

# TWEED SAND BYPASSING

## ENVIRONMENTAL MONITORING SUMMARY – JULY 2023

### 1. SAND PUMPING & DREDGING

- 32,493 m<sup>3</sup> was pumped to Snapper Rocks East.
- 0 m<sup>3</sup> of sand was dredged.

#### Sand Delivery July 2023

Pumped: 32,493 m<sup>3</sup>

Dredged: 0 m<sup>3</sup>

Total: 32,493 m<sup>3</sup>

The number of days sand was pumped this month = 22

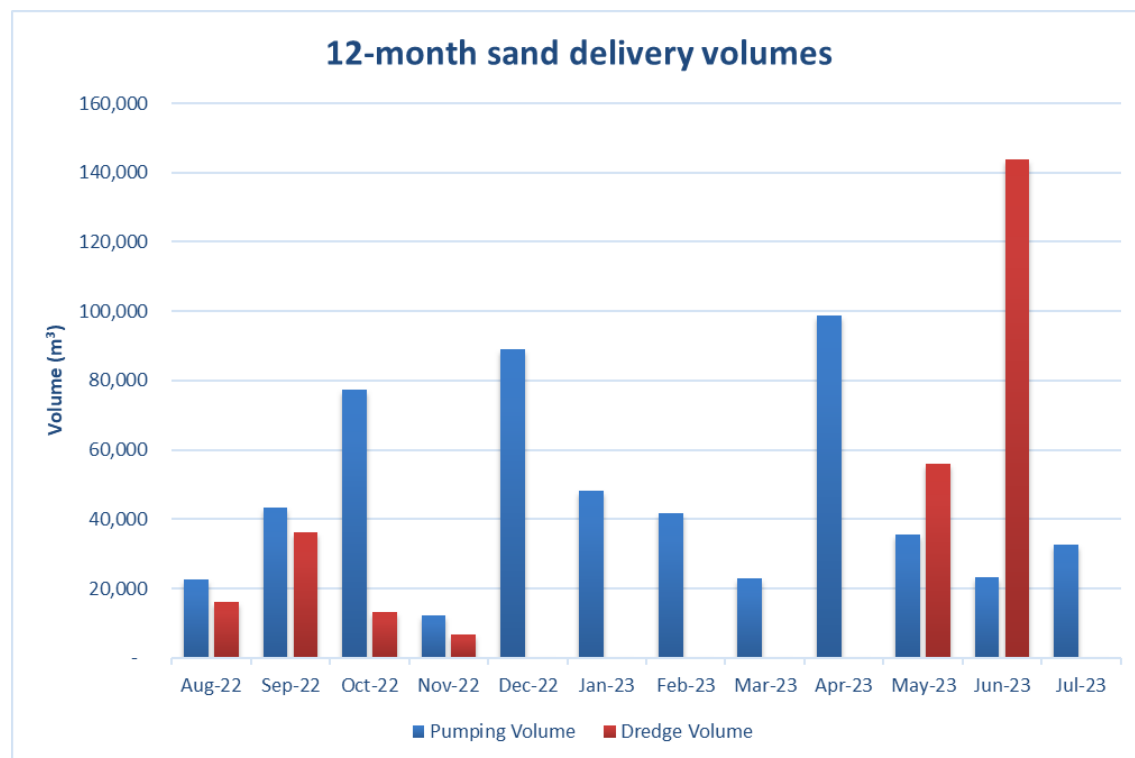
#### Sand Delivery May 2000 to July 2023

Pumped: 11,407,777 m<sup>3</sup>

Dredged\*: 2,987,531 m<sup>3</sup>

Total\*: 14,395,308 m<sup>3</sup>

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



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## 2. WAVE CONDITIONS

Mild conditions continued through July with small southerly pulses experienced in the first couple of weeks. There were a few days of mild ENE conditions mid-month until a moderate southerly to ESE swell arrived from the 23rd.

- Minimum  $H_{sig}$ : 0.37 m on 09 July 2023
- Maximum  $H_{sig}$ : 1.90 m on 23 July 2023
- Number of days where  $H_{sig} < 1$  m at some point: 23
- Number of days where  $H_{sig} > 2$  m at some point: 0

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



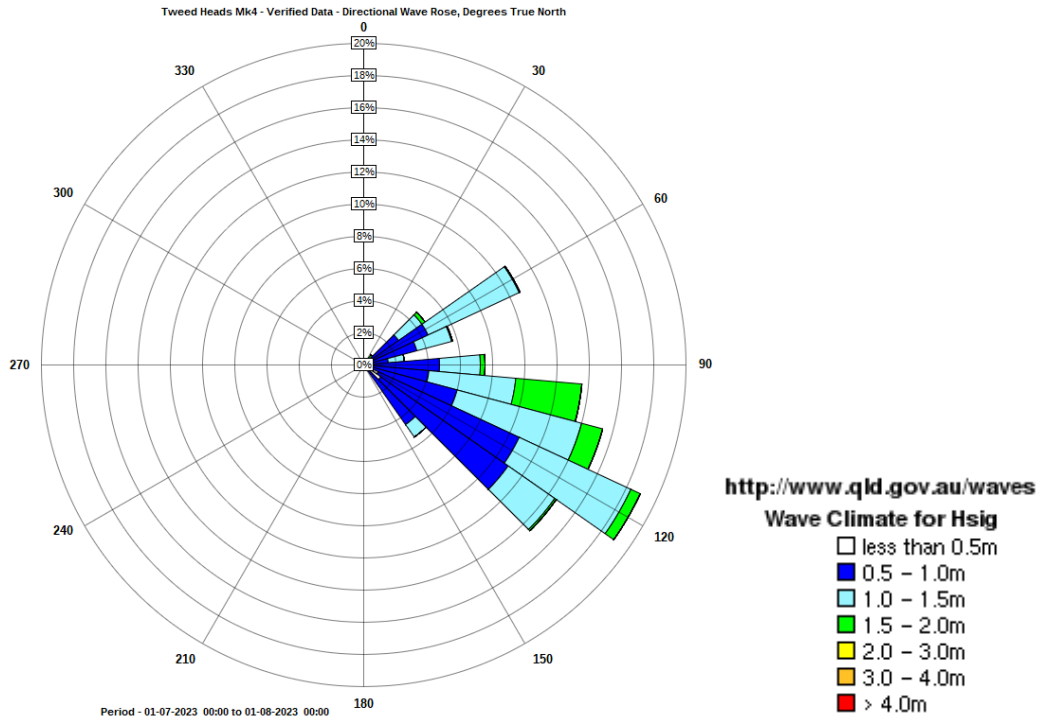
(Source: Tweed Heads Waverider buoy; Queensland Government)

A link to data recorded by the Tweed Heads and Tweed Offshore Waverider buoys is available at:

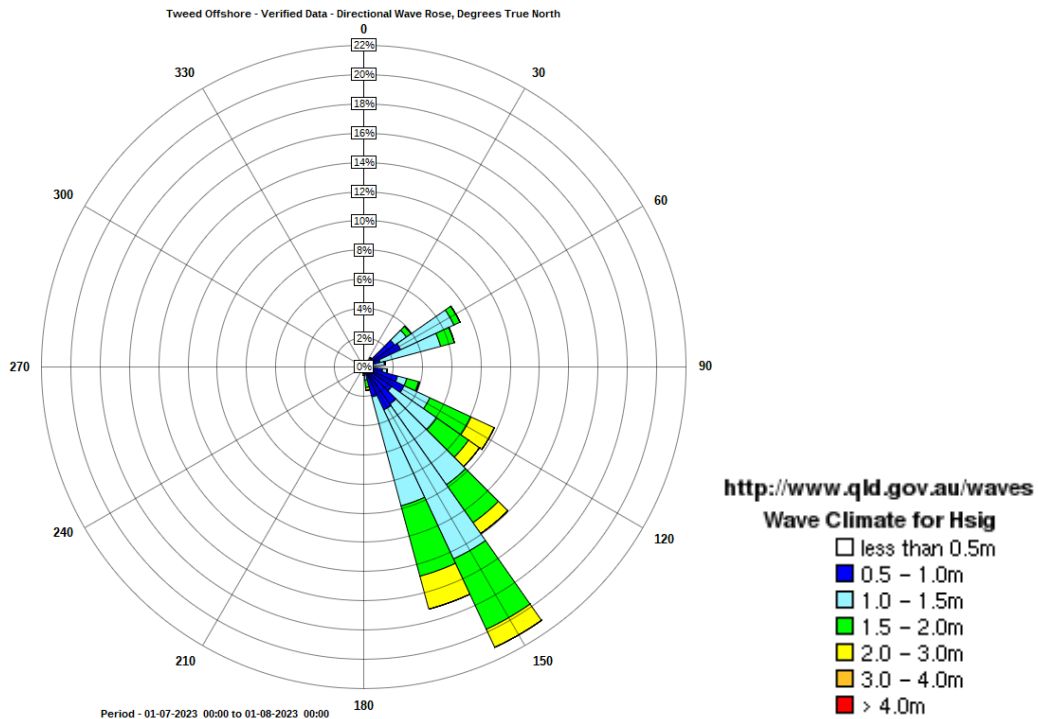
<http://www.qld.gov.au/waves>

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## NEARSHORE WAVE DIRECTION



## OFFSHORE WAVE DIRECTION

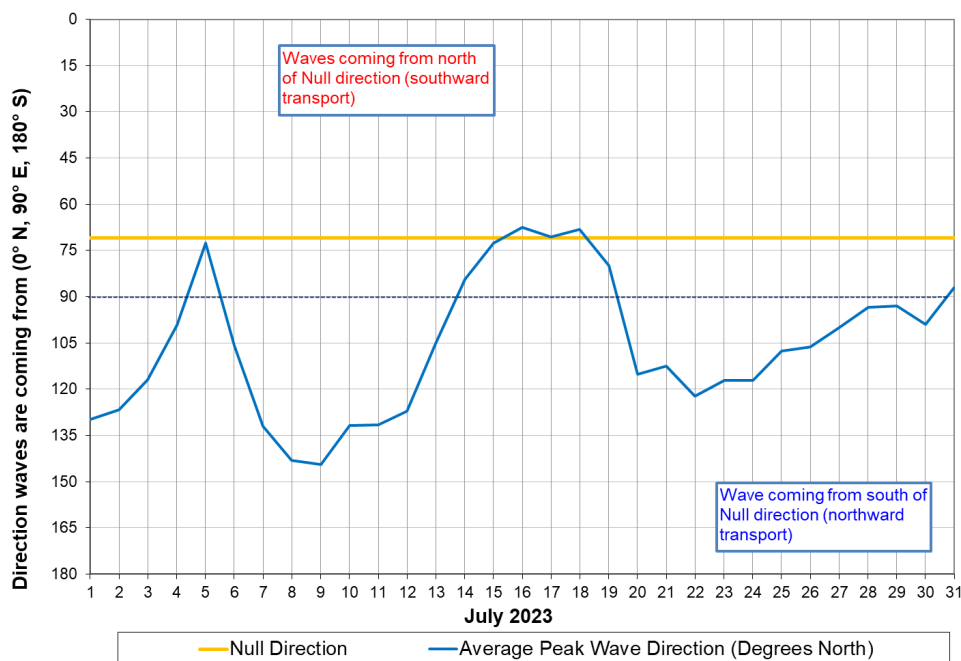
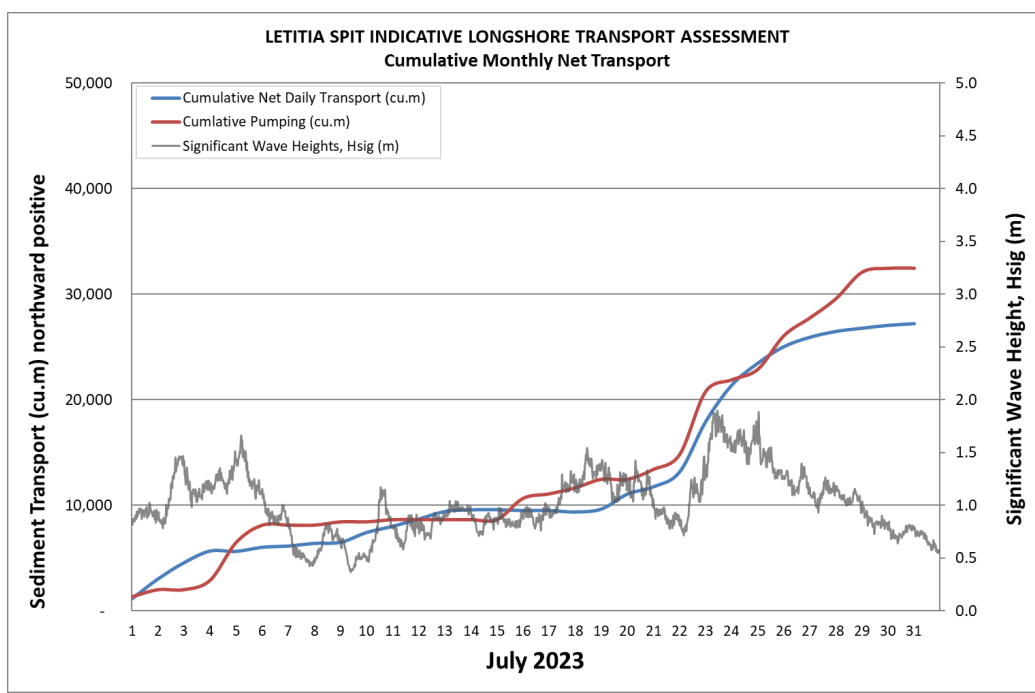


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## 3. INDICATIVE LONGSHORE TRANSPORT

The first graph below is based on simplified sediment transport modelling and is indicative only. The second graph indicates the wave direction in relation to the shoreline null direction (a wave direction coming from south of this line generally results in northward transport of sand).

In July 2023 the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 27,000 m<sup>3</sup>. This result is 45 per cent of the average estimated sand transport quantity of approx. 61,000 m<sup>3</sup> for July.



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## 4. BEACH AND SURF AMENITY OBSERVATIONS

Beaches remained wide for the month as mild conditions persisted. Sand continued to slowly build on the upper profile of most beaches. At Kirra a small sand 'slug' moved along the beach filling in the area up to Miles St groyne. Duranbah and Letitia remained stable.



**Rainbow Bay 31st July**



**Kirra 31st July**

Surf conditions were mild during July with the swell for the majority of the month under 1.5m  $H_{sig}$ . Snapper Rocks offered good, small surf conditions due to the well-formed sand banks. Duranbah still offered good quality beach breaks throughout July.

*Snapper Rocks – 25 July 2023*



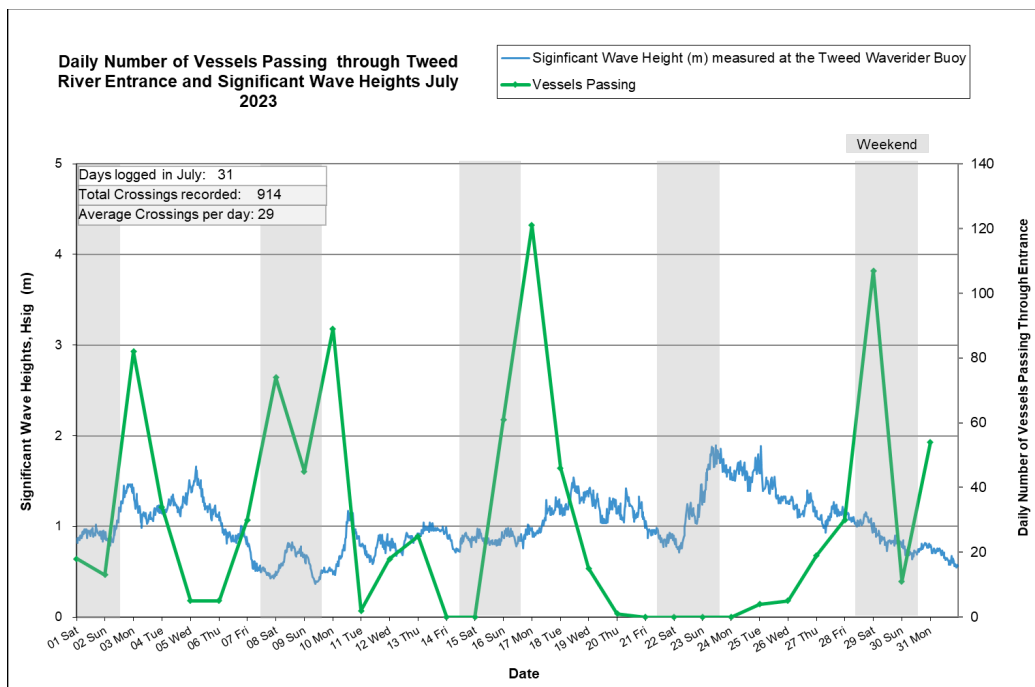
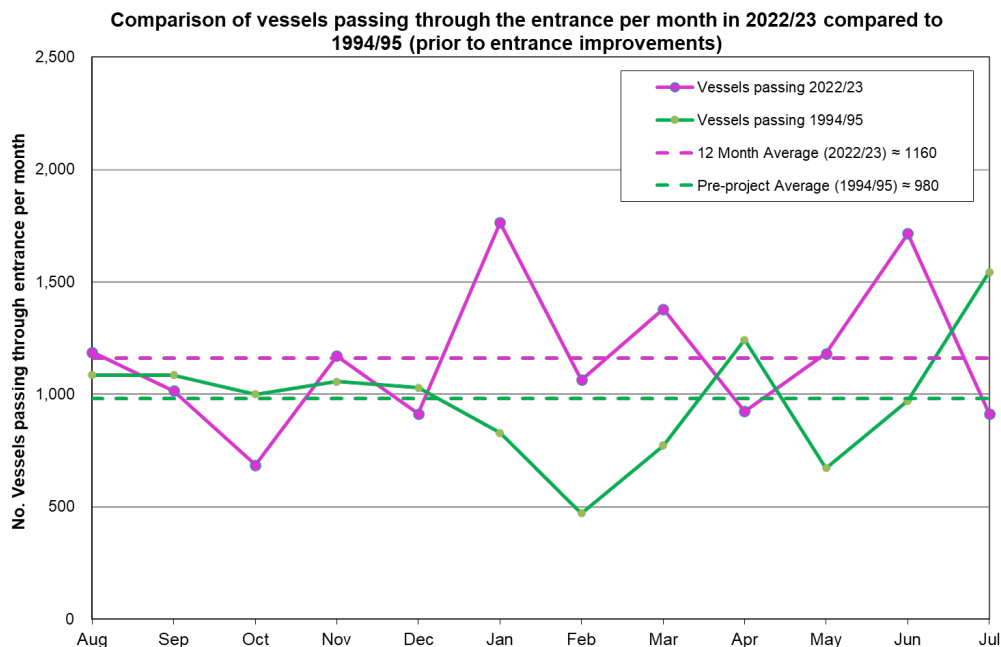
*Duranbah – 15 July 2023*



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## 5. TWEED RIVER ENTRANCE USAGE

A total of 914 Tweed River entrance vessel crossings were recorded for the month (49 per cent of the July average (2002–2023)).



# TWEED SAND BYPASSING

Date July 2023	Navigation Rating					Number of Crossings
	Impassable < - - - - - > Good					
	Impassable	Difficulty Encountered	Some Difficulty Encountered	Relatively Good Crossing	Good Conditions	
1						18
2						13
3						82
4						34
5						5
6						5
7						30
8						74
9						45
10						89
11						2
12						18
13						25
14						0
15						0
16						61
17						121
18						46
19						15
20						1
21						0
22						0
23						0
24						0
25						4
26						5
27						19
28						30
29						107
30						11
31						54
					Total:	914

Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends

*Source: Marine Rescue NSW, Point Danger*

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