

# TWEED SAND BYPASSING

## ENVIRONMENTAL MONITORING SUMMARY – MAY 2024

### 1. SAND PUMPING & DREDGING

- 22,338 m<sup>3</sup> was pumped to Snapper Rocks East.
- 30,021 m<sup>3</sup> was pumped to Duranbah Beach.
- 0 m<sup>3</sup> of sand was dredged.

#### Sand Delivery May 2024

Pumped: 52,359 m<sup>3</sup>

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

Total: 52,359 m<sup>3</sup>

The number of days sand was pumped this month = 25

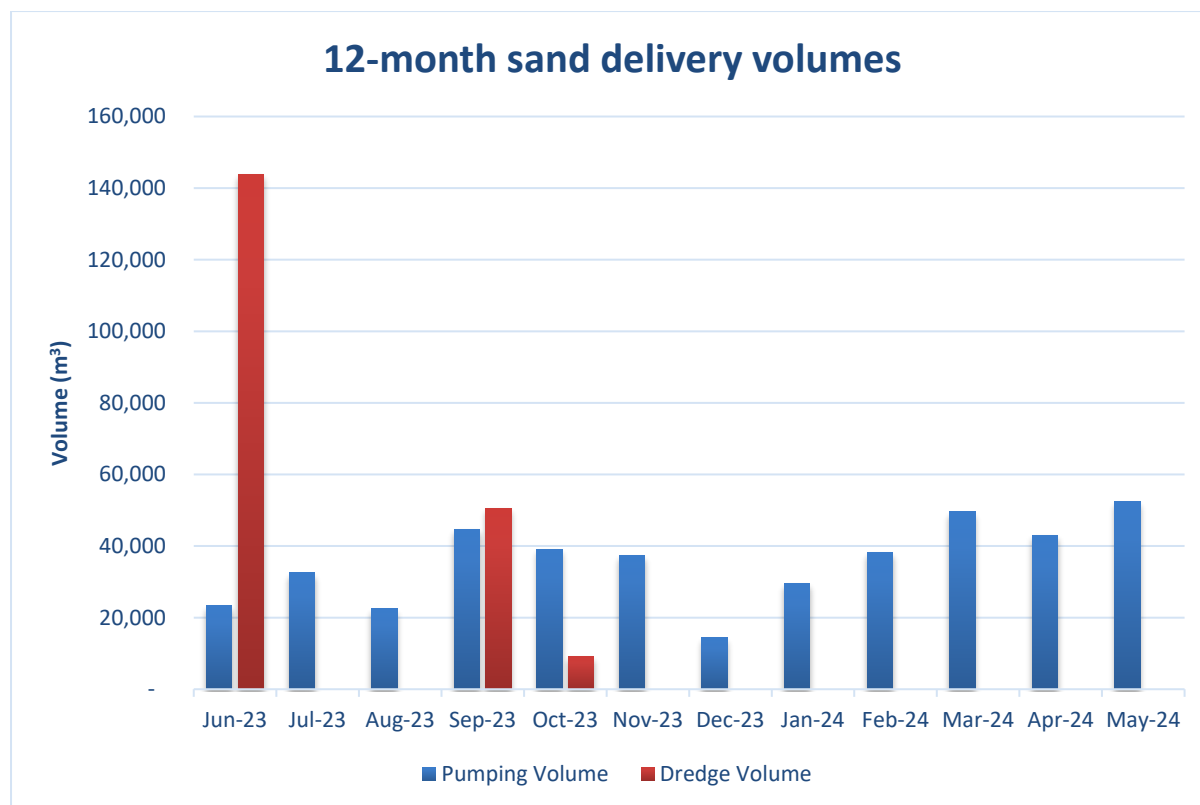
#### Sand Delivery May 2000 to May 2024

Pumped: 11,778,476 m<sup>3</sup>

Dredged\*: 3,047,294 m<sup>3</sup>

Total\*: 14,825,770 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



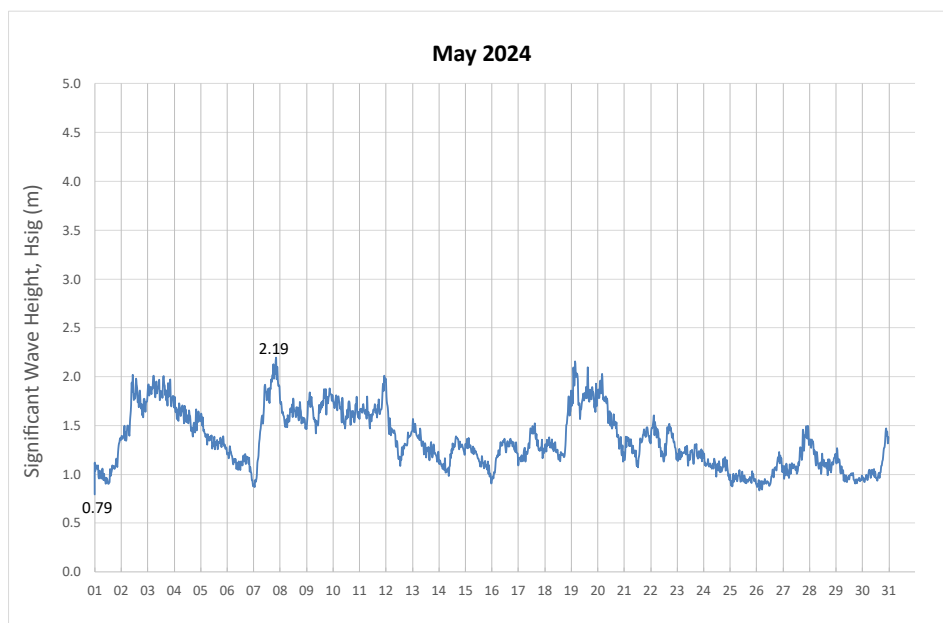
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## 2. WAVE CONDITIONS

Wave heights in May started low with 0.79m  $H_{sig}$  at the start of the month. The maximum wave height of 2.19m  $H_{sig}$  was experienced one week later on 7 May. The rest of the month saw moderate conditions with another spike in wave height over 2m  $H_{sig}$  on 19 May.

- Minimum  $H_{sig}$ : 0.79 m on 01 May 2024
- Maximum  $H_{sig}$ : 2.19 m on 7 May 2024
- Number of days where  $H_{sig} < 1$  m at some point: 14
- Number of days where  $H_{sig} > 2$  m at some point: 6

**Note:**  $H_{sig}$  is defined as the average of the highest  $\frac{1}{3}$  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:

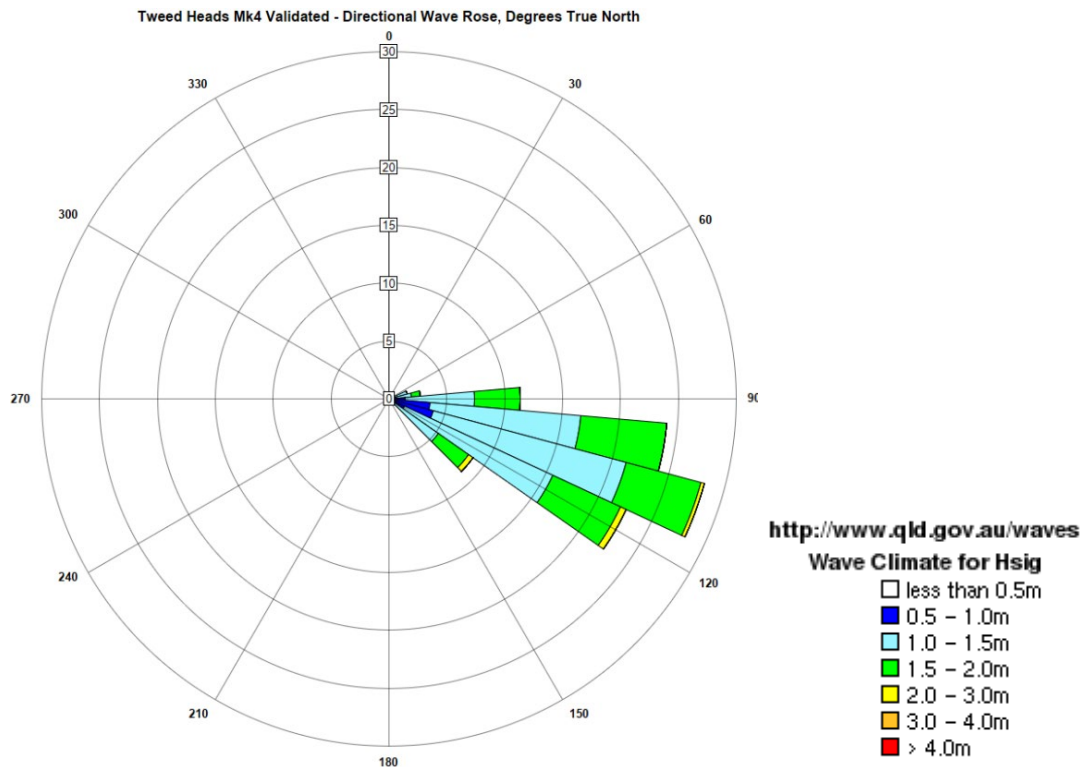
<http://www.qld.gov.au/waves>

<https://www.qld.gov.au/environment/coasts-waterways/beach/monitoring/waves-sites/tweed-offshore>

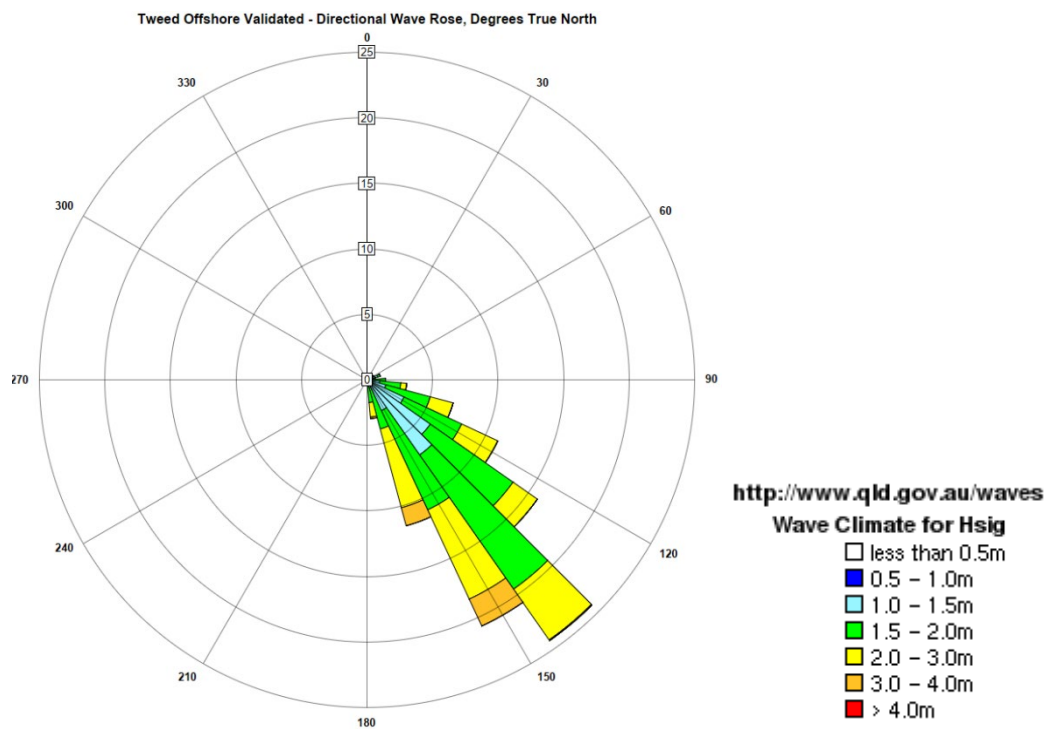
<https://www.qld.gov.au/environment/coasts-waterways/beach/monitoring/waves-sites/tweed-heads>

# TWEED SAND BYPASSING

## NEARSHORE WAVE DIRECTION



## OFFSHORE WAVE DIRECTION

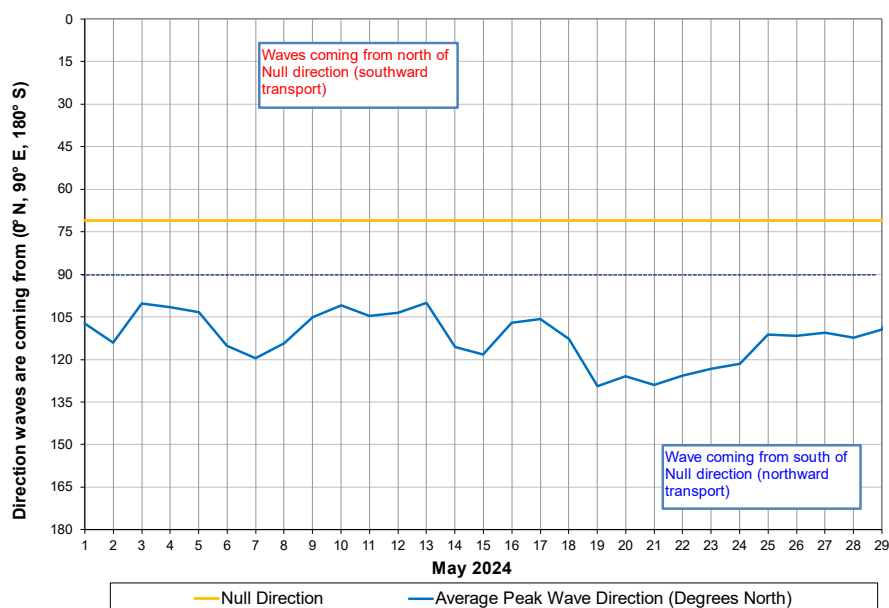
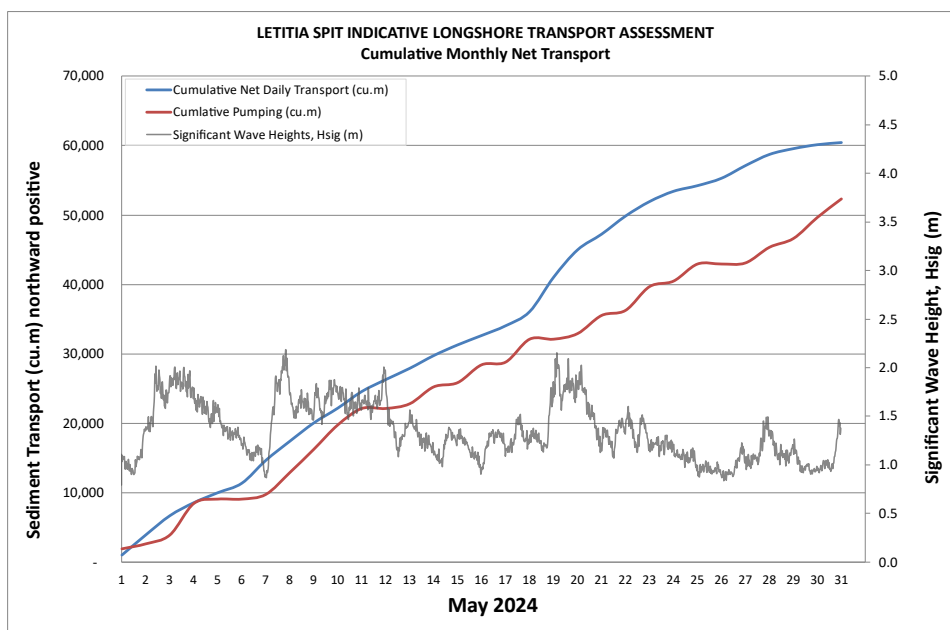


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## 3. INDICATIVE LONGSHORE TRANSPORT

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 May 2024, the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 60,400 m<sup>3</sup>. This result is 95 per cent of the average estimated sand transport quantity of approximately 63,500 m<sup>3</sup> for May.



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## 4. BEACH AND SURF AMENITY OBSERVATIONS

Periods of more active conditions were observed in May with 11 and 6 occurrences of Hsig being over 1 m and 2 m respectively. Despite this, beach profiles remained relatively stable during the month of May.

Nourishment of the Duranbah upper beach occurred from 10–30 May. This nourishment campaign delivered the following volumes to Duranbah.

Location	Volumes (m <sup>3</sup> )
Northern mound	7,580
Central mound	9,172
Southern mound	13,269
<b>TOTAL</b>	<b>30,021</b>



**Duranbah 10 May (pre-nourishment)**



**Duranbah 03 June (post-nourishment)**



**Rainbow Bay 22 May \*south aspect**



**Kirra 22 May**



# TWEED SAND BYPASSING



**Greenmount 22 May**



**Duranbah 22 May**

Conditions in May produced excellent surf particularly at Duranbah. Although smaller in size compared to Duranbah, Snapper Rocks produced long clean rides for surfers. The surf amenity at Duranbah was maintained throughout the sand nourishment campaign.



**Snapper Rocks 14 May**



**Snapper Rocks 28 May**



**Duranbah 19 May**

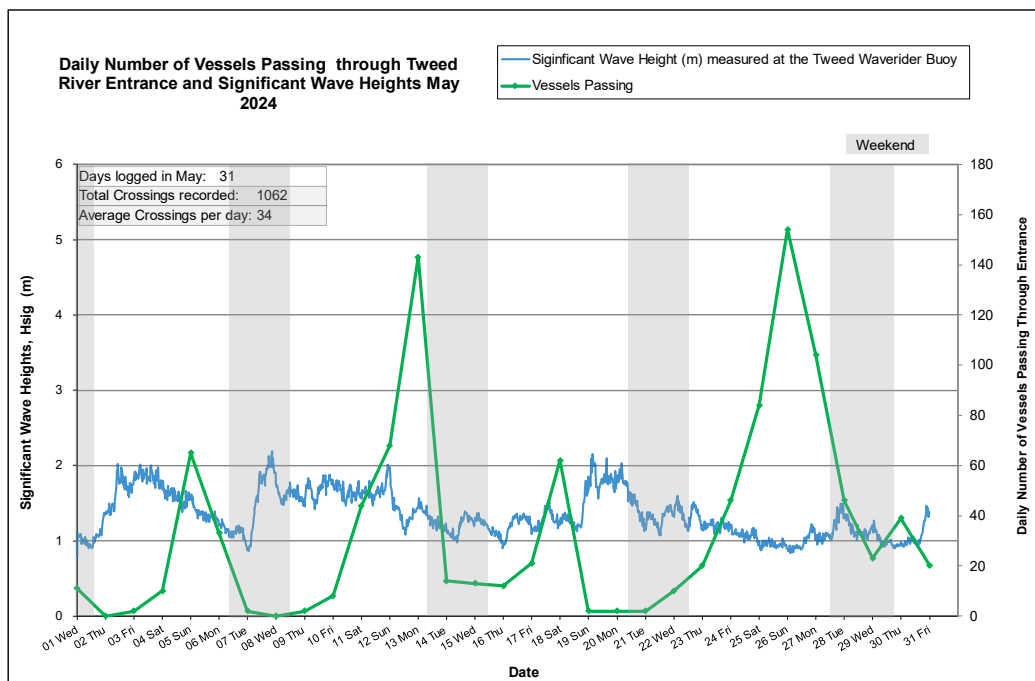
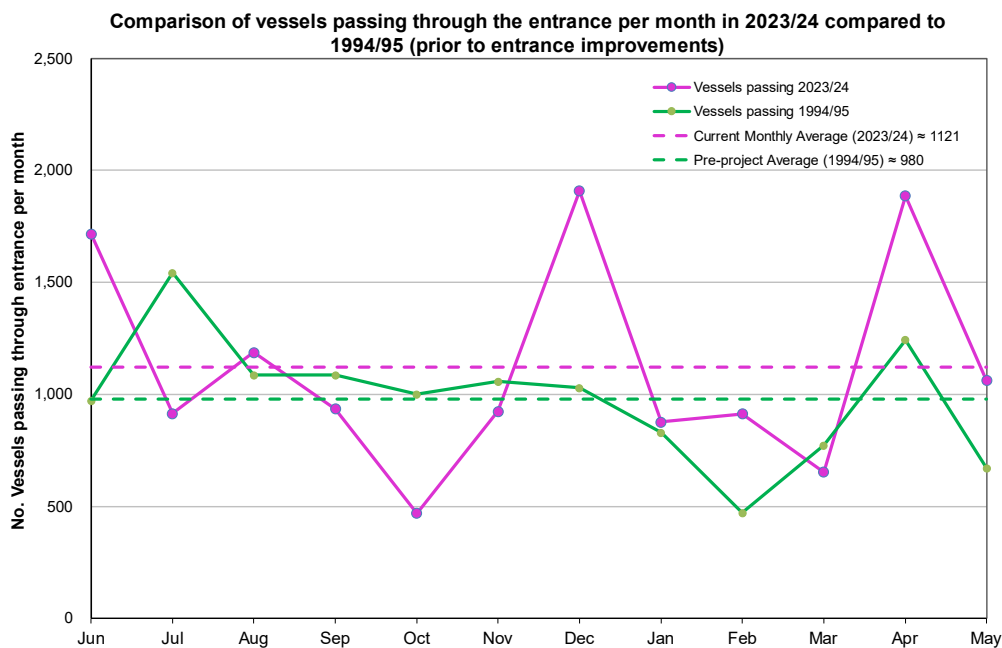


**Duranbah 19 May**

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## 5. TWEED RIVER ENTRANCE USAGE

A total of 1,062 Tweed River entrance vessel crossings were recorded for the month (60 per cent of the May average (2002–2024)). Entrance met the navigability objectives as defined in the legislation during May.



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Date April 2024	Navigation Rating					Number of Crossings
	Impassable < - - - - - > Good					
	Impassable	Difficulty Encountered	Some Difficulty Encountered	Relatively Good Crossing	Good Conditions	
	1	2	3	4	5	
1						184
2						126
3						52
4						74
5						71
6						77
7						12
8						95
9						104
10						13
11						4
12						3
13						53
14						114
15						84
16						68
17						80
18						128
19						74
20						28
21						0
22						0
23						2
24						32
25						163
26						11
27						27
28						66
29						68
30						73
					Total:	1,886

Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends

*Source: Marine Rescue NSW, Point Danger*