

TWEED SAND BYPASSING

ENVIRONMENTAL MONITORING SUMMARY – AUGUST 2023

1. SAND PUMPING & DREDGING

- 22,418 m³ was pumped to Snapper Rocks East.
- 0 m³ of sand was dredged.

Sand Delivery August 2023

Pumped: 22,418 m³

Dredged: 0 m³

Total: 22,418 m³

The number of days sand was pumped this month = 14

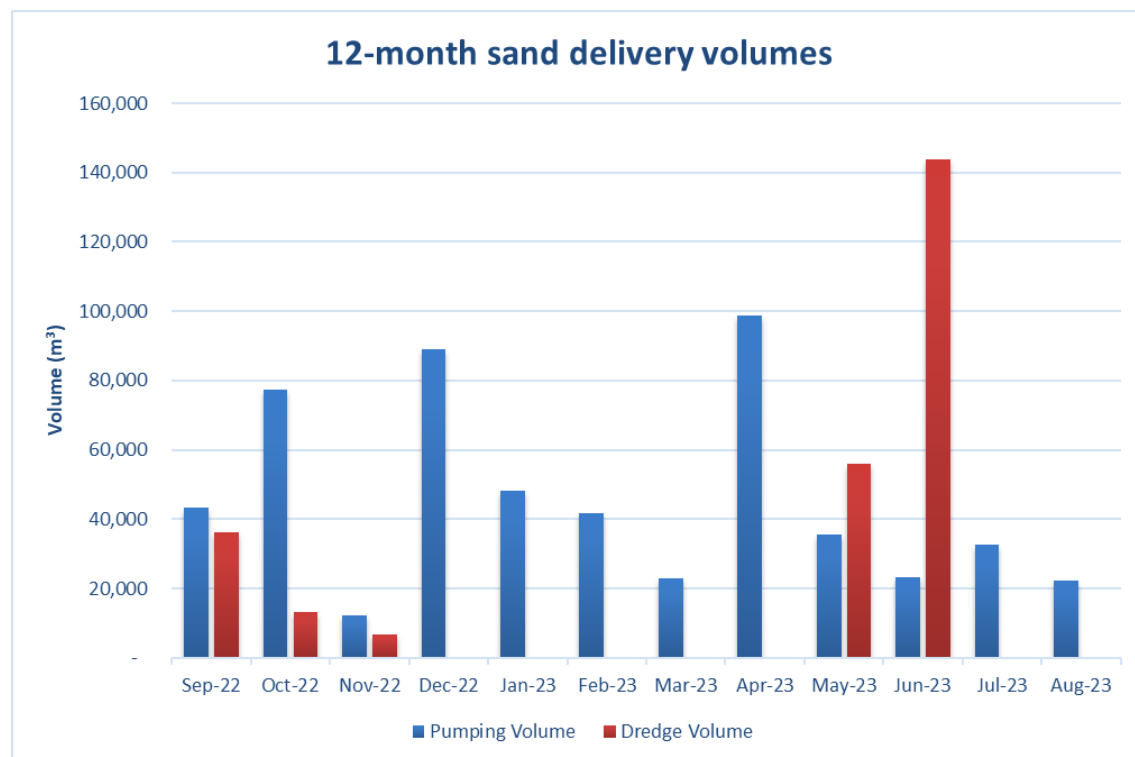
Sand Delivery May 2000 to August 2023

Pumped: 11,430,195 m³

Dredged*: 2,987,531 m³

Total*: 14,417,726 m³

* This Includes 22,870 m³ of sand delivered by dredge to Palm Beach between July 2005 and September 2005



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2. WAVE CONDITIONS

Mild south-easterly conditions persisted through the month of August. Short periods of ENE conditions occurred; however, small significant wave height persisted. This is reflected in the relatively low pumping volumes and slow rate of estimated longshore sediment transport for the month.

- Minimum H_{sig} : 0.44 m on 19 August 2023
- Maximum H_{sig} : 1.66 m on 18 August 2023
- Number of days where $H_{sig} < 1$ m at some point: 24
- 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

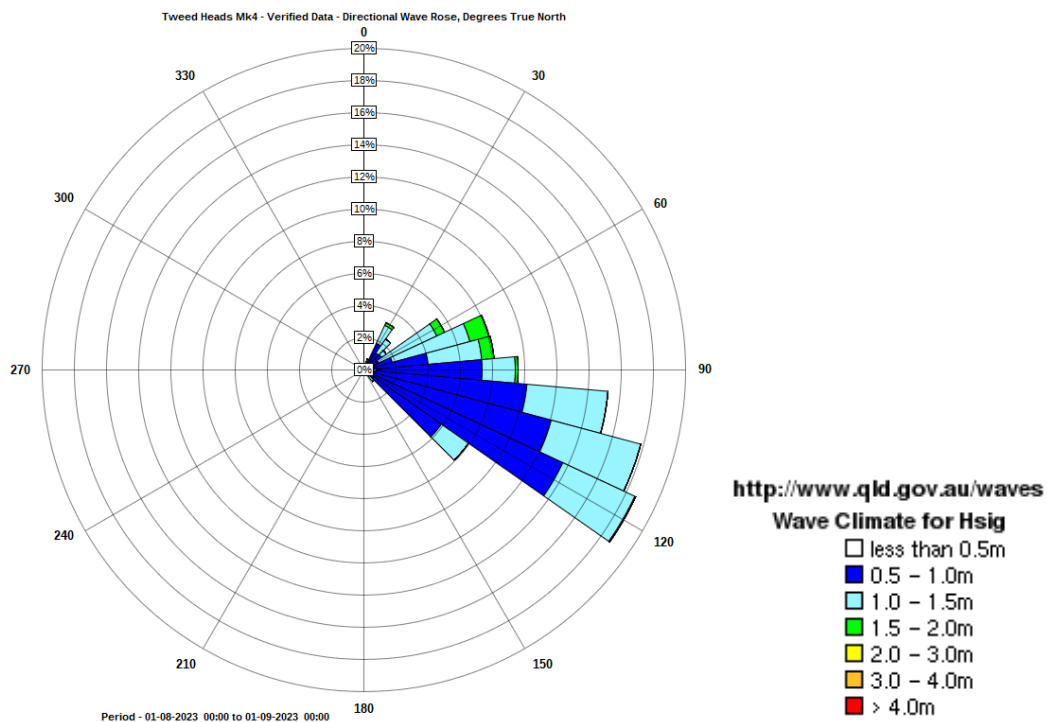


(Source: Tweed Heads Waverider buoy; Queensland Government)

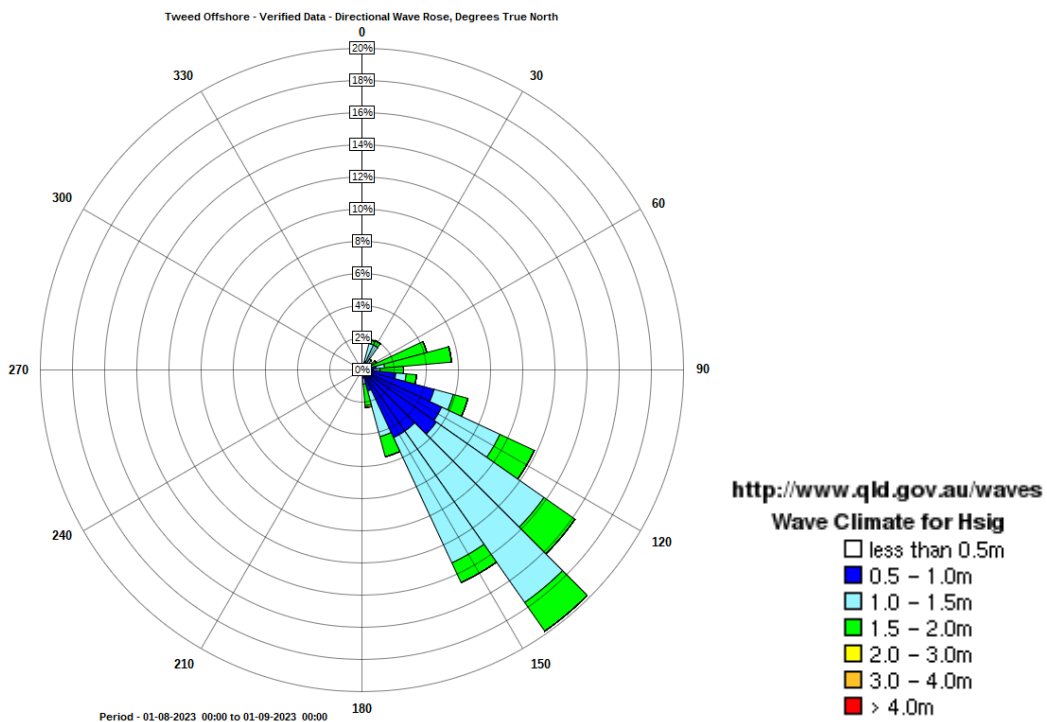
A link to data recorded by the Tweed Heads and Tweed Offshore Waverider buoys is available at:
<http://www.qld.gov.au/waves>

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NEARSHORE WAVE DIRECTION



OFFSHORE WAVE DIRECTION

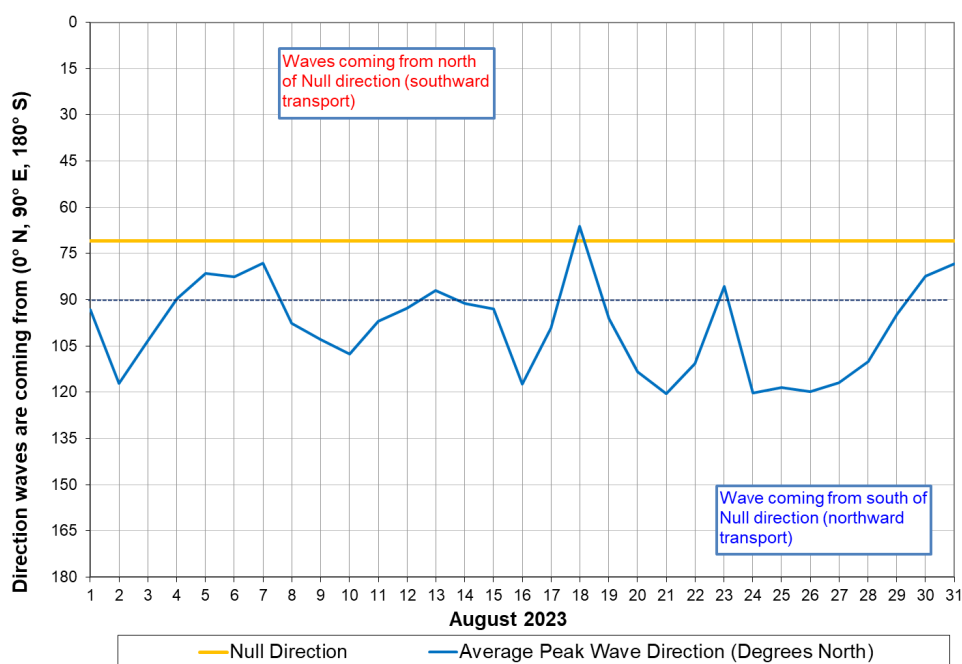
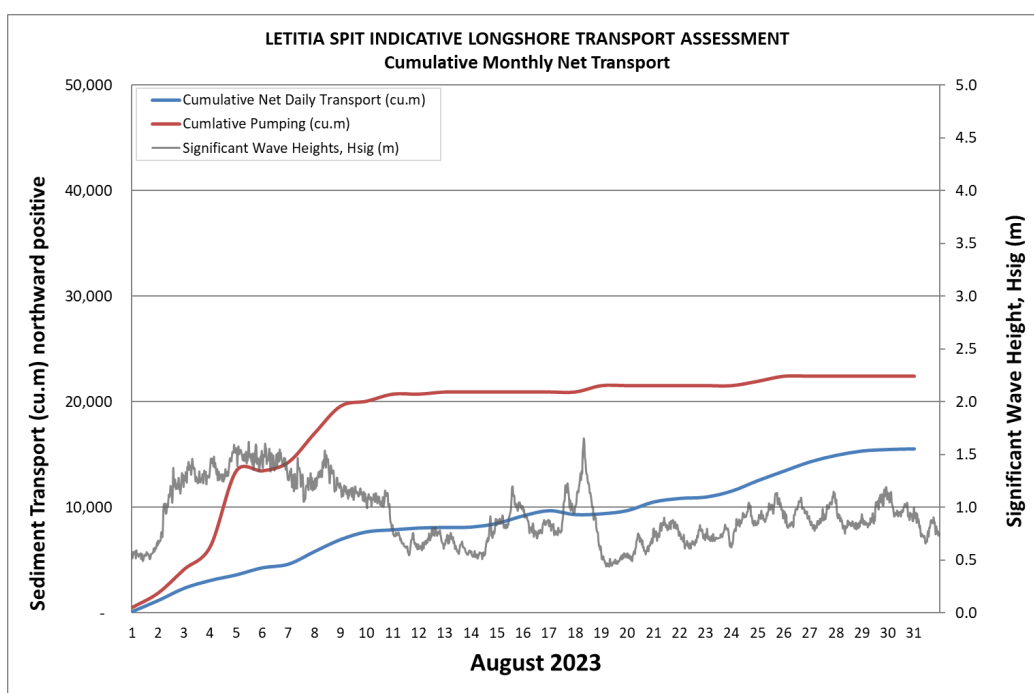


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3. INDICATIVE LONGSHORE TRANSPORT

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 August 2023 the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 16,000 m³. This result is 37 per cent of the average estimated sand transport quantity of approx. 42,000 m³ for August.



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4. BEACH AND SURF AMENITY OBSERVATIONS

Continued mild conditions ensured that no significant changes to the beaches were observed. Sand in the swash zone migrated slowly around Greenmount Point, however, Rainbow Bay remained relatively wide.



Greenmount 01 August



Greenmount 30 August

Mixed surf conditions were experienced through August. Early in the month offered quality waves at Snapper Rocks through to Greenmount as well as Duranbah. With the smaller swells for the remainder of the month, Duranbah still provided good quality beach breaks.



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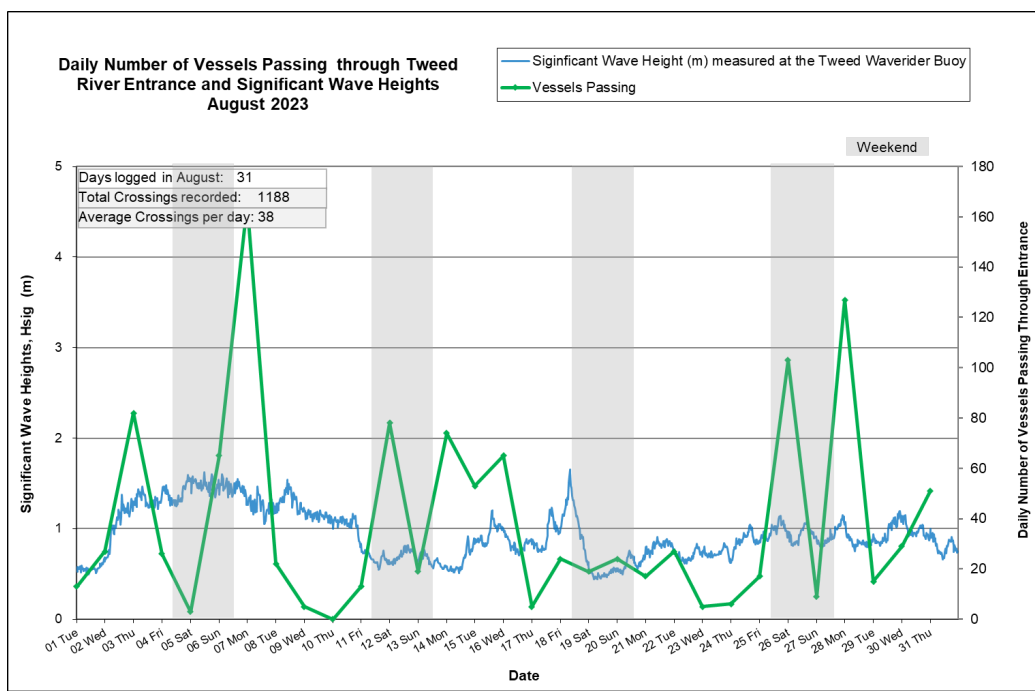
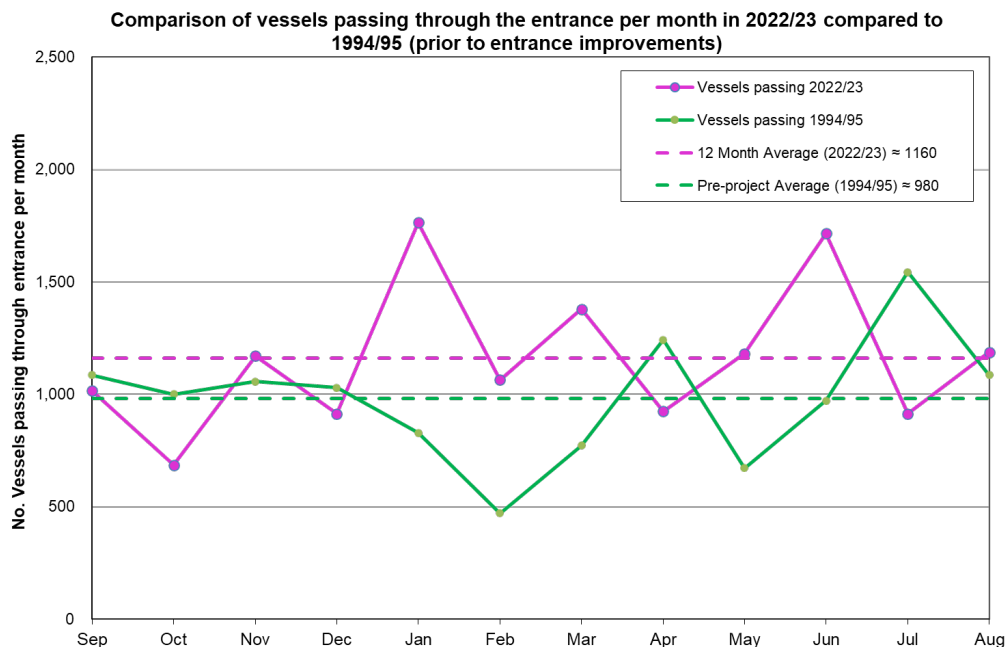
Greenmount – 06 August 2023



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5. TWEED RIVER ENTRANCE USAGE

A total of 1,188 Tweed River entrance vessel crossings were recorded for the month (65 per cent of the August average (2002–2023)).



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Date August 2023	Navigation Rating					Number of Crossings
	Impassable < - - - - - > Good					
	Impassable	Difficulty Encountered	Some Difficulty Encountered	Relatively Good Crossing	Good Conditions	
1						13
2						27
3						82
4						26
5						3
6						65
7						165
8						22
9						5
10						0
11						13
12						78
13						19
14						74
15						53
16						65
17						5
18						24
19						19
20						24
21						17
22						27
23						5
24						6
25						17
26						103
27						9
28						127
29						15
30						29
31						51
					Total:	1,188

Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends

Source: Marine Rescue NSW, Point Danger