



City of Rockingham

Strategic Boating Plan 2023 – 2036

June 2023



rockingham.wa.gov.au



Alternative Formats

This publication is available in alternative formats on request from the City of Rockingham on 9528 0333 or at customer@rockingham.wa.gov.au.

Community Engagement

- | | |
|--|---|
| <input checked="" type="checkbox"/> Aboriginal and Torres Strait Islanders | <input checked="" type="checkbox"/> Planning and Development |
| <input type="checkbox"/> Arts and Events | <input type="checkbox"/> Roads and Footpaths |
| <input checked="" type="checkbox"/> Coastal and Marine Environment | <input checked="" type="checkbox"/> Safety Bay / Shoalwater Foreshore Revitalisation Masterplan |
| <input type="checkbox"/> Community Development | <input type="checkbox"/> Seniors Facilities and Activities |
| <input type="checkbox"/> Community Safety | <input type="checkbox"/> Sporting Clubs and Facilities |
| <input checked="" type="checkbox"/> Disability Access and Inclusion | <input checked="" type="checkbox"/> Strategic Community Planning |
| <input checked="" type="checkbox"/> Environmental Interests | <input type="checkbox"/> Tenders and Quotations |
| <input type="checkbox"/> Grants | <input checked="" type="checkbox"/> Tourism |
| <input type="checkbox"/> Heritage | <input type="checkbox"/> Volunteering |
| <input type="checkbox"/> Libraries and Education | <input type="checkbox"/> Waste and Recycling |
| <input type="checkbox"/> New Community Plan Strategies | <input type="checkbox"/> Youth |
| <input checked="" type="checkbox"/> New Infrastructure Projects | |

Disability Access and Inclusion

The Seven Outcome Areas of the DAIP	Will the Key Element be impacted by this strategy? “Y” or “N”	If “Y”, please explain how. the actions under this element will be impacted by this strategy
1. Access to City services and events	N	
2. Access to City buildings and facilities (including outdoor spaces)	Y	Accessibility on boat ramp finger jetties
3. Access to information	N	
4. Access to quality service from City staff	N	
5. Access to equal complaints procedures	N	
6. Access to participation in public consultation	N	
7. Access to City employment opportunities	N	

Contents

1	Executive Summary	5
2	Strategic Objectives	6
3	Background.....	6
3.1	Perth metropolitan level context.....	6
4	Current situation.....	11
4.1	Overview of boating facilities in the City of Rockingham.....	11
4.2	Details regarding boat ramp facilities	12
4.2.1	Palm Beach East	12
4.2.2	Palm Beach West	12
4.2.3	Point Peron.....	12
4.2.4	Carlisle Street	13
4.2.5	Bent Street.....	13
4.2.6	Donald Drive	16
4.2.7	Port Kennedy.....	16
4.2.8	Other boat ramp facilities	17
4.2.9	Maintenance and Operating costs of existing facilities	17
4.3	Feedback from consultation	18
4.4	Current funding allocation	19
4.5	Levels of provision and Level of Service	20
5	The Way Forward	21
5.1	Overall approach	21
5.2	Approach to each existing boating facility	21
5.2.1	Palm Beach East	21
5.2.2	Palm Beach West	21
5.2.3	Point Peron.....	21
5.2.4	Carlisle Street	21
5.2.5	Bent Street.....	22
5.2.6	Donald Drive	23
5.2.7	Port Kennedy.....	23
5.3	Potential funding sources.....	24
5.4	Future growth area outside of existing facilities.....	24
5.5	Summary	24
6	Measuring success	24
7	Risk Management	25
8	Actions.....	26
8.1	New Actions.....	26
8.2	Ongoing actions.....	28

9	Stakeholder Engagement.....	29
10	References.....	29

1 Executive Summary

The City of Rockingham (the City) has been investing in coastal management planning over a range of timeframes, from medium term (20-50 year) master plans for specific sections of coast, to long term considerations (over a 100 year timeline) in the Coastal Hazards Risk Management Adaption Plan. To help guide the City's provision of coastal infrastructure and outline coastal management activities in the shorter term the City developed the Coastal Facilities Strategy 2021 - 2025.

The City is home to 10.3% of total boat ownership in the Perth Metropolitan area and ranks 2nd amongst all Local Governments. The City currently provides 14 concrete boat ramps and two over sand boat ramps at six separate boating facilities within a relatively short coastal distance.

The City's Coastal Facilities Strategy identified a need for the development of a strategic approach to boating facilities in the City and hence this Strategic Boating Plan (SBP) is prepared. The SBP is only focused on infrastructure provision. Cost recovery or revenue model such as parking fees is not considered part of the scope of this study. Though it was originally planned for a 10 years study horizon it is now proposed to be for the period of 2023 to 2036 to align with the DoT's Recreational Boating Facilities Study (RBFS) timeframe.

The SBP researched other facilities in the Perth Metropolitan area in similar Local Governments, reviewed the ongoing operating and maintenance costs of existing facilities and took into consideration expected growth and potential capital upgrades. It is noted that the majority of the boating facilities in the metropolitan area are provided by the State Government or private operator. The City is the single biggest Local Government that provides significant ratepayer funded boating facilities to its community. Therefore, a significant focus of the SBP is to advocate to the State Government for increased participation and support in delivering and maintaining boating facilities in the City.

The SBP has determined that according to the DoT's forecast modelling the City currently provides more boat ramps than required. While six boat ramps can cater for the current demand the City currently provides 14 boat ramps. However, it is noted that a number of the facilities are located in unprotected open waters which affects the level of service of the facilities. The SBP has concluded that the only area feasible for upgrading of boating facility within the City is at Port Kennedy and the most logical facility for downgrading is at Bent Street during the SBP horizon. It is also concluded that no new facility at new locations are required for the duration of SBP.

The investment required to upgrade Port Kennedy facility and to continue to maintain the other boating facilities is significant. This funding is difficult for the City to find and maintain. As such, the State Government will be approached to both fund the upgrades and take on ownership and responsibility for the key boating facilities within the City, namely Point Peron and Port Kennedy.

2 Strategic Objectives

1. To identify future upgrade/downgrade of existing facilities
2. To identify areas for future growth outside of existing locations
3. To identify potential funding sources for undertaking any proposed upgrades

The SBP addresses the Community's Vision for the future and specifically the following Aspiration and Strategic Objective(s) contained in the Strategic Community Plan 2019-2029:

Aspiration 1:	<i>Actively Pursue Tourism and Economic Development</i>
Strategic Objective:	<i>Coastal destination – Promote the City as the premier metropolitan coastal tourism destination.</i>
Aspiration 1:	<i>Actively Pursue Tourism and Economic Development</i>
Strategic Objective:	<i>Infrastructure investment – Lobby local, state and federal stakeholders to establish infrastructure and development opportunities for the City.</i>
Aspiration 2:	<i>Grow and Nurture Community Connectedness and Wellbeing</i>
Strategic Objective:	<i>Services and facilities – Provide cost effective services and facilities which meet community needs.</i>
Aspiration 3:	<i>Plan for Future Generations</i>
Strategic Objective:	<i>Infrastructure Planning – Plan and develop sustainable and safe infrastructure which meet the current and future needs of the City's growing population.</i>
Aspiration 4:	<i>Deliver Quality Leadership and Business Expertise</i>
Strategic Objective:	<i>Management of current assets – Maintain civic buildings, sporting facilities, public places and road and cycle way infrastructure based on best practice principles and life cycle cost analysis.</i>

3 Background

3.1 Perth metropolitan level context

DoT published the Perth Recreational Boating Facilities Study (RBFS) in 2008. The study forecast the demand for boating facilities in the metropolitan area up to 2025. A further review of the study was undertaken in 2019 (Department of Transport).

The review has a planning horizon to 2036. A comparison of the actual vessel numbers in 2018 vs the forecast predicted numbers in the 2008 study shows an over-estimate of about 28%. A total of 20 boat ramp lanes were forecast as being required by the study between 2008 and 2018 but only 6 boat ramp lanes were provided. This is a considerable disparity and would have likely caused significant congestion and dissatisfaction at the under-supply of new boating facilities had the number of registered vessels reached the levels predicted in the study. The review determined that the level of public recreational boating facilities provided up to 2018, while much less than proposed in the study, was fitting due to the number of actual registered recreational boats being much less than predicted.

The below figures explain the reason for the disparity between actual and forecast:

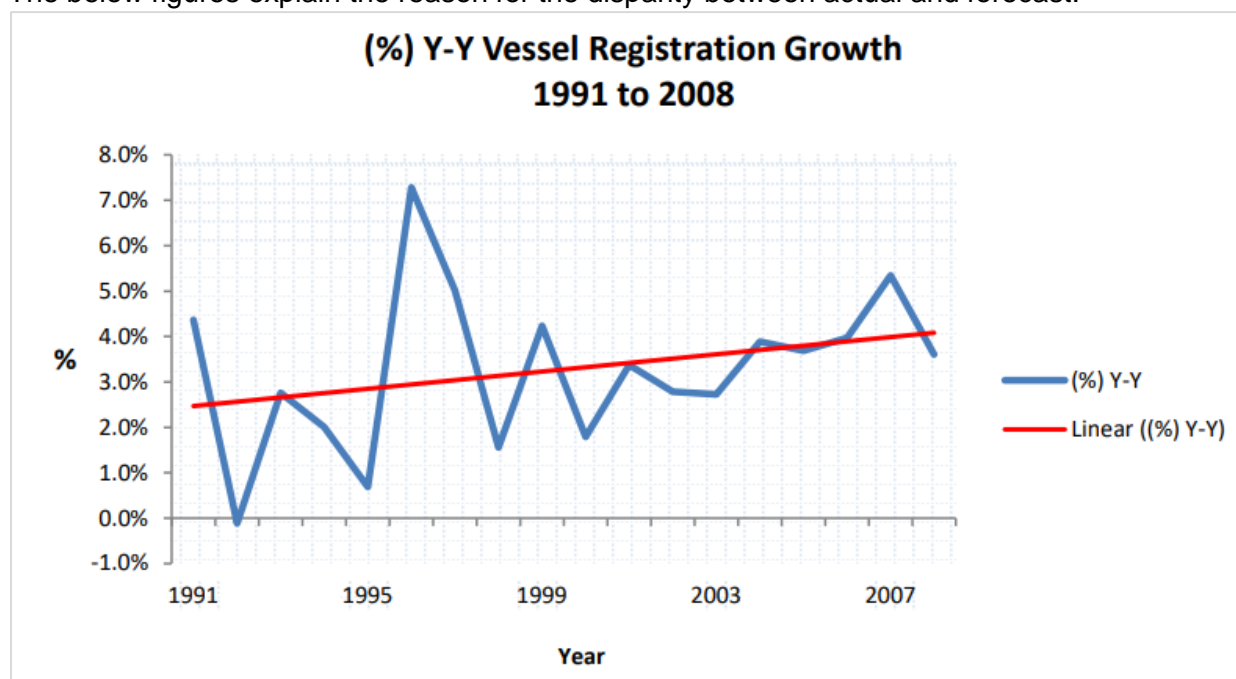


Figure 1 Change in number of registered vessels in the Perth Metropolitan Area, 1991 – 2007 (Department of Planning and Infrastructure, 2009)

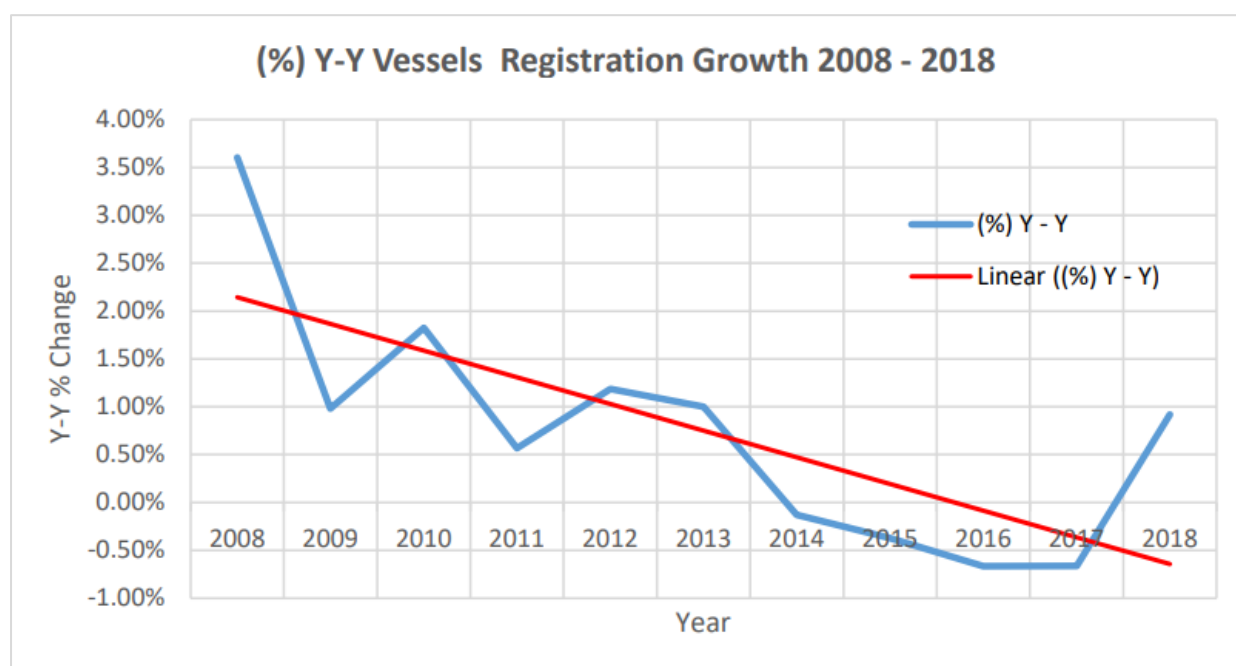


Figure 2 Change in number of registered vessels in the Perth Metropolitan Area, 2008 – 2018 (Department of Transport, 2019)

The number of registered vessels increased in the period 1991 to 2007; however, from 2008 to 2018 the growth declined significantly due to difficult economic conditions within Western Australia.

The revised forecast for boat ownership up to 2036 appears more pragmatic and aligned with the long term growth pattern. However, there still remains a risk that this may be an overestimate given current predictions of an economic contraction.

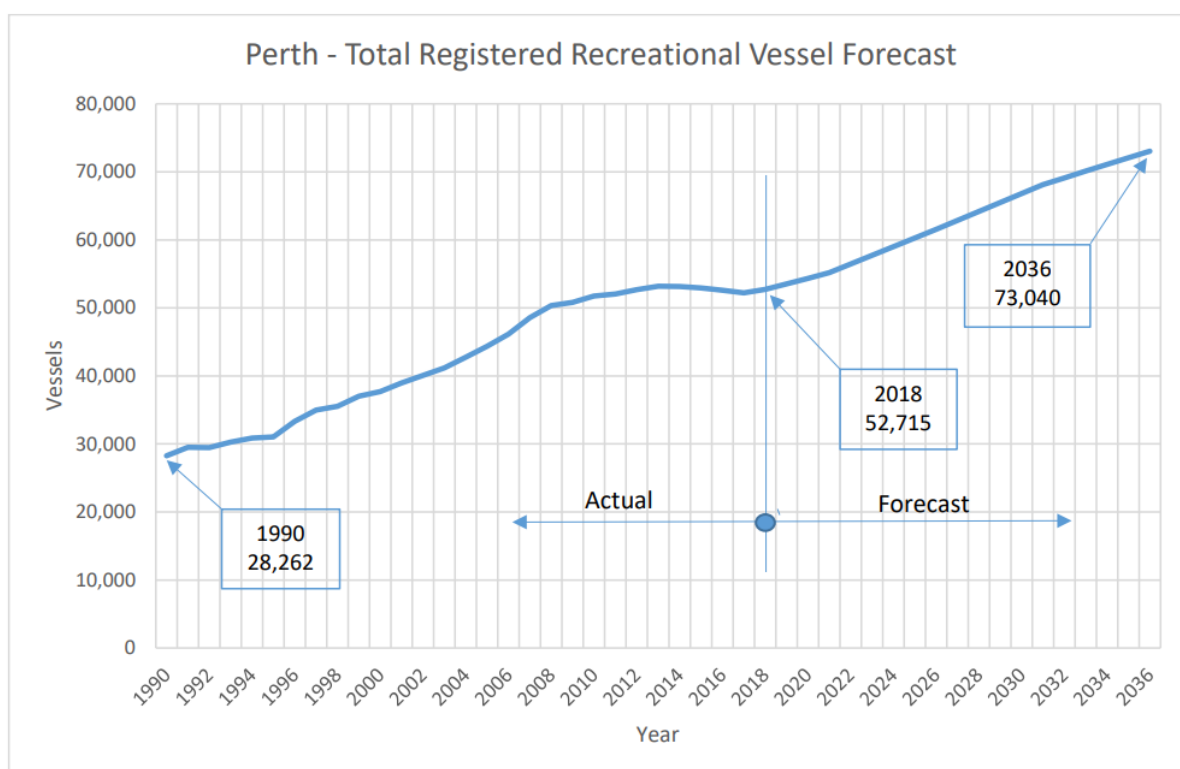


Figure 3 Estimated future changes in boat registrations in the Perth Metropolitan Area. (Department of Transport, 2019)

The review recommends construction of eight new boat ramp lanes in the southern sector (south of Swan River) by 2036, though no specific area has been identified. The study does suggest that the majority of the growth will occur within the Cities of Kwinana and Rockingham. The recommendation in the DoT review is based on requiring one boat ramp lane for every 1,000 vessels.

The City has also reviewed the boating facilities provided by other Local Governments and the data is summarised below. It shows that the City has a high rate of boat ownership – representing over 10% of boat ownership within the Perth Metropolitan Area. The City provides 14 boat ramp lanes, whereas, no other coastal local government provides more than four, with the majority provided by the Department of Transport.

Local Government	No. of boat registrations 2018 (0 – 7.5m)	No. of boat ramp lanes (LG facilities)	No. of boat ramp lanes (DoT and privately provided)	Total boat ramp lanes	No. of registered vessels per boat ramp lane
COASTAL METROPOLITAN LOCAL GOVERNMENTS					
Joondalup	5355	0	14	14	383
Rockingham	5101	14	0	14	364
Wanneroo	4135	4	2	6	689
Stirling	3886	0	0	0	-
Cockburn	3604	0	12	12	300
Fremantle	1099	0	0	0	-
Kwinana	964	1 (and one closed) – provides minimalistic service such as parking	0	1	964

Table 1 Provision of coastal boating facilities within the Perth Metropolitan area

All of the facilities included above, north of Kwinana, are within protected structures. These are marinas and boat harbours. The majority of the City facilities are not protected in this manner, although some natural protection is offered by the geomorphic shape of the coastline. Also of note is that the City facilities are in close proximity relative to the rest of the Perth Metropolitan area.

Figure 4 and Figure 5 show all the existing coastal facilities in the Perth Northern and Southern Metropolitan Area respectively.



Figure 4: Locations of boating facilities in the Perth northern Metropolitan region. Map reproduced with permission of the Department of Transport.



Figure 5 Locations of boating facilities in the Perth southern Metropolitan region. Map reproduced with permission of the Department of Transport. The map demonstrates the concentration of boating facilities within the City of Rockingham

4 Current situation

4.1 Overview of boating facilities in the City of Rockingham

The City currently provides 14 concrete boat ramps and two over sand boat ramps at the following locations:

Boat Ramps (Each formal boat ramp complex includes at least one finger jetty)	
Palm Beach (East and West)	4 ramps
Point Peron	6 ramps
Bent Street	2 ramps
Port Kennedy	2 ramps
Donald Drive	informal – over-sand
Carlisle Street	informal – over-sand

Figure 6 shows the existing boating facilities provided by the City. All facilities except Point Peron are located in an unprotected open ocean environment.



Figure 6 Location of boating facilities within the City of Rockingham

4.2 Details regarding boat ramp facilities

4.2.1 Palm Beach East

- Two concrete ramps with central finger jetty
- Located in open ocean environment without any protection structure such as breakwater. Exposed to N/NW Storm Events.
- Shared parking with Palm Beach West facility. Including the boat trailer overflow parking area adjacent to the Rotary Park on Esplanade, it does not meet Australian Standard recommended number of parking bays.
- Mainly used by smaller vessels due to shallow water depth. 3rd most popular boat ramp in the City.
- Significant conflicting uses such as pedestrians and playground users
- Despite the shallow water and lack of parking the City does not receive many complaints from the community.
- No opportunity for further upgrade or providing additional parking facility without detrimental effect on other users of the foreshore.

4.2.2 Palm Beach West

- Two concrete ramps with finger jetty on western side of ramps. The City has received Department of Transport (DoT) administered Recreational Boating Facilities Scheme (RBFS) funding for designing upgrade of the boat ramp in 2022/23 and applied for construction funding in 2023/24. The construction funding application is unsuccessful and it will be resubmitted in 2024/25. The upgrade will not result in increase in boat ramp numbers but the redesign will result in better performance and utilisation of the ramps. The upgrade will also provide a dedicated Jet Ski launching ramp at this location.
- Located in open ocean environment without any protection structure such as breakwater. Exposed to N/NW Storm Events.
- Shared parking with Palm Beach East facility. Including the boat trailer overflow parking area adjacent to the Rotary Park on Esplanade, it does not meet Australian Standard recommended number of parking bays.
- Mainly used by smaller vessels due to shallow water depth. 3rd most popular boat ramp in the City.
- Significant conflicting uses such as pedestrians and playground users.
- Despite the shallow water and lack of parking the City does not receive many complaints from the community.
- No opportunity for further upgrade beyond the planned 2024/25 works or providing additional parking facility without detrimental effect on other users of the foreshore.

4.2.3 Point Peron

- Six concrete ramps with appropriate protection from wind and swell.
- Located away from residential area or busy pedestrian active area.
- The spur groyne was extended by 20m and the breakwater was refurbished in 2021/22 to allow for better protection from waves on vessels entering the facility, as well as additional space for sand accretion adjacent to the groyne. The extended spur groyne now extends into the Shoalwater Islands Marine Park.
- DBCA currently provides the City with required Lawful Authority permits to conduct maintenance of the sand trap and dredging operations as required.
- One off harbour dredging has been undertaken in 2022/23 and typically two campaigns of excavations are undertaken each year at the spur groyne.
- The City's most popular and widely used facility. It provides other ancillary facilities such as toilets, fish cleaning facility and five marked wash down bays.
- Sufficient parking availability.

- The only concern about this facility is the incoming wave energy propagation by the adjacent Causeway and the impact of sedimentation on the concrete boat ramps during winter and early spring annually.
- Challenge with limited stockpile facility for sand trap, which can contain only 20,000m³ of material at a time.
- No opportunity for further boat ramp addition due to lack of space for additional parking.

4.2.4 Carlisle Street

- Over sand boat ramp requiring regular grading of the ramp and sand bypassing from west to east.
- Used by some small boats and commercial cray fishermen.
- Not as popular as the concrete ramps
- Located within Shoalwater Islands Marine Park in open ocean environment without any protection structure such as breakwater. DBCA has some concerns that this over sand boat ramp provides for illegal vehicular access to Tern Island.
- Significant lack of parking.
- Located in residential area and relatively active pedestrian/cyclist active area.
- No opportunity for further upgrade due to lack of space for additional parking without significant detrimental effect on other users.
- Utilised by Windsurfing community.

4.2.5 Bent Street

- Two concrete ramps with centralised finger jetty.
- Despite significant lack of parking it is the 2nd most popular boat ramp in the City due to the protection provided by the Tern Bank Sandbar.
- The popularity combined with lack of parking results in vehicles and trailers parking on street which creates Road Safety issue as the area is very popular with on road cyclists.
- Located with two over sand ramps, one on either side of the concrete ramps. These are not as popular as the concrete ramps in terms of daily launches/retrievals. DBCA has some concerns that this over sand boat ramp provides for illegal vehicular access to Tern Island.
- Located within Shoalwater Islands Marine Park in a very dynamic section of the coast. Tern Bank Sandbar experiences significant accretion seasonally.
- Located in residential area and active pedestrian/cyclist active area.
- Highest cost per boat ramp lane in the City.
- A number of challenges involved in operating the facility. The navigation channel and Tern Bank Sandbar head excavation is administered by a deed of licence between the Department of Biodiversity Conservation and Attraction (DBCA) and the City which allows the excavation of maximum 40,000m³ sand within two consecutive years from a predetermined footprint. The current licence expires in June 2023.
- The City is in the process of renewing the deed of licence with DBCA beyond June 2023 for a period of five years to 2028. As part of the licence renewal the City is seeking to increase the excavation/dredge volume to 60,000m³ over two years and with a larger footprint to reflect recent experience of the growth of Tern Bank. This will be the last five years renewal allowed in the original deed of licence. Whether the licence will be extended beyond 2028 is unknown. The City presented to the Conservation and Parks Commission (CPC) on 21 October 2022 to support the City's licence extension request. It has been indicated from DBCA and CPC that they want to see the City making a strategic decision about the facility. No decision has been obtained from DBCA about the sought licence extension at the time of preparing the SBP. However, it has been confirmed that excavation of up to 60,000m³ from the extended footprint

will be allowed within 2023 calendar year, which will be administered through a regulation 4 lawful authority issued by the District branch of the DBCA. The request for an increase in volume and size of the footprint may not account for the amount and location of the sand that accretes at the head of Tern Island especially due to the dynamic nature of the environmental forces at this location. DBCA has confirmed that they will continue to work with the City to enable maintenance works to be conducted, provided there is limited impact on marine park values. These values include but are not limited to marine fauna, seagrass, water and sediment quality, seabird and shorebirds, coastal and island use and seascapes.

- The excavated/dredged material is grey to black in colour and odorous. Though it is not harmful for health, the community does not support the placement of excavated material at any beach. As a result, large quantities of excavated material is transported to Landfill regularly. Though Landfill can accept the material as exemption for landfill levy for the time being, it is unknown and uncertain how long such exemption will be applicable. Landfill uses the material for cell capping purpose. Reduced landfill trend indicates that the demand for cell capping material will reduce with time. If the landfill levy is imposed then it can cost up to \$2.5M for undertaking one excavation campaign of 20,000m³.
- Removal of the coastal sediment from the sediment cell is causing environmental damage such as erosion to the east of the boat ramp. The City has spent \$392,000 in 2022/23 to renourish beaches in Warnbro Sound to the east of the boat ramp. The cost is expected to increase in future as the lack of natural sediment movement results in further erosion of the coast.
- The City has undertaken an environmental study to determine the impacts of placing the dredged material offshore within Warnbro Sound. The study has undertaken comprehensive literature review, survey and review of the existing flora and fauna and modelling of the placement of dredged material within Warnbro Sound. Below is the summary of the study outcome:
 - Offshore placement is possible with minimal environmental impact.
 - A placement area as shown in Figure 7 is proposed within 1km of the channel in the basin that is 17m deep, which means the dredged material will remain there and not return to the Tern Bank head.
 - Plume modelling suggests no significant pluming is expected.
 - Eastern side of the boat ramp will continue to be monitored and renourished as required.
 - The placement site will move at each campaign to avoid lumping at the seabed.
 - Pipe layout for each campaign will be temporary and will be removed post campaign. No permanent structure will be left in the marine park.
 - The seabed placement will not impact any megafauna such as dolphins or penguins.
 - Although unknown at this stage the City expects approximately 30% to 50% total campaign cost reduction.

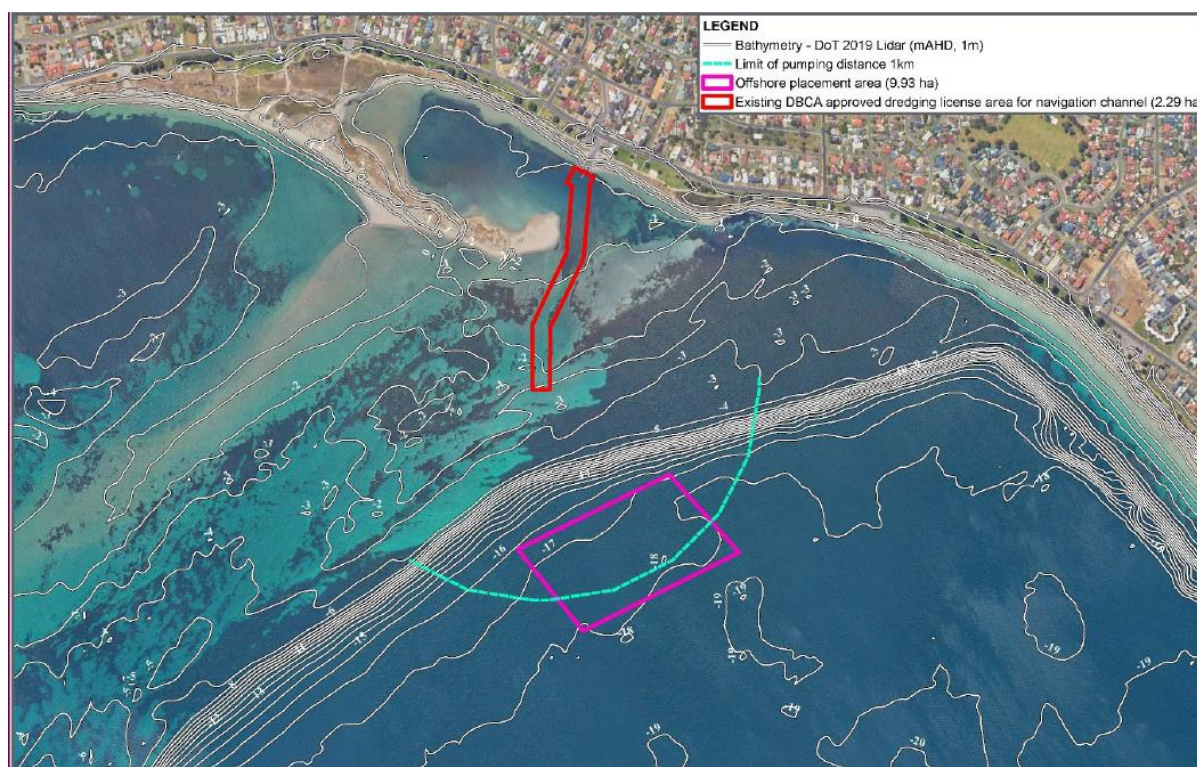


Figure 7 Proposed location for offshore placement of dredged material.

- Key state agency consultation will commence soon (DBCA, DoT and Conservation and Parks Commission) and the feedback will be captured as an appendix to the study report.
- The proposal of offshore placement of dredged material is not supported by the current Shoalwater Islands Management Plan which has expired in 2017. While it is unknown when the next management plan will be developed it can be assumed that it will be more environmentally conservative. DBCA has declined the City's previous request for offshore placement of dredged material; however, the City's request was not backed by any study showing the impact. Since the study outcome is now known, the City will seek formal approval from DBCA for offshore placement, possibly on a trial basis as a beginning. The trial, if approved by DBCA will allow both parties to assess the impact of the proposal. If approved, it will have a significant positive impact on operating cost for the boat ramps.
- Due to the rapid accretion of Tern Bank Sandbar DoT has been required to relocate the navigation markers frequently in 2022. It is also stated on DoT's webpage that *"The Bent Street boat ramp is currently open however; mariners are advised to exercise caution whilst navigating through this area and should not rely solely on the two (2) lit navigational buoys outside of Tern Island for safe navigation past any sand hazard or shallow water to the boat ramp. Skippers are reminded to keep a proper lookout and safe speed at all times."* DoT has confirmed that they have no intention to pass on the operational cost of maintenance of the navigation markers to the City.
- Unavailability of dredging contractor and lack of competition in the industry is a major risk for the City. It took the City two years to secure a dredging contractor for undertaking the last campaign at the channel. It required significant negotiation between the City, DoT and the contractor.
- Overall, it is a very challenging location to provide a safe boating facility with sufficient parking. It can only be assumed that the operating cost for the facility will continue to

rise rapidly and administration of excavation/dredging to maintain safe navigable depth will become even more difficult.

- The City developed a downgrade plan for the facility when the formal channel was established in 2013.

4.2.6 Donald Drive

- Over sand boat ramp requiring regular grading of the ramp and sand bypassing from west to east.
- Used by some small boats.
- Not as popular as the concrete ramps
- Located within Shoalwater Islands Marine Park in open ocean environment without any protection structure such as breakwater. Donald Drive access is close to healthy, well established seagrass meadows.
- Significant lack of parking. However, community perceives it as the next option for improvement in the same area if Bent Street is downgraded.
- A feasibility study was undertaken in 2016 to explore the upgrade options of the facility. A concept plan was developed showing two ramp lanes with breakwater and additional parking to be constructed by acquiring area from the Marine Park. The cost estimate in 2016 was \$8M. However, there is strong doubt about its long term viability due to the dynamic nature of the sediment movement in the area; especially the aggressive sand accretion at Tern Bank Sandbar. It is likely that the accretion pattern will impact any upgrade at this location. The upgrade is also unlikely to be supported by the DBCA, and if implemented likely to repeat the current Bent Street management issues relating to the location within the Marine Park.
- Located in residential area and relatively active pedestrian/cyclist active area.
- While some community members considers it as a strong location for upgrading it did not resonate strongly in the surveys undertaken.
- The recent accretion of Tern Bank Sandbar in 2022 has crossed the navigation channel footprint of Bent Street towards east, towards Donald Drive. Due to the predetermined licence footprint and excavation limit the City could not remove the excess material. The material accretion towards Donald Drive is likely to continue even if the City regularly undertakes excavation campaigns at Bent Street.

4.2.7 Port Kennedy

- Two concrete ramps with centre finger jetty.
- Sufficient parking but experiences high antisocial behaviour, regular conflict between jetty fishing community and recreational boating community.
- Located away from residential area.
- Located adjacent to Shoalwater Islands Marine Park in open ocean environment without any protection structure such as breakwater. Although the area was excised from the Shoalwater Islands Marine Park, the management plan (7.1) addresses the intention for this area to be considered as a part of the Shoalwater Islands Marine Park in future.
- The lack of protection due to onshore wave and surge conditions and resulting safety risk is a key concern for the boat users which came up strongly in all surveys.
- A feasibility study for potential upgrading of the facility was undertaken in 2020 which identified that upgrade to six lanes with breakwater protection and sufficient parking can be achieved. However, the capital cost is estimated to be \$10M in 2020 and operating cost is estimated to be \$500,000 per year.
- The City has been successful in securing 75% of total design cost funding from RBFS for undertaking detail design of the potential upgrade in 2023/24. However, no construction funding is identified yet.

4.2.8 Other boat ramp facilities

In addition to the facilities provided directly by the City, the following private facilities exist in the district:

- Mangles Bay Fishing Club – two boat ramp lanes and a finger jetty. The club has proposed to have three lanes and two finger jetties, subject to relevant approvals.
- The Cruising Yacht Club - one concrete boat ramp with two lanes
- Safety Bay Yacht club – sand beach access track

Additionally, the City is aware of the following planned facilities within the City:

- Rockingham Marina, providing 500 boat pens; and
- Kennedy Bay Marina, providing 24 moorings.

4.2.9 Maintenance and Operating costs of existing facilities

Figure 8 provides the annual operating and maintenance cost of each facility averaged over the 10 years period to 2021.

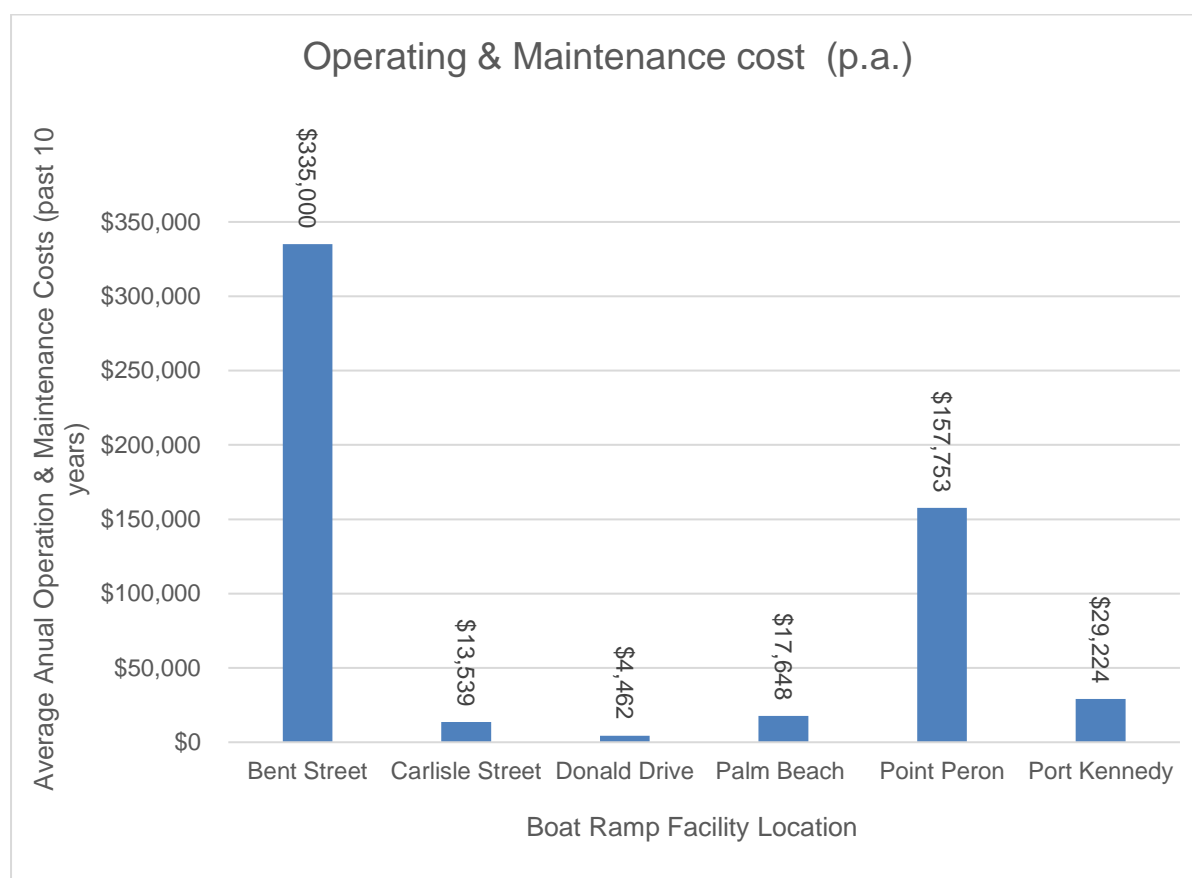


Figure 8 Average per annum operation and maintenance costs for each City of Rockingham boating facility over the past 10 years.

Although the average annual cost of sand management at Bent Street from 2011 – 2021 was \$335,000 per annum, this has increased to over \$500,000 per annum from 2019. Approximately, 50% of the Bent Street cost is for transporting excavated and dredged material from site to the Millar Road landfill. This cost is estimated to increase above inflation to \$750,000 per annum from 2023/24 due to the excavated volume potentially increasing to 30,000m³ per year, as requested by the City for approval by the DBCA as part of next deed of licence extension.

Operations and maintenance costs at other facilities are generally lower due to the nature of those facilities, or a lesser sand management cost.

Carlisle Street and Donald Drive are both over sand ramps, requiring low levels of maintenance. The Palm Beach facility provides a lesser level of service, and caters more for shallower vessels in a particularly sheltered area, resulting in lesser ongoing costs. Port Kennedy boat ramp has been suffering from significant sand accretion in the past three to four years and is managed by undertaking smaller sand excavation works from beach. However, the sand excavation cost is significantly less than Bent Street. Point Peron also exhibits significant sand accretion, however overall costs of sand management are relatively stable and less than at Bent Street.

4.3 Feedback from consultation

Community consultation for SBP development was completed in early 2022. About 100 residents provided feedback and 59 indicated willingness to participate in workshops if requested. The City arranged a workshop on 08 August 2022 with these residents to gather more specific information about their boating journey and to understand investment priorities.

Out of the 59 people that indicated interest initially, 15 attended the workshop. The summary of the community feedback is provided below, which are similar to feedback received during the development of the Coastal Facilities Strategy:

- Most boaters are generally satisfied with the facilities on offer, with adequate choice of facilities within close proximity to their homes. However, there is an underlying frustration with facilities during peak season resulting from high volume of boating traffic.
- Point Peron boat ramp is the most popular boat ramp in the City followed by Bent Street and Palm Beach.
- Weather conditions, particularly wind condition and safety of launching and retrieval are the most important considerations by boaters followed by availability of adequate parking, congestion at ramps etc. Boaters are happy to accept some level of congestion to use a safer facility.
- Safety is more important over convenience. Boaters do not consider on road travel or distance to boat ramps as a key consideration as long as they can access a safe boat ramp
- Boaters want dedicated launch and retrieval lanes to bring discipline at the boat ramps. Dedicated lanes have been marked on Palm Beach East, Point Peron, Bent Street and Port Kennedy boat ramps. Palm Beach West will be marked as part of the planned upgrading in 2024/25 and Palm Beach East will be marked in 2022/23.
- Most boaters travel about five to 10 km from shore. The primary purpose of boating is recreational fishing.
- Boaters want the City to invest in capital projects. They are happy to compromise operational and maintenance cost or downgrading of over sand boat ramps to achieve safer facilities with ample parking.
- There were polarised views in relation to Bent Street with both support for the facility as well as alternate views relating to the sustainability of current management practices.
 - Eleven respondents wanting to either remove this boat ramp (7) or at least stop the dredging (4).
 - Eight responses seeking improvements of facilities.
- Lack of sufficient parking was a recurring theme throughout.

- Responses regarding Donald Drive were dominated by a desire to upgrade (8) and keep (2) this facility. Some of these respondents made the link to Bent Street and saw closing Bent Street but upgrading Donald Drive as a preferred option.
- Building a breakwater to provide surge protection was a dominant theme for Port Kennedy boat ramp.
- Wave propagation issue caused by the Causeway at Point Peron is identified as the only concern about the facility.

Below are the improvements that boaters want to see:

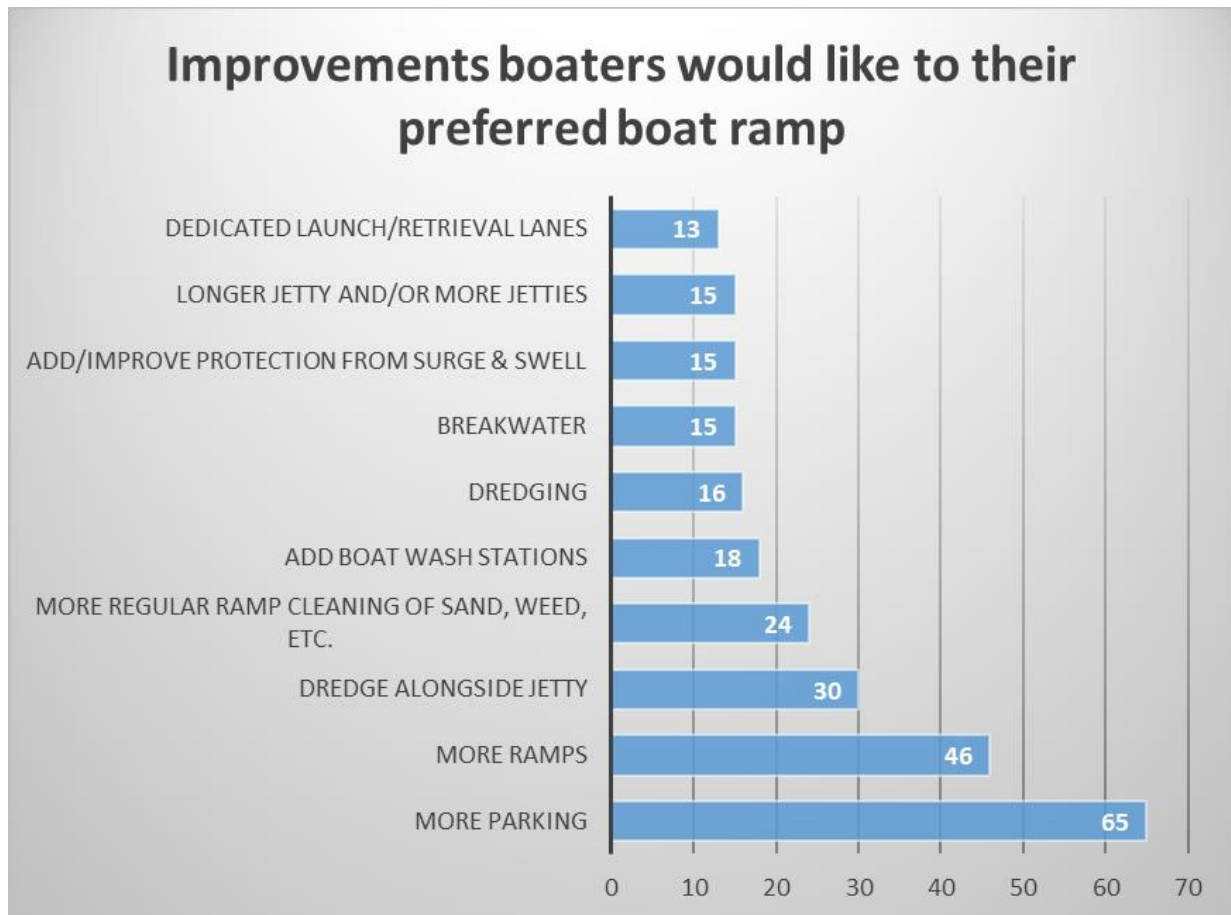


Figure 9 Most popular boating facility improvements specified by boat owners.

4.4 Current funding allocation

The business plan funding allocation for marine infrastructure (Figure 10) totals just over \$20m over the next ten years. This covers boat ramps, jetties, seawalls and groynes, and would typically be sufficient to cover renewals and minor upgrades. On average \$2M is allocated per year for boat ramps, jetties, seawalls and groynes.

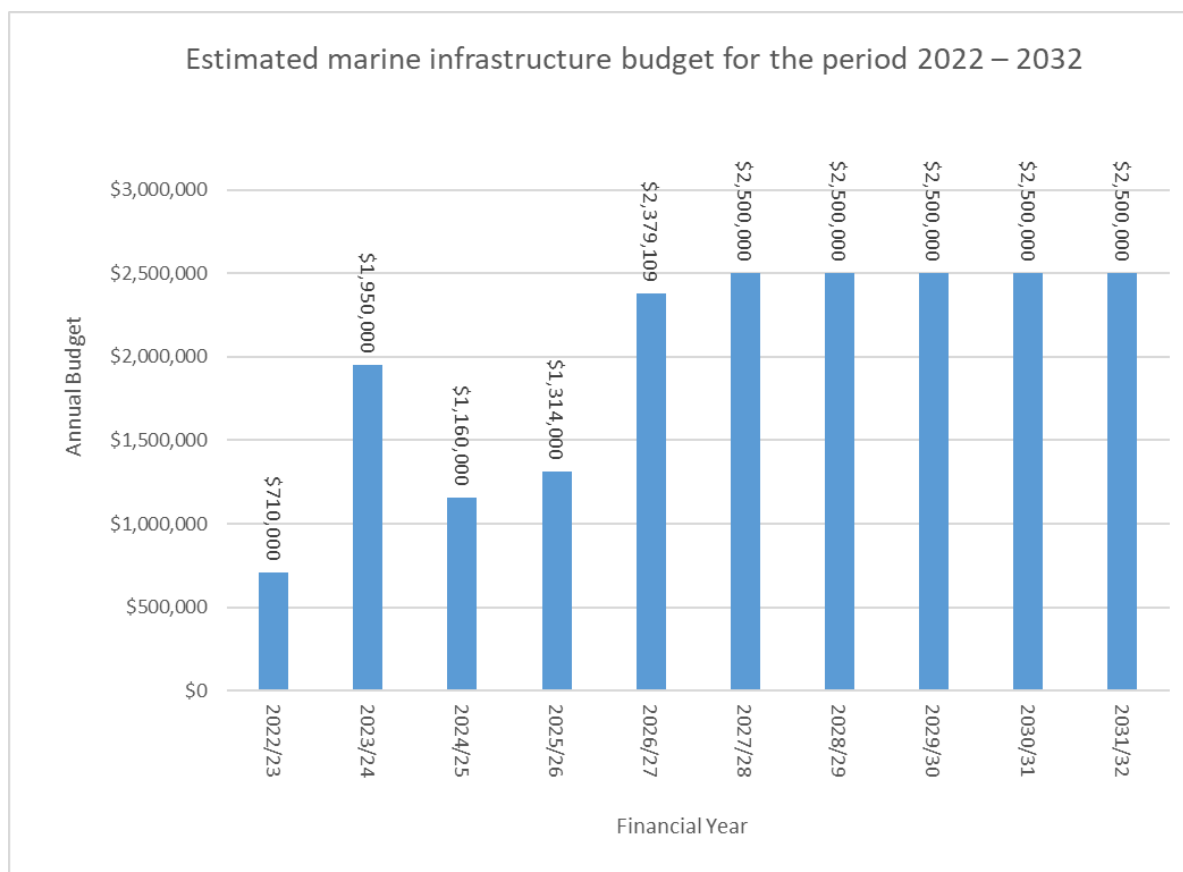


Figure 10 Marine infrastructure budget for the period 2022 – 2032.

A limited amount of additional funding can be obtained in a competitive process from the Department of Transport. Their Recreational Boating Facilities Scheme allocates \$1.5m annually across the state, with funds covering up to 75% of project costs to a maximum of \$750,000.

According to a feasibility study for Port Kennedy Boat ramp upgrade in 2020 approximately \$10M is the capital cost for upgrading an existing unprotected two lane concrete boat ramp to six lane protected boat ramp with breakwater and sufficient parking. The rough breakdown of the estimate is \$2M for upgrading from two ramps to six ramps, \$4M for breakwater, \$3M for boat trailer parking and \$1M for lighting and other ancillary costs. The cost will increase further if the existing ramp to be upgraded is currently over sand. The cost estimate does not account for the recent rapid escalation of cost.

4.5 Levels of provision and Level of Service

The Department of Transport estimates that one boat ramp lane is required for every 1,000 boat registrations in its boating facilities requirement forecasting (Department of Planning and Infrastructure, 2009). The City currently provides 14 concrete boat ramps; whereas, if the DoT demand estimation method is used then **six boat ramps should be sufficient to cater for the City's current demand** of 5,101 vessels registered within the City boundary. From the 2020 survey it is estimated that 15% of users of City of Rockingham boat ramp facilities reside beyond the City boundaries (Metrix Consulting 2020). However, it is also noted that eight of the 14 boat ramps are provided in unprotected open water which provides lower level of service compared to the protected facilities.

5 The Way Forward

5.1 Overall approach

The current boating facilities provided by the City represents a very high level of provision. As such, currently planned upgrades to existing facilities (notably Port Kennedy) are considered sufficient for the timeframe of this plan.

As noted earlier, the DoT provides 28 of the 33 Perth Metropolitan Area coastal boat ramp lanes that are outside of the City. The City will advocate for the DoT to provide a similar level of provision, service and support to the City as is provided across the rest of the Perth Metropolitan Area.

5.2 Approach to each existing boating facility

5.2.1 Palm Beach East

Given the condition and constraints of this boating facility, no further actions beyond maintaining the current status will be undertaken.

5.2.2 Palm Beach West

Upgrade this boating facility in 2024/25 as per the design developed in 2022/23; subject to securing external funding through RBFS.

5.2.3 Point Peron

The current status of the Point Peron facility will be maintained.

Given the feedback regarding wave propagation at Point Peron harbour, a project will be listed in the future Business Plan to mitigate the issue along the Causeway into the Point Peron boating facility's harbour basin and advocate for external funding for the project.

Advocacy to State Government will commence for maintaining and operating the upgraded facility.

5.2.4 Carlisle Street

Given the condition and constraints of this boating facility, no further actions beyond maintaining the current status will be undertaken.

5.2.5 Bent Street

Three options were considered for the future of the Bent Street facility.

Options	Implications
Status Quo	Significant increase in operating cost both from actual works and administration. Potential for further environmental damage to the coastline such as erosion to the east. Potential inability of Landfill to accept the material as levy exempt. Risk of boat ramp being unavailable for a period of time every year due to the restricted excavation volume and recent rapid growth of Tern Bank Sandbar due to ongoing coastal process sediment dynamics.
Upgrade to four concrete ramp lanes	Risky investment due to known management issues and cost. Additional capital cost. Inability to provide sufficient parking. Potential for cost escalation for operation and maintenance.
Downgrade	Relocation of users to other boat ramps Some community dissatisfaction Significant savings for the City that can be used for improving service at other facilities. Most logical and sustainable decision for long term.

Table 1 Options for the future of the Bent Street boating facility

The operation of Bent Street will continue as business as usual till the end of the new licence extension of 2028 (if approved by DBCA). Business as usual means continuing with the excavation/dredging campaigns to provide safe navigable depth at the channel and taking the material to Landfill.

Update the existing downgrade plan to reflect the current circumstances. It should be noted that the downgrade plan will consider a range of options and does not exclusively mean closure of the facility. The downgrade plan will also take into consideration the broader context of the site such as the future of the Pond if the boating facility is downgraded.

Advocate for offshore placement of dredged material in Warnbro Sound with DBCA as per the outcome of the Bent Street Environmental study. If offshore placement is not approved by 2028 then implement downgrading of Bent Street boat ramp. The 2028 timeframe aligns with the deed of licence timeframe for excavation at the site. However, if a decision about offshore placement is made prior to 2028 or it becomes economically unfeasible to continue with business as usual then Council can make decision to implement the downgrade plan earlier.

5.2.6 Donald Drive

Three options were also considered for the future of the Donald Drive boating facility.

Options	Implications
Status Quo	Minimal cost for providing an accessible facility. Some trailer parking are available and utilised.
Upgrade to two concrete ramp lanes with breakwater protection and adequate parking	Significant capital cost up to \$8M as per the cost estimation of 2016. Likely to experience similar management challenges as Bent Street due to the dynamic sediment movement in the area. Risky investment to consider without making a decision on Bent Street. Providing sufficient parking will be challenging. Unlikely to be supported by DBCA as acquisition of marine park will be required.
Downgrade	Will make the parking significantly underutilised. Lose the opportunity for providing a reasonable facility at very low operating cost.

Table 2 Options considered for the future of the Donald Drive boating facility.

The facility will be maintained to its current status and sediment transport will be monitored during the SBP period.

5.2.7 Port Kennedy

Three options were considered for the future of the Port Kennedy boating facility.

Options	Implications
Status Quo	Concern remains about safety of launching and retrieval. Remain underutilised.
Upgrade to six concrete ramp lanes with breakwater protection and adequate parking	Significant capital cost, up to \$10M according to the 2020 feasibility study. This doesn't account for recent rapid cost escalations. Will provide safer facility and have space for providing sufficient parking. Community feedback indicates that the facility use will increase significantly if protective structure is constructed. Operating cost for sand movement from one side of the facility to other (sand bypassing) is estimated to be up to \$500,000 per year. Most feasible existing facility for upgrading in the short to medium term. The City's future population growth area such as Karnup is likely to use this facility.
Downgrade	The facility is the southernmost facility of the City catering for a large catchment. Downgrading will be a significant detriment to a large proportion of the community. Lose the opportunity for providing a reasonable facility at reasonably low operating cost.

Table 3 Options considered for the future of the Port Kennedy boating facility.

Detail design of upgrading to six lanes with breakwater and additional parking will be undertaken in 2023/24 as 75% of total design cost funding has been secured through the RBFS funding.

Upgrading of Port Kennedy boat ramp will be included as an Advocacy item in the City's Advocacy register.

Advocacy to State Government will commence for constructing, maintaining and operating the upgraded facility.

5.3 Potential funding sources

It is evident that the existing regular external funding stream is significantly insufficient to fund any capital upgrade. The Department of Transport has confirmed that the regularly used RBFS is unsuitable to support a development of the scale of Port Kennedy.

There is a possibility that unplanned funding can become available to the City such as recent Australian Government Local Roads and Community Infrastructure (LRCI) funding. However, the source and timeframe is unknown and uncertain. It is considered impractical for the City to fund the high capital cost based on the current Business Plan allocation.

5.4 Future growth area outside of existing facilities

It has been determined that the City provides a very high level of provision currently and with the proposed upgrades in the above section no further upgrade will be required in the SBP horizon of 2036. Therefore, no area was explored for extension.

5.5 Summary

- The City currently provides 14 concrete boat ramps; whereas, if the DoT demand estimation method is used than six boat ramps should be sufficient to cater for the City's demand of 5,101 vessels. However, it should be noted that eight of the 14 ramps are located in unprotected open ocean environment which is likely to reduce the utilisation of the ramps.
- Point Peron and Port Kennedy offer sufficient parking; whereas, all other facilities lack sufficient parking. Any upgrading of boat ramps will require additional parking which is the biggest challenge for all other City boat ramp locations.
- City of Rockingham provides the highest level of ratepayer funded facilities in the State. Majority of the facilities within the metro area are either provided by DoT or run by private operators.
- The only feasible and practical option for upgrading an existing boating facility is at Port Kennedy and most logical boat ramp for downgrading is Bent Street.

6 Measuring success

What will be measured	Boating community level of satisfaction with City of Rockingham boating facilities (survey)
When it will be measured	Every five years
How it will be reported to Council	Bulletin

What will be measured	Implementation of actions
When it will be measured	Annually, by Coastal Team review of actions
How it will be reported to Council	Bulletin

7 Risk Management

Risk	Loss of boating infrastructure due to climate change impacts (erosion, large storms, sea level rise, inundation, etc.) within the lifetime of the infrastructure.		
Overall risk level	Medium	Impact area	Financial
Action Required	<p>Only upgrade, renew or acquire boating facilities in areas identified for protection under CHRMAP.</p> <p>Undertake regular condition assessment and maintenance of boating facilities.</p> <p>Take action as soon as possible after any storm event.</p> <p>Ensure any new development meets the relevant standards and guidelines requirements and with the understanding of climate change and weather impacts and engineered accordingly.</p>		

Risk	Preferred locations for upgraded boat ramp facilities cannot proceed due to failure to secure the required approvals; public support; budget; the project is not technically feasible and/or a fatal flaw is uncovered during detailed planning.		
Overall risk level	Medium	Impact area	Project management
Action Required	All relevant standards and guidelines will be followed in developing the design. Stakeholders will be consulted throughout the process.		

Risk	Changes to water and sediment movement resulting in increased costs to maintain boating facilities		
Overall risk level	Medium	Impact area	Financial
Action Required	Undertake localised sediment movement investigations and then continue to monitor changes. Factor trends into any plan for upgrading, renewing or acquiring facilities.		

Risk	Increased regulation of Shoalwater Islands Marine Park resulting in more time consuming and expensive coastal projects approval process		
Overall risk level	Medium	Impact area	Project Management
Action Required	<p>Remain actively involved with DBCA regarding future plans and their activities through regular meetings and Coastal Facilities Advisory Committee.</p> <p>Appropriate project planning to allow the additional time and resources required.</p> <p>Increase knowledge and awareness about Shoalwater Islands Marine Park Management Plan to understand DBCA decision making process.</p>		

Risk	Reduced level of service with boating channels if excavation or dredging can't be undertaken when required due to environmental constraints or resource unavailability		
Overall risk level	Medium	Impact area	Customer Service
Action Required	<p>Monitor the site by regular data collection.</p> <p>Consider environmental constraints for timeframe and be aware of any potential restriction by staying in touch with DBCA.</p> <p>Seek advice from Conservation and Parks Commission as required.</p> <p>Predict future dredging/excavation requirements and book dredging companies well in advance.</p> <p>Maintain Licence for maintenance dredging from DBCA.</p> <p>Work with relevant stakeholders to receive required permits in time.</p>		

Risk	Maintenance costs for existing boat ramp facilities becoming prohibitive due to sand movement impacting access to open water		
Overall risk level	Low	Impact area	Financial
Action Required	<p>Tracking year-on-year costs for maintaining open water access from each boat ramp and analysing trends and future additional cost risks.</p> <p>Regularly monitor and maintain the boat ramp depth.</p>		

Risk	Restrictions on some forms of recreational access from the vicinity of Penguin Island for preservation of the penguin population.		
Overall risk level	Medium	Impact area	Customer service
Action Required	<p>Participate in research with Department of Biodiversity, Conservation and Attraction, Murdoch University and other relevant stakeholders to determine reasons for negative impact on penguin population and work collaboratively with all stakeholders to achieve a balanced outcome.</p> <p>Increase community awareness about negative impacts of recreational activities on penguin population.</p>		

8 Actions

8.1 New Actions

Task	Cost	Team	Commence	Complete
Provide marking for dedicated launch and retrieve lanes at Palm Beach boat ramps	\$2,500	Coastal Engineering	2022/23	2024/25
Upgrade Palm Beach West boat ramp facility as per the design completed in 2022/23; subject to securing RBFS funding	\$800,000	Coastal Engineering	2024/25	2024/25

Task	Cost	Team	Commence	Complete
Advocate for the Western Australian government to take management and maintenance responsibility for the Point Peron boating facility	Nil	Council Department of Transport	2023/24	2035/2036
Seek funding from the Department of Defence and Department of Transport for designing wave mitigation infrastructure at Point Peron Facility	\$100,000	Coastal Engineering Department of Defence Department of Transport DBCA	2025/26	2026/27
Seek funding from the Department of Defence and Department of Transport for the construction of wave mitigation infrastructure at Point Peron Facility	\$650,000	Coastal Engineering Department of Defence Department of Transport DBCA	2027/28	2028/29
Advocate for offshore placement of dredged material in Warnbro Sound	Nil	Coastal Engineering DBCA Conservation and Parks Commission	2023/24	2024/25
Revise downgrade plan for Bent Street boat ramp facility	\$30,000	Coastal Engineering	2024/25	2024/25
Implement downgrade plan at Bent Street if offshore placement option is not approved by DBCA	\$20,000	Coastal Engineering	2028/29	2028/29
Design the upgrade of the Port Kennedy boat ramp facility to six boat ramp lanes; breakwater and additional parking	\$200,000	Coastal Engineering	2023/24	2023/24

Task	Cost	Team	Commence	Complete
Advocate for the Department of Transport to construct the upgrade of the Port Kennedy boat ramp facility to six boat ramp lanes; breakwater and additional parking	\$12,000,0000	Council Department of Transport	2023/24	2035/2036
Advocate for the Department of Transport to take management and maintenance responsibility for the Port Kennedy boating facility	Nil	Council Department of Transport	2023/24	2035/2036

8.2 Ongoing actions

Task	Cost per year	Team
Maintain Palm Beach East and West boating facility to current standards	\$20,000	Coastal Engineering
Continue to maintain Point Peron boating facility to current standards	\$160,000	Coastal Engineering
Maintain Carlisle Street boating facility to current standards	\$20,000	Coastal Engineering
Maintain Bent Street boating facility to current standards until 2028	\$750,000	Coastal Engineering
Administer Licence extension for continuation of excavation at Tern Island head and the navigation channel at Bent Street	Nil	Coastal Engineering DBCA Conservation and Parks Commission
Maintain Donald Drive boating facility to current standards	\$5,000	Coastal Engineering
Coastal monitoring at multiple locations including Bent Street and Donald Drive boating facility	\$350,000	Coastal Engineering
Regular condition assessment and maintenance of boating facility infrastructure	\$100,000	Coastal Engineering

9 Stakeholder Engagement

Key Stakeholders invited to participate	Contributed? (Yes/No)	Engagement method used
City of Rockingham residents	Yes	Surveying by website, social media and media release.
City of Rockingham boat owners	Yes	Surveying by website, social media and media release and Workshop
Community Infrastructure Planning Strategic Planning Strategic Assets Management Technical Services Strategy, Marketing and Communication	Yes	Email
Council	Yes	Council report, Councillor Engagement Session
Coastal Facilities Advisory Committee (CFAC)	Yes	Email and discussion in CFAC meetings
Department of Biodiversity, Conservation and Attraction (DBCA)	Yes	Email
Department of Transport (DoT)	Yes	Email
Department of Fisheries (DoF)	No	Email
Department of Water and Environmental Regulation (DWER)	No	Email
Department of Primary Industries and Regional Development (DPIRD)	No	Email
Water Corporation	No	Email
Marine rescue Rockingham	Yes	Through CFAC and Email
The Cruising Yacht Club (TCYC)	Yes	Through CFAC and Email
Safety Bay Yacht Club (SBYC)	No	Email
Mangles Bay fishing club	Yes	Through CFAC and Email
Secret Harbour Surf Life Saving Club	No	Email

10 References

Metrix Consulting 2020, *City of Rockingham Coastal Facilities Research*, City of Rockingham, internal report reference D20/237830

Department for Planning and Infrastructure 2009, *The Perth Recreational Boating Facilities Study 2008*, The Government of Western Australia. Available from < [The Perth Recreational Boating Facilities Study 2008 \(transport.wa.gov.au\)](https://transport.wa.gov.au) >. [Last accessed 9 May 2022]

Department of Transport 2019, *Perth Recreational Boating Facilities Study Review 2019*, The Government of Western Australia. Available from < [Perth Recreational Boating Facilities Study Review 2019 \(transport.wa.gov.au\)](https://transport.wa.gov.au) >. [Last accessed 10 May 2022].

M P Rogers & Associates 2020, *Port Kennedy Boat Launching Facility Expansion Feasibility Study*, City of Rockingham, internal report reference D20/213372