

# TWEED SAND BYPASSING

## OVERVIEW

In March 2018:

- 35,445 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 (0.32 m to 2.22 m), with a maximum significant wave height of 2.22 m on 15th March. Wave directions were predominantly from the ESE.
- 1444 vessel crossings were recorded for the month (This is 89% of the March average (2002 – 2018)).
- The estimated amount of sand moving north towards the Tweed River entrance by natural processes was in the order of 64,561 m<sup>3</sup> (this is 114% of the March average of 56,873 m<sup>3</sup>).

## 1. SAND PUMPING & DREDGING

### **Sand Delivery March 2018**

Pumped:	35,445 m <sup>3</sup>
Dredged:	0 m <sup>3</sup>
Total:	35,445 m <sup>3</sup>

The number of days sand was pumped this month = 24

### **Sand Delivery January 2018 to December 2018**

Pumped:	103,249 m <sup>3</sup>
Dredged:	0 m <sup>3</sup>
Total:	103,249 m <sup>3</sup>

### **Stage II Sand Delivery April 2000 to March 2018**

Pumped:	9,031,402 m <sup>3</sup>
Dredged:	2,320,516 m <sup>3</sup> *
Total:	11,351,916 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

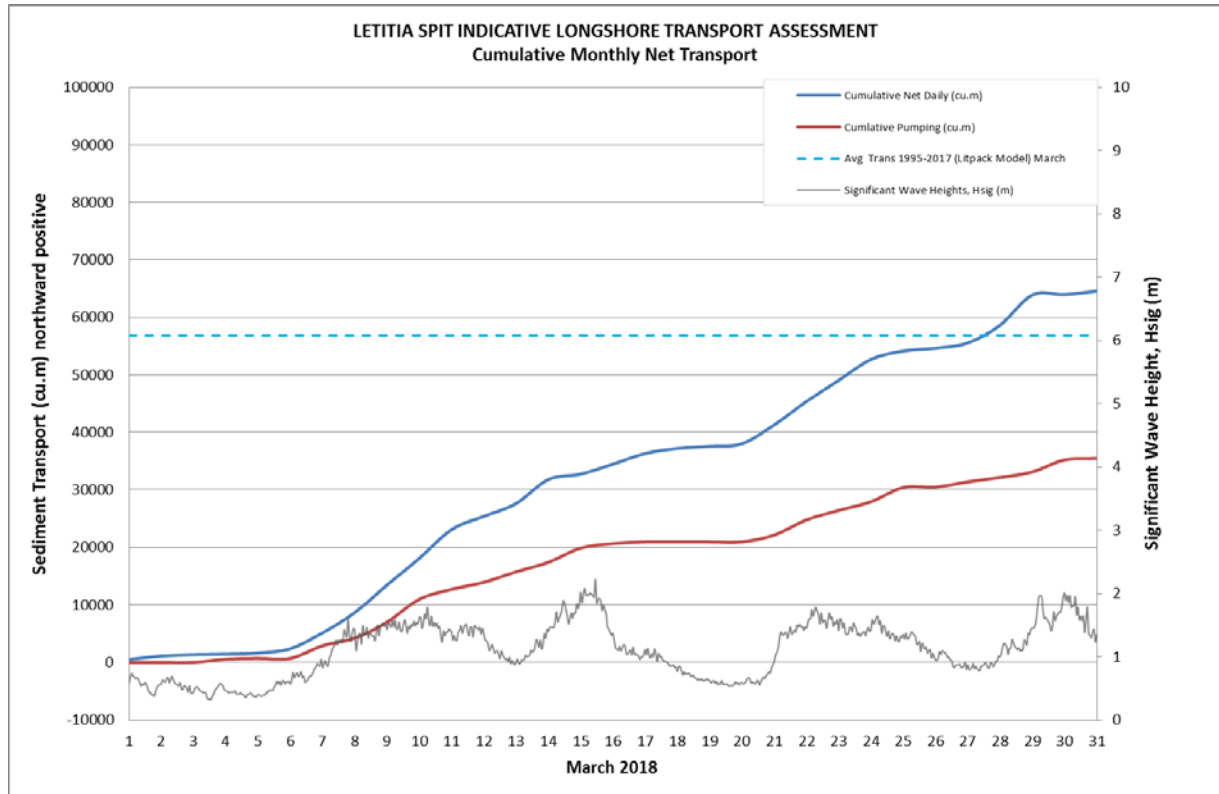
# TWEED SAND BYPASSING

## 2. INDICATIVE LONGSHORE TRANSPORT

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

In March 2018 the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 64,561 m<sup>3</sup>.

This result is 114% of the average estimated sand transport quantity of approximately 56,873 m<sup>3</sup> for the month of March.



# TWEED SAND BYPASSING

## 3. TWEED RIVER ENTRANCE USAGE

Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends and public holidays

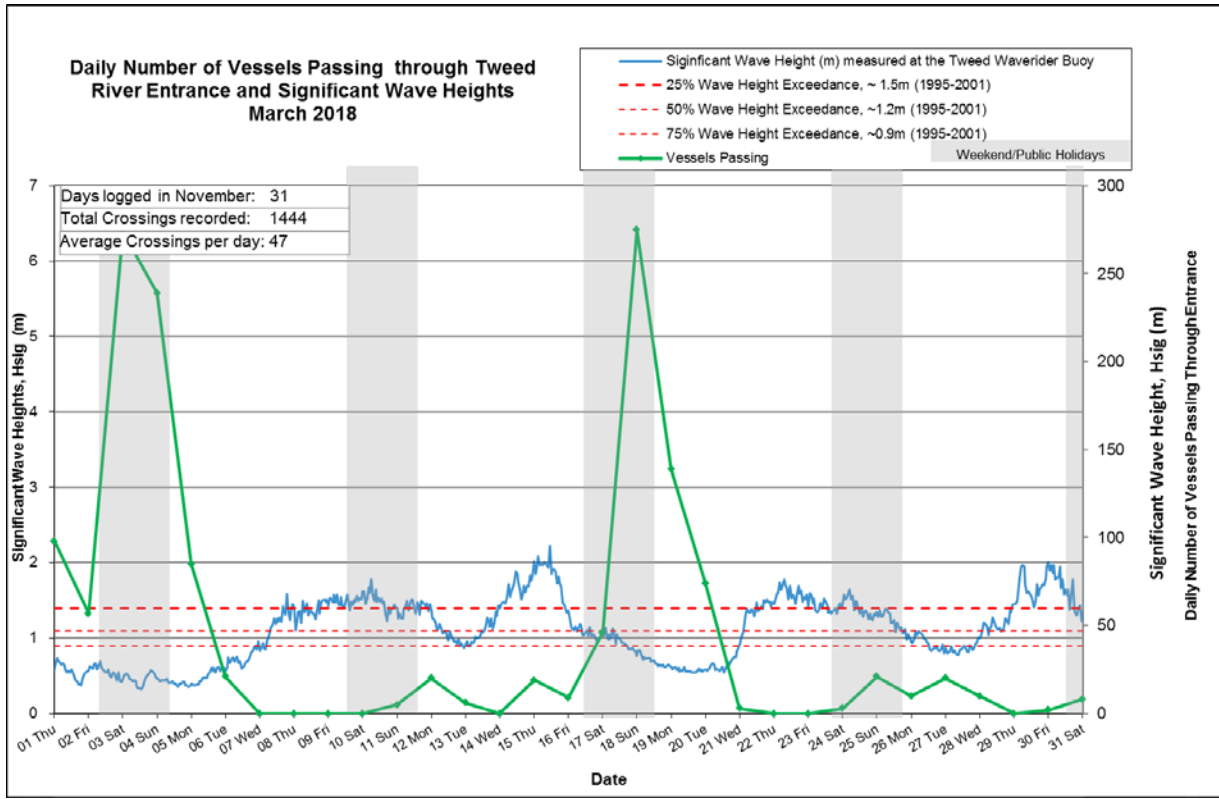
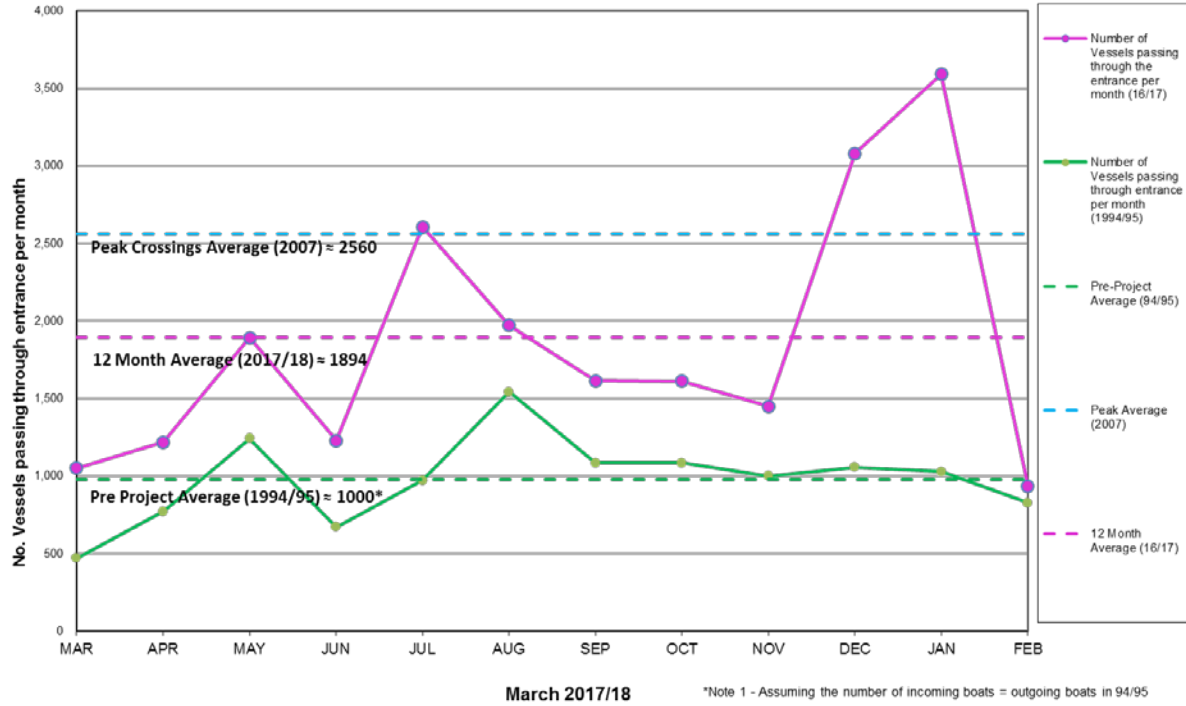
Date	Navigation Rating					Number of Crossings
	Impassable < - - - - - > Good					
	Impassable	Difficulty Encountered	Some Difficulty Encountered	Relatively Good Crossing	Good Conditions	
	1	2	3	4	5	
1 <sup>st</sup>						98
2 <sup>nd</sup>						57
3 <sup>rd</sup>						274
4 <sup>th</sup>						239
5 <sup>th</sup>						85
6 <sup>th</sup>						21
7 <sup>th</sup>						0
8 <sup>th</sup>						0
9 <sup>th</sup>						0
10 <sup>th</sup>						0
11 <sup>th</sup>						5
12 <sup>th</sup>						20
13 <sup>th</sup>						6
14 <sup>th</sup>						0
15 <sup>th</sup>						19
16 <sup>th</sup>						9
17 <sup>th</sup>						46
18 <sup>th</sup>						275
19 <sup>th</sup>						139
20 <sup>th</sup>						74
21 <sup>st</sup>						3
22 <sup>nd</sup>						0
23 <sup>rd</sup>						0
24 <sup>th</sup>						3
25 <sup>th</sup>						21
26 <sup>th</sup>						10
27 <sup>th</sup>						20
28 <sup>th</sup>						10
29 <sup>th</sup>						0
30 <sup>th</sup>						2
31 <sup>st</sup>						8
					<b>Total:</b>	1444

Source: Marine Rescue NSW, Point Danger

\* Total does not include trawlers

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Comparison of the number of vessels passing through the entrance per month 2017/18 compared to 2007 (peak crossings) and 1994/95 (prior to entrance improvements)



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## 4. WAVE CONDITIONS

Wave conditions over the month: Wave heights ranged mostly from calm to moderate (0.32 m to 2.22 m), with a maximum significant wave height of 2.22 m on 15<sup>th</sup> March. Wave directions were predominantly from the ESE.

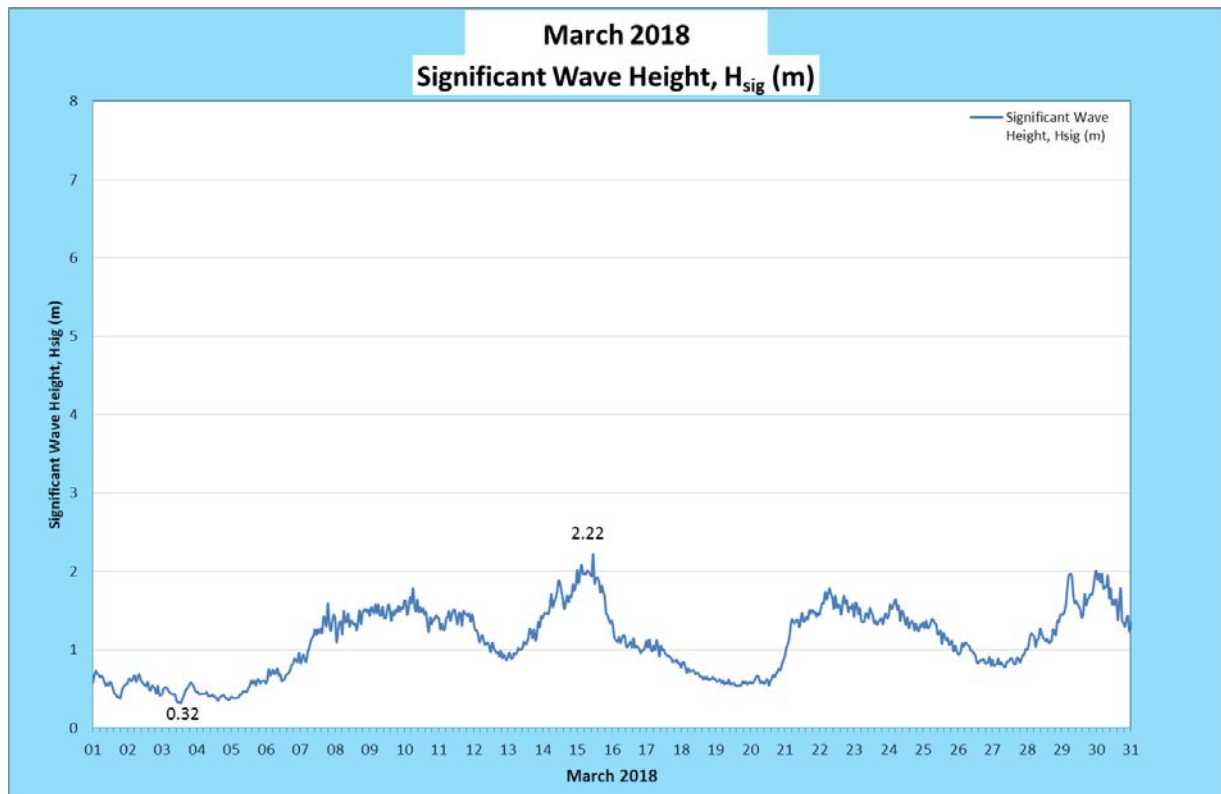
Monthly minimum significant wave height: 0.32 m on 3<sup>th</sup> March

Monthly maximum significant wave height: 2.22 m on 15<sup>th</sup> March

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: 2 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

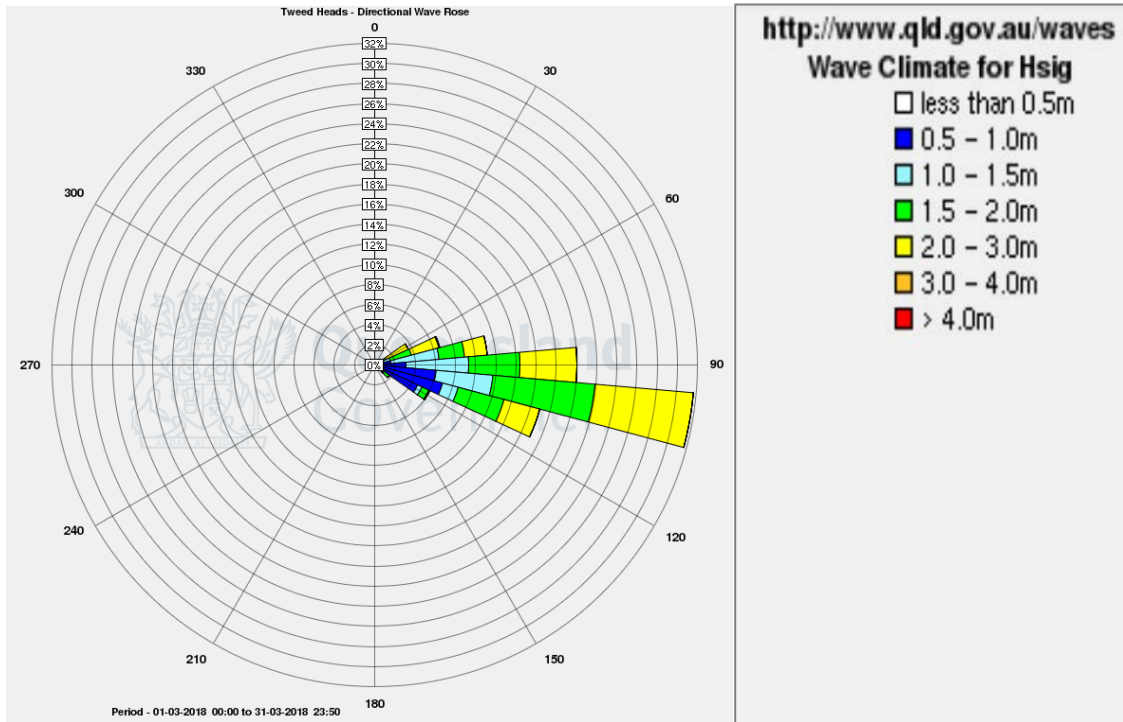


(Source: Tweed Heads Waverider Buoy; Queensland Government)

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

# TWEED SAND BYPASSING

## WAVE DIRECTION



(Source: Tweed Heads Waverider Buoy; Queensland Government)