

TRESBP ENVIRONMENTAL MONITORING SUMMARY

June 2016

OVERVIEW

In June 2016:

- 52,115 m³ of sand was pumped to Snapper Rocks East.
- There were no media articles relating to the Project area during June.
- Wave heights ranged mostly from calm to a major storm (0.34 to 5.49 m), with a maximum significant wave height of 5.49 m on 4th June. Wave directions varied from NE to SE but mostly from the SE by E.
- 870 vessel crossings were recorded for the month. (This is 49% less than the June average).
- The estimated amount of sand moving north towards the Tweed River Entrance by natural processes was in the order of 74,000 m³ (this is about 125% of the June average of about 59,000 m³).

1. SAND PUMPING & DREDGING

Sand Delivery June 2016

Pumped:	52,115 m ³
Dredged:	0 m ³
Total:	52,115 m ³

The number of days sand was pumped this month = 27

Sand Delivery January 2016 to June 2016

Pumped:	262,627 m ³
Dredged:	41,938 m ³
Total:	304,565 m ³

Stage II Sand Delivery April 2000 to May 2016

Pumped:	8,365,692 m ³
Dredged:	2,103,910 m ³ *
Total:	10,469,602 m ³ *

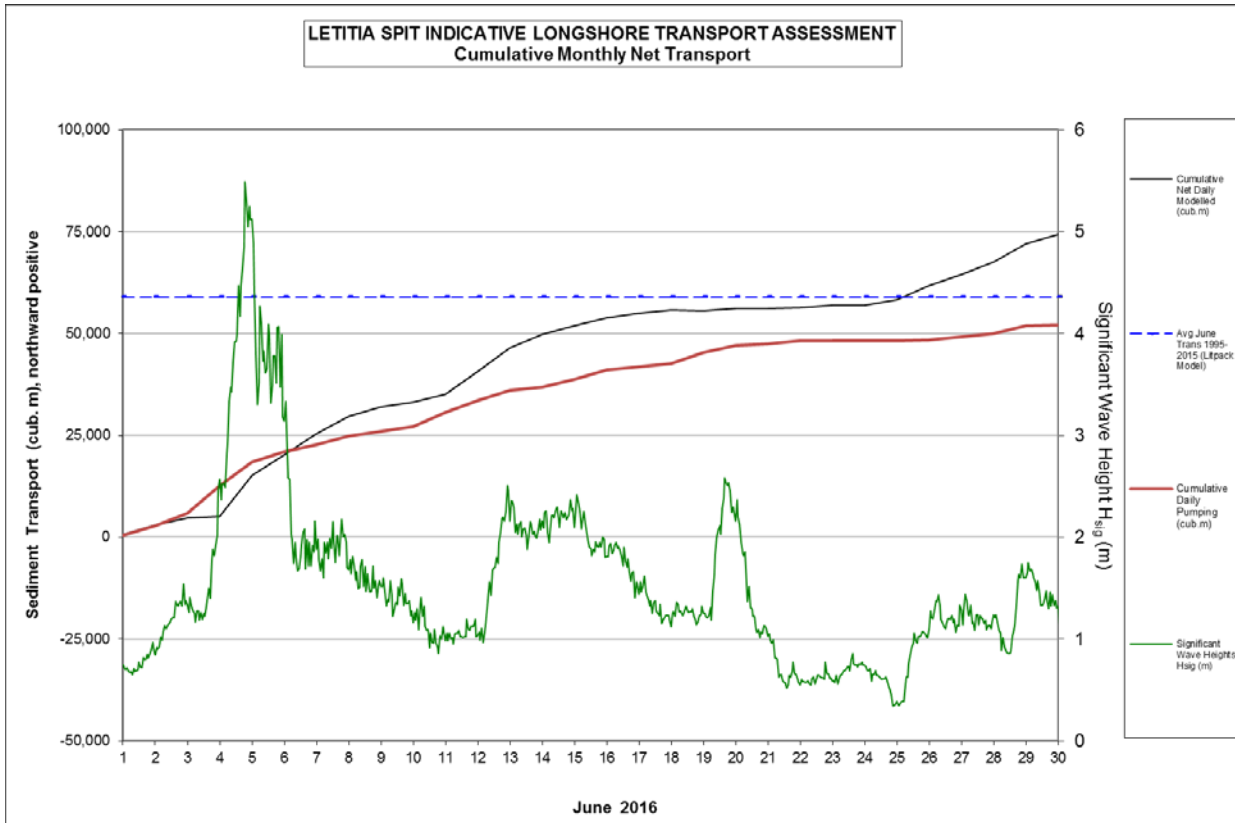
* This Includes 22,870 m³ of sand delivered by dredge to Palm Beach between June and September 2005

2. INDICATIVE LONGSHORE TRANSPORT

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

In June 2016 the estimated natural sand transport moving North towards the Tweed River entrance was calculated to be in the order of 74,000 m³.

This result is about 125% of the average estimated sand transport quantity of approximately 59,000 m³ for the month of June.



3. MEDIA COVERAGE

There were no media articles relating to the Project area during June.

4. TWEED RIVER ENTRANCE CONDITIONS

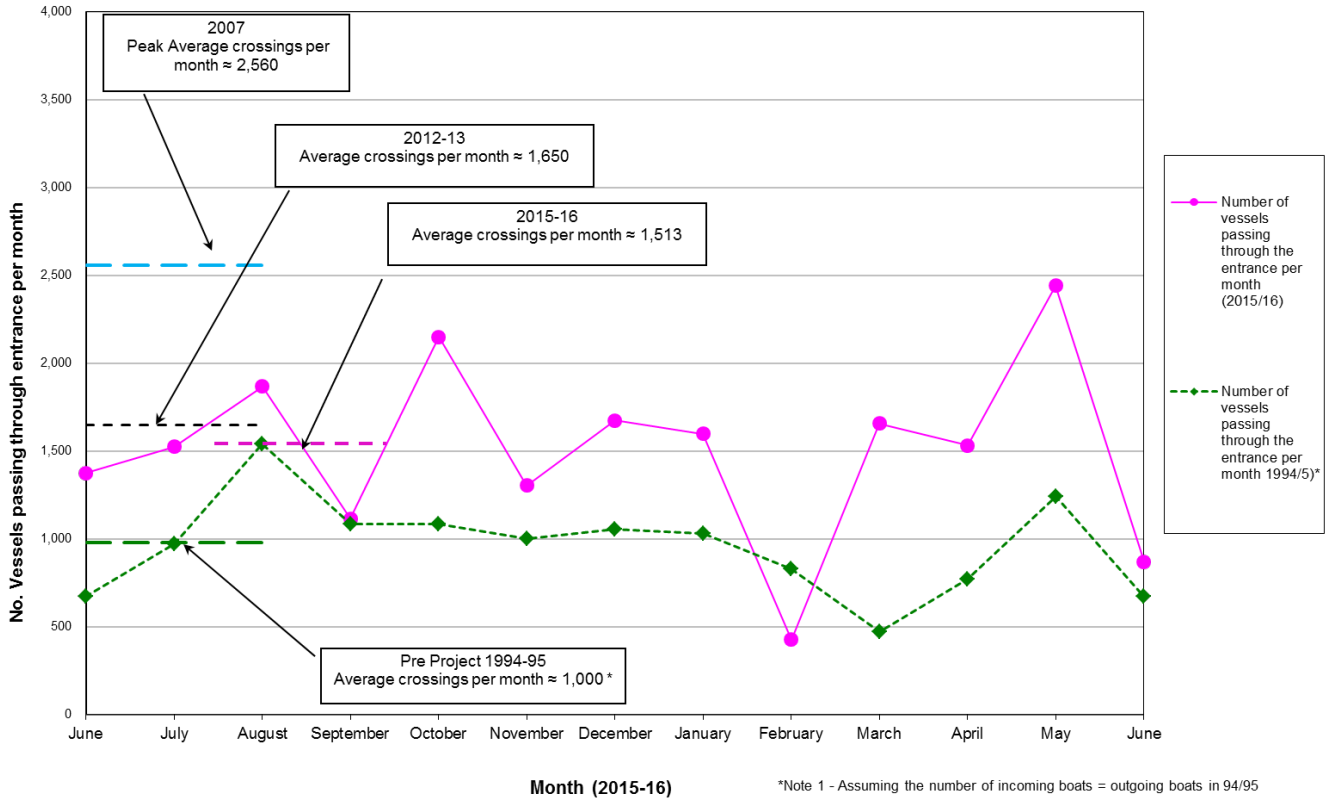
MARINE RESCUE NSW - MONITORING RESULTS

 Weekends and public holidays

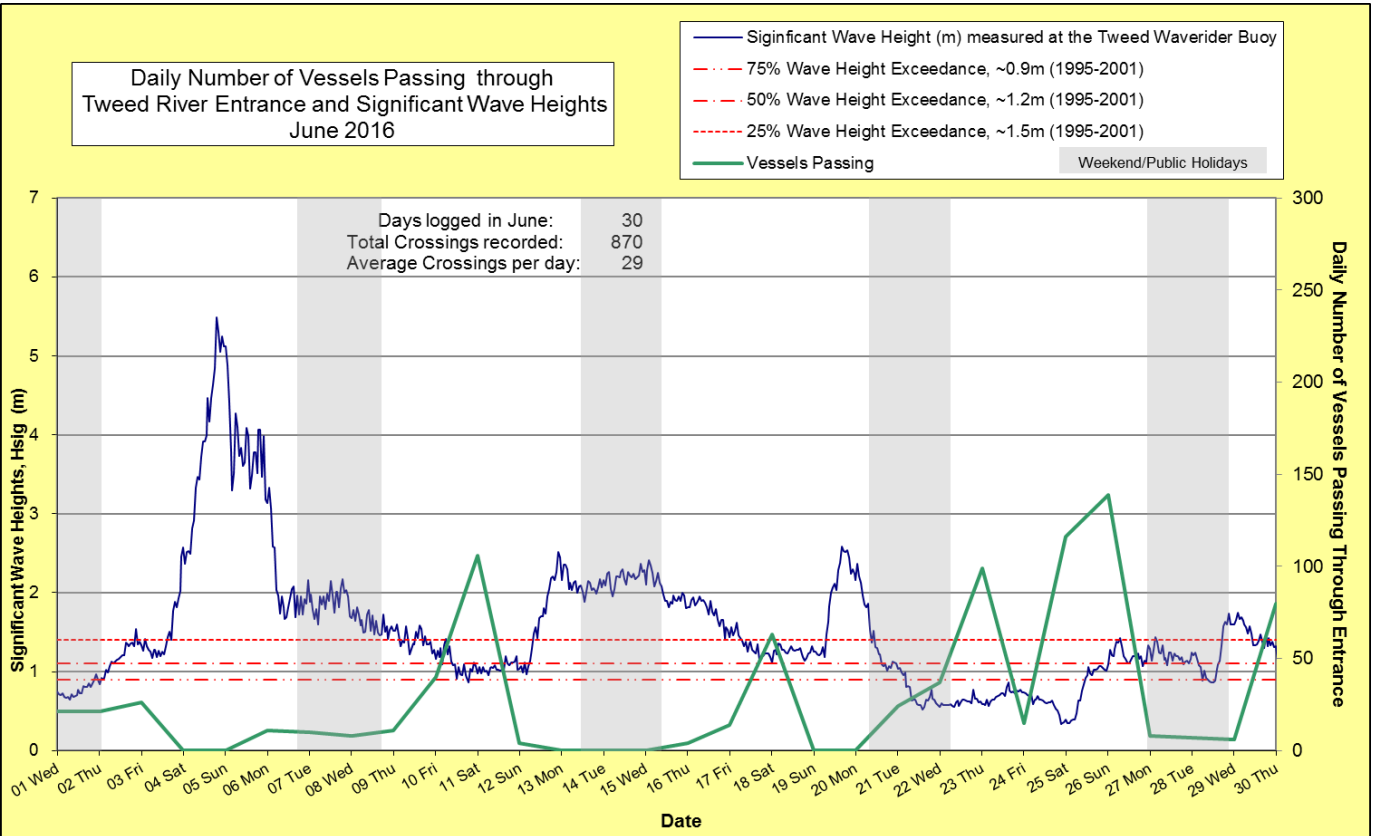
Date	Navigation Rating Impassable-----Good					Number of Boats
	Impassable (1)	Difficulty Encountered (2)	Some Difficulty Encountered (3)	Relatively Good Crossing (4)	Good Conditions (5)	
1 st						21
2 nd						21
3 rd						26
4 th						0
5 th						0
6 th						11
7 th						10
8 th						8
9 th						11
10 th						40
11 th						106
12 th						4
13 th						0
14 th						0
15 th						0
16 th						4
17 th						14
18 th						63
19 th						0
20 th						0
21 st						24
22 nd						37
23 rd						99
24 th						15
25 th						116
26 th						139
27 th						8
28 th						7
29 th						6
30 th						80
31 st						
						Total
						870

Source: Marine Rescue NSW, Point Danger

Comparison of the Number of Vessels Passing Through the Entrance per month 2015/16 compared to 2007 (peak crossings) and 1994/95 (prior to entrance improvements)



Daily Number of Vessels Passing through Tweed River Entrance and Significant Wave Heights June 2016



5. WAVE CONDITIONS

Wave conditions over the month: Wave heights ranged mostly from calm to average (0.34 to 5.49 m), with a maximum significant wave height of 5.49 m on 4th June. Wave directions varied from NE to SE but mostly from the SE by E.

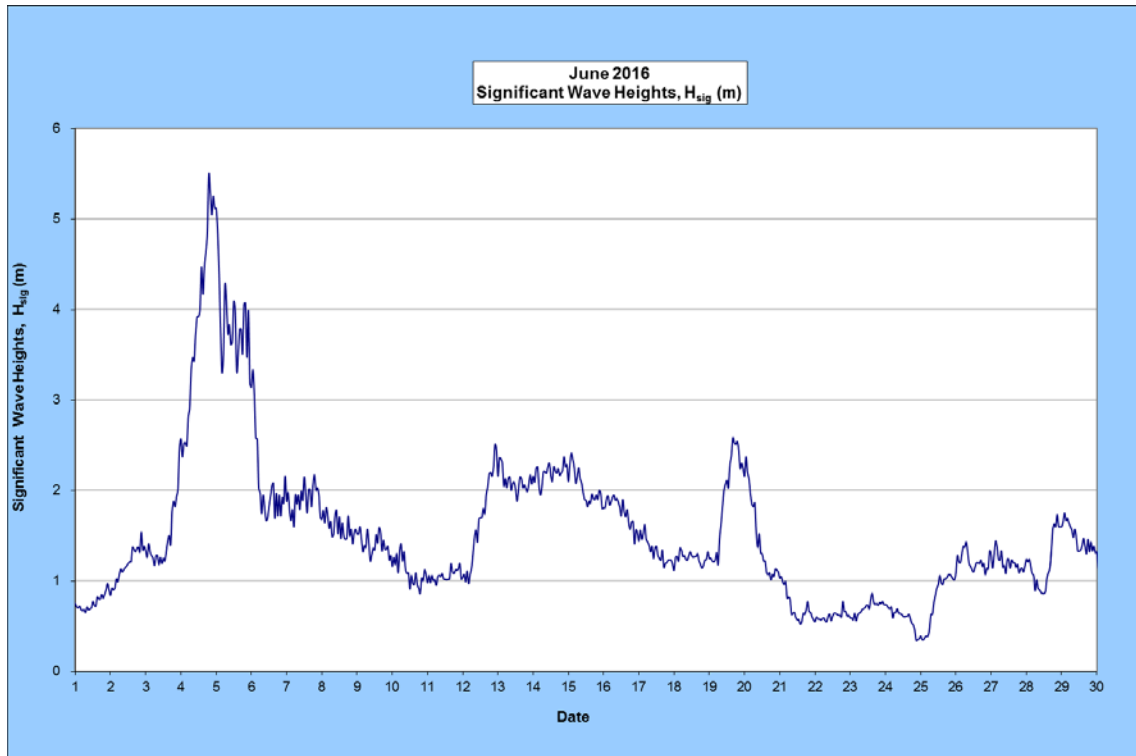
Monthly minimum significant wave height: 0.34 m on 24th June

Monthly maximum significant wave height: 5.49 m on 4th June

Number of days on which waves were below 1.0 m at some point in the day: 12 days

Number of days on which waves were above 2.0 m at some point in the day: 11 days

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

