

TWEED SAND BYPASSING

ENVIRONMENTAL MONITORING SUMMARY – April 2025

1. SAND PUMPING & DREDGING

- 34,613 m³ was pumped to Snapper Rocks East.
- 0 m³ of sand was dredged.

Sand Delivery April 2025

Pumped: 34,613 m³

Dredged: 0 m³

Total: 34,613 m³

The number of days sand was pumped this month = 25

The number of days sand was dredged this month = 0

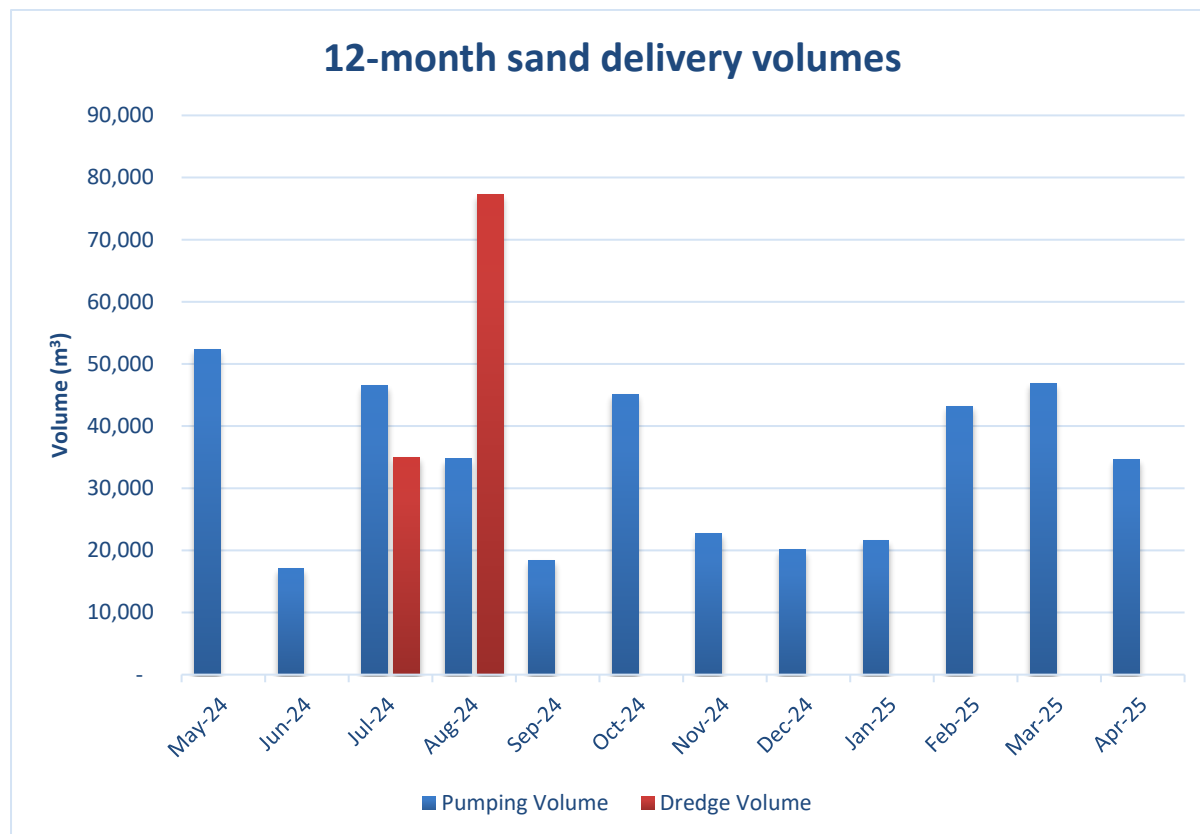
Sand Delivery May 2000 to April 2025

Pumped: 12,129,563 m³

Dredged*: 3,159,617 m³

Total*: 15,289,180 m³

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



OFFICIAL

ENVIRONMENTAL MONITORING SUMMARY – April 2025

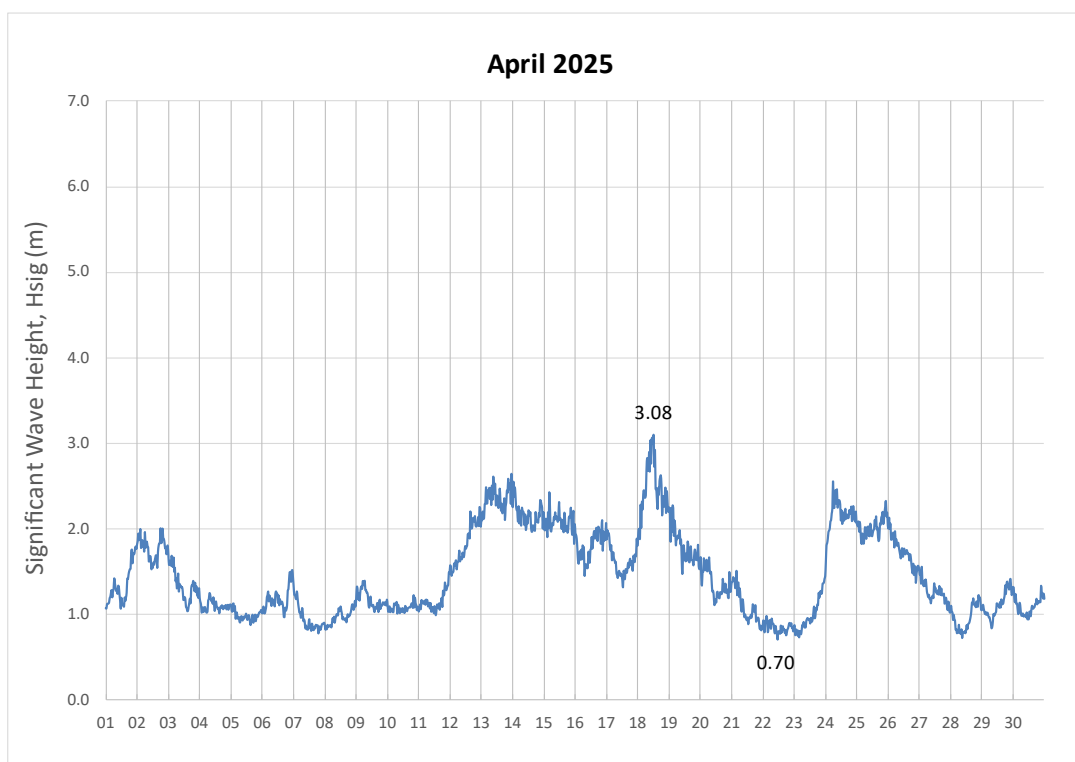
TWEED SAND BYPASSING

2. WAVE CONDITIONS

A continuation of high energy conditions were experienced throughout most of April with consistent directional conditions throughout the month trending in an SE direction. A maximum H_{sig} was observed on the 22nd at 3.08 m.

- Minimum H_{sig} : 0.70 m on 18 April 2025
- Maximum H_{sig} : 3.08 m on 22 April 2025
- Number of days where $H_{sig} < 1$ m at some point: 11
- Number of days where $H_{sig} > 2$ m at some point: 10

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:

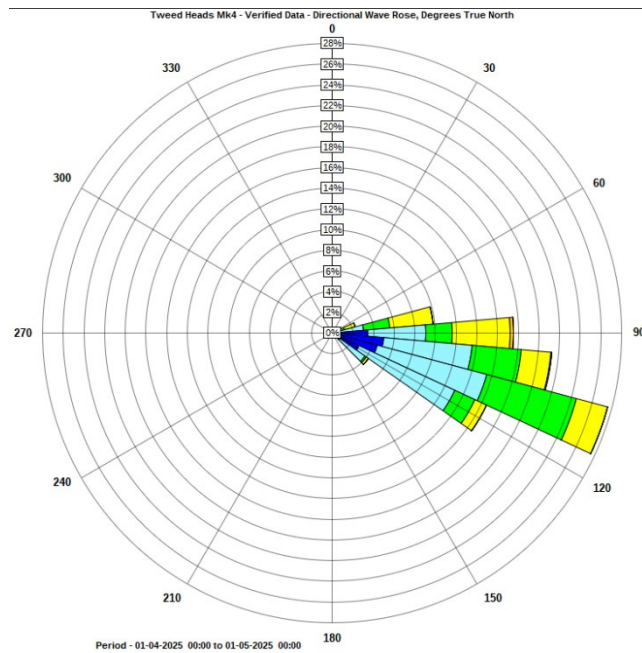
<http://www.qld.gov.au/waves>

<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

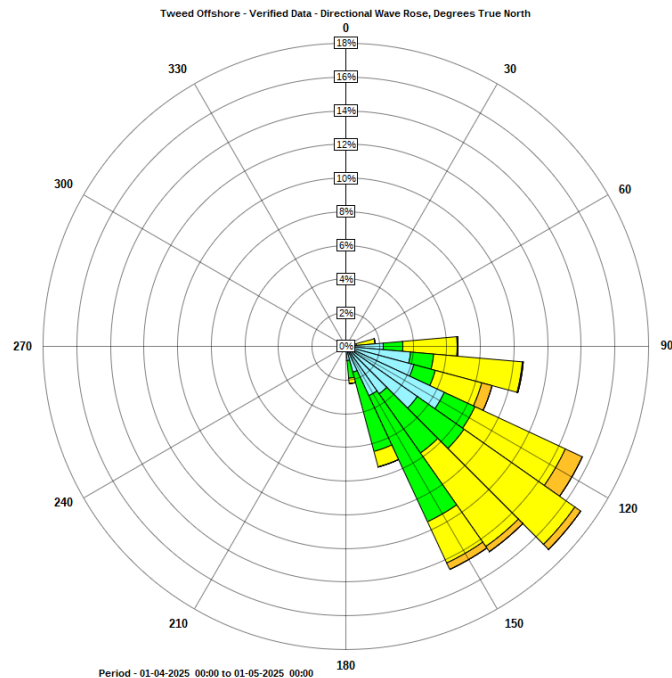


<http://www.qld.gov.au/waves>

Wave Climate for Hsig

- less than 0.5m
- 0.5 - 1.0m
- 1.0 - 1.5m
- 1.5 - 2.0m
- 2.0 - 3.0m
- 3.0 - 4.0m
- > 4.0m

OFFSHORE WAVE DIRECTION



OFFICIAL

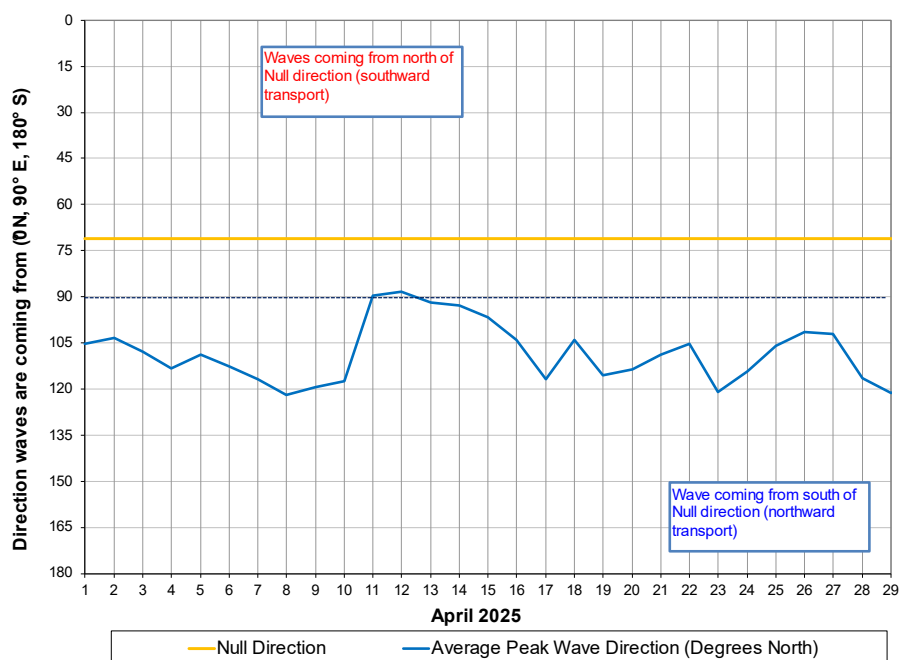
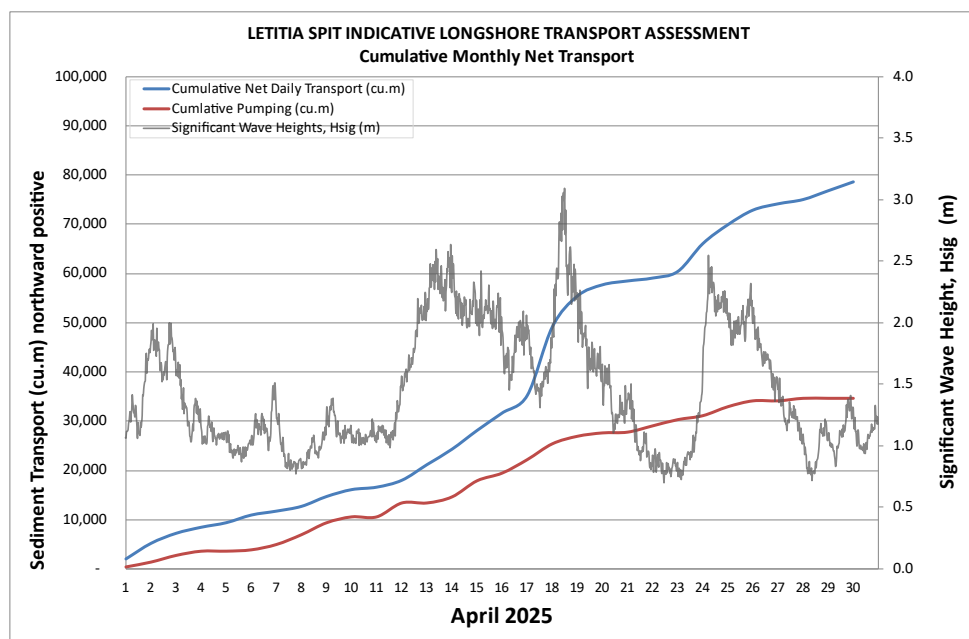
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3. INDICATIVE LONGSHORE TRANSPORT

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 April 2025, the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 75,000 m³. This result is 126 per cent of the average estimated sand transport quantity of approximately 60,000 m³ for April.



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4. BEACH AND SURF AMENITY OBSERVATIONS

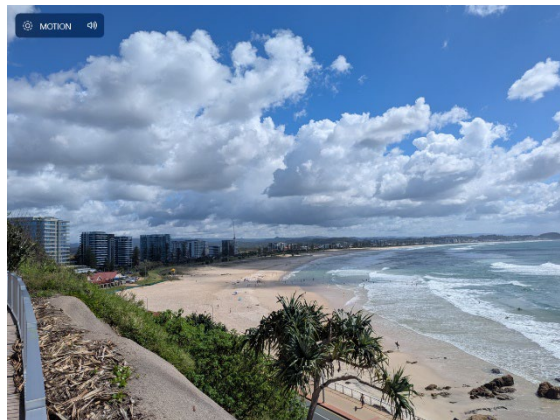
Beaches have remained relatively stable during April since post Ex-Tropical Cyclone Alfred, which made landfall on 9 March 2025. Rainbow Bay has continued to see sand volumes increase, increasing beach width and reducing the erosion impacts observed over the last few months.



Coolangatta 15 April 2025



Rainbow Bay 15 April 2025



Kirra 15 April 2025



Duranbah 15 April 2025

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Since ex-Tropical Cyclone Alfred, Duranbah has been observed to be the most consistent and favoured surf break over Snapper, Kirra and Coolangatta through the month of April. Surf amenity at Snapper is still recovering as the bank continues to grow through natural sediment transport processes.



Duranbah 17 April 2025



Duranbah 17 April 2025



Duranbah 27 April 2025

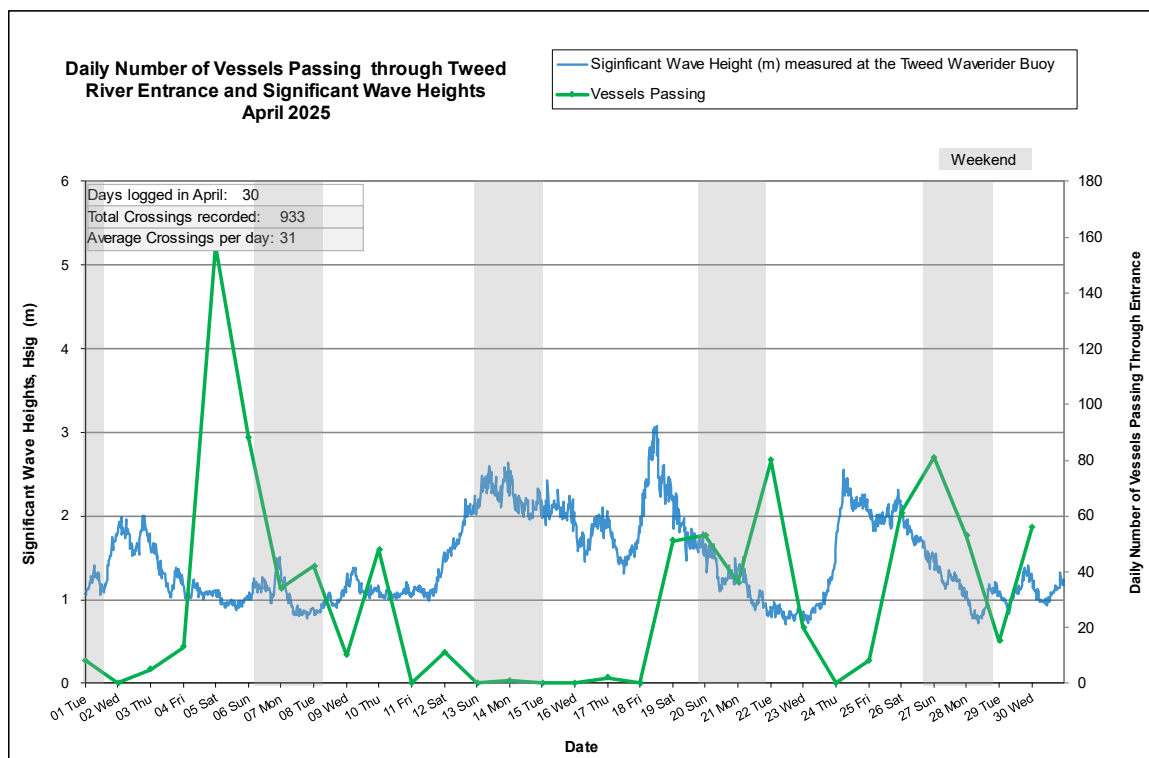
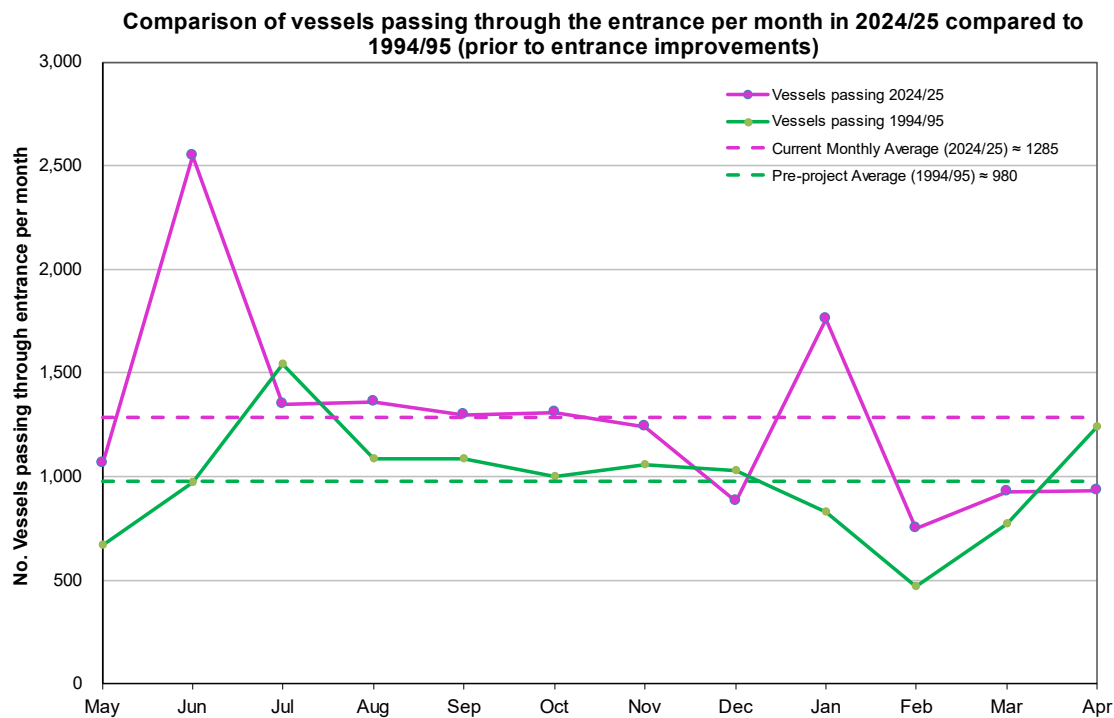


Duranbah 27 April 2025

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5. TWEED RIVER ENTRANCE USAGE

A total of 933 Tweed River entrance vessel crossings were recorded for the month (56 per cent of the monthly average (2002–2025)).



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Date April 2025	Navigation Rating					Number of Crossings
	Impassable <-----> Good					
	Impassable	Difficulty Encountere d	Some Difficulty Encountere 3	Relatively Good Crossing 4	Good Conditions	
	1	2	3	4	5	
1						8
2						0
3						5
4						13
5						157
6						88
7						34
8						42
9						10
10						48
11						0
12						11
13						0
14						1
15						0
16						0
17						2
18						0
19						51
20						53
21						36
22						80
23						20
24						0
25						8
26						61
27						81
28						53
29						15
30						56
						0
					Total:	933

Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends

Source: Marine Rescue NSW, Point Danger