TWEEDSAND BYPASSING

ENVIRONMENTAL MONITORING SUMMARY – December 2024

1. SAND PUMPING & DREDGING

- 20,142 m^3 was pumped to Snapper Rocks East.
- 0 m^3 of sand was dredged.

Sand Delivery December 2024

Pumped:	20,142 m^3
Dredged:	0 m^3
Total:	20,142 m^3

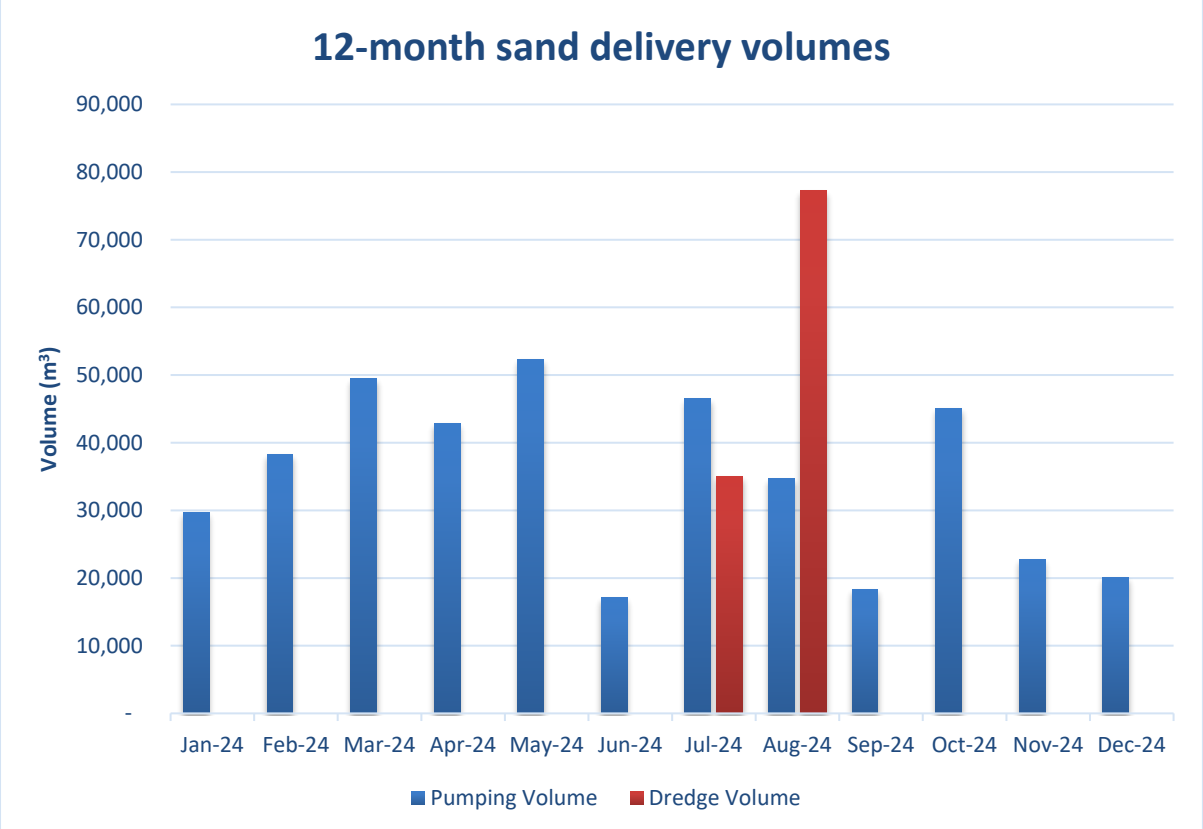
The number of days sand was pumped this month = 14

The number of days sand was dredged this month = 0

Sand Delivery May 2000 to December 2024

Pumped:	11,983,152 m^3
Dredged*:	3,159,617 m^3
Total*:	15,142,769 m^3

* This Includes 22,870 m^3 of sand delivered by dredge to Palm Beach between July 2005 and September 2005

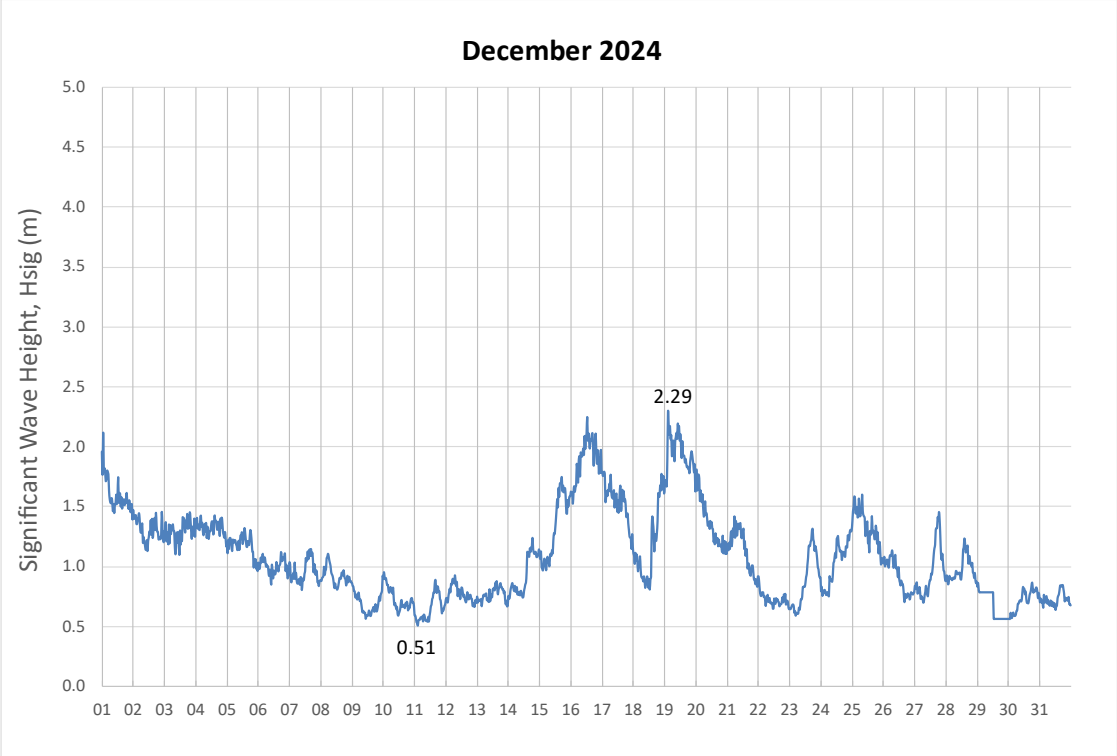


2. WAVE CONDITIONS

November saw reasonably consistent conditions throughout most of the month with nearshore wave energy trending in a mostly E direction. A maximum H_{sig} was observed on the 22nd at 2.29 m.

- Minimum H_{sig}: 0.51 m on 11 December 2024
- Maximum H_{sig}: 2.29 m on 19 December 2024
- Number of days where H_{sig} <1 m at some point: 22
- Number of days where H_{sig} >2 m at some point: 3

Note: H_{sig} is defined as the average of the highest ⅓ of waves recorded over a period of approximately 30 minutes



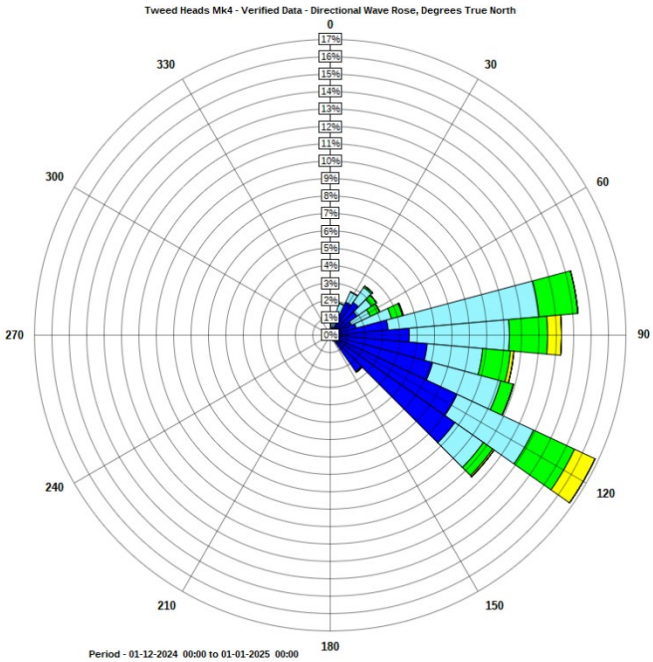
*(**Source:** Tweed Heads Waverider buoy; Queensland Government)*

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

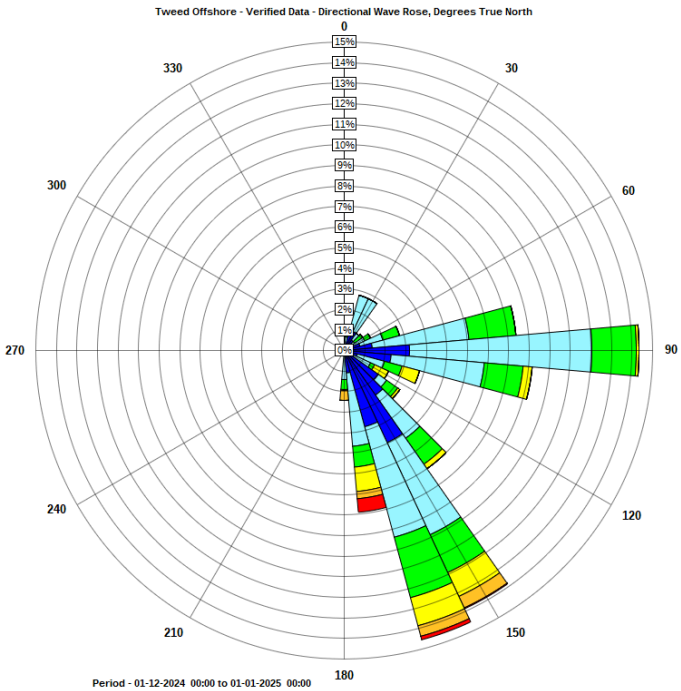
https://www.qld.gov.au/environment/coasts-waterways/beach/monitoring/waves-sites/tweed-offshore

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

NEARSHORE WAVE DIRECTION



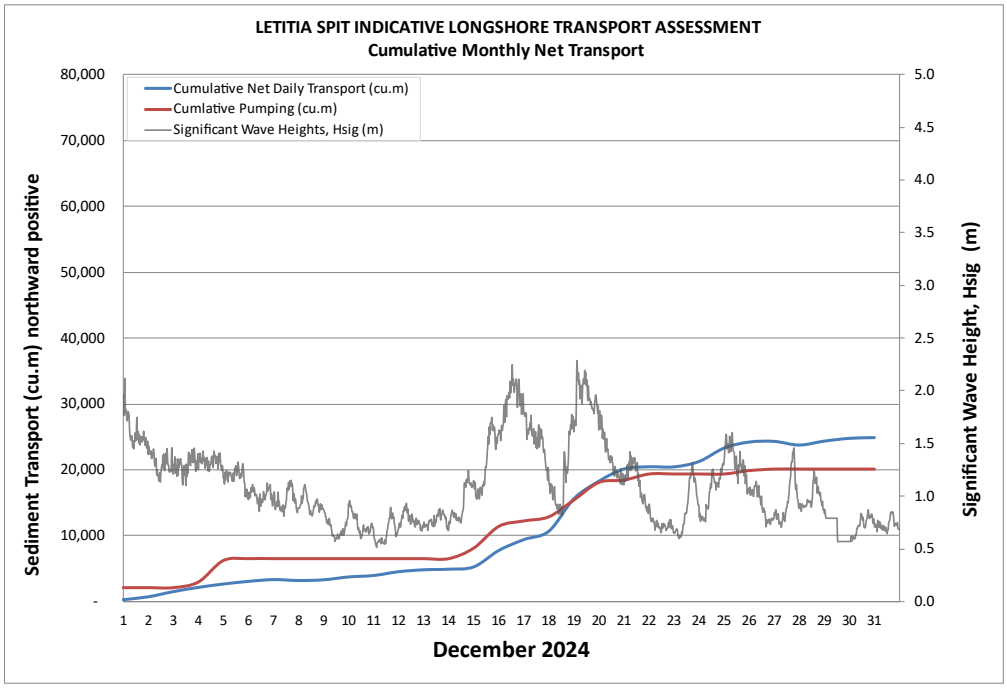
OFFSHORE WAVE DIRECTION

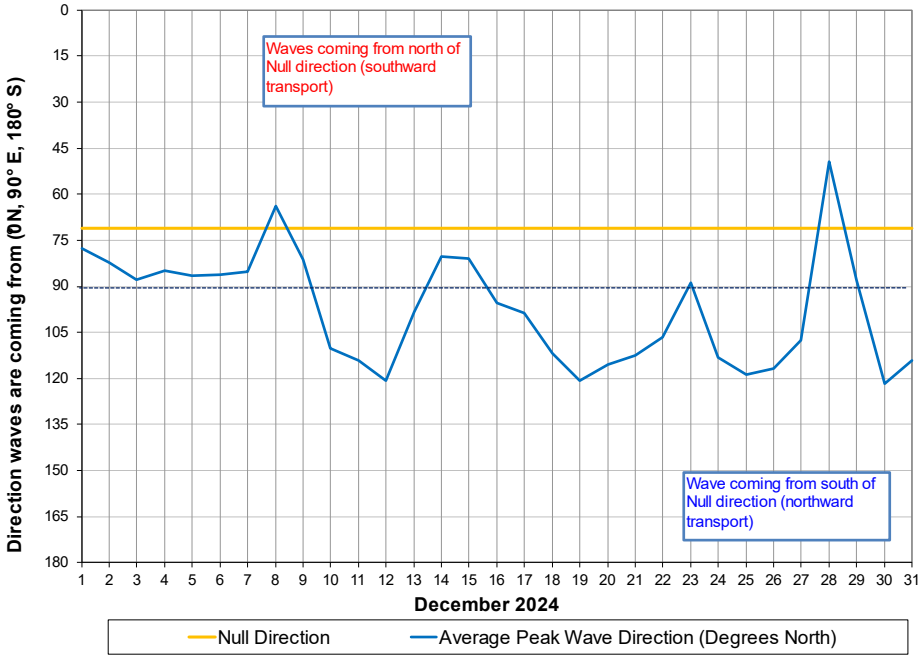


3. INDICATIVE LONGSHORE TRANSPORT

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 December 2024, the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 25,300 m^3. This result is 77 per cent of the average estimated sand transport quantity of approximately 33,000 m^3 for December.





4. BEACH AND SURF AMENITY OBSERVATIONS

A reduction in beach width at Rainbow Bay has continued over the last month, which is consistent with seasonal variations and metocean conditions.

Beach stability at Duranbah was observed post-nourishment in November and healthy beach widths were observed at both Kirra and Coolangatta.

Coolangatta 12 December 2024

Rainbow Bay 12 December 2024

Kirra 12 December 2024

Duranbah 12 December 2024

The surf quality at Snapper Rocks throughout the December period was generally subpar. In contrast, Duranbah consistently emerged as the more favourable surf destination, a trend that has remained steady over the past several months. The waves at Duranbah continued to offer reliable, quality surf, making it the preferred spot for surfers seeking consistent conditions.

Snapper Rocks 17 December 2024

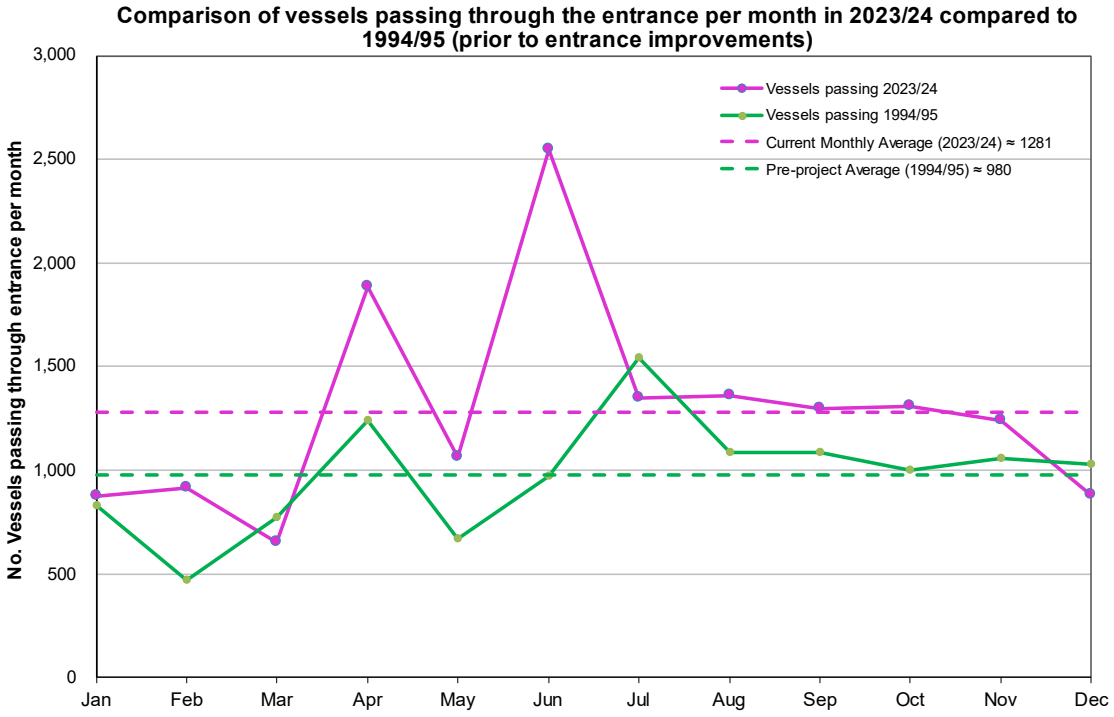
Duranbah 21 December 2024

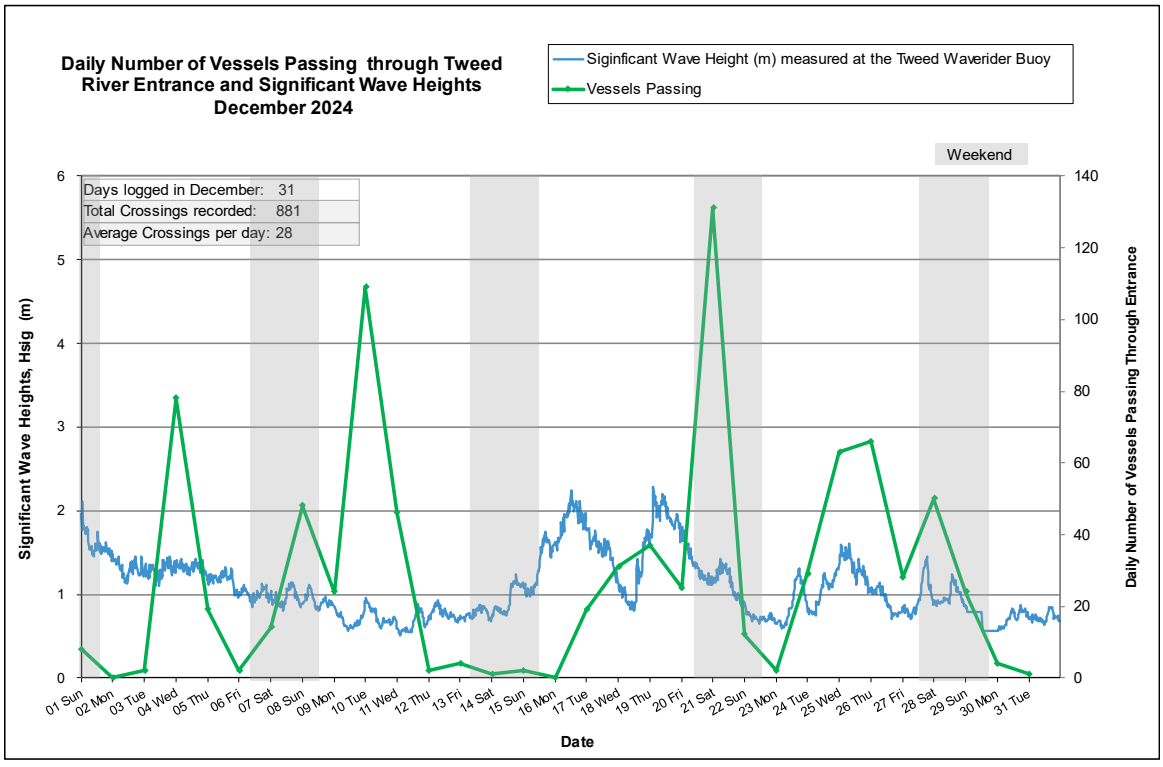
Duranbah 25 December 2024

Duranbah 26 December 2024

5. TWEED RIVER ENTRANCE USAGE

A total of 1,242 Tweed River entrance vessel crossings were recorded for the month (84 per cent of the monthly average (2002–2024)). Entrance navigability met the legislated objectives during October.





Date December 2024	Navigation Rating Impassable < - - - - - > Good					Number of Crossings
	Impassable	Difficulty Encountered	Some Difficulty Encountered	Relatively Good Crossing	Good Conditions	
	1	2	3	4	5	
1						8
2						0
3						2
4						78
5						19
6						2
7						14
8						48
9						24
10						109
11						46
12						2
13						4
14						1
15						2
16						0
17						19
18						31
19						37
20						25
21						131
22						12
23						2
24						29
25						63
26						66
27						28
28						50
29						24
30						4
31						1
					Total:	881

Marine Rescue NSW - Monitoring Results (Not including trawlers)

Weekends

Source: *Marine Rescue NSW, Point Danger*