TWEEDSAND BYPASSING

ENVIRONMENTAL MONITORING SUMMARY – November 2024

1. SAND PUMPING & DREDGING

- 5,720 m^3 was pumped to Snapper Rocks East.
- 17,074 m^3 was pumped to Duranbah Beach.
- 0 m^3 of sand was dredged.

Sand Delivery November 2024

Pumped:	22,794 m^3
Dredged:	0 m^3
Total:	22,794 m^3

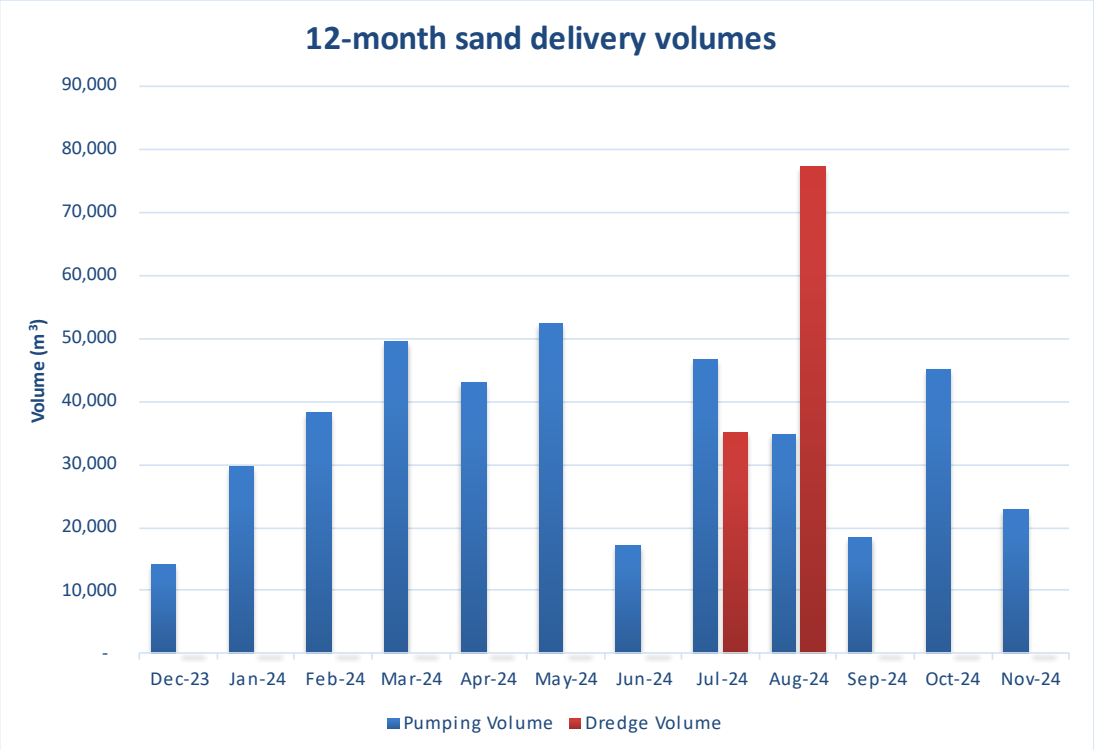
The number of days sand was pumped this month = 13

The number of days sand was dredged this month = 0

Sand Delivery May 2000 to November 2024

Pumped:	11,963,010 m^3
Dredged*:	3,159,617 m^3
Total*:	15,122,627 m^3

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

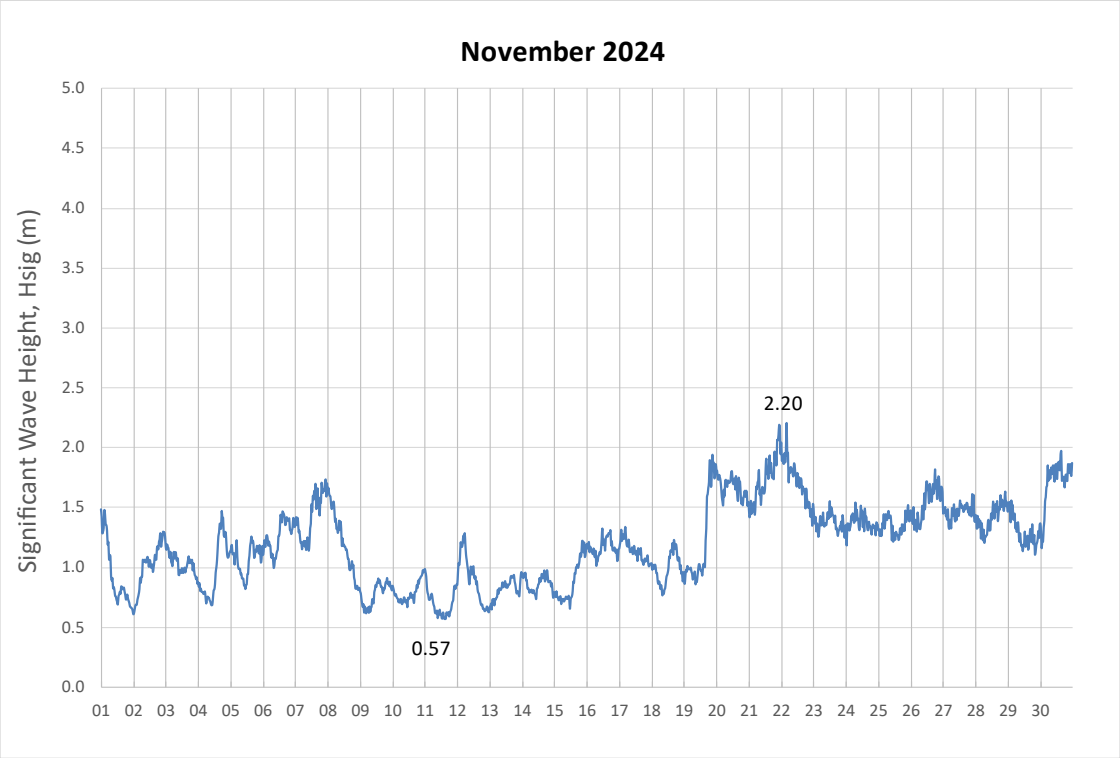


2. WAVE CONDITIONS

November saw reasonably consistent conditions again 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 2.20 m.

- Minimum H_{sig}: 0.57 m on 11 November 2024
- Maximum H_{sig}: 2.20 m on 22 November 2024
- Number of days where H_{sig} <1 m at some point: 16
- Number of days where H_{sig} >2 m at some point: 2

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



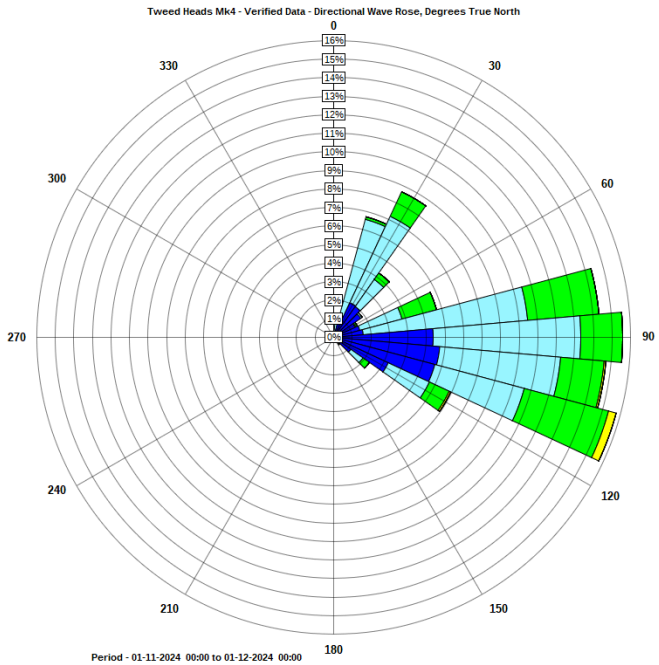
*(**Source:** Tweed Heads Waverider buoy; Queensland Government)*

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

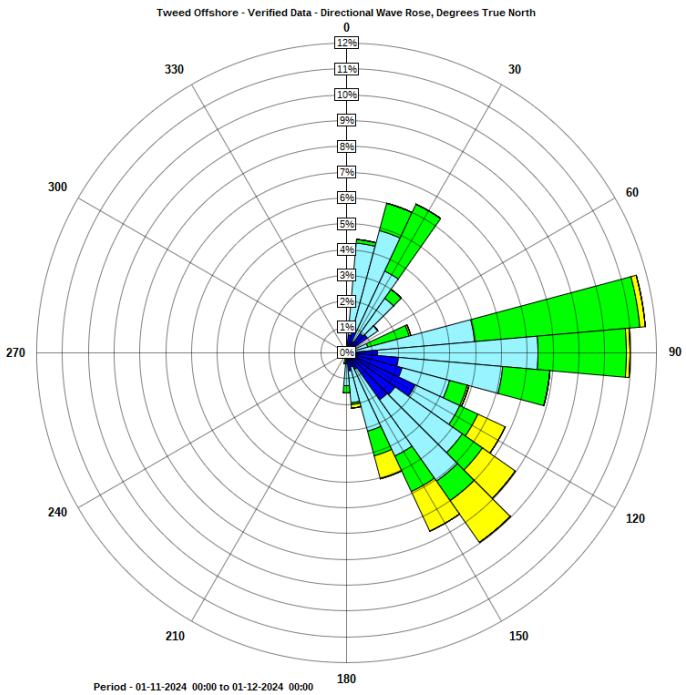
https://www.qld.gov.au/environment/coasts-waterways/beach/monitoring/waves-sites/tweed-offshore

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

NEARSHORE WAVE DIRECTION



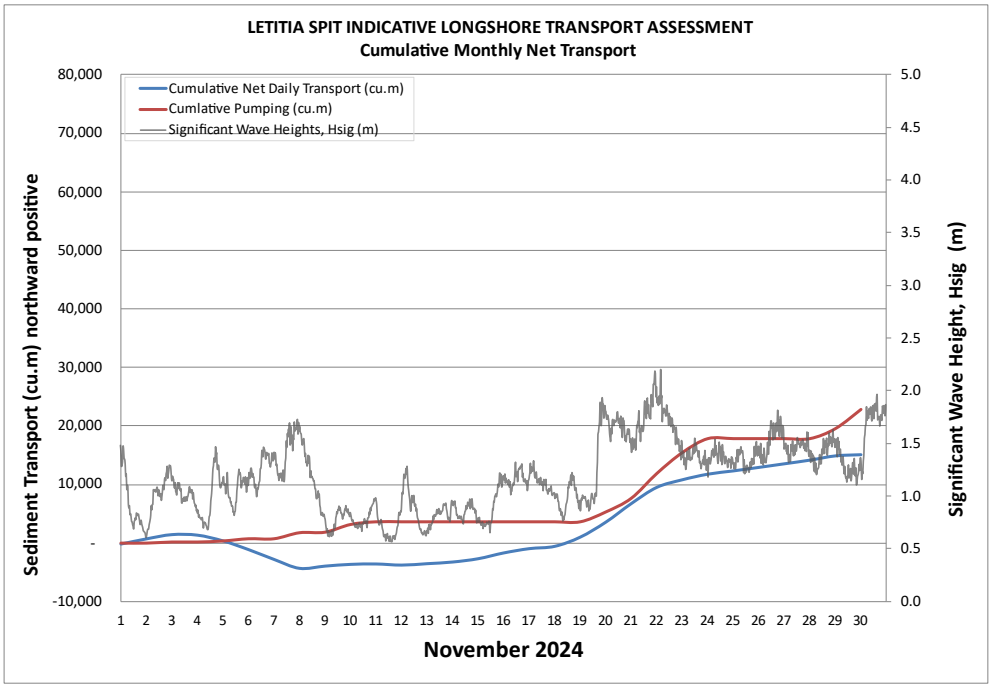
OFFSHORE WAVE DIRECTION

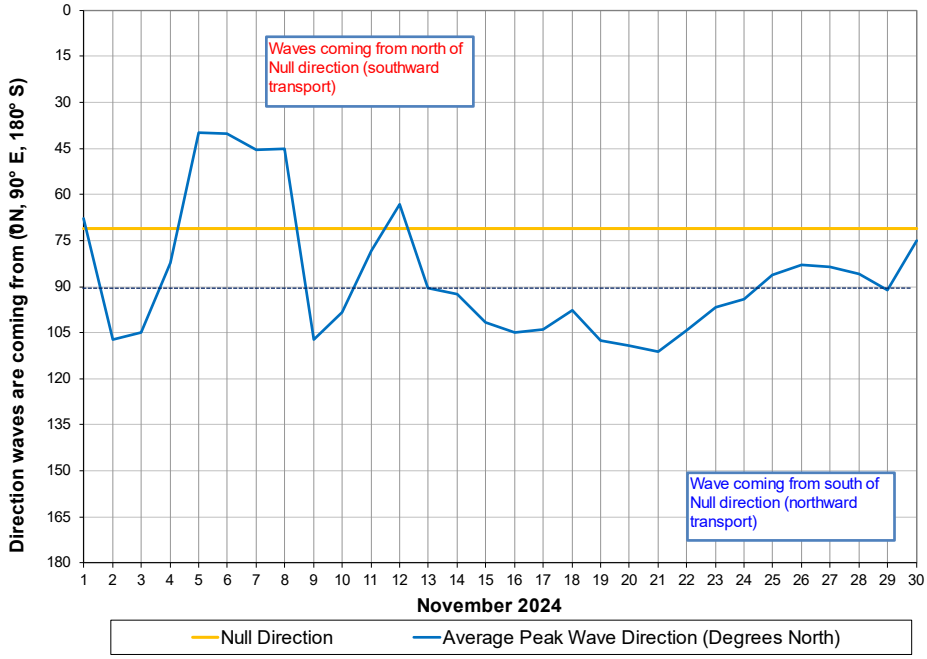


3. INDICATIVE LONGSHORE TRANSPORT

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 November 2024, the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 15,000 m^3. This result is 54 per cent of the average estimated sand transport quantity of approximately 28,100 m^3 for November.





4. BEACH AND SURF AMENITY OBSERVATIONS

A reduced beach width at Rainbow Bay has been observed over the last month, which is a result of reduced sediment transport rates consistent with metocean conditions, and seasonal variability.

A nourishment campaign commenced at Duranbah on 03 November to address the ongoing scarping and erosion observed over the last couple of months.

Nourishment of the upper beach occurred from 03–30 November. This nourishment campaign delivered the following volumes to Duranbah.

Location	Volumes (m^3)
Northern mound	0
Central mound	0
Southern mound	17,074
TOTAL	**17,074**

Coolangatta 11 November 2024

Rainbow Bay 11 November 2024

Kirra 11 November 2024

Duranbah 11 November 2024

Duranbah was once again observed to be a popular surf location in November, though the waves were inconsistent given the swell conditions and persistent northerly winds.

Duranbah 21 November 2024

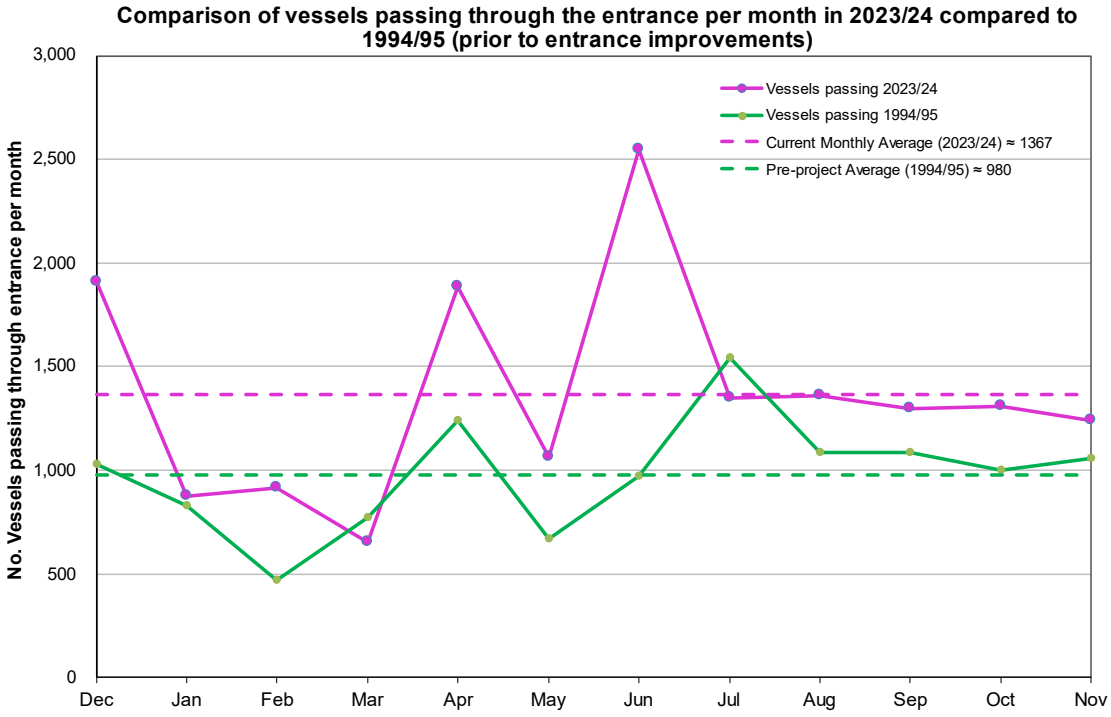
Duranbah 26 November 2024

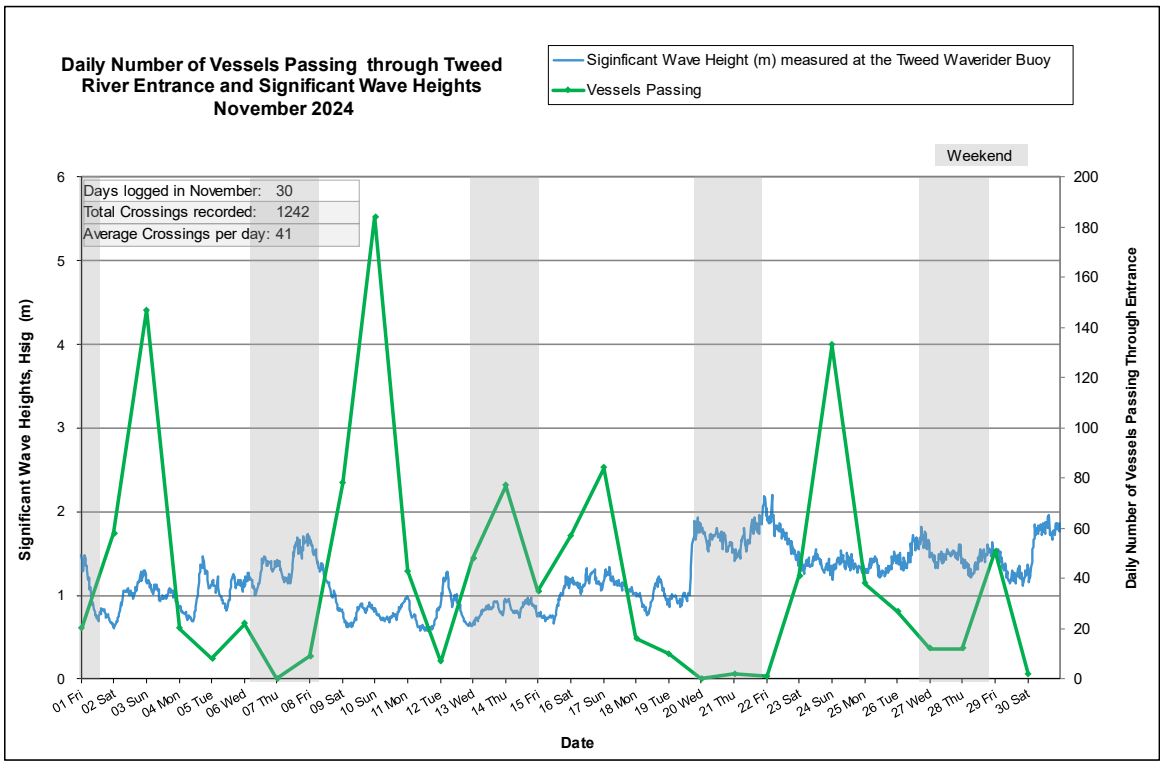
Duranbah 27 November 2024

Duranbah 27 November 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 November 2024	Navigation Rating Impassable < - - - - - > Good					Number of Crossings
	Impassable	Difficulty Encountered	Some Difficulty Encountere	Relatively Good Crossing	Good Conditions	
	1	2	3	4	5	
1						20
2						58
3						147
4						20
5						8
6						22
7						0
8						9
9						78
10						184
11						43
12						7
13						48
14						77
15						35
16						57
17						84
18						16
19						10
20						0
21						2
22						1
23						41
24						133
25						38
26						27
27						12
28						12
29						51
30						2
					Total:	1,242

Marine Rescue NSW - Monitoring Results (Not including trawlers)

Weekends

Source: *Marine Rescue NSW, Point Danger*