**Inundation** - the flow of water onto previously dry land. It may either be permanent or a temporary occurrence during a storm event.

**Water sports** - an activity using crafts that travel on water, and includes water crafts which are propelled by an onboard motor powering a water jet pump and those propelled by wind (kite surfing) and manual (stand up paddle board).

**CHRMAP** - Coastal Hazard Risk Management and Adaptation Plan

**CMP** - Coastal Management Plan

**DPLH** - Department of Planning, Lands and Heritage

**DoT** - Department of Transport

**FMP** - Foreshore Management Plan

**SPP 2.6** - State Planning Policy 2.6: State Coastal Planning Policy



# DOCUMENTS REFERENCED

<p><b>WA Coastal Zone Strategy</b></p> <p><b>Perth and Peel @ 3.5 million</b></p> <p><b>North West Sub-Regional Planning Framework</b></p> <p><b>State Planning Policy 2.6 - State Coastal Planning Policy</b> <b>State Planning Policy 2.6: State Coastal Planning Policy Guidelines</b></p> <p><b>Two Rocks Marina Master Plan (Department of Transport - DoT)</b></p>	<p><b>City of Wanneroo Strategic Community Plan 2021 - 2031</b></p> <p><b>Coastal Hazard Risk Management and Adaptation Plan</b></p> <p><b>Local Environmental Strategy 2019</b></p> <p><b>Place Framework 2018</b></p> <p><b>Tourism Plan 2019 - 2024</b></p> <p><b>City of Wanneroo District Planning Scheme No.2</b></p> <p><b>Local Planning Policy 4.21 - Coastal Assets Policy (LPP 4.21)</b></p> <p><b>Adopted Structure Plans</b></p> <ul style="list-style-type: none"><li>• Two Rocks Yanchep District Structure Plan;</li><li>• Alkimos Eglinton District Structure Plan;</li><li>• Butler - Jindalee District Structure Plan;</li><li>• Jindalee North Local Structure Plan No. 88 (LSP 88);</li><li>• Lot 12 Jindalee Coastal Village Local Structure Plan No. 78;</li><li>• Lot 12 Jindalee Local Structure Plan No. 36 (LSP 36);</li><li>• Jindee Local Structure Plan No. 84 (LSP 84);</li><li>• Eglinton Local Structure Plan No. 80 (LSP 80);</li><li>• South Alkimos Local Structure Plan No. 72 (LSP 72);</li><li>• North Alkimos Local Structure Plan No. 73 (LSP 73);</li><li>• Yanchep South Local Structure Plan No. 19 (LSP 19);</li><li>• South Yanchep Local Structure Plan No. 66 (LSP 66);</li><li>• Capricorn Coastal Node Structure Plan No. 75 (LSP 75);</li><li>• Two Rocks Local Structure Plan No. 69 (LSP 69);</li><li>• Two Rocks Local Centre Structure Plan No. 70 (LSP 70);</li><li>and</li><li>• North Two Rocks Local Structure Plan No. 91 (LSP 91)</li></ul> <p><b>Foreshore Management Plans</b></p> <p><b>Foreshore Management Plan Guidelines</b></p> <p><b>Public Places &amp; Local Government Property Local Law 2015</b></p> <p><b>Dogs Local Law 2016</b></p>	<p><b>Dog Exercise Areas and Places where Dogs are Prohibited Local Laws</b></p> <p><b>Extension to Yanchep Dog Beach Local Laws</b></p> <p><b>Developer Contributions Scheme - Alkimos-Eglinton Contribution Plan</b></p> <p><b>Quinns Foreshore Master Plan</b></p> <p><b>Yanchep Lagoon Master Plan</b></p> <p><b>Yanchep Two Rocks Local Area Plan</b></p> <p><b>Northern Coastal Growth Corridor Community Facilities Plan (Facilities Plan)</b></p> <p><b>Access and Inclusion Plan</b></p> <p><b>Coastal Aquatic Safety Policy</b></p> <p><b>Discover Wanneroo</b></p>
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