

TWEED SAND BYPASSING

ENVIRONMENTAL MONITORING SUMMARY – FEBRUARY 2024

1. SAND PUMPING & DREDGING

- 38,262 m³ was pumped to Snapper Rocks East.
- 0 m³ of sand was dredged.

Sand Delivery February 2024

Pumped: 38,262 m³

Dredged: 0 m³

Total: 38,262 m³

The number of days sand was pumped this month = 15

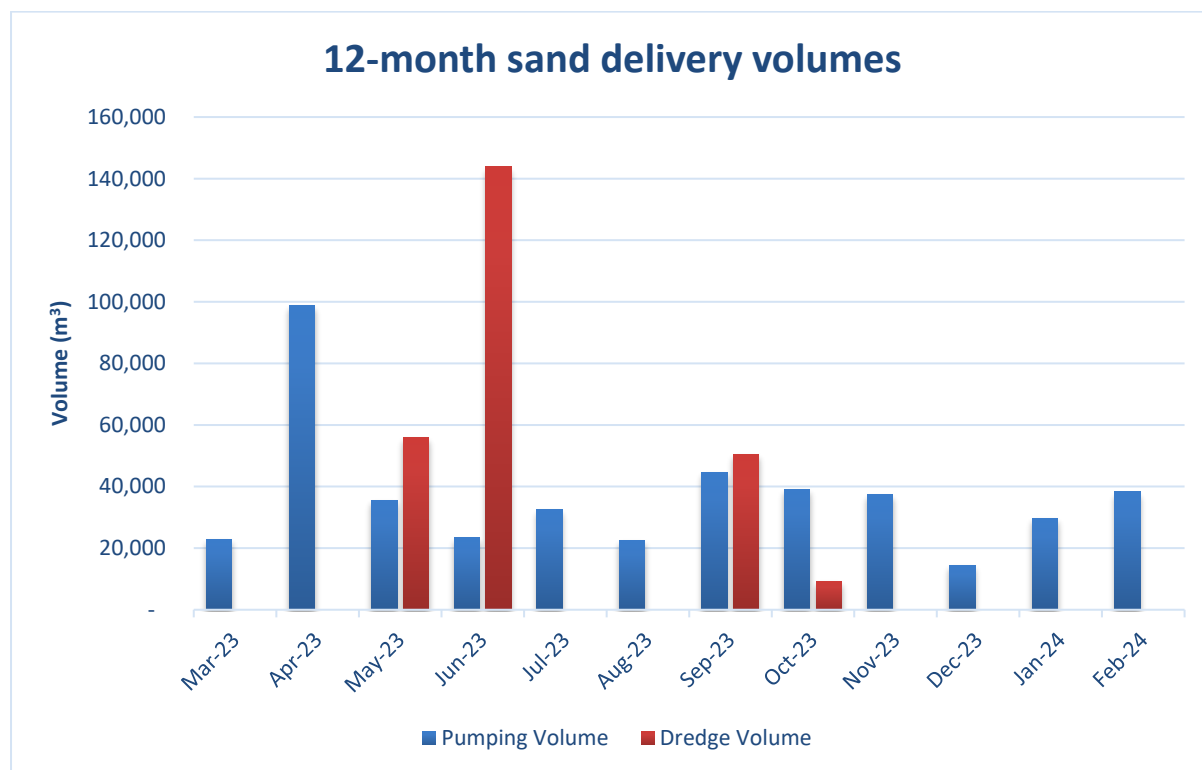
Sand Delivery May 2000 to February 2024

Pumped: 11,633,686 m³

Dredged*: 3,047,295 m³

Total*: 14,680,980 m³

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



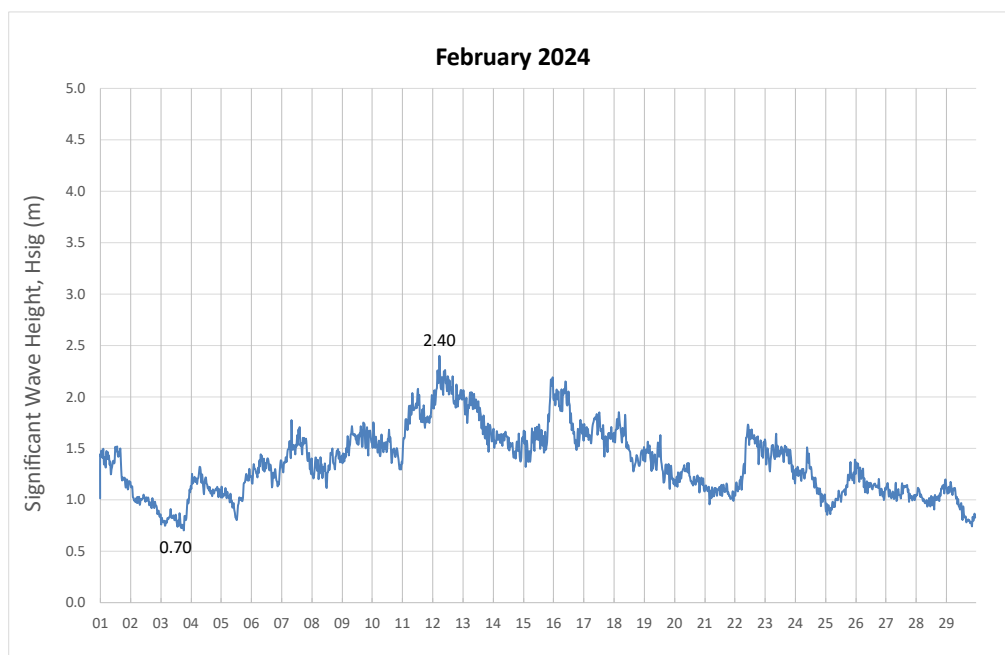
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2. WAVE CONDITIONS

February saw more active conditions than the last few months, especially in the first couple of weeks with 5 days of wave heights greater than 2 m. The maximum wave height for the month was observed in the second week of the month at 2.40 m. Consistent easterly conditions were recorded at both the nearshore and offshore Waverider buoys.

- Minimum H_{sig} : 0.70 m on 03 February 2024
- Maximum H_{sig} : 2.40 m on 12 February 2024
- Number of days where $H_{sig} < 1$ m at some point: 10
- Number of days where $H_{sig} > 2$ m at some point: 5

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

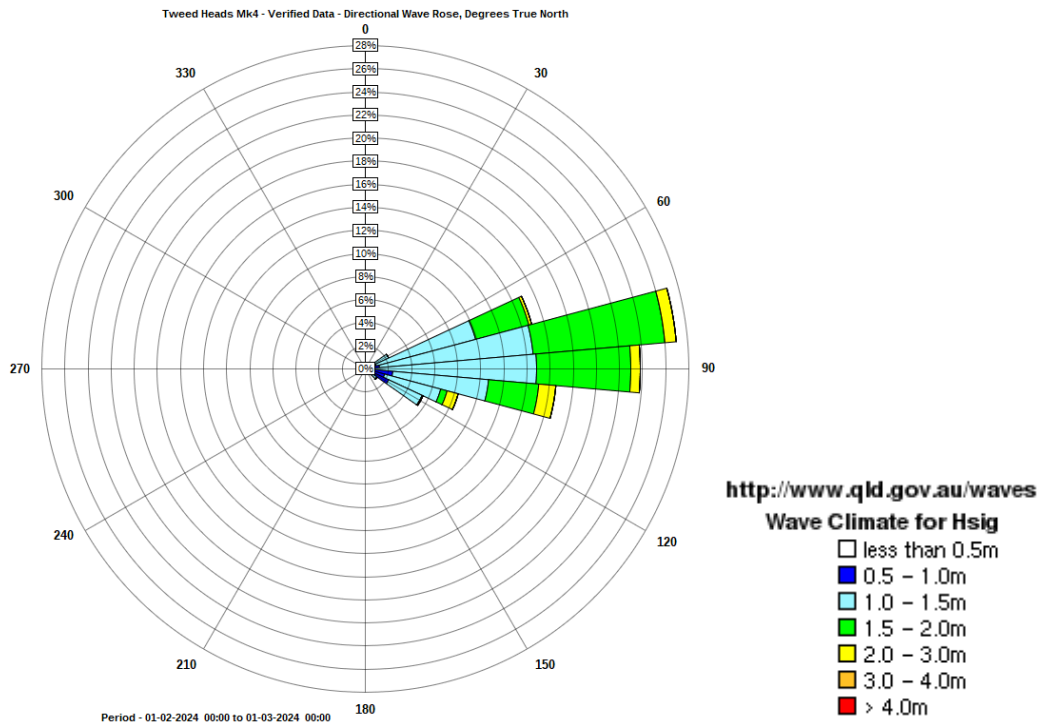


(Source: Tweed Heads Waverider buoy; Queensland Government)

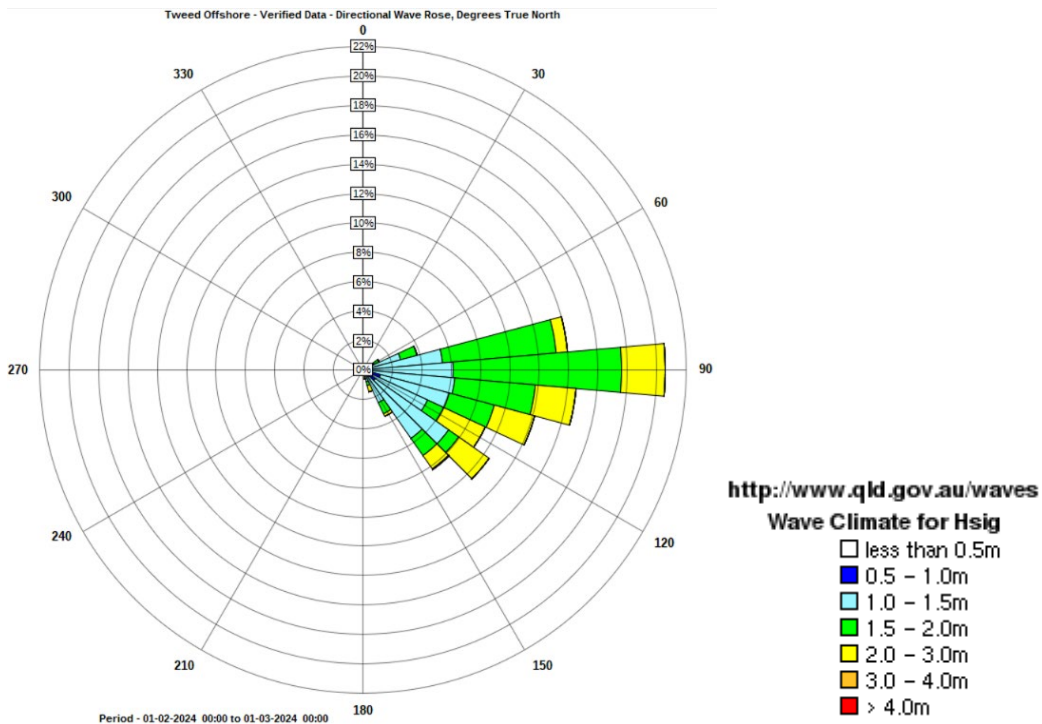
A link to data recorded by the Tweed Heads and Tweed Offshore Waverider buoys is available at:
<http://www.qld.gov.au/waves>

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NEARSHORE WAVE DIRECTION



OFFSHORE WAVE DIRECTION

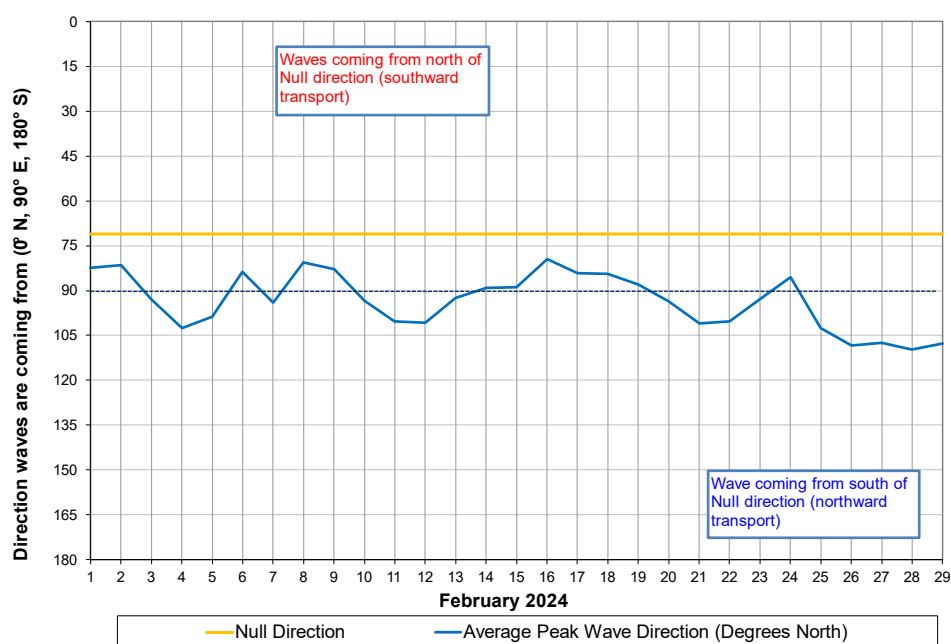
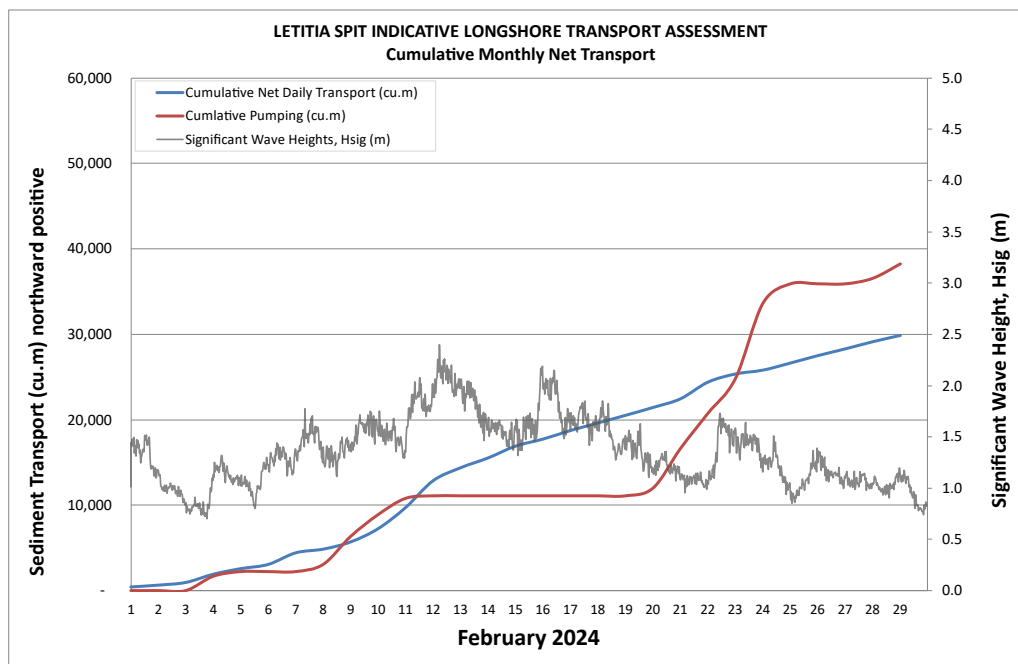


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3. INDICATIVE LONGSHORE TRANSPORT

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 February 2024, the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 29,900 m³. This result is 52 per cent of the average estimated sand transport quantity of approximately 58,000 m³ for February.



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4. BEACH AND SURF AMENITY OBSERVATIONS

February observed a consistent East swell direction and moderate wave heights.

The conditions continue to move sand out from Rainbow Bay and Greenmount with additional sand observed at Kirra. The longshore bar remains in the nearshore with a subsequent longshore trough providing calm swimming conditions that continue to be popular with beach users.



Rainbow Bay 13 February **south aspect*



Kirra 13 February



Greenmount 13 February



Duranbah 13 February

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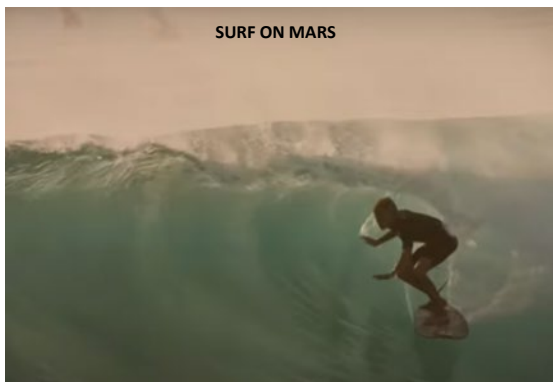
February saw very consistent swell conditions throughout the whole month, with five days experiencing swell over 2 m Hsig. The trade-wind swell along with SE winds, resulted in favourable conditions for the southern Gold Coast points and Duranbah.



Snapper Rocks 10 February



Snapper Rocks 10 February



Duranbah 8 February



Duranbah 15 February



Snapper Rocks 16 February

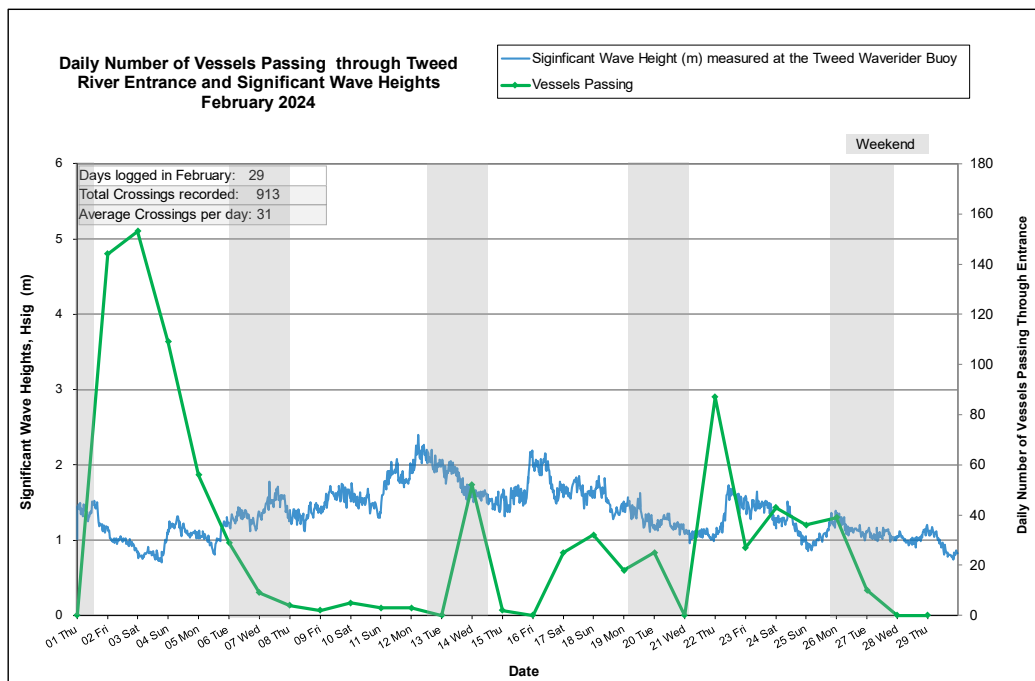
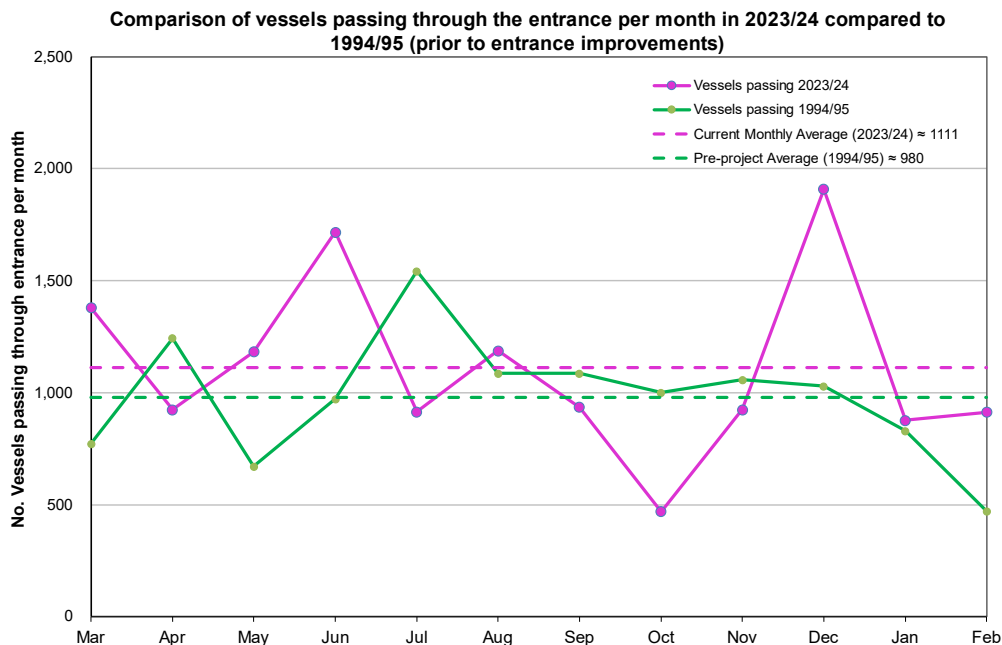


Duranbah 23 February

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5. TWEED RIVER ENTRANCE USAGE

A total of 913 Tweed River entrance vessel crossings were recorded for the month (72 per cent of the February average (2002–2024)).



 Weekends

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