

Warrnambool Beach Access Strategy

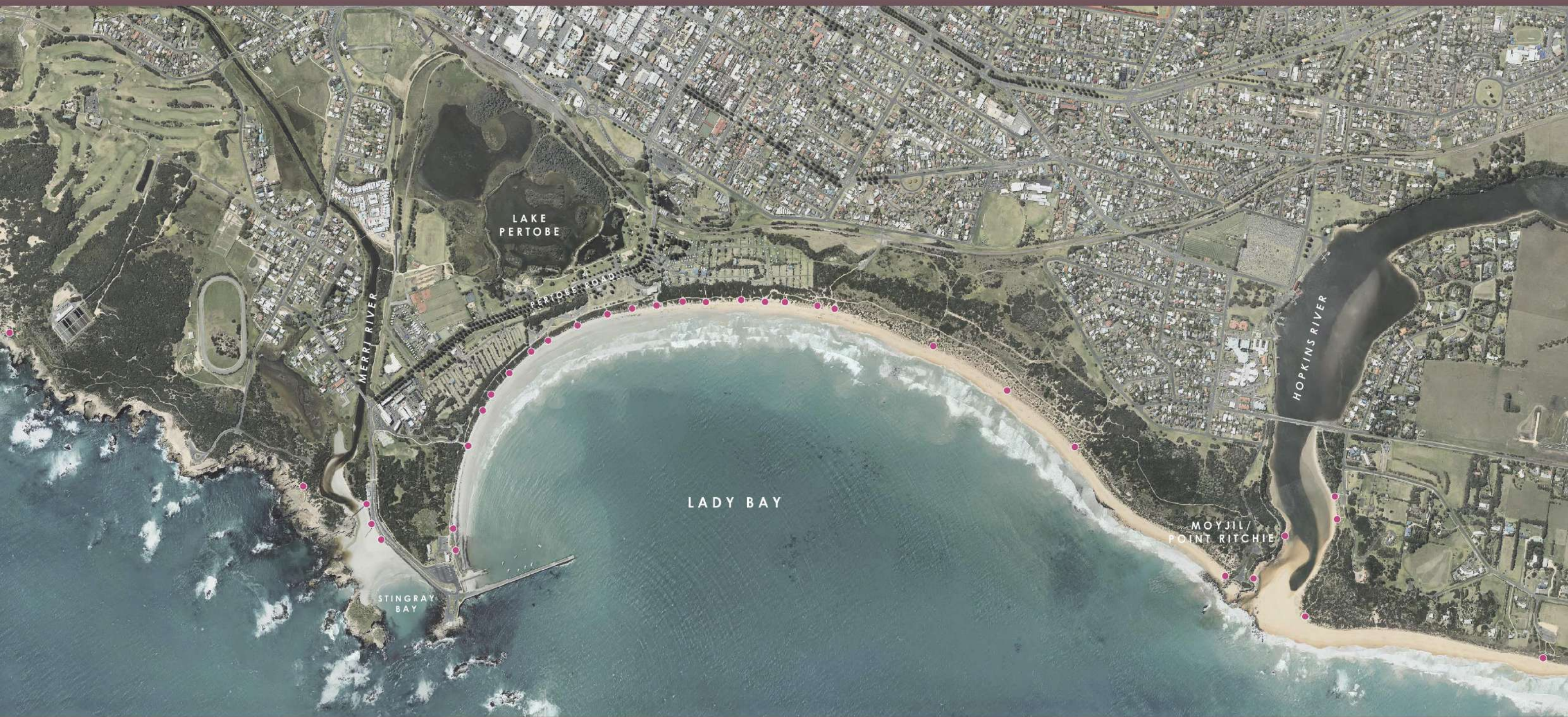


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Council acknowledges the Eastern Maar Nation as the original custodians of the lands of this general area. Council also acknowledges the descendants of the ancestors of Aboriginal nations within the lands forming the Great South Coast and particularly the elders of the Indigenous communities within both Warrnambool and this region.

Warrnambool City Council is honoured to have an important custodian role in partnership with Eastern Maar Citizens in looking after Country. Warrnambool City Council is proud of our Maar heritage and story. We acknowledge the Maar people and celebrate their rich, diverse and ongoing contribution to us all.

PREPARED BY:



DISCLAIMER

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ACRONYMS

BMO	Bushfire Management Overlay
CoM	Committee of Management
CHMP	Cultural Heritage Management Plan
DDA	Disability and Discrimination Act
DDO	Design and Development Overlay
DELWP	Department of Environment Land Water and Planning
EMAC	Eastern Maar Aboriginal Corporation
ESO	Environmental Significance Overlay
EVC	Ecological Vegetation Class
ESTA	Emergency Services Telecommunications Authority (ESTA)
FRP	Fibre Reinforced Polymers
HO	Heritage Overlay
PCRZ	Public Conservation and Resource Zone
RAP	Registered Aboriginal Party
SES	State Emergency Service
SLO	Significant Landscape Overlay
VCMP	Victorian Coastal Monitoring Program
WCC	Warrnambool City Council
WSLSC	Warrnambool Surf Lifesaving Club

EXECUTIVE SUMMARY

Warrnambool's beaches are amazing natural assets attracting residents, visitors and tourists. These beaches play an important role for the community, providing spaces for a range of activities, recreation, tourism and events, as well as opportunities for people to connect with the natural environment and cultural coastal landscapes.

Beach access is highly valued and will be subject to increasing demand as Warrnambool's population continues to grow. Warrnambool's coastal environment is dynamic, often with diverse climatic conditions which can contribute to shifting sands and unstable dune systems. It is important that beach access points along the coast are planned, designed and built carefully to ensure they can withstand the demands of increasing use and climate change. These access points must also provide safe and functional access, whilst protecting the natural and cultural landscapes that make Warrnambool's coastline special.

The preparation of a Beach Access Strategy allows Council to gain a better understanding of the needs of stakeholders, community and visitors in accessing Warrnambool's beaches. Through consultation with stakeholders and the community and the development of the Strategy, Council will have a clearer picture of the strengths, challenges and opportunities for beach access along Warrnambool's coastline and a strategy for what can be done to improve it.

The Strategy helps inform Council's capital works and renewal programs and will be used to support future grant and funding applications associated with improving beach access.

The recommendations of the Strategy are intended to provide guidance for Warrnambool's 33 beach access points between Shelly Beach and Logans Beach, over a 15-year timeframe.

The Strategy includes 23 recommendations as described on pages 5-6 and Section 5 (page 57).

In summary the following changes are recommended:

- Replacement of the existing accessible ramp near the Warrnambool Surf Lifesaving Club.
- Replacement of existing staircase/ramp structures with construction of four (4) accessible ramps, including one near Merri River Estuary (Viaduct Road), one at McGennans Beach, consolidation of two access structures into one new accessible ramp at 'The Flume' and one at the Hopkins River Estuary (Blue Hole Road).
- Replacement of 11 staircases, including accessibility and safety improvements
- Retention of five (5) recently constructed/upgraded access structures, with no changes proposed
- Retention and improvements to seven (7) existing structures
- Closure of two existing access points
- Review pedestrian safety and beach access points at Merri River estuary off Viaduct Road; and
- One new access point, incorporating accessible ramp, near the Harbour.



SHELLY BEACH. PICKERING POINT LOOKOUT, MERRI RIVER ESTUARY, STINGRAY BAY AND WORM BAY

1. Conduct a safety audit of the walking trail between the Viaduct Road and Shelly Beach, including beach access points WCC101 and WCC107. There are cliffs in relatively close proximity to the access path leading to Shelly Beach and Point Pickering. A safety audit of the cliff face and fencing should be undertaken to provide sufficient evidence that the tracks and beach access points can safely remain open to the public.
2. Investigate opportunities to make safety improvements to Shelly Beach WCC101. Changes may include fencing and surface improvements.
3. Carry out fencing repairs and additional fencing between the Merri Bridge and Shelly Beach to ensure walkers stay on the main track and avoid threats to significant cultural heritage places and deter people from going near cliff edges.
4. Install signage to direct visitors along the main tracks to Shelly Beach.
5. Replace existing staircase at beach access WCC107 near Pickering Point. The suitability of this location as a beach access point should be investigated as part of the safety audit.
6. Develop Viaduct Road Pedestrian Access Plan. Incorporate review of car parking, pedestrian access paths and crossings, pedestrian safety and beach access at WCC111, WCC112 and WCC113. The Plan should provide recommendations to address beach accessibility for people with wheelchairs and special access requirements and ensure emergency vehicle access is provided to the beach at this location. The Plan should include an assessment of the suitability and safety of retaining the three access points in their current locations.
7. Design and construct a new accessible ramp proposed near boat launching facilities. Design and construction of the proposed concrete terraced seating is to have integrated accessible ramp. This access point was adopted as part of the Harbour Master Plan.
8. Investigate opportunities to make safety improvements to the Worm Bay pedestrian and horse beach access ramp at WCC117.
9. Retain access points at the Yacht Club WCCYC and Worm Bay WCC118 as they are. These are relatively new structures with long remaining useful lifespans.

LADY BAY WEST (INCLUDING THE FLUME) AND LADY BAY EAST

10. There are a number of existing timber structures which have short remaining useful life. These should be replaced with staircases incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible. Access points proposed for replacement with staircases include WCC119, WCC120, WCC121, WCC123, WCC129 and WCC130. The replacement of WCC123 and WCC129 are current projects in the planned capital works program.
11. The existing accessible ramp near the Warrnambool Surf Lifesaving Club WCC126 is subject to regular access maintenance issues due to its design, construction materials and proneness to sand build up. It is recommended that this access ramp be replaced with a new accessible ramp. The design and siting of the accessible ramp near the Warrnambool Surf Lifesaving Club WCC126 should be undertaken at the same time as the plans for the proposed surf lifesaving club upgrade/extension to ensure good planning and access to and from main building entrance/s and car parking areas. It is also recommended that a second accessible ramp be provided in Lady Bay West near the eastern end of the holiday park due to it being a high usage area with good path access from the McGennans car park. WCC122 may be an appropriate location for an accessible ramp subject to further investigation of the dune morphology and detailed design.

12. Retain access points at the Lady Bay WCC124 and Lady Bay WCC131 as they are. These are relatively new structures with long remaining useful lifespans.
13. Upgrade matting material of the vehicle access ramp at the Warrnambool Lifesaving Club WCC127. This may be a short-term solution depending on the future long-term plans for the Warrnambool Surf Lifesaving Club and associated vehicle access to the beach. At this time it is not known whether the vehicle access point is proposed to remain in its current location.
14. It is recommended that Lady Bay WCC128 and WCC132 be decommissioned and removed and these areas fenced and revegetated. There are multiple access points provided along this section in front of the holiday park which will ensure convenient beach access is retained. These two access points present regular maintenance issues due to their siting and position in the dynamic sand dune and regular sand coverage. Access to WCC128 has been closed to the holiday park due to maintenance and safety concerns.
15. The access points WCC133 and WCC134 are in very close proximity to each other, approximately 65 metres apart. WCC133 is reaching the end of its remaining useful lifespan and WCC134 has an estimated remaining useful lifespan of 7 years. It is recommended to consolidate WCC133 and WCC134 into one upgraded beach access structure with an accessible ramp to accommodate wheelchairs and people with special access requirements. It is important that the access paths from the holiday park and The Flume car park be maintained in the redesign. The siting and location of the structure in the sand dune will require careful design and consideration in this dynamic sand dune to help avoid sand build up. The design of the new consolidated access point should include emergency vehicle access to the beach in this location (minimum 3m wide for all-terrain vehicle) as well as maintenance vehicles to clear sand away.
16. Retain and improve WCC135, WCC136 and WCC138. These are relatively low usage access points. Investigate ways in which minor improvements can be carried out to enhance safety and extend their remaining useful lifespan.

POINT RITCHIE / MOYJIL, HOPKINS RIVER ESTUARY AND LOGANS BEACH

17. Retain access points at Point Ritchie / Moyjil WCC140. This is a relatively new structure with a long remaining useful lifespan.
18. Replace staircases at Point Ritchie/Moyjil WCC141 and Hopkins River WCC142 and WCC145.
19. Construct accessible ramp at Hopkins River WCC144 to accommodate wheelchairs and people with special access requirements. Provide all-terrain vehicle access to beach in this location for improved emergency access (although vehicle access is dependent on tidal levels)
20. Investigate opportunities to make safety improvements to Logans Beach access WCCBH. Changes may include fencing and surface improvements. New ESTA marker required at this location.
21. Replace staircase at Logans Beach WCC146. Replace timber stairs between the existing viewing platform/deck and beach. This is a current project in the planned capital works program.

GENERAL

22. Conduct a Vegetation Management Plan review to investigate the management of weeds and species with invasive tendencies, including Coast Tea-tree. Use findings of review to guide the maintenance program and amend planning overlays, where required.
23. Conduct a review of ESTA markers, including review of numbers, siting and information provided on each sign.

RECOMMENDATIONS PLAN

WARRNAMBOOL BEACH ACCESS - RECOMMENDATIONS PLAN (WEST)



- LEGEND
- Beach Access Point (33 in total within study area)
 - Retain**
Recently constructed staircase structure:
Worm Bay WCC118
McGennans WCC124
Lady Bay WCC131
Moyjil/Point Ritchie WCC140
Recently upgraded boat ramp:
Worm Bay WCCYC
 - Retain and improve**
 - Replace with accessible ramp**
Incorporate handrails, landings, tactile ground surface indicators
 - Replace with staircase**
Incorporate handrails, landings, tactile ground surface indicators and contrasting strips on stairs
 - New accessible ramp**
Incorporate handrails, landings, tactile ground surface indicators
Currently no constructed beach access at this location
 - Consolidate with accessible ramp**
Consolidate WCC133 and WCC134 providing a single location for beach access. Replace with ramp (incorporating handrails, landings, tactile ground surface indicators). Provide all-terrain vehicle (ATV) access in consultation with emergency services.
 - ⊗ Decommission and Remove
WCC128 and WCC132
Fence off and revegetate area
 - ▲ Provide emergency vehicle access to beach
 - Existing Path/Trail
 - ☼ Existing Public Amenities/Toilets
 - Develop Viaduct Road Pedestrian Access Plan
Incorporate review of car parking, pedestrian access paths and crossings, pedestrian safety and siting and design of WCC111, WCC112 and WCC113. Ensure access ramp for pedestrians and access ramp for emergency vehicles are provided.
 - Prepare a risk audit of the track and beach access points between Viaduct Road and Shelly Beach. The audit should assess the risk to visitors taking into consideration the stability of the cliffs and proximity of the trail/path/boardwalks to the cliff.

REFER TO LOCATION PLAN (EAST) (BELOW)

WARRNAMBOOL BEACH ACCESS - RECOMMENDATIONS PLAN (EAST)



REFER TO LOCATION PLAN (WEST) (ABOVE)

Beach Access Strategy

Part 1: Introduction & Background

1. INTRODUCTION

1.1 STUDY AREA

Council maintains 35 beach access points. The beach access points range from fully constructed access ramps to informal paths. Two of these access points, one at Levys Beach and another at Spookys Beach, were included in the recently completed Wild Coast Landscape Master Plan.

The remaining 33 beach access points span across approximately eight (8) kilometres of Warrnambool’s coastline. These 33 beach access points provide access to Shelly Beach, Pickering Point, the Merri River Estuary, Stingray Bay, Worm Bay, Lady Bay, Point Ritchie / Moyjil, Hopkins River Estuary and Logans Beach.

Warrnambool City Council is the Committee of Management (CoM), established under the *Crown Land (Reserves) Act 1978*, who are responsible for managing much of the Warrnambool coastline, including the 33 beach access points included within this study.

These 33 beach access points are included in this Beach Access Strategy for Warrnambool. The study area and 33 existing beach access points are shown at Figures 1 and 2.

Figure 1: Study Area Boundary



Figure 2: Beach Access Point Location Plan (with reference ID)

WARRNAMBOOL BEACH ACCESS - LOCATION PLAN (WEST)



REFER TO LOCATION PLAN (EAST) (BELOW)

WARRNAMBOOL BEACH ACCESS - LOCATION PLAN (EAST)



REFER TO LOCATION PLAN (WEST) (ABOVE)

1.2 WHY IS A STRATEGY NEEDED?

In 2019, Council completed an audit of the beach access points it maintains. The audit identified that some beach access structures are not fit for purpose and some have a limited useful remaining lifespan.

In future, significant changes are likely to place additional pressure on Warrnambool's coastline. The population of Warrnambool was approximately 35,500 in 2020 and is forecast to reach close to 40,000 by 2036. (RDV, 2022). Warrnambool is also a popular and expanding tourism destination (WWC, 2021) and this will result in growing demand for beach access in the coming years.

The impacts of climate change are expected to bring a warmer year-round climate, more frequent storm surges with increased wave height as well as sea level rises. These forecast changes may cause significant impact on the coastline, including its fragile dune system and built infrastructure.

Council initiated this Beach Access Strategy to:

- a) Gain a better understanding of the needs of stakeholders, community and visitors in accessing Warrnambool's beaches,
- b) Find out more about the challenges and opportunities for each beach access point; and
- c) Develop recommendations for what can be done to better manage Warrnambool's beach access

The recommendations of the Strategy are intended to provide guidance for Warrnambool's 33 beach access points over a 15-year timeframe. The Strategy will help inform Council's capital works and renewal programs and will also be used to support any future grant and funding applications.

1.3 PROJECT APPROACH

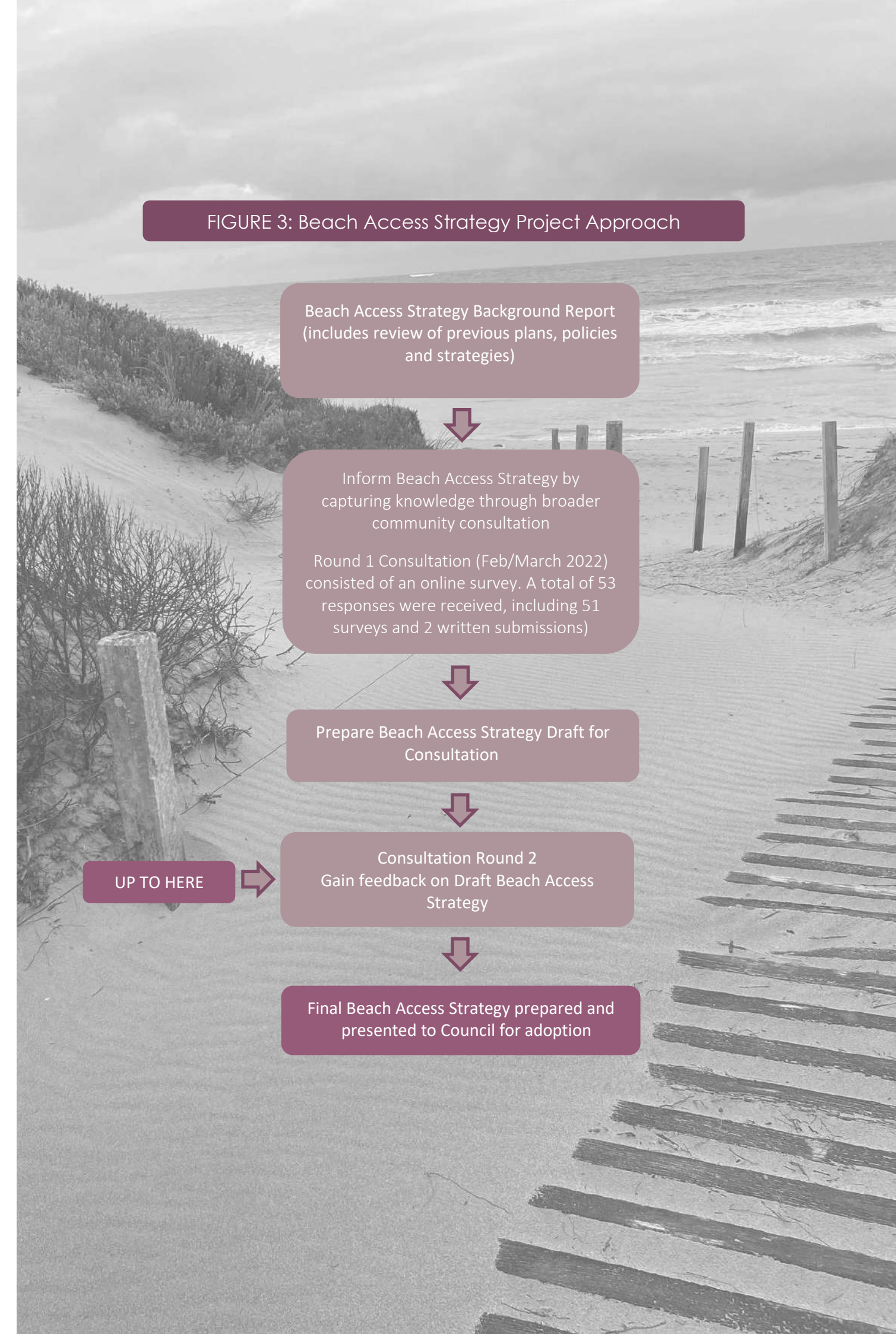
The Beach Access Strategy is informed by consultation with community and key stakeholders. It is also informed by the various strategies, plans and policies that are relevant to coastal planning and specifically beach access, including the *Warrnambool Coastal Management Plan 2013*, *Disability Access and Inclusion Policy 2020*, *Active Warrnambool Strategy 2019-30*, *Warrnambool 2040*, *Community Plan 2019* and the *Warrnambool Coastal Vegetation Management Plan 2012*.

A summary of these documents and key findings are provided in the Warrnambool Beach Access Strategy Background Report, 2022. This Background Report details how the relevant plans and policies relate to future planning for beach access. Section 2 also provides a summary of the planning framework which informs this Strategy.

Council sought community input into this Beach Access Strategy during consultation in February/March 2022. The survey asked the community how they currently utilise beach access points between Shelly Beach and Logans Beach, what issues they face when using these access points, what concerns they have and how they would like to see beach access improved. A summary of the feedback from Round 1 consultation is provided at Section 2.

The project team conducted site visits in March 2022. An overview of the site analysis from these visits, and findings from previous audits, is provided at Section 4.

Figure 3 shows the stages in the development of the Warrnambool Beach Access Strategy.



1.4 PLANNING FRAMEWORK

The Warrnambool coastline is recognised as having significant landscape, cultural heritage and environmental values. These values are acknowledged by Aboriginal Victoria, the State Government of Victoria and Warrnambool City Council.

The section of coastline between Shelly Beach and Logans Beach also has a significant role in providing for public recreation and tourism, providing public beach access in multiple locations, including the patrolled swimming beach and connecting with the broader linear trail network.

The need to protect the significant landscape, cultural heritage and environmental values whilst maintaining access for tourism and recreation are reinforced through regulations and planning policy.

The Beach Access Strategy is informed by the existing planning framework and the various approved policies, strategies and plans relevant to coastal planning, including:

STATE PLANNING FRAMEWORK

- *Warrnambool Planning Scheme*
- *Marine and Coastal Policy, Victorian State Government 2020*
- *Victorian Coastal Strategy 2014*
- *Victoria's Coast and Marine Environments Under Projected Climate Change: Impacts, research and priorities (Victoria State Government 2018)*
- *Siting and Design Guidelines for Structures on the Victorian Coast, 2020*
- *Protecting Victoria's Environment-Biodiversity 2037*

LOCAL PLANNING FRAMEWORK

There are numerous local strategies, plans and policies that provide recommendations and directions for the Warrnambool Coast and beach access. They include:

- *Warrnambool City Council Plan 2021-2025*
- *Wild Coast Landscape Master Plan 2021*
- *Disability Access and Inclusion Policy 2020*
- *Active Warrnambool Strategy 2019-30*
- *Warrnambool 2040, Community Plan 2019*
- *Lake Pertobe Master Plan 2018*
- *Green Warrnambool 2018*
- *Warrnambool Harbour Master Plan 2018*
- *Warrnambool Coastal Management Plan 2013*
- *Moyjil Conservation Management Plan 2013*
- *Warrnambool Open Space Strategy 2013*
- *Warrnambool Coastal Vegetation Management Plan 2012*
- *Warrnambool Public Amenities Strategy 2013*

A summary of the listed State and local planning documents is provided in the Warrnambool Beach Access Background Report 2022, which helps inform this Strategy.

One of the most pertinent planning documents relevant to Beach Access is the Siting and Design Guidelines for Structures on the Victorian Coast (DELWP, 2020). In the planning phase of replacing or proposing new structures on the Coast, the Guidelines list a number of questions that should be considered by the proponent, which in most instances will be Warrnambool City Council. When considering the replacement, upgrade or relocation of Warrnambool's beach access structures, the Siting and Design Guidelines for Structures on the Victorian Coast (DELWP, 2020) must be carefully considered and addressed.

There are 15 fundamental considerations detailed in the Guidelines, including:

1. *Aboriginal cultural heritage*
2. *Coastal processes*
3. *Geology*
4. *Morphology*
5. *Hydrology*
6. *Vegetation and ecology*
7. *Climatic conditions*
8. *Views*
9. *Public Open Space*
10. *Local character and sense of place*
11. *Heritage*
12. *Public access*
13. *Increased function and adaptability*
14. *Sustainability*
15. *Materials and finished*

The *Siting and Design Guidelines for Structures on the Victorian Coast 2020*, are referred to regularly throughout this document.

PLANNING ZONES

Warrnambool's 33 beach access points are located on land zoned Public Conservation and Resource Zone (PCRZ) and Public Park and Recreation Zone (PPRZ). The PCRZ applies to coastline to the less urbanized areas of the coast, including Shelly Beach, Pickering Point, Lady Bay (East) and Logans Beach, whilst the PPRZ applies to the coastline adjoining the urban area and foreshore precinct, including Worm Bay and Lady Bay (West).

Figure 5 shows zoning of land within the study area. The following zones apply:

36.02 PUBLIC PARK AND RECREATION ZONE

This zone seeks to:

- recognise areas for public recreation and open space.
- protect and conserve areas of significance where appropriate.
- provide for commercial uses where appropriate

36.03 PUBLIC CONSERVATION AND RESOURCE ZONE

This zone seeks to:

- protect and conserve the natural environment and natural processes for their historic, scientific, landscape, habitat or cultural values.
- provide facilities which assist in public education and interpretation of the natural environment with minimal degradation of the natural environment or natural processes.
- provide appropriate resource-based uses.

Figure 4: Zoning



PLANNING OVERLAYS

There are five overlays applying to the study area between Shelly Beach and Logans Beach. Figures 6 to 10 show overlays applying to land within the study area. These overlays include the following:

42.01 ENVIRONMENTAL SIGNIFICANCE OVERLAY SCHEDULE 1 – COASTAL ENVIRONS

This overlay applies to coastal environs in Warrnambool with environmental significance. It contains a number of environmental objectives to be achieved for these areas, including protection of natural and cultural values, preventing and minimising coastal erosion, maintaining remnant vegetation, minimising the spread of weeds and encouraging planting of locally indigenous species.

Figure 5: Environmental Significance Overlay – Schedule 1 Coastal Environs



42.03 SIGNIFICANT LANDSCAPE OVERLAY – SCHEDULE 1 – COASTAL HINTERLAND LANDSCAPE AREA

This overlay applies to coastal hinterland areas recognised for their significant landscapes. It contains a number of landscape objectives to be achieved, including protecting the scenic qualities of the coast hinterland, recognizing important views and maintaining and enhancing these views.

Figure 6: Significant Landscape Overlay – Schedule 1 Coastal Hinterland Landscape Area



43.01 HERITAGE OVERLAY – HO19 WARRNAMBOOL BREAKWATER, VIADUCT AND HARBOUR AND HO51 HOPKINS RIVER MOUTH

This overlay seeks to conserve and enhance heritage places of natural or cultural significance, conserve and enhance those elements which contribute to the significance of heritage places, ensure that development does not adversely affect the significance of heritage places and conserve specified heritage places by allowing a use that would otherwise be prohibited if this will demonstrably assist with the conservation of the significance of the heritage place.

Figure 7: Heritage Overlay HO19 Warrnambool Breakwater, Viaduct and Harbour, HO51 Hopkins River Mouth



44.06 BUSHFIRE MANAGEMENT OVERLAY

The purpose of this overlay to ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire. Other purposes of this overlay relate to development and in particular buildings that people inhabit.

Figure 8: Bushfire Management Overlay



43.02 DESIGN AND DEVELOPMENT OVERLAY – SCHEDULE 2 – LOGANS BEACH

This overlay applies to set the design, subdivision and development parameters, including:

- To ensure the proper protection and management of the whale viewing area and its environs.
- To protect the local environment and significant views.
- To provide generous separation between dwellings to enable revegetation of the landscape.
- To limit intrusion on the skyline and ridgeline.
- To encourage the designation of Appropriate Building and Access Areas at the time of subdivision.
- To provide for a thorough permit application assessment process for buildings, particularly on the southern side of Hopkins Point Road in relation to landscape and environmental issues, by using as appropriate the Logans Beach Urban Design Guidelines (including the associated computer model).

Figure 9: Design and Development Overlay – Schedule 2 Logans Beach



CULTURAL HERITAGE SENSITIVITY

Areas of cultural heritage sensitivity are defined in the *Aboriginal Heritage Regulations 2018* and relate to landforms and soil types where Aboriginal places are more likely to be located. The cultural sensitivity areas are identified on maps available from the Aboriginal Victoria's Aboriginal Cultural Heritage Register and Information System (ACHRIS). Figure 11 shows the entire study area as an area of cultural heritage sensitivity. There are also particular sites of cultural heritage which have been mapped and recorded within the study area. (AV, 2020)

In a planning context, any land use and development activities likely to cause harm to Aboriginal cultural heritage must have a cultural management plan prepared and approved before the development or activity can be carried out (AV, 2020) and the recommendations of the management plan must be complied with.

Figure 10: Cultural Heritage Sensitivity Areas (covers 33 beach access points in the study area) (DELWP 2022)



Heritage
 Aboriginal Cultural Heritage Sensitivity

2. CONSULTATION FINDINGS (ROUND 1)

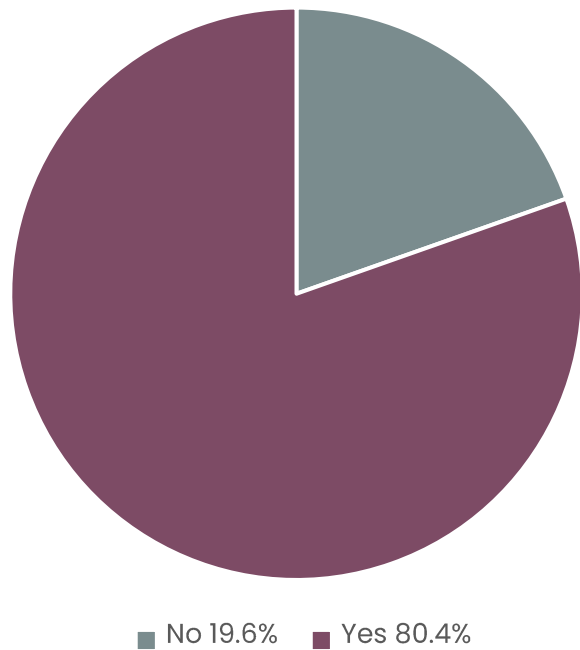
Round 1 consultation was undertaken in February/March 2022 to gain a better understanding of which access points residents and visitors currently use, what issues/challenges exist for beach access and how beach access can be improved. An online survey was carried out to reach the broader community. 51 people completed the online survey and there were two written letter submissions, one from the Warrnambool Surf Lifesaving Club and one from a resident. Comments from the two written submissions relating to concerns around beach access and suggestions for improvements have been incorporated into the responses for Questions 8 and 10.

A number of stakeholders, primarily organisations and groups were directly contacted inviting them to participate and provide comment on beach access in Warrnambool. Feedback was received from Leadership Great South Coast, Eastern Maar Aboriginal Corporation, the State Emergency Service and Warrnambool Surf Lifesaving Club.

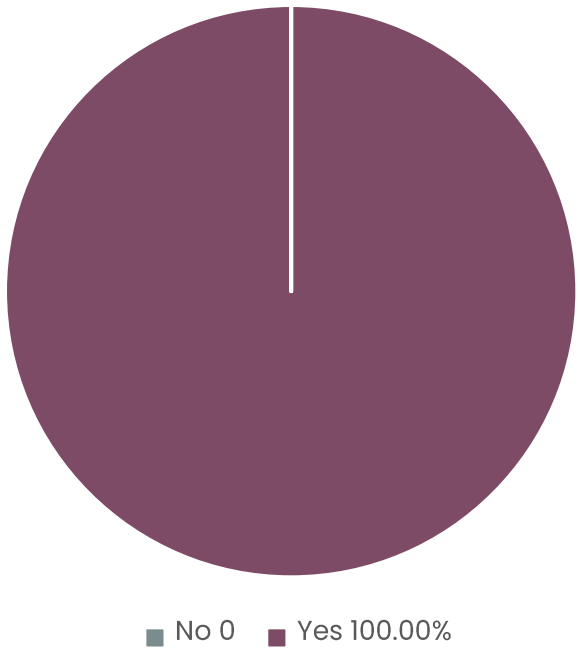
With regards to the survey timing, the usage of beach access points vary depending on the time of year and presence of holidaymakers, particularly in the adjacent caravan parks. The figures below provide a snapshot of usage during late February and early March, which is not peak holiday season. Management of neighbouring holiday parks were consulted with to get a better understanding of which beach access points are used by tourists at the holiday parks during peak holiday season.

2.1 COMMUNITY CONSULTATION OUTCOMES (FROM ONLINE SURVEY)

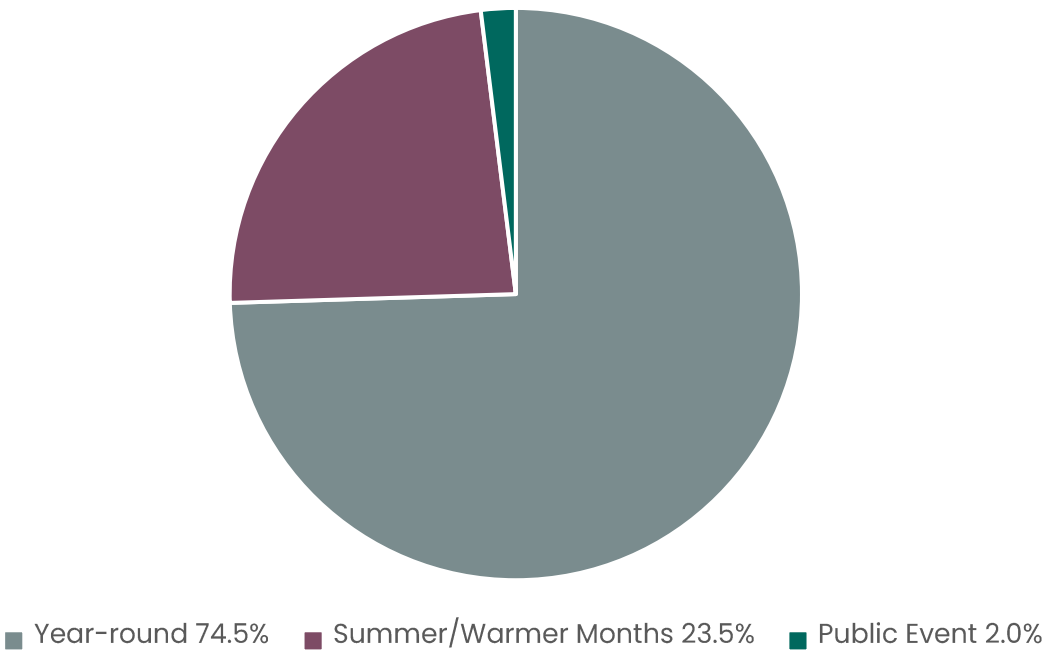
QUESTION 1: Do you live in Warrnambool?



QUESTION 2: Do you use any of the beach access points identified on the attached plan?



QUESTION 3: At what time of year to you utilise the beach access point/s?



QUESTION 4: Which access points do you visit and how often?*

*Note - A full breakdown of responses relating to usage of each of the 33 access points are provided at Appendix 1 . The following is a summary of results:

The beach access used by the highest number of survey respondents:

- 1 – Lady Bay West WWC 118 (access point closest to Worm Bay car park)
- 2 – Lady Bay West WCC119 (access point 80 metres (aprx.) north of Worm Bay car park)
- 3 – Lady Bay West.WCC127 (ramp at Warrnambool Surf Lifesaving Club, next to observation tower)
- 4 – Lady Bay West WCC120 (in front of Shipwreck Bay Holiday Park 150m (aprx.) north of Worm Bay car park)
- 5 – Hopkins River WCC144 (access point adjacent car park and opposite public toilets at Bluehole Road)

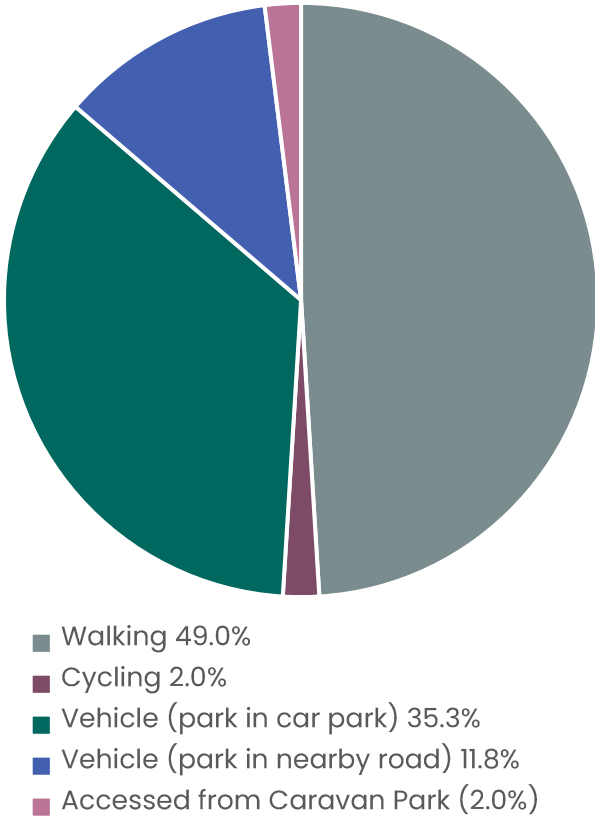
The beach access points used by the least number of survey respondents:

- 1 – Lady Bay West WCC131 (towards eastern end of Surfside Holiday Park)
- 2 – Lady Bay West WCC133 (eastern end of Surfside Holiday Park)
- 3 – Lady Bay East.WCC135 (access point to the east of The Flume)
- 4 – Hopkins River WCC145 (40m (aprx.) south of Bluehole Road car park)

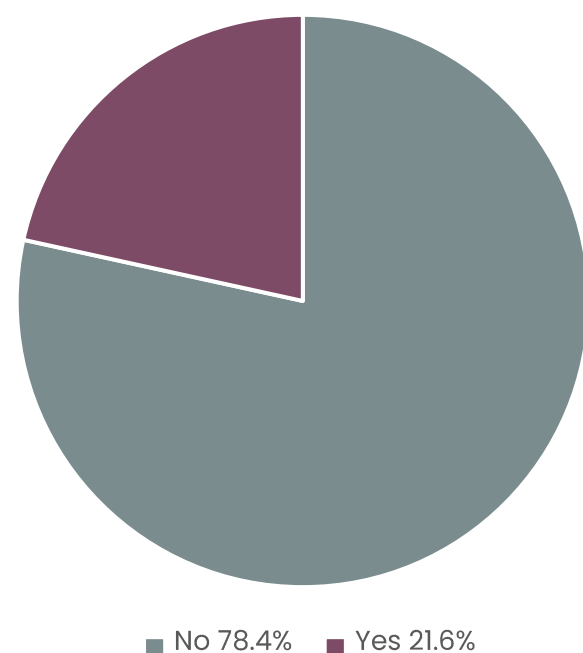
The most frequently used access points (visited on a daily/weekly basis):

- 1 – Lady Bay West WCC119 (access point 80 metres (aprx.) north of Worm Bay car park)
- 2 – Lady Bay West WCC118 (access point closest to Worm Bay car park)
- 3 – Lady Bay West WCC126 (access ramp west side of Warrnambool Surf Lifesaving Club)
- 4 – Lady Bay West WCC127 (ramp at Warrnambool Surf Lifesaving Club, next to observation tower)

QUESTION 5: When getting to the beach what is your mode of transport?



Of the respondents, 9.8% answered that in addition to their main mode of transport, they use other modes on some occasions, including walking, vehicles and running.

QUESTION 6: Do you have special access requirements?

Of the 11 (21.6%) respondents who have special access requirements, these special access requirements include wheelchair access (3), vision impairment (1), children in a pram (6), arthritis, using a wheeled walker due to impaired balance and special accessibility requirements associated with injuries, ageing and multiple sclerosis.

QUESTION 7: Does existing access to the beach meet your special access requirements?

Of the 11 (21.6%) respondents who have special access requirements 4 answered 'yes' the existing access to the beach meets their requirements and 7 answered 'no'.

There were additional comments from people who do not have special access requirements, but in some cases have family members or friends who do have special access requirements.

In cases where respondents answered 'no', the reasons described as to why the current beach access is inadequate include:

- Large piles of sand make it slippery and difficult to navigate (3 responses) including prams
- No handrails/inadequate handrails (3 responses) on inclines
- Unstable (2 responses)
- Steepness (2 responses)
- Large drop off (50cms) onto beach (3 responses)
- Steel stairs
- Ramp much better access than stairs for families and older people especially when carrying beach gear and children
- Lack of resting platforms on stairs
- Unsafe
- Not enough space

- It's often hard to get up the stairs with gear. Aged residents have difficulty getting up the stairs
- Need firm ground down to beach
- Difficult access at Bluehole. Throughout winter the track has lots of mud puddles. The access has been washed away leaving wood sitting in difficult positions to cross
- Not maintained, broken slats
- Difficult to walk down/up big drop unstable entry
- Weeds built up on path

QUESTION 8: Do you have any concerns about the access points shown on the map?

- The Surf Lifesaving Club access point next to the observation tower (WCC127) needs to be regularly graded to clear sand. Not maintained enough. (3 responses)
- Access behind beach kiosk (WCC125) needs reopening as it is a main access point (2 responses) and looks terrible
- Overgrown vegetation around the paths allows sand to build up around the paths. If there was less vegetation the sand would blow back into the ocean and not accumulate on paths behind vegetation
- Lack of accessibility to main beach
- Ramps are safest way to access the beach for families and the elderly
- Some of the access points are covered over in sand, could be maintained by clearing once per week by one person working in the beach area
- Can't see the beach/tide until you are already at the access, then if tide is too high a different access point has to be used
- Erosion of the dunes washes away the stairs
- Some are dangerous, beach eroded and not navigable by some people
- No concerns
- Logan's Beach Access staircase needs replacing
- So steep and not well maintained
- Steep slope on WCC134 ('The Flume')
- All entries from surfside (WCC129 to WCC133), with fall risks as these locations
- Safety of walking the track and accessing the beach
- Not enough access points between McGennans car park and surf club
- Some require more attention due to breakages and wear over the years. Especially Logans and Hopkins east side of the river, overgrown and washed away by ocean surge
- Long term viability, with increasing dune movement and rising sea level
- Damage to shell middens and environment caused by people walking/cycling off the authorised tracks.
- Disregard for signage. Disruption to fauna caused by people letting their dogs off in areas that they are not permitted, or should be on a lead
- Animal excrement being left behind
- Litter left on beaches by visitors
- Outdated signage and lack of information.

QUESTION 9: Are there any issues you would like to see addressed through the beach access strategy?

Of the survey respondents, 41 (80.4%) said they would like the strategy to address a specific issue. A summary of these suggestions include:

- Vegetation maintenance/less vegetation (3 responses). Too much vegetation around the paths is not allowing sand to blow back into the ocean. Maintain lower height on bushes/trees along promenade. Worm Bay access, WCC118 requires vegetation cutting back along the breakwater side of the track. Risk of collision between bicycle riders and pedestrians
- Additional access ramps (2 responses). Ramps, at least on west end of McGennans carpark beside the caravan park. This would allow access from both carpark and caravan park. Port Fairy example cited
- Wider paths (2 responses) to allow for the amount of people using the paths and the traffic with bikes etc. More public toilets. rubbish bins on the path ways. more sweeping of sand and water from paths
- Sand accumulation (2) on the paths and making it unsafe on bikes and difficult with prams. A specialist needs to look at why the sand is trapped
- Make Lady Bay beautiful again, it is in very poor condition
- Maintain and update the access path from end of Younger Street into the beach being used by walkers, hikers, surfers and photographers and should be used as a permanent path for the public to use
- Better steps
- More facilities
- More seating
- More taps
- WCC125 should be re-opened. It is regularly used despite council boarding it up
- Improved stairs to the beach
- Some of the tracks leading to or past the access points do not have adequate fencing adjacent to nearby cliff edges. These pose a threat especially to small children. Eg. Pickering Point to WCC107 to WCC111
- Maintenance of existing access points, removal of sand build up is sporadic
- Accessible access for older people , prams and wheelchairs.
- Maintain as many access points as possible
- Seaweed accumulation
- Disabled Access Ramp could be better maintained & safer if it was wider and more direct route, to utilise council's maintenance fleet
- People walking on the dune system- accessing it from the beach side
- Better access for those with disabilities
- Better lighting on pathways
- Dune health and wildlife habitat
- Ease of access not so steep
- Bring back the access to the beach from Surf Side WCC127 and WCC128
- Steep sand dune paths are hard to access as well as narrow steep staircases
- Safe beach access from surfside. That's why people camp there
- Improved access at Bluehole (WCCBH)
- The access ramp from the surf lifesaving club to the beach is heavily used by young families often juggling young children and beach paraphernalia and many campers wishing to access the beach safely
- Horses shouldn't be allowed on the beach.
- Please change laws so dogs are allowed on beach all year before 8 or 9am
- Maintained safe access.
- At entrance WCC129. I would like wood handrails to go all the way and for the sudden drop to be fixed as it is difficult for someone with poor balance
- Access steps to small bay between boat ramp and breakwater
- It should be easier for older people with stiff joints to access, sometimes too steep
- Access via the new stairways is difficult for older adults and young children
- Higher levels of maintenance and replacement programs, the new housing areas at Logans Beach coastal village and Hopkins Heights once finished will have over 1000 households increasing previous use of beach access east of the Hopkins River. A higher level of maintenance, signage and replacement will need to be developed. Developers of logans beach coastal village need to be pressured to complete works on the dune walking track to logans whale platform before damage is done to the natural dune area. The damage will only increase as residential areas are completed
- Disability access to popular locations
- Find a way for disabled people and those with mobility issues to enjoy a swim
- Coastal infrastructure being adaptive to climate change and sea level rises
- Sand washing out from the base of any new staircases installed

QUESTION 10: How could beach access be improved?

- Additional access ramps (3 responses) and rails. A suggestion for a ramp every few sets of steps
- Vegetation maintenance (less vegetation (2 responses) and tidy up overgrown items from the pathway. Remove all the dead tea tree so there is a better line of site along the foreshore
- Sand could be removed (2 responses), including from the ramp near the lifesavers
- Younger Street beach access improved and updated
- More staircases with holes in them so the sand can blow through and not accumulate on the paths.
- More facilities including seating
- Improved maintenance of steps and railings
- Maintenance on timber checked more regularly
- Remove much of the plantings along promenade
- The seaweed piled up against the dunes has created seaweed cliffs rather than sand dunes
- WCC125 should be re-opened. It is regularly used despite council boarding it up
- Better paths near Shelly beach.
- If you have an access point then please make it usable. Some in front of the Holiday Park (from WCC127 -WCC133) are washed away and difficult/dangerous to use
- Places to wipe sand off, brushes or mats
- The access point we use could have a couple of boards replaced.
- More handrails or rope on steep inclines. more stairs and access points like the new worm bay stairs. Better pedestrian access at the breakwater separate to horse or boat access.
- Warning signs to alert for cyclists & remove some of the undergrowth for safer viewing on crossing point!
- Seaweed cleared more regularly in Lady Bay
- The stairs at Worm Bay are fantastic and seem to be more resilient to the forces of nature
- Better maintained ramps and a toilet block with shower facilities at the lady bay access points or the breakwater area
- More visible markings to prevent rogue walkers
- Open the access to the beach from the caravan park between WCC127 and WCC128
- Be safe. Sides steady no sheer drops or broken steps
- Fix the current infrastructure
- Replicate the improvements that have been completed on other beach accesses along Lady Bay that have recently been updated
- Maintained and easy access for all despite age or disability
- A wheelchair path
- Bins at every access for people to dispose of their rubbish
- Less access points but existing ones improved similar to Worm Bay WCC118
- Not as steep and twice as wide.
- Ramps could improve access for older adults and young children. people who have difficulties with balance find the metal stairs difficult
- New construction, repair, replacement, maintenance and signage
- Having better car access closer to beach
- Get mats for surf club and the other access ramp
- Materials they are made out of need to be longer lasting materials. Better materials used for structures, reducing impacts of erosion and storm events
- Ensuring that the sand doesn't fill the walkways or be washed out from the base of any new stair cases installed
- More information signage on why dogs are prohibited in some places.
- Improve signage, particularly at Merri River Marine Sanctuary
- Better enforcement by Council to stop illegal activities and stop owners taking dogs on beaches where dogs are prohibited or letting dogs off lead in locations where they should be on-lead.

QUESTION 11: Do you have any general comments that would help inform the beach access strategy?

- Targeted consultation with the disability community - where should we be providing better access? (Two responses) Suggestion to consult an occupational therapist
- Talk to the main user groups including the Surf Lifesaving Club (2 responses) and listen to their concerns
- When walking along the beach paths there is almost next to no view of the ocean from Granny's Grave to the river mouth. The scrub has grown so high I feel unsafe walking through certain parts of the track. It's nice to access the beach and it would be even nicer to see the beach from most parts of the walking path. It's very over grown and very unkept from Granny's Grave to the river mouth- especially near the timber decking area
- Check what other beachside towns do which are better than Warrnambool
- Beach access is not a problem, the problem is access to toilet facilities when at the beach
- The seaweed needs to be removed from the beach. It becomes a health and safety issue particularly in summer. People have to endure the smell and being attacked by bugs. Doesn't encourage tourists to sit on the beach
- Wider paths to allow for the amount of people using the paths and the traffic with bikes etc.
- More public toilets. rubbish bins on the pathways. more sweeping of sand and water from paths
- Just keep most of the area clean this would be easy if done once per week with a sweeper and hand blower, it would improve the look of the areas also want to see the beach from the promenade, not tea tree and other bushes
- Access points are identified using emergency markers. Closing access points that are emergency markers is dangerous and should not be done. WCC125 is one such access (at the top of the carnival site). WCC125 should be re-opened. It is regularly used despite council boarding it up
- The beach access point (No WCC119) serves a large number of sites from within Shipwreck Bay and is a direct link to the caravan park on the opposite side of Pertobe Road
It provides crucial access to the beach for a large volume of young children, families and older people. Many carry items such as chairs, shade tents, food, toys etc so they are able to spend the day there. I have been using it for over 50 years and from experience would say it is one of the busiest and most essential points of access
- Metal is very uninviting. Timber is a much better material with better appearance
- Do more to make access easy for our community
- Walker safety and access over bike paths is also a risk for ambulant and young/aged users
- The new stairways put in at Lady Bay West are fantastic protection for the environment as well as storms
- It is just as important to provide safe easy beach access to tourists as well as residents. Warrnambool relies on tourism and has a beautiful beach which is a major attraction and needs to be maintained for everyone's safety and enjoyment
- Format of online survey not good and cross-references to map, with no link to survey mean people won't respond
- There is not one rubbish bin between the surf club and Granny's Grave, I always pick up my dog but there is nowhere to bin it, probably why a lot of pet owners don't
- Clear away the tea tree from the primary dunes. It is not natural and causes problems. Remember the dunes are artificial from a few decades ago
- New stairways and McGennan's and Worm Bay are great but they are very high. Older adults can find it difficult, especially when carrying chairs/bags/boards etc.
- New construction, repair, replacement, maintenance and signage
- It would be good to be able to have better lookouts

2.2 STRENGTHS, CHALLENGES AND OPPORTUNITIES

As revealed in the preparation of the Background Report, there are a number of strengths, challenges and opportunities relating to Warrnambool's Beach Access. These strengths, challenges and opportunities were have been updated to reflect the feedback received from the community and stakeholders during Round 1 Consultation.

STRENGTHS

- Significant as a cultural landscape, with important connections to Country for the Traditional Owners and sites of significance, including Moyjil Aboriginal Place
- Highly scenic and significant coastal landscape
- Appealing beaches and swimming areas
- Home to the Warrnambool Surf Life Saving club
- Logans Beach Southern Right Whale Nursery
- Home to a wide variety of flora with a wide variety of ecological vegetation classes, including the locally endangered Coastal Dune Grassland
- Mouth of the Hopkins River and Merri River Estuaries
- Adjacent the Merri Marine Sanctuary and Middle Island
- Home to a wide variety of fauna, including rare and threatened species, including nesting Hooded Plover (*Thinornis cucullatus*).
- Popular for a variety of recreational activities, including: walking and running, cycling, horse riding, fishing, photography, bird-watching, surfing, swimming and other water sports, yachting
- Close to the city centre and tourist attractions with convenient access to tourist resorts/parks
- Close to holiday parks, restaurant/s and café/s
- Post settlement sites of significance, such as Granny's Grave and Victorian Registered sites such as the breakwater
- Foreshore and foreshore promenade are high use areas next to the popular Lake Pertobe
- Highly valued by the community for the variety of recreational opportunities available
- Facilities and amenities, including car parking, toilets, seats, showers and waste disposal bins in close proximity to a number of access points.
- ESTA markers on most access points

CHALLENGES

- Increase in visitor numbers may create additional pressure on the coastline, its landscape and cultural values and existing infrastructure, including access structures
- Ageing infrastructure reaching the end of its useful life
- Natural and marine processes, such as storms and storm surges, can impact on the integrity of heritage sites and also contribute to dune erosion and damage to infrastructure.
- Climate change impacts such as rising sea levels and increased frequency and severity of storms are a threat.
- Limited knowledge of the effects climate change will have on the coast.
- Conservation management of native flora and fauna
- Threats to environmental values from urban areas
- Pest plant and animal management
- Unauthorised pedestrian and bicycle access
- Dune instability and impacts of sand shifting onto access structures and paths. Sand build-up creates accessibility barriers and maintenance concerns.
- Non-compliance with the off-leash areas
- Areas of soil and cliff instability
- Impacts to places of cultural significance due to their fragile and accessible nature
- Access and inclusion to beach access for those with a disability and/or special access requirements
- Provision of new infrastructure, including amenities
- Silting of Lady Bay
- Disposal of dredging spoil
- Seaweed accumulation on the foreshore
- Public safety and risks to users of beach access structures
- Fire management
- Coastal Acid Sulfate Soil hazard
- Dumping of rubbish and littering
- Financial costs associated with providing new infrastructure and maintaining existing infrastructure
- Emergency access to the beach can be difficult in some locations.
- Steep inclines and steep staircases
- Lack of infrastructure for people with special access requirements
- Steep drop offs
- Vegetation overgrowth and management (mainly Coast Tea-tree)

OPPORTUNITIES

- Improving access and inclusion to those with a disability and/or special access requirements through upgrades to beach access infrastructure
- Reducing safety risks to visitors through improved beach access infrastructure
- Enhancing Warrnambool’s tourism and event offerings through improved beach access
- Protecting cultural heritage landscapes and sites along the coastline through changes and/or improvements to beach access infrastructure. The means by which this can be achieved will be discussed with the Traditional Owners
- Improving coastal dune stability through revegetation and installation of physical barriers, preventing pedestrian and cyclist access away from designated beach access paths
- Adopting a consistent approach to design and construction materials used for beach access points. This may result in long-term cost savings for renewal and capital works budgets
- Implementing climate change mitigation measures to help protect the coastline’s values and ensure beach access structures are design and constructed to tolerate climate changes and extreme weather events
- Developing a hierarchy of most to least used beach access points to help better determine access requirements for each point and appropriately direct funding
- Developing a works priority list for renewal and capital works for the beach access points
- Applying adaptive management to inform approaches and changes to management of the coastline over time
- Maintenance regime changes to target specific challenges and issues detailed by the community and maintenance staff, including sand build up and vegetation overgrowth
- Improve emergency access and provide ESTA markers at all access points
- Beach access changes to be considered, include:
 - replacement (like for like or minor modifications)
 - replacement with upgrade (to improve accessibility with new design, siting and materials)
 - retention (of new structures or those with a long useful lifespan remaining)
 - consolidation (2 structures decommissioned and rebuilt with 1 upgraded structure)
 - decommissioning and removal



Warrnambool Beach Access Strategy

Part 3: Analysis, Planning Principles & Recommendations

3. ANALYSIS AND PLANNING PRINCIPLES

This section provides an analysis of Warrnambool’s Beach Access and key planning principles that should be applied in future planning of beach access.

The beach access planning principles are derived from the findings from site visits and site analysis, the Warrnambool Planning Scheme, previously adopted studies and plans and insights and suggestions from the community and stakeholders. These principles inform the recommendations of the strategy.

3.1 SERVICE PROVISION AND ACCESSIBILITY

Warrnambool’s beaches are amazing natural assets attracting residents, visitors and tourists. The 33 beach access points, spanning across eight (8) kilometres from Shelly Beach to Logans Beach, are in walking distance from the Warrnambool City centre, holiday parks and popular tourist destinations including Lake Pertobe. The beach access points also provide access to the patrolled swimming beach in front of the Warrnambool Lifesaving Club.

AMENITIES AND CAR PARKING FACILITIES

Many of the beach accesses are connected to the Warrnambool beach foreshore loop, Port Fairy to Warrnambool Rail Trail and foreshore promenade and Lake Pertobe Road.

In addition to the paths and trails, there are eleven (11) car parks which allow people to park their vehicle and walk to the beach access points. These car parks include:

1. Thunder Point lookout (Thunder Point Road)
2. Pickering Point lookout (Pickering Point Road)
3. Merri River Estuary (Viaduct Road)
4. Harbour Precinct car parks (end of Viaduct Road)
5. Worm Bay (Worm Bay Road)
6. McGennans Beach (entrance off Pertobe Road)
7. Warrnambool Surf Lifesaving Club (entrance off Pertobe Road)
8. The Flume (entrance off Merri Street)
9. Point Ritchie/Moyjil (Point Ritchie Road)
10. Hopkins River (Blue Hole Road)
11. Logans Beach (Logans Beach Road)

There are currently public amenities including toilet facilities located at:

1. Merri River (Viaduct Road)
2. Harbour Precinct car parks (end of Viaduct Road)
3. McGennans Beach (entrance off Pertobe Road) (proposed for replacement)
4. Warrnambool Surf Lifesaving Club (entrance off Pertobe Road)
5. Point Ritchie/Moyjil (Point Ritchie Road); and
6. Hopkins River (Blue Hole Road)

The Public Amenities Strategy 2013 identified toilet upgrades at Hopkins River (Blue Hole Road), Merri River (Viaduct Road) and Point Ritchie / Moyjil as well as a toilet replacement near McGennans Beach car park. The Public Amenities Strategy did not recommend and new toilet facilities at beach access locations.

USAGE, SERVICE PROVISION AND ACCESSIBILITY

There are a variety of different service levels, which generally align with the usage level. Refer to the Usage Plan at Figure 11. Usage and service levels have been divided into three categories:

Category A

- Located near key tourist attraction or Life Saving Club. High use during peak periods.
- Located with good connection to shared trail.
- Public amenities and car parking facilities located within 300m walking distance in all locations, except Logans Beach Whale Nursery which does not have public toilets.

Category B

- Public amenities, car parking facilities and/or tourist park located within 300m walking distance.
- Located with good connection to shared trail.
- Medium to high use during peak periods.

Category C

- Public amenities and car parking facilities located greater than 300m walking distance.
- Low to Medium use during peak periods.

There are a number of different construction types and materials used for the 33 beach access points. They range from

1. Sand access track
2. Sand access track with boards and chains
3. Stairs constructed of timber or concrete, many excluding appropriate landings and ground surface indicators.
4. Steel and fibre reinforced polymer mesh with handrails, landings and ground surface indicators.
5. Timber ramp with handrails and landings.

The existing level of service of some structures do not meet the current user’s needs and unlikely to meet future anticipated demand. This was evidenced through the 2019 Council audit and recent site visits and was reinforced through the Round 1 community consultation feedback, where a number of comments related to the beach access points not meeting the needs of users with special access requirements and concerns raised about various beach access points. Concerns around access and service provision related to:

- Sand build up
- Absent/inadequate handrails
- Trip hazards, particularly on timber structures
- Staircase incline being too steep

- Inappropriate materials
- Lack of landings/resting platforms on staircases
- Unstable structures
- Lack of space on structures
- Uneven ground/surfaces
- Path erosion and water pooling
- Broken slats
- Large drop-offs to beach at end of structures
- Weeds/vegetation overgrowth

There is only one access structure designed to accommodate wheelchairs, prams and walking frames. This ramp (WCC126) is accessed via a path from the McGennans Car Park or via a path from the Surf Lifesaving Club car parking areas, including a disabled parking bay on the west side of the club building. The ramp presents numerous issues in terms of accessibility and maintenance due to regular sand build up. The design and construction material of the ramp also make it difficult for service crews to remove the sand on the ramp.

Creation of New Tracks

One of the requests listed in the survey responses was for a new track to be created from the end of Younger Street to the beach. The creation of this track is not recommended in this Strategy due to a number of reasons, as follows:

- The creation of new tracks is expensive. They require survey, cultural heritage management plans, vegetation removal and offset, fencing, signage and maintenance. There is a cost benefit to the community by utilising funding to upgrade and improve the existing authorised tracks and beach access points rather than creating a new one in this location. A new access track is likely to benefit a small number of residents in the nearby residential estate, of which Younger Street forms part of, rather than the broader Warrnambool community.
- There would be a significant loss of native vegetation required to create a new track. This would also add to fragmentation of the Coastal Dune Scrub in this area.
- The area of land has poor passive surveillance, which doesn't promote good pedestrian safety.

SERVICE PROVISION AND ACCESSIBILITY PLANNING PRINCIPLES

- Address accessibility concerns and provide safe and equitable public access to the beach and river estuaries.
- Ensure renewal and replacement of beach access structures facilitates greater accessibility and inclusiveness for those living with a disability and those with special access requirements.
- Actively engage and involve disability support groups and users with special access requirements early in the planning phase for new and upgraded beach access infrastructure.
- Enhance connections between beach access points and surrounding paths and trails and public transport stops to improve accessibility and provide opportunities for beach access and active beach recreation for all residents and visitors.
- Provide adequate waste and public amenities infrastructure to ensure beaches remain clean.



Figure 11: Beach Access Peak Usage Plan

WARRNAMBOOL BEACH ACCESS - PEAK USAGE PLAN (WEST)



- LEGEND
- Beach Access Point (33 in total within study area)
 - Category A
Located near key tourist attraction or Life Saving Club.
High use during peak periods
Located with good connection to shared trail
Public amenities and car parking facilities located within 300m walking distance in all locations except Logans Beach Whale Nursery
 - Category B
Public amenities, car parking facilities and/or tourist park located within 300m walking distance
Located with good connection to shared trail
Medium to High use during peak periods
 - Category C
Public amenities and car parking facilities located greater than 300m walking distance
Low to Medium use during peak periods
 - Existing Trail
 - * Public Amenities/Toilets

WARRNAMBOOL BEACH ACCESS - PEAK USAGE PLAN (EAST)



3.2 SAFETY & EMERGENCY ACCESS

SAFETY

Warrnambool's coastal environment is dynamic, often with diverse climatic conditions which can contribute to shifting sands and unstable dune systems. It is important that beach access points along the coast are planned, designed and built carefully to ensure they can withstand the demands of increasing use and climate change. These access points must also provide safe and functional access.

Beach access safety concerns raised by the community or noted through the site visits and discussions with stakeholders, included:

- Grades/steepness of some staircases and timber boards and chains.
- Sand coverage and build up over structures (Figure 12)
- Erosion of sand and steep drop-offs at base of some stairs/access structures
- Surveillance and sightlines. Particularly along the beach foreshore trail where taller vegetation exists blocking views and creating safety concerns for users, particularly at intersections between the shared trail and path access points. (Figure 13)
- Horses
- Isolated nature of places, such as Shelly Beach (WCC101) and Pickering Point (WCC107)
- Cliffs, steep embankments, steep dune embankments.
- Inadequacy of fencing in some locations
- Materials and maintenance (splinters, warped stair treads)
- Anti-social behaviour, including lighting of fires

Perceptions of safety have a strong influence on people's walking preferences and vegetation overgrowth was cited by a number of survey respondents in relation to safety. If people feel as though they are putting themselves at risk in certain locations they are more likely to avoid those environments.

Figures 12: Sand build up on ramp (WCC126)



Figure 13: Vegetation close to trail



EMERGENCY ACCESS

Discussions and feedback from the State Emergency Service (SES) and Warrnambool Surf Lifesaving Club (WSLSC) revealed existing emergency access issues.

The State Emergency Service are called to emergencies for the retrieval of casualties if the ambulance cannot gain access. The SES use an all-terrain vehicle to gain access to the beach it requires a three (3) metre minimum access width.

The Warrnambool Surf Lifesaving Club have a patrol tower located adjacent to access point WCC127. The usual flagged area for the patrolled swimming area is located between access points WCC126 and WCC127. However, it can deviate up to 200m either side of these access points. The WSLSC also respond to beach emergencies extending up to 4kms along Lady Bay between the Yacht Club (WCCYC) and Point Ritchie/Moyjil (WCC141).

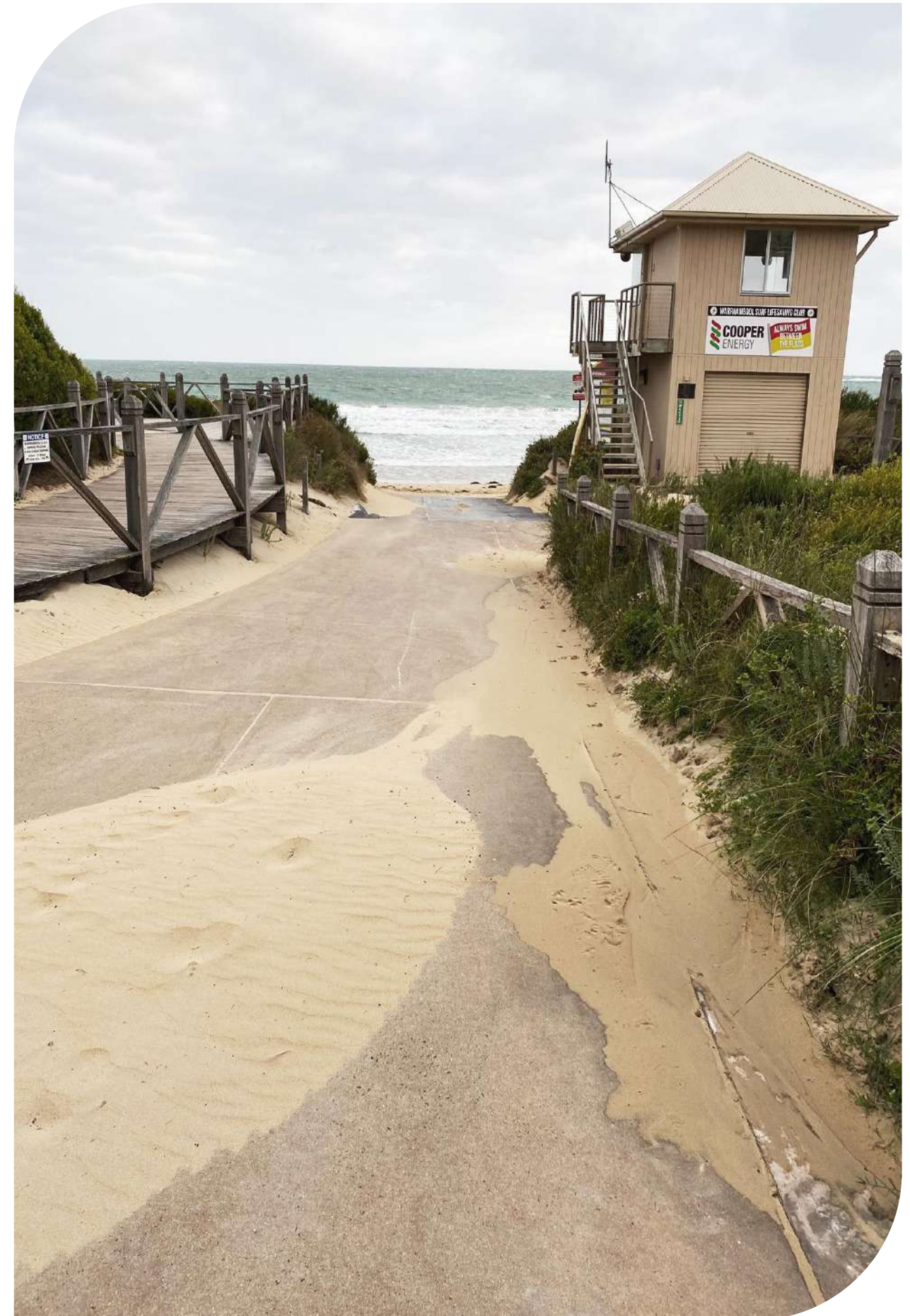
The concerns raised by the SES and WSLSC included access for emergency vehicles onto and along the beach and the need for additional emergency vehicle access points, particularly to provide better emergency access to the eastern end of Lady Bay, such as The Flume. The WSLSC also provided a number of suggestions for improvements to specific beach access points being WCC111, WCC113, WCC126, WCC127 and WCC133. These suggestions are incorporated into the recommendations at Section 5.

Concerns raised by the SES and/or WSLSC included:

- Missing Emergency Services Telecommunications Authority (ESTA) markers. (The state emergency marker codes commence with the WCC followed by a number. These markers provide critical information in the event of emergency calls requiring assistance from the police, fire, ambulance or state emergency services. Special notes can be added to the ESTA system providing advice to emergency services on best access locations and form of access to each location.
- The importance of having up to date information linked to the ESTA markers, in relation to available access points and access point closures.
- Limited emergency vehicle access to beach in some locations, including all-terrain-vehicles (ATVs), particularly at the eastern end of Lady Bay.
- The provision of sturdy, safe access points, particularly for those with a disability and/or special access requirements.

SAFETY AND EMERGENCY ACCESS PLANNING PRINCIPLES

- Address safety concerns through upgrades, renewal and replacement of structures and review maintenance regime to include additional safety checks where required.
- Investigate opportunities to provide additional beach access points for emergency vehicle access and/or all terrain vehicles to the beach at the eastern end of Lady Bay and east of the Hopkins River.
- Ensure signage at each beach access point (land side and beach side) contains up to date information and emergency contacts, in accordance with the ESTA. Ensure all access points have an ESTA marker and ESTA markers are regularly inspected and replaced, where required.
- Actively engage and involve emergency service groups, including Warrnambool Lifesaving Club, SES, Fire Rescue Victoria, Victoria Police and Ambulance Victoria, early in the planning phase for new and upgraded beach access infrastructure.
- Determine a pruning/removal regime for the tea-tree to ensure sightlines are maintained, particularly at path junctions with beach access points.
- Apply Crime Prevention Through Environmental Design (CPTED) principles when planning upgrades/renewal or new/replacement structures.



3.3 CULTURAL HERITAGE

Warrnambool's coastline has been home to the Traditional Owners for thousands of years and their connection to Country remains unbroken. One particular place of great cultural significance is the Point Ritchie/Moyjil area near the Hopkins River estuary, which is rich in both cultural and natural history. This site records unique evidence of early human occupation by the Traditional Owners, for tens of thousands of years, possibly dating beyond 60,000 years. (WCC, 2013)

Significant risks to cultural heritage exist along Warrnambool's coast. Natural weather events and processes, including fires, are a threat to cultural heritage and can result in erosion of cultural heritage sites. Of particular concern is the creation and use of unauthorised tracks, such as near Shelly Beach, which may disturb or destroy cultural heritage.

This Moyjil Aboriginal Place – Point Ritchie Conservation Management Plan 2013 includes four management areas, being Point Ritchie / Moyjil (Management Area 1), Western Dunes (Management Area 2), Hopkins River - West Bank (Management Area 3) and Hopkins River - East Bank (Management Area 4). The Point Ritchie / Moyjil Management Area, which includes the Point Ritchie / Moyjil car park, the mainland headland and the West and East rock stacks, was given the highest priority.

In accordance with the Conservation Management Plan, protection and control of access within the management area, including the Point Ritchie/Moyjil area, needs to be carefully considered.

The design, construction and use of beach access points must be carefully planned for, monitored and managed to avoid harm to the highly significant deposits and cultural significance of the area.

Figure 14: Moyjil / Point Ritchie



CULTURAL HERITAGE PLANNING PRINCIPLES:

- Acknowledge and respect cultural heritage and connection to Country for the Eastern Maar Peoples. Conserve and protect these values through careful siting and design of beach access structures.
- Support the continued public amenity use of the Moyjil area in a way which does not compromise the identified cultural significance of the place.
- Protect the places of cultural significance along Warrnambool's coast, including Moyjil from inappropriate development*.
- Decisions relating to beach access will need to be consistent with the recommendations of the Moyjil Conservation Management Plan 2013 and the Coastal Management Plan 2013.
- Obtain Cultural Heritage Management Plans (CHMP) approved under the Aboriginal Heritage Act 2006 and ensure that permit approvals for beach access structures align with the recommendations of the relevant Cultural Heritage Management Plan.
- Ensure land management practices and siting and design of beach access structures occurs in consultation with the Traditional Owners to ensure cultural heritage is retained and protected.
- Actively engage and involve Eastern Maar Aboriginal Corporation (EMAC) early in the planning phase for new and upgraded beach access infrastructure.
- Implement measures to discourage visitors from deviating from authorised pathways and impacting significant sites (e.g. the headland and West Stack Deposits).

**Note - 'Development' in this instance means any activity which will involve the disturbance or removal of physical fabric, or that will impinge on the setting of the precinct. Examples could include the construction of buildings or roads, which will require disturbance through preliminary groundworks, or coastal engineering works which require the disturbance or removal of material. Limited development should occur within the precinct. As visitor numbers increase, renewal and upgrade of existing facilities and public amenities may be required. (WCC, 2013)*

3.4 POST-EUROPEAN SETTLEMENT HERITAGE

There are a number of sites of post-European heritage along the coast. Many of these are located near the harbour, including the Warrnambool Breakwater and the former Warrnambool Lifeboat Jetty.

One of the 33 beach access points (WCC138) is located near ‘Granny’s Grave’. The trail leading from near the intersection of Hickford Parade and Patricia Street runs past the grave of Agnes Ruttleton, who was buried in 1848. Her grave is referred to as ‘Granny’s Grave’.

There are also references to maritime history along the coast, such as the plaque describing the Edinburgh Castle vessel, which ran aground in Lady Bay in 1888. This plaque is also located near beach access WCC138.

Figure 15: Granny’s Grave, Photograph by John T Collins, c. 1970 (Source: State Library Victoria)



Figure 16: Granny’s Grave, 2022



Figure 17: Edinburgh Castle Plaque



POST-EUROPEAN SETTLEMENT HERITAGE PLANNING PRINCIPLES

- Protect the heritage values, the aesthetic quality of locations, cultural links with maritime activities, sea country and sense of place.
- Ensure an appropriate setting and context for heritage places is maintained or enhanced.
- Encourage the conservation and restoration of contributory elements of a heritage place.

3.5 BIODIVERSITY AND VEGETATION MANAGEMENT

NATIVE FAUNA

Warrnambool's beaches provide important habitat for a wide range of local flora and fauna. The Warrnambool coastline between Shelly Beach and Logans Beach provides habitat for a diverse range of birds including the vulnerable Hooded Plover (*Thinornis cucullatus*) and endangered Ruddy Turnstone (*Arenaria interpres*). Other fauna inhabiting this section of coastline include reptiles such as the endangered Swamp Skink (*Lissolepis coventryi*) and mammals such as the vulnerable Long-nosed Fur Seal (*Arctophoca australis forsteri*) and endangered Australian Sea-lion (*Neophoca cinerea*). (DELWP⁴, 2022)

NATIVE FLORA, LANDSCAPE VALUES AND VEGETATION MANAGEMENT

A range of flora exists through the sand dunes and cliffs. Biosis Research prepared a Warrnambool Coast Vegetation Management Plan in 2012. Biosis recorded fifteen (15) ecological vegetation classes during site visits in 2012. In the foreshore area between Shelly Beach and Logans Beach, the following ecological vegetation classes (EVCs) were found:

Shelly Beach to the Merri River Estuary

- Spray-zone Coastal Shrubland,
- Coastal Tussock Grassland, and
- Coastal Dune Scrub/Coastal Headland Scrub Mosaic

Merri River Estuary, Worm Bay and Lady Bay East and West

- Coastal Dune Scrub Modified
- Coastal Dune Scrub
- Coastal Dune Shrub/Coastal Headland Scrub
- Coastal Dune Grassland (small patch between Point Ritchie / Moyjil and Granny's Grave)
- Spray-zone Coastal Shrubland (small patch at Point Ritchie / Moyjil)

East of Hopkins River and Logans Beach

- Coastal Dune Scrub
- Coastal Dune Grassland
- Berm Grassy Shrubland (small patches adjacent the Hopkins River)

(Biosis, 2012)

Amongst species present in the area, there are endangered species including, Coast Twin-leaf (*Zygophyllum billardierei*), Coast Bitter-bush (*Adriana quadripartita*) occurring in the Granny's Grave area and Coast Fescue (*Poa billardierei*). (Biosis, 2012, p. 5)

Coast Wattle (*Acacia longifolia* ssp. *sophorae*) is an indigenous species found in Coastal Dune Scrub EVC 160, but it demonstrates invasive properties and has a tendency to take over and reduce available habitat for a range of other indigenous vegetation species, threatening biodiversity values. Therefore, in areas where revegetation occurs, it is not recommended for new plantings. Coast Wattle is of particular threat to the regeneration of Common Correa, Thyme Rice-flower and Coast Beard-heath. (Biosis, 2012, p. 16)

Coast Tea-tree (*Leptospermum laevigatum*) is indigenous to Victoria but is an introduced species to this part of south-western Victoria. (Biosis, 2012, p. 6) 'It was recommended by Ferdinand von Mueller as part of dune revegetation in the 1880s. It has since been used in amenity planting and is extensively naturalised' (Biosis, 2012, p. 6). Although Coast Tea-tree is not indigenous to this area, it is indigenous to Victoria and therefore requires a planning permit for its removal.

Marram Grass (*Ammophila arenaria*), was introduced from Europe and planted extensively to help prevent sand drifts created by stock grazing. It builds taller sand dunes than native species due to its 'unlimited vertical as well as horizontal rhizome growth...' (Biosis 2012, p. 6). 'While their dominance does reduce plant diversity in some areas, both species [Marram Grass and Coast Tea-tree] are important for erosion control and dune stabilisation. They can also provide habitat for native fauna.' (Biosis 2012, p. 6)

Many of the management recommendations of the Warrnambool Coast Management Plan 2012 are relevant and applicable today. However, there has been substantial changes to the dune morphology and vegetation coverage in the past nine (9) years since the Management Plan was prepared. Changes have included further spread of Coast Tea-tree, which is causing safety concerns for users and ongoing maintenance concerns for Warrnambool's maintenance staff. The aerial photos below from 2015 and 2020 show that the Tea-tree coverage has become denser along the foreshore. Figure 20 shows the close proximity of the Coast Tea-tree to the shared trail, where it requires regular trimming.

Figures 18 and 19 – Show vegetation and dune changes to the west of the Surf Lifesaving Club between 2015 (top) and 2020 (below). Erosion has increased along the dune face which has changed the dune morphology and there is an increase in density and coverage of Coast Tea-tree (Aerial image sources, Geovic, 2015 and WCC, 2020)

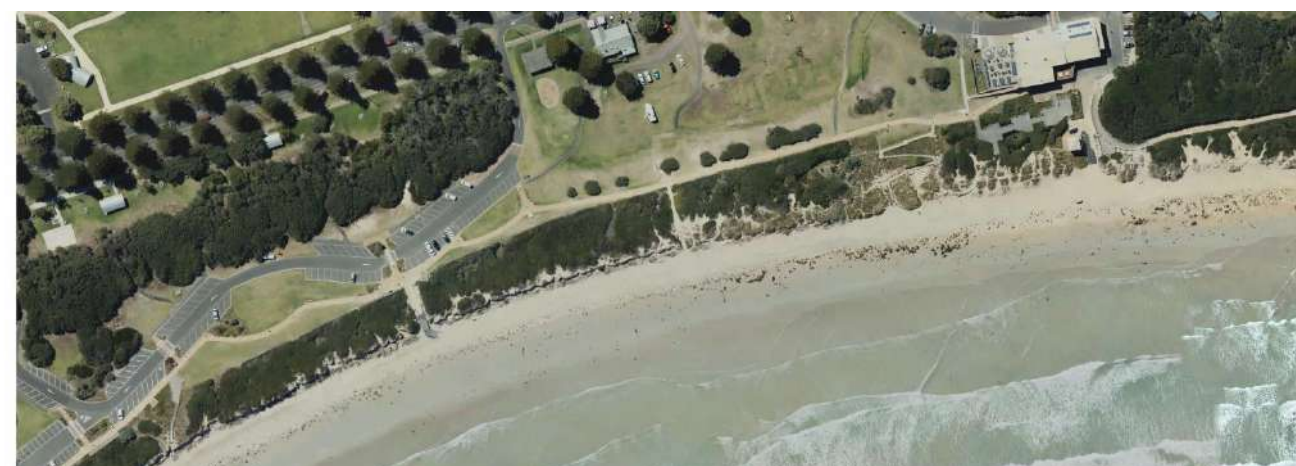


Figure 20: Thick Tea-tree adjacent existing paths and access points (Aerial image source, WCC, 2020)



The Coast Management Plan 2012 recommended that management of the Coast Tea-tree should involve *'careful lopping and trimming of up to one third of the height or volume of native trees ensuring the health of the tree is not compromised'* (Biosis, 2012, p. 16) The Management Plan did not recommend removal of Coast Tea-tree. However, this recommendation from 2012 requires a review, as it may be appropriate for some areas of Coast Tea-tree to be removed and replaced with indigenous species that are lower growing and do not significantly inhibit sightlines, particularly near path intersections and key beach access points.

Whilst the Coast Tea-tree provides erosion control by stabilisation of the sand by the root systems, it was noted on site visits that underneath the Coast Tea-tree the sand movement tends to occur in channels and this may be due to the lack of tufted graminoids and groundcovers present. In areas where the Coast Tea-tree has died and the area has been revegetated, the maintenance staff have found that leaving the root system of the dead tree in place helps erosion control while the newly planted vegetation establishes.

A strategic approach is required to ensure that in places where Coast Tea-tree and any weed species are removed that revegetation is densely planted with sufficient erosion control measures in place to avoid creating any new erosion problems. Appropriate native vegetation offsets must also be provided for the vegetation removed.

BIODIVERSITY AND VEGETATION MANAGEMENT PLANNING PRINCIPLES

- Protect and enhance the ecological values of the ecosystems in Warrnambool's marine and coastal environment, including coastal reserves, dune systems, Merri River estuary and Hopkins River estuary and coastal reserves.
- Protect and enhance the overall extent and condition of native habitats and species diversity distributions across public and private land.
- Minimise direct, cumulative and synergistic effects on ecosystems and habitats.
- *Minimise the impacts of pest plants and animals and decrease damaging land uses and practices.*
- Promote revegetation retention, planting and rehabilitation in dune areas prone to erosion.
- Investigate removal of sections of Coast Tea-tree and invasive species.
- Protect and enhance natural features, landscapes, seascapes and public visual corridors.
- Minimise the visual impact of development including accessways, on the scenic landscapes along the coast, river valleys and inland ridgelines.
- Balance the requirements of vegetation retention with the need to protect vantage points, view and sight lines to and from the public realm, to ensure adequate passive surveillance and promote good perceptions of safety in accordance with Crime Prevention Through Environmental Design (CPTED) principles.
- Ensure development is of an appropriate scale, use and intensity relative to its location and minimises impacts on the surrounding natural, visual, environmental and coastal character.

3.6 RECREATION AND TOURISM

Warrnambool's beaches play an important role for the community, providing spaces for a range of activities, recreation, tourism and events, as well as opportunities for people to connect with the natural environment and cultural coastal landscapes. As described in Section 3.2, the 33 beach access points span across eight (8) kilometres, are in walking distance from the Warrnambool City centre, holiday parks and popular tourist destinations including Lake Pertobe and provide access to the patrolled swimming beach in front of the Warrnambool Lifesaving Club.

In terms of recreation and tourism, there are numerous locations of note, which the beach access points provide entry to, including:

- Places of Aboriginal cultural significance, including Moyjil Aboriginal Place
- Logans Beach Southern Right Whale Nursery
- Popular recreational fishing at the mouth of the Hopkins River Estuary
- Patrolled beach swimming area
- Home to the Warrnambool Surf Life Saving club and surf lifesaving activities; and
- Popular for a variety of recreational activities, including: walking and running, cycling, horse riding, fishing, photography, bird-watching, surfing, swimming and other water sports, yachting.

In the Warrnambool Open Space Strategy, the subject site falls into three precincts being Warrnambool (South/Merrivale), Warrnambool Central and Warrnambool (South East/Hopkins). In the Open Space Strategy, the 33 access points are located on land classified as 'existing open space' that is accessible to the public. The Active Warrnambool Strategy 2019-2030 seeks to increase regular participation in sport, active recreation and physical activity by the community, with benefits being physical fitness, reduced risk of chronic illnesses and improved mental wellbeing. Together, these strategies seek to provide:

- *A diversity of parks that everyone can access close to home*
- *A well-connected network of open spaces across the Municipality*
- *A network that protects a range of natural and cultural environments and contributes positively to biodiversity and water quality*
- *A more environmentally sustainable open space network*
- *A management system that makes efficient use of available resources whilst maintaining quality of provision*
- *An open space network that meets the needs of current and future residents and visitors*
- *Increased participation and use of open space*
- *Increased participation opportunities for everyone*
- *Maximised and best use of facilities, places and spaces*
- *Improved connectivity between facilities, places and spaces*
- *Renewed and redeveloped existing facilities, places and spaces to maximise physical activity opportunities*

Providing accessible, well-maintained beach access helps to achieve these goals and promotes recreation and visitation to tourist attractions.

RECREATION AND TOURISM PLANNING PRINCIPLES

- Encourage active recreation through promotion of trails, beach access points, significant cultural heritage, significant environmental features and assets.
- Improve signage to help promote greater usage of paths, trails and beach access.
- Provide for the sustainable management of regionally significant tourism attractions, including cultural heritage sites.
- Support tourism and community access to the coast, without compromising the natural environment.
- Encourage use and development of coastal and river areas that optimise their tourism potential while respecting the sensitive nature of these areas.
- Provide accessible and inclusive beach access points to encourage beach visitation and involvement in recreation and physical activity.

3.7 COASTAL LANDSCAPE CHANGES AND CLIMATE CHANGE

The physical impacts of climate change, including sea-level rise, wave and wind changes, more frequent and extreme storms, are likely to have an impact Warrnambool's shoreline and beach access structures.

VICTORIAN COASTAL MONITORING PROGRAM

There are gaps in current knowledge about climate change and the potential impacts it is likely to have on coastal environments. (DELWP, 2018) The Victorian Government, through the Department of Land, Water & Planning (DELWP), has partnered with Deakin University, The University of Melbourne, and Monash University to better understand patterns of beach erosion along the Victorian coast through the Victorian Coastal Monitoring Program (VCMP). The Program, which commenced in 2018, uses scientific tools to understand patterns of beach erosion along the Victorian coast' (Deakin University, 2022).

'Our coast is already very high energy and dynamic with climate change expected to modify the weather systems impacting the shore and therefore have major impacts to beaches and dunes. Understanding the impacts of sea level rise, changes in wave direction, and storminess can help Victoria prepare for the future. The aim of this program is to fully understand the dynamics of the coast from the dunes to offshore where waves are able to mobilise sand during storms' (Deakin University, 2022).

The Program, has involved regular monitoring, including drone surveys approximately every six weeks, to monitor the changes 'occurring in the position of the toe of the dunes and in the beach level within the survey area' (Deakin, 2022). The survey area in Warrnambool includes Worm Bay and Lady Bay West. This monitoring is providing scientists in the VCMP with survey quality data to look at the dynamics of the shoreline and understand the impact of disturbance events, such as large swells and storm surges. This data and research coming from the Program provides land managers with information to help 'determine where action is required to protect the coast from these events, which are predicted to increase with climate change' (Deakin University, 2022).

VISUALISING BEACH CHANGE

One component of the Program is visualizing beach change. *'During storms, significant erosion occurs along Warrnambool beach, putting coastal assets at risk. (Deakin University, 2022)'*

The image 'on the right shows how the beach changed after a storm with side-by-side flights over the drone imagery. The frame on the left is from March 6, 2014 and the frame on the right is from July 2, 2014' (Deakin 2022).

Figures 21 and 22: Pre- (top) and Post- (below) 2014 storm event drone imagery (Deakin, 2022)



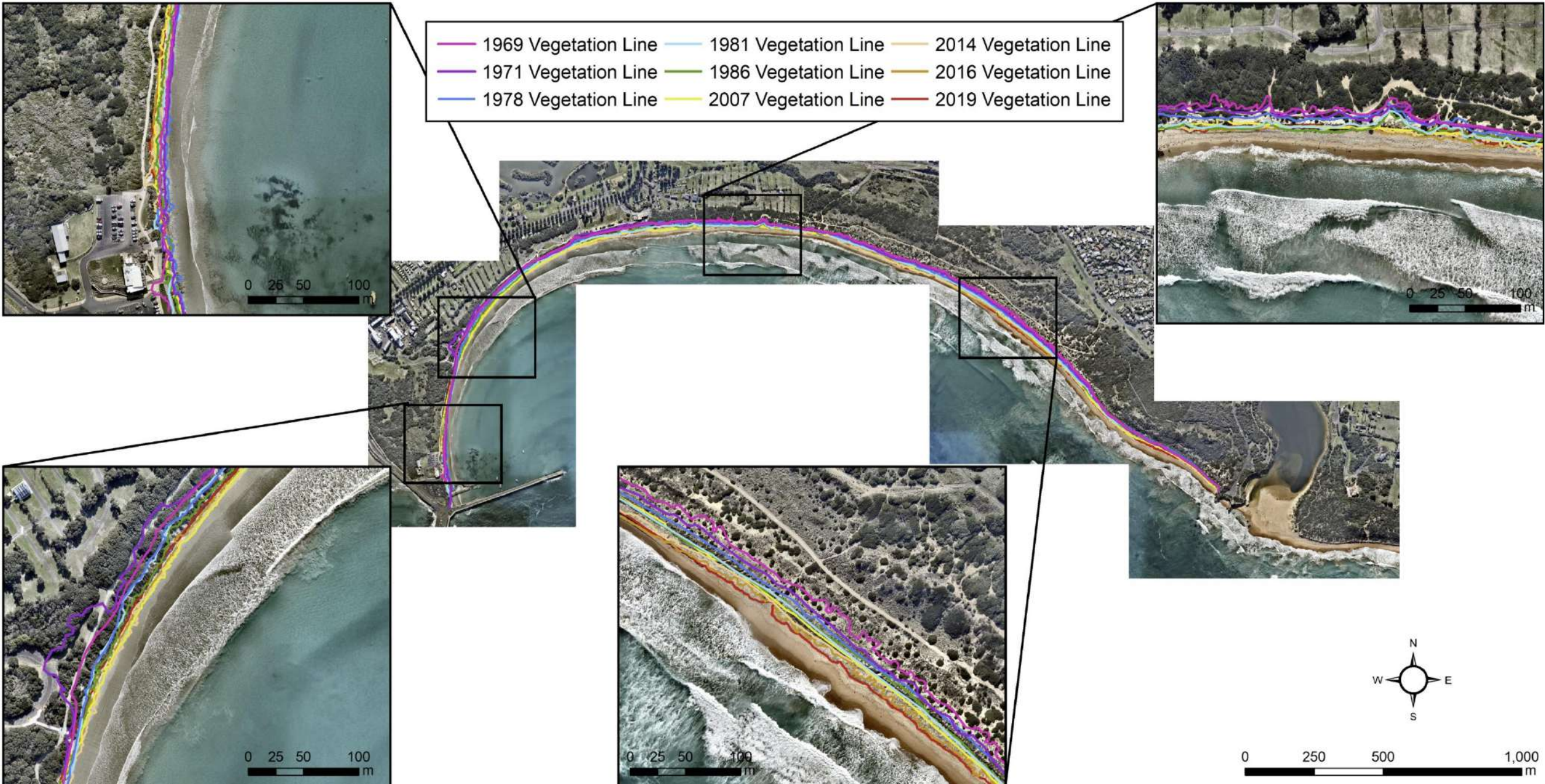
Images Sourced from the Victorian Coastal Monitoring Program (Deakin, 2022)

HISTORICAL SHORELINES

One component of the Program is the study of historical shorelines, which has involved analysis of historical and recent aerial photographs to look at changes to the shoreline. The vegetation line on the seaward side has been analysed and mapped to show the changes over 50 years, dating back to 1969. (Deakin, 2022)

'Victoria has more than 2500 km of coastline that provides critical social, cultural, and economic benefits to communities, in addition to its important and varied intrinsic natural values. Coastal erosion already affects these values in many parts of Victoria with climate change likely to increase the rate of change of coastlines. Understanding trends and changes in erosion rates over the past 60 years is critically important as it allows managers and researchers to separate short term storm erosion from long term retreat. Erosion during a storm on a beach that is generally stable or building out is less important than erosion on a beach which is rapidly retreating. Attempting to stop erosion on a stable or accreting beach may in fact force this beach out of balance with nature and lead it to become erosional. Using aerial photos, both historical and contemporary, the VCMP collaborated with the National Environmental Science Programs, Earth Systems and Climate Change Hub to investigate changes in the frequency and intensity of erosion. The team has mapped 15 locations along the state's coastline, including Warrnambool' (Deakin, 2022). Figure 17 shows historical change in the shoreline for each timestep.

Figure 23: Historical shorelines 1969 to 2019 (vegetation line mapping) (Deakin, 2022)

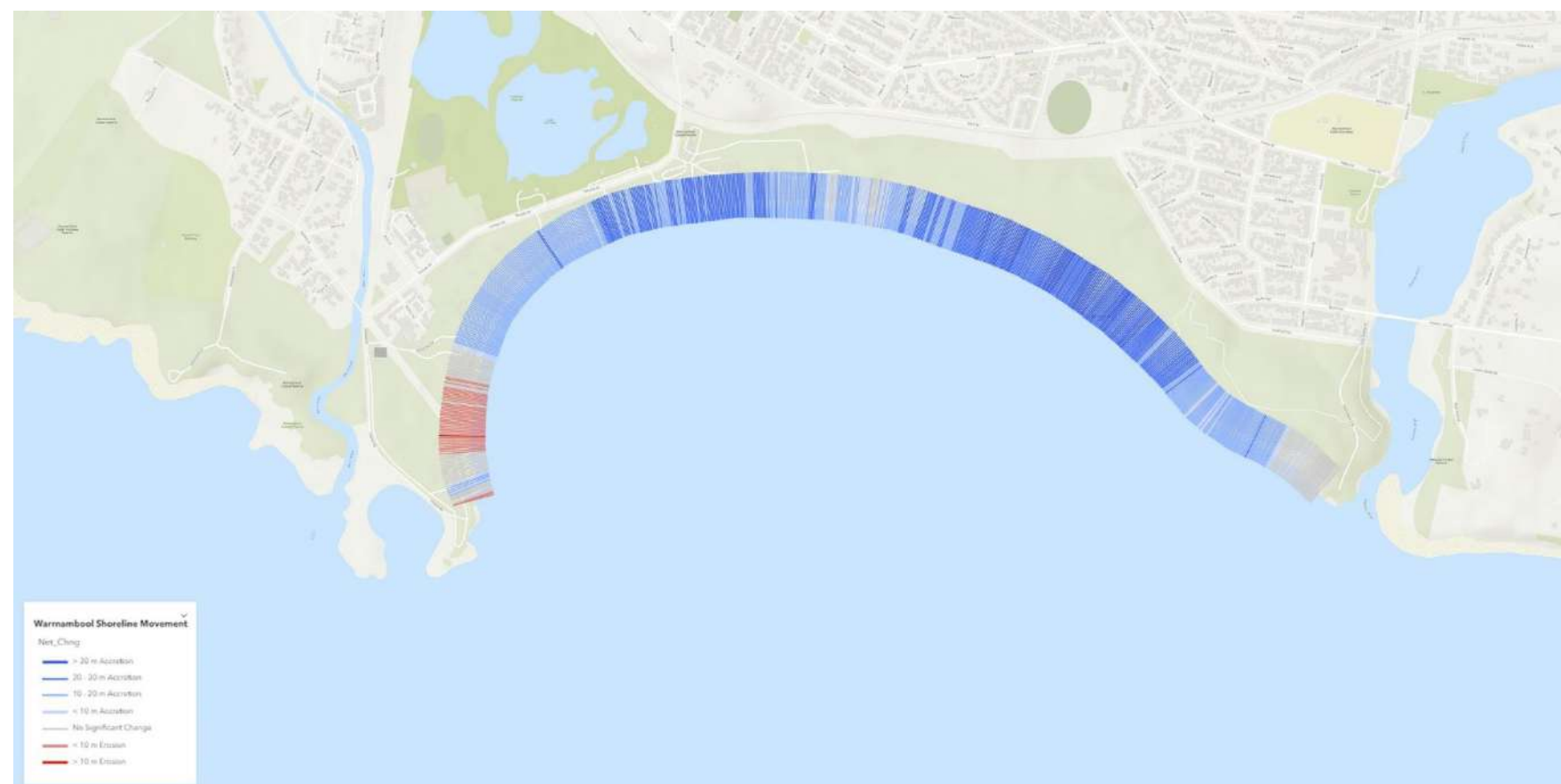


NET SHORELINE MOVEMENT

'The majority of the Warrnambool beach (83.3%) has experienced some amount of accretion over the past 50 years from 1969 to 2019, while erosion accounts for 6.0% of the change in shoreline position. No significant change was found at the remaining 10.7% of transect locations. Most of the erosion is occurring in the western end of the beach area next to the breakwater. Accretion is occurring across the rest of the beach with a few areas of no significant change interspersed. You can explore specific areas of interest by navigating around the map' (Deakin, 2022)*

*Note – Accretion is the gradual accumulation of sand.

Figure 24: Net Shoreline Movement 1969 to 2019 (vegetation line mapping) (Deakin, 2022)



COASTAL LANDSCAPE AND CLIMATE CHANGE PLANNING PRINCIPLES:

- Consider the risks associated with climate change in planning and management decision making processes and site and design development to minimise risk to life, property, the natural environment and community infrastructure from natural hazards.
- Plan for sea level rise of at least 0.8 metres by 2100 and allow for the combined effects of tides, storm surges, coastal processes and local conditions such as topography and geology when assessing risks and coastal impacts associated with climate change.
- Reduce the urban heat island effect by greening urban areas, buildings, transport corridors and open spaces with vegetation.
- Promote and support low energy forms of transport such as walking and cycling.

3.8 MAINTENANCE, RENEWAL AND CAPITAL WORKS PROGRAM

The cost of maintaining, upgrading and replacing beach access structures is significant. It is important to provide sufficient access points to provide convenient beach access for residents and visitors. However, it is also important to consider the appropriateness of existing access points and whether they should be retained, upgraded, replaced or removed. Particularly given the substantial costs associated with replacement of existing structures and provision of new structures. Recent costings for access points and cost estimations for future access points range between \$215,000 for a relatively small staircase to \$937,000 for the planned concrete terraced seating with integrated accessible ramp near the boat launch facility (WCC, 2018).

When Council undertook an audit of the beach access structures in 2019, only 4 were identified as having a useful lifespan extending past the year 2037. This means that over the next 15 years, it is anticipated that 29 of the existing beach access structures would require renewal or replacement. In most cases, the materials that these existing structures have been constructed of will need to be upgraded or replaced.

MAINTENANCE AND CONSTRUCTION MATERIALS

A key issue facing Council in managing beach access structures is their life span. The design of upgrades or rebuilds to beach access structures must ensure *‘that the structure can adapt to the anticipated increase in coastal hazards including sea level rise over the structures intended life span’* (DELWP, 2020, p.12). The question is what are the best design materials and construction techniques to ensure beach access structures have a long life, are adaptable to changing climates and avoid long-term maintenance issues for Council?

Many of the existing 33 structures are constructed of timber. However, a number of these timber structures are presenting a significant maintenance burden to Council in carrying out repairs. Whilst timber is a natural material that when sourced locally has relatively low-embodied energy compared with some other materials and it weathers to provide a soft, sympathetic appearance on the coast, it is also prone to deterioration when exposed to saltwater and UV exposure. Saltwater and UV exposure can accelerate the deterioration of timber and when it cracks, moisture can seep in causing rot. Many of the timber boardwalks and access structures to the beach present safety issues such as handrail splinters, lifting and bowing of boards and rot causing uneven tread. Another issue that has been noted with the use of timber is that the decking boards prevent sand from seeping through underneath resulting in increased sand building up on top of the stair treads, landings and ramps.

This has resulted in the most recently replaced beach access structures being constructed of materials, such as a combination of concrete, steel and fibre reinforced polymer mesh, not timber. One of the benefits of using a meshed material for stair landings and treads is that the sand falls through the structure and doesn't result in as much sand build up leading to accessibility issues for users. The materials and design of the new structures is helping reduce costly maintenance and ensure beach access structures have a longer useful lifespan, estimated to be at least 20 years longer, than the traditional timber construction.

The Siting and Design Guidelines for Structures on the Victorian Coast provide the following guidance for materials selection:

- *Use materials sympathetic the coastal environment.*
- *Use the local colours and textures for any new structure.*
- *Use durable materials, fittings and finishes developed specifically for a coastal environment.*
- *Use low-embodied energy, recycled and locally-sourced materials where possible*

Figure 25 shows the standard materials palette contained in the Siting and Design Guidelines.

Council's preferred materials for new/replacement beach access structures include:

Foundations

- Use of hot dipped galvanised screw piles for climate change adaptability within a dynamic and extreme coastal environment. Joints between the piles to be welded to prevent internal corrosion.
- Use of stainless steel reinforcement within concrete head stock/ beam.

Structures

- Use of Fibre Reinforced Polymers (FRP) or proven equivalent in response to dynamic range of sand dunes and interaction with sea water.
- Posts, bearers, stringers and joists to be in FRP for extended asset life.

Decking (New)

- Minimum 2500mm width landings and viewing platforms at DDA approved grades.*
- Stairs must be DDA approved design and ramps with compliant kerbs, where used at minimum 1800mm.
- Within the swash zone use of Fibre Reinforced Polymers (FRP) non slip grating treads for durability and optional extension onto platforms and landings.** Concrete may be appropriate in some locations.

Decking (Upgrade)

- Use of only Class 1 Durability Hardwood (non-dressed) and minimum 50mm thickness for decking timbers.
- Decking timbers are to be dressed on three (3) sides, rough sawn and pencil round on the other, which becomes the top face when laid. All timber is to be treated to H5 Alkaline Copper Quaternary (ACQ) treated (arsenic free) except for Cypress Pine

Handrails and Balustrades

- Handrail to be DDA approved in 316 electroplated stainless steel.
- Post to be either Class 1 Durability Hardwood (upgrade) or FRP (new).
- Balustrade to be provided for falls >2m onto sand in expandable grade 316 stainless steel mesh.

Fencing

- Timber Class 1 Durability Hardwood posts and PVC coated wire

Paths

- Crushed limestone (locally sourced) or sand.
- Concrete***
- Avoid the use of pinned down fabrics/materials between paths/trails and beach access structures as machinery tends to get caught on edges/corners causing damage.

Notes:

*Consider 3000mm wide paths, ramps and sufficient landing size where sand coverage is an issue, to provide adequate access for maintenance vehicles to clear sand.

**The 'swash zone' is the upper part of the beach where intense erosion occurs during storms.

***Concrete has been used at the top of new staircase structures and is working well in terms of maintenance and sand clearance. Small maintenance machinery is able to push sand from the adjacent path and concrete access through the structure to the beach below, where it can be cleared.

RENEWAL AND CAPITAL WORKS - PLANNED BEACH ACCESS PROJECTS

There are a number of planned upgrades/replacements to beach access structures identified in the planned short-term capital works program. They include:

- 1. Merri River Estuary (WCC112)
Design and replacement of existing structure accessed from Viaduct Road. Rebuild with compliant staircase and handrails.
- 2. Worm Bay (WCC117)
Design and replacement of access ramp that provides access for horse training. Proposed rebuild to address safety concerns for horses exiting beach into the car park. Likely that ramp design will be different to ensure horses exit beach more slowly.
- 3. Lady Bay (WCC129)
Design and replacement of existing structure accessed from shared trail and holiday park. To be rebuilt with compliant staircase and handrails.
- 4. Lady Bay / McGennans (WCC123)
Design and replacement of access staircase with access from McGennans car park. This access point was closed due to safety issues and is currently closed.
- 5. Logans Beach WCC146
Design and construction of replacement staircase to replace timber stairs between the existing viewing platform/deck and beach.
- 6. Warrnambool Harbour (New)
New accessible ramp proposed near boat launching facilities. Design and construction of the proposed concrete terraced seating is to have integrated accessible ramp. Identified as short-term action in the Harbour Master Plan, but not included in 22/23 budget.

The recommendations and implementation plan at Sections 5 and 6 include these planned projects.

MAINTENANCE, RENEWAL AND CAPITAL WORKS PLANNING PRINCIPLES

- Use durable construction materials that can adapt to the anticipated increase in coastal hazards including sea level rise.
- Ensure that the design and siting of publicly accessible infrastructure, including car parking areas and beach access structures are of a high standard and respond appropriately to the *Design and Siting Guidelines for Structures on the Victorian Coast 2021*.
- Use local materials where possible, for example local crushed limestone is an appropriate material for paths.
- Consider maintenance access in the design of beach access points, including the practicality of providing access for machines to clear sand.
- Actively engage and involve maintenance staff early in the planning phase for new and upgraded beach access infrastructure to ensure materials and design will be suited to maintenance regimes and machinery.
- Monitor and adapt maintenance approaches on a regular basis to address maintenance shortfalls and safety concerns and provide adequate level of service to users.

Figure 25: -Siting and Design Guidelines for the Victorian Coast - Standard Materials Palette (DELWP, 2020 p.79)

STANDARD MATERIALS PALETTE



Hardwood timber - plantation - grown and recycled timber treated for protection from insects and decay - Red Gum, Jarrah and Tallowood are most durable and suitable for structure is the water.
Photo: John Gollings

Reinforced polymer mesh - lightweight - chosen for its excellent anti-corrosive and low maintenance properties.
Photo: Roger Ellingsen



Steel - structural grade and hot dip galvanised as per AS/NZ 4680 for superior performance and powder coated for corrosive protection.
Photo: Jarle Waehler

Concrete - durable providing there is adequate cover to all reinforcement to prevent corrosion. Photo: Jarle Waehler



Glass - needs special consideration to avoid glare and reflection. Photo: Peter Aaron

Natural stonework - very durable and requires no special treatment. Photo: EMF Architects

4. SITE-SPECIFIC ANALYSIS

4.1 SHELLY BEACH

There is a single beach access point to Shelly Beach referred to as WCC 101. This beach access point can be reached by walking from the Thunder Point car park or from Shelly Beach to the west. On low tide beachgoers can walk between Shelly Beach and Levys Beach.

The track to Shelly Beach from the Thunder Point Lookout car park is approximately 900m long and constructed mostly of gravel. The path passes south of the water treatment facility.

Figure 26: Beach Access Point Location Map



STRENGTHS

- Remote and quiet
- Spectacular scenery
- Ideal location for bird watching/fauna spotting
- Culturally significant area for Traditional Owners

CHALLENGES

- Erosion-prone area with access track along cliff-top
- Rocky access to beach
- Access to Shelly Beach and further linkage to Levys Beach dependent on tide
- Unauthorised tracks in this area have potential to cause loss of native vegetation, increased erosion and threat to cultural heritage
- Lack of directional and information signage
- Access in the event of an emergency is limited

OPPORTUNITIES

- Improve safety
- Protect cultural heritage
- Improve directional signage

Figure 27 – WCC101 track to Shelly Beach



Figure 28 – WCC101 track to beach



Figure 29 – Post and wire fence



Figure 30 – End of informal beach access path



4.2 PICKERING POINT LOOKOUT, MERRI RIVER ESTUARY, STINGRAY BAY AND WORM BAY

The Pickering Point lookout (WCC107) beach access is utilised by tourists visiting Pickering Point and walking along the coastal trail and is also used by scuba divers and there are shipwreck dives in the area, including the La Bella shipwreck.

The three access points next to Viaduct Road (WCC111, WCC112 and WCC113) are accessed by many tourists stopping to take in the sites of Stingray Bay and Middle Island. There is convenient car parking and toilet amenities as well as the bridge across the Merri River providing access to the Pickering Point lookout.

In Worm Bay, the Warrnambool Yacht Club have access to the launching ramp which does not have a WCC number. This is referred to as WCCYC for the purposes of this Strategy. The horse racing industry utilizes WCC117, which is an access ramp constructed for horse training access to the beach. Whilst these two access points have not been constructed for the purposes of pedestrian access, pedestrians still utilise them to gain beach access. The next nearest pedestrian access point is located at WCC118, which is also close to the Worm Bay car park. This access structure has recently been upgraded with a new staircase constructed to replace the previous timber one.

Figure 31 – Beach Access Point Location Map



STRENGTHS

- Spectacular scenery
- Interesting and varied landscape
- Extensive path and boardwalk near Pickering Point lookout
- Tourism attractions
- Café/restaurant nearby
- Car parking in close proximity
- Close to public amenities including toilets.

CHALLENGES

- Erosion-prone area with access track to Pickering Point near cliff-top
- Rocky access to beach
- Maintenance of extensive length of timber structures
- Unauthorised tracks in this area have potential to cause loss of native vegetation, increased erosion and threat to cultural heritage.
- There are no patrolled swimming beaches in this area and waters can be treacherous in high seas, particularly between Lady Bay to Stingray Bay and navigating around the La Bella shipwreck
- Access in the event of an emergency is limited in some locations, particularly to Pickering Point.
- Access point at WCC111 needs to be regularly maintained to allow for vehicular access
- Sand drift and build-up is a maintenance concern for WCC111, WCC112 and WCC113
- Pedestrian safety near access points and Viaduct Road, particularly in peak summer holiday season when vehicle traffic to the harbour is heavy
- The only constructed ramps providing beach access in this area are WCC117 and WCCYC, and whilst they are used by some residents and visitors they are not designed for pedestrians or wheelchair accessibility

OPPORTUNITIES

- Improve safety
- Protect cultural heritage
- Improve beach accessibility for people with disabilities and those with special access requirements

Figure 32 – Track from leading along coast to WCC107



Figure 33 – WCC107 Top landing



Figure 34 – WCC107 staircase to beach



Figure 35 – WCC111



Figure 36 – WCC111



Figure 37 – WCC112



Figure 38 – WCC112



Figure 39 – WCC113



Figure 40 – WCC113



Figure 41 – WCCYC (Boat launching ramp)



Figure 42 - WCC117 (Horse training access)



Figure 43 – WCC118 (recently replaced)



Figure 44 – WCC118



Figure 45 – WCC118



4.3 LADY BAY WEST (INCLUDES THE FLUME)

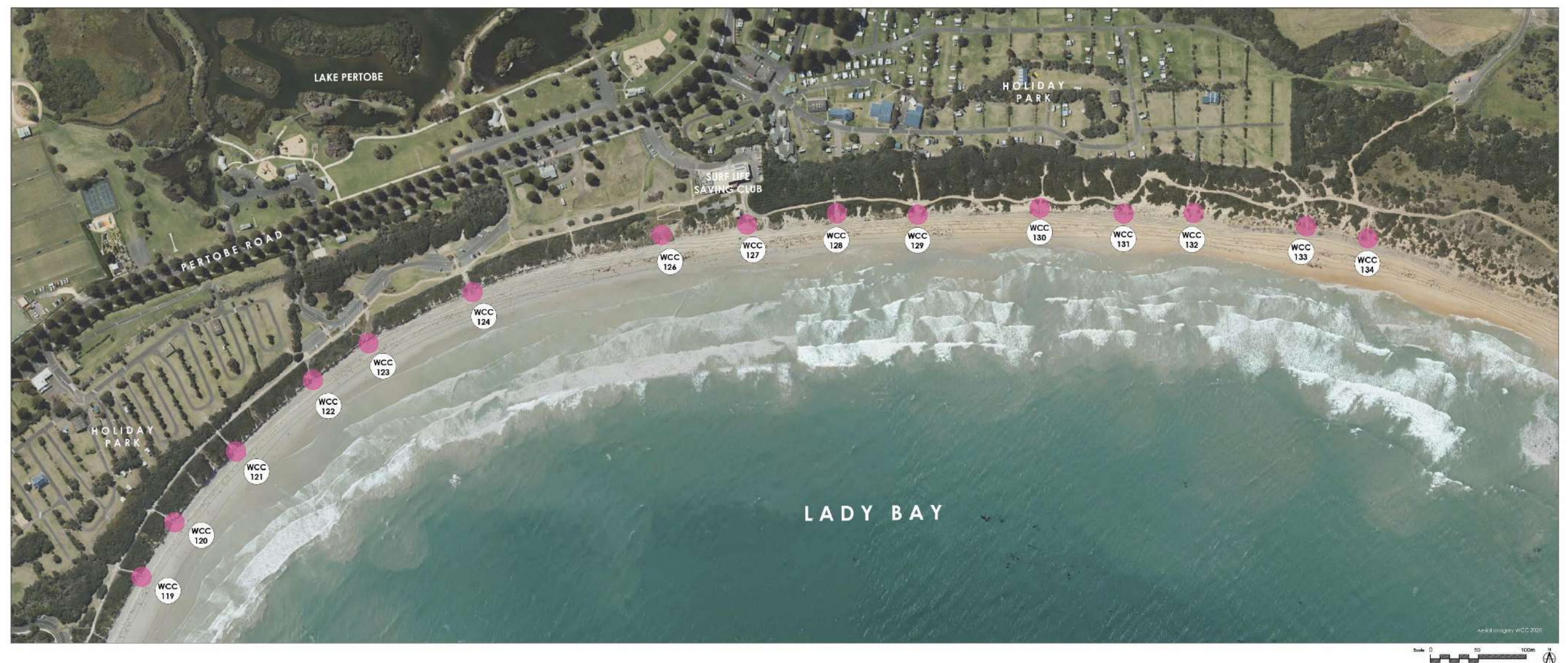
There are fifteen (15) beach access points spanning across this section of Lady Bay, which stretches approximately 1.5 kilometres.

This area of Lady Bay is a popular place for locals to gain beach access and walks along the coastal trail and path network. This area is also heavily trafficked by tourists during the peak summer holiday season, with nine (9) of these access points connected directly to the two holiday parks.

This section of coast includes the Warrnambool Surf Lifesaving Club (WSLSC), patrolled swimming area in front of the WSLSC, is close to café/restaurants, McGennans Beach, holiday parks, Lake Pertobe and The Flume (WCC134) which is a popular beach for surfers.

There is convenient car parking located at McGennans and toilet amenities provided near McGennans car park and the surf lifesaving club. There is also a car park located near The Flume.

Figure 46 - Beach Access Point Location Map



STRENGTHS

- A variety of recreational activities on offer
- Tourism attractions
- Patrolled swimming beach
- Spectacular scenery
- Great connections to the existing coast trails and path network
- Café/restaurant/s nearby
- Car parking in close proximity to beach
- Close to public amenities including toilet facilities at McGennans and Warrnambool Surf Lifesaving Club
- Good access to and from holiday parks

CHALLENGES

- Maintenance of extensive number of structures, including many older timber structures requiring regular upkeep
- Erosion-prone dunes
- Limited accessibility, with only one accessible ramp (WCC126), which often has restricted access due to sand build up and requires very regular maintenance to clear sand
- Overgrowth of vegetation next to beach access points and at intersections with adjacent paths, creating safety risks for path and beach access users
- Maintaining viewlines
- Changing dune morphology
- Dune erosion and erosion at base of beach access structures
- Seaweed build up on beach and at base of structures
- Sand drift and cover over beach access structures and adjacent paths
- Unauthorised tracks from the holiday parks and to the east of The Flume have potential to cause loss of native vegetation, increased erosion and threat to cultural heritage
- People choosing to swim at unpatrolled sections of the beach.
- Access in the event of an emergency is limited in some locations, particularly vehicular access to the eastern end near The Flume

OPPORTUNITIES

- Improve safety
- Protect cultural heritage
- Improve maintenance regime
- Improve beach accessibility for people with disabilities and those with special access requirements
- Provide improved emergency vehicle access

Figure 47 – WCC 119



Figure 48 – WCC 119



Figure 49 - WCC120



Figure 50 - WCC122

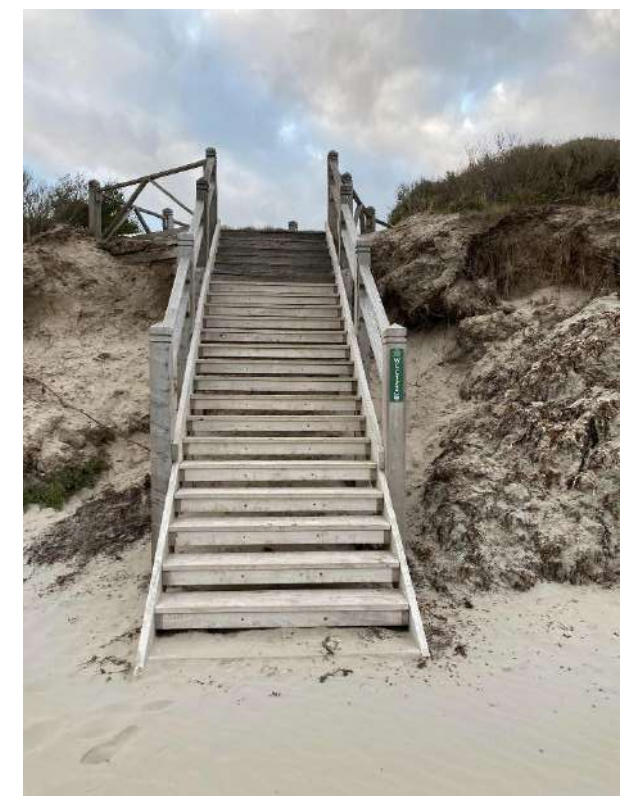


Figure 51 - WCC123 (currently closed)



Figure 52 - WCC124



Figure 53 – WCC124



Figure 54 – WCC126

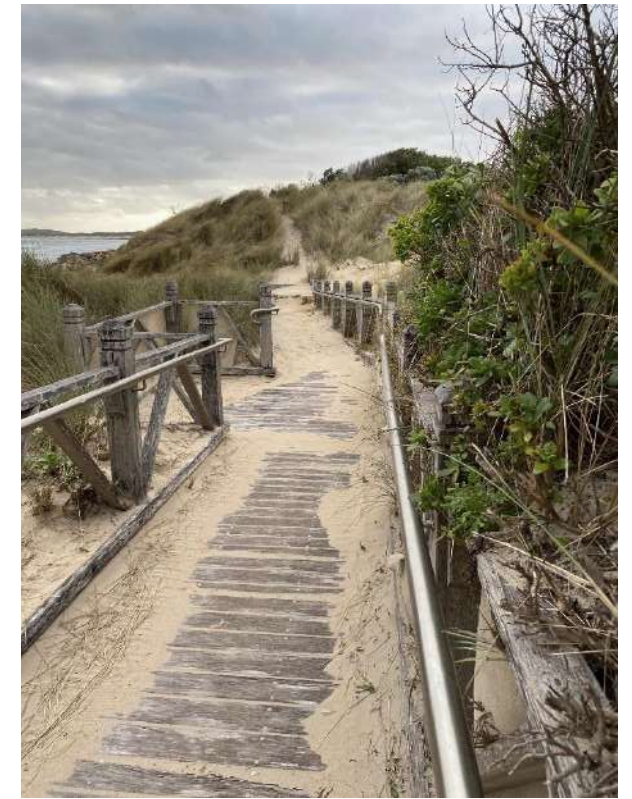


Figure 55 – WCC127



Figure 56 – WCC127



Figure 57 – WCC128



Figure 58 – WCC 129



Figure 59 – WCC 130

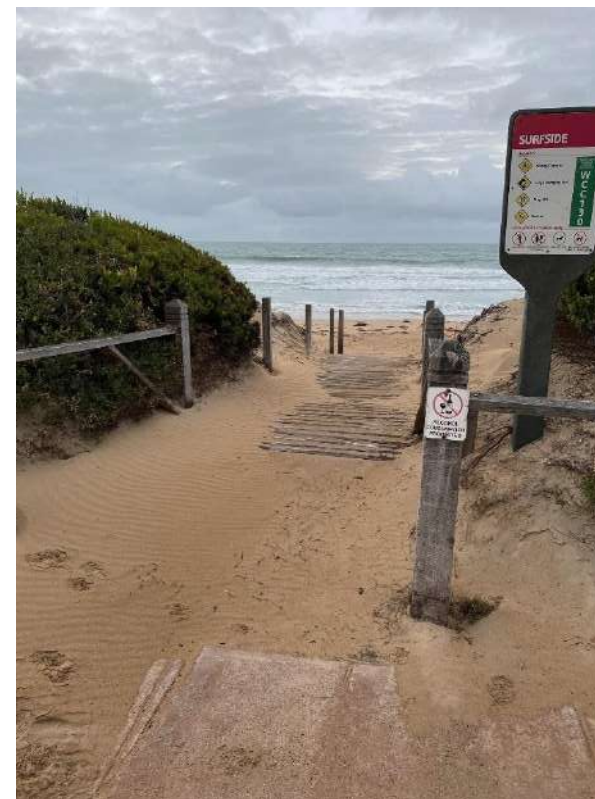


Figure 60 – WCC 131

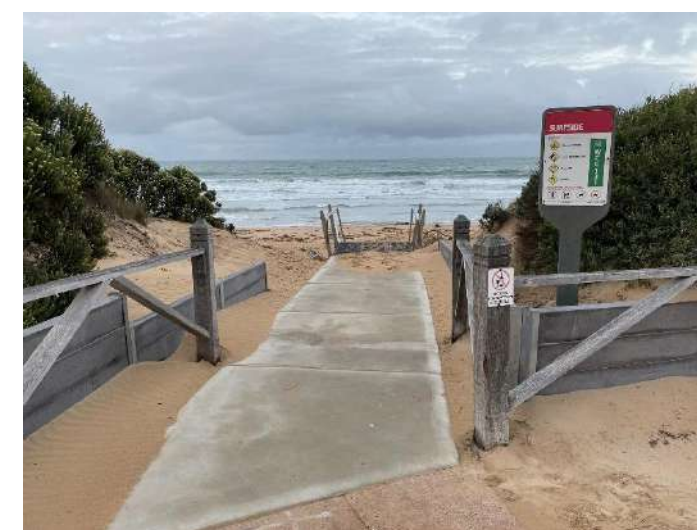


Figure 61 – WCC 132



Figure 62 – WCC 134 'The Flume'



LADY BAY EAST

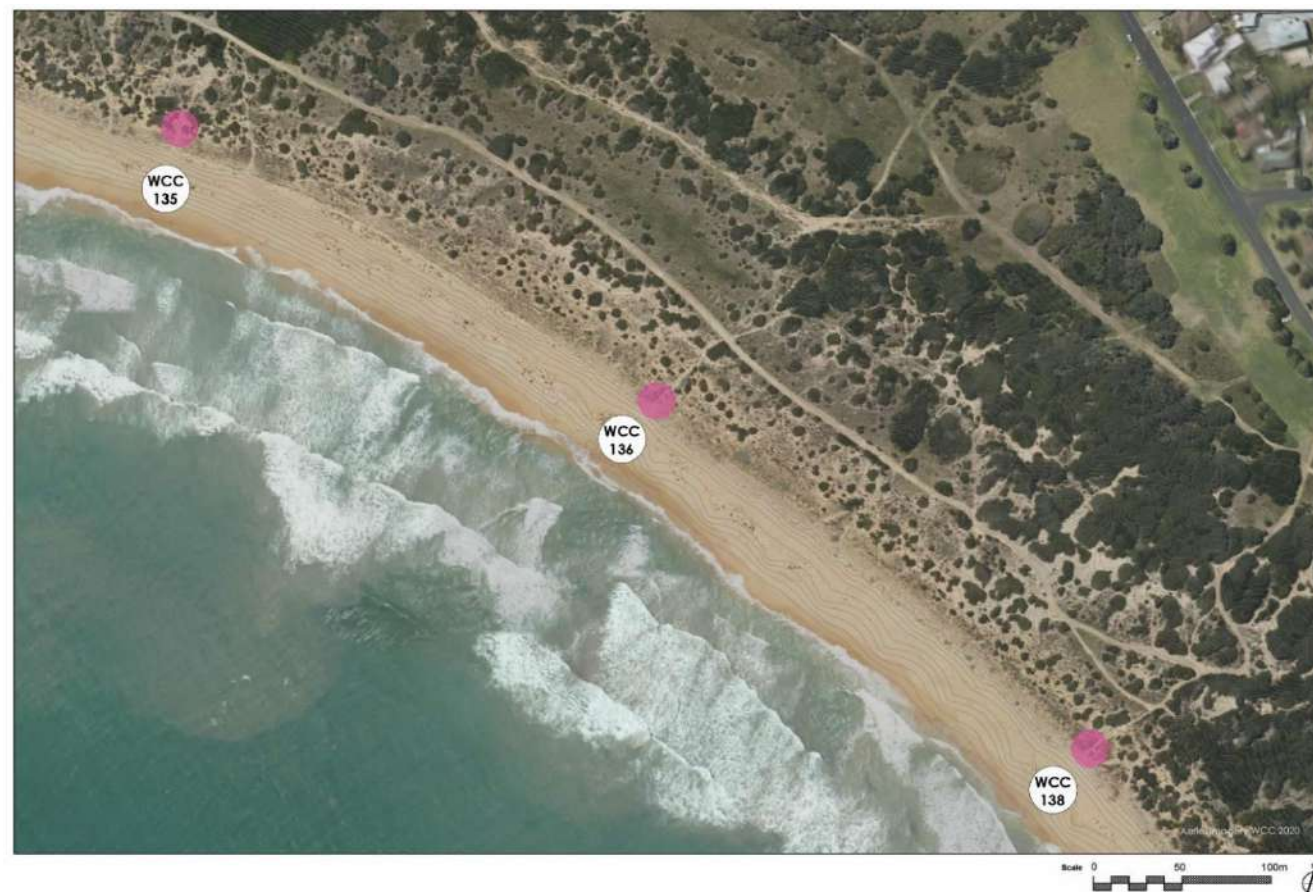
There are three (3) beach access points in this section of Lady Bay East stretches approximately 600 metres.

This area of Lady Bay is a popular place for locals to gain beach access and walks along the coastal trail and path network and is popular with surfers. This area is less trafficked by tourists during the peak summer holiday season than the western end of Lady Bay.

This section of coast includes The Flume – east (WCC135) which can be access by path from The Flume car park and Granny’s Grave beach access (WCC138), which can be accessed by path from Hickford Parade.

These three access points are not in close proximity to public amenities, including toilets and are more informal access points.

Figure 63 - Beach Access Point Location Map



STRENGTHS

- Remote and quiet
- Spectacular scenery
- Popular location for surfing
- Extensive coast trail
- Culturally significant area for Traditional Owners

CHALLENGES

- Unauthorised tracks and anti-social behaviour in this area have potential to cause loss of native vegetation, increased erosion and threat to cultural heritage
- Dynamic sand dunes and sand drift and build-up on access paths is a maintenance concern
- Limited beach access for people with special access requirements
- There are no patrolled swimming beaches in this area
- Access in the event of an emergency is limited with no vehicle access points to the beach nearby. The nearest vehicle access point is at the WSLSC

OPPORTUNITIES

- Improve safety
- Protect cultural heritage
- Improve beach accessibility for people with disabilities and those with special access requirements

Figure 64 – WCC135 'The Flume - East'



Figure 65 – WCC136



Figure 66 – WCC136



Figure 67 – WCC138



POINT RITCHIE / MOYJIL

The two (2) beach access points (WCC140 and WCC141) are utilised by locals walking local trails and visitors touring the Point Ritchie / Moyjil precinct. This is a culturally significant area and as described in Section 3.3, this site records unique evidence of early human occupation by the Traditional Owners, for tens of thousands of years, possibly dating beyond 60,000 years. (WCC, 2013)

There is convenient car parking and toilet amenities as well as lookouts and informational signage.

Access structure WCC140 has recently been upgraded with a new staircase constructed to replace the previous timber one. Access WCC141, which provides access to the Hopkins River estuary is nearing the end of its useful life.

Significant risks to cultural heritage in this area, both from nature weather events and processes causing erosion. In accordance with the Conservation Management Plan, protection and control of access within the management area, including the Point Ritchie/Moyjil area, needs to be carefully considered.

Figure 68 - Beach Access Point Location Map



STRENGTHS

- Culturally significant area for Traditional Owners, with highly significant deposits
- Cultural tourist attraction
- Spectacular scenery
- Links to extensive coast trail
- Car parking in close proximity to beach
- Close to public amenities including toilet facilities

CHALLENGES

- Access to beach dependent on tide
- Unauthorised tracks and erosion in this area have potential to cause loss of native vegetation, increased erosion and threat to cultural heritage
- Construction of structures has the potential to threaten cultural heritage
- Very limited beach access for people with special access requirements
- There are no patrolled swimming beaches in this area
- Access in the event of an emergency is limited with no vehicle access points to the beach nearby. The nearest vehicle access point is at the WSLSC
- Steep cliffs make access to beach difficult

OPPORTUNITIES

- Protect cultural heritage
- Improve safety

Figure 69 – WCC140



Figure 70 – WCC140



Figure 71 – WCC140



Figure 72 – WCC141



Figure 73 – WCC141



HOPKINS RIVER ESTUARY

Access point WCC142 is a steep staircase that provides access to the west side of the Hopkins River estuary. Anecdotally it is utilised for recreational fishing.

The two (2) access points next to Blue Hole Road (WCC144 and WCC145) are accessed by many locals and tourists stopping to take in the sites of the Hopkins River. It is also a popular dog walking area. There is convenient car parking and toilet amenities.

Figure 74 - Beach Access Point Location Map



STRENGTHS

- Spectacular scenery
- Popular place for recreational fishing and river activities
- Extensive path network
- Car parking in close proximity
- Close to public amenities including toilets on east side of Hopkins River.
- Relatively flat topography on east side of Hopkins River

CHALLENGES

- Steep cliffs on west side of river.
- Unauthorised tracks in this area have potential to cause loss of native vegetation, increased erosion and threat to cultural heritage.
- There are no patrolled swimming beaches in this area
- Access in the event of an emergency is limited in some locations.
- Access point at WCC142 is nearing the end of its useful life.
- The access points at WCC144 and WCC145 are not designed for people with special access requirements

OPPORTUNITIES

- Improve safety
- Protect cultural heritage
- Improve beach accessibility for people with disabilities and those with special access requirements

Figure 75 – WCC142



Figure 76 – WCC142



Figure 77 – WCC144



Figure 78 – WCC145



Figure 79 – WCC145

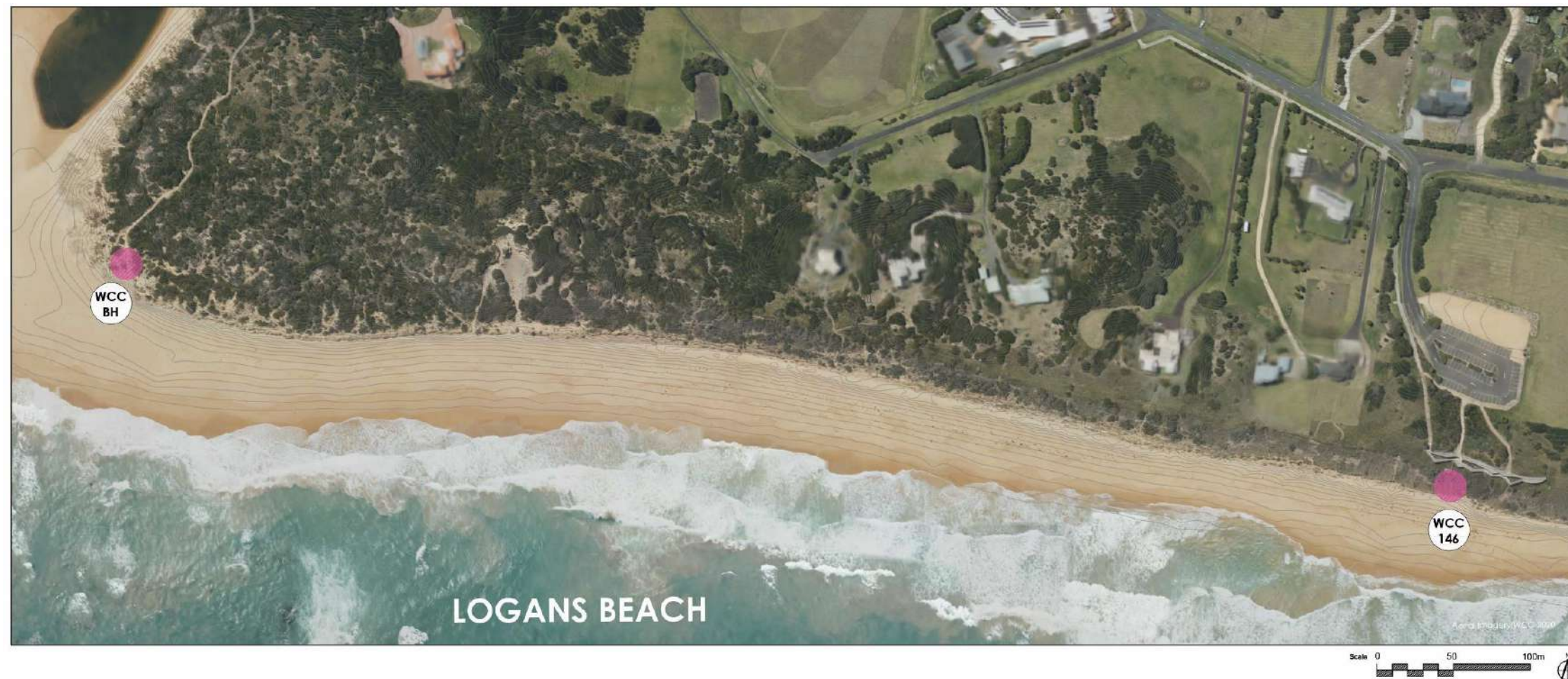


LOGANS BEACH

There are two (2) beach access points providing public access to Logans Beach. One is at the end of the Blue Hole (WCCBH) trail from Blue Hole Road and the other is from the Logans Beach from the Southern Right Whale Nursery viewing platform.

The Logans Beach access point WCC146 is utilised by locals and tourists who visit the site, to get a glimpse of female Southern Right Whales, who regularly return to Logans Beach to calve between June and September. The whales can often be seen within a few hundred metres of the shore. There is a substantial car park located for visitors to the whale nursery viewing platform. But there are no public amenities in this location. The nearest toilet amenities are provided at Blue Hole Road. Logans Beach is also a popular place for people to walk their dogs.

Figure 80 - Beach Access Point Location Map



STRENGTHS

- Remote and quiet
- Spectacular scenery
- Popular location for whale watching and dog walking
- Culturally significant area for Traditional Owners

CHALLENGES

- Limited beach access for people with special access requirements
- High dunes near WCC146 make access difficult
- There are no patrolled swimming beaches in this area
- Access in the event of an emergency is limited with no vehicle access points to the beach nearby

OPPORTUNITIES

- Improve safety
- Protect cultural heritage
- Improve beach accessibility for people with disabilities and those with special access requirements

Figure 81 – WCCBH



Figure 82 – WCCBH

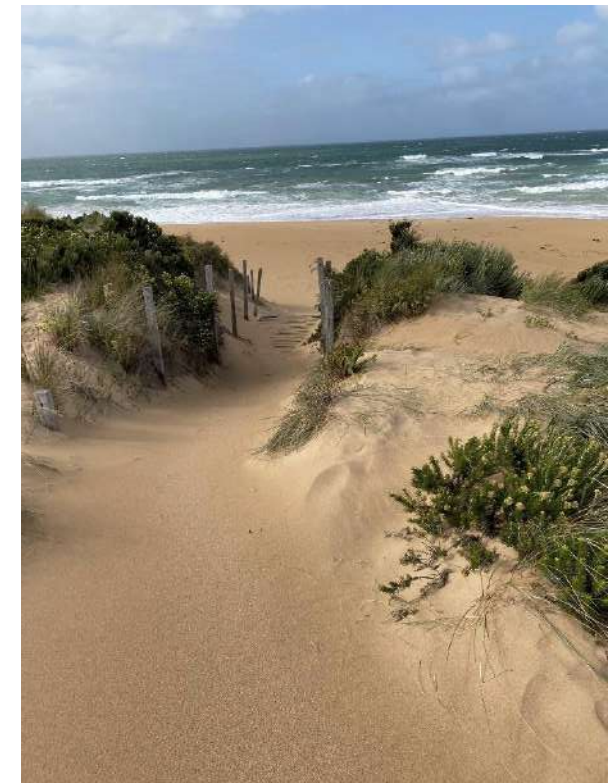
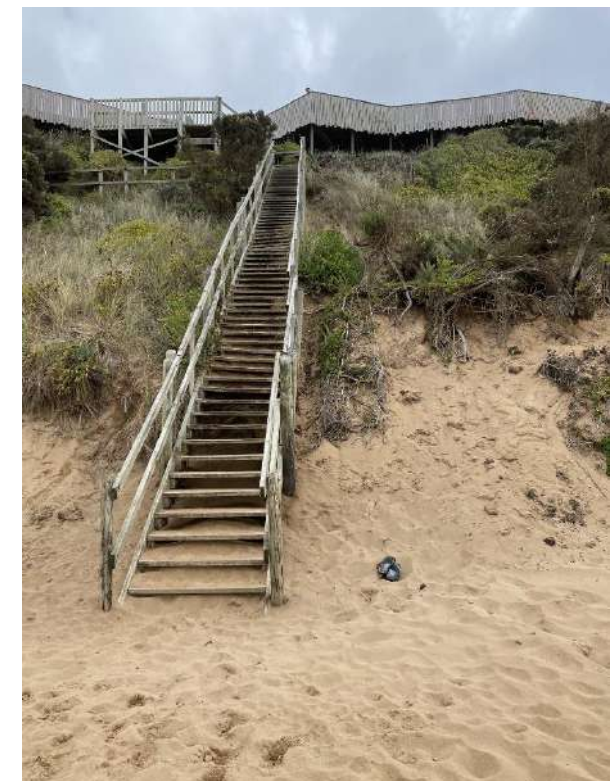


Figure 83 – WCC146



Figure 84 – WCC146



5. RECOMMENDATIONS

SHELLY BEACH, PICKERING POINT LOOKOUT, MERRI RIVER ESTUARY, STINGRAY BAY AND WORM BAY

1. Conduct a safety audit of the walking trail between the Viaduct Road and Shelly Beach, including beach access points WCC101 and WCC107. There are cliffs in relatively close proximity to the access path leading to Shelly Beach and Point Pickering. A safety audit of the cliff face and fencing should be undertaken to provide sufficient evidence that the tracks and beach access points can safely remain open to the public.
2. Investigate opportunities to make safety improvements to Shelly Beach WCC101. Changes may include fencing and surface improvements.
3. Carry out fencing repairs and additional fencing between the Merri Bridge and Shelly Beach to ensure walkers stay on the main track and avoid threats to significant cultural heritage places and deter people from going near cliff edges.
4. Install signage to direct visitors along the main tracks to Shelly Beach.
5. Replace existing staircase at beach access WCC107 near Pickering Point. The suitability of this location as a beach access point should be investigated as part of the safety audit.
6. Develop Viaduct Road Pedestrian Access Plan. Incorporate review of car parking, pedestrian access paths and crossings, pedestrian safety and beach access at WCC111, WCC112 and WCC113. The Plan should provide recommendations to address beach accessibility for people with wheelchairs and special access requirements and ensure emergency vehicle access is provided to the beach at this location. The Plan should include an assessment of the suitability and safety of retaining the three access points in their current locations.
7. Design and construct a new accessible ramp proposed near boat launching facilities. Design and construction of the proposed concrete terraced seating is to have integrated accessible ramp. This access point was adopted as part of the Harbour Master Plan.
8. Investigate opportunities to make safety improvements to the Worm Bay pedestrian and horse beach access ramp at WCC117.
9. Retain access points at the Yacht Club WCCYC and Worm Bay WCC118 as they are. These are relatively new structures with long remaining useful lifespans.

LADY BAY WEST (INCLUDING THE FLUME) AND LADY BAY EAST

10. There are a number of existing timber structures which have short remaining useful life. These should be replaced with staircases incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible. Access points proposed for replacement with staircases include WCC119, WCC120, WCC121, WCC123, WCC129 and WCC130. The replacement of WCC123 and WCC129 are current projects in the planned capital works program.
11. The existing accessible ramp near the Warrnambool Surf Lifesaving Club WCC126 is subject to regular access maintenance issues due to its design, construction materials and proneness to sand build up. It is recommended that this access ramp be replaced with a new accessible ramp. The design and siting of the accessible ramp near the Warrnambool Surf Lifesaving Club WCC126 should be undertaken at the same time as the plans for the proposed Surf Lifesaving Club upgrade/extension to ensure good planning and access to and from main building entrance/s and car parking areas. It is also recommended that a second accessible ramp be provided in Lady Bay West near the eastern end of the holiday park due to it being a high usage area with good path

access from the McGennans car park. WCC122 may be an appropriate location for an accessible ramp subject to further investigation of the dune morphology and detailed design.

12. Retain access points at the Lady Bay WCC124 and Lady Bay WCC131 as they are. These are relatively new structures with long remaining useful lifespans.
13. Upgrade matting material of the vehicle access ramp at the Warrnambool Lifesaving Club WCC127. This may be a short-term solution depending on the future long-term plans for the Warrnambool Surf Lifesaving Club and associated vehicle access to the beach. At this time it is not known whether the vehicle access point is proposed to remain in its current location.
14. It is recommended that Lady Bay WCC128 and WCC132 be decommissioned and removed and these areas fenced and revegetated. There are multiple access points provided along this section in front of the holiday park which will ensure convenient beach access is retained. These two access points present regular maintenance issues due to their siting and position in the dynamic sand dune and regular sand coverage. Access to WCC128 has been closed to the holiday park due to maintenance and safety concerns.
15. The access points WCC133 and WCC134 are in very close proximity to each other, approximately 65 metres apart. WCC133 is reaching the end of its remaining useful lifespan and WCC134 has an estimated remaining useful lifespan of 7 years. It is recommended to consolidate WCC133 and WCC134 into one upgraded beach access structure with an accessible ramp to accommodate wheelchairs and people with special access requirements. It is important that the access paths from the holiday park and The Flume car park be maintained in the redesign. The siting and location of the structure in the sand dune will require careful design and consideration in this dynamic sand dune to help avoid sand build up. The design of the new consolidated access point should include emergency vehicle access to the beach in this location (minimum 3m wide for all-terrain vehicle) as well as maintenance vehicles to clear sand away.
16. Retain and improve WCC135, WCC136 and WCC138. These are relatively low usage access points. Investigate ways in which minor improvements can be carried out to enhance safety and extend their remaining useful lifespan.

POINT RITCHIE / MOYJIL, HOPKINS RIVER ESTUARY AND LOGANS BEACH

17. Retain access points at Point Ritchie / Moyjil WCC140. This is a relatively new structure with a long remaining useful lifespan.
18. Replace staircases at Point Ritchie/Moyjil WCC1141 and Hopkins River WCC142 and WCC145.
19. Construct accessible ramp at Hopkins River WCC144 to accommodate wheelchairs and people with special access requirements. Provide all-terrain vehicle access to beach in this location for improved emergency access (although vehicle access is dependent on tidal levels)
20. Investigate opportunities to make safety improvements to Logans Beach access WCCBH. Changes may include fencing and surface improvements. New ESTA marker required at this location.
21. Replace staircase at Logans Beach WCC146. Replace timber stairs between the existing viewing platform/deck and beach. This is a current project in the planned capital works program.

GENERAL

22. Conduct a Vegetation Management Plan review to investigate the management of weeds and species with invasive tendencies, including Coast Tea-tree. Use findings of review to guide the maintenance program and amend planning overlays, where required.
23. Conduct a review of ESTA markers, including review of numbers, siting and information provided on each sign.

Figure 85 – Beach Access Recommendations Plan

WARRNAMBOOL BEACH ACCESS - RECOMMENDATIONS PLAN (WEST)



REFER TO LOCATION PLAN (EAST) (BELOW)

LEGEND

- Beach Access Point (33 in total within study area)
- **Retain**
Recently constructed staircase structure:
Worm Bay WCC118
McGennans WCC124
Lady Bay WCC131
Moyill/Point Ritchie WCC140
Recently upgraded boat ramp:
Worm Bay WCCYC
- **Retain and improve**
- **Replace with accessible ramp**
Incorporate handrails, landings, tactile ground surface indicators
- **Replace with staircase**
Incorporate handrails, landings, tactile ground surface indicators and contrasting strips on stairs
- **New accessible ramp**
Incorporate handrails, landings, tactile ground surface indicators
Currently no constructed beach access at this location
- **Consolidate with accessible ramp**
Consolidate WCC133 and WCC134 providing a single location for beach access. Replace with ramp (incorporating handrails, landings, tactile ground surface indicators). Provide all-terrain vehicle (ATV) access in consultation with emergency services.
- ☒ **Decommission and Remove**
WCC128 and WCC132
Fence off and revegetate area
- ▲ Provide emergency vehicle access to beach
- Existing Path/Trail
- ☼ Existing Public Amenities/Toilets
- **Develop Viaduct Road Pedestrian Access Plan**
Incorporate review of car parking, pedestrian access paths and crossings, pedestrian safety and siting and design of WCC111, WCC112 and WCC113. Ensure access ramp for pedestrians and access ramp for emergency vehicles are provided.
- **Prepare a risk audit of the track and beach access points between Viaduct Road and Shelly Beach.** The audit should assess the risk to visitors taking into consideration the stability of the cliffs and proximity of the trail/path/boardwalks to the cliff.

WARRNAMBOOL BEACH ACCESS - RECOMMENDATIONS PLAN (EAST)



REFER TO LOCATION PLAN (WEST) (ABOVE)

Warrnambool Beach Access Strategy

Part 4: Implementation

2022-2037

6.IMPLEMENTATION

The Beach Access Strategy is intended to be implemented over the next 15 years.

Some of the Beach Access Strategy recommendations for renewal and upgraded infrastructure will fall into Council's annual maintenance program. However, others particularly new and replacement infrastructure to a higher service level will require new budget allocations or funding from elsewhere, such as State or Federal grants in order to be completed.

The following Implementation Plan includes recommendations for improvements to Warrnambool's beach access points, over a period of 15 years. The timing for delivery of these recommendations will be dependent on Council priorities and budget allocations and availability of funding programs and grant opportunities.



TABLE 1 - BEACH ACCESS IMPLEMENTATION PLAN 2022-2037

Priority Key: Immediate – Years 1-3, Short-term - 4-6 years, Medium-term, 7-9 years, Long-term – 10+ years, As required

Estimated Cost*: \$ - Up to \$50,000, \$\$ - \$50,000 to \$300,000, \$\$\$ - \$300,000-\$600,000, \$\$\$\$ - Greater than \$600,000

*Note - more accurate cost estimates will be prepared following Round 2 consultation feedback. Final costings will be prepared following project scoping and detailed design.

ACCESS POINT IDENTIFICATION		ASSESSMENT							RECOMMENDATIONS AND IMPLEMENTATION TIMEFRAMES			
Access Structure I.D Code	Asset Description (Asset ID)	Handrail Materials	Walkway Materials	Top Landing Materials	Bottom Landing Materials	Construction Profile	Ancillary Items/ Infrastructure and Facilities	Estimated Remaining Useful Life (Based on 2019 audit and updated in 2022)	Recommendations	(Retain, Replace, Consolidate, Remove, New)	Priority	Estimated Cost
WCC101	Shelly Beach (171399)	None	Informal gravel path	None	None	Ramp	N/A	N/A (Not a constructed structure)	Conduct risk audit of track leading from Viaduct Road to Shelly Beach WCC101. Recommendations are dependent on risk audit findings.	Retain and improve	Immediate: Fencing improvements, risk audit and install signage Priority of future works dependent on risk audit.	\$ - Fencing and Sign Improvements \$ - Risk Audit Cost of works, dependent on findings of risk audit
WCC107	Pickering Point (171373)	Post and Rail	Timber	Timber	Timber	Stairs	N/A	7 years	Conduct risk audit of track leading from Viaduct Road to Shelly Beach, including WCC107. Recommendations are dependent on risk audit findings.	Replace staircase	Medium-term	\$\$ - Staircase replacement
WCC111	Stingray Bay North (162429)	None	Concrete	Concrete	Sand	Ramp	N/A	7 years	Develop Viaduct Road Pedestrian Access Plan. Incorporate review of car parking, pedestrian access paths and crossings, pedestrian safety and design and siting of WCC111, WCC112 and WCC113. The Plan should provide recommendations to address beach accessibility for people with wheelchairs and special access requirements and ensure emergency vehicle access is provided to the beach at this location. The Plan should include a safety analysis to determine if all three access points should remain open in their current locations.	Replace with accessible ramp Provide emergency vehicle access	Immediate: Develop Viaduct Road Pedestrian Access Plan Short-term: Replace with accessible ramp and provide emergency vehicle access	\$ - Pedestrian Access Plan Cost of works, dependent on findings of pedestrian access plan

Access Structure I.D Code	Asset Description (Asset ID)	Handrail Materials	Walkway Materials	Top Landing Materials	Bottom Landing Materials	Construction Profile	Ancillary Items/ Infrastructure and Facilities	Estimated Remaining Useful Life (Based on 2019 audit and updated in 2022)	Recommendations	(Retain, Replace, Consolidate, Remove, New)	Priority	Estimated Cost
WCC112	Stingray Bay – Viaduct Rd (North) (162219)	Post and Rail	Timber and Concrete	Concrete	Sand	Stairs	N/A	4 years	Develop Viaduct Road Pedestrian Access Plan, as per WCC111 recommendation. The design and replacement of the existing staircase structure at WCC112 is a current project in the planned capital works program. Investigate if it is possible to delay the replacement of this structure until the Pedestrian Access Plan has been completed.	Recommendation dependent on Pedestrian Access Plan	Immediate: Develop Viaduct Road Pedestrian Access Plan	Refer to WCC111
WCC113	Stingray Bay – Viaduct Rd (South) (162222)	Post and Rail	Concrete	Concrete	Sand	Stairs	N/A	7 years	Develop Viaduct Road Pedestrian Access Plan, as per WCC111 recommendation.	Recommendation dependent on Pedestrian Access Plan	Immediate: Develop Viaduct Road Pedestrian Access Plan	Refer to WCC111
WCCYC	26B Promenade Beach Access – Yacht Club Car Park (163413)	None	Fibreglass Reinforced Concrete	None	Sand	Ramp	Adjacent pavilion restaurant	37 years	No changes proposed.	Retain	As required: Maintenance to structure	\$ - Maintenance
WCC117	26A Promenade Beach Access (162414)	None	Concrete	Concrete	Sand	Ramp	N/A	17 years	Investigate opportunities to make safety improvements to the Worm Bay beach access ramp at WCC117. This may involve replacement/modifications to the structure	Retain and improve	Short-term	\$\$\$ - Safety improvements
WCC118	Worm Bay Car Park (170357)	Stainless Steel	Fibreglass Reinforced Plastic	Fibreglass Reinforced Plastic	Sand	Stairs	Timber Seat	40+ years	No changes proposed.	Retain	As required: Maintenance to structure	\$ - Maintenance

Access Structure I.D Code	Asset Description (Asset ID)	Handrail Materials	Walkway Materials	Top Landing Materials	Bottom Landing Materials	Construction Profile	Ancillary Items/ Infrastructure and Facilities	Estimated Remaining Useful Life (Based on 2019 audit and updated in 2022)	Recommendations	(Retain, Replace, Consolidate, Remove, New)	Priority	Estimated Cost
WCC119	Beach Access Holiday Park (162224)	Post and Rail	Timber	Timber	Timber	Stairs	Shower	2 Years	Existing timber structure has short remaining useful life. Replace with staircase incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible.	Replace staircase	Short-term	\$\$ - Staircase replacement
WCC120	Beach Access Holiday Park (149328)	Post and Rail	Timber	Timber	Sand	Stairs	Shower	2 Years	Existing timber structure has short remaining useful life. Replace with staircase incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible.	Replace staircase	Short-term	\$\$ - Staircase replacement
WCC121	Beach Access Holiday Park (162223)	Post and Wire	Timber	Timber	Timber	Stairs	Shower	2 Years	Existing timber structure has short remaining useful life. Replace with staircase incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible.	Replace staircase	Short-term	\$\$ - Staircase replacement
WCC122	24D Promenade Beach Access – Boardwalk McGennans Car Park (162249)	Timber	Timber	Timber	Sand	Stairs	N/A	0 Years	Investigate the provision of an accessible ramp at WCC122. High usage area with good access to holiday park and McGennans car park. Provision of a ramp at this location is subject to further investigation of the dune morphology and detailed design.	Replace with accessible ramp	<div>Immediate: Replace top steps and fix trip hazards, rough finishes, etc.</div> <div>Short-term: Design and construct accessible ramp</div>	<div>\$ - short term safety improvements to existing structure</div> <div>\$\$\$ - Accessible Ramp</div>

Access Structure I.D Code	Asset Description (Asset ID)	Handrail Materials	Walkway Materials	Top Landing Materials	Bottom Landing Materials	Construction Profile	Ancillary Items/ Infrastructure and Facilities	Estimated Remaining Useful Life (Based on 2019 audit and updated in 2022)	Recommendations	(Retain, Replace, Consolidate, Remove, New)	Priority	Estimated Cost
WCC123	24B Promenade Boardwalk – McGennans Car Park (162248)	Post and Rail	Timber	Timber	Timber	Stairs	Top timber deck with 2 timber bench seats	0 Years	Existing timber structure has short remaining useful life. Replace with staircase incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible. This is a current project in the planned capital works program.	Replace staircase	Immediate	\$\$ - Staircase replacement
WCC124	24A Promenade Beach Access (262415)	Stainless Steel	Fibreglass Reinforced Plastic	Fibreglass Reinforced Plastic	Sand	Stairs	Timber Seat	40+ years	No changes proposed.	Retain	As required: Maintenance to structure	\$ - Maintenance
WCC126	Boardwalk – McGennans Car Park (129954)	Timber Post and Rail and Stainless Steel Top Rail on Ramps	Concrete and Hardwood Timber	Concrete	Timber	Ramp	Seats at intermediate landings	12	The existing ramp is subject to regular access maintenance issues due to its design, construction materials and proneness to sand build up. It is recommended that this access ramp be replaced with a new accessible ramp. The design and siting of the ramp should be undertaken at the same time as the plans for the proposed surf lifesaving club upgrade/extension to ensure good planning and access to and from main building entrance/s and car parking areas. Whilst remaining useful life is estimated at 12 years, the maintenance costs are significant and replacement should be considered earlier than 12 years.	Replace with accessible ramp.	Medium-term	\$\$\$ - Accessible Ramp

Access Structure I.D Code	Asset Description (Asset ID)	Handrail Materials	Walkway Materials	Top Landing Materials	Bottom Landing Materials	Construction Profile	Ancillary Items/ Infrastructure and Facilities	Estimated Remaining Useful Life (Based on 2019 audit and updated in 2022)	Recommendations	(Retain, Replace, Consolidate, Remove, New)	Priority	Estimated Cost
WCC127	23A Promenade Beach Access (162417)	None	Concrete	Concrete	Sand	Ramp	Next to timber viewing platforms and life saving club and tower	17	Upgrade matting material of the vehicle access ramp at the Warrnambool Lifesaving Club WCC127. This may need to be a short-term solution depending on the future long-term plans for the Warrnambool Surf Lifesaving Club and associated vehicle access to the beach. At this time it is not known whether the vehicle access point is proposed to remain in its current location.	Retain and improve	<div>Short-term: Replacement matting</div> <div>Long-term: reassess appropriateness of location and design if WSLSC building is upgraded/modified/extended</div>	\$ - Replacement Matting
WCC128	22A Promenade Beach Access (162418)	Post and Wire	Flexible Timber and Chain Buried in Sand and Partially Removed	Concrete Promenade	Sand	Ramp	N/A	0	Decommission and remove. Fence off and revegetate.	Remove	Immediate	\$ - Decommission and remove
WCC129	22A Promenade Beach Access (162419)	Post and Wire	Flexible Timber and Chain Walkway	Promenade Concrete Path	Sand	Ramp	Seat	2	<p>Existing timber structure has short remaining useful life. Replace with staircase incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible.</p> <p>This is a current project in the planned capital works program.</p>	Replace with staircase	Immediate	\$\$ - Staircase replacement

Access Structure I.D Code	Asset Description (Asset ID)	Handrail Materials	Walkway Materials	Top Landing Materials	Bottom Landing Materials	Construction Profile	Ancillary Items/ Infrastructure and Facilities	Estimated Remaining Useful Life (Based on 2019 audit and updated in 2022)	Recommendations	(Retain, Replace, Consolidate, Remove, New)	Priority	Estimated Cost
WCC130	22A Promenade Beach Access (162420)	Post and Wire	Timber Slat and Chain Ramp	Concrete	Sand	Ramp	N/A	2	Existing timber structure has short remaining useful life. Replace with staircase incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible.	Replace with staircase	Immediate	\$\$ - Staircase replacement
WCC131	22A Promenade Beach Access (162421)	Stainless Steel	Fibreglass Reinforced Plastic	Fibreglass Reinforced Plastic	Sand	Stairs	Timber Seat	40+ years	No changes proposed.	Retain	As required: Maintenance to structure	\$ - Maintenance
WCC132	22A Promenade Beach Access (162422)	Post and Wire	Flexible Timber and Chain. Part sand	Concrete Promenade Path	Sand	Ramp	N/A	0 years	Decommission and remove. Fence off and revegetate.	Remove	Immediate	\$ - Decommission and remove
WCC133	22A Promenade Beach Access (162423)	Post and Wire	Flexible Hardwood and Chain. Part sand	Concrete promenade path	Sand	Ramp	N/A	2	<p>WCC133 is reaching the end of its remaining useful lifespan and WCC134 has an estimated remaining useful lifespan of 7 years. Consolidate WCC133 and WCC134 into one upgraded beach access structure with an accessible ramp to accommodate wheelchairs and people with special access requirements.</p> <p>Retain access paths from the holiday park and The Flume car park.</p> <p>The siting and location of the access in the sand dune will require careful design and consideration in this dynamic sand dune to help avoid sand build up.</p> <p>Include emergency vehicle access to the beach in this location (minimum 3m wide for all-terrain vehicle) as well as maintenance vehicles to clear sand away.</p> <p>Maintain bicycle rack, drinking fountain and seating</p>	<p>Consolidate</p> <p>Provide emergency vehicle access</p> <p>Provide accessible ramp</p>	Immediate: Design and safety improvements to existing structure	\$ - Safety Improvements
											Short-term: Provide emergency vehicle access	\$\$ - Emergency vehicle access
											Medium-term: Consolidate and replace with accessible ramp	\$\$\$ - Accessible ramp

Access Structure I.D Code	Asset Description (Asset ID)	Handrail Materials	Walkway Materials	Top Landing Materials	Bottom Landing Materials	Construction Profile	Ancillary Items/ Infrastructure and Facilities	Estimated Remaining Useful Life (Based on 2019 audit and updated in 2022)	Recommendations	(Retain, Replace, Consolidate, Remove, New)	Priority	Estimated Cost
WCC134	22A Promenade Beach Access (162424) The Flume	Post and rail and post and wire	Timber deck on landing. Part plastic slat and chain ramp, part sand	Timber	Sand	Ramp	Bicycle rack, drinking fountain and seating	7	Recommendation as per WCC133	Consolidate Provide emergency vehicle access Provide accessible ramp	Same as above (Refer to WCC133)	Refer to WCC134
WCC135	19C Promenade Beach Access: Granny's Grave (171400)	None	Informal Sandy Path	None	None	Ramp	NA	N/A	Retain and carry out improvements to enhance safety and extend their remaining useful lifespan. Define track with fencing upgrades.	Retain and improve	Short-term: Fencing to define track Medium-term: Improvements to beach access	\$ - Fencing \$ - Beach access improvements
WCC136	19B Promenade Beach Access Granny's Grave (171398)	None	Informal Sand Track	Concrete	Sand	Ramp	N/A	0 years	Retain and carry out improvements to enhance safety and extend their remaining useful lifespan. Define track with fencing upgrades.	Retain and improve	Short-term	\$ - Beach access improvements
WCC138	19A Promenade Beach Access: Grannys Grave (162425)	Post and Wire	Timber Slat and Chain	Concrete	Sand	Ramp	N/A	0 years	Retain and carry out improvements to enhance safety and extend their remaining useful lifespan. Define track with fencing upgrades.	Retain and improve	Short-term	\$ - Beach access improvements

Access Structure I.D Code	Asset Description (Asset ID)	Handrail Materials	Walkway Materials	Top Landing Materials	Bottom Landing Materials	Construction Profile	Ancillary Items/ Infrastructure and Facilities	Estimated Remaining Useful Life (Based on 2019 audit and updated in 2022)	Recommendations	(Retain, Replace, Consolidate, Remove, New)	Priority	Estimated Cost
WCC140	Beach Access Point: Point Ritchie / Moyjil (162217)	Stainless Steel and recycled plastic	Fibreglass Reinforced Plastic	Fibreglass Reinforced Plastic	Sand	Stairs	Gabion walls	40+ years	No changes proposed.	Retain	As required: Maintenance to structure	\$ - Maintenance
WCC141	Beach Access: Bluehole	Stainless Steel Post and Rail	Concrete Steps and Concrete Path	Concrete	Sand	Stairs	N/A	12 years	Replace with staircase incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible. Whilst remaining useful life is estimated at 12 years, the maintenance costs are significant due to sand build up on concrete steps and risk to users. Replacement or temporary upgrade should be considered earlier than 12 years.	Replace staircase	Immediate: Investigate replacement or short-term upgrade	\$\$ - Staircase replacement
WCC142	5A Promenade Beach Access: Bluehole (162427)	Post and Rail	Timber Steps and Timber Landings	Concrete	Rocks and Sand	Stairs	N/A	7 years	Replace with staircase incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible.	Replace staircase	Medium-term	\$\$ - Staircase replacement
WCC144	Beach Access (North): Bluehole Car Park (171397)	None	Informal Gravel Path	Gravel	Sand	Ramp	N/A	2 years	Construct accessible ramp to accommodate wheelchairs and people with special access requirements. Provide all-terrain vehicle access to beach in this location for improved emergency access (although vehicle access is dependent on tidal levels)	Replace with accessible ramp. Provide emergency vehicle access	Immediate	\$\$ - Accessible Ramp
WCC145	Beach Access (South): Bluehole Car Park (162428)	Post and Rail	Timber	Timber	Sand	Stairs	N/A	0 years	Replace with staircase incorporating handrails, landings, tactile ground surface indicators and contrasting strips on stairs to make them more accessible.	Replace staircase	Immediate	\$\$ - Staircase replacement

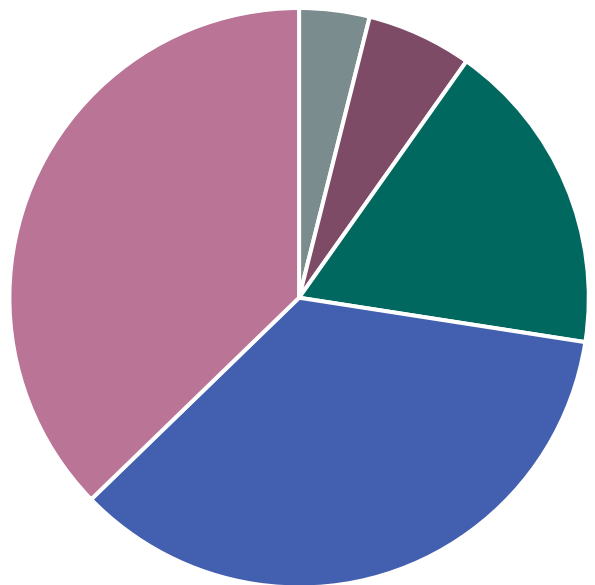
Access Structure I.D Code	Asset Description (Asset ID)	Handrail Materials	Walkway Materials	Top Landing Materials	Bottom Landing Materials	Construction Profile	Ancillary Items/ Infrastructure and Facilities	Estimated Remaining Useful Life (Based on 2019 audit and updated in 2022)	Recommendations	(Retain, Replace, Consolidate, Remove, New)	Priority	Estimated Cost
WCCBH	Beach Access: Bluehole Trail South (171356)	Post and Wire	Timber Slate and Chain. Part Sand	Gravel	Sand	Ramp	N/A	2 years	Investigate opportunities to make safety improvements to Logans Beach access WCCBH. Changes may include fencing and surface improvements. New ESTA marker required at this location.	Retain and improve	Immediate	\$ - Beach access improvements
WCC146	Stairs: Logans Beach Access (162220)	Post and Rail	Timber Steps and Timber Intermediate Landings	Timber	Timber	Stairs	Adjoins whale viewing platform. Shower on mid-platform	2 years	Replace timber stairs between the existing viewing platform/deck and beach. This is a current project in the planned capital works program.	Replace staircase	Immediate	\$\$\$ - Staircase replacement
WCC-NEW	Harbour Access	N/A	N/A	N/A	N/A	N/A	N/A	N/A	New accessible ramp proposed near boat launching facilities. Design and construction of the proposed concrete terraced seating is to include integrated accessible ramp.	Construct new accessible ramp.	Medium-term	\$\$\$\$ - Accessible Ramp and Seating

RECOMMENDATIONS AND IMPLEMENTATION TIMEFRAMES FOR FURTHER STUDIES	
FURTHER WORK	Priority
Conduct a Vegetation Management Plan review to investigate the management of weeds and species with invasive tendencies, including Coast Tea-tree. Use findings of review to guide the maintenance program and amend planning overlays, where required.	Immediate
Conduct a review of ESTA markers, including review of numbers, siting and information provided on each sign.	Immediate
Conduct a safety audit of the walking trail between the Viaduct Road and Shelly Beach, including beach access points WCC101 and WCC107. There are cliffs in relatively close proximity to the access path leading to Shelly Beach and Point Pickering. A safety audit of the cliff face and fencing should be undertaken to provide sufficient evidence that the tracks and beach access points can safely remain open to the public.	Immediate

APPENDIX 1: BEACH ACCESS POINT USAGE CONSULTATION RESPONSE

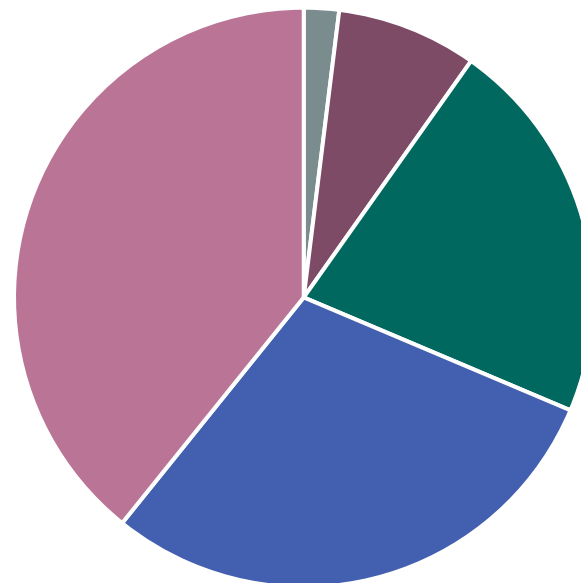
QUESTION: Which access points do you visit and how often?

SHELLY BEACH WCC101



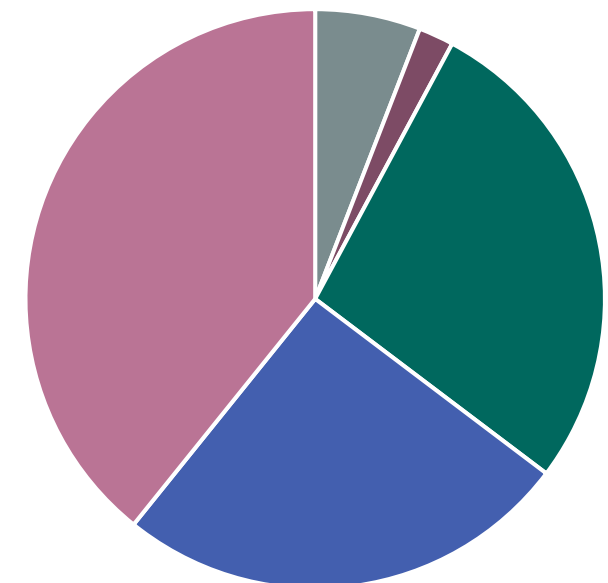
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 ■ Monthly 17.6%
 ■ Rarely 35.3%
 ■ Not visited 37.3%

PICKERING POINT WCC107



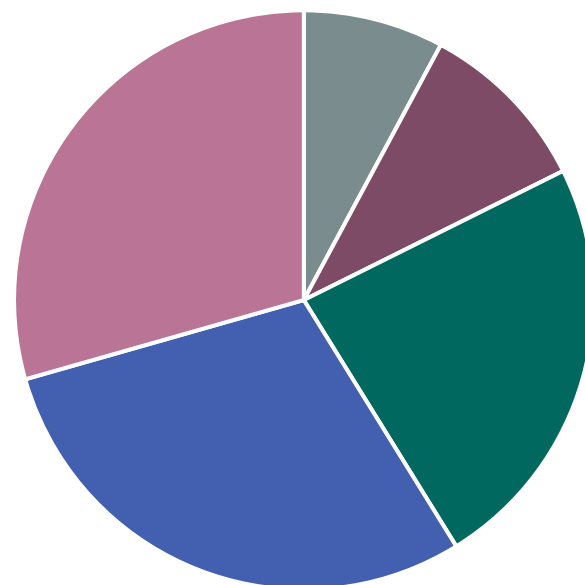
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 ■ Weekly 7.8%
 ■ Monthly 21.6%
 ■ Rarely 29.4%
 ■ Not visited 39.2%

MERRI RIVER ESTUARY WCC111



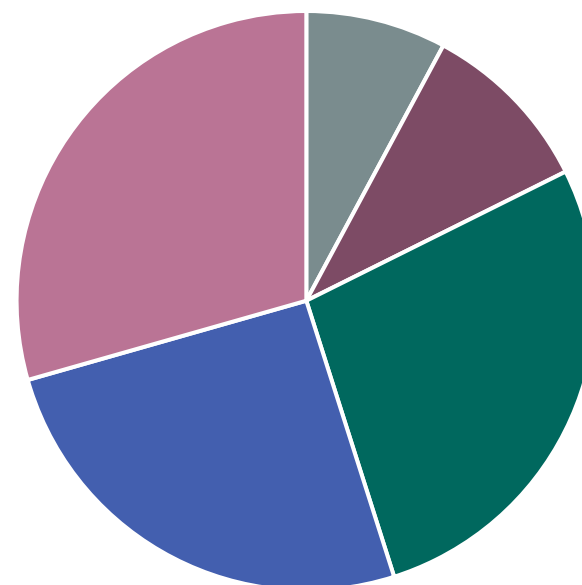
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 ■ Monthly 27.5%
 ■ Rarely 25.5%
 ■ Not visited 39.2%

STINGRAY BAY WCC112



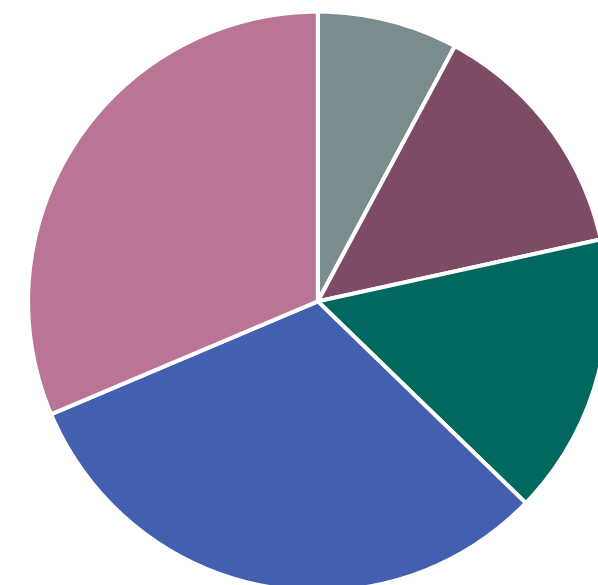
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 ■ Weekly 9.8%
 ■ Monthly 23.5%
 ■ Rarely 29.4%
 ■ Not visited 29.4%

STINGRAY BAY WCC113



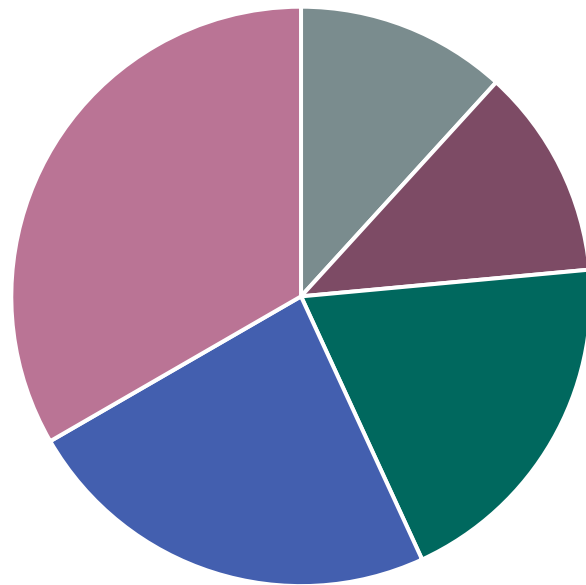
■ Daily 7.8%
 ■ Weekly 9.8%
 ■ Monthly 27.5%
 ■ Rarely 25.5%
 ■ Not visited 29.4%

YACHT CLUB WCCYC



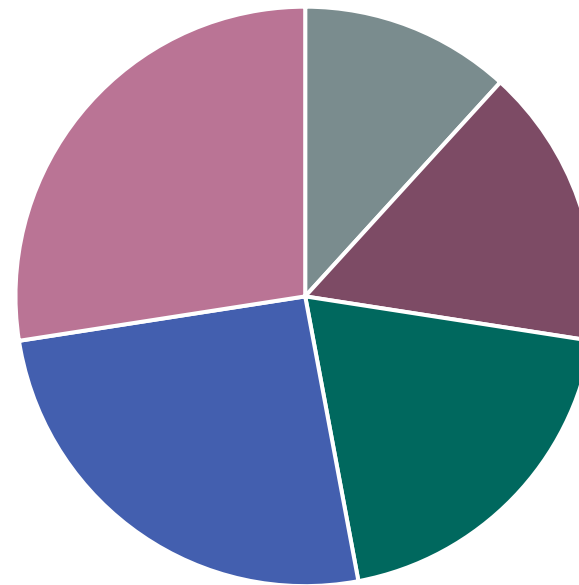
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 ■ Weekly 13.7%
 ■ Monthly 15.7%
 ■ Rarely 31.4%
 ■ Not visited 31.4%

WORM BAY WCC117



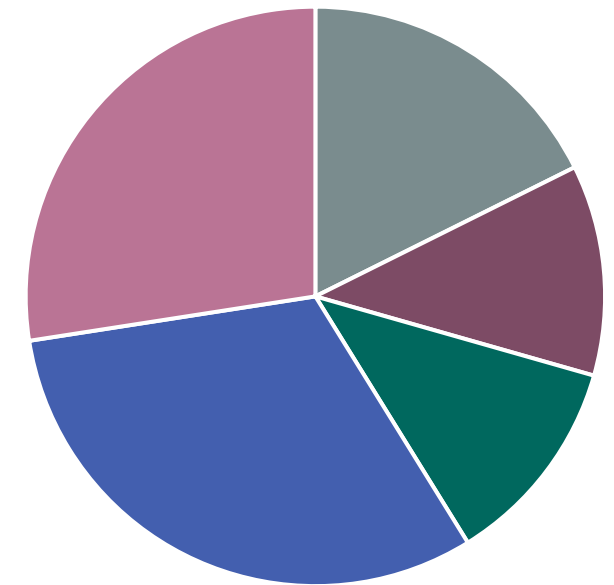
Daily 11.8%
 Weekly 11.8%
 Monthly 19.6%
 Rarely 23.5%
 Not visited 33.3%

WORM BAY WCC118



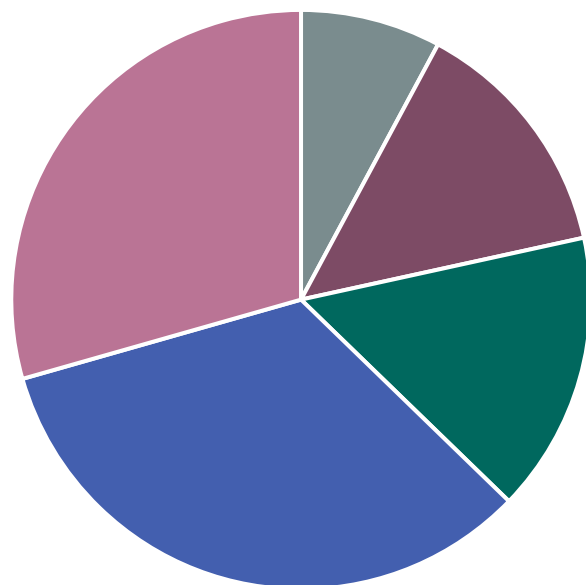
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 Weekly 15.7%
 Monthly 19.6%
 Rarely 25.5%
 Not visited 27.5%

LADY BAY WEST WCC119



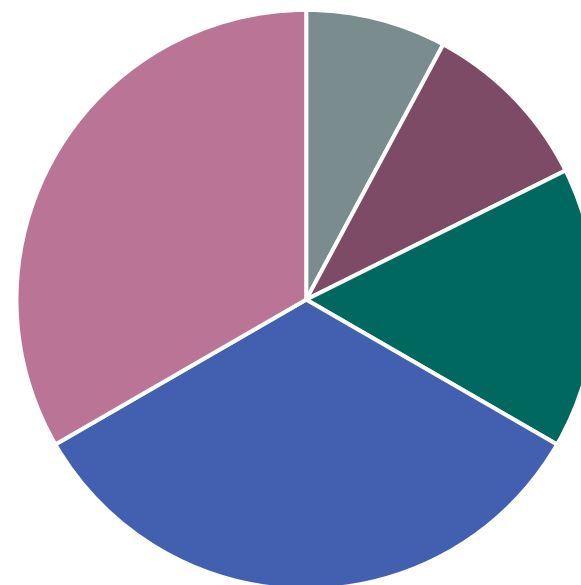
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 Weekly 11.8%
 Monthly 11.8%
 Rarely 31.4%
 Not visited 27.5%

LADY BAY WEST WCC120



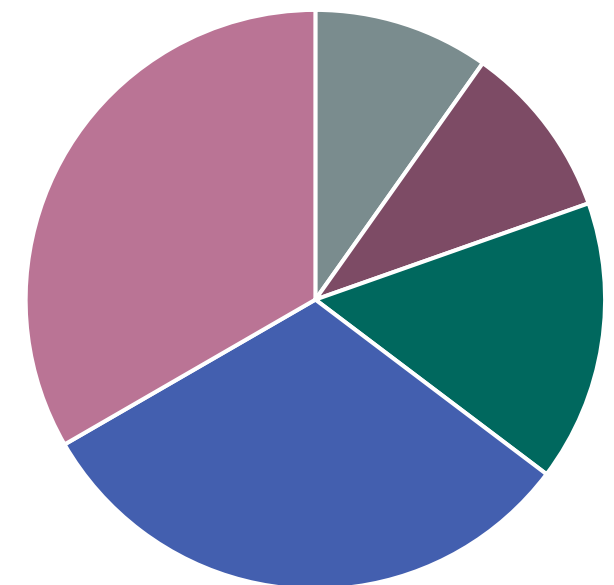
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 Monthly 11.8%
 Rarely 31.4%
 Not visited 27.5%

LADY BAY WEST WCC121



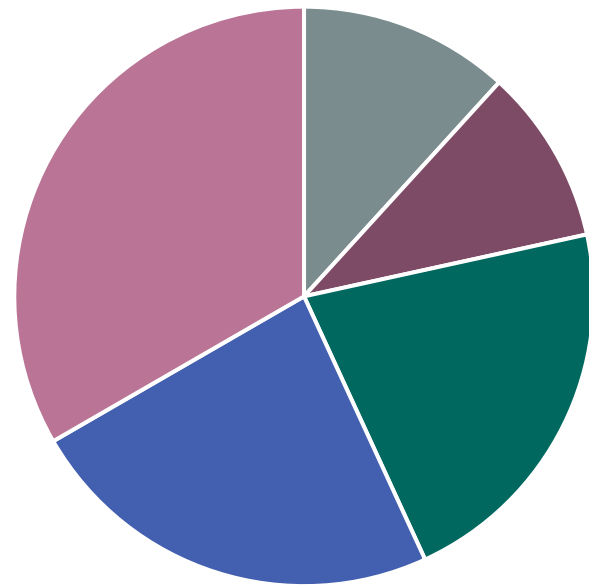
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 Monthly 11.8%
 Rarely 31.4%
 Not visited 27.5%

LADY BAY WEST WCC122



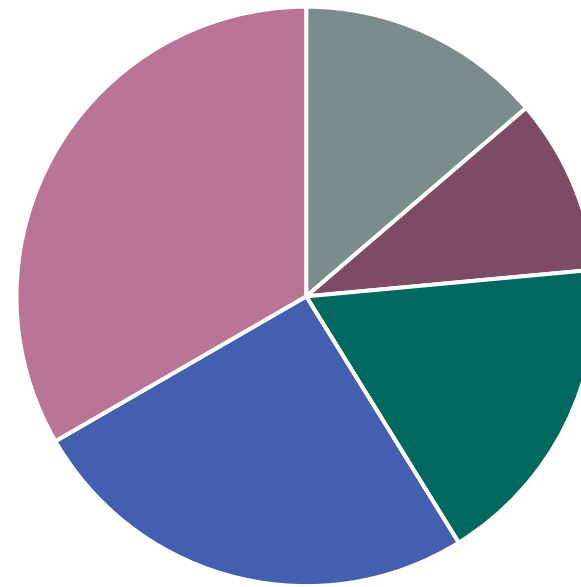
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 Monthly 15.7%
 Rarely 31.4%
 Not visited 33.3%

LADY BAY WEST WCC123 (Currently Closed)



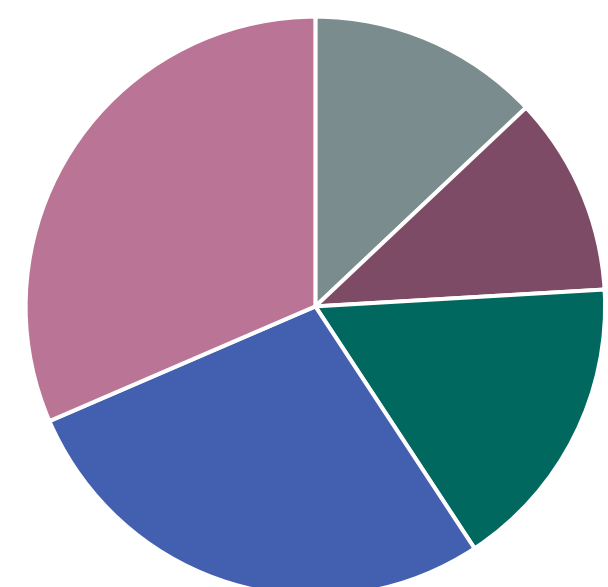
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 Monthly 21.6%
 Rarely 23.5%
 Not visited 33.3%

LADY BAY WEST WCC124



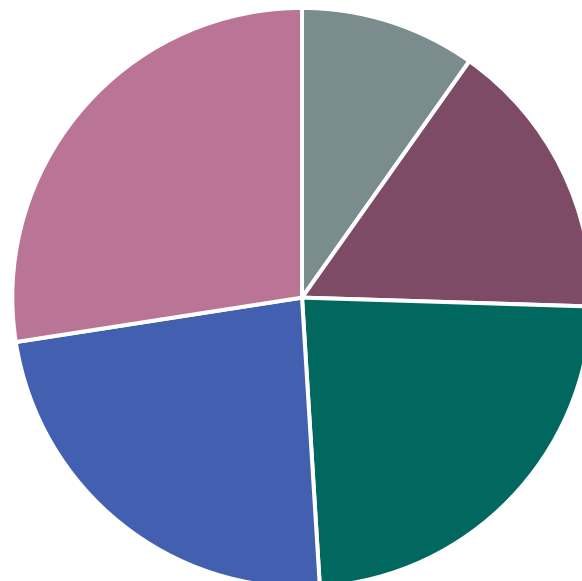
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 Monthly 21.6%
 Rarely 23.5%
 Not visited 33.3%

LADY BAY WEST WCC126



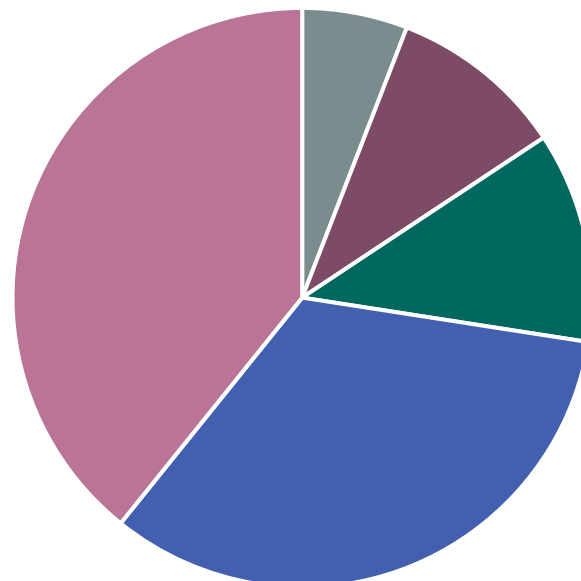
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 Monthly 17.6%
 Rarely 29.4%
 Not visited 33.3%

LADY BAY WEST WCC127



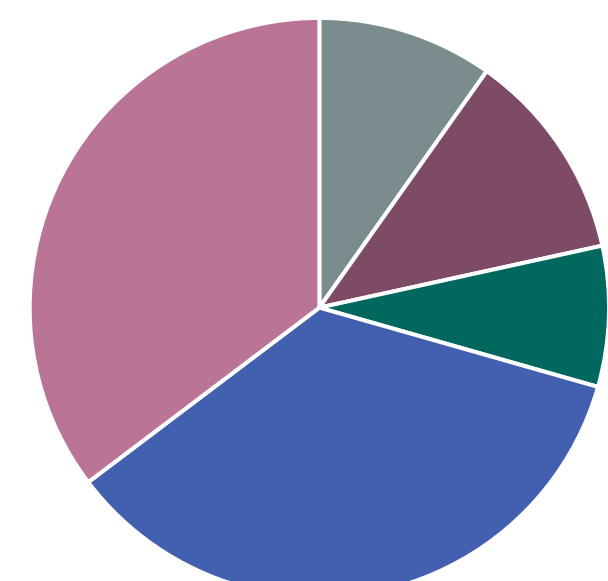
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 Monthly 23.5%
 Rarely 23.5%
 Not visited 27.5%

LADY BAY WEST WCC128



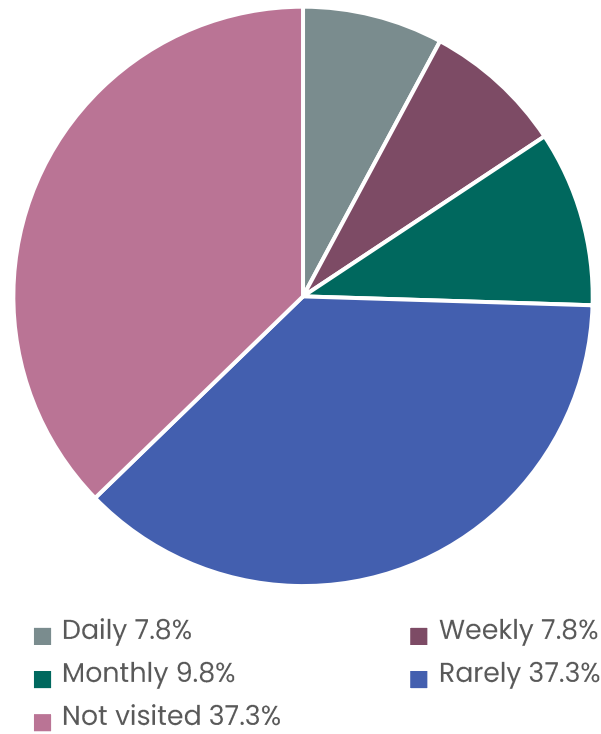
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 Monthly 11.8%
 Rarely 33.3%
 Not visited 39.2%

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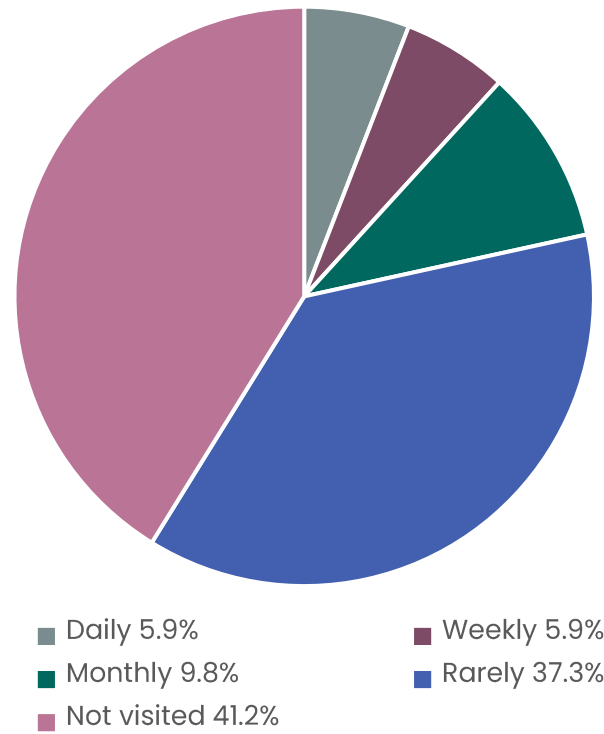


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 Weekly 11.8%
 Monthly 7.8%
 Rarely 35.3%
 Not visited 35.3%

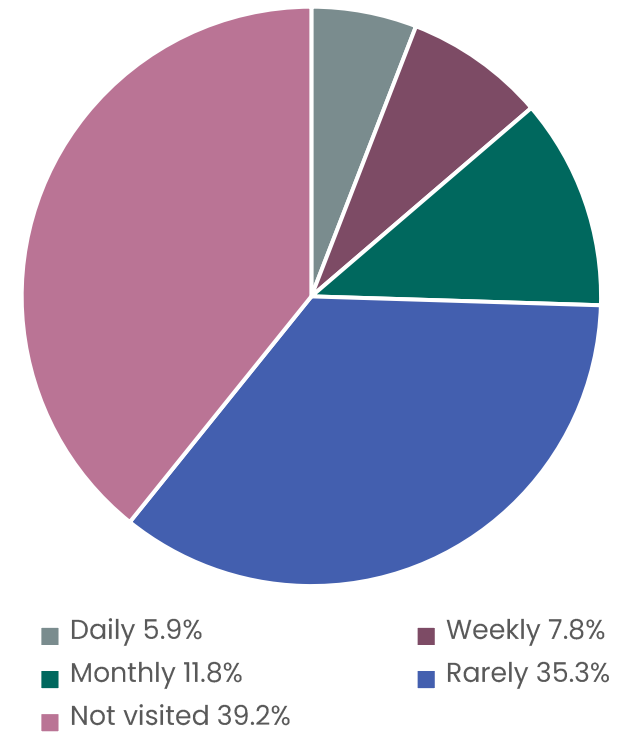
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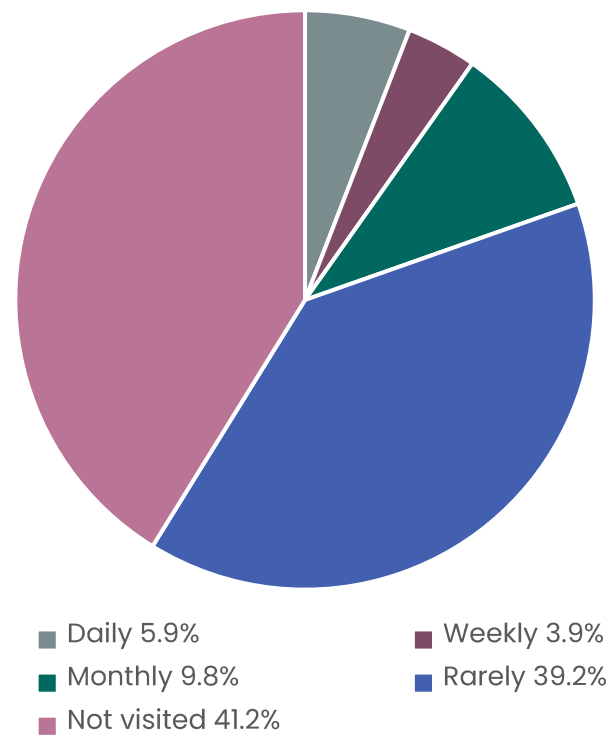
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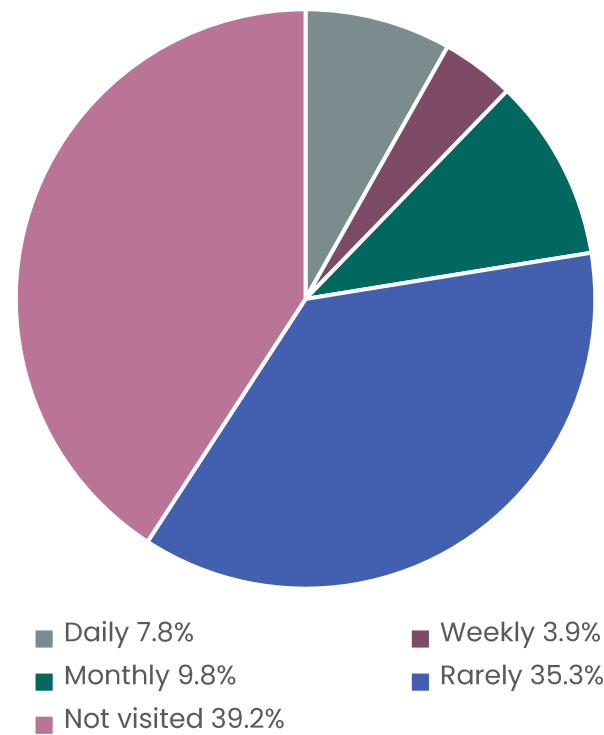
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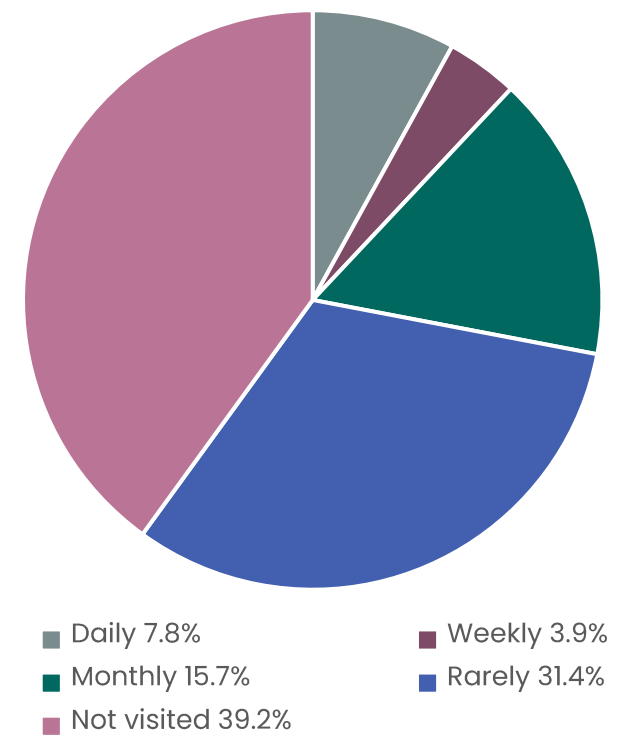
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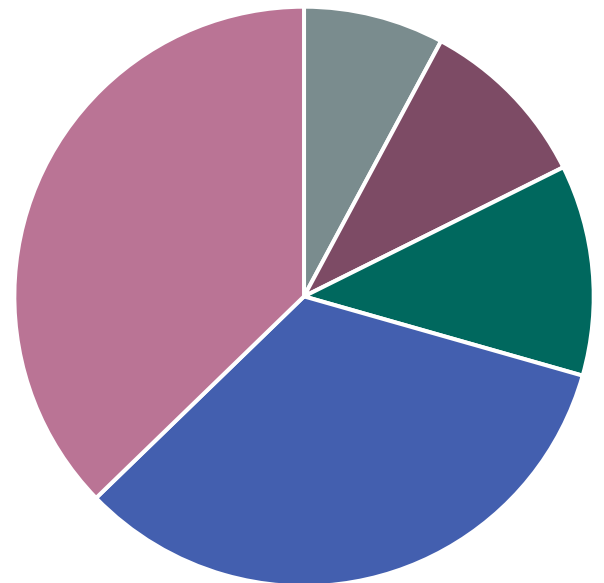
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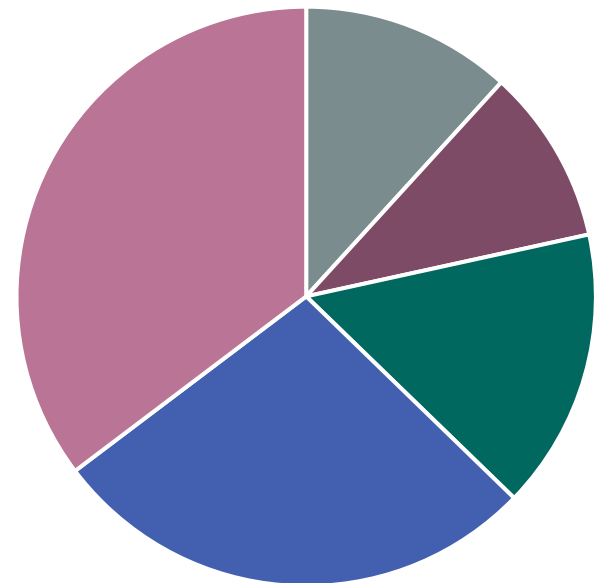
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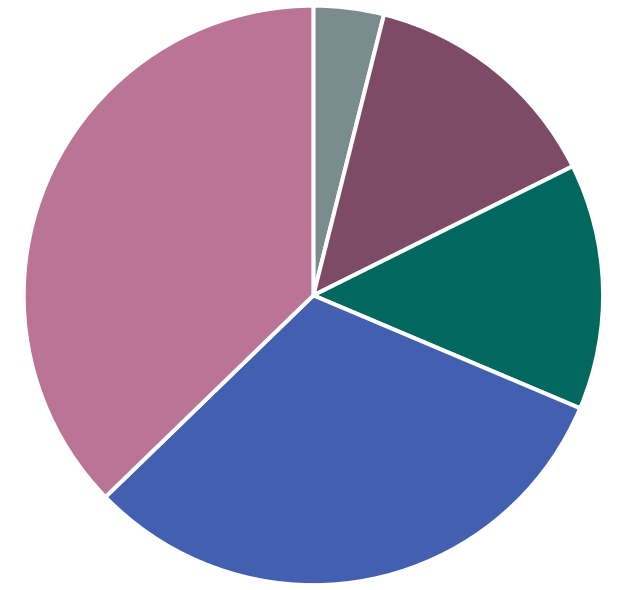
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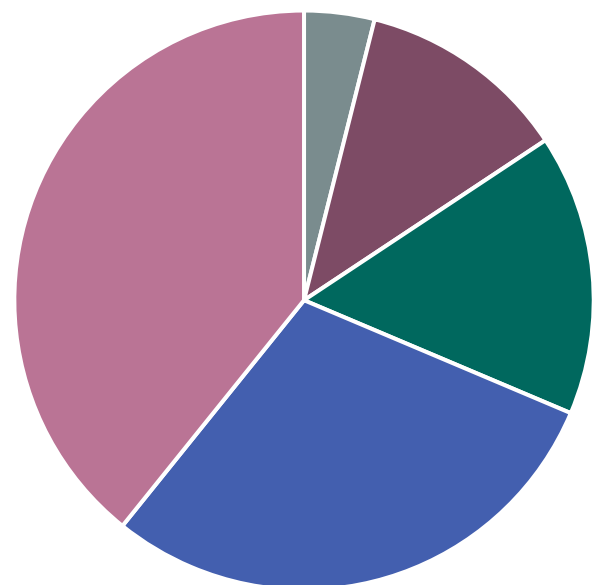
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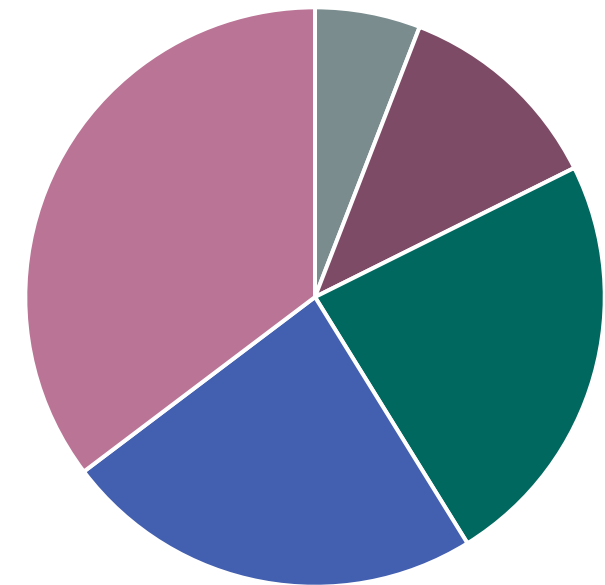
MOYJIL / POINT RITCHIE WCC140



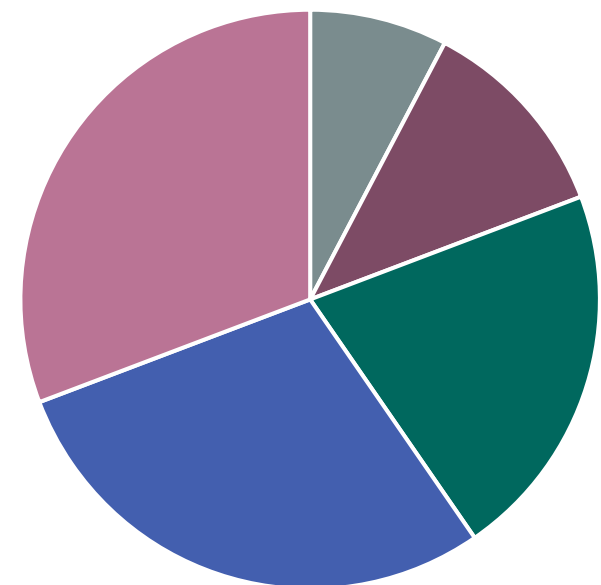
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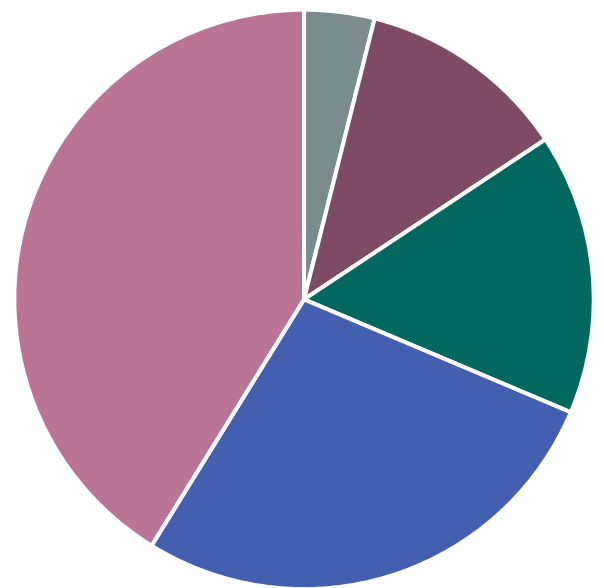
HOPKINS RIVER WCC142



HOPKINS RIVER WCC144

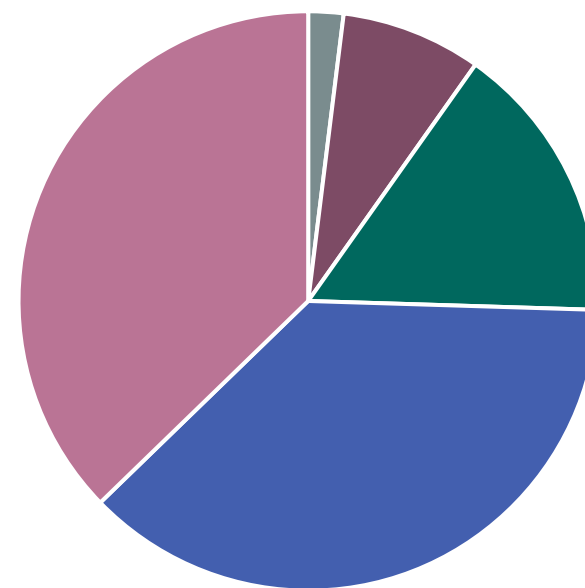


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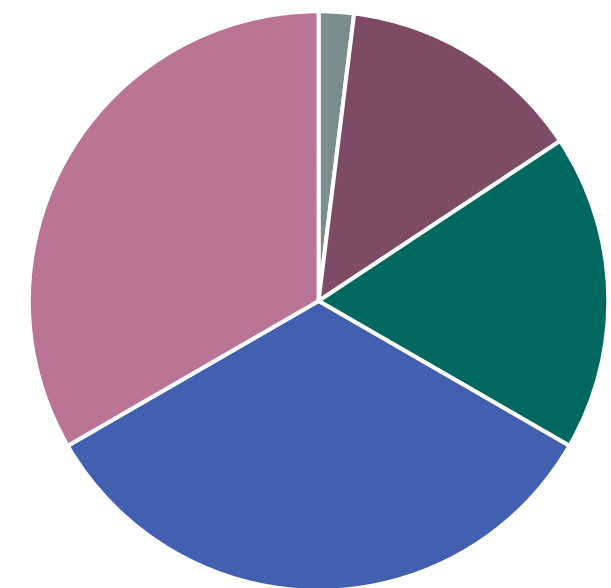
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 ■ Not visited 41.2%
 ■ Weekly 11.8%
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LOGANS BEACH WCCBH



■ Daily 3.9%
 ■ Monthly 15.7%
 ■ Not visited 41.2%
 ■ Weekly 11.8%
 ■ Rarely 27.5%

LOGANS BEACH WCC146



■ Daily 2.0%
 ■ Monthly 17.7%
 ■ Not visited 33.3%
 ■ Weekly 13.7%
 ■ Rarely 33.3%

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