

## INQUIRY INTO SHARK MITIGATION AND DETERRENT MEASURES – QUESTIONS TAKEN ON NOTICE AND PROOF HANSARD

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### Mullaloo BeachLAB system

Q: “How often has the alert gone off? How regularly is it picking up sharks?”

A: The system is managed by the Mullaloo Surf Club. Please find attached beacon figures received from the Mullaloo Surf Club (Attachment 1).

### Sorrento Beach

Q: “Has that been independently verified? Where is that claim from?”

A: The design of the enclosure was initially developed by Eco Shark Barrier, in conjunction with their Marine Consultants, NMS (Naval Architecture and Marine Solutions).

After the award of the contract, and receipt of the final detailed design, the City engaged MP Rogers & Associates to independently review and examine the proposed design. The design was considered to be appropriate for the location with design parameters (such as wave heights, storm conditions and any assumptions reviewed for their accuracy). Further, the City worked with Edith Cowan University to test the barrier materials for strength.

Samples of the material have also been set aside to allow for future testing and determine effects of long term exposure to site conditions.

Q: “Is there independent verification of the safety of this type of net?”

A: No actual independent verification, however, the only other enclosure that has been in place for any length of time is the Coogee enclosure in the City of Cockburn.

Reports from Eco Shark Barrier regarding the operation of the enclosure at this location indicate that there are no issues with sea creatures getting trapped, no specific issues with people or its operation.

Notably, the structure was initially trialled, and requires continuing monitoring and maintenance. A number of modifications have been undertaken to improve the enclosure. This has been confirmed by the City of Cockburn via enquires made during the tender assessment phase.

The Coogee enclosure is also slightly different to the design of the Sorrento enclosure in that the Coogee enclosure is held in place by piles, and a top rope that is rather taught. Anchoring at intervals resulted in some stress points, and ultimately the lessons learned at Coogee were used to improve the design at Sorrento with a continuous anchoring system along the sea floor, and flexible float line that allows the

top of the enclosure to move with the wind and tidal forces. Thus, the latest design minimises the transfer of wind and wave forces to the structure, making it more capable to withstand site conditions.

Note that the tender process required City Officers to check, review and assess all tender submissions with respect to previous experience, price, quality and methodology. I understand that this included discussions with referees involved in previous projects and in the case of Coogee, the project manager from the City of Cockburn.

Q: "Have you thought about putting a paper together on the lesson learnt, costs and things that you could or would do better elsewhere?"

A: A post construction / closure report is currently being prepared for the Department of Premier & Cabinet as part of the grant acquittal process. A closure report with some of the relevant information can be prepared for use by other Local Governments.

Q: "Can you maybe provide the numbers and what verification there is?"

A: A report is prepared by the City's Monday to Friday surf patrol under contract to the city. The report details the beach numbers, incidents and other information and is delivered around May each year. While the report cannot claim to be an exact count, it does provide a reliable indication of trends. Please find attached a copy of this report (Attachment 2).

Anecdotal evidence from observations by the Sorrento Surf Club indicates increased patronage from sporting groups and individuals using the area for (swimming) training.

Membership at the club has increased since last year from 1560 to 1638 this year. Also, this year they had to close new enrolments for two of the nipper age groups and introduce a waiting list. This is the first time this has happened. Already, there are enquiries for membership to the nippers groups for 2017-18.

Q: Information from Local Businesses showing the impact on them?

A: Anecdotal comments provided to the City indicate an increase but cannot be verified.

Date	Day	Month	Time	Location	Source of Information	Reported By	Receiver	Number of Sharks	Size
29/Sep/16	Thursday	Sep	11:54	Mullaloo Beach	Shark Text	Public (Land)	NA	1	Unknown
24/11/2016	Thursday	Nov	18:58	Ocean Reef	Shark Text	Shark Receiver	Ocean Reef	1	Unknown
24/11/2016	Thursday	Nov	19:02	Ocean Reef	Shark Text	Shark Receiver	Ocean Reef	1	Unknown
24/11/2016	Thursday	Nov	19:04	Ocean Reef	Shark Text	Shark Receiver	Ocean Reef	1	Unknown
20/12/2016	Tuesday	Dec	9:38	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
22/12/2016	Thursday	Dec	10:48	Pinnaroo Point	Radio	Metro Helicopter	NA	1	2m - 2.99m
22/12/2016	Thursday	Dec	19:13	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
22/12/2016	Thursday	Dec	19:19	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
22/12/2016	Thursday	Dec	19:17	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
22/12/2016	Thursday	Dec	19:32	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
22/12/2016	Thursday	Dec	19:37	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
22/12/2016	Thursday	Dec	19:42	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
22/12/2016	Thursday	Dec	19:46	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
22/12/2016	Thursday	Dec	19:49	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
22/12/2016	Thursday	Dec	19:55	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
29/12/2016	Thursday	Dec	8:33	Mullaloo Beach	Shark Text	Shark Receiver	2.5km off Mullaloo	1	Unknown
7/01/2017	Saturday	Jan	22:55	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
7/01/2017	Saturday	Jan	22:59	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
8/01/2017	Sunday	Jan	13:27	Ocean Reef	Shark Text	Shark Receiver	Ocean Reef	1	Unknown
8/01/2017	Sunday	Jan	13:47	Ocean Reef	Shark Text	Shark Receiver	Ocean Reef	1	Unknown
8/01/2017	Sunday	Jan	13:58	Ocean Reef	Shark Text	Shark Receiver	Ocean Reef	1	Unknown
8/01/2017	Sunday	Jan	14:02	Ocean Reef	Shark Text	Shark Receiver	Ocean Reef	1	Unknown
8/01/2017	Sunday	Jan	22:04	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
8/01/2017	Sunday	Jan	22:06	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
8/01/2017	Sunday	Jan	22:13	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
8/01/2017	Sunday	Jan	22:19	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
8/01/2017	Sunday	Jan	10:28	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
8/01/2017	Sunday	Jan	10:31	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
16/01/2017	Monday	Jan	5:32	Mullaloo Beach	Shark Text	Shark Receiver	1.5km off Scarborough	1	Unknown
16/01/2017	Monday	Jan	5:37	Mullaloo Beach	Shark Text	Shark Receiver	1.5km off Scarborough	1	Unknown
16/01/2017	Monday	Jan	5:54	Mullaloo Beach	Shark Text	Shark Receiver	1.5km off Scarborough	1	Unknown
16/01/2017	Monday	Jan	10:23	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown

Date	Day	Month	Time	Location	Source of Information	Reported By	Receiver	Number of Sharks	Size
16/01/2017	Monday	Jan	10:26	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
16/01/2017	Monday	Jan	10:32	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
16/01/2017	Monday	Jan	10:32	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
16/01/2017	Monday	Jan	10:37	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
16/01/2017	Monday	Jan	10:41	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
16/01/2017	Monday	Jan	10:47	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo N	1	Unknown
17/01/2017	Tuesday	Jan	10:17	Ocean Reef	Shark Text	Shark Receiver	Ocean Reef	1	Unknown
17/01/2017	Tuesday	Jan	10:22	Ocean Reef	Shark Text	Shark Receiver	Ocean Reef	1	Unknown
19/01/2017	Thursday	Jan	2:45	Ocean Reef	Shark Text	Shark Receiver	Ocean Reef	1	Unknown
11/02/2017	Saturday	Feb	21:12	Mullaloo Beach	Shark Text	Shark Receiver	Mullaloo S	1	Unknown
12/03/2017	Sunday	Mar	18:00	Ocean Reef	Shark Text	Public (Boating)	Na	1	4m - 4.99m

Distance offshore	Direction	Species	Heli Action	Lifeguard Advised	Lifeguard Action
101 - 200m	Unknown	Unknown	NA	None	NA
Unknown	Unknown	Tiger	No Action	None	NA
Unknown	Unknown	Tiger	No Action	None	NA
Unknown	Unknown	Tiger	No Action	None	NA
Unknown	Unknown	Unknown	No Action	Mullaloo	NA
101 - 200m	South	Unknown	Alarm Activated	None	NA
Unknown	Unknown	Tiger	na	None	NA
Unknown	Unknown	Tiger	na	None	NA
Unknown	Unknown	Tiger	na	None	NA
Unknown	Unknown	Tiger	na	None	NA
Unknown	Unknown	Tiger	na	None	NA
Unknown	Unknown	Tiger	na	None	NA
Unknown	Unknown	Tiger	na	None	NA
Unknown	Unknown	Tiger	na	None	NA
Unknown	Unknown	Tiger	na	None	NA
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	Mullaloo	Alarm Activated

Distance offshore	Direction	Species	Heli Action	Lifeguard Advised	Lifeguard Action
Unknown	Unknown	Tiger	No Action	Mullaloo	Alarm Activated
Unknown	Unknown	Tiger	No Action	Mullaloo	Alarm Activated
Unknown	Unknown	Tiger	No Action	Mullaloo	Alarm Activated
Unknown	Unknown	Tiger	No Action	Mullaloo	Alarm Activated
Unknown	Unknown	Tiger	No Action	Mullaloo	Alarm Activated
Unknown	Unknown	Tiger	No Action	Mullaloo	Alarm Activated
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	No Action	None	No Action
Unknown	Unknown	Tiger	na	none	na
401 - 500m	Unknown	White	No Action	None	Na

# SORRENTO ATTENDANCE REPORT

CITY OF JOONDALUP

2016/17

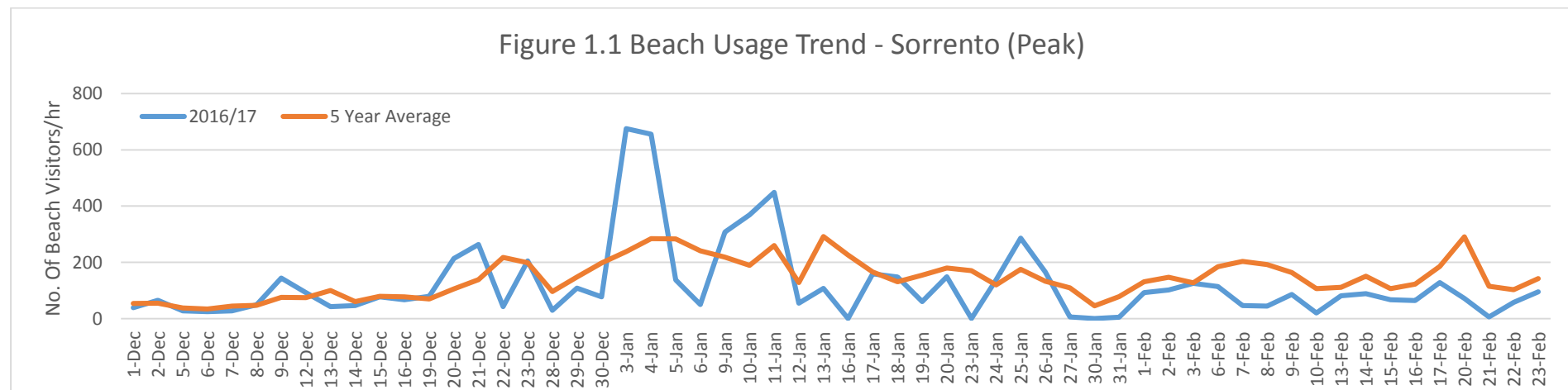
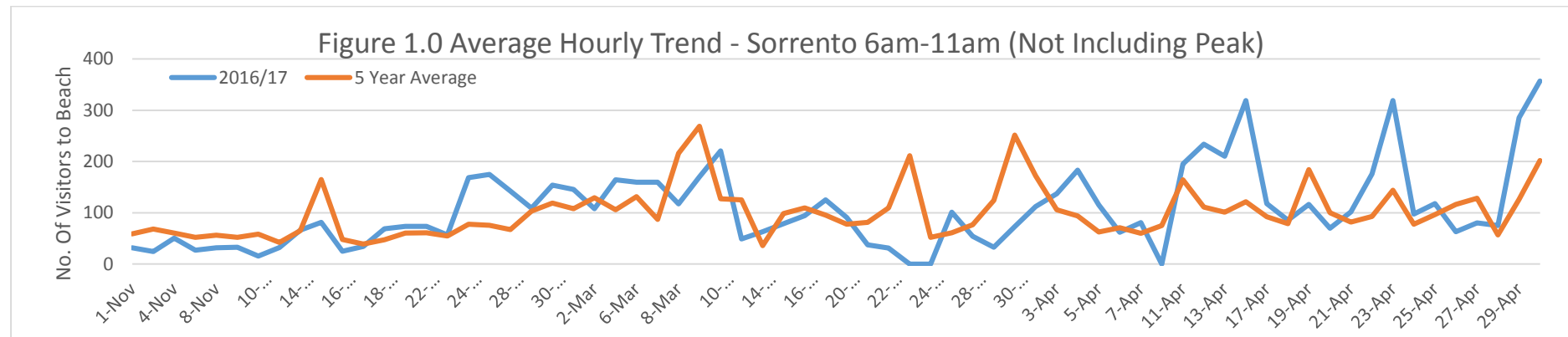


**WESTERN  
AUSTRALIA**



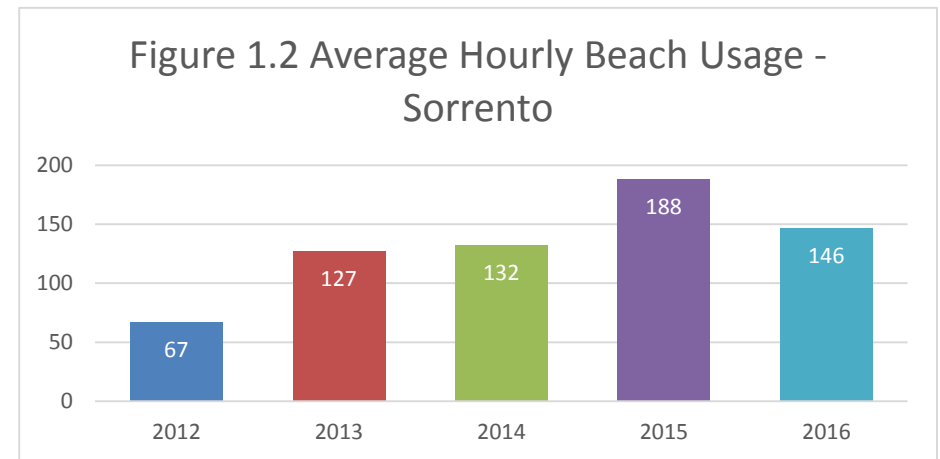
## Attendance

**Figure 1.0 and 1.1** shows the beach usage trend recorded by the lifeguards at Sorrento. They have been divided into two to give a clearer understanding of peak usage between peak summer months when the hours increase to 6am – 5pm and the times of state government funding which is between 6am – 11am during November, March and April. Looking at Figure 1.0 it shows the beach started to increase in numbers from the 14<sup>th</sup> of November. Between 11<sup>th</sup> – 23<sup>rd</sup> of April the weather was more favourable and saw higher numbers visiting the beach. Figure 1.1 shows that despite some days with very high numbers of beach users the blue line generally stays below the 5-year average.





**Figure 1.2** shows the Hourly Average of beach users for Sorrento, the average is an estimate of how many beach users there are at any given time during the lifeguard's operational hours. It is clear from the chart that the average has been fairly consistent for the last 4 seasons. This season has been slightly lower despite the introductions of the Shark Barrier and is likely due to the less favourable weather conditions.



**Figure 1.3** shows the Hourly Average hourly attendance at Sorrento compared to the last 5 seasons (orange line). This season has seen peak number of beach users at 12pm with a slower decline from 1pm onwards. On average the peak time was 11am with a large drop in numbers between 12pm and 1pm.

It is worth noting that since the introduction of the Shark Barrier the lifeguards have moved further north of Sorrento beach so they are in between Sorrento Groyne and Hillarys Marina. This has meant that lifeguards are now only counting beach users within this area as they have lost vision to the original lifeguarded area.

