

TRESBP ENVIRONMENTAL MONITORING SUMMARY

DECEMBER 2015

OVERVIEW

In December 2015:

- 54,775 m³ of sand was pumped to Snapper Rocks East.
- There were no media articles relating to the Project area during December.
- Wave heights ranged mostly from calm to moderate (0.6 to 2.0 m) with a maximum significant wave height of 2.2 m on 31st December. Moderate sea events were seen on the 3rd to 5th and 30th to 31st. Wave directions varied from ENE to ESE but mostly from East to ESE.
- 1,674 vessel crossings were recorded for the month. (This is 20% less than December average).
- The estimated amount of sand moving north towards the Tweed River Entrance by natural processes was in the order of 52,000 m³ (this is about 185% of the December average of about 28,000 m³).

1. SAND PUMPING & DREDGING

Sand Delivery December 2015

Pumped:	54,775 m ³
Dredged:	0 m ³
Total:	54,775 m ³

The number of days sand was pumped this month = 26

Sand Delivery January to December 2015

Pumped:	552,682 m ³
Dredged:	0 m ³
Total:	552,682 m ³

Stage II Sand Delivery April 2000 to December 2015

Pumped:	8,103,065 m ³
Dredged:	2,061,972 m ³ *
Total:	10,165,037 m ³ *

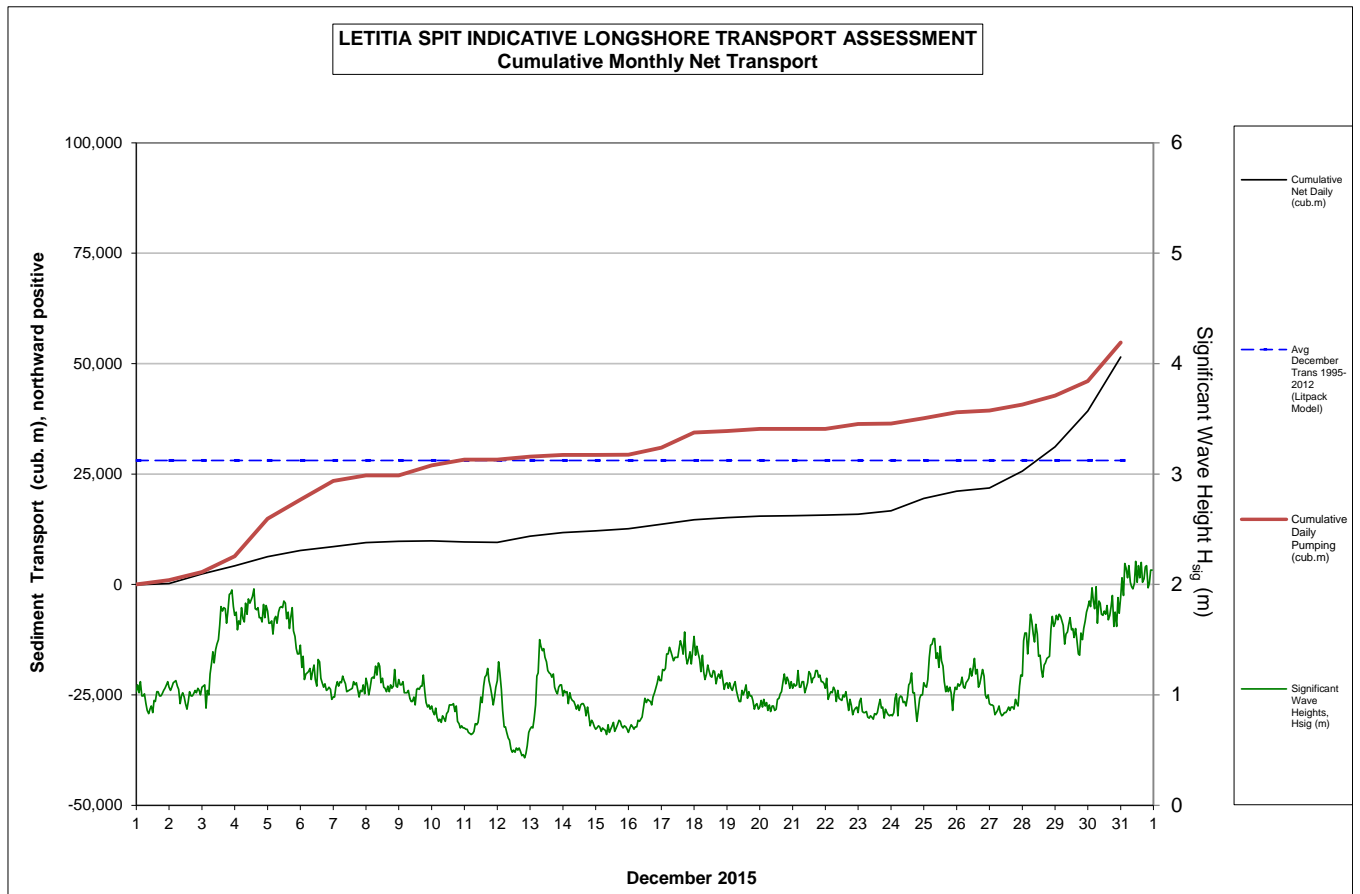
* This Includes 22,870 m³ of sand delivered by dredge to Palm Beach between June and September 2005

2. INDICATIVE LONGSHORE TRANSPORT

The graph below is based on simplified sediment transport modelling and is indicative only.

In December 2015 the estimated natural sand transport moving North towards the Tweed River entrance was calculated to be in the order of 52,000 m³.

This result is about 185% of the average estimated sand transport quantity of approximately 28,000 m³ for the month of December.




3. MEDIA COVERAGE

There were no media articles relating to the project area during December.

4. TWEED RIVER ENTRANCE CONDITIONS

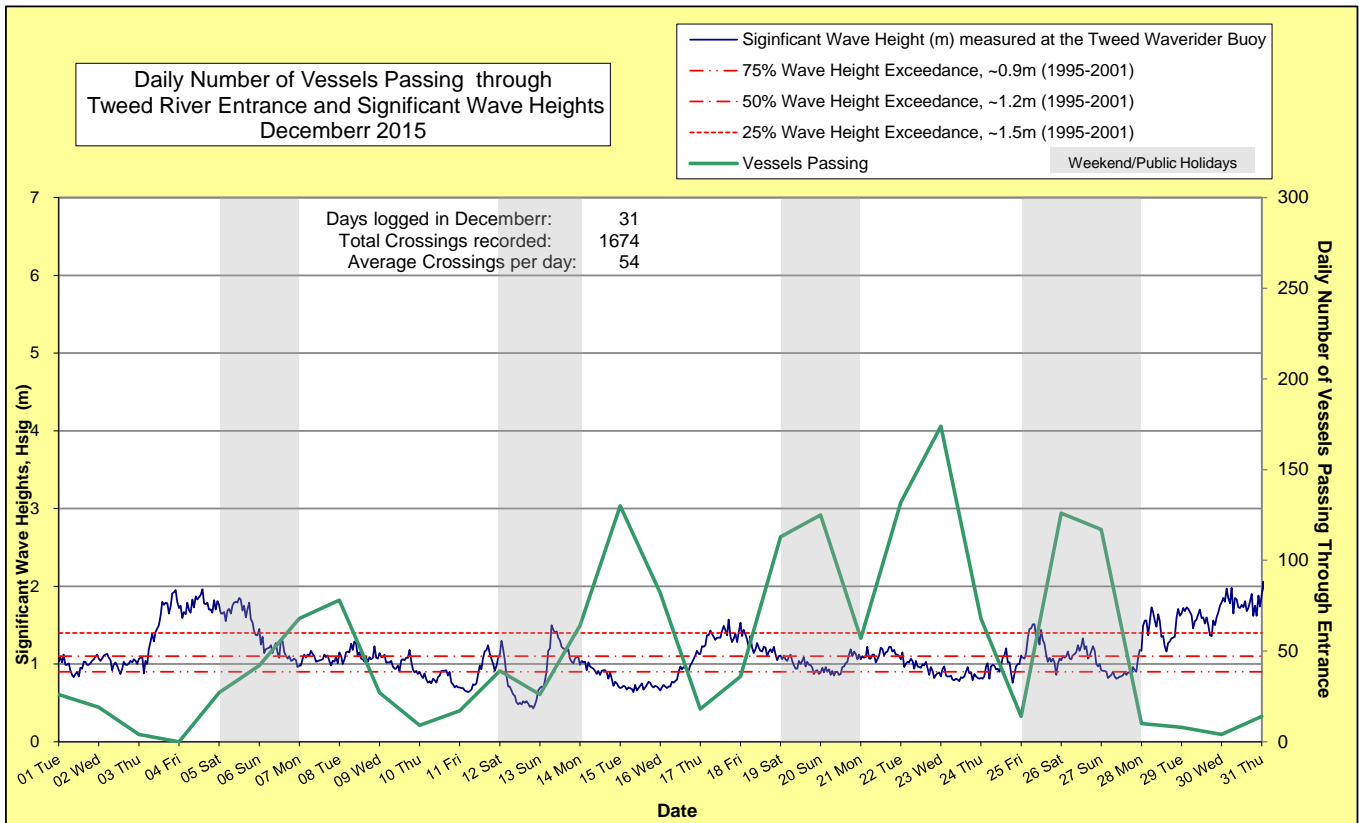
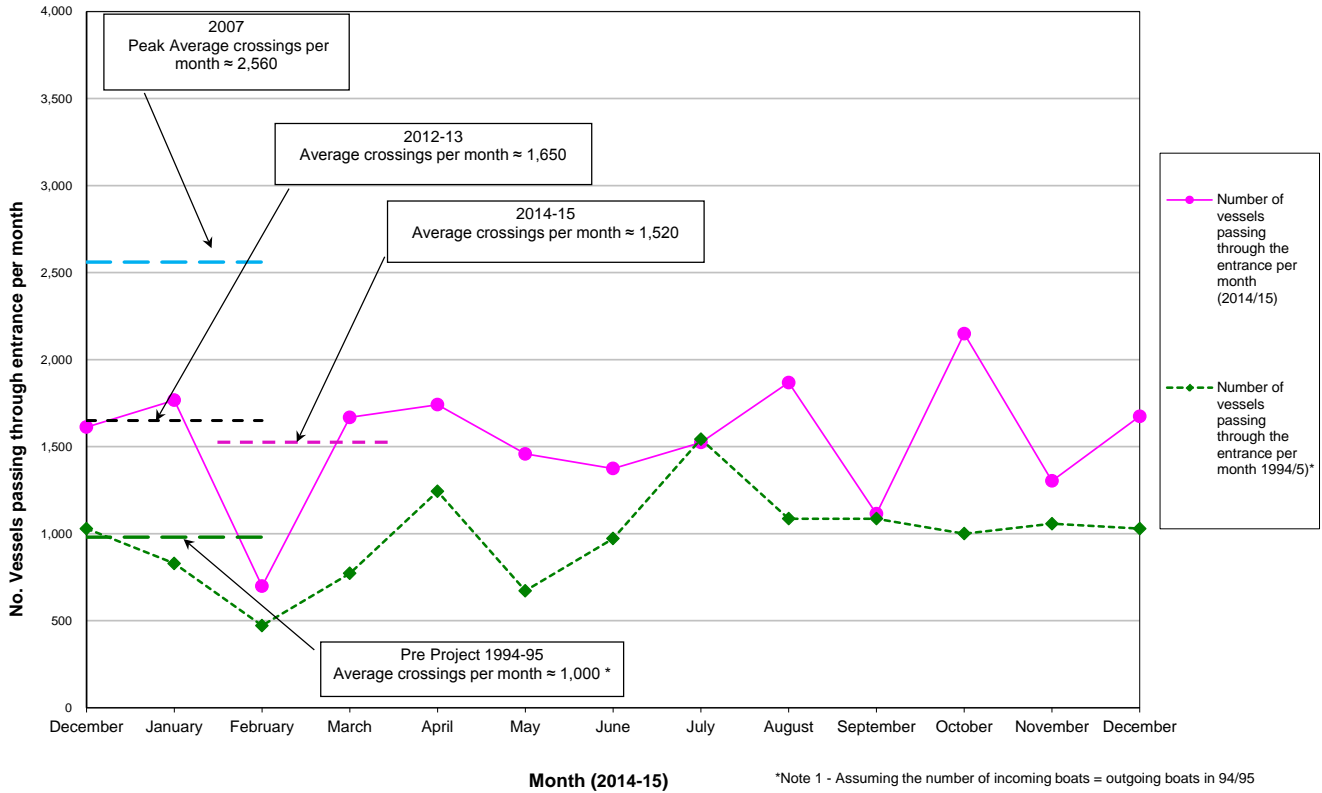
MARINE RESCUE NSW - MONITORING RESULTS

 Weekends and public holidays

Date	Navigation Rating Impassable-----Good					Number of Boats
	Impassable (1)	Difficulty Encountered (2)	Some Difficulty Encountered (3)	Relatively Good Crossing (4)	Good Conditions (5)	
1 st						26
						19
						4
4 th						0
5 th						27
6 th						42
7 th						68
8 th						78
						27
						9
11 th						17
12 th						39
13 th						26
14 th						64
15 th						130
						82
						18
18 th						36
19 th						113
20 th						125
21 st						57
22 nd						132
						174
						68
25 th						14
26 th						126
27 th						117
28 th						10
29 th						8
						4
						14
Total						1674

Source: Marine Rescue NSW, Point Danger

Comparison of the Number of Vessels Passing Through the Entrance per month
2014/15 compared to 2007 (peak crossings) and 1994/95 (prior to entrance improvements)



5. WAVE CONDITIONS

Wave conditions over the month: Wave heights ranged mostly from calm to moderate (0.6 to 2.0 m) with a maximum significant wave height of 2.2 m on 31st December. Moderate sea events were seen on the 3rd to 5th and 30th to 31st. Wave directions varied from ENE to ESE but mostly from East to ESE.

Monthly minimum significant wave height: 0.4 m on 12th December

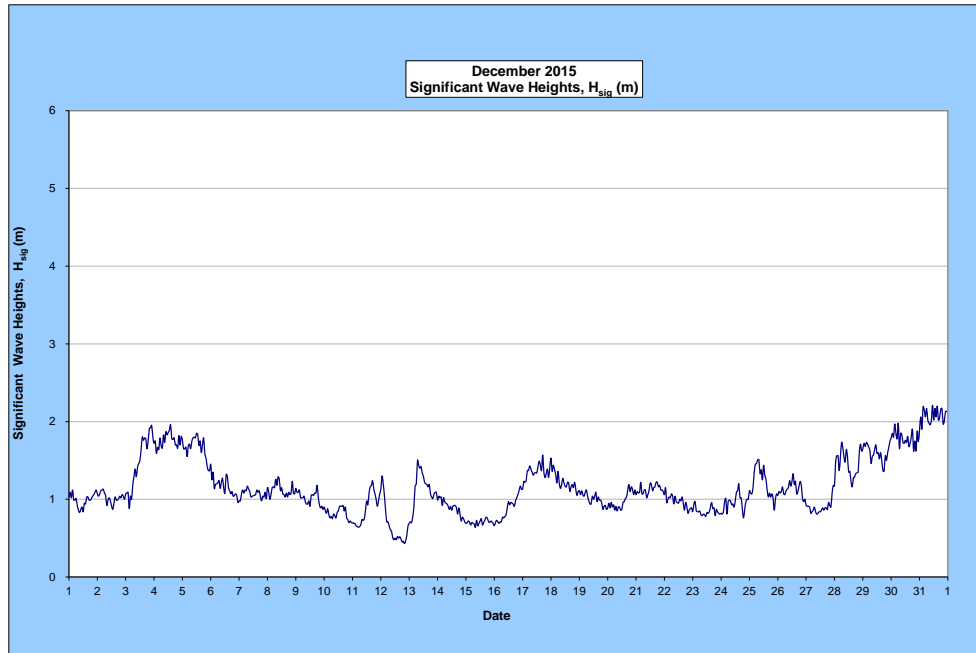
Monthly maximum significant wave height: 2.2 m on 31st December

Number of days on which waves were below 1.0 m at some point in the day: 21 days

Number of days on which waves were above 2.0 m at some point in the day: 1 day

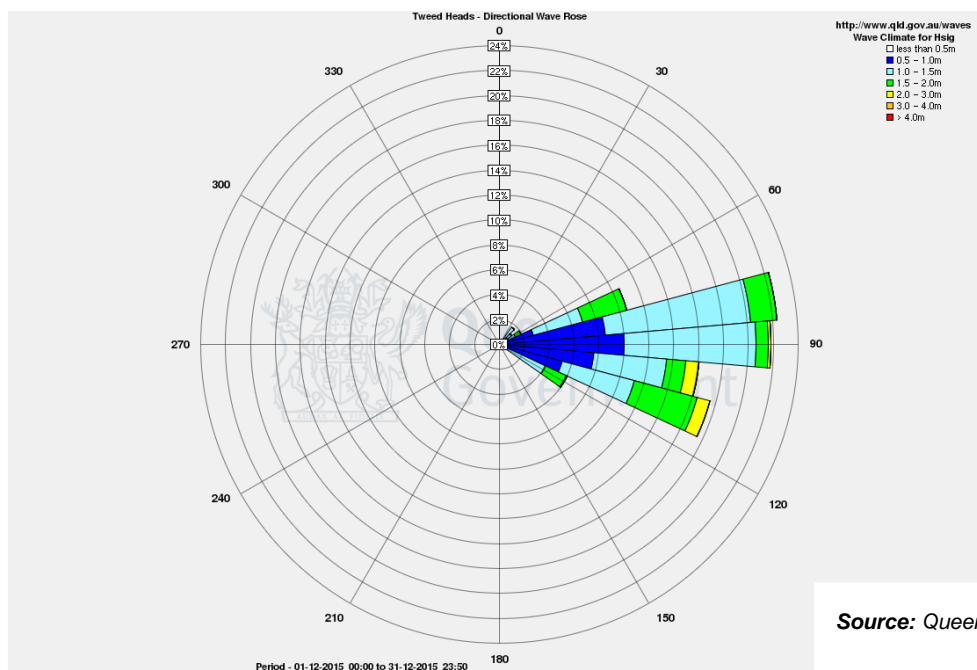
Note: Significant wave heights or H_{sig} is the average of the highest one third of recorded waves.

(Source: Tweed & Brisbane Wave Buoy; Queensland Government)



A link to data recorded by the Tweed Waverider Buoy is available at: <http://www.qld.gov.au/waves>

WAVE DIRECTION



Source: Queensland Government