

TWEED SAND BYPASSING

ENVIRONMENTAL MONITORING SUMMARY – JUNE 2022

1. SAND PUMPING & DREDGING

- 20,317 m³ was pumped to Snapper Rocks East.
- 0 m³ of sand was dredged

Sand Delivery June 2022

Pumped: 20,317 m³

Dredged: 0 m³

Total: 20,317 m³

The number of days sand was pumped this month = 21

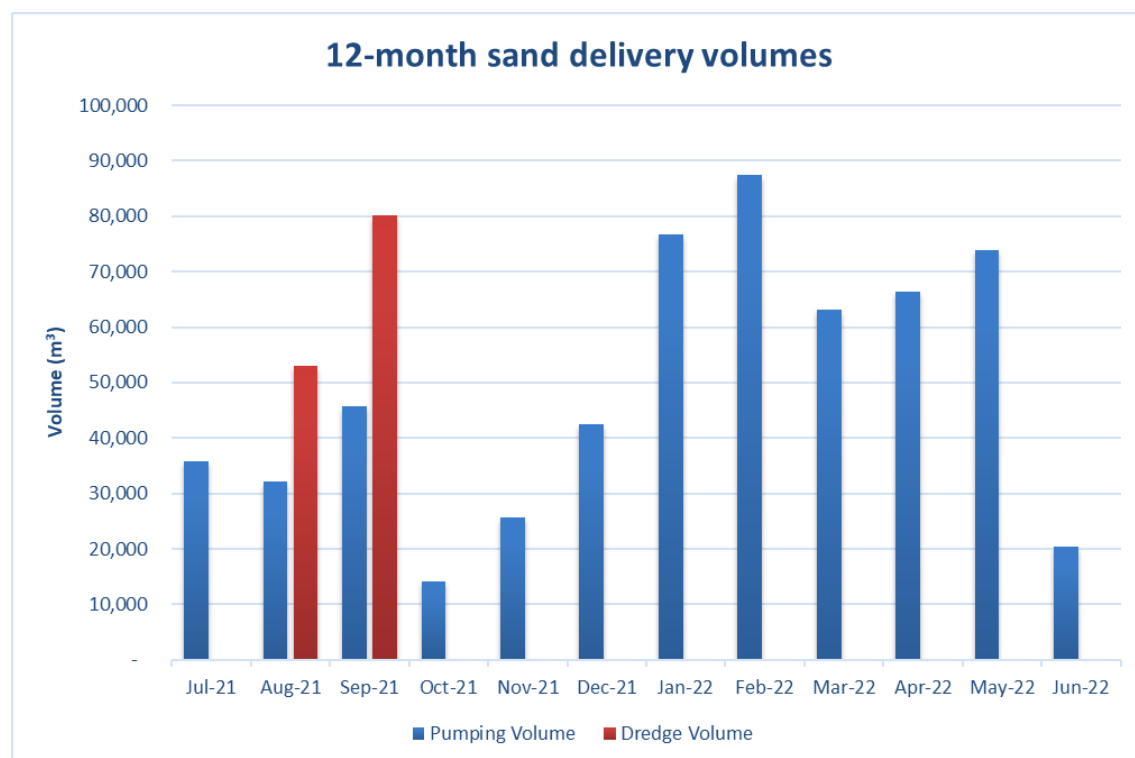
Sand Delivery May 2000 to date

Pumped: 10,819,965 m³

Dredged*: 2,715,369 m³

Total*: 13,535,333 m³

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



TWEED SAND BYPASSING

2. WAVE CONDITIONS

June was a relatively calm month compared to the 6 months experienced beforehand. The highest significant wave height was 2.12 m on the 28th of June. The wave directions throughout the month were predominantly from the southeast.

- Minimum H_{sig} : 0.36 m on 6 June 2022
- Maximum H_{sig} : 2.12 m on 28 June 2022
- Number of days where $H_{sig} < 1$ m at some point: 18
- Number of days where $H_{sig} > 2$ m at some point: 2

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



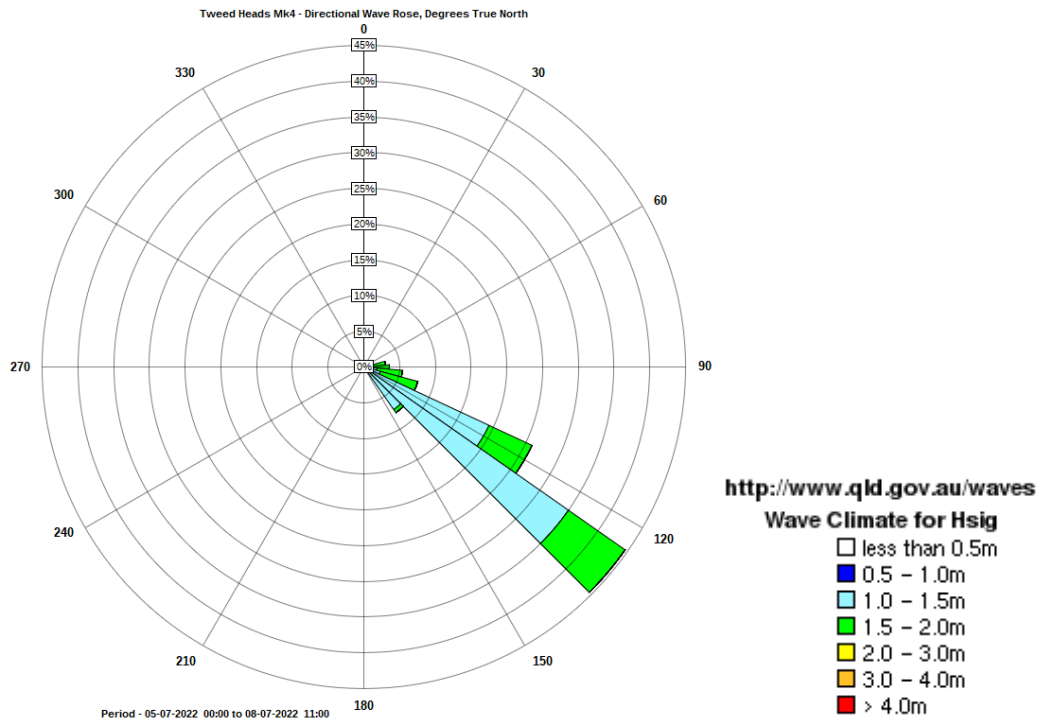
(Source: Tweed Heads Waverider buoy; Queensland Government)

In January 2020 TSB commissioned the deployment of another Waverider buoy in the Tweed region. The Tweed Offshore Waverider buoy was deployed in approximately 60 m water depth to the east and adjacent to Kingscliff and Dreamtime Beaches. The purpose of the Tweed Offshore buoy is to observe and assess changes in wave climate at the Tweed Heads buoy due to the presence of the Danger Reefs and Cook Island.

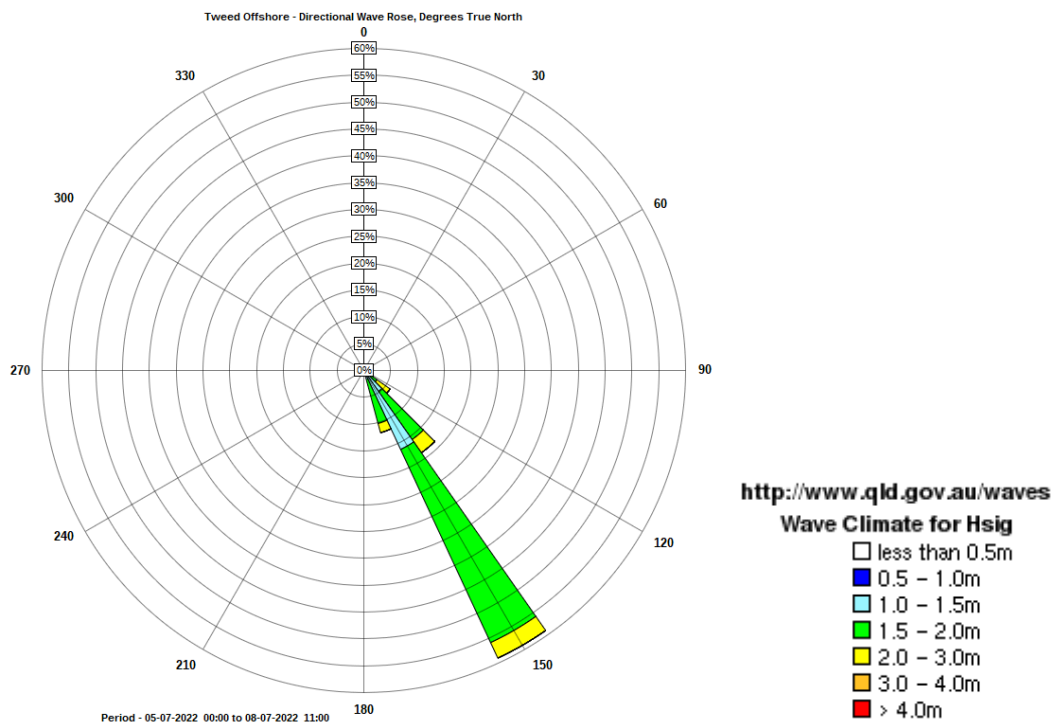
A link to data recorded by the Tweed Heads and Tweed Offshore Waverider buoys is available at: <http://www.qld.gov.au/waves>

TWEED SAND BYPASSING

NEARSHORE WAVE DIRECTION



OFFSHORE WAVE DIRECTION

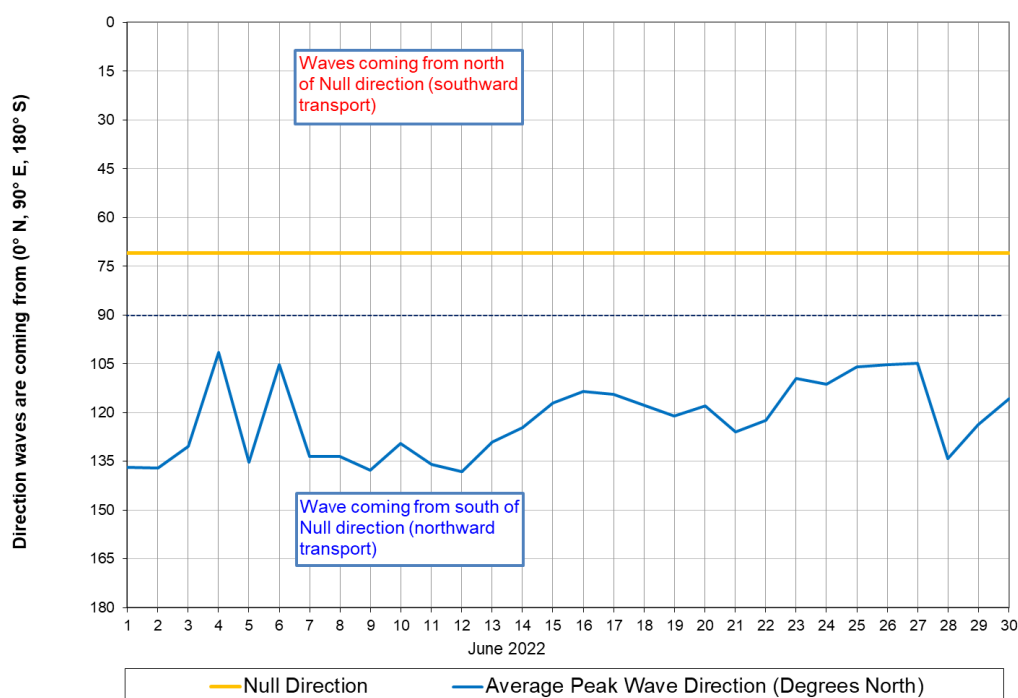
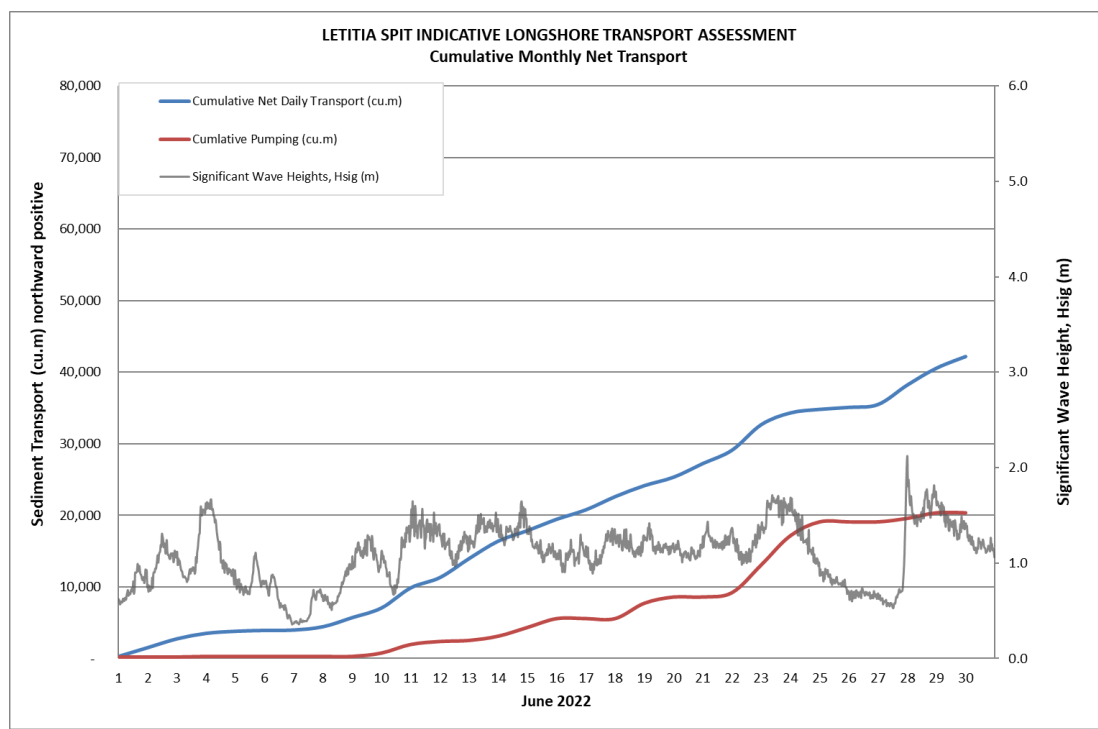


TWEED SAND BYPASSING

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 June 2022 the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 42,000 m³. This result is 71 per cent of the average estimated sand transport quantity of approx. 60,000 m³ for June.



TWEED SAND BYPASSING

4. BEACH AND SURF AMENITY OBSERVATIONS

As of mid-June, beaches were generally in a healthy state. Under the calm conditions sand has been slowly returning to some lower volume beach compartments including immediately north of Kirra groyne and north of Fingal Head.



Fingal



Kirra

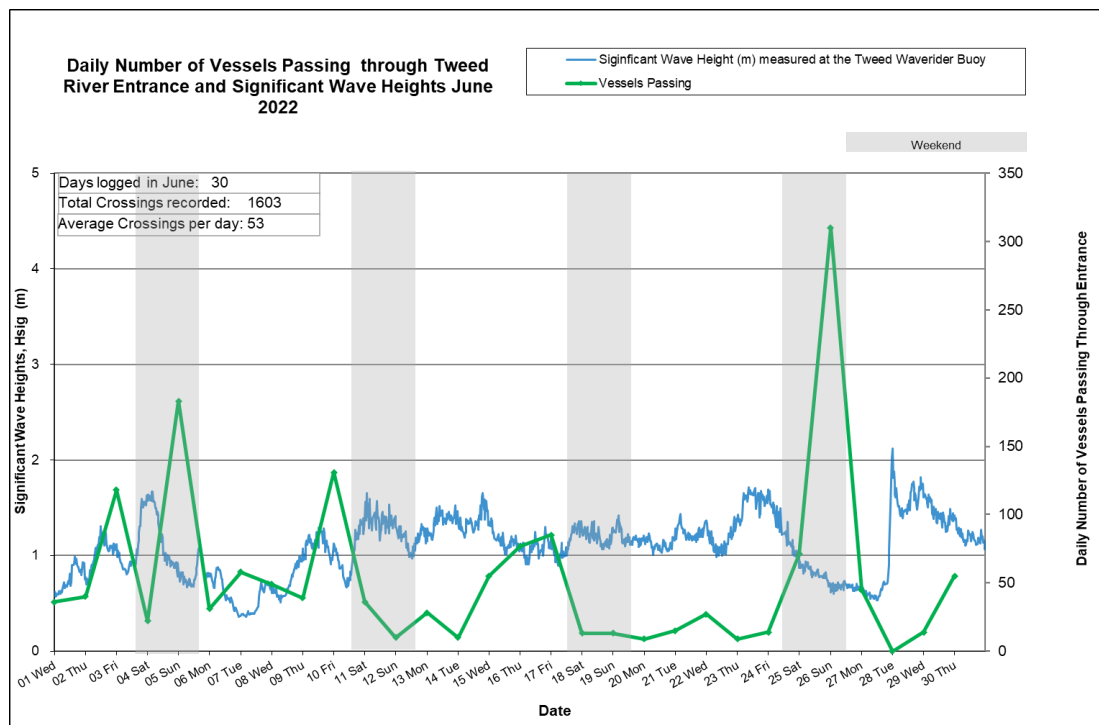
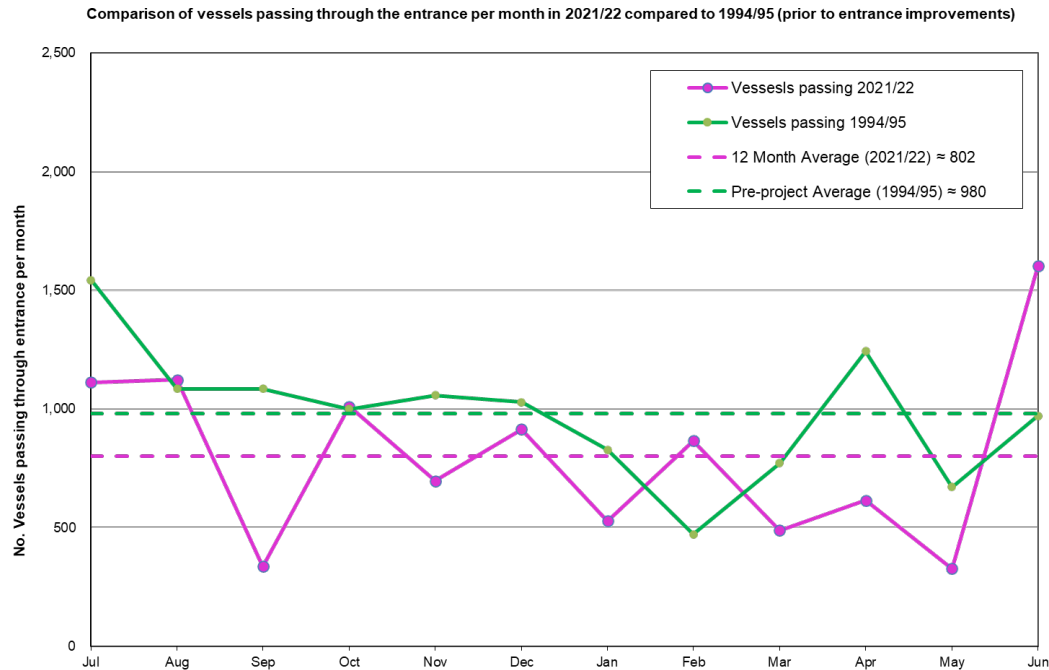
More variable swell heights offered a range of surfing options in June with Duranbah and Snapper Rocks providing quality waves at different times.



TWEED SAND BYPASSING

5. TWEED RIVER ENTRANCE USAGE

A total of 1603 Tweed River entrance vessel crossings were recorded for the month (98 per cent of the June average (2002–2022)).



TWEED SAND BYPASSING

Date June 2022	Navigation Rating					Number of Crossings
	Impassable < - - - - - > Good					
	Impassable	Difficulty Encountered	Some Difficulty Encountered	Relatively Good Crossing	Good Conditions	
1						36
2						40
3						118
4						22
5						183
6						31
7						58
8						49
9						39
10						131
11						36
12						10
13						28
14						10
15						55
16						77
17						85
18						13
19						13
20						9
21						15
22						27
23						9
24						14
25						71
26						310
27						45
28						0
29						14
30						55
					Total:	1,603

Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends

Source: Marine Rescue NSW, Point Danger