

TRESBP ENVIRONMENTAL MONITORING SUMMARY

APRIL 2015

OVERVIEW

In April 2015:

- 34,801 m³ of sand was pumped to Snapper Rocks East and 4,535 m³ of sand pumped to Duranbah.
- There was 1 media article relating to the project area. Detail is given in Section 3.
- Wave heights ranged from calm to moderate (0.7 to 2.3 m) with moderate sea events on the 1st to 3rd and 30th (up to 2.3 m), 10th to 11th (up to 1.9 m) and the 14th (up to 1.9 m). No storms were recorded. Wave directions varied from NE to SE but mostly from the ENE to ESE.
- 1741 vessel crossings were recorded for the month. (this is about 10% more than the April average).
- The estimated amount of sand moving north towards the Tweed River Entrance by natural processes was in the order of 51,000 m³ (this is about 85% of the April average).

1. SAND PUMPING & DREDGING

Sand Delivery April 2015

Pumped:	39,336 m ³
Dredged:	0 m ³
Total:	39,336 m ³

The number of days sand was pumped this month = 22

Sand Delivery January to April 2015

Pumped:	161,912 m ³
Dredged:	0 m ³
Total:	161,912 m ³

Stage II Sand Delivery April 2000 to April 2015

Pumped:	7,712,295 m ³
Dredged:	2,061,972 m ³ *
Total:	9,774,267 m ³ *

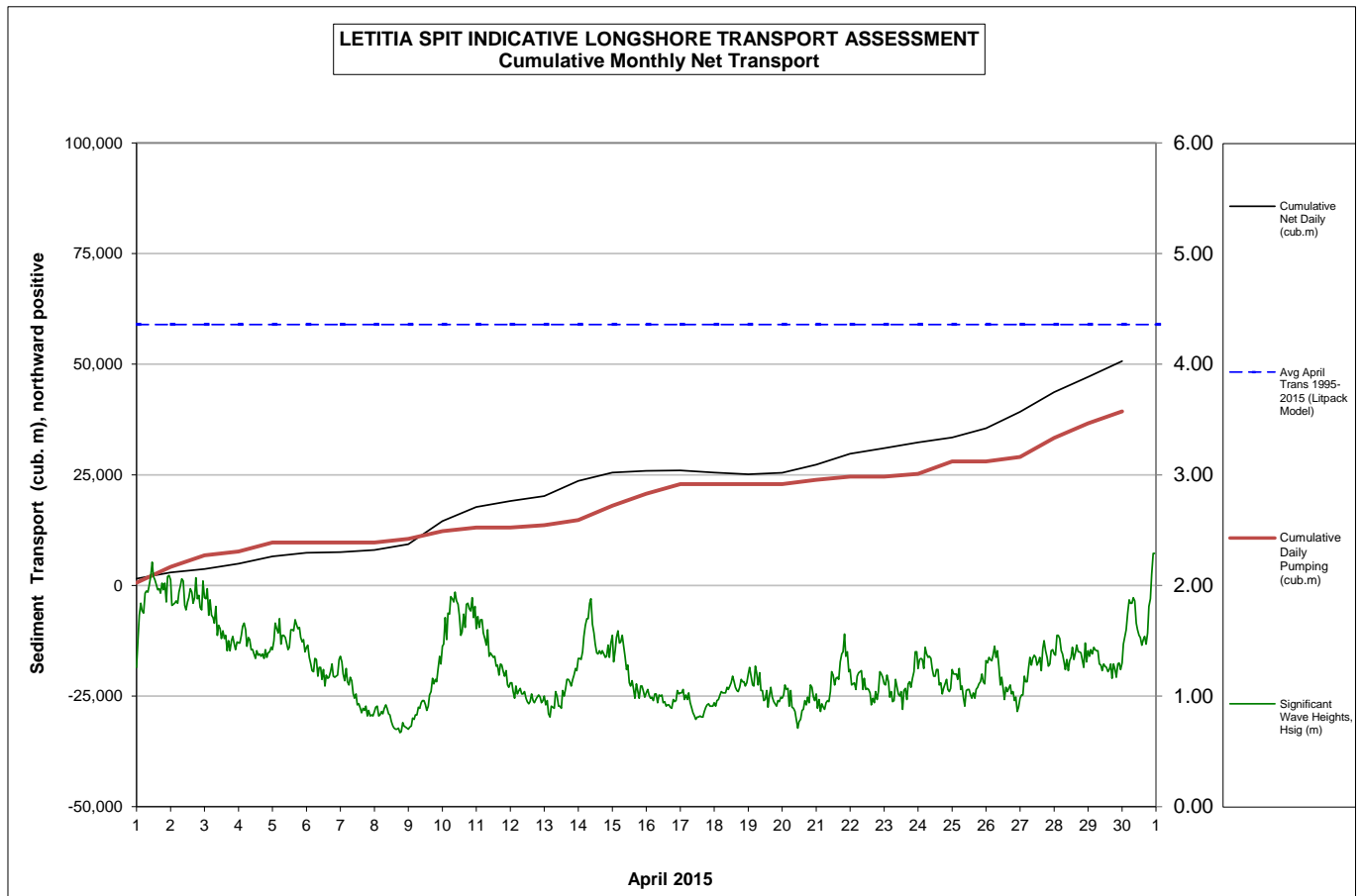
* This Includes 22,870 m³ of sand delivered by dredge to Palm Beach between June and September 2005

2. INDICATIVE LONGSHORE TRANSPORT

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

In April 2015 the estimated natural sand transport moving North towards the Tweed River entrance was calculated to be in the order of 51,000 m³.

This result is about 85% of the average estimated sand transport quantity of approximately 59,000 m³ for the month of April.




3. MEDIA COVERAGE

Surfline published a media article on the 15th reporting that the superbank created by sand pumping to keep the rivermouth clear for boats and replenish Gold Coast beaches helped in the Quiksilver Pro.

4. TWEED RIVER ENTRANCE CONDITIONS

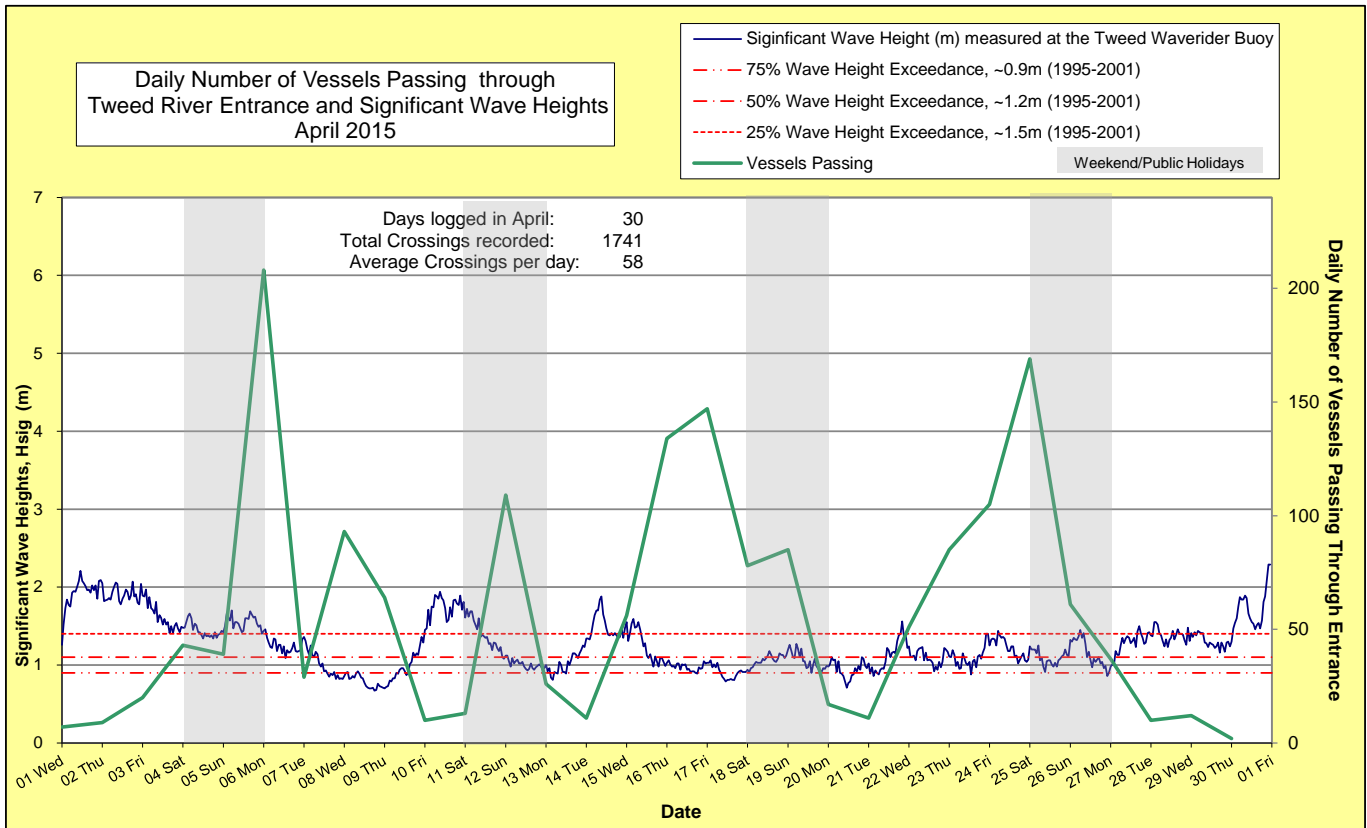
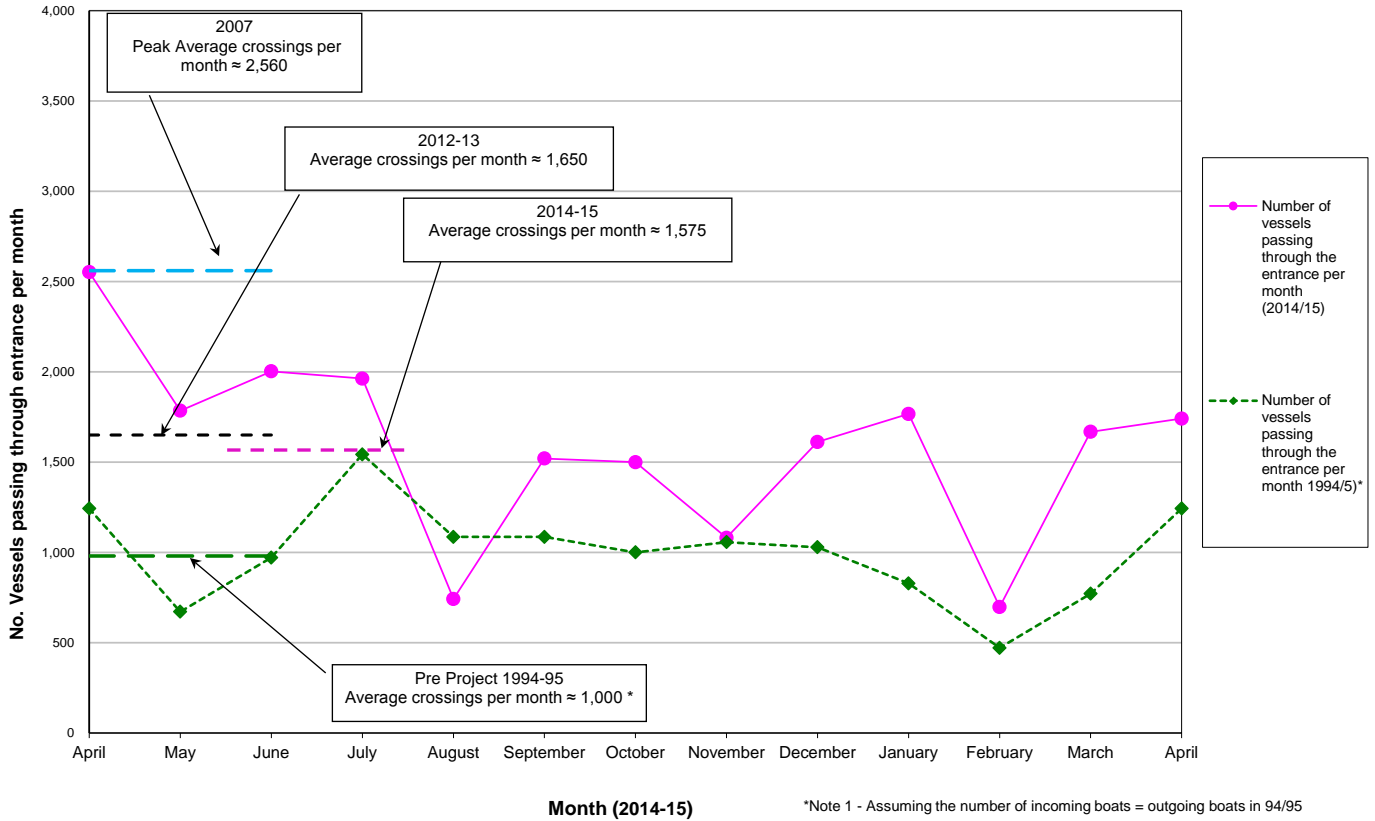
MARINE RESCUE NSW - MONITORING RESULTS

 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						7	
2 nd						9	
3 rd						20	
4 th						43	
5 th						39	
6 th						208	
7 th						29	
8 th						93	
9 th						64	
10 th						10	
11 th						13	
12 th						109	
13 th						26	
14 th						11	
15 th						56	
16 th						134	
17 th						147	
18 th						78	
19 th						85	
20 th						17	
21 st						11	
22 nd						51	
23 rd						85	
24 th						105	
25 th						169	
26 th						61	
27 th						37	
28 th						10	
29 th						12	
30 th						2	
						Total	1741

Source: Marine Rescue NSW, Point Danger

Comparison of the Number of Vessels Passing Through the Entrance per month 2013/14 compared to 2007 (peak crossings) and 1994/95 (prior to entrance improvements)



5. WAVE CONDITIONS

Wave conditions over the month: Wave heights ranged from calm to moderate (0.7 to 2.3 m) with moderate sea events on the 1st to 3rd and 30th (up to 2.3 m), 10th to 11th (up to 1.9 m) and the 14th (up to 1.9 m). No storms were recorded. Wave directions varied from NE to SE but mostly from the ENE to ESE.

Monthly minimum significant wave height: 0.7 m on 8th April.

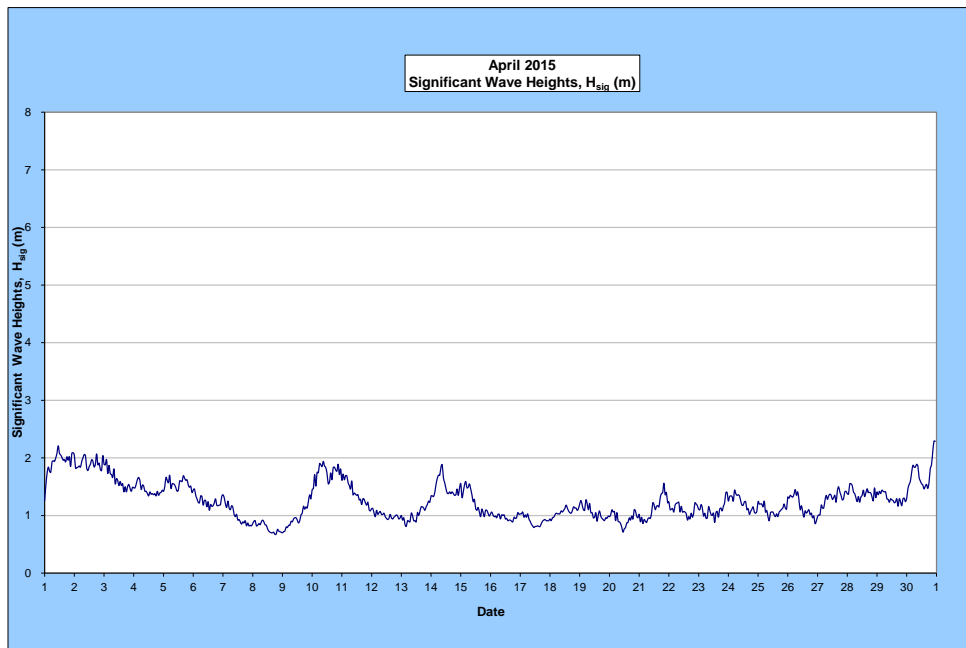
Monthly maximum significant wave height: 2.3 m on 30th April.

Number of days on which waves were below 1.0 m: 16 days

Number of days on which waves were above 2.0 m: 4 days

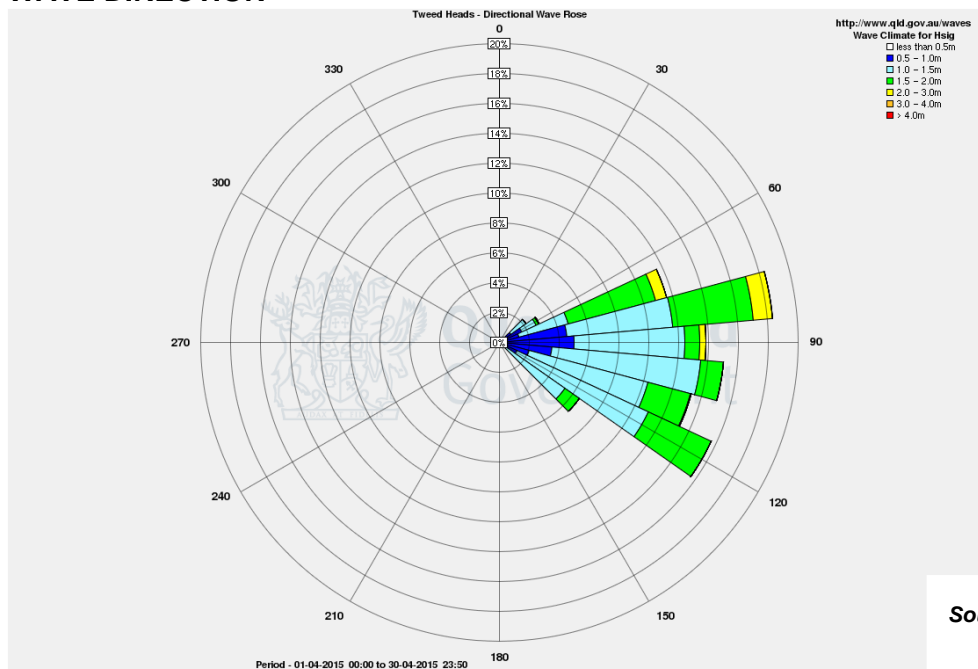
Note: Significant wave heights or H_{sig} is the average of the highest one third of recorded waves.

(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



Source: Queensland Government