

TRESBP ENVIRONMENTAL MONITORING SUMMARY

October 2016

OVERVIEW

In October 2016:

- 12,967 m³ of sand was pumped to Snapper Rocks East.
- 0 m³ of sand was pumped to Duranbah Beach.
- The Project no longer searches for media articles relating to the area.
- Wave heights ranged from calm to moderate (0.34 to 1.89 m), with a maximum significant wave height of 1.89 m on 24th October. Wave directions varied from NNE to SE by S but mostly from the SE by E.
- 1849 vessel crossings were recorded for the month (This is 107% of the October average).
- The estimated amount of sand moving north towards the Tweed River entrance by natural processes was in the order of 16,550 m³ (this is 61% of the October average of 27,260 m³).

1. SAND PUMPING & DREDGING

Sand Delivery October 2016

Pumped:	12,967 m ³
Dredged:	0 m ³
Total:	12,967 m ³

The number of days sand was pumped this month = 18

Sand Delivery January 2016 to October 2016

Pumped:	363,818 m ³
Dredged:	41,938 m ³
Total:	405,756 m ³

Stage II Sand Delivery April 2000 to October 2016

Pumped:	8,466,883 m ³
Dredged:	2,103,910 m ³ *
Total:	10,570,793 m ³ *

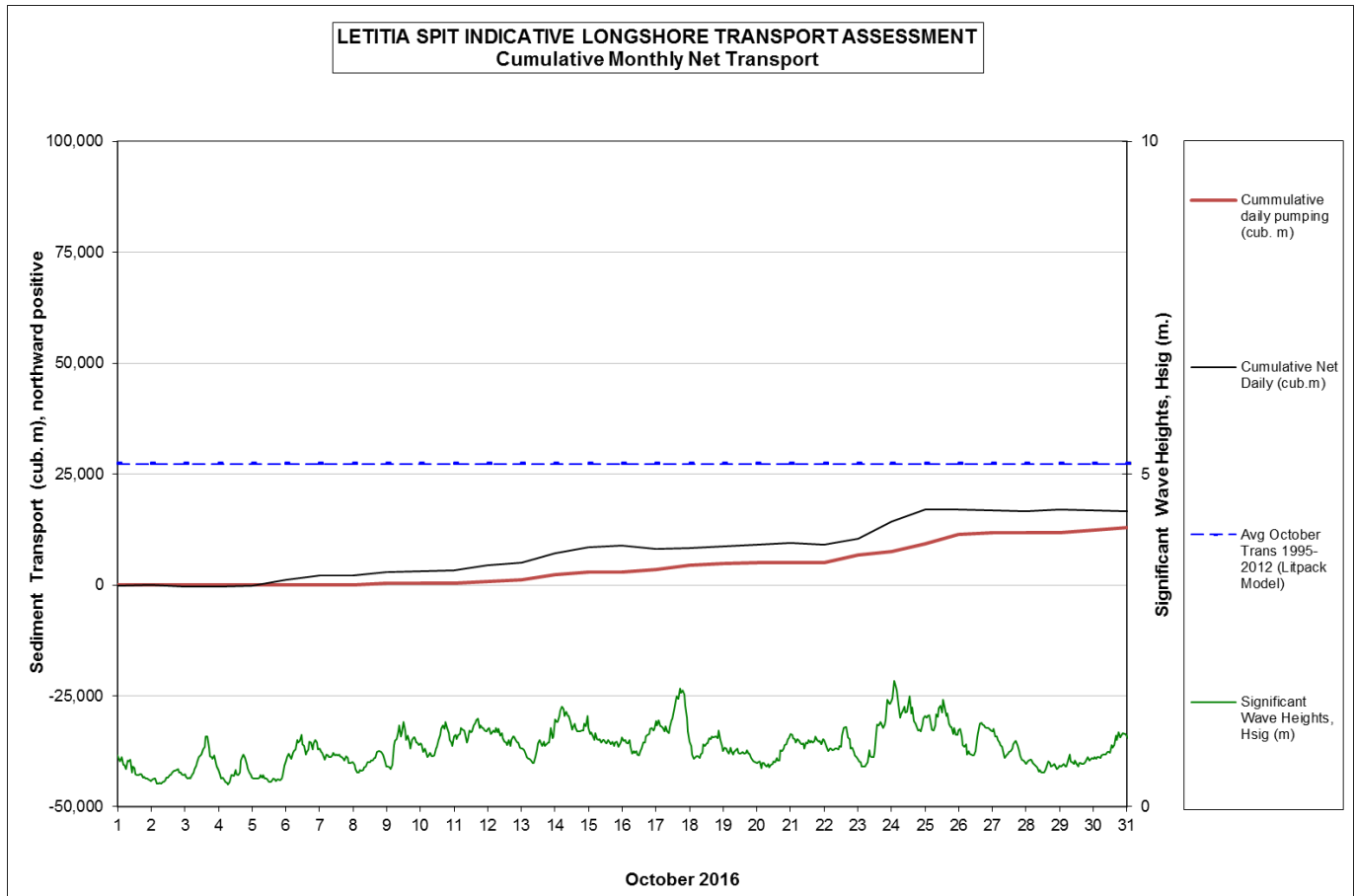
* This Includes 22,870 m³ of sand delivered by dredge to Palm Beach between June and September 2005

2. INDICATIVE LONGSHORE TRANSPORT

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

In October 2016 the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 16,550 m³.

This result is 61% of the average estimated sand transport quantity of approximately 27,260 m³ for the month of October.




3. MEDIA COVERAGE

The Project no longer searches for media articles relating to the area

4. TWEED RIVER ENTRANCE USAGE

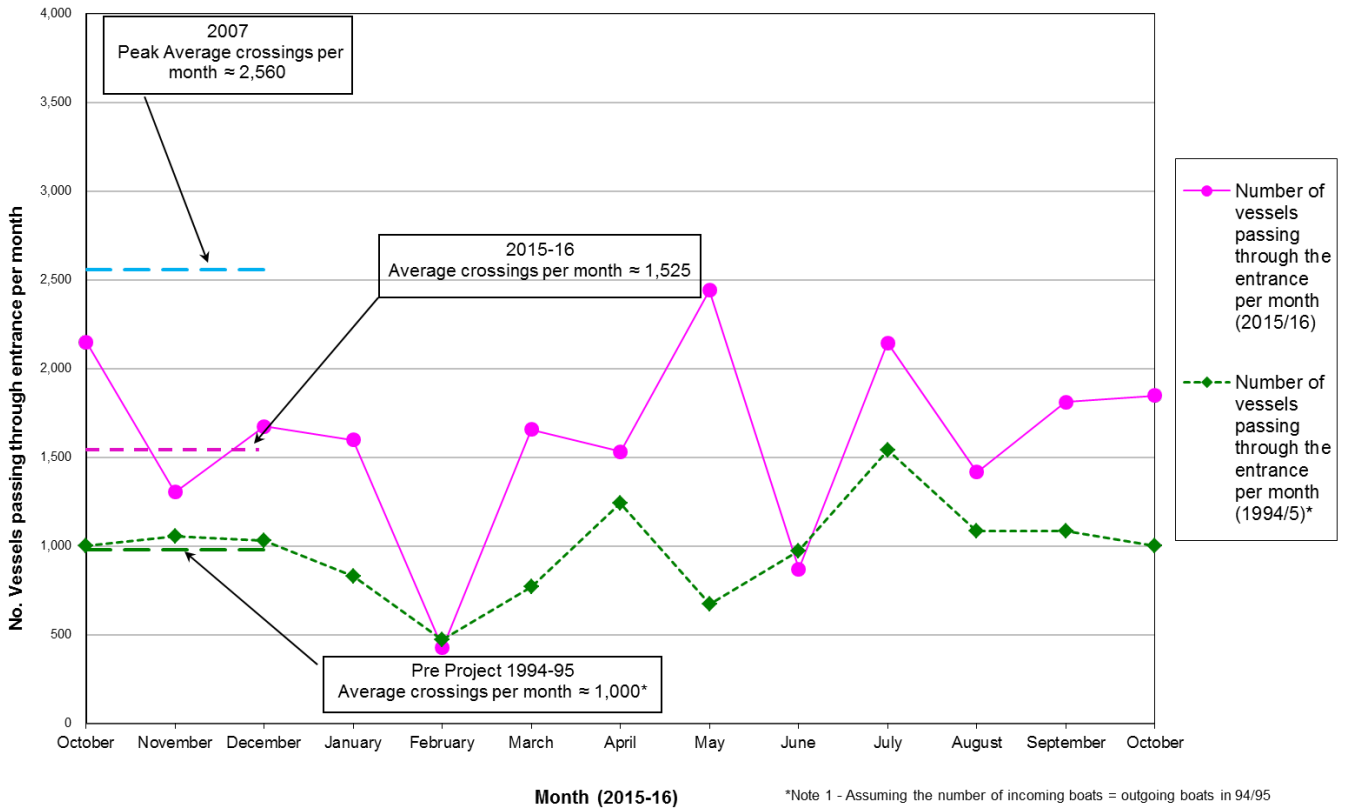
Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends and public holidays

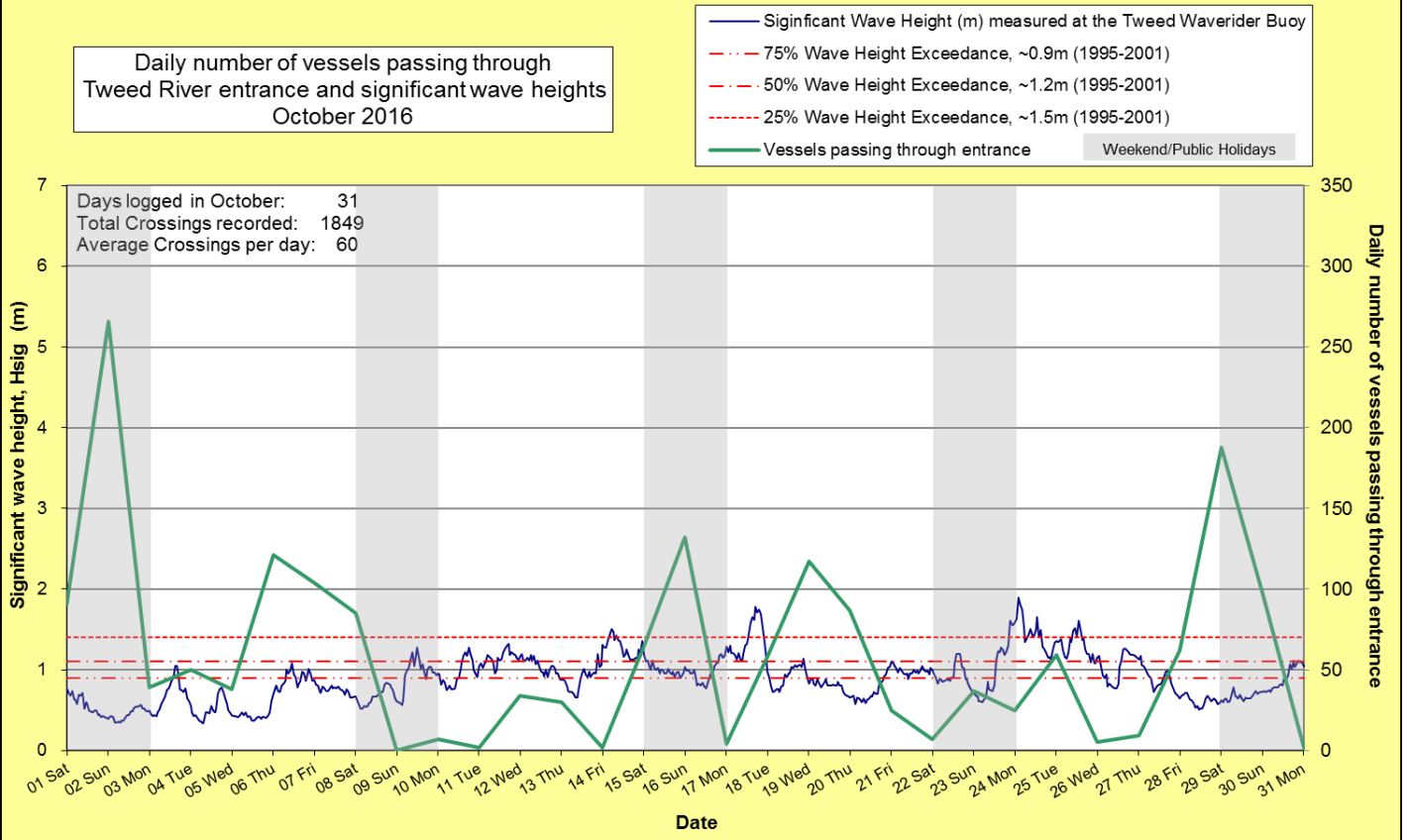
Date	Navigation Rating Impassable-----Good					Number of Boats
	Impassable (1)	Difficulty Encountered (2)	Some Difficulty Encountered (3)	Relatively Good Crossing (4)	Good Conditions (5)	
						91
						266
						39
						50
						38
						121
						104
						85
						0
						7
						2
						34
						30
						2
						65
						132
						4
						58
						117
						87
						25
						7
						37
						25
						59
						5
						9
						62
						188
						98
31 st						2
						Total
						1849

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 October 2016



5. WAVE CONDITIONS

Wave conditions over the month: Wave heights ranged mostly from calm to moderate (0.34 to 1.89 m), with a maximum significant wave height of 1.89 m on 24th October. Wave directions varied from NNE to SE by S but mostly from the SE by E.

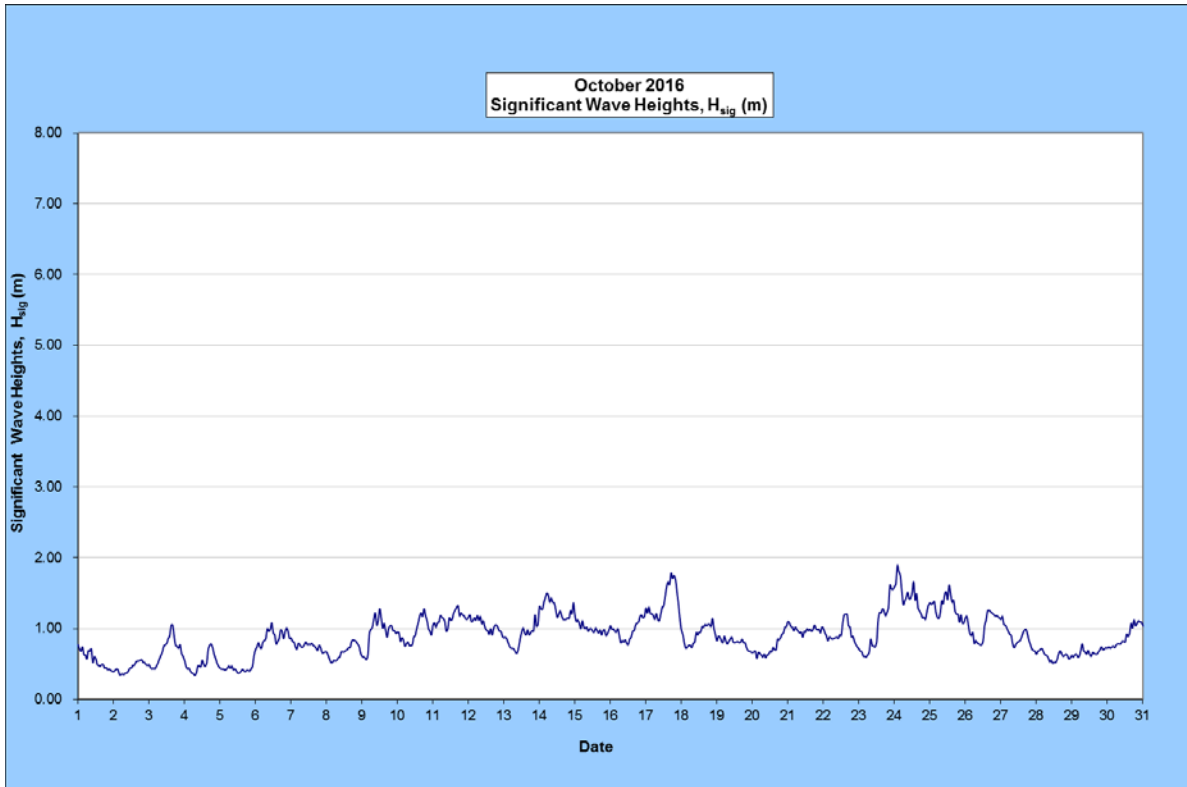
Monthly minimum significant wave height: 0.34 m on 23th October

Monthly maximum significant wave height: 1.89 m on 4th October

Number of days on which waves were below 1.0 m at some point in the day: 27 days

Number of days on which waves were above 2.0 m at some point in the day: 0 days

Note: Significant wave height (H_{sig}) is defined as the average height of the highest one-third of waves recorded over a period of typically 15 minutes.



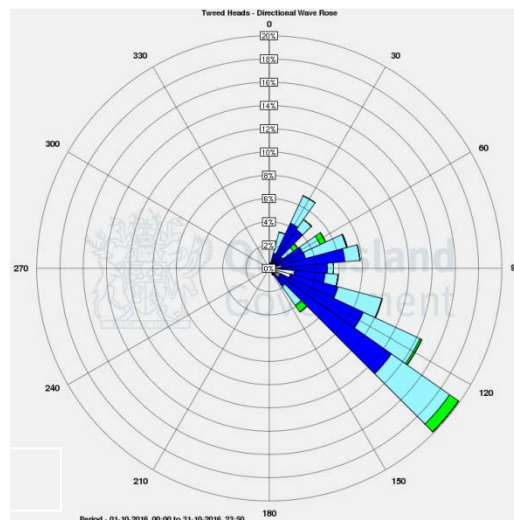
(Source: Tweed Wave Buoy; Queensland Government)

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

WAVE DIRECTION

<http://www.qld.gov.au/waves>
Wave Climate for Hsig

- less than 0.5m
- 0.5 – 1.0m
- 1.0 – 1.5m
- 1.5 – 2.0m
- 2.0 – 3.0m
- 3.0 – 4.0m
- > 4.0m



Source: Queensland Government