

TWEED SAND BYPASSING

ENVIRONMENTAL MONITORING SUMMARY – February 2025

1. SAND PUMPING & DREDGING

- 43,232 m³ was pumped to Snapper Rocks East.
- 0 m³ of sand was dredged.

Sand Delivery February 2025

Pumped: 43,232 m³

Dredged: 0 m³

Total: 43,232 m³

The number of days sand was pumped this month = 16

The number of days sand was dredged this month = 0

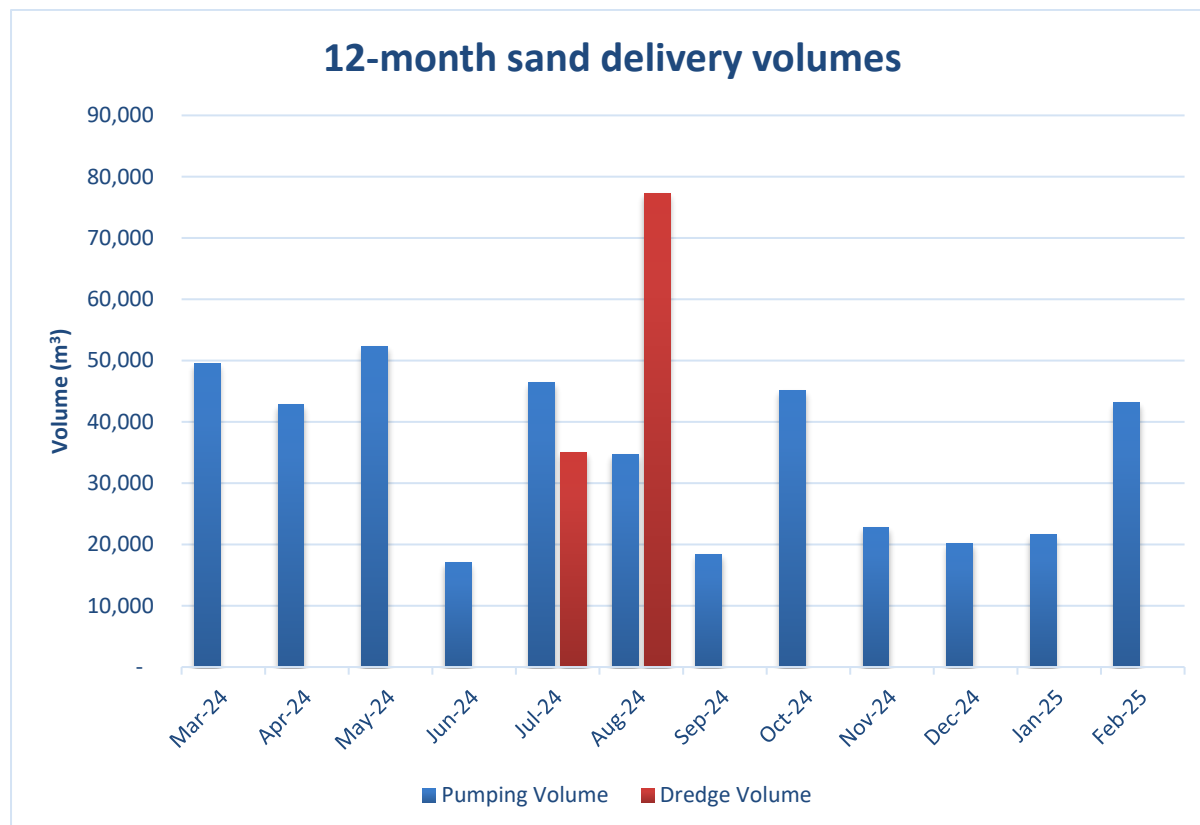
Sand Delivery May 2000 to February 2025

Pumped: 12,048,049 m³

Dredged*: 3,159,617 m³

Total*: 15,207,666 m³

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



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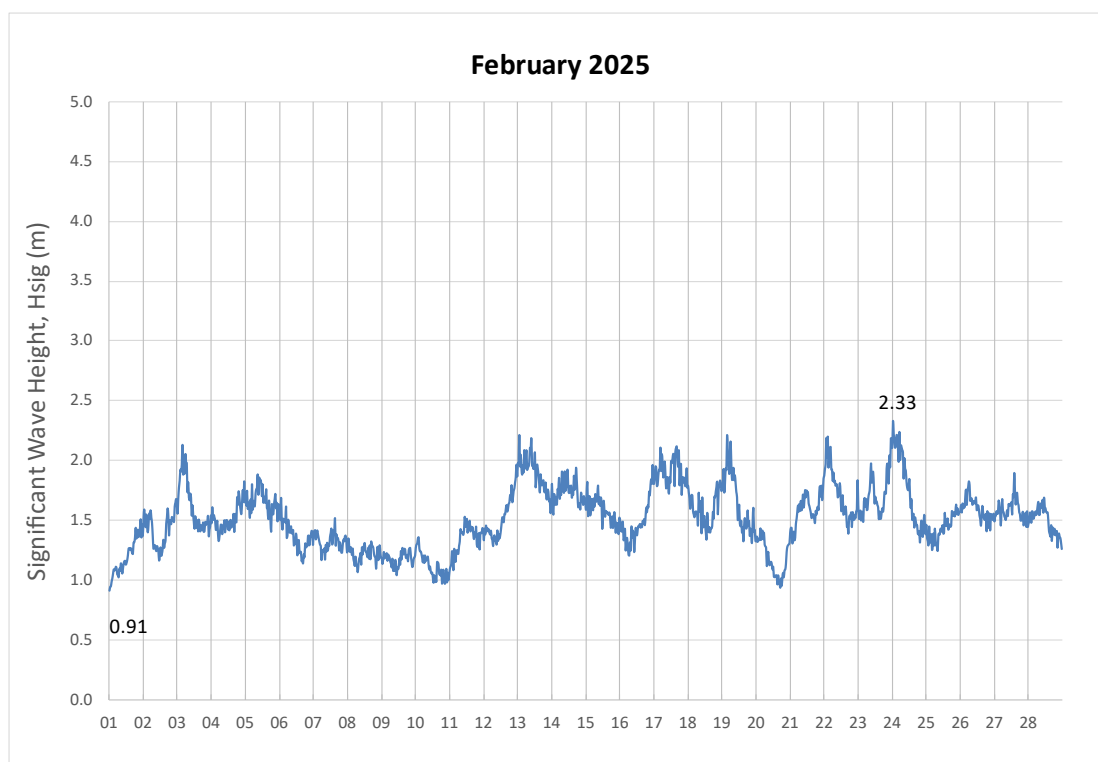
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2. WAVE CONDITIONS

February saw consistent directional conditions throughout the month with nearshore wave energy trending in an E direction. An increase in wave energy was observed compared to previous months, with only 3 days where H_{sig} was less than 1 m. A maximum H_{sig} was observed on the 24th at 2.33 m.

- Minimum H_{sig} : 0.91 m on 01 February 2025
- Maximum H_{sig} : 2.33 m on 24 February 2025
- Number of days where $H_{sig} < 1$ m at some point: 3
- Number of days where $H_{sig} > 2$ m at some point: 7

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:

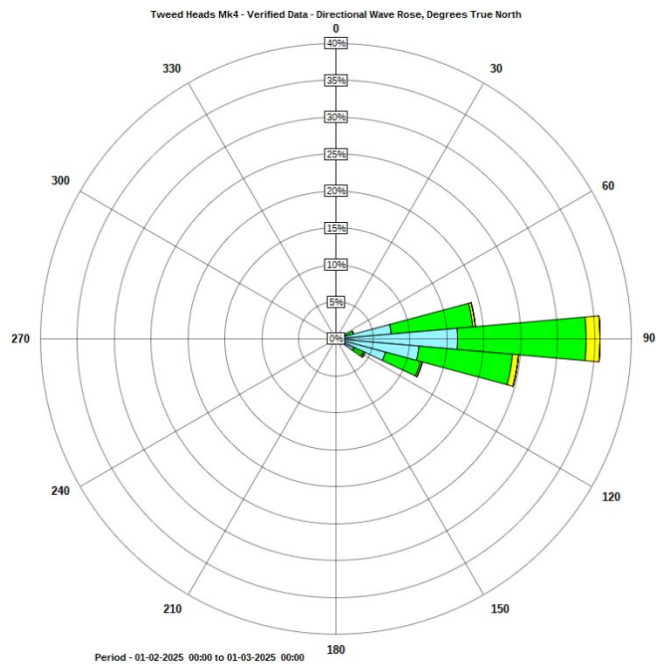
<http://www.qld.gov.au/waves>

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

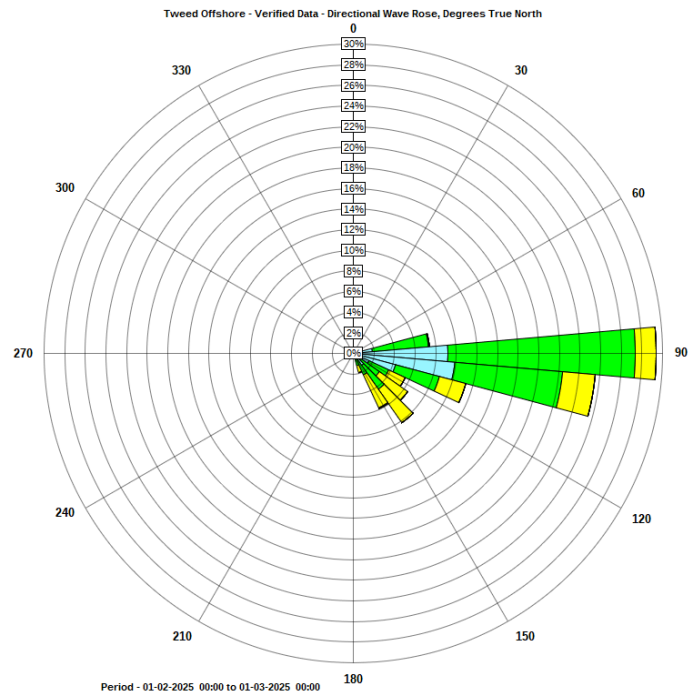
<https://www.qld.gov.au/environment/coasts-waterways/beach/monitoring/waves-sites/tweed-heads>

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NEARSHORE WAVE DIRECTION



OFFSHORE WAVE DIRECTION



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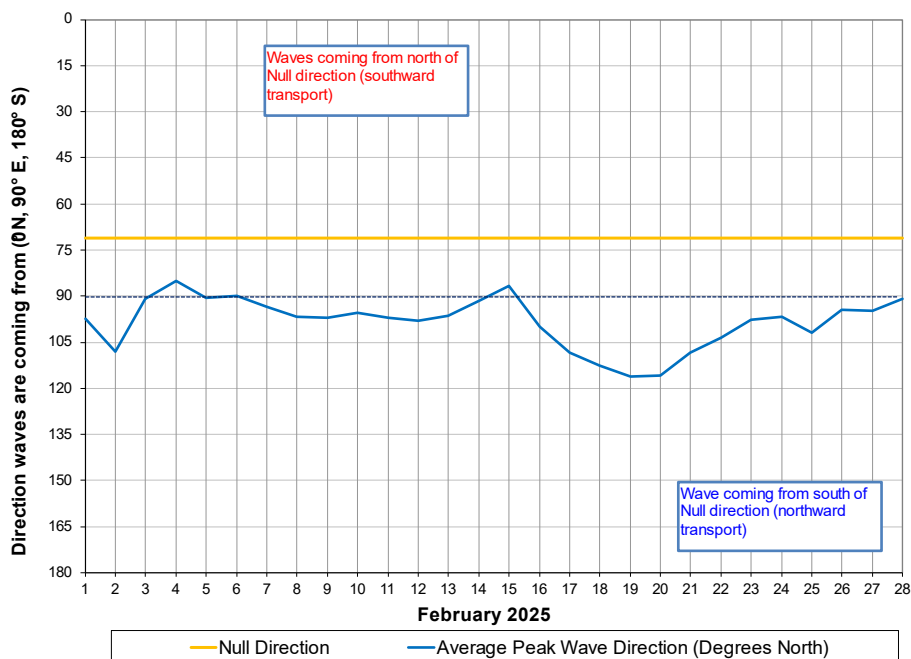
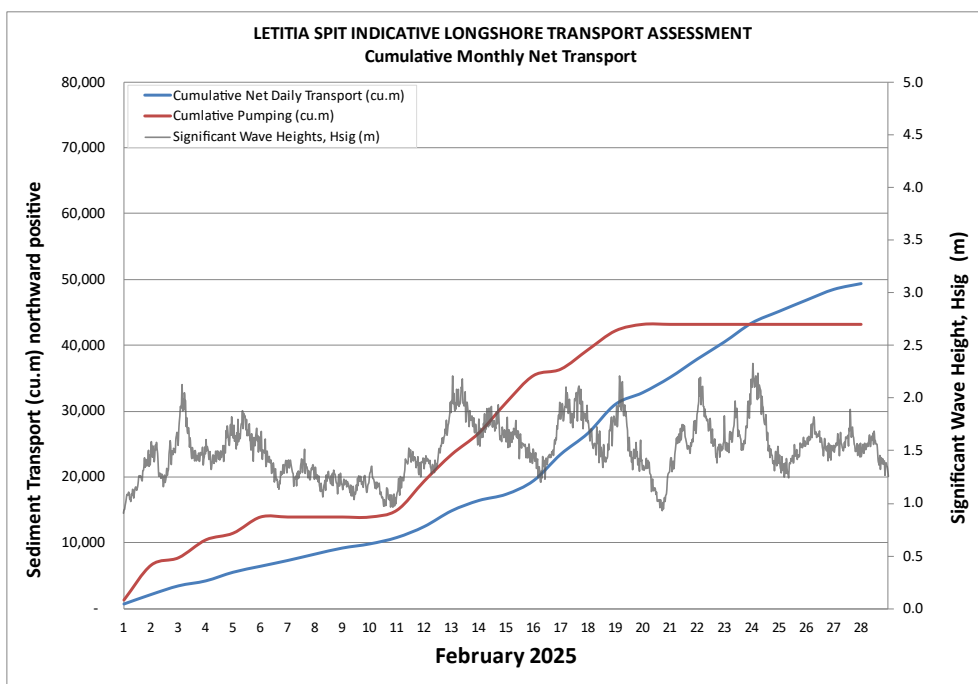
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3. INDICATIVE LONGSHORE TRANSPORT

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 February 2025, the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 49,400 m³. This result is 86 per cent of the average estimated sand transport quantity of approximately 57,700 m³ for February.



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4. BEACH AND SURF AMENITY OBSERVATIONS

There was very little change in observed beach conditions from January to February across the beaches. Kirra and Coolangatta remain relatively stable, while Rainbow Bay is still experiencing localized erosion and scarping of the upper beach.



Coolangatta 19 February 2025



Rainbow Bay 19 February 2025



Kirra 19 February 2025



Duranbah 19 February 2025

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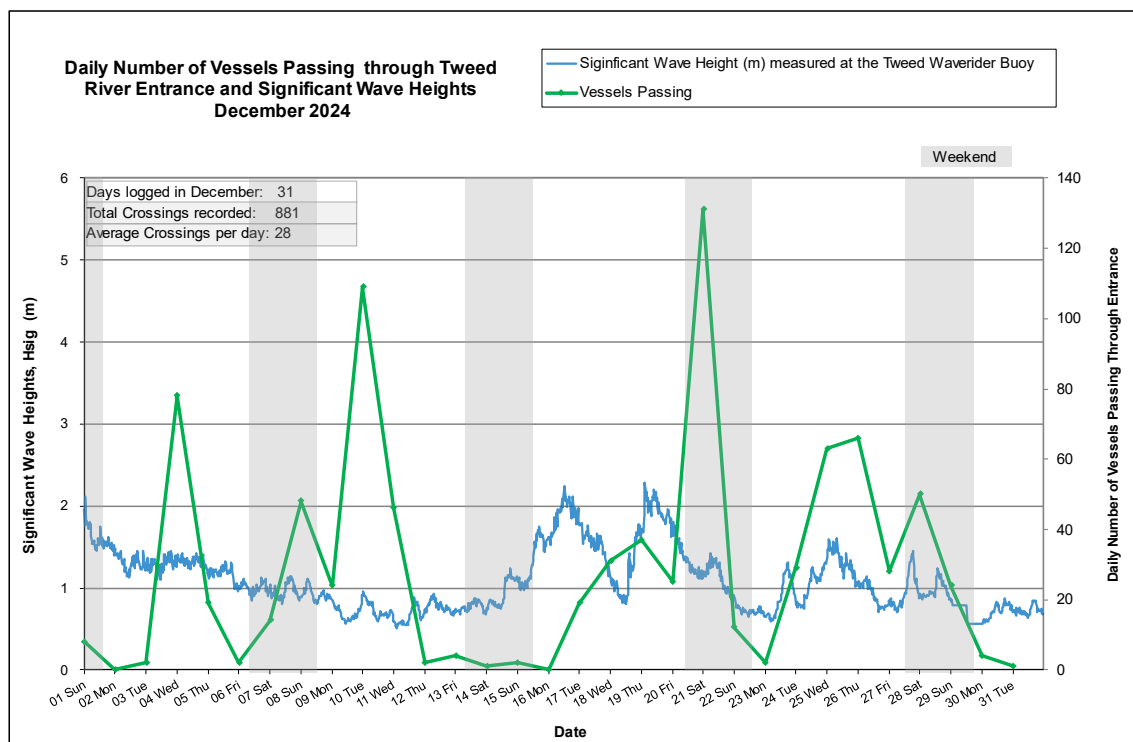
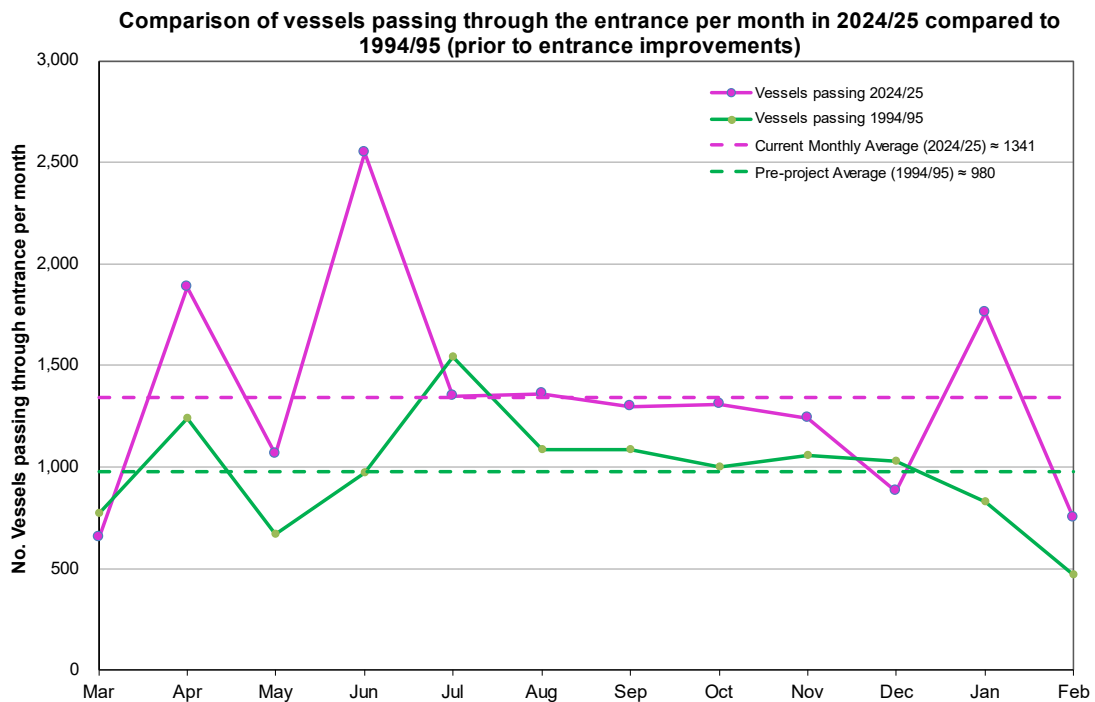
Over the past month, Snapper Rocks experienced a boost in surf quality, particularly towards the end of the month from conditions associated with ex-Tropical Cyclone Alfred. Duranbah has continued to offer consistent waves with well-formed banks providing excellent conditions throughout the month of February and remains a dependable option for surfers.

	
<p>Snapper Rocks 28 February 2025</p>	<p>Duranbah 26 February 2025</p>
	
<p>Snapper Rocks 17 February 2025</p>	<p>Duranbah 24 February 2025</p>

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5. TWEED RIVER ENTRANCE USAGE

A total of 748 Tweed River entrance vessel crossings were recorded for the month (60 per cent of the monthly average (2002–2024)).



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Date February 2025	Navigation Rating					Number of Crossings
	Impassable < - - - - - > Good					
	Impassable	Difficulty Encountere d	Some Difficulty Encountere	Relatively Good Crossing	Good Conditions	
	1	2	3	4	5	
1						42
2						31
3						2
4						8
5						17
6						27
7						35
8						99
9						160
10						23
11						16
12						18
13						2
14						27
15						30
16						31
17						0
18						12
19						28
20						50
21						2
22						6
23						25
24						8
25						11
26						6
27						12
28						20
						0
						0
						0
					Total:	748

Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends

Source: Marine Rescue NSW, Point Danger