TRESBP ENVIRONMENTAL MONITORING SUMMARY
December 2016

OVERVIEW

In December 2016:

- 29,890 m^3 of sand was pumped to Snapper Rocks East.
- 0 m^3 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 (0.53 to 1.79 m), with a maximum significant wave height of 1.79 m on 19th December. Wave directions varied from E to ENE but mostly from the E by N.
- 1681 vessel crossings were recorded for the month (This is 82% of the December average).
- The estimated amount of sand moving north towards the Tweed River entrance by natural processes was in the order of 9,700 m^3 (this is 33% of the December average of 29,180 m^3).

1. SAND PUMPING & DREDGING

Sand Delivery December 2016

Pumped:	29,890 m^3
Dredged:	0 m^3
Total:	29,890 m^3

The number of days sand was pumped this month = 18

Sand Delivery January 2016 to December 2016

Pumped:	419,564 m^3
Dredged:	41,938 m^3
Total:	461,502 m^3

Stage II Sand Delivery April 2000 to December 2016

Pumped:	8,522,629 m^3
Dredged:	2,103,910 m^3 *
Total:	10,626,539 m^3 *

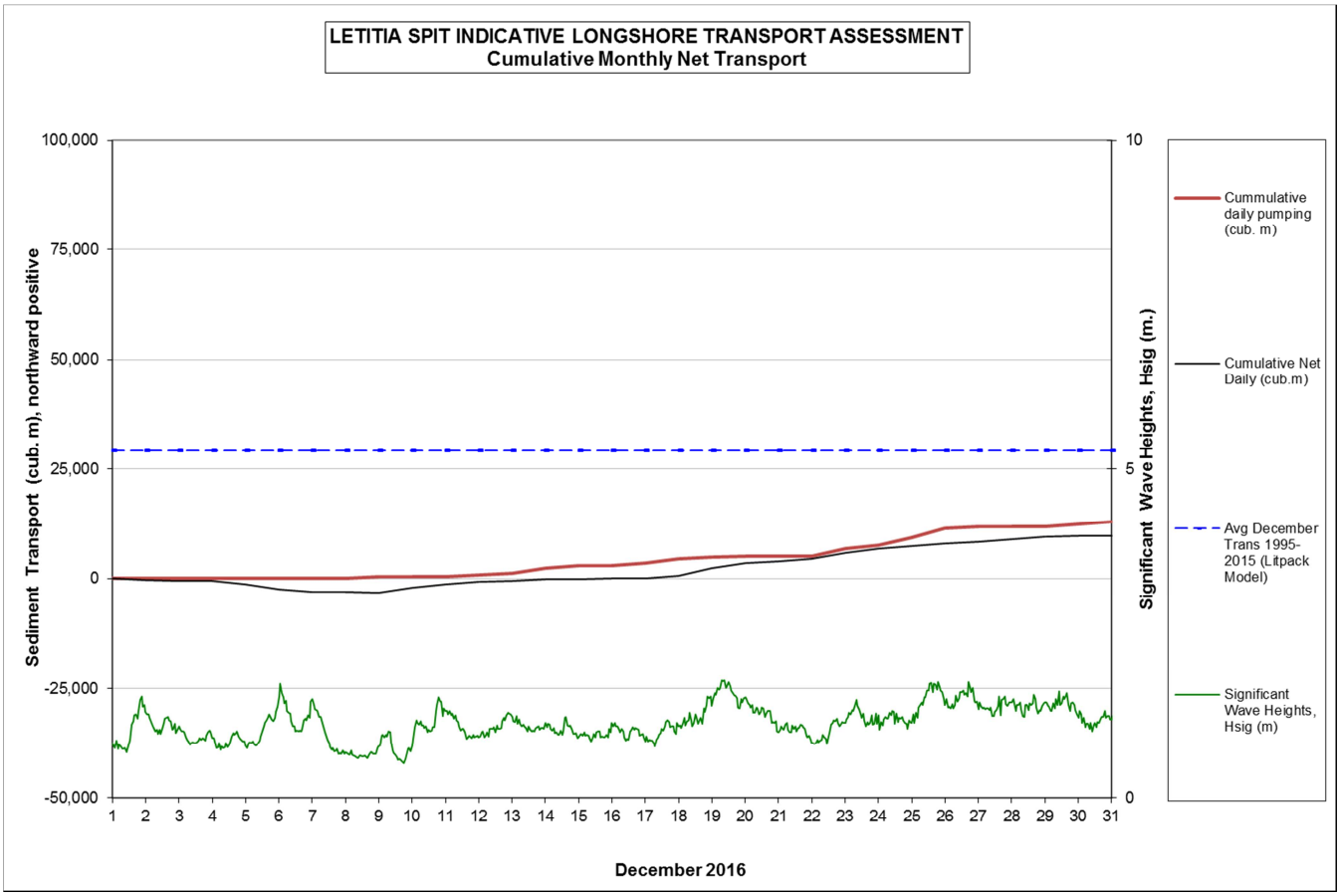
* This Includes 22,870 m^3 of sand delivered by dredge to Palm Beach between June and September 2005

2. INDICATIVE LONGSHORE TRANSPORT

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

In December 2016 the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 9,700 m^3.

This result is 33% of the average estimated sand transport quantity of approximately 29,180 m^3 for the month of December.



3. MEDIA COVERAGE

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

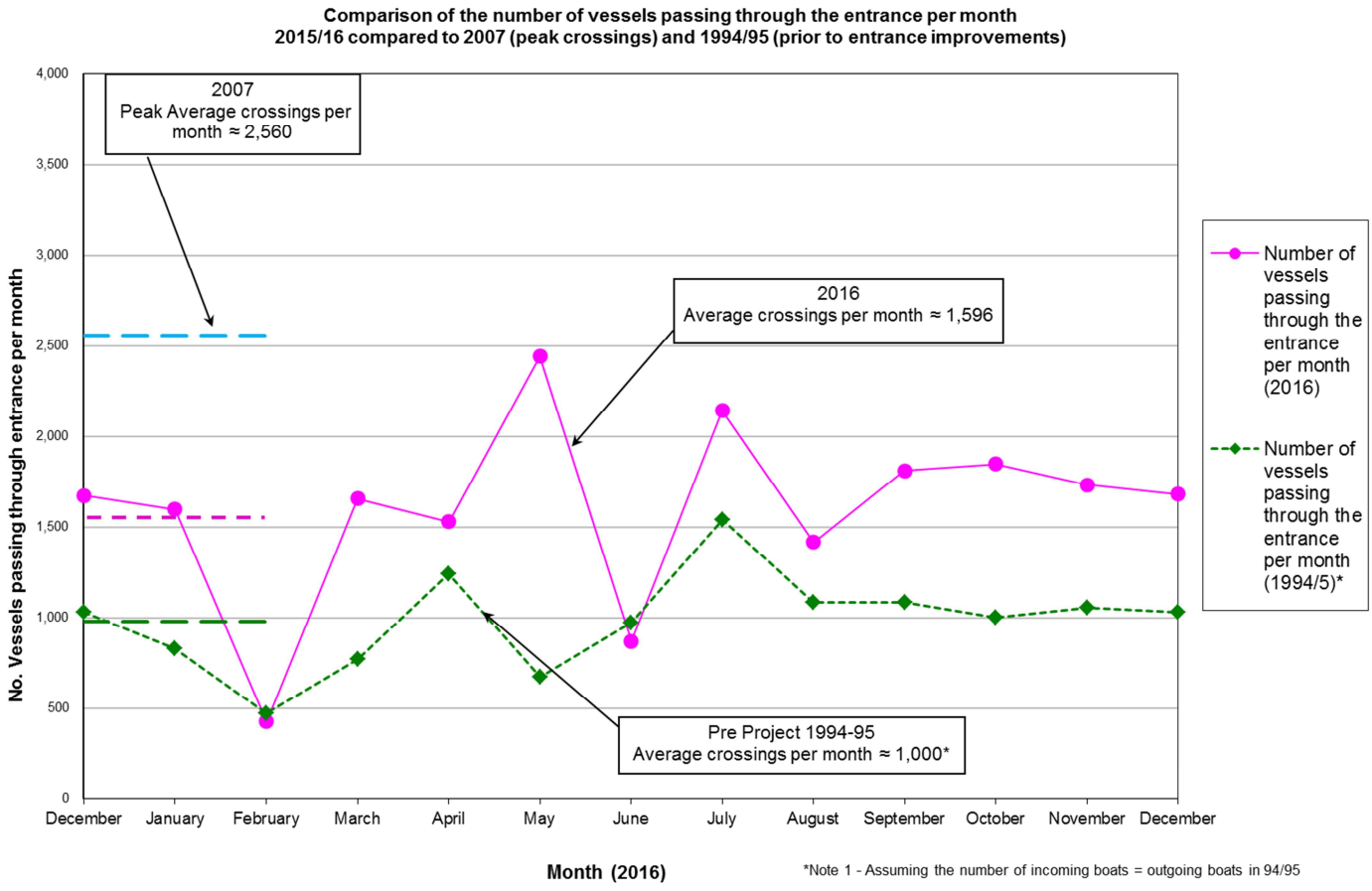
4. TWEED RIVER ENTRANCE USAGE

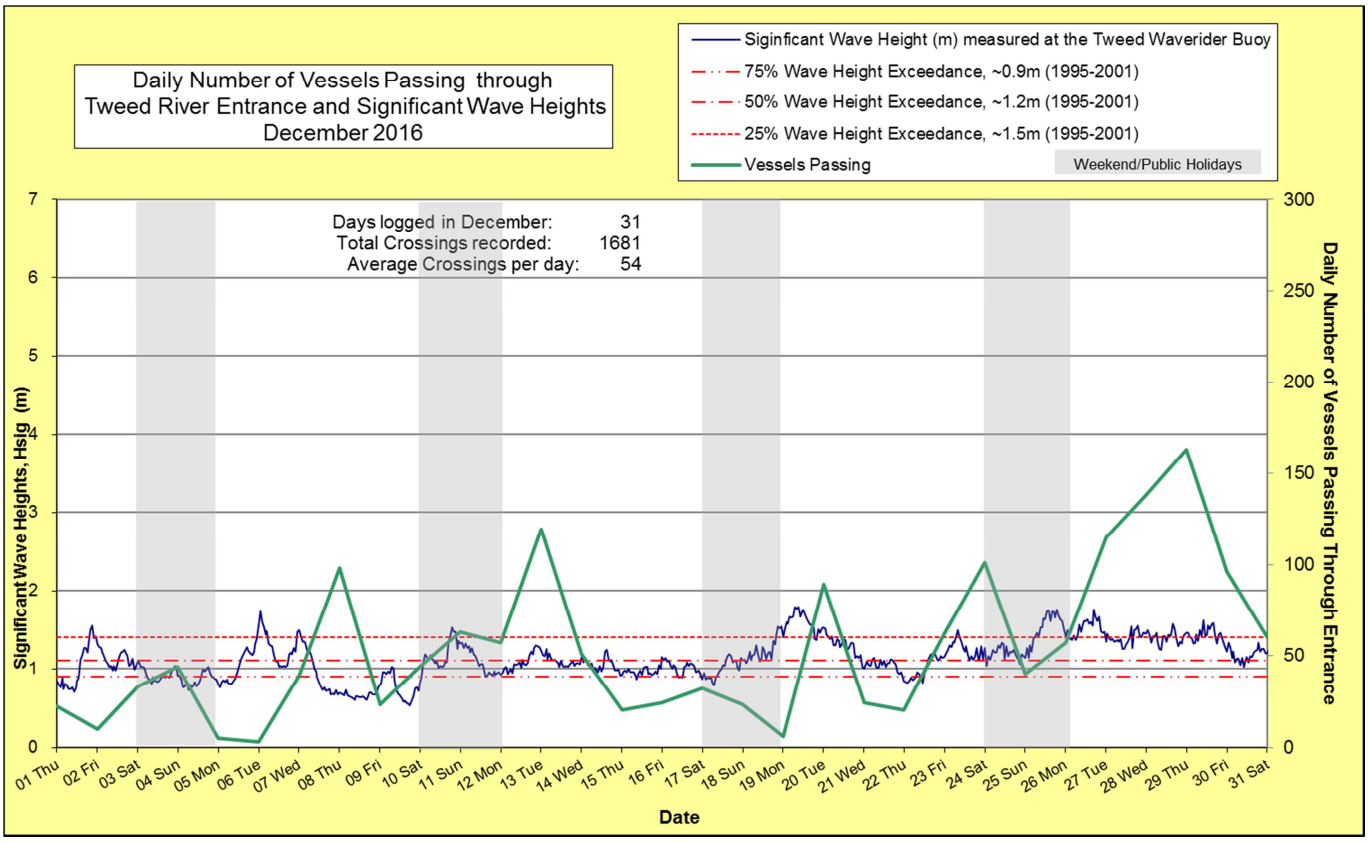
Marine Rescue NSW - Monitoring Results (Not including trawlers)

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)	
1st						22
2nd						10
3rd						33
4th						44
5th						5
6th						3
7th						39
8th						98
9th						23
10th						44
11th						63
12th						57
13th						119
14th						51
15th						20
16th						24
17th						32
18th						23
19th						6
20th						89
21st						24
22nd						20
23rd						62
24th						101
25th						40
26th						57
27th						115
28th						138
29th						163
30th						96
31st						60
					Total	1681

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)
2007
Peak Average crossings per month ≈ 2,560
2016
Average crossings per month ≈ 1,596
Pre Project 1994-95
Average crossings per month ≈ 1,000*
No. Vessels passing through entrance per month
Month (2016)
December
January
February
March
April
May
June
July
August
September
October
November
December
Number of vessels passing through the entrance per month (2016)
Number of vessels passing through the entrance per month (1994/5)*
*Note 1 - Assuming the number of incoming boats = outgoing boats in 94/95


Daily Number of Vessels Passing through Tweed River Entrance and Significant Wave Heights December 2016
Siginficant Wave Height (m) measured at the Tweed Waverider Buoy
75% Wave Height Exceedance, ~0.9m (1995-2001)
50% Wave Height Exceedance, ~1.2m (1995-2001)
25% Wave Height Exceedance, ~1.5m (1995-2001)
Vessels Passing
Weekend/Public Holidays
Days logged in December: 31
Total Crossings recorded: 1681
Average Crossings per day: 54
Significant Wave Heights, Hsig (m)
Daily Number of Vessels Passing Through Entrance
Date

5. WAVE CONDITIONS

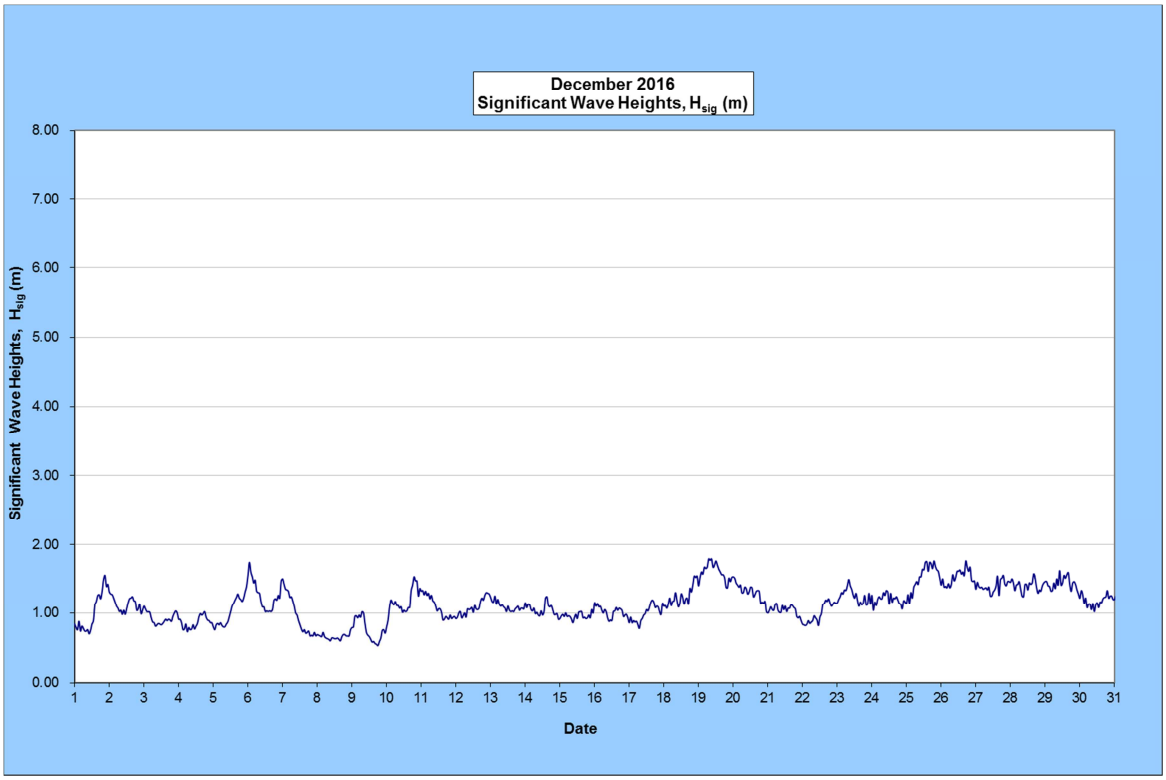
Wave conditions over the month: Wave heights ranged mostly from calm to moderate (0.53 to 1.79 m), with a maximum significant wave height of 1.79 m on 19th December. Wave directions varied from E to ENE but mostly from the E by N.

Monthly minimum significant wave height: 0.53 m on 9th December
Monthly maximum significant wave height: 1.79 m on 19th December

Number of days on which waves were below 1.0 m at some point in the day: 18 days

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

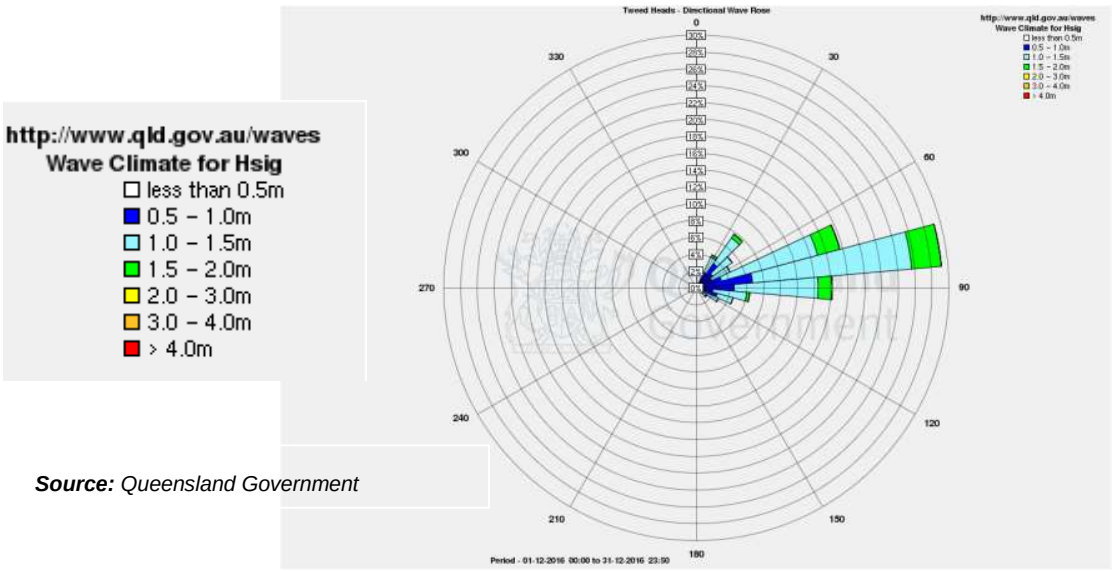
Note: Significant wave height (H_{sig}) is defined as the average height of the highest one-third of waves recorded over a period of typically 15 minutes.



(***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



Source: *Queensland Government*