

TWEED SAND BYPASSING

ENVIRONMENTAL MONITORING SUMMARY – September 2024

1. SAND PUMPING & DREDGING

- 18,360 m³ was pumped to Snapper Rocks East.
- 0 m³ of sand was dredged.

Sand Delivery September 2024

Pumped:	18,360 m ³
Dredged:	0 m ³
Total:	18,360 m ³

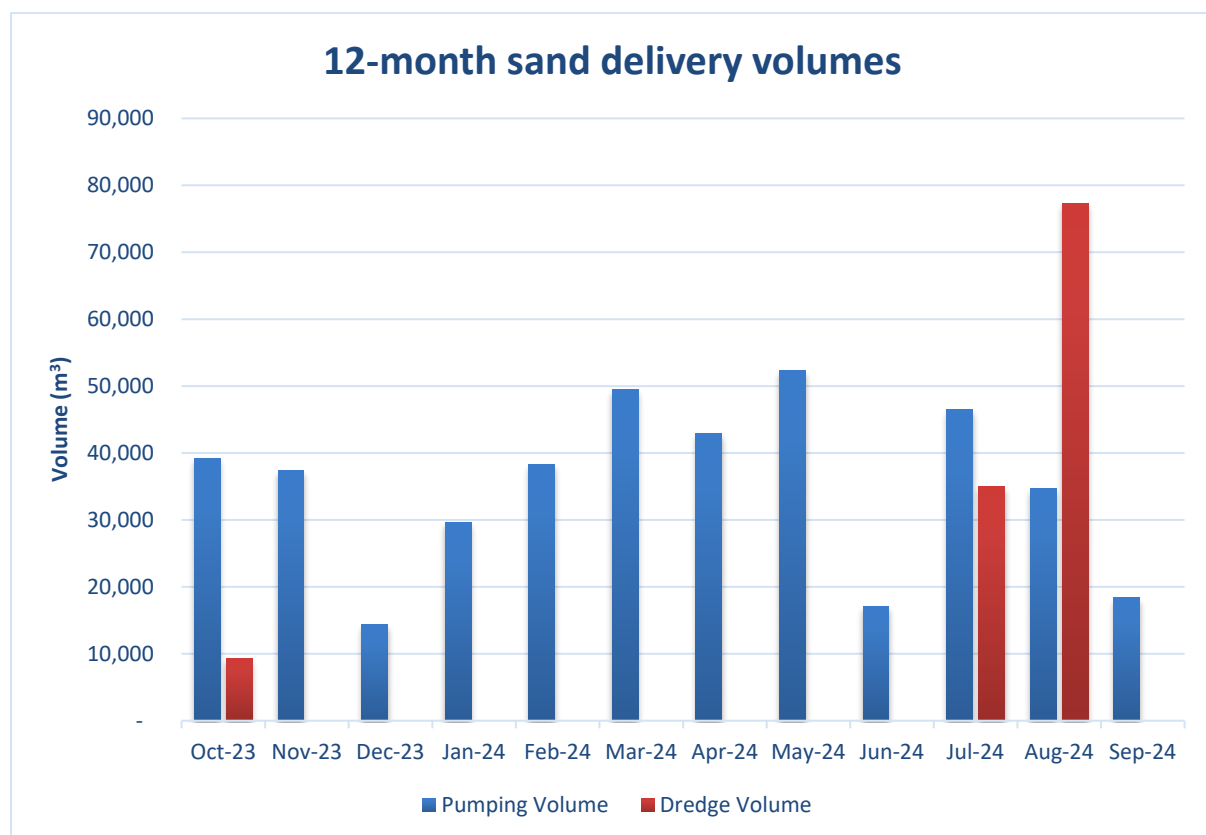
The number of days sand was pumped this month = 10

The number of days sand was dredged this month = 0

Sand Delivery May 2000 to September 2024

Pumped:	11,895,143 m ³
Dredged*:	3,159,617 m ³
Total*:	15,054,760 m ³

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



OFFICIAL

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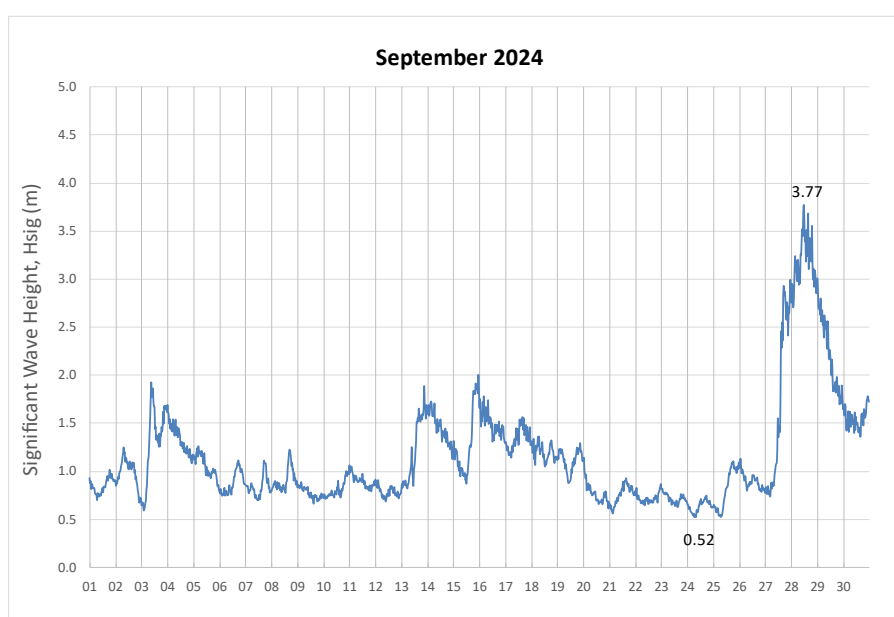
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2. WAVE CONDITIONS

September saw reasonably consistent conditions throughout most of the month. A surface low formed off the NSW North Coast on September 27 bringing large energetic conditions from S-SE. A maximum H_{sig} was observed on the 28th at 3.77m.

- Minimum H_{sig} : 0.52 m on 24 September 2024
- Maximum H_{sig} : 3.77 m on 28 September 2024
- Number of days where $H_{sig} < 1$ m at some point: 22
- Number of days where $H_{sig} > 2$ m at some point: 4

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)

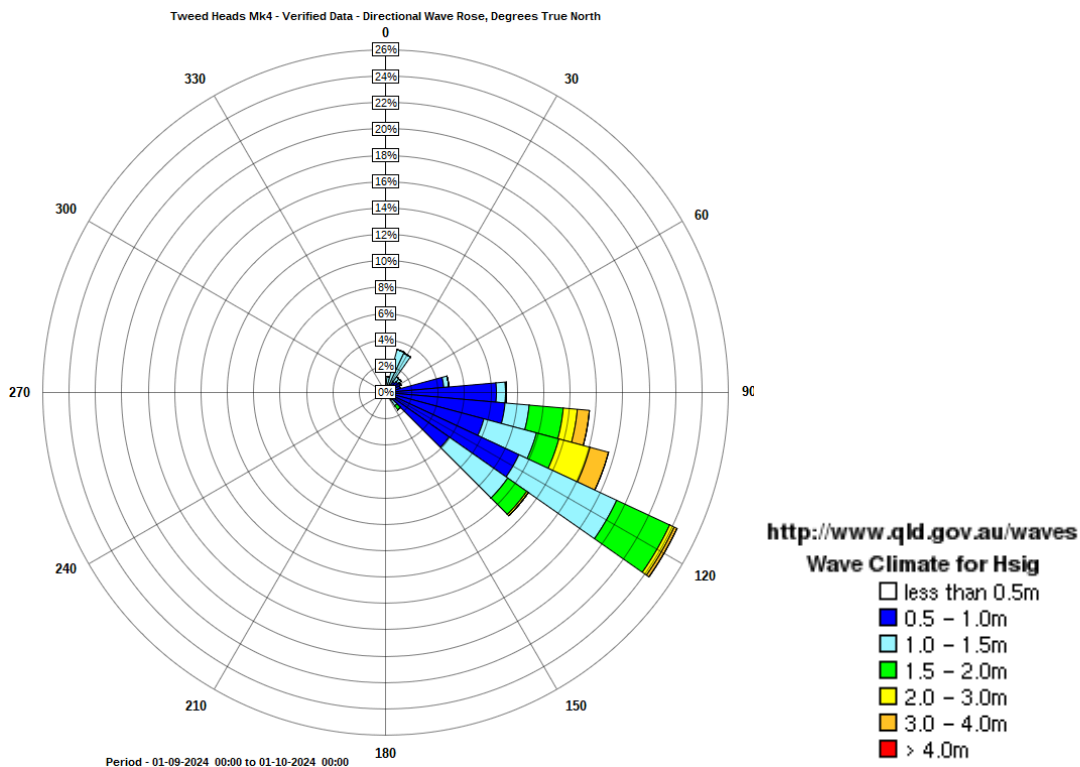
A link to data recorded by the Tweed Heads and Tweed Offshore Waverider buoys is available at:
<http://www.qld.gov.au/waves>

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

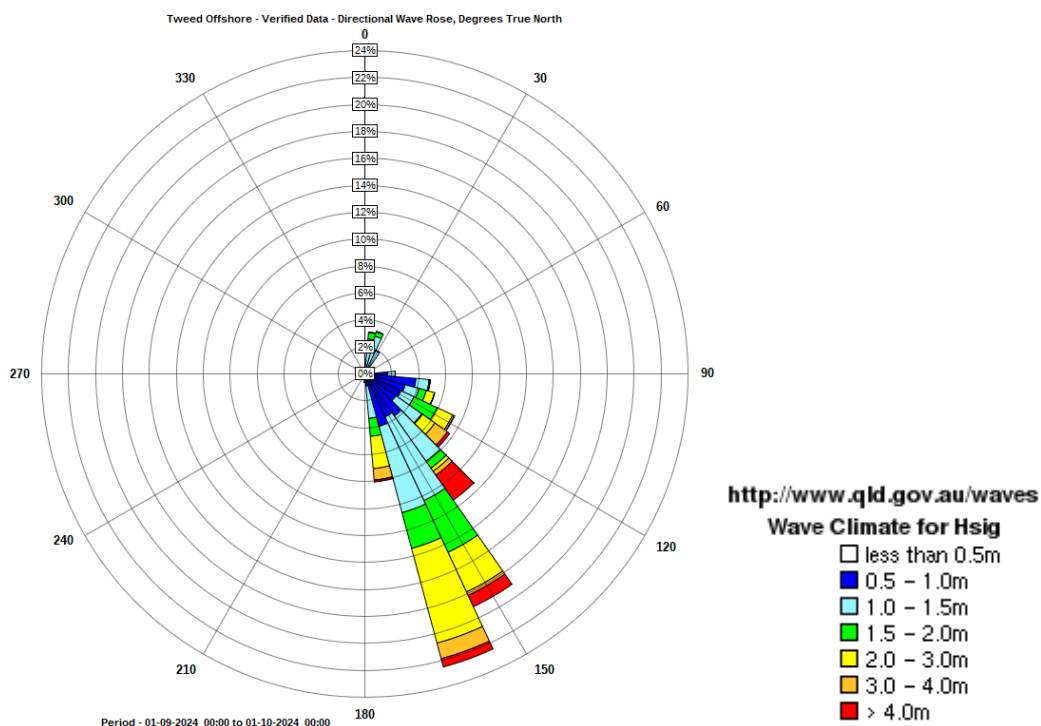
<https://www.qld.gov.au/environment/coasts-waterways/beach/monitoring/waves-sites/tweed-heads>

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NEARSHORE WAVE DIRECTION



OFFSHORE WAVE DIRECTION

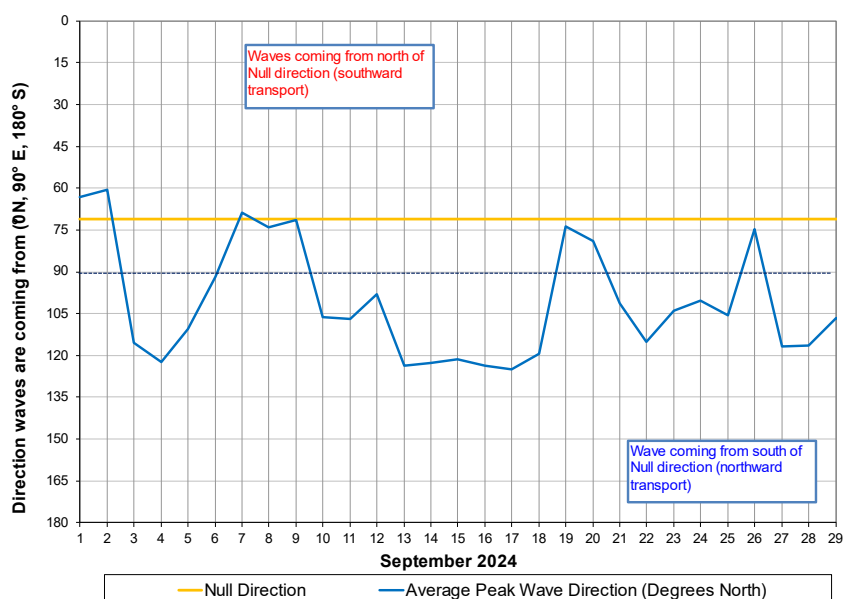
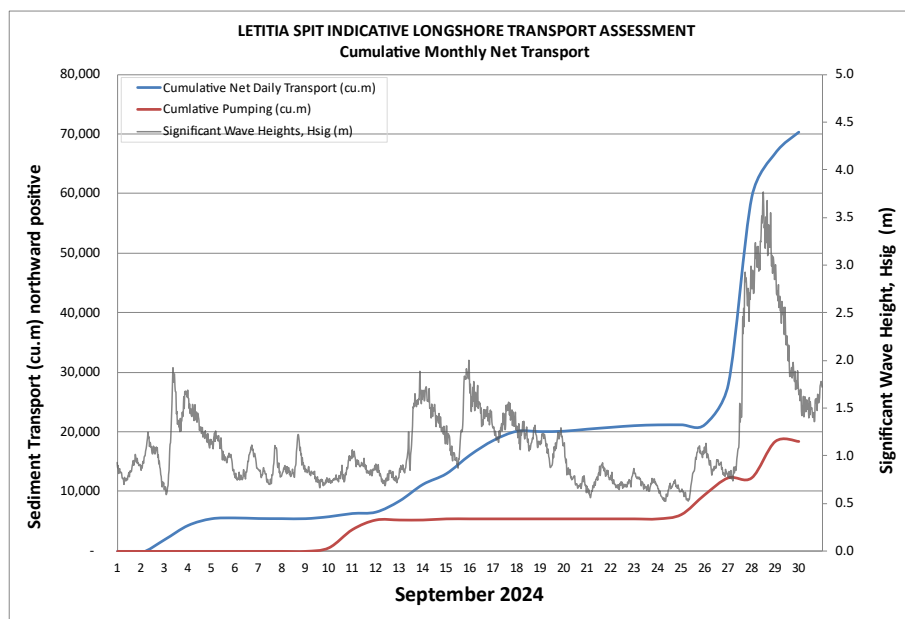


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3. INDICATIVE LONGSHORE TRANSPORT

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 September 2024, the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 70,300 m³. This result is 233 per cent of the average estimated sand transport quantity of approximately 30,216 m³ for September. The majority of estimated sediment transport for the month can be attributed to a high energy wave event occurring over the last four days of September.



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4. BEACH AND SURF AMENITY OBSERVATIONS

Consistent with observations over recent months, Duranbah Beach has persistent scarping relating to events occurring after the May 2024 nourishment campaign. The upper beach at Rainbow Bay remains in an accreted state. This beach building is observed annually as part of seasonal variations.



Rainbow Bay 9 September *south aspect



Rainbow Bay 9 September *north aspect



Greenmount 9 September



Duranbah 9 September

TWEED SAND BYPASSING

Duranbah was popular with surfers during September, with quality, well-formed banks producing a variety of waves. Low wave energy limited options at other locations for most of the month.



5 September 2024



Duranbah 16 September



Kirra 29 September

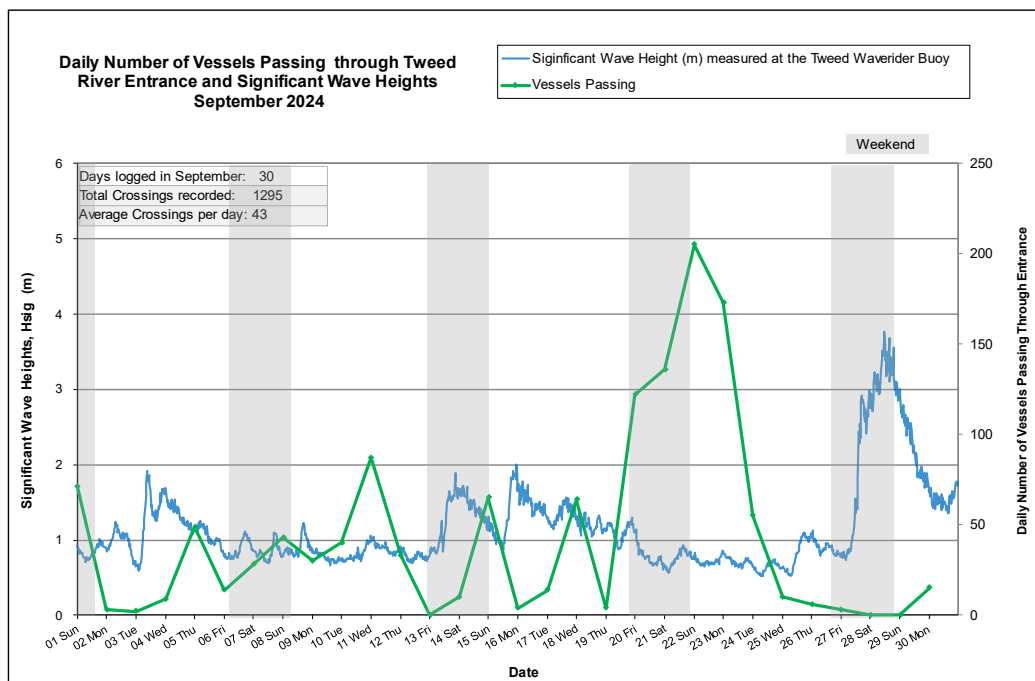
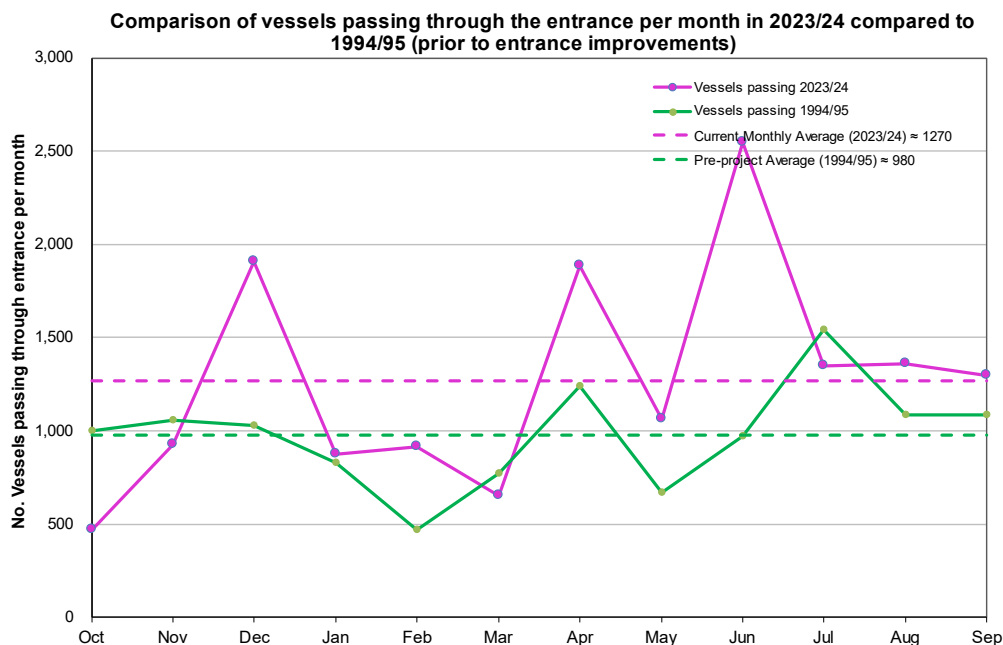


Duranbah 30 September

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5. TWEED RIVER ENTRANCE USAGE

A total of 1,295 Tweed River entrance vessel crossings were recorded for the month (85 per cent of the September average (2002–2024)). Entrance met the navigability objectives as defined in the legislation during September.



TWEED SAND BYPASSING

Date September 2024	Navigation Rating					Number of Crossings
	Impassable < - - - - - > Good					
	Impassable	Difficulty Encountere d	Some Difficulty Encountere 3	Relatively Good Crossing 4	Good Conditions 5	
1						71
2						3
3						2
4						9
5						49
6						14
7						28
8						43
9						30
10						40
11						87
12						33
13						0
14						10
15						65
16						4
17						14
18						64
19						4
20						122
21						136
22						205
23						173
24						55
25						10
26						6
27						3
28						0
29						0
30						15
						0
					Total:	1,295

Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends

Source: Marine Rescue NSW, Point Danger