



Department of  
Transport

# Peel Region Recreational Boating Facilities Study Review 2020



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## 1. Introduction

The Department of Transport Maritime (DoT) published the *Peel Recreational Boating Facilities Study 2010* (the Study) in September 2010. The Peel region is one of the most popular recreational boating environments in Western Australia and comprises of the waterways of the Peel Inlet, Harvey Estuary, Murray and Serpentine Rivers, Dawesville Channel, extensive canal estates and adjacent coastal waters.

The Study forecast the number of registered recreational vessels (“vessels”) in the Peel region to grow from 8,733 in 2009 to 18,438 by 2031 and provided infrastructure development options to address this growth.

During the period 2009 to 2019 the Study forecast the number of vessels to rise to 12,723, and provided recommendations including strategic planning proposals, boat ramp upgrades, upgraded and new finger jetties, short stay moorings/destinations, and marine safety awareness initiatives. While most of the recommendations have been acted upon or are in progress, the actual number of vessels only rose to 10,113 (as at December 2019).

DoT is reviewing the Study with a primary aim to inform forward planning for recreational boating facilities.

## 2. Scope

The scope of the Review is focussed on:

- Re-forecasting the growth in the fleet of vessels for the Peel region.
- Reviewing the Study recommendations.
- Re-estimating the recreational boating facility requirements.
- Providing boating facility development options and recommendations to meet the demand.

## 3. Review Parameters

### 3.1 Study Area

The Study defines the Peel region as:

*“...the City of Mandurah and the Shires of Murray and Waroona. It includes the Peel Inlet, the Harvey Estuary and the Murray, Serpentine and Harvey Rivers together with the Indian Ocean frontages of the City of Mandurah and Shire of Waroona.”<sup>1</sup>*

### 3.2 Recreational Boating Defined

The term “recreational boating” refers to vessels that navigate the waterways of the Study Area for recreational purposes and require formal boating facilities. The definition excludes commercial vessels such as charter boats, houseboats and non-powered craft such as canoes as well as other vessels that are not recorded on the DoT database of vessels (such as some sail-only vessels).

### 3.3 Recreational Boating Facilities Defined

The terms “recreational boating facilities” and “boating facilities” comprise public boat ramps and associated infrastructure such as car trailer parking, jetties, swing moorings, boat stackers and boat pens. In some cases, it may also include small boat harbours. Jetties attached to canal blocks have been considered as they are usually permanent moorings but riverside jetties (the Murray and Serpentine Rivers) have been excluded as they are relatively low in number and are frequently used as short term and holiday moorings.

### 3.4 Planning Horizon

The planning horizon for the Review has been extended out to 2036. The planning horizon has been selected as it approaches the reliable forecasting limit of referenced data sets such as the Department of Planning, Lands and Heritage ‘WA Tomorrow Population Report No.11 (2019)’ and DoT’s register of vessels. The timeframe also recognises the lead times associated with planning and providing maritime infrastructure.

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<sup>1</sup> Source: *The Peel Region Recreational Boating Facilities Study 2010*, Technical Report No.449, Department of Transport, September 2010, p11

## 4. Growth in the Number of Vessels

### 4.1 Vessel Categories and Storage

The Peel region fleet of vessels range in size from small dinghies to large luxury powered yachts. For planning purposes these vessels are typically categorised by length. The Review retains the two categories used in the Study - vessels less than 7.5 metres in length (assumed to be stored on a trailer) and vessels greater than 7.5 metres (assumed to be moored in a boat pen, on a swing mooring or stored in a commercial boat stacker).

### 4.2 Vessel registrations 2019

Local Government Authority (LGA)	0 - 7.5 m	> 7.5 m	Total	Peel (%)
Mandurah	6,832	646	7,478	74%
Murray	2,134	157	2,291	23%
Waroona	335	9	344	3%
<b>Peel region</b>	<b>9,301</b>	<b>812</b>	<b>10,113</b>	<b>100%</b>

**Table 1. Number of Vessels by Local Government at December 2019**

Table 1 shows the number of vessels in each Local Government Area in the Peel region at December 2019. Vessel locations are derived from the post code of the registered owner, as extracted from DoT's database of vessels. Of the 10,113 vessels, 92% were in the range up to 7.5 metres and 8% in the range greater than 7.5 metres, compared with 8,733 vessels in 2009 and 92.7% and 7.3% respectively.

The City of Mandurah has the highest vessel ownership (74%) followed by the Shire of Murray (23%) and Waroona (3%). This is consistent with the 2009 recreational vessel ownership, Mandurah (70%), Murray (27%) and Waroona (3%).

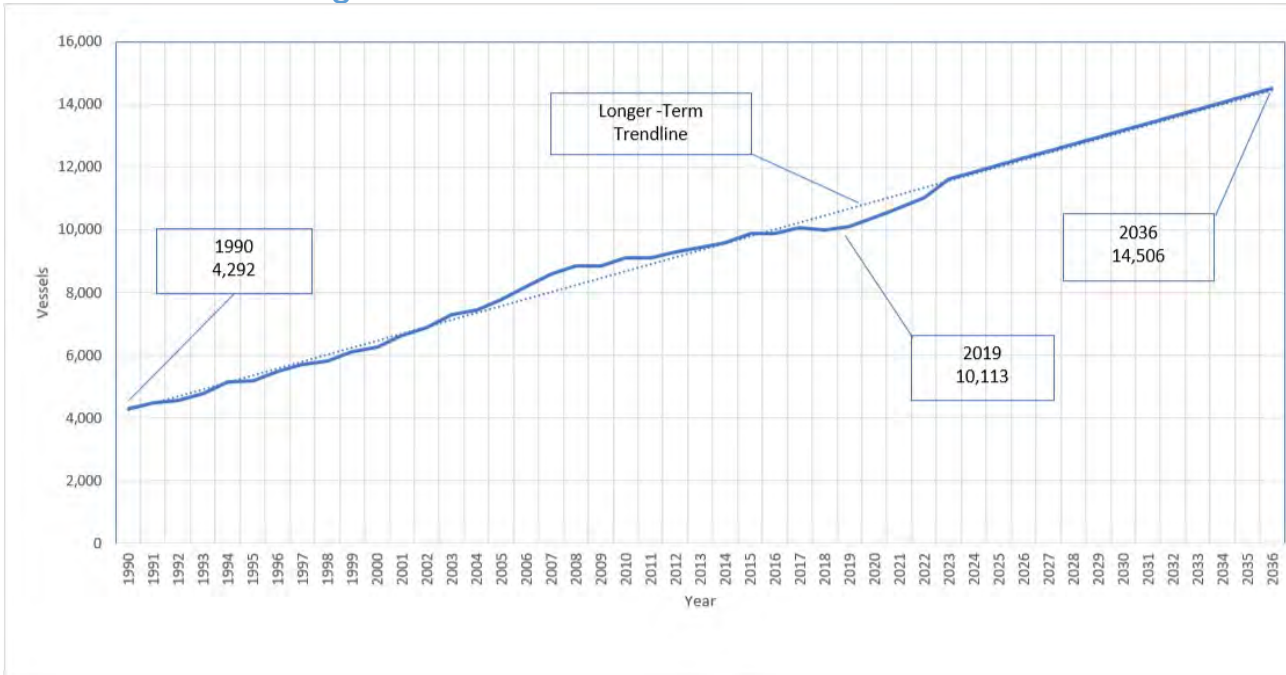
### 4.3 Forecasting Methodology

The Review carries on the research conducted for the Study. The two vessel length categories are retained and the planning horizon has been extended out to 2036. Population predictions were obtained from the 'Population Report No.11 - Band C', Department of Planning, Lands and Heritage (2019).

The method of forecasting vessel numbers in this Review has been to determine the average rate of boat ownership for each class of vessel for the years 2009 to 2019 and apply these to population predictions for the period 2019 to 2036. Vessel projections have shown vessels up to 7.5 metres in length to constitute about 90.6% of the Peel region fleet, while vessels greater than 7.5 metres have equated to about 9.4%.

The Review's forecast of growth in the Peel region fleet is therefore a combination of a strong connection between the Peel region's population predictions and the DoT historic database of vessel registrations. In general, the growth projection for the Peel region recreational fleet is considered to be a longer-term near-linear trend.

## 4.4 Vessel Registration Predictions



**Figure 1. Vessel Registration Forecast 2019-2036**

Figure 1 plots historical and forecast vessel registration data. The forecast component of the figure, 2019 to 2036, is delineated at either end by text boxes containing total vessel numbers.

A consistent rising trend in the historical data (1990 - 2009) can be observed, reaching a point of change in 2008. Past this date to 2018, lower growth becomes noticeable.

The forecast for the period 2019 to 2036 predicts a return to historical rates of average growth. Boat registrations in 2019 have shown a return to positive growth, possibly ending the downward trend that has persisted since 2017. However, the return to longer-term growth rates is dependent on the modelling assumptions of continued trend growth, underpinned by rising population combined with an absence of extreme volatility in the economy and the availability of boating facilities to meet the demand.

Table 2. (below) sets out the revised forecast for recreational vessel growth in the Peel region.

Peel Region Recreational Fleet	Actual	Forecast	
	2019	2028	2036
Vessels 0 - 7.5 metres	9,301	11,592	13,147
Vessels > than 7.5 metres	812	1,133	1,359
<b>Total</b>	<b>10,113</b>	<b>12,725</b>	<b>14,506</b>

**Table 2. Forecast Vessel Numbers**

## 4.5 Updated Vessel Growth Forecasts

From 2009 to 2019, Peel region boat registrations for vessels 0 to 7.5 metres, had a net increase of 1,081 (12%) and for vessels greater than 7.5 metres, a net increase of 176 (22%). This figure can be separated into the three Peel region Local Government Authorities – City of Mandurah, Shire of Murray and Shire of Waroona.

The City of Mandurah experienced an 8.3% increase (524 vessels) in the 0 to 7.5 metres category and a 27.9% increase (141 vessels) in the greater than 7.5 metre category. The Shire of Murray experienced a 27.4% increase (459 vessels) in the 0 to 7.5 metres category and a 26.6% (33 vessels) increase in the greater than 7.5 metre category. The Shire of Waroona experienced a 41.4% increase (98 vessels) in the 0 to 7.5 metres category and a 28.6% (2 vessels) increase in the greater than 7.5 metre category.

The forecast boat numbers need to be considered alongside the Department of Fisheries' observations that on a good boating day approximately 50 per cent of the boats on the water in the Peel region will be visitors from elsewhere, predominantly Perth (Fisheries Research Report No. 127, Department of Fisheries, 2001). The following tables show the updated forecast recreational boat registration data by vessel size for each individual LGA and the total (for the Peel region).

Mandurah	Number of Vessels		
Year	0 - 7.5 metres	> 7.5 metres	Total
2019	6,832	646	7,478
2036	9,686	1,097	10,783

**Table 3. City of Mandurah Vessel Registration Forecast – 2019 – 2036**

Murray	Number of Vessels		
Year	0 - 7.5 metres	> 7.5 metres	Total
2019	2,134	157	2,291
2036	3,033	243	3,276

**Table 4. Shire of Murray Vessel Registration Forecast – 2019 – 2036**

Waroona	Number of Vessels		
Year	0 - 7.5 metres	> 7.5 metres	Total
2019	335	9	344
2036	428	19	447

**Table 5. Shire of Waroona Vessel Registration Forecast – 2019 – 2036**

Peel region	Number of Vessels		
Year	0 - 7.5 metres	> 7.5 metres	Total
2019	9,301	812	10,113
2036	13,147	1,359	14,506

**Table 6. Peel region Vessel Registration Forecast – 2019 - 2036**

## 5. Boating Facility Development

Recreational boating is a popular activity in the Peel region. The Peel region's waterways have traditionally been utilised by fishermen and crabbing enthusiasts and while this is likely to continue, despite increasing fishery regulation, it should be recognised that there is an increasing number of boats that are also likely to be used for more passive activities such as cruising, day tripping and picnicking.

With Mandurah being located close to Perth it is evident that some of the unmet Perth boating facilities demand has moved to Mandurah, placing further pressure on facilities. Most pen facilities in Mandurah are already at capacity and boats ramps are heavily utilised on good boating days, weekends and school holidays. When the high number of visiting boats and the continued strong land development growth in the City of Mandurah and Shire of Murray are also considered, it is evident that there is a need to understand and plan for the future boating demands in the Peel region. This is evidenced by the general trend of the Peel region fleet of vessels expanding from 4,292 in 1990 to 10,113 in 2019.

There are various principles and factors that guide the selection and development of a site as a recreational boating facility. It is an accepted principle that the first priority in new facility development is to realise the potential of existing facilities in preference to new facilities being developed in the vicinity. Suitable sites for new maritime facilities are limited, costly to develop, and subject to extensive and often lengthy approval processes. The recommendations of the Review are therefore focused on existing facilities being redeveloped or expanded.

Section 4 analysed the number of vessels in the Peel region from 2009 to 2019 and compares these with the Study forecasts. The following section will analyse the actual boating facility developments from 2009 to 2019, compare them with the Study recommendations, and re-forecast the boating development options that are required to meet the updated forecasts of the number of vessels by 2036.

### 5.1 Boating Facility Development 2009 to 2019

This Review highlights the need to closely monitor the growth of the boating fleet and periodically adjust the schedule of boating facility development options to suit the actual data. It also indicates to maritime planners that growth predictions should justifiably be based on medium to longer-term estimates of growth.

The Study has served as a Discussion Paper and reference document for the providers and managers of recreational boating infrastructure. The relevant local government authorities have undertaken extensive planning, construction and upgrade of public recreational boating infrastructure in the Peel region.

### 5.2 Boating Facility Development 2019 to 2036

The challenges facing new boating facility development in the Peel Inlet hasn't changed since the Study. However, this is not to say that upgrades to existing facilities cannot be planned and undertaken. Indeed, this activity is encouraged. Since the Study, the Recreational Boating Facilities Scheme (RBFS), which is administered by the DoT, has provided approximately \$3.5



million in funding towards upgrades and planning studies for existing facilities located in the Study Area.

Section 4 determines that, based on longer-term estimates of growth, the number of vessels will increase from 10,113 in 2019 to 14,506 in 2036. This can be broken down into 13,147 vessels up to 7.5 metres in length, and 1,359 vessels greater than 7.5 metres.

The Study used an analysis of where trailer boats were coming from and revealed that under peak boating conditions only approximately 5% of local vessels were likely to be in use and approximately 50% of the boats being launched were non-local. This represents a total of 10% of boats in use on a good boating day, 5% locals and 5% non-locals.

To calculate future demand for boating infrastructure (ramp lanes) for vessels up to 7.5 metres, the additional number of trailer boats expected to be on the water during a “busy boating day”, are converted into a number of ramp lanes. As per the AS3962, 2020 Marina design, 30 to 40 trailer parking bays is the recommended number required for each boat ramp lane at an urban facility (with a boat holding structure).

Using this methodology, the forecast number of 0 – 7.5 metre vessels in use on a good boating day divided by an average of 35 trailer bays will calculate the number of boating ramp lanes required by 2036.

This can be shown as:

- Number of additional vessels = 3,846
- Ten percent of vessels in use = 3,84.6 (rounded to 385)
- Number of trailer parking bays per ramp lane = 35 (average of 30 – 40)
- 385 divide 35 = 11 additional boat ramp lanes required by 2036

For vessels greater than 7.5 metres and requiring a mooring, the Review’s facility target is an additional 547 moorings.

Section 7 identifies and expands on the Study’s recommendations that have yet to be actioned. While this does not necessarily represent approved proposals and the list is not necessarily exhaustive, the proposals listed are considered feasible and have the capacity to provide recreational boating facilities for a large part of the boating community.

## 6. Conclusions

The Review acknowledges that boat ownership has remained constant although not at the predicted levels of the Study.

Forecast number of vessels in the Peel region by 2036:

- 14,506 vessels;
- Vessels 0 – 7.5 metres = 13,147;
- Vessels > 7.5 metres = 1,359;
- Approx. 90 vessels per thousand head of population.

To meet the 2036 forecast demand, an additional:

- 10 boat ramp lanes (and associated trailer parking);
- 547 moorings.

Recommendations for facility developments are outlined in Section 7.

## 7. Recommendations

The following table provides a summary of the Study recommendations that are ongoing and in-planning. The Department will continue to provide technical support and maritime advice for these recreational boating facility development recommendations to meet the demand to 2036.

Study Recommendations	Status
Encourage existing facilities in the Peel region to be developed to their full potential before new facility proposals are pursued at nearby locations.	Ongoing
Support the City of Mandurah's Foreshore Focus 2020 Vision marina development proposals, subject to appropriate environmental and engineering studies being completed.	Ongoing
Support the development of short stay boating facilities in Mandjar Bay subject to community support and resolution of design constraints including adequate water depth.	Ongoing
Investigate opportunities to utilise the site adjacent to the South Yunderup bund wall dredge spoil area and opposite Wellya Crescent for the development of a new regional boat launching facility.	In-planning and detailed design
Support the Shire of Murray's investigation into an alternative site for the North Yunderup (Culeenup Road) boat ramp.	In planning for detail design of Tonkin Road boat ramp facility
Support the Shire of Waroona to undertake a strategic site evaluation and audit investigation into boat launching facilities.	In-planning (collaboration between the Shires of Murray and Waroona)
Include beach landing and launching areas when appropriate, adjacent to existing formal boat launching facilities for use by non-powered craft.	Ongoing
Investigate berthing arrangements at Wharf Cove, Murray Lakes.	Ongoing
Evaluate options to upgrade the Birchmont and Herron Point boat launching facilities.	Ongoing
Investigate opportunities for the development of an additional boat launching facility adjacent to the Harvey Estuary on the south east side of the Dawesville Channel.	Ongoing
Support the City of Mandurah to undertake a review of the Peel Harvey Estuary Foreshore to understand where future opportunities may arise to locate new boat ramp channels	Ongoing
Establish and promote additional short stay moorings and berths at key destination points.	Ongoing
Establish short stay and overnight mooring facilities in the Murray River for use by recreational boats and houseboats, at appropriate locations. Install extra mooring facilities in the Murray River.	Ongoing
Create a publication/s identifying short stay facilities and destination points within the Peel region to promote tourism and recreational opportunities. Such facilities would provide further boating alternatives to activities such as fishing and crabbing.	Ongoing
Encourage the upgrade of existing boat launching facilities via the installation of related ancillary amenities and services such as universal access pontoons, improved parking and other facilities generally supported by the DoT's Recreational Boating Facilities Scheme.	\$3.5 million in RBFS Grant funding for 42 projects has been provided since the 2010 study was released.

Further information on recreational boating in the Peel region can be obtained from the following sources:

Boating guides can be downloaded from the Department of Transport's website

<https://www.transport.wa.gov.au/inline/boating-guides.asp#>

Links to the City of Mandurah and Shire of Murray websites:

<https://www.mandurah.wa.gov.au/> and <https://www.murray.wa.gov.au/>