

TRESBP ENVIRONMENTAL MONITORING SUMMARY

JULY 2014

OVERVIEW

In July, 2014:

- 52,155 m³ of sand was pumped to Snapper Rocks East.
- There were no media articles relating to the project.
- Sea conditions were calm to average wave heights for most of the month (significant wave heights 0.5 to 1.5m) with a moderate sea event on 19th to 20th (significant wave heights up to 2.1m). Wave directions varied mostly from ESE to East.
- 1,963 vessel crossings were recorded for the month. (This is about 2% less than the July average)
- The estimated amount of sand moving north towards the Tweed River Entrance by natural processes was in the order of 41,000 m³ (this is about 65% of the July average).

1. SAND PUMPING & DREDGING

Sand Delivery July 2014

Pumped:	52,155 m ³
Dredged:	0 m ³
Total:	52,155 m ³

The number of days sand was pumped this month = 22

Sand Delivery January 2014 to July 2014

Pumped:	284,424 m ³
Dredged:	0 m ³
Total:	284,424 m ³

Stage II Sand Delivery May 2000 to July 2014

Pumped:	7,369,306 m ³
Dredged:	2,061,972 m ³ *
Total:	9,431,278 m ³ *

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

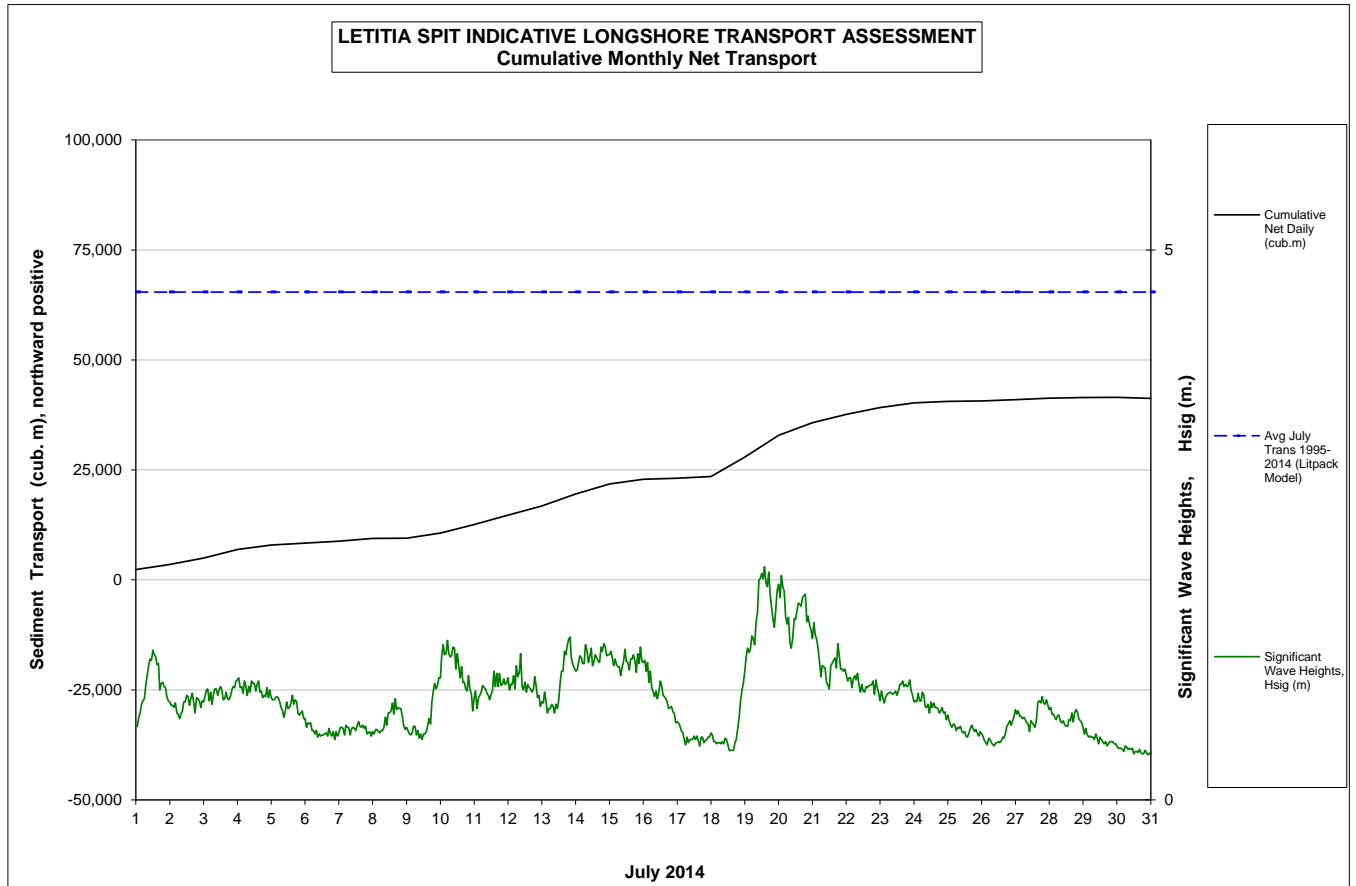


2. INDICATIVE LONGSHORE TRANSPORT

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


In July 2014 the estimated natural sand transport (moving North towards the Tweed River entrance): was calculated to be in the order of 41,000 m³.

This result is about 65% of the average estimated sand transport quantity of approximately 65,000 m³ for the month of July



3. MEDIA COVERAGE

There were no media articles relating to the project during July.

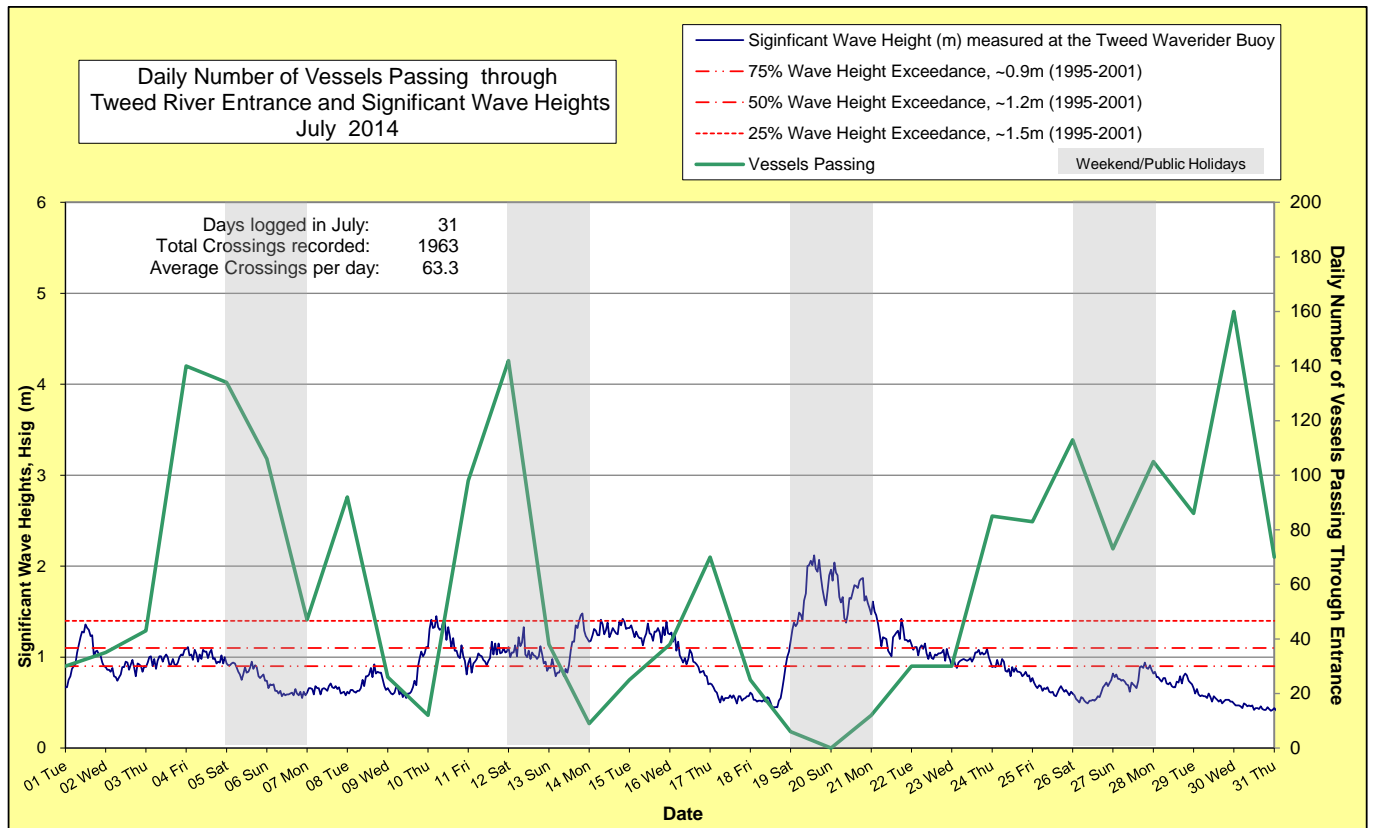
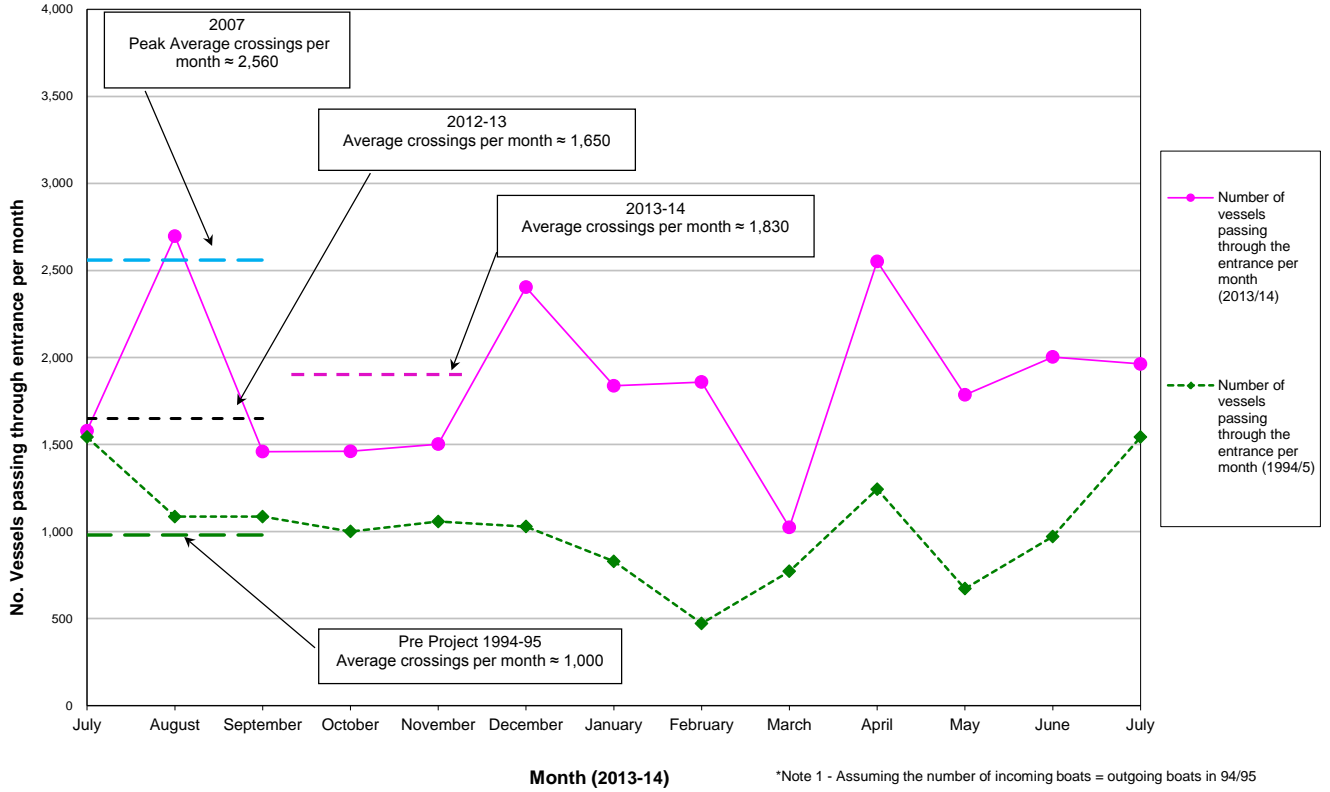
4. TWEED RIVER ENTRANCE CONDITIONS**MARINE RESCUE NSW - MONITORING RESULTS**
 Weekends and public holidays

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						30	
2 nd						35	
3 rd						43	
4 th						140	
5 th						134	
6 th						106	
7 th						47	
8 th						92	
9 th						26	
10 th						12	
11 th						98	
12 th						142	
13 th						38	
14 th						9	
15 th						25	
16 th						38	
17 th						70	
18 th						25	
19 th						6	
20 th						0	
21 st						12	
22 nd						30	
23 rd						30	
24 th						85	
25 th						83	
26 th						113	
27 th						73	
28 th						105	
29 th						86	
30 th						160	
31 th						170	
						Total	1963

Source: Marine Rescue NSW, Point Danger

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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)



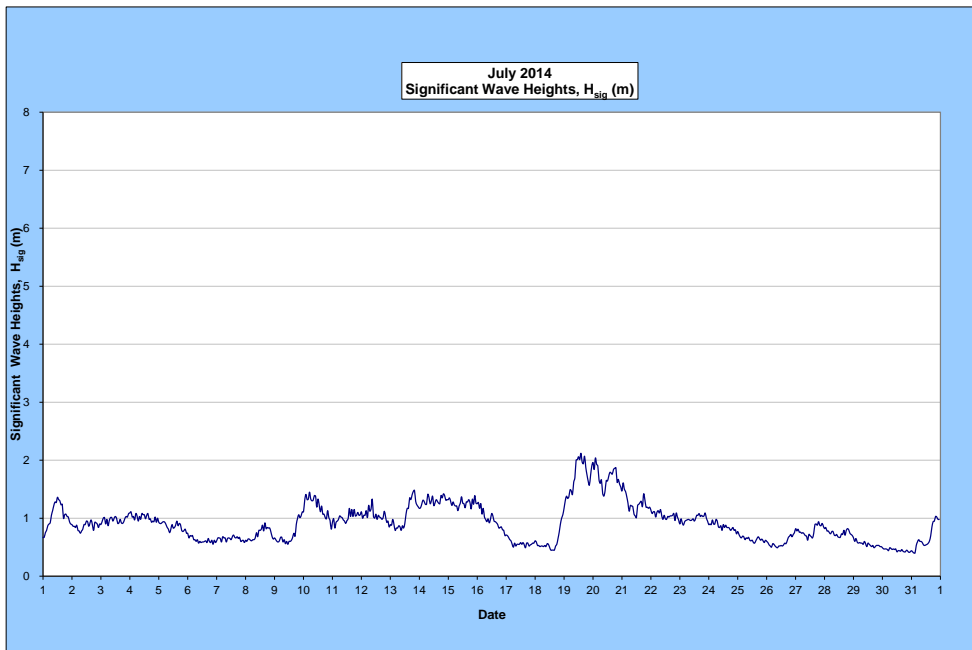
5. WAVE CONDITIONS

Wave Conditions over the month: Significant wave heights were calm to average (0.5 to 1.5m) with a moderate sea event on 19th to 20th (significant wave height up to 2.1m). Wave direction ranged mostly from East to ESE

- Monthly minimum significant wave height: 0.4 m on 31th July.
- Monthly Maximum significant wave height: 2.12 m on 19th July.
- Number of days on which waves were below 1.0 m: 24 days
- Number of days on which waves were above 2.0 m: 2

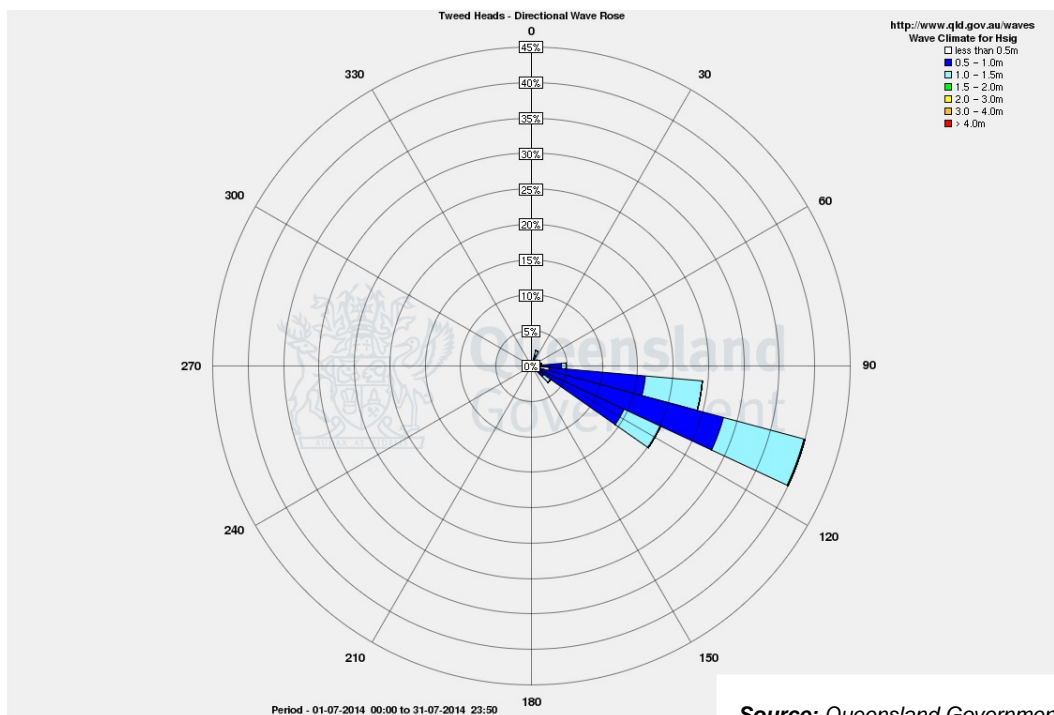
Note: Significant wave heights or H_{sig} is the average of the highest one third of recorded waves.

(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

END