

# TWEED SAND BYPASSING

## OVERVIEW

In August 2017:

- 29,455 m<sup>3</sup> of sand was pumped to Snapper Rocks East.
- 6,426 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.
- 36,214 m<sup>3</sup> of sand was dredged and placed at Duranbah Beach.
- Wave heights ranged mostly from calm to moderate (0.39 m to 2.41 m), with a maximum significant wave height of 2.41 m on 20<sup>th</sup> August. Wave directions varied from ENE to SE but mostly from the ESE.
- 1971 vessel crossings were recorded for the month (This is 103% of the August average (2002 – 2017)).
- The estimated amount of sand moving north towards the Tweed River entrance by natural processes was in the order of 43,743 m<sup>3</sup> (this is 94% of the August average of 46,532 m<sup>3</sup>).

## 1. SAND PUMPING & DREDGING

### **Sand Delivery August 2017**

Pumped:	29,455 m <sup>3</sup>
Dredged:	42,639 m <sup>3</sup>
Total:	72,094 m <sup>3</sup>

The number of days sand was pumped this month = 23

### **Sand Delivery January 2017 to August 2017**

Pumped:	306,327 m <sup>3</sup>
Dredged:	216,604 m <sup>3</sup>
Total:	522,931 m <sup>3</sup>

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

Pumped:	8,828,956 m <sup>3</sup>
Dredged:	2,320,514 m <sup>3</sup> *
Total:	11,149,471 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

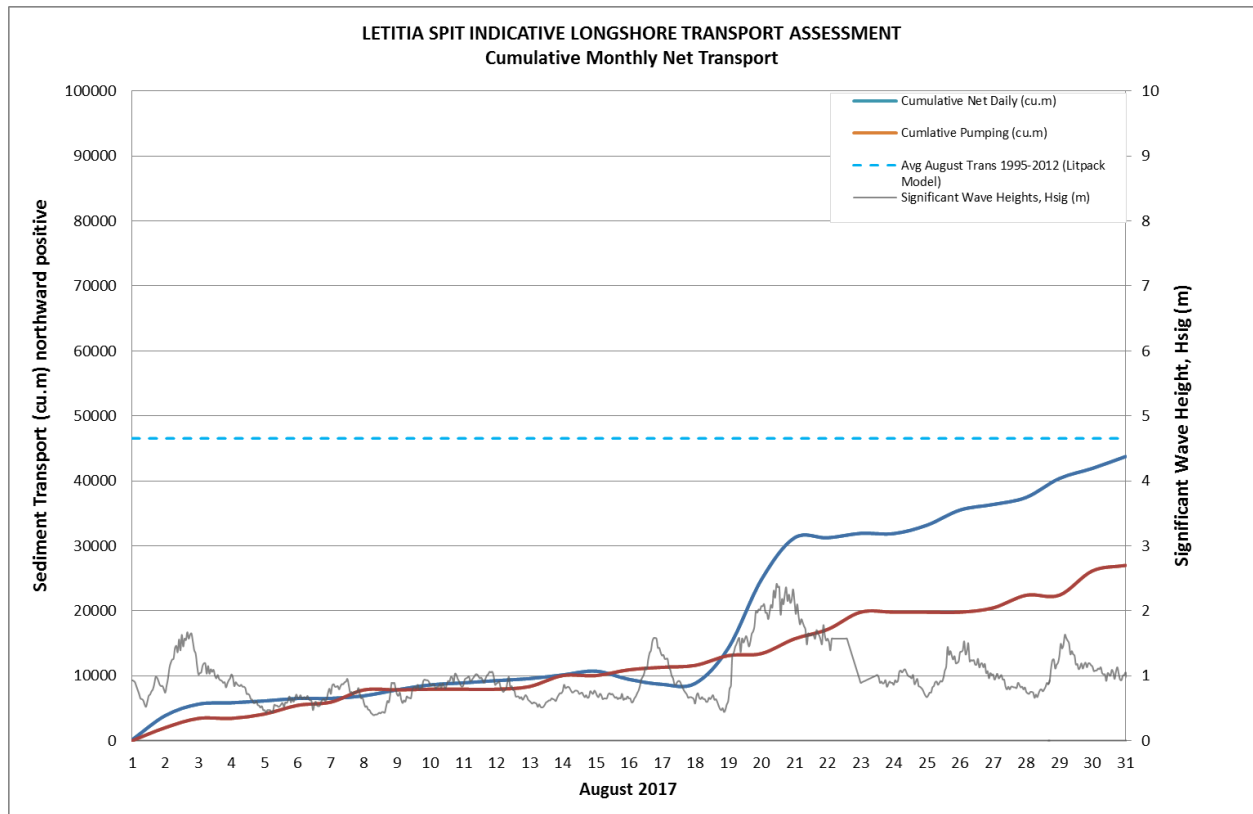
# TWEED SAND BYPASSING

## 2. INDICATIVE LONGSHORE TRANSPORT

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

In August 2017 the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 43,743 m<sup>3</sup>.


This result is 94% of the average estimated sand transport quantity of approximately 46,532 m<sup>3</sup> for the month of August.



# TWEED SAND BYPASSING

## 3. TWEED RIVER ENTRANCE USAGE

Marine Rescue NSW - Monitoring Results (Not including trawlers)

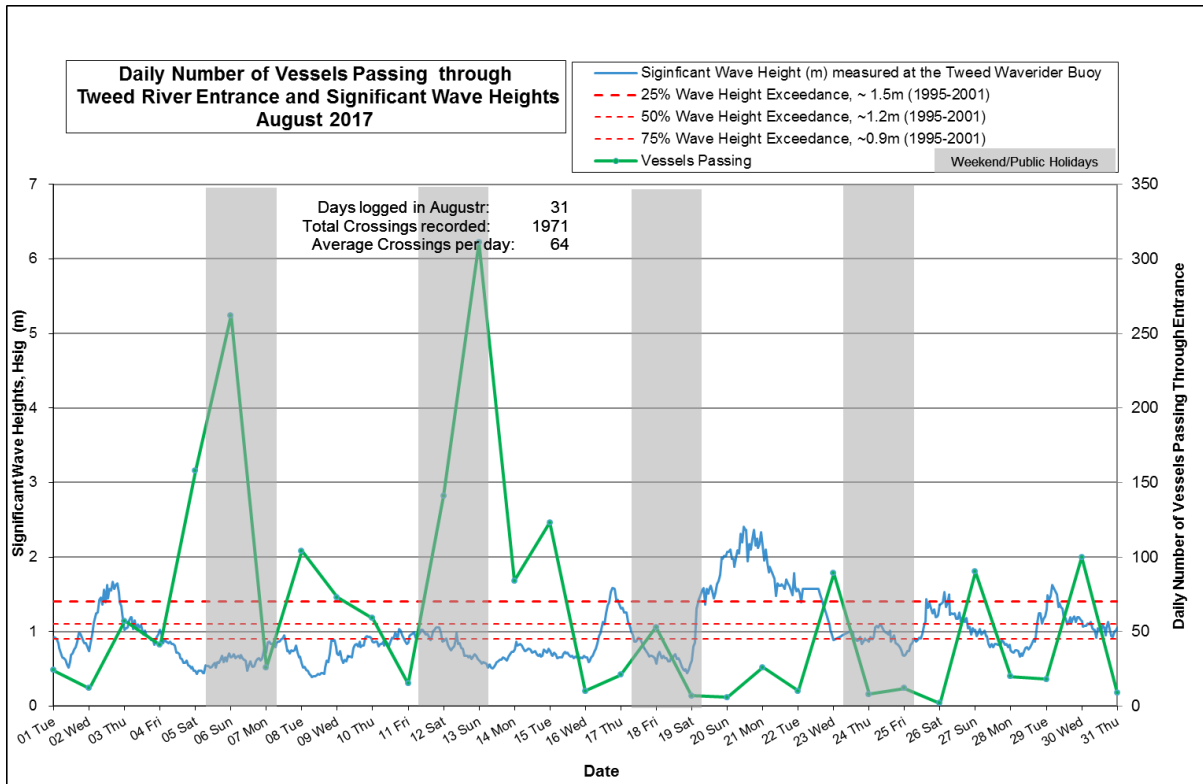
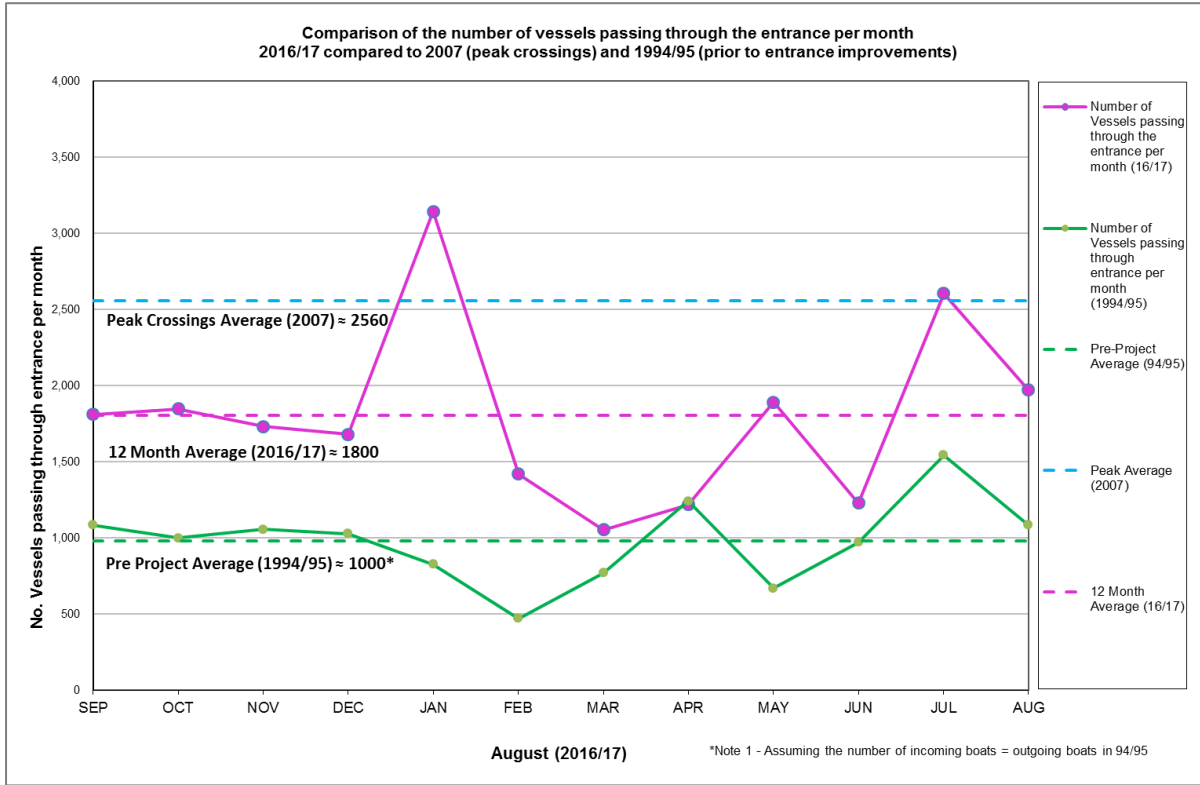
 Weekends and public holidays

Date	Navigation Rating					Number of Crossings
	Impassable to Good					
	Impassable	Difficulty Encountered	Some Difficulty Encountered	Relatively Good Crossing	Good Conditions	
	1	2	3	4	5	
1 <sup>st</sup>						24
2 <sup>nd</sup>						12
3 <sup>rd</sup>						57
4 <sup>th</sup>						41
5 <sup>th</sup>						158
6 <sup>th</sup>						262
7 <sup>th</sup>						26
8 <sup>th</sup>						104
9 <sup>th</sup>						73
10 <sup>th</sup>						59
11 <sup>th</sup>						15
12 <sup>th</sup>						141
13 <sup>th</sup>						311
14 <sup>th</sup>						84
15 <sup>th</sup>						123
16 <sup>th</sup>						10
17 <sup>th</sup>						21
18 <sup>th</sup>						53
19 <sup>th</sup>						7
20 <sup>th</sup>						6
21 <sup>st</sup>						26
22 <sup>nd</sup>						10
23 <sup>rd</sup>						89
24 <sup>th</sup>						8
25 <sup>th</sup>						12
26 <sup>th</sup>						2
27 <sup>th</sup>						90
28 <sup>th</sup>						20
29 <sup>th</sup>						18
30 <sup>th</sup>						100
31 <sup>st</sup>						9
						<b>*Total</b>
						1971

Source: Marine Rescue NSW, Point Danger

\* Total does not include trawlers

# TWEED SAND BYPASSING



# TWEED SAND BYPASSING

## 4. WAVE CONDITIONS

Wave conditions over the month: Wave heights ranged mostly from calm to moderate (0.39 m to 2.41 m), with a maximum significant wave height of 2.41 m on 20<sup>th</sup> August. Wave directions varied from ENE to SE but mostly from the ESE.

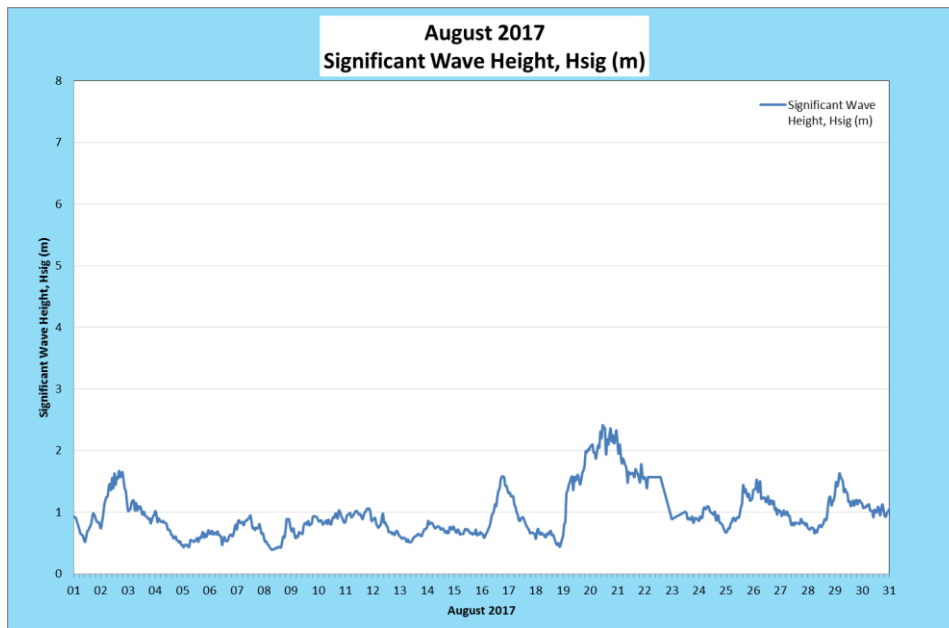
Monthly minimum significant wave height: 0.39 m on 8<sup>th</sup> August

Monthly maximum significant wave height: 2.41 m on 20<sup>th</sup> August

Number of days on which waves were below 1.0 m at some point in the day: 28 days

Number of days on which waves were above 2.0 m at some point in the day: 3 days

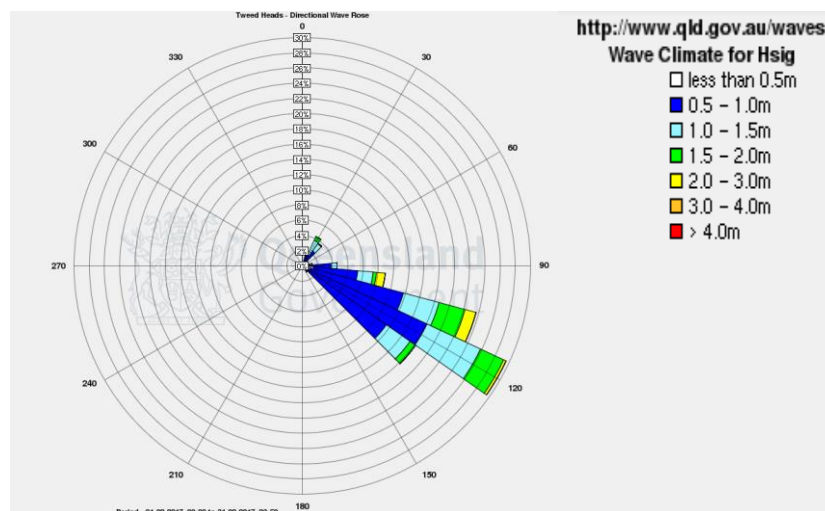
**Note:** Significant wave height ( $H_{sig}$ ) is defined as the average of the highest one-third of waves recorded over a period of approximately 30 minutes.



(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)