

TWEED SAND BYPASSING

ENVIRONMENTAL MONITORING SUMMARY – October 2024

1. SAND PUMPING & DREDGING

- 45,073 m³ was pumped to Snapper Rocks East.
- 0 m³ of sand was dredged.

Sand Delivery October 2024

Pumped: 45,073 m³

Dredged: 0 m³

Total: 45,073 m³

The number of days sand was pumped this month = 21

The number of days sand was dredged this month = 0

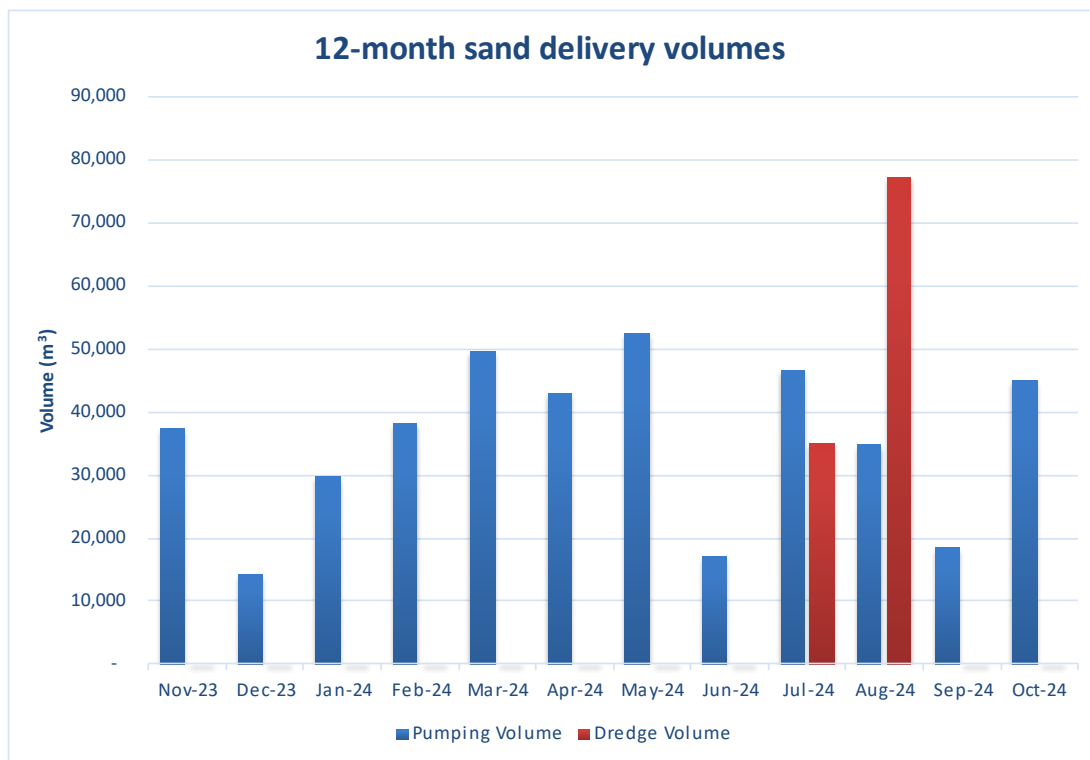
Sand Delivery May 2000 to October 2024

Pumped: 11,940,216 m³

Dredged*: 3,159,617 m³

Total*: 15,099,833 m³

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



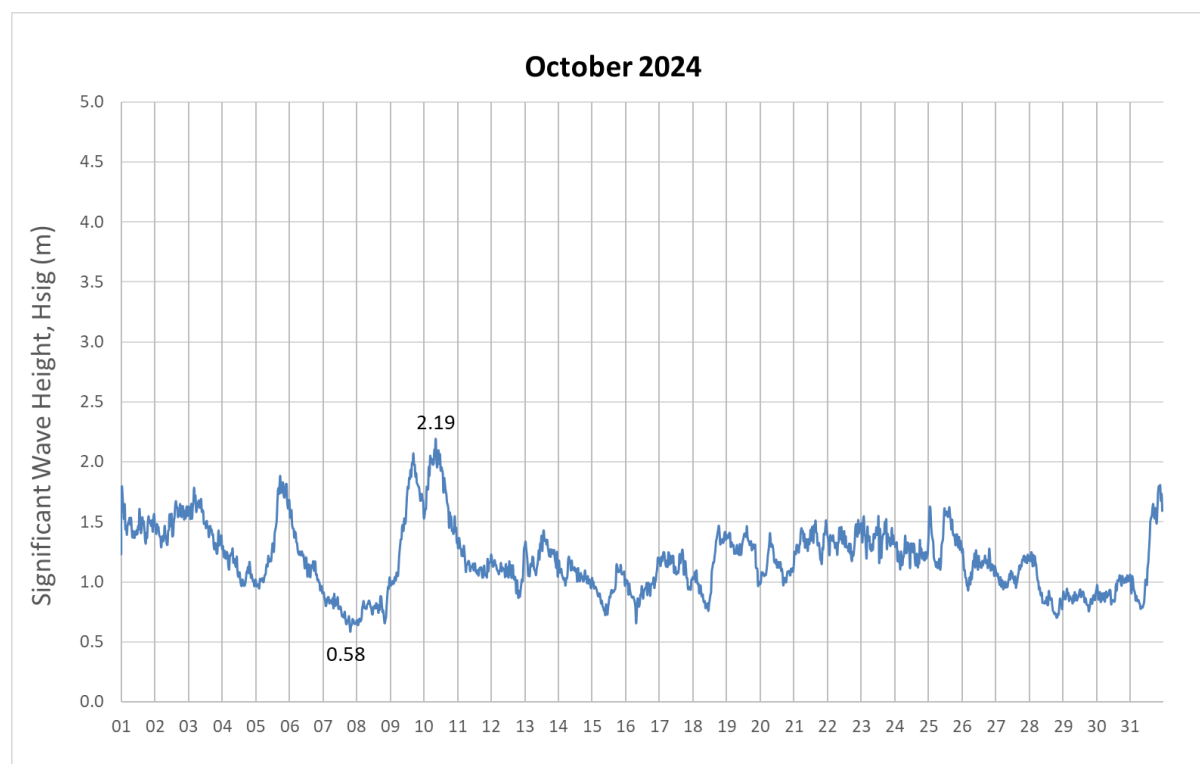
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2. WAVE CONDITIONS

October saw reasonably consistent conditions throughout most of the month with nearshore wave direction trending in a mostly ESE direction. A maximum H_{sig} was observed on the 10th at 2.19 m.

- Minimum H_{sig} : 0.58 m on 7 October 2024
- Maximum H_{sig} : 2.19 m on 10 October 2024
- Number of days where $H_{sig} < 1$ m at some point: 20
- Number of days where $H_{sig} > 2$ m at some point: 2

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:

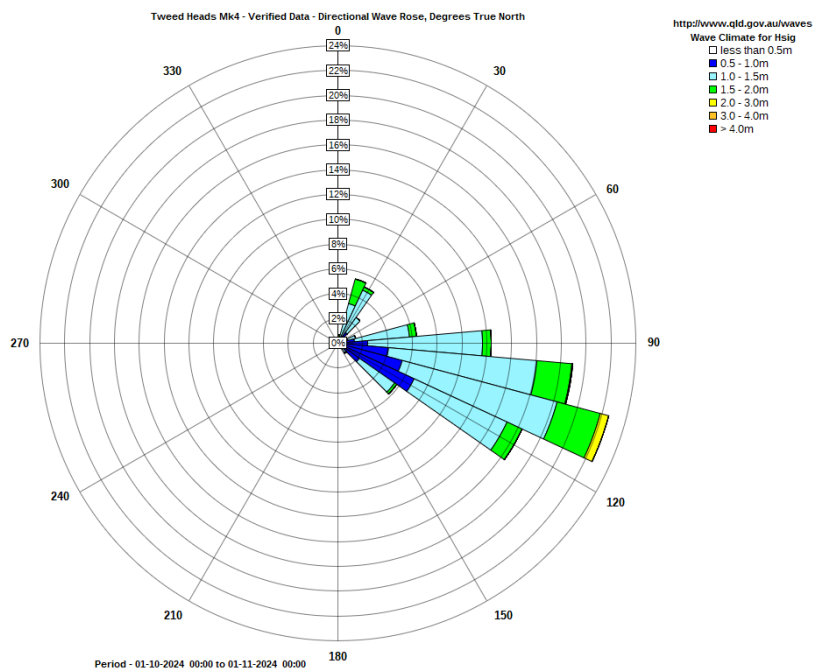
<http://www.qld.gov.au/waves>

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

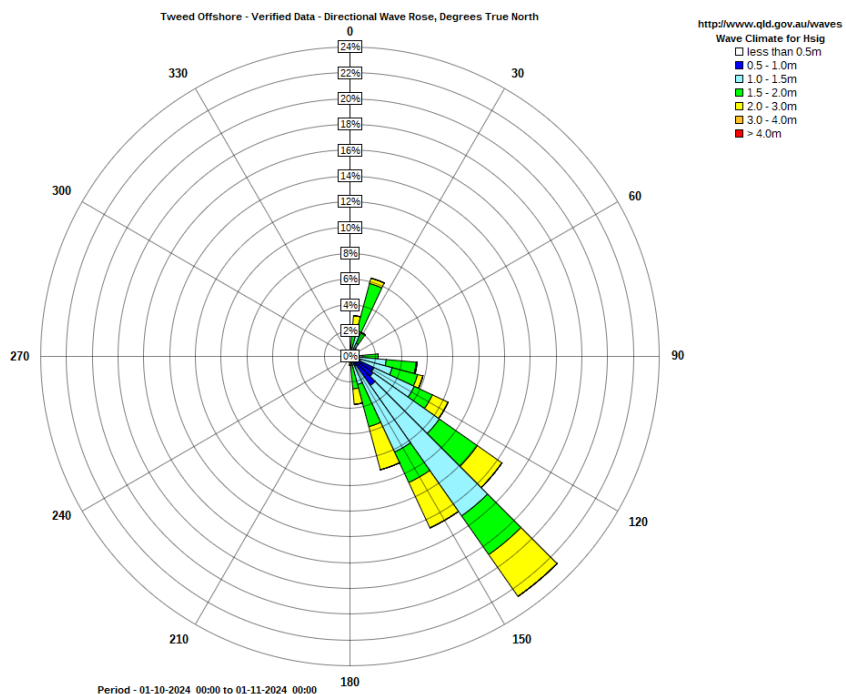
<https://www.qld.gov.au/environment/coasts-waterways/beach/monitoring/waves-sites/tweed-heads>

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NEARSHORE WAVE DIRECTION



OFFSHORE WAVE DIRECTION

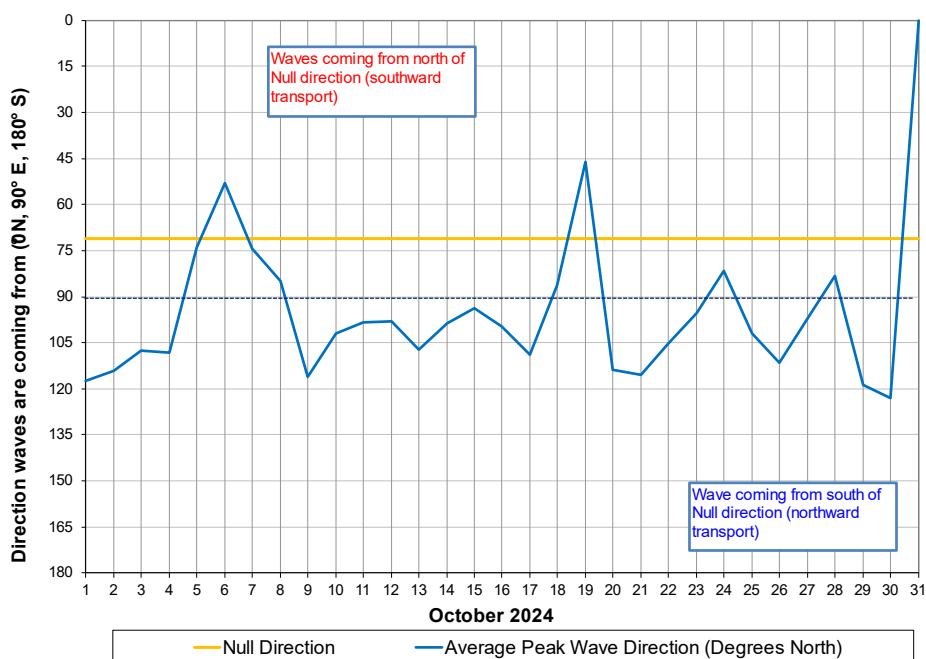
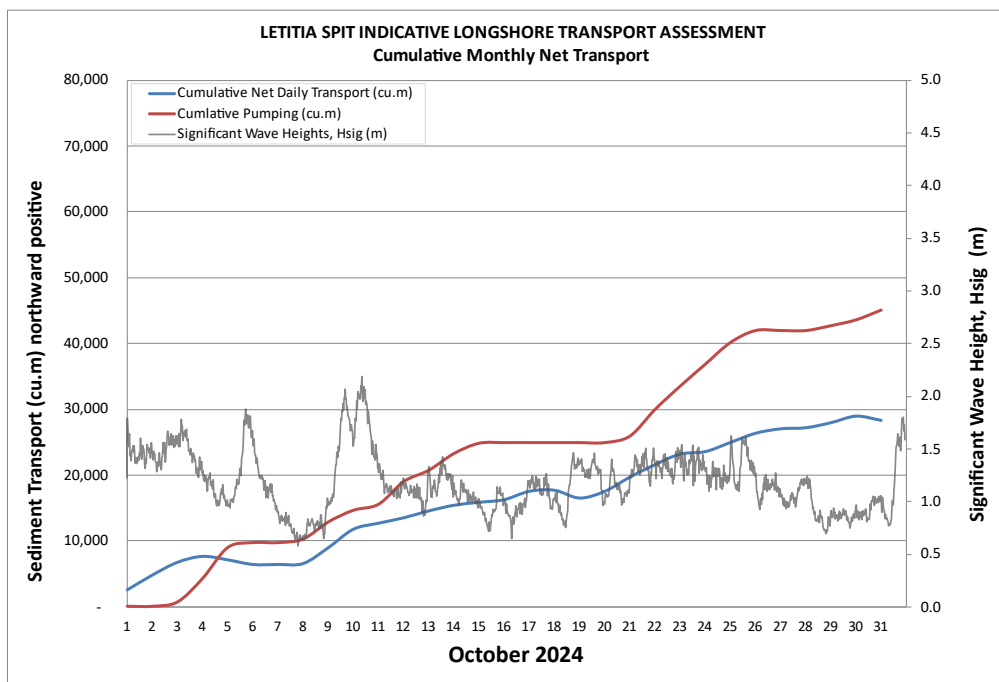


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3. INDICATIVE LONGSHORE TRANSPORT

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 October 2024, the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 28,300 m³. This result is 91 per cent of the average estimated sand transport quantity of approximately 31,200 m³ for October.



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4. BEACH AND SURF AMENITY OBSERVATIONS

Scarping at Duranbah Beach remains a persistent feature, resulting from the upper beach nourishment concluding in May. The beach width at Rainbow Bay continues to reduce, which is typical of seasonal variations in shoreline position at this location.



Coolangatta 15 October 2024



Rainbow Bay 15 October 2024



Kirra 15 October 2024



Duranbah 15 October 2024

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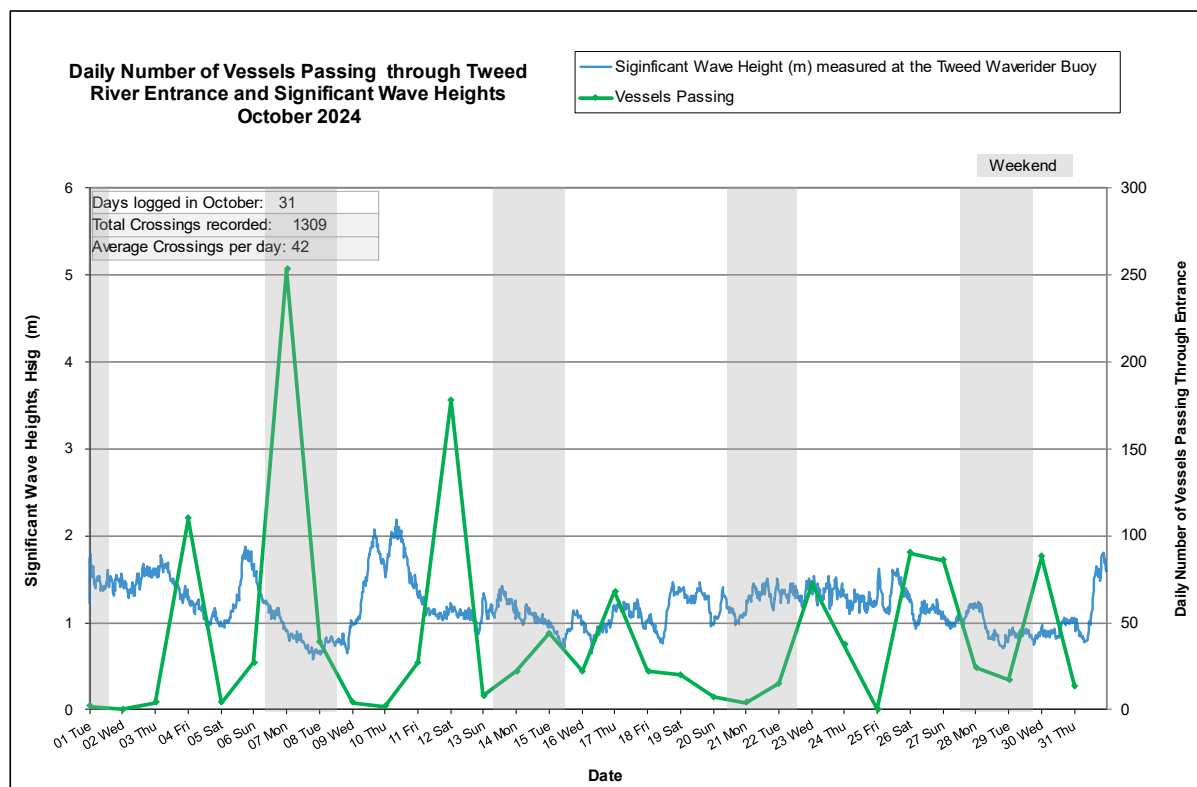
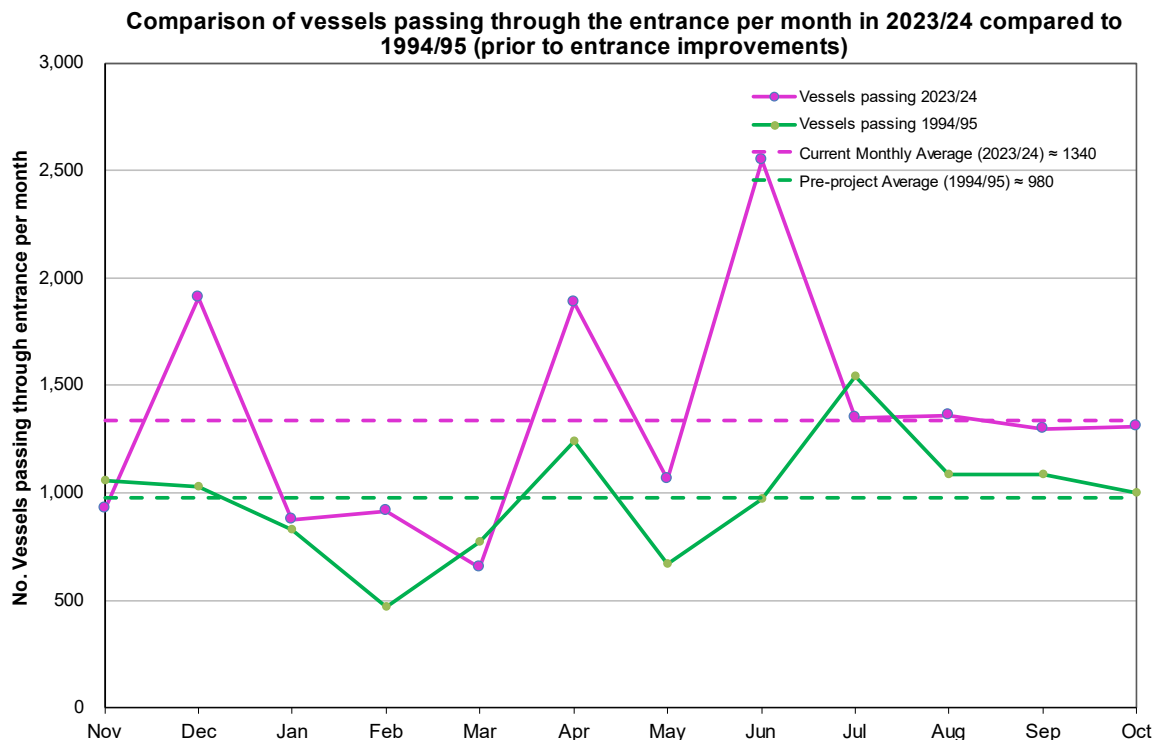
Duranbah was observed to be a popular surf location in October with quality banks taking advantage of the moderate ESE swells producing well-formed peaks, tubes, and punchy sections.

	
<p>Duranbah 4 October 2024</p>	<p>Duranbah 12 October 2024</p>
	
<p>Snapper 23 October 2024 (+ whale)</p>	<p>Duranbah 25 October 2024</p>

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5. TWEED RIVER ENTRANCE USAGE

A total of 1,309 Tweed River entrance vessel crossings were recorded for the month (86 per cent of the monthly average (2002–2024)).



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Date October 2024	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						2
2						0
3						4
4						110
5						4
6						27
7						253
8						39
9						4
10						2
11						27
12						178
13						8
14						22
15						44
16						22
17						68
18						22
19						20
20						7
21						4
22						15
23						72
24						37
25						0
26						90
27						86
28						24
29						17
30						88
31						13
					Total:	1,309

Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends

Source: Marine Rescue NSW, Point Danger