

# TWEED SAND BYPASSING

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Advisory Committee update

12 February 2025

## Project monitoring and operational overview

- Pumping operations
- Environmental Monitoring / beach observations
- Entrance conditions, usage and survey
- TSB projects and enhancements
- Communications



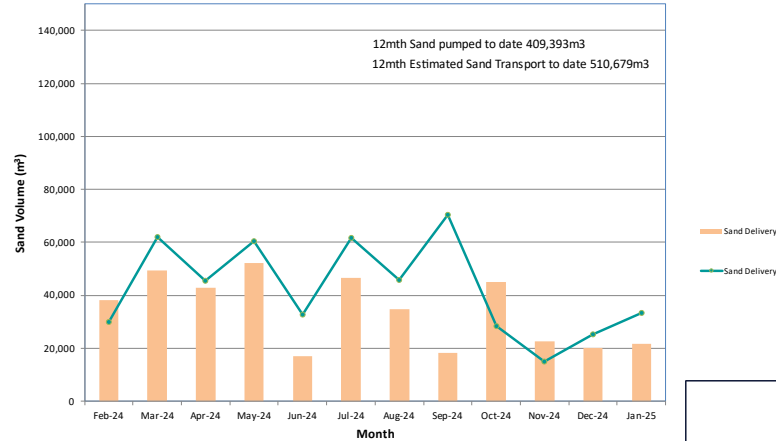
# TWEED SAND BYPASSING

## Pumping 2024

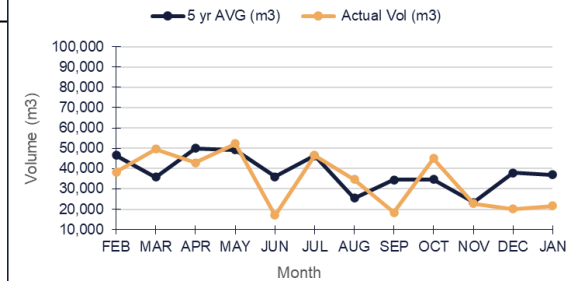
### PUMPING BY JETTY MOUNTED SYSTEM

MONTH	Vol SRE (m3)	Vol D'Bah (m3)	Total Vol (m3)	5 Yr AVG (m3)
FEB	38,262	0	38,262	46,566
MAR	49,535	0	49,535	35,719
APR	42,896	0	42,896	49,899
MAY	22,338	30,021	52,359	49,237
JUN	17,077	0	17,077	35,979
JUL	46,502	0	46,502	46,268
AUG	34,728	0	34,728	25,465
SEP	18,360	0	18,360	34,447
OCT	45,073	0	45,073	34,594
NOV	5,720	17,074	22,794	23,294
DEC	20,142	0	20,142	37,831
JAN	21,665		21,665	37,002
<b>TOTAL</b>	<b>362,298</b>	<b>47,095</b>	<b>409,393</b>	<b>456,302</b>

Comparison of Monthly Pumping vs Estimated Sand Transport



Pumped Sand Delivery by Month



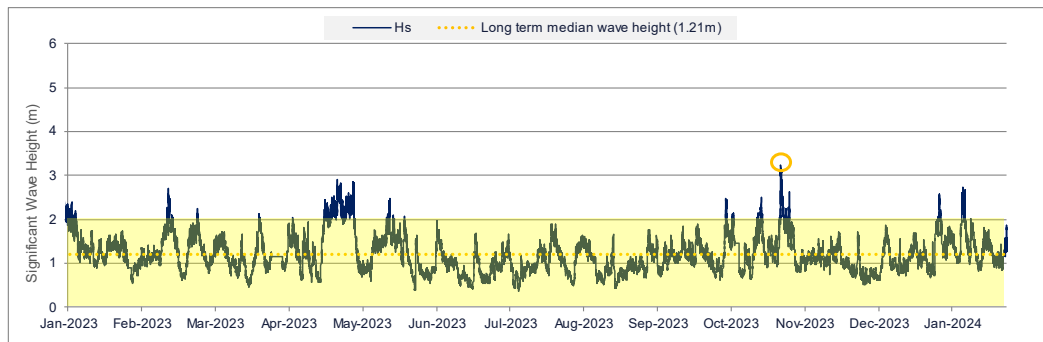
# TWEED SAND BYPASSING

## Dredging – Last 12 months

SAND DELIVERY BY DREDGE						
MONTH	Duranbah	SRE	Fingal	Dreamtime	Bilinga	Total Vol (m3)
FEB						
MAR						
APR						
MAY						
JUN						
JUL	9,017				26,008	35,025
AUG	30,992	10,449	35,638		219	77,298
SEP						
OCT						
NOV						
DEC						
JAN						
<b>TOTAL</b>	<b>40,009</b>	<b>10,449</b>	<b>35,638</b>	<b>0</b>	<b>26,227</b>	<b>112,323</b>

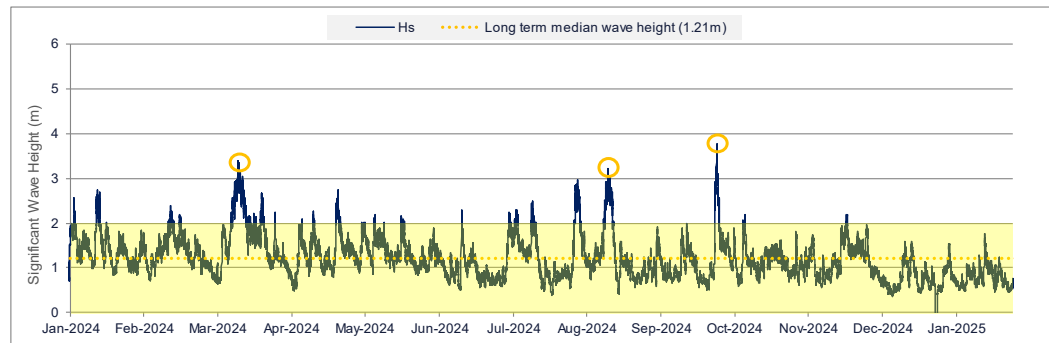


## Environmental Monitoring / beach observations



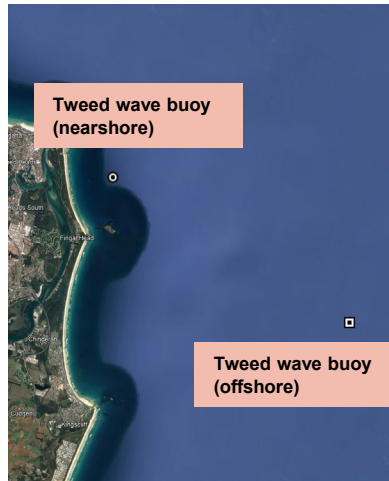
**Jan 23 – Jan 24**  
Estimated transport  
488,494 m<sup>3</sup>

**Jan 24 - Jan 25**  
Estimated transport  
562,752 m<sup>3</sup>

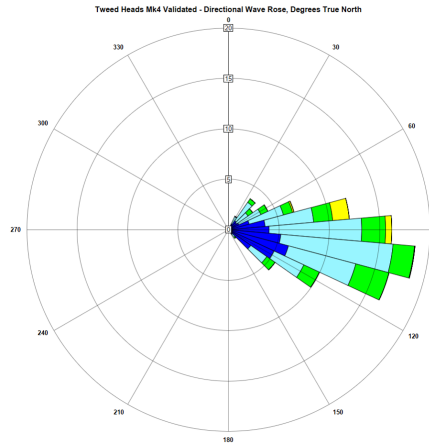


# TWEED SAND BYPASSING

## Environmental Monitoring / beach observations



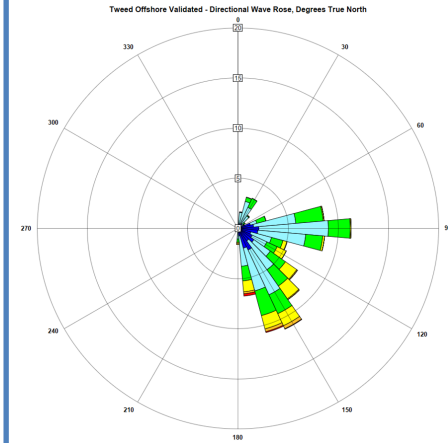
Tweed wave buoy (nearshore)  
1 November – 31 January



2023-24

2024-25

Tweed wave buoy (offshore)  
1 November – 31 January



2024-25

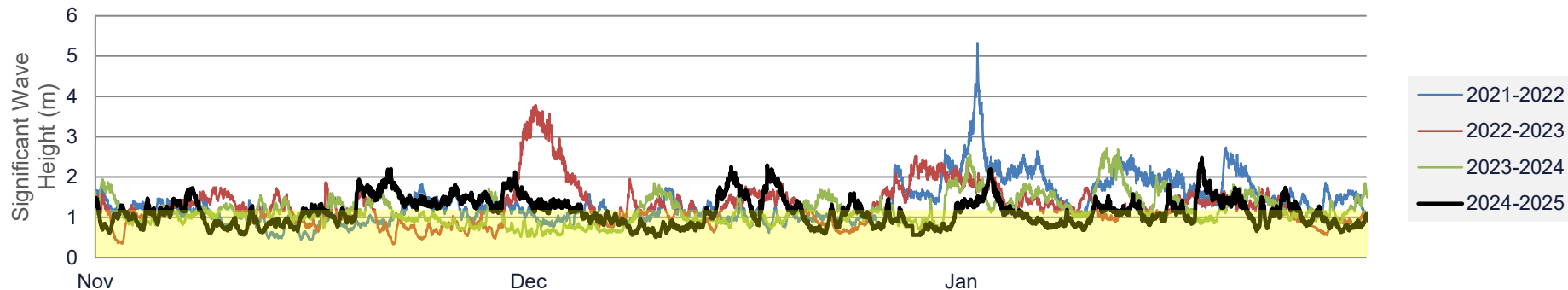
## Recent conditions

**November** - Inshore wave direction trending in a mostly E direction. Reduced beach width at Rainbow Bay continued and correlated with estimated transport rates. Nourishment commenced at Duranbah on the 3rd November with nourishment of the upper beach occurring between 3 – 24 November. A total of 17,074m<sup>3</sup> of the planned 30,000m<sup>3</sup> was delivered to the southern corner.

**December** - November saw reasonably consistent conditions throughout most of the month with nearshore wave energy trending in a mostly E direction. A maximum Hsig was observed on the 22nd at 2.29 m. A reduction in beach width at Rainbow Bay has continued over the last month, which is consistent with seasonal variations and metocean conditions.

**January** - January was comparatively calm with 21 days where Hsig was < 1m. This compares with 10 days in both 2023 and 2024 and 1 day in 2022. Rainbow Bay has seen a notable reduction in beach width and scarping of the upper beach, showing comparison to conditions observed at Rainbow in 2017 and 2010.

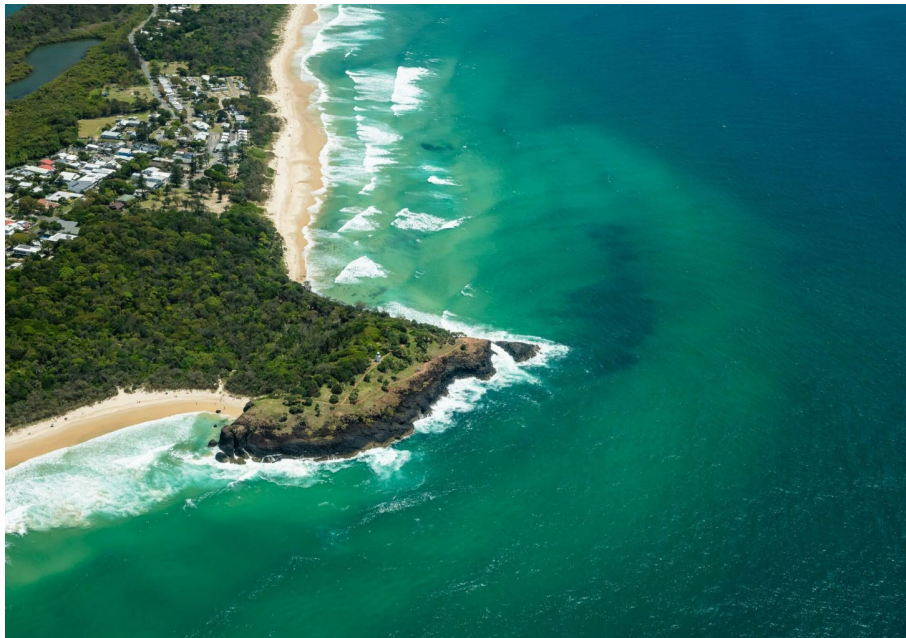
**SUMMARY** – Wave heights reached maximum Hsig of 2.20m, 2.29m and 2.28m in November, December and January respectively. However, conditions were observed to be relatively calm across this period with wave heights < 1m Hsig for 59 days across the 3 months.





# TWEED SAND BYPASSING

## Fingal



23 October 2024

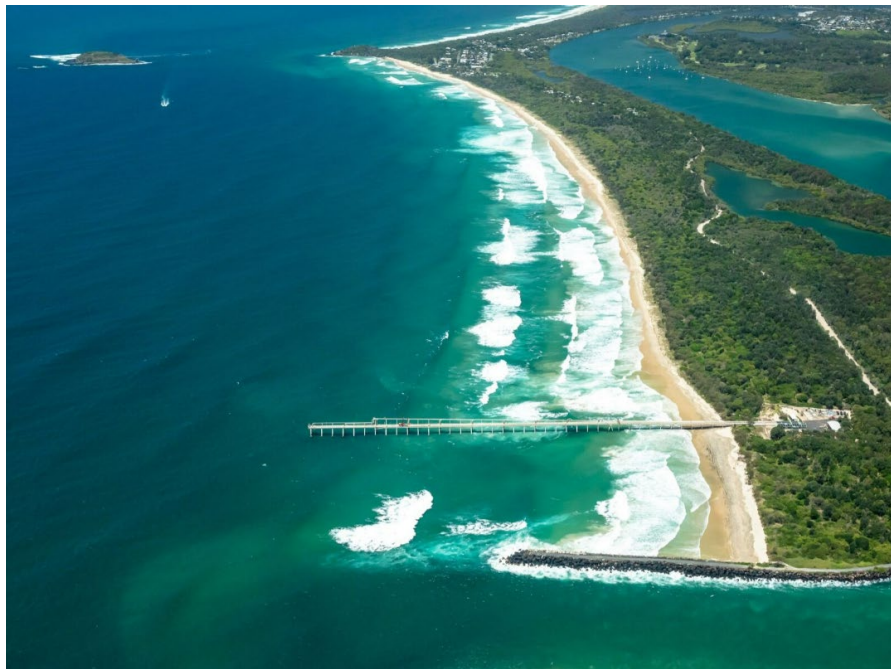


21 January 2025



# TWEED SAND BYPASSING

## Letitia



23 October 2024



21 January 2025

# TWEED SAND BYPASSING

## Duranbah Beach



23 October 2024

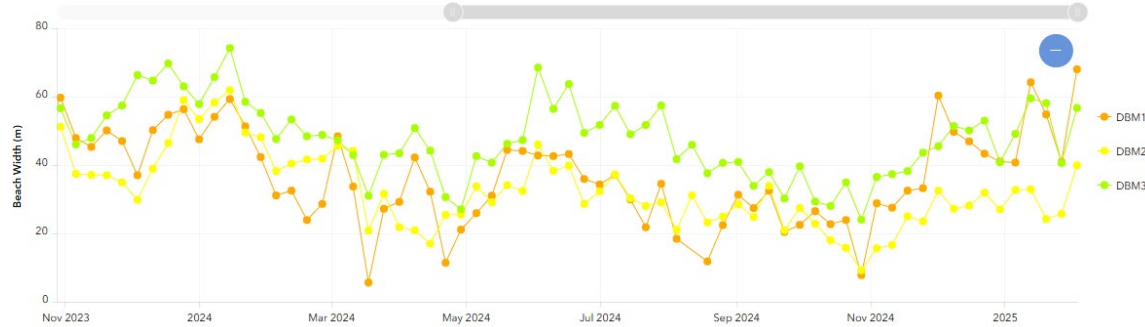


16 January 2025

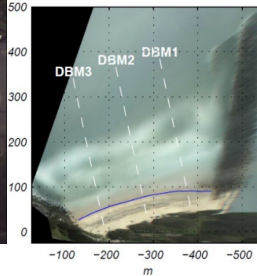


## Duranbah Beach Nourishment

- 8<sup>th</sup> to 24<sup>th</sup> of November 2024
- Safety risks addressed (covering of rocks and Tyalgum wreck)
- 17,074m<sup>3</sup> placed in southern corner
- Will remobilise once profiles at Rainbow Bay and Snapper Rocks stabilise



18 NOVEMBER 2024



31 JANUARY 2025

# TWEED SAND BYPASSING

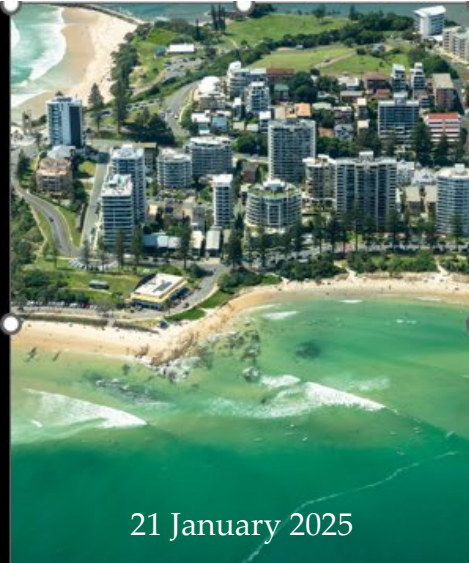
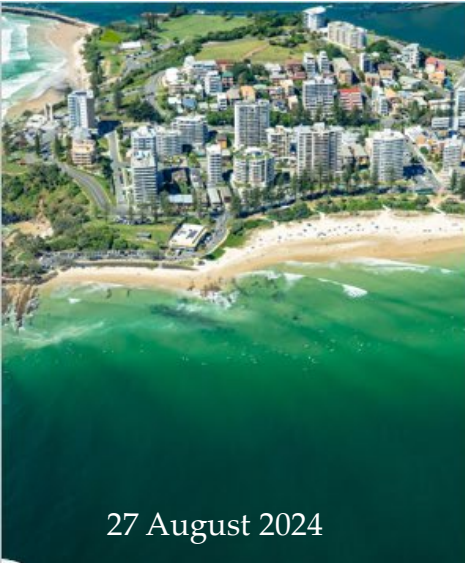
## Snapper Rocks Rainbow Bay





# TWEED SAND BYPASSING

## Snapper Rocks Rainbow Bay





# TWEED SAND BYPASSING

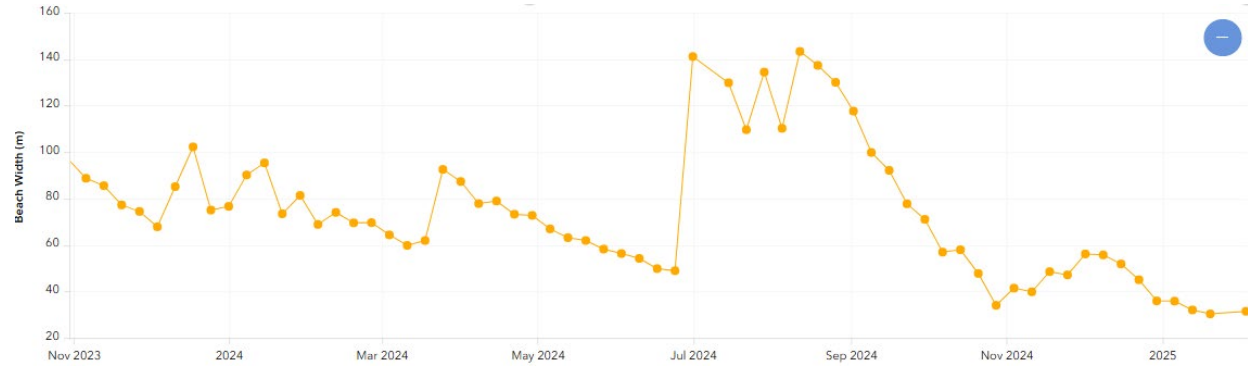
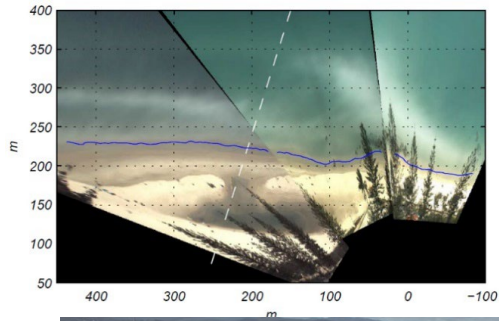
## Snapper Rocks Rainbow Bay Erosion

- erosion scarps and a reduction in beach width since August 2024
- this reduction is aligned with seasonal trends, although the magnitude of the current impact is infrequently observed
- pumping operations have continued as normal with delivered sand volumes within the expected range when assessed against modelled sediment transport rates



# TWEED SAND BYPASSING

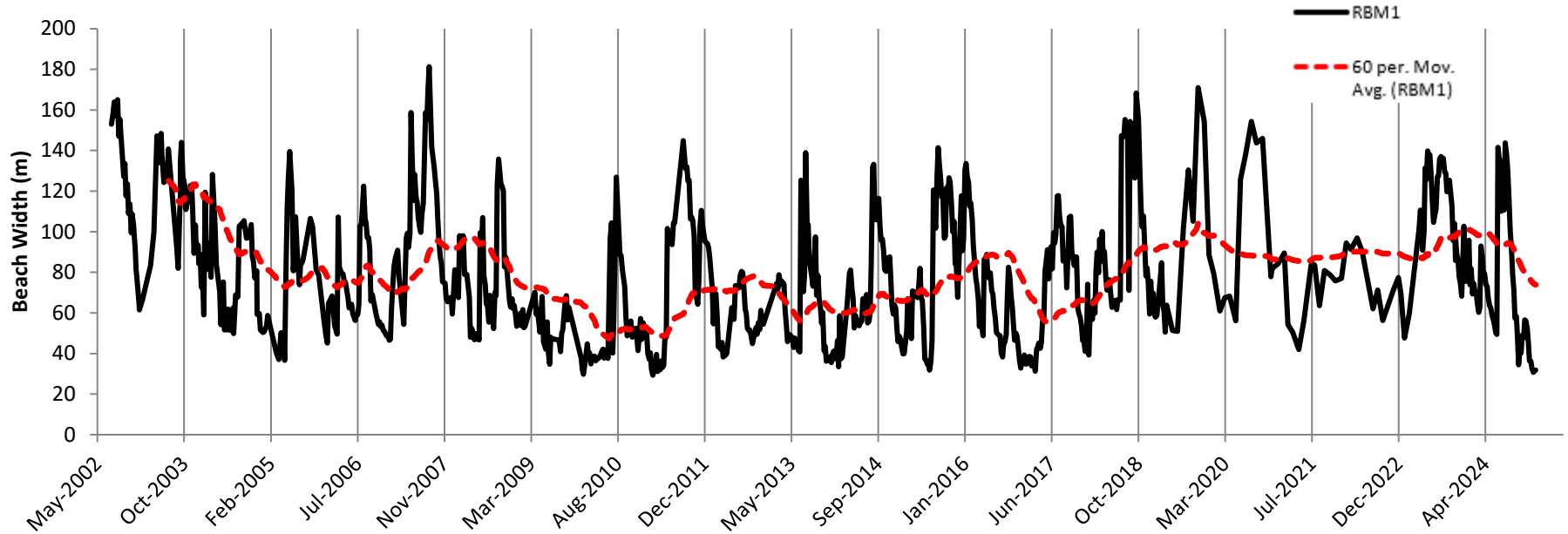
## Rainbow Bay



# TWEED SAND BYPASSING

## Rainbow bay

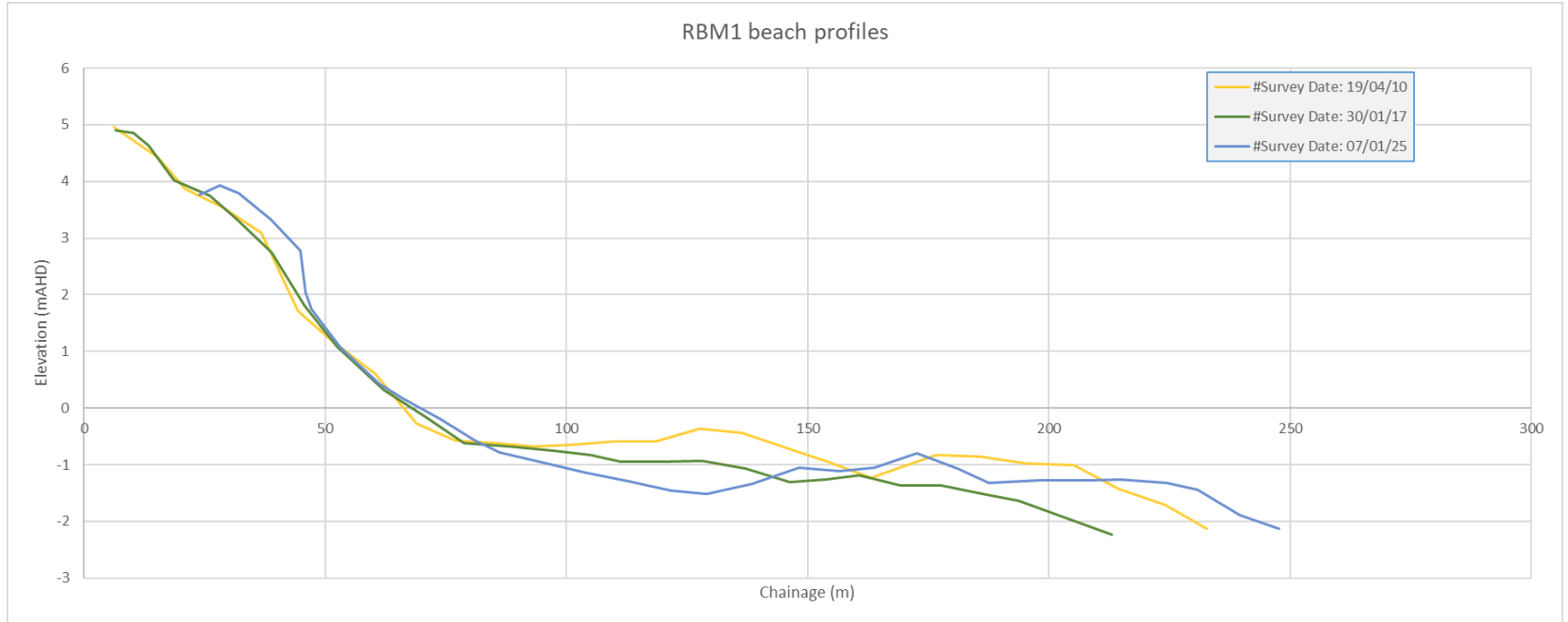
### Historical beach width data



# TWEED SAND BYPASSING

## Rainbow bay

### COMPARATIVE BEACH PROFILES 2010, 2017, 2025





# TWEED SAND BYPASSING

## Coolangatta



23 October 2024

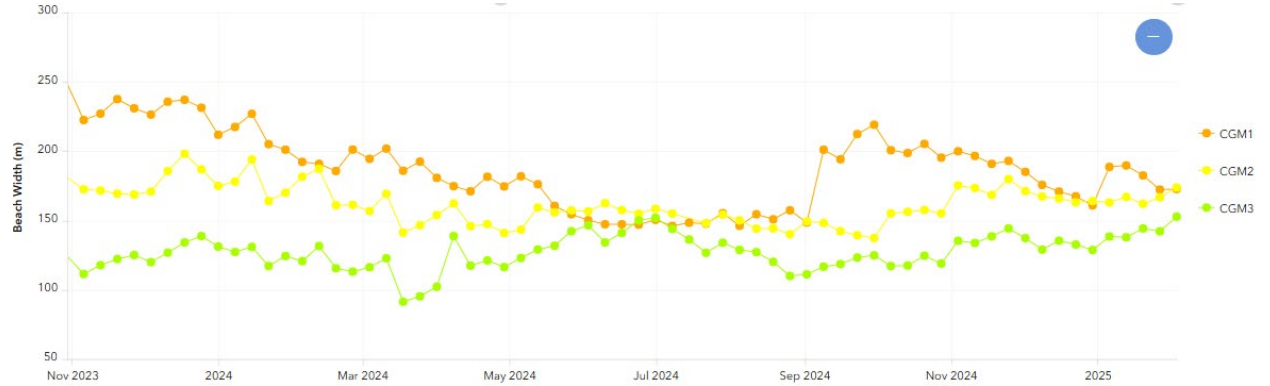
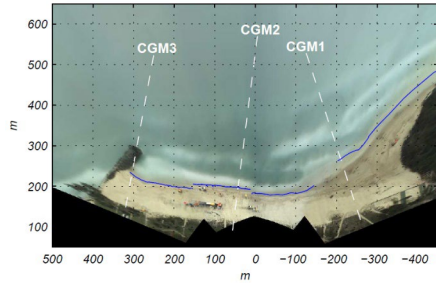


21 January 2025



# TWEED SAND BYPASSING

## COOLANGATTA



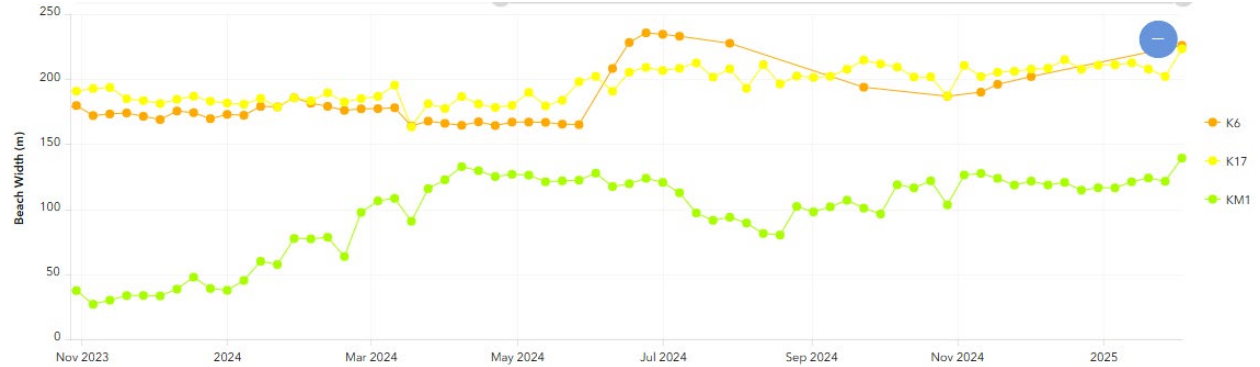
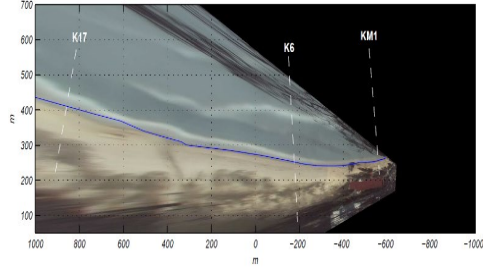
# TWEED SAND BYPASSING

## Kirra



# TWEED SAND BYPASSING

## Kirra





# TWEEDSAND BYPASSING

## Bilinga



23 October 2024



21 January 2025

# TWEED SAND BYPASSING



**Surf Conditions - Duranbah**





## Surf Conditions – Snapper Rocks

SURFONMARS



SURFONMARS



19 January 2025

SURFONMARS



5 January 2025

# TWEED SAND BYPASSING

## Entrance conditions, usage and survey



21 January 2025

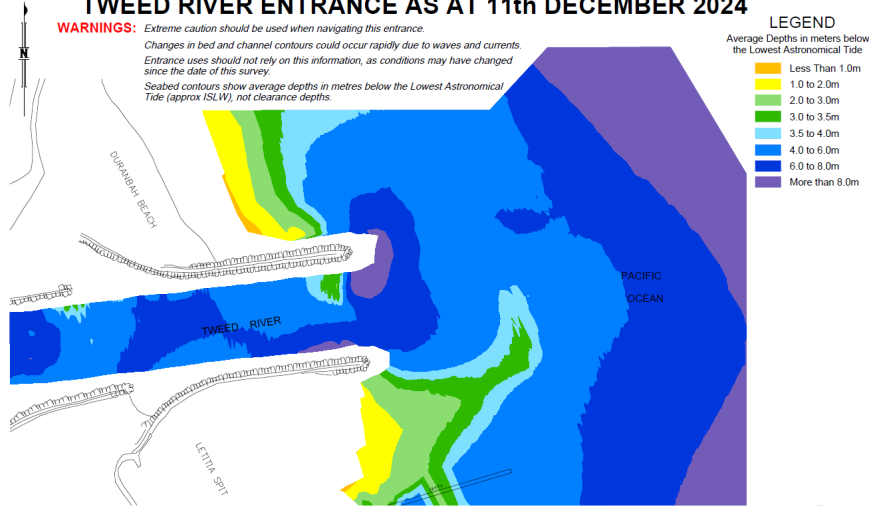
# TWEED SAND BYPASSING

## TWEED RIVER ENTRANCE AS AT 11th DECEMBER 2024

**WARNINGS:** Extreme caution should be used when navigating this entrance.

Changes in bed and channel contours could occur rapidly due to waves and currents. Entrance users should not rely on this information, as conditions may have changed since the date of this survey.

Seabed contours show average depths in metres below the Lowest Astronomical Tide (approx ISLW), not clearance depths.



### NOTES:

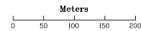
1. Survey information collected by Michel Group Services on 11th DECEMBER 2024.
2. This plan prepared by Michel Group Services on 19th DECEMBER 2024.
3. Surveys are undertaken for Tweed Sand Bypassing every three months to monitor entrance seabed levels.



Transport  
for NSW

### TWEED SAND BYPASSING

Tweed Sand bypassing is a joint project of the New South Wales and Queensland Governments, with the support of the Gold Coast City Council, and in conjunction with Tweed Shire Council.

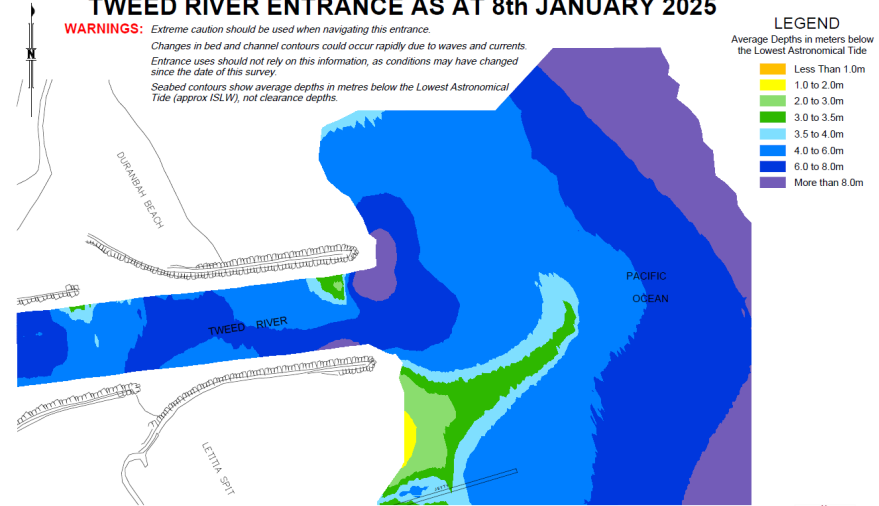


## TWEED RIVER ENTRANCE AS AT 8th JANUARY 2025

**WARNINGS:** Extreme caution should be used when navigating this entrance.

Changes in bed and channel contours could occur rapidly due to waves and currents. Entrance users should not rely on this information, as conditions may have changed since the date of this survey.

Seabed contours show average depths in metres below the Lowest Astronomical Tide (approx ISLW), not clearance depths.



### NOTES:

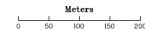
1. Survey information collected by Michel Group Services on 8th JANUARY 2025.
2. This plan prepared by Michel Group Services on 16th JANUARY 2025.
3. Surveys are undertaken for Tweed Sand Bypassing every three months to monitor entrance seabed levels.



Transport  
for NSW

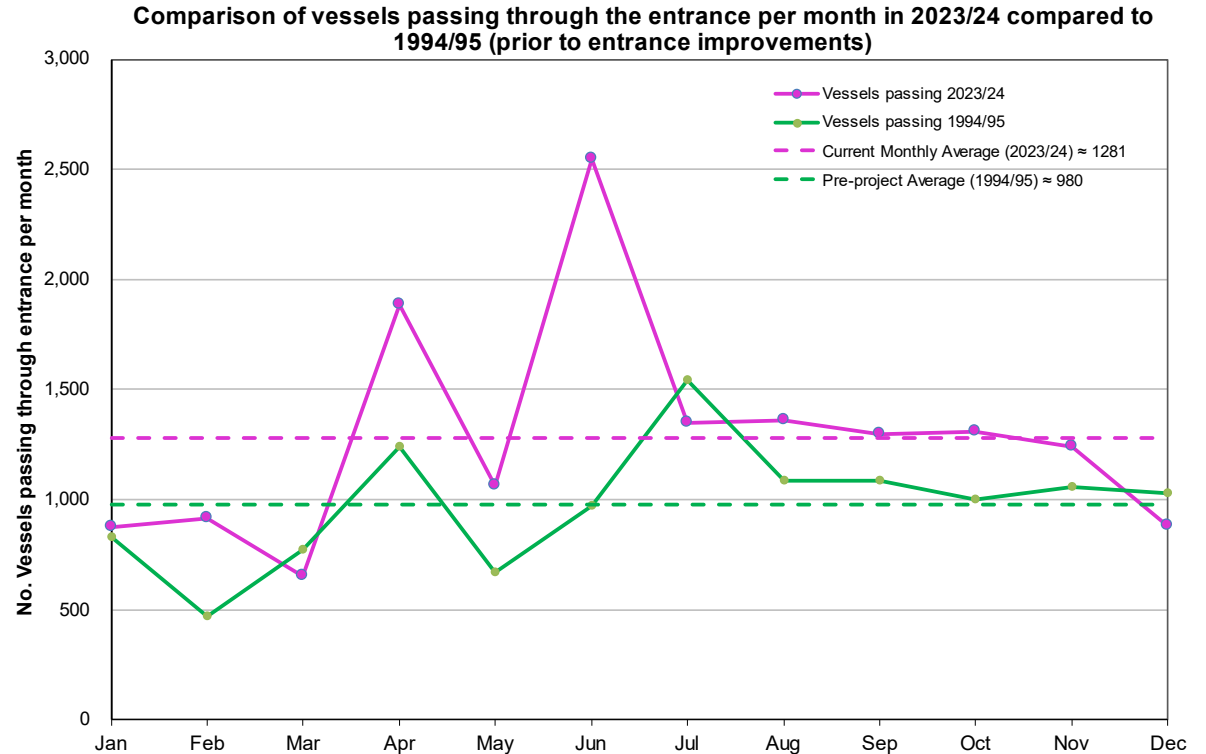
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## Entrance usage

- Vessel numbers well below average for December.
- Note: January data provided at next meeting.





# TWEED SAND BYPASSING

## Projects and enhancements

Low Pressure Pump Station  
deck upgrade

Complete. Included the replacement of aged timber deck with steel supports, GRP deck and complete repaint.

Jetty compound upgrades

- Dangerous goods container installed
- New TSB signage to the jetty compound entry, control building, LPPS and portable buildings
- Removal of excess sand stockpile

Kirra Amenity Study

Complete. Meeting to be held with AC members and Project Directors to discuss outcomes.

Kirra pipeline

Submission received for 95% Detailed design milestone route within roadway.

Long Term Average Report

Consultant engaged. Works underway. Estimated completion May.

Environmental monitoring  
initiatives

Automated vessel counts at entrance commencing May, Seagrass monitoring at Cook Island completed, shorebird monitoring scope commenced, Pollution Incident Management Response Plan (PIRMP) being developed (requirement under EPL)



## Communications and engagement

Abstract submitted for the 8th Queensland Coastal Conference held jointly with the 16th National Coast to Coast Conference held from 4 – 6 June 2025, titled: "Optimising the Tweed Sand Bypassing Operating Model"

School groups have been booked for upcoming educational tours of the jetty.

Routine App and website maintenance

Regular updates of notice boards with entrance maps



# TWEED SAND BYPASSING

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## Thank you

- TSB is a joint coastal management initiative of the New South Wales and Queensland State Governments
- Please provide any feedback to the TSB Project Office email [TSB@transport.nsw.gov.au](mailto:TSB@transport.nsw.gov.au)