

TRESBP ENVIRONMENTAL MONITORING SUMMARY

MAY 2016

OVERVIEW

In May 2016:

- 20,408 m³ of sand was pumped to Snapper Rocks East.
- 29,964 m³ of sand was dredged from the entrance bar and placed on the inner and centre Duranbah placement area.
- There were no media articles relating to the Project area during May.
- Wave heights ranged mostly from calm to average (0.4 to 1.5 m), with a maximum significant wave height of 1.5 m on 26th May. Wave directions varied from N by E to SE by S but mostly from the SE by E.
- 2,441 vessel crossings were recorded for the month. (This is 21% more than the May average).
- The estimated amount of sand moving north towards the Tweed River Entrance by natural processes was in the order of 21,000 m³ (this is about 30% of the May average of about 68,000 m³).

1. SAND PUMPING & DREDGING

Sand Delivery May 2016

Pumped:	20,408 m ³
Dredged:	29,964 m ³
Total:	50,372 m ³

The number of days sand was pumped this month = 19

Sand Delivery January 2016 to May 2016

Pumped:	210,512 m ³
Dredged:	41,938 m ³
Total:	252,450 m ³

Stage II Sand Delivery April 2000 to May 2016

Pumped:	8,313,577 m ³
Dredged:	2,103,910 m ³ *
Total:	10,417,487 m ³ *

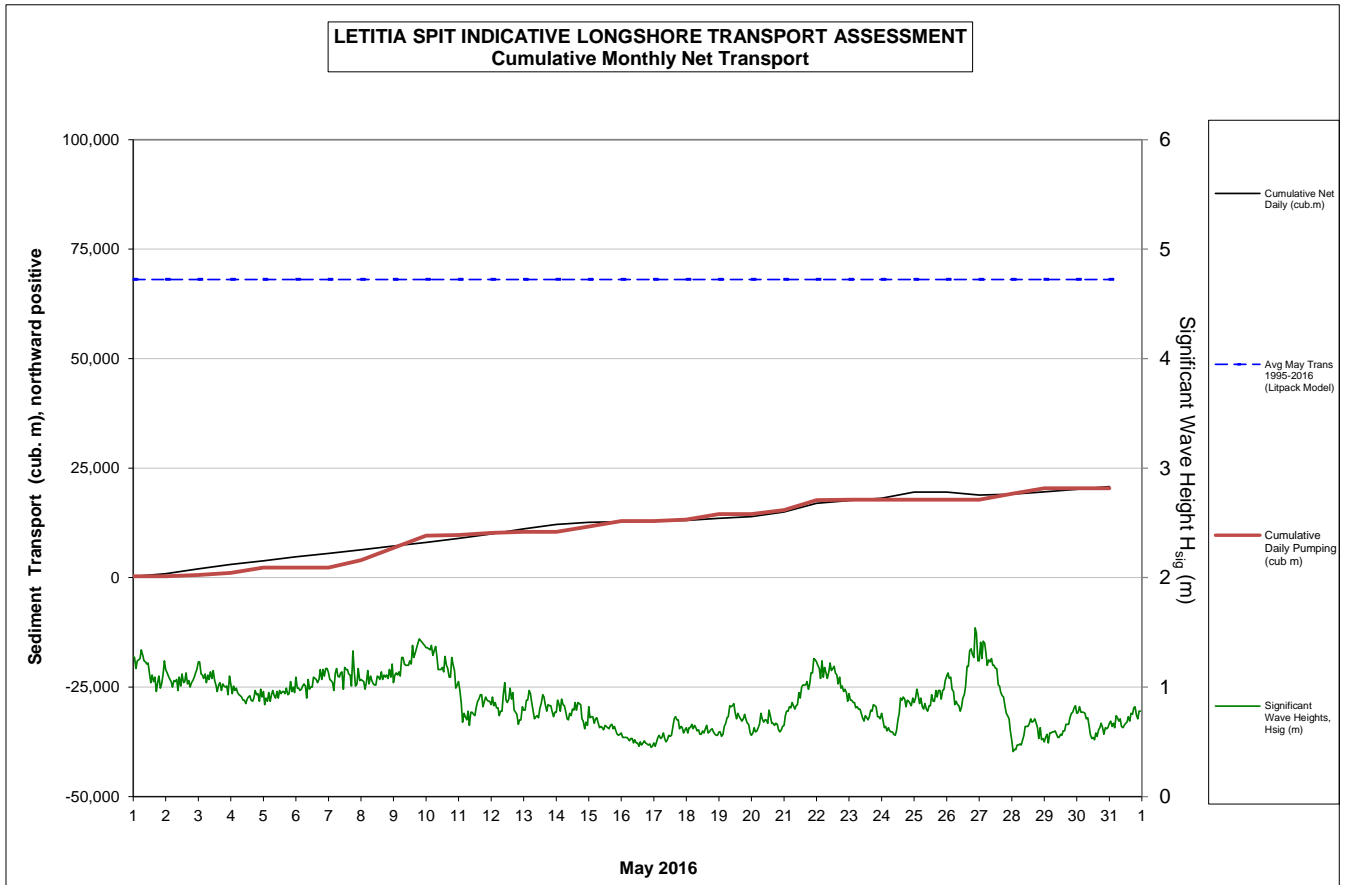
* This Includes 22,870 m³ of sand delivered by dredge to Palm Beach between June and September 2005

2. INDICATIVE LONGSHORE TRANSPORT

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

In May 2016 the estimated natural sand transport moving North towards the Tweed River entrance was calculated to be in the order of 21,000 m³.

This result is about 30% of the average estimated sand transport quantity of approximately 68,000 m³ for the month of May.



3. MEDIA COVERAGE

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

4. TWEED RIVER ENTRANCE CONDITIONS

MARINE RESCUE NSW - MONITORING RESULTS

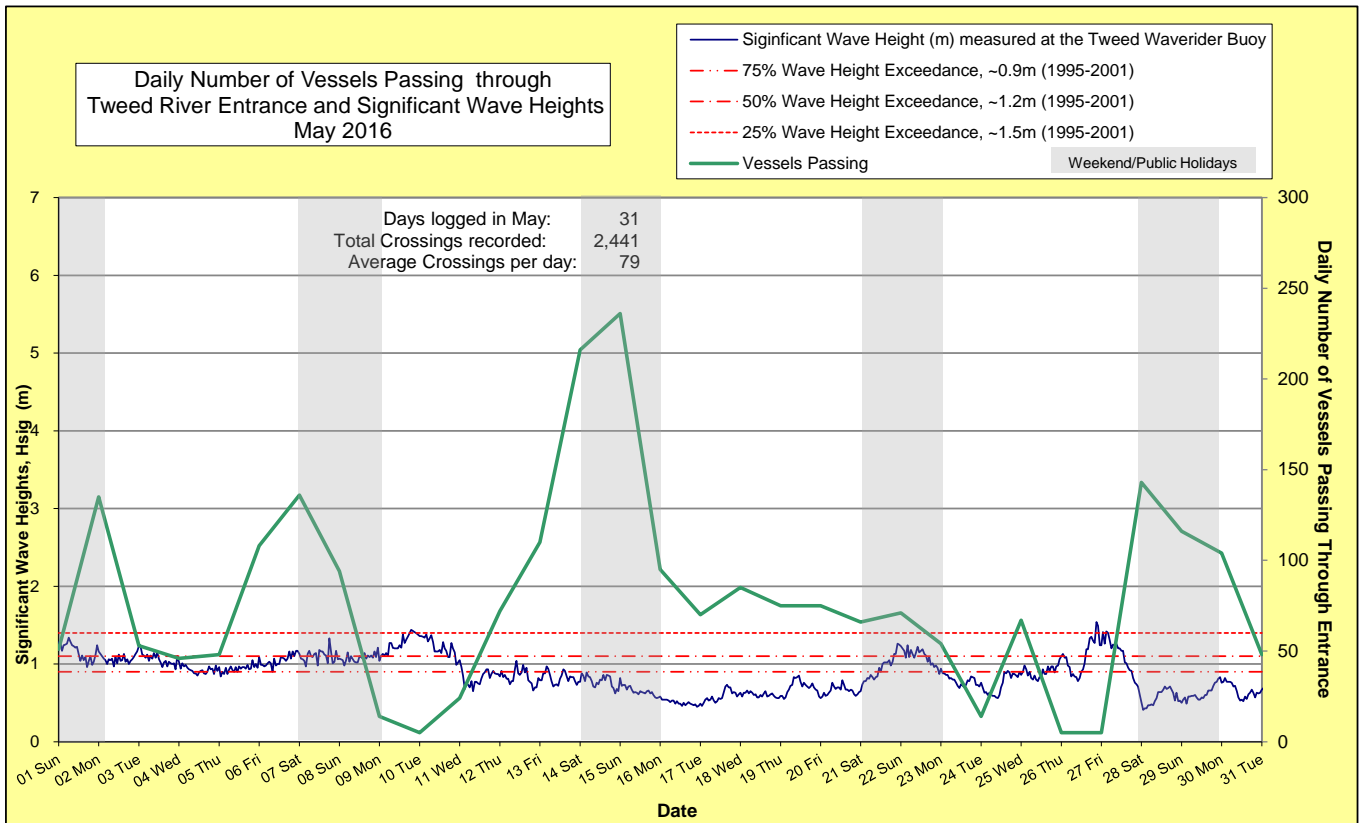
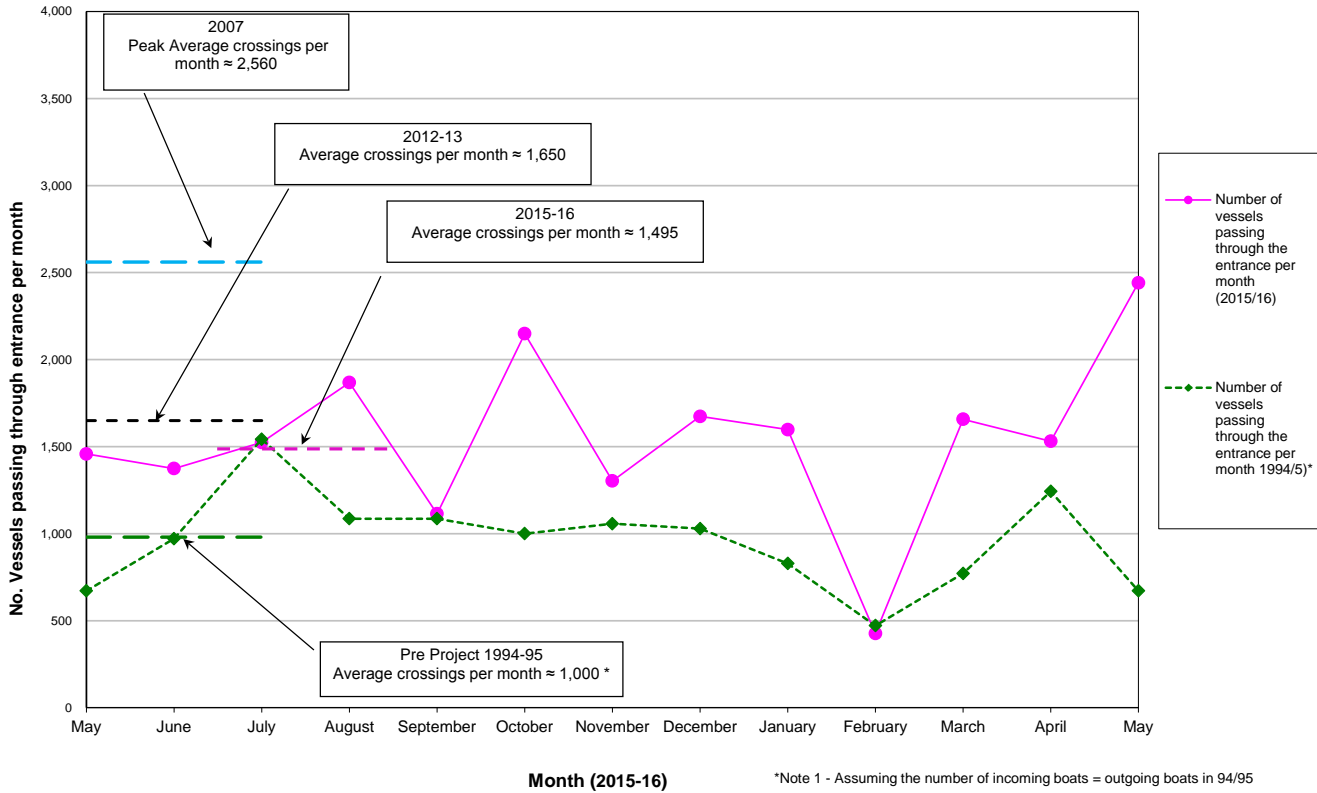
 Weekends and public holidays

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						51
2 nd						135
3 rd						53
4 th						46
5 th						48
6 th						108
7 th						136
8 th						94
9 th						14
10 th						5
11 th						24
12 th						72
13 th						110
14 th						216
15 th						236
16 th						95
17 th						70
18 th						85
19 th						75
20 th						75
21 st						66
22 nd						71
23 rd						54
24 th						14
25 th						67
26 th						5
27 th						5
28 th						143
29 th						116
30 th						104
31 st						48
						Total
						2441

Source: Marine Rescue NSW, Point Danger

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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)



5. WAVE CONDITIONS

Wave conditions over the month: Wave heights ranged mostly from calm to average (0.4 to 1.5 m), with a maximum significant wave height of 1.5 m on 26th May. Wave directions varied from N by E to SE by S but mostly from the SE by E.

Monthly minimum significant wave height: 0.4 m on 28th May

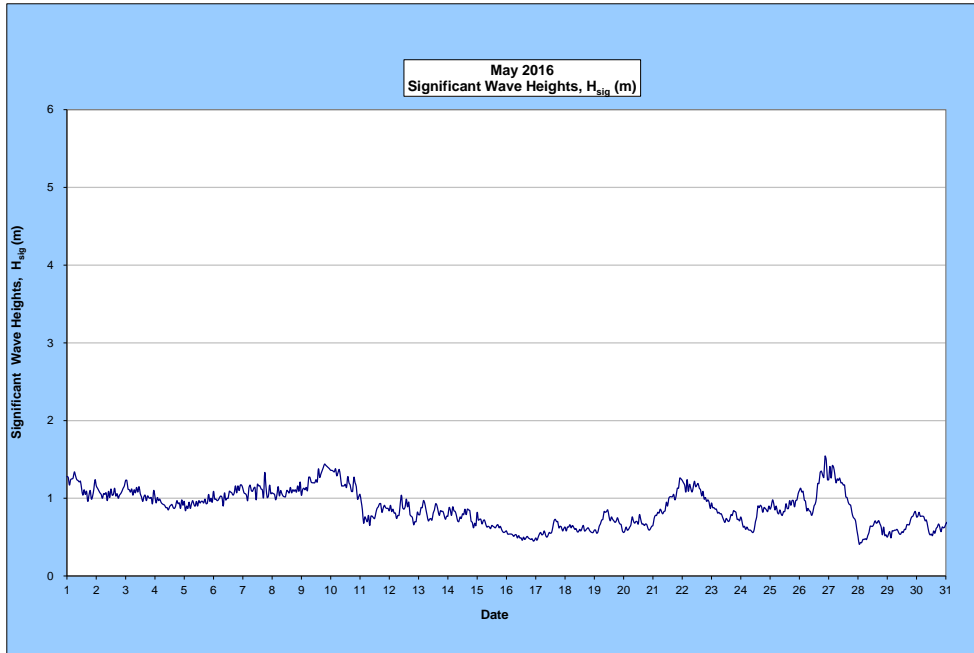
Monthly maximum significant wave height: 1.5 m on 26th May

Number of days on which waves were below 1.0 m at some point in the day: 28 days

Number of days on which waves were above 2.0 m at some point in the day: None

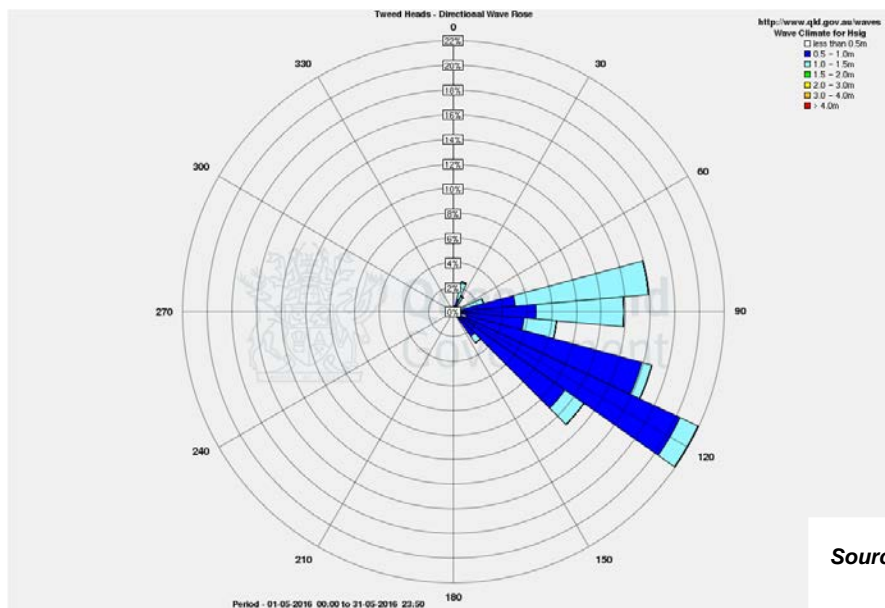
Note: Significant wave heights or H_{sig} is the average of the highest one third of recorded waves.

(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