

# TWEED SAND BYPASSING

## OVERVIEW

In October 2017:

- 13,674 m<sup>3</sup> of sand was pumped to Snapper Rocks East.
- 0 m<sup>3</sup> of sand was dredged and placed at Snapper Rocks East.
- 0 m<sup>3</sup> of sand was pumped to Duranbah Beach.
- 0 m<sup>3</sup> of sand was dredged and placed at Duranbah Beach.
- Wave heights ranged mostly from calm to moderate (0.36 m to 2.06 m), with a maximum significant wave height of 2.16 m on 15<sup>th</sup> October. Wave directions varied from NNE to SE but mostly from the ESE.
- 1613 vessel crossings were recorded for the month (This is 93% of the October average (2002 – 2017)).
- The estimated amount of sand moving north towards the Tweed River entrance by natural processes was in the order of 31,868 m<sup>3</sup> (this is 119% of the October average of 26,832 m<sup>3</sup>).

## 1. SAND PUMPING & DREDGING

### **Sand Delivery October 2017**

Pumped:	13,674 m <sup>3</sup>
Dredged:	0 m <sup>3</sup>
Total:	13,674 m <sup>3</sup>

The number of days sand was pumped this month = 15

### **Sand Delivery January 2017 to October 2017**

Pumped:	340,169 m <sup>3</sup>
Dredged:	216,604 m <sup>3</sup>
Total:	556,773 m <sup>3</sup>

### **Stage II Sand Delivery April 2000 to October 2017**

Pumped:	8,862,798 m <sup>3</sup>
Dredged:	2,320,514 m <sup>3</sup> *
Total:	11,183,312 m <sup>3</sup> *

\* This Includes 22,870 m<sup>3</sup> of sand delivered by dredge to Palm Beach between June and September 2005

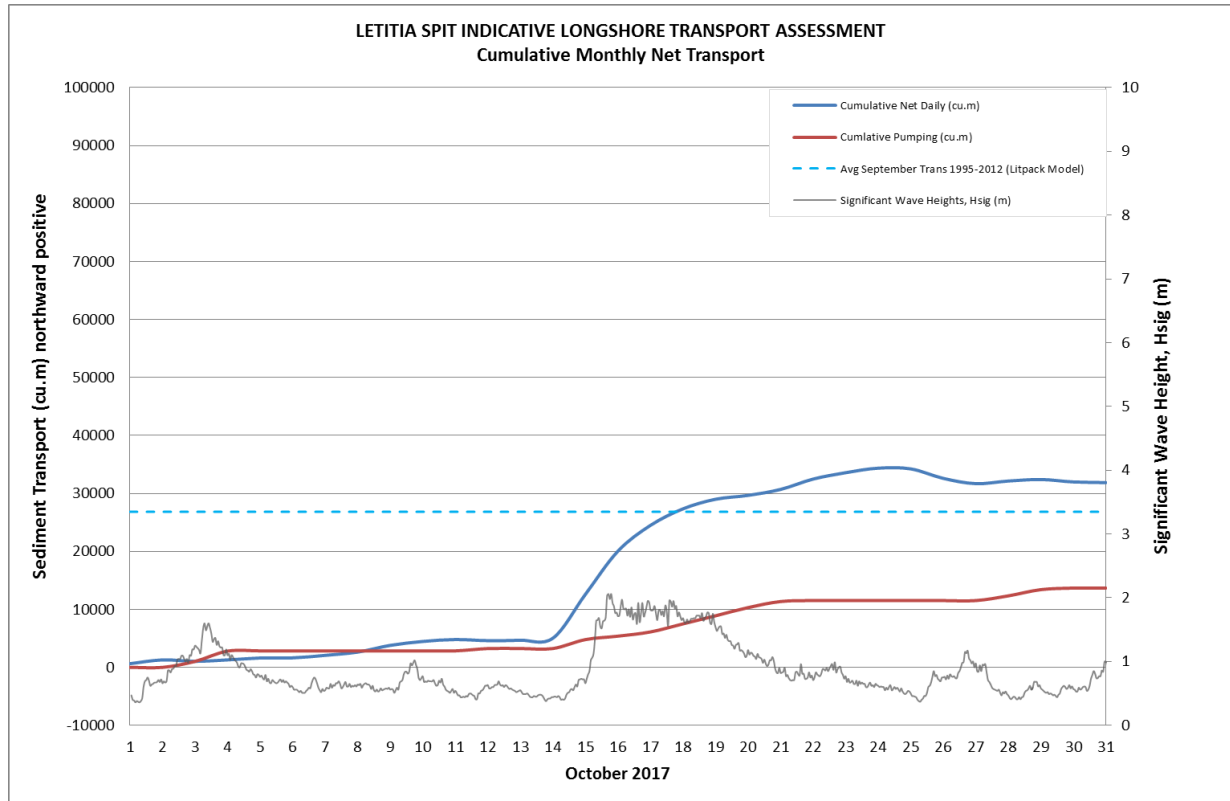
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## 2. INDICATIVE LONGSHORE TRANSPORT

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

In October 2017 the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 31,868 m<sup>3</sup>.


This result is 119% of the average estimated sand transport quantity of approximately 26,832 m<sup>3</sup> for the month of October.



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## 3. TWEED RIVER ENTRANCE USAGE

Marine Rescue NSW - Monitoring Results (Not including trawlers)

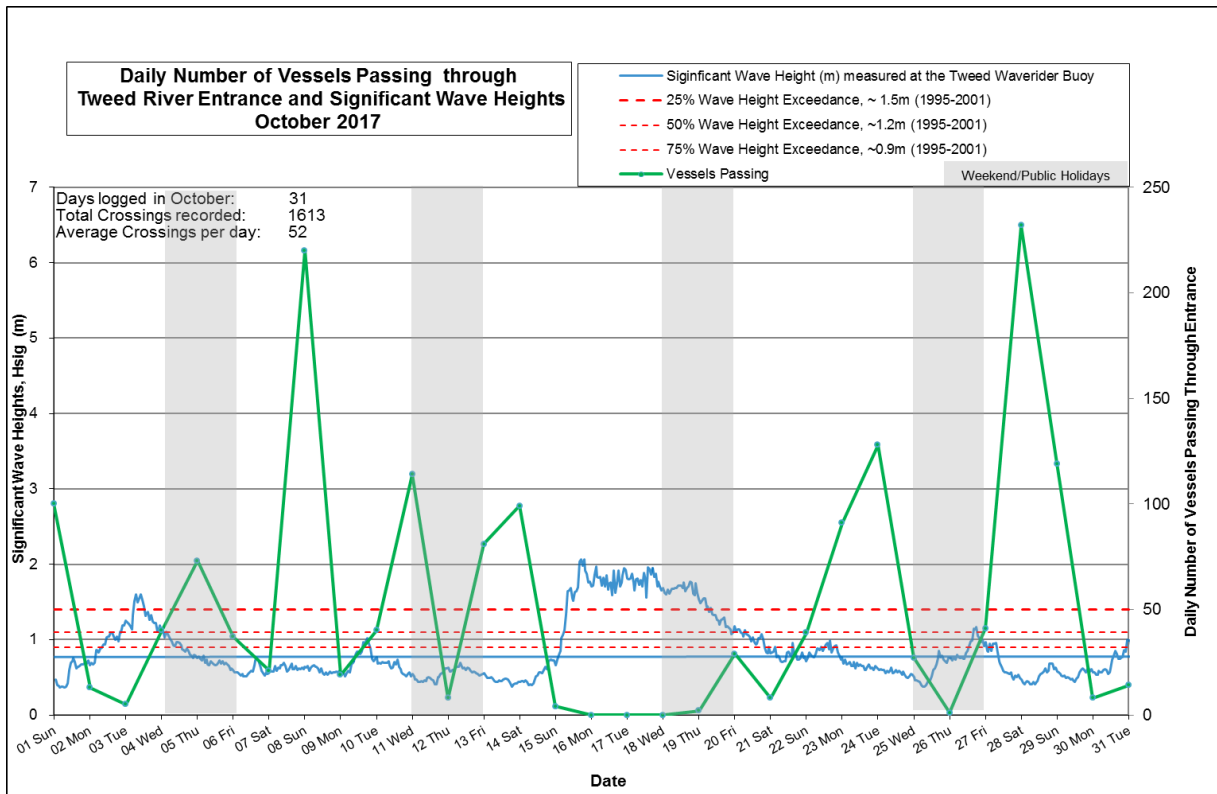
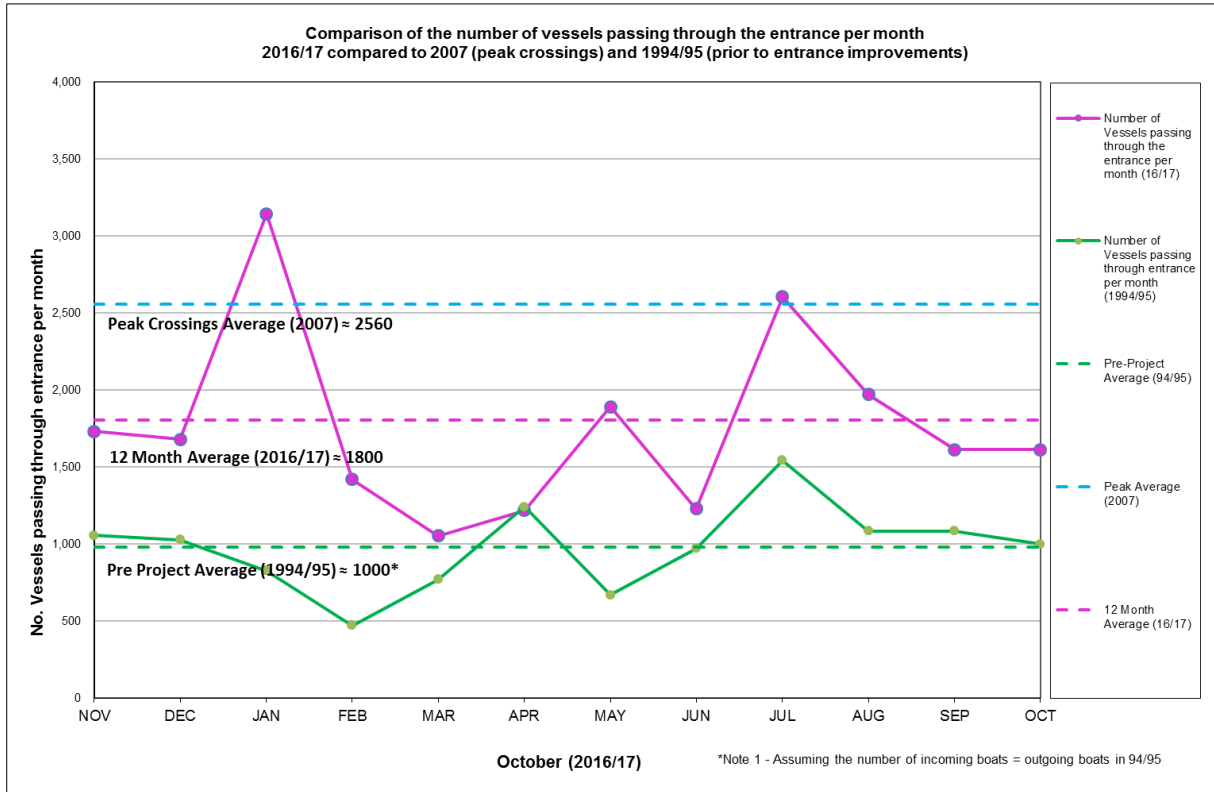
 Weekends and public holidays

Date	Navigation Rating					Number of Crossings
	Impassable-----Good					
	Impassable -1	Difficulty Encountered -2	Some Difficulty Encountered -3	Relatively Good Crossing -4	Good Conditions -5	
1 <sup>st</sup>						100
2 <sup>nd</sup>						13
3 <sup>rd</sup>						5
4 <sup>th</sup>						40
5 <sup>th</sup>						73
6 <sup>th</sup>						37
7 <sup>th</sup>						21
8 <sup>th</sup>						220
9 <sup>th</sup>						19
10 <sup>th</sup>						40
11 <sup>th</sup>						114
12 <sup>th</sup>						8
13 <sup>th</sup>						81
14 <sup>th</sup>						99
15 <sup>th</sup>						4
16 <sup>th</sup>						0
17 <sup>th</sup>						0
18 <sup>th</sup>						0
19 <sup>th</sup>						2
20 <sup>th</sup>						29
21 <sup>st</sup>						8
22 <sup>nd</sup>						39
23 <sup>rd</sup>						91
24 <sup>th</sup>						128
25 <sup>th</sup>						27
26 <sup>th</sup>						1
27 <sup>th</sup>						41
28 <sup>th</sup>						232
29 <sup>th</sup>						119
30 <sup>th</sup>						8
31 <sup>st</sup>						14
						1613

Source: Marine Rescue NSW, Point Danger

\* Total does not include trawlers

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## 4. WAVE CONDITIONS

Wave conditions over the month: Wave heights ranged mostly from calm to moderate (0.36 m to 2.06 m), with a maximum significant wave height of 2.06 m on 1<sup>st</sup> October. Wave directions varied from NNE to SE but mostly from the ESE.

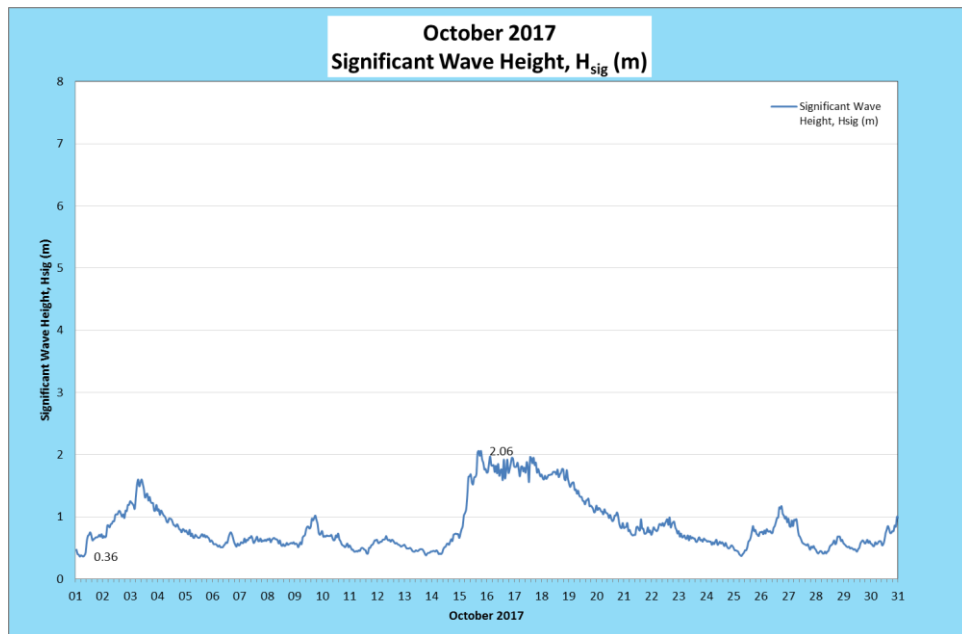
Monthly minimum significant wave height: 0.36 m on 1<sup>st</sup> October

Monthly maximum significant wave height: 2.06 on 15<sup>th</sup> October

Number of days on which waves were below 1.0 m at some point in the day: 26 days

Number of days on which waves were above 2.0 m at some point in the day: 1 days

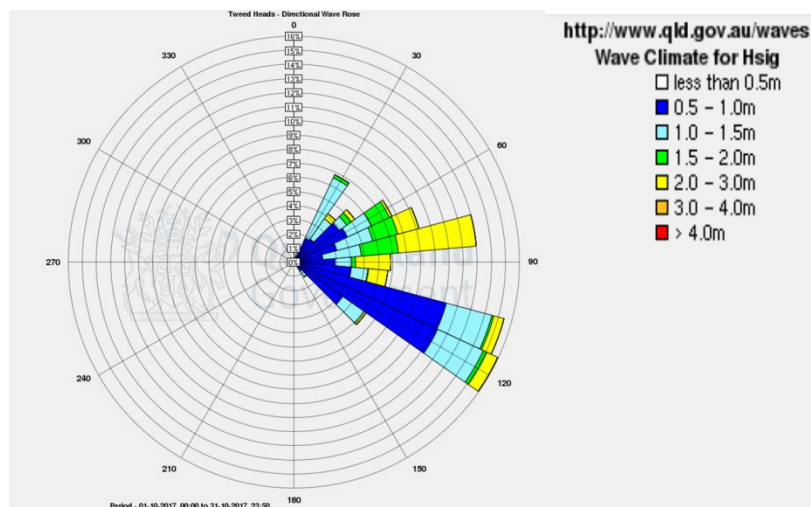
**Note:** Significant wave height ( $H_{sig}$ ) is defined as the average of the highest one-third of waves recorded over a period of approximately 30 minutes



(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: Tweed Wave Buoy; Queensland Government)