

Tweed River Entrance Sand Bypassing Project

Letitia Spit to Kirra



Monthly Environmental Monitoring Summary

JANUARY 2007

Department of Lands 




**Queensland
Government**
Environmental
Protection Agency

**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT
LETITIA SPIT TO KIRRA
MONTHLY ENVIRONMENTAL MONITORING SUMMARY JANUARY 2007**

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1. EXECUTIVE SUMMARY

This report provides a summary of pumping and dredging activities, as well as surf, beach, river, entrance and weather conditions for the southern Gold Coast Beaches, Duranbah, the Tweed River Entrance and Letitia Spit.

- The number of vessels that passed through the entrance in January was significantly higher than on average.
- Surf quality in January was generally average.
- There were no significant impacts on the Lower Tweed River tides. Recent tidal data is consistent with ocean tidal levels.
- The amount of sand moving north towards the Tweed River entrance was less than the January average.

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2. INTRODUCTION

This document provides a summary of sand quantities delivered by the system, as well as surf, beach, river, entrance and weather conditions for the southern Gold Coast Beaches, Duranbah, the Tweed River Entrance and Letitia Spit for ongoing monitoring purposes.

Information has been sourced from TRESBP monitoring programs, GCCC coastal reports, media coverage, Surfing NSW and Surfing Queensland and the following World Wide Websites:

- www.burleighcam.com.au
- www.bom.gov.au
- www.coastalwatch.com.au
- www.surfgaustalia.com.au
- www.swellnet.com.au
- www.tracksamag.com



3. PUMPING AND DREDGING ACTIVITIES

Sand Delivery for JANUARY 2007

	PUMPED	DREDGED	JANUARY 2006 TOTAL DELIVERY
Location	Snapper Rocks East		
Amount (m ³)	27,203	0	27,203

Total Sand Delivery to Date by the Stage 2 Permanent Sand Bypassing System (May 2000 to January 2007)

	PUMPED	DREDGED	TOTAL DELIVERY STAGE 2
Amount (m ³)	3,885,044	1,862,793	5,747,837

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4. TWEED RIVER ENTRANCE CONDITIONS

VOLUNTEER VIDEO MONITORING LOG

The following Entrance Condition observations for January 2007 were recorded by volunteers Mr Brian Mason and Mr Robert Ford:

Date	Observations
6 January Morning	Cloudy. Fair crossing conditions. Some breaks on southern wall.
12 January Morning	Cloudy. Calm conditions.
16 January Morning	Overcast. Choppy conditions outside entrance. No breaks inside walls.
17 January Early Afternoon	Fine weather. Calm crossing inside walls. Choppy conditions outside entrance.

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TWEED RIVER ENTRANCE CONDITIONS CONTINUED

VOLUNTEER MARINE RESCUE REPORTS

Volunteer Marine Rescue Pt Danger (VMR) has been monitoring daily entrance conditions on behalf of the TRESBP since 20 January 2002, monitoring results for January 2007 are presented below.

The navigation ratings from 1–5 are as follows:

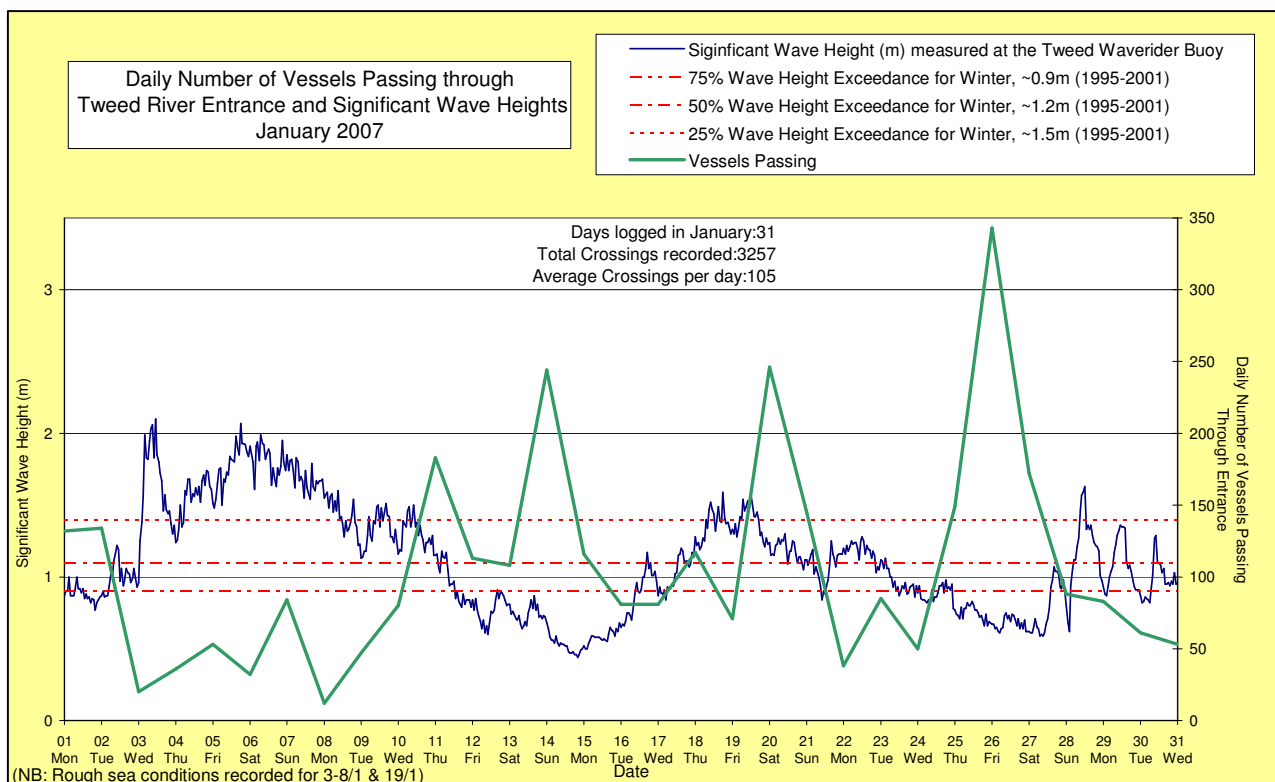
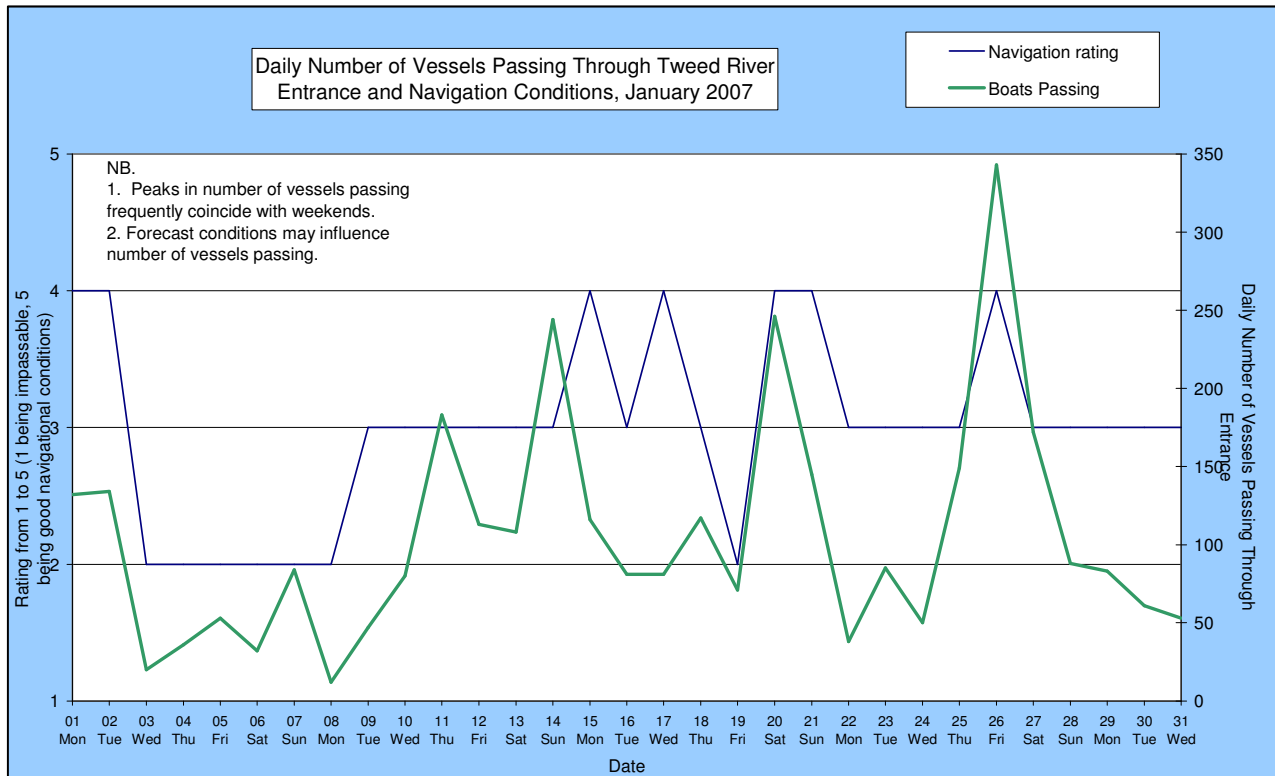
- 1 – Impassable 2 – Difficulty encountered 3 – Some difficulty encountered
4 – Relatively good crossing 5 – Good conditions

☐ – Weekends and public holidays

Date	Entrance Conditions	Navigation Rating Impassable-----Good					Number of Boats
		1	2	3	4	5	
1	Slight						132
2	Slight						134
3	Rough						20
4	Rough						36
5	Rough						53
6	Rough						32
7	Rough						84
8	Rough						12
9	Moderate						47
10	Moderate						80
11	Slight						183
12	Moderate						113
13	Moderate						108
14	Moderate						244
15	Slight						116
16	Moderate						81
17	Slight						81
18	Moderate						117
19	Rough						71
20	Slight						246
21	Slight						145
22	Moderate						38
23	Moderate						85
24	Moderate						50
25	Moderate						149
26	Slight						343
27	Moderate						172
28	Moderate						88
29	Moderate						83
30	Moderate						61
31	Moderate						53

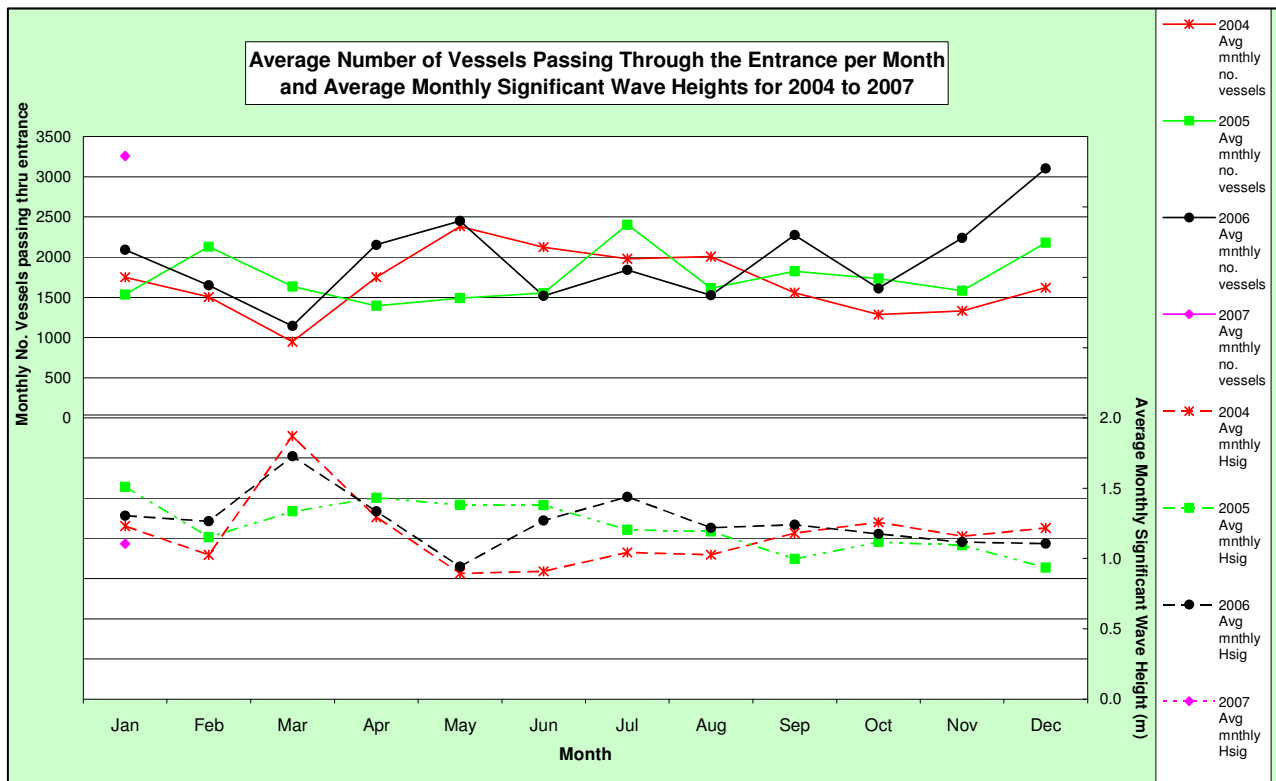
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TWEED RIVER ENTRANCE CONDITIONS CONTINUED



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TWEED RIVER ENTRANCE CONDITIONS CONTINUED



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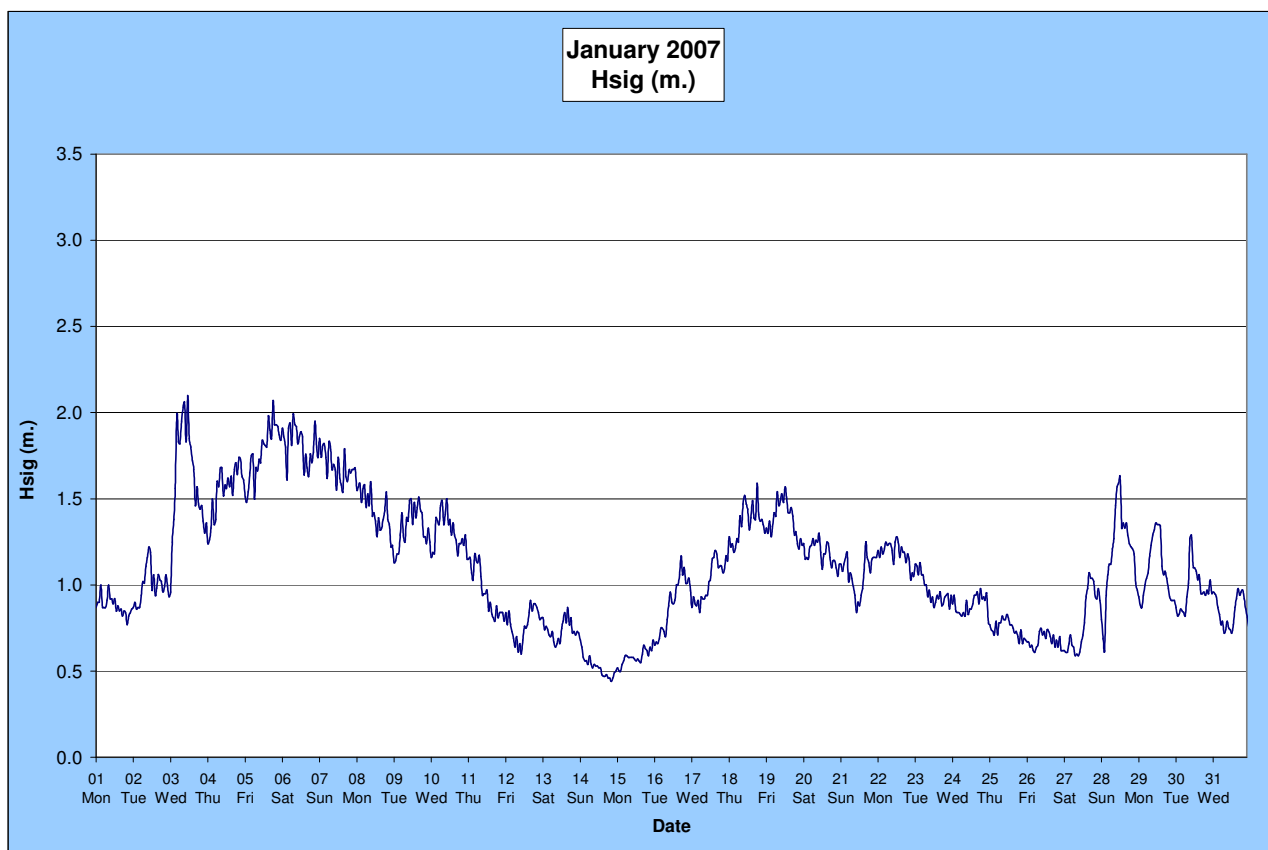
5. SURF SUMMARY

Waves of between 0.5 – 1.5 m from the E dominated surf conditions on the Southern Gold Coast in January 2007. Winds varied over the month where the most predominant wind conditions were NW and SW at 15-25 Knots.

Readings from the Tweed Waverider Buoy showed a minimum significant wave height of 0.44m on 14 January and a maximum significant wave height of 2.1m on 3 January. There were 20 recorded days when waves dropped below 1.0m and 2 days when waves were above 2.0m.

Surf quality in January was generally average, however there was a few periods of good surf conditions throughout the month.

Source: Tweed and Brisbane Waverider Buoy, RealSurf, Swellnet, Burleighcam, Coastalwatch, BoM.



A link to data recorded continuously at the Tweed Waverider Buoy is available at:

www.epa.qld.gov.au/sandbypass/

SURF & SURF LIFE SAVING EVENTS

Events in January 2007

15 January - Malibu Teams Challenge (Duranbah)

Upcoming events in February 2007

3-4 February - Rip Curl MP Classic

23-25 February - Rip Curl Kirra Teams Challenge

26 February - Quiksilver Pro Trials

27 February – 11 March - Quiksilver Pro Gold Coast - Snapper Rocks

Source: Surfing Australia, Surf Life Saving Australia & Surf Life Saving Queensland

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SURF SUMMARY CONTINUED

VOLUNTEER SURF QUALITY OBSERVATIONS

The following observations for January 2007 were made by volunteers Mr Brian Mason and Mr Robert Ford on behalf of the TRESBP.

Date	Duranbah	Frog's Beach / Snapper Rocks	Kirra Point
6 January Morning	1 – 1.5m SE and ENE swell, plunging waves. 21 surfers present. Ideal surfing conditions.	16 surfers present. Small northward longshore transport occurring. No offshore bar apparent.	1 – 1.5m spilling and plunging waves. 40 surfers present. Small longshore transport occurring. Offshore bar present.
12 January Morning	<1m NE swell, spilling waves. 45 surfers present.	26 surfers present. No longshore transport occurring. No offshore bar apparent.	<1m spilling waves. 8 surfers present. No longshore transport occurring. Offshore bar present. Beach well used by family groups.
16 January Morning	1 – 1.5m E swell, plunging and spilling waves. 30 surfers present. Lots of white water in surfing zone.	36 surfers present. Small longshore transport occurring. No offshore bar apparent.	<1m spilling waves. 28 surfers present. Small longshore transport occurring. Offshore bar present.
17 January Early Afternoon	1 – 1.5m ENE swell, spilling waves. 66 surfers present.	45 surfers present. Small northward longshore transport occurring. No offshore bar apparent.	<1m spilling waves. 50 surfers present. No longshore transport occurring. Offshore bar present. Number of family groups present on the beach.

SURF SUMMARY CONTINUED

REPRESENTATIVE PHOTOGRAPHS OF SURF CONDITIONS



Duranbah beach, 11 January 2007



Duranbah beach, 11 January 2007



Duranbah beach, 18 January 2007



Duranbah beach, 18 January 2007

Source: Surfphotos.com.au

6. MEDIA COVERAGE AND COMMUNITY FEEDBACK

MEDIA COVERAGE

7 January 2007, The Sunday Mail, "Packed waves spark war in the water"

"Surfboard riders came to blows yesterday as awesome seas and holiday crowds combined to create a shocking wave of surf rage at Queensland's most famous breaks."

11 January 2007, Daily News, "Duranbah surfers rally for reserve"

"A surfing reserve declaration can allow local communities greater say in how beaches are managed. At Duranbah, this could provide for greater community input on sand pumping, provision of amenities for beach users and development issues."

22 January 2007, Daily News, "Beach Cricket Rocks"

"The Beach Cricket Tri-Series in Coolangatta this weekend was a resounding success for organisers and cricketers and is tipped to boost the Tweed economy."

29 January 2007, Daily News, "Restoring former glory to Kirra surf"

"Tomorrow is 'D-Day' for Kirra. The scientific study of how to restore consistent quality surf to the recently voted 'World's best wave' will be released to by Neil Lazarow of the Griffith Centre for Coastal Management"

31 January 2007, The Gold Coast Bulletin, "Simply sandsational"

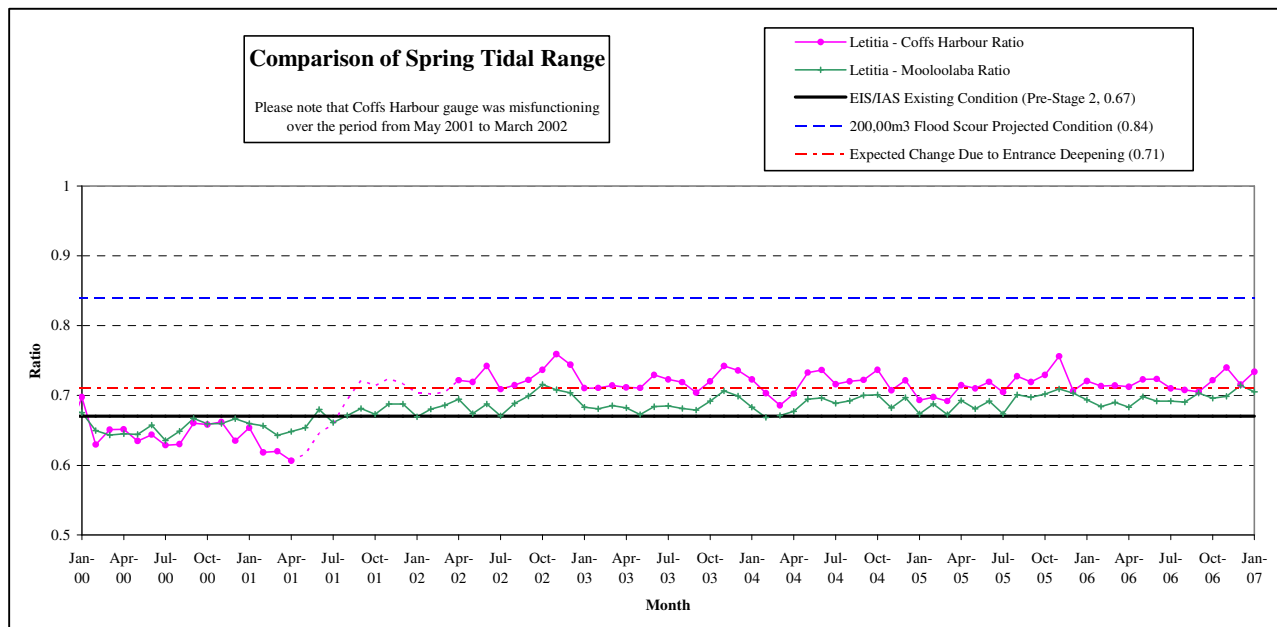
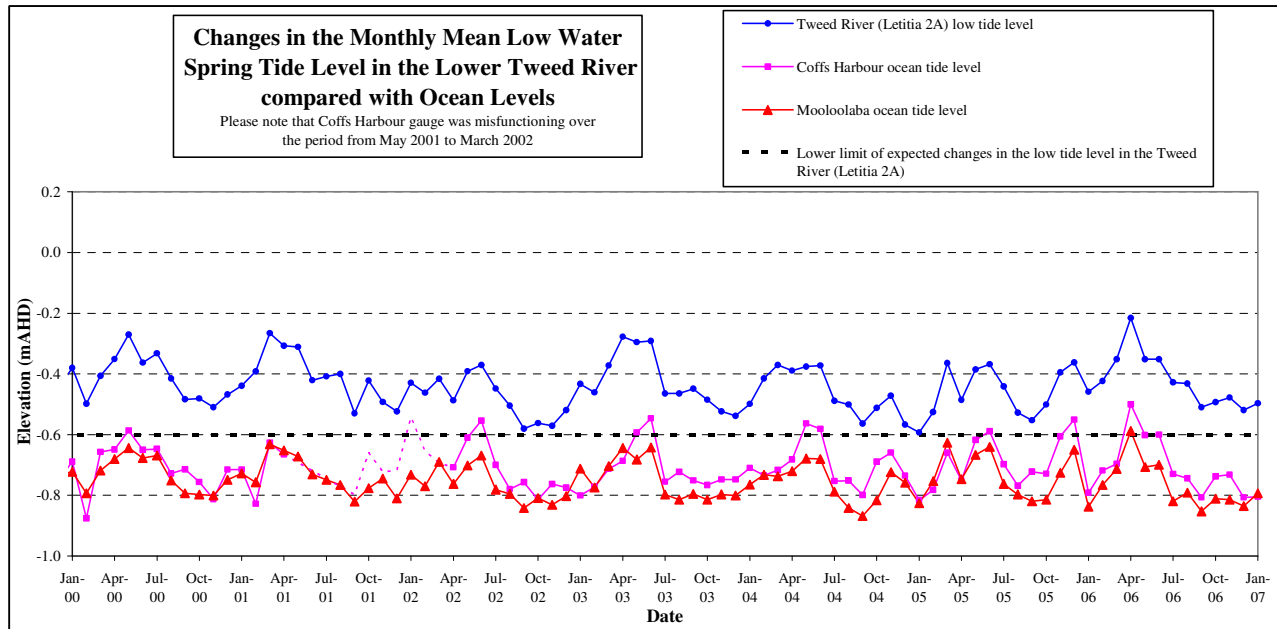
"When you get down to the nitty-gritty, Gold Coast beaches are among the best in the world – thanks to NSW. Northerly ocean currents wash the sand on to beaches from NSW, and what is deposited here is among the finest and whitest sand in the world."

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7. TWEED RIVER LOWER ESTUARY TIDAL CONDITIONS

The Mean Low Water Spring (MLWS) tide level in the lower Tweed River increased to -0.497 m AHD in January 2007.

The Letitia 2A tidal data for January mirrored the Mooloolaba tidal trends indicating that the TRESBP has not had a significant impact on Lower Tweed River tidal range to date.

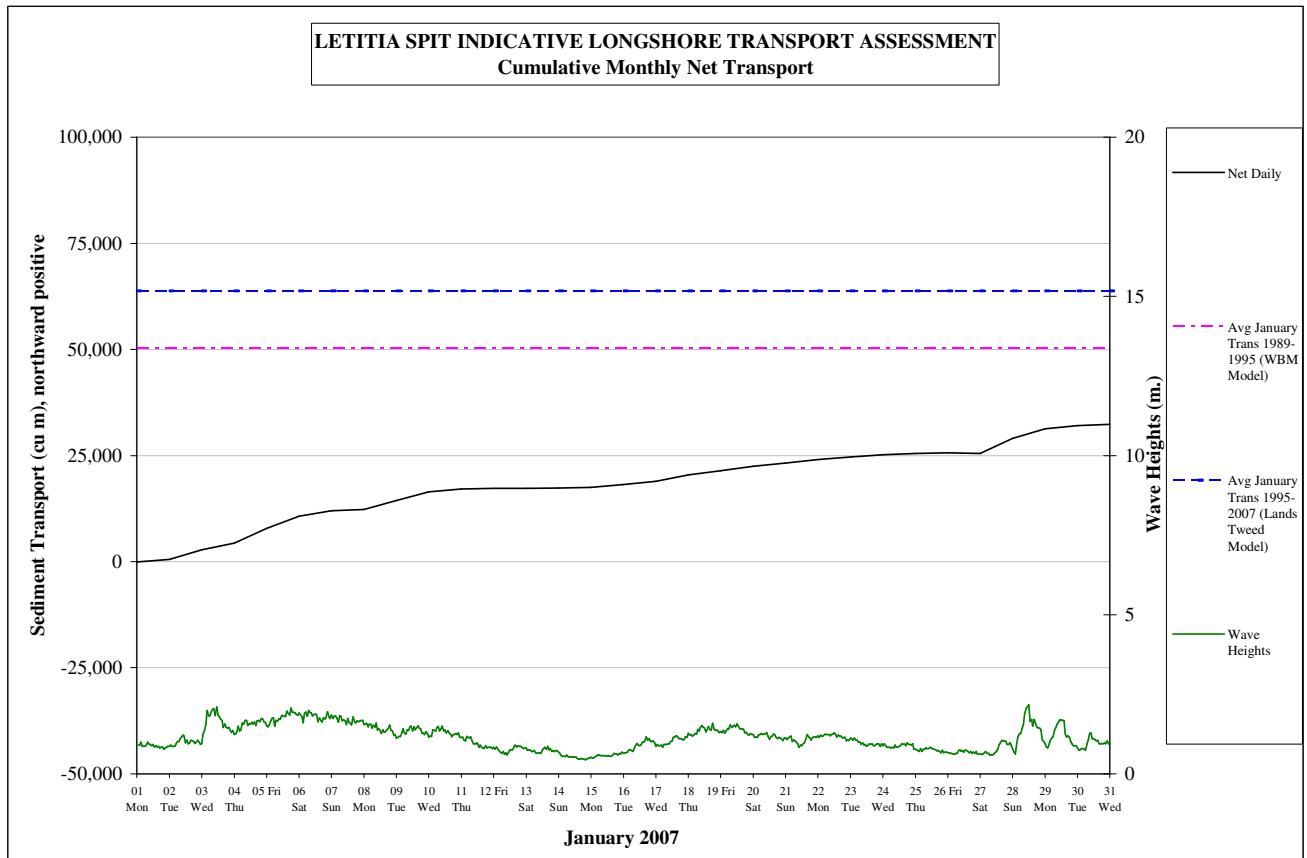


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8. INDICATIVE LONGSHORE SAND TRANSPORT

The longshore sand transport information presented in the graph below is based on a simplified sediment transport model and should only be used as an indicator of the actual sand transport quantities for the month.

It is estimated that during January 2007, 32,000m³ of sand was moved north towards the Tweed River entrance by natural processes. This is less than the modelled average sand transport quantity for the month of January.



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9. ARGUS COASTAL IMAGING SYSTEM

The University of New South Wales is monitoring Letitia Spit to North Kirra for the project using an ARGUS coastal imaging system. Images are available on the internet at the following address:

<http://www.wrl.unsw.edu.au/coastalimaging/public/tweed/index.html>

These images are updated hourly and all past photos can be accessed in the archives.

Merged and rectified images taken at mid tide for each of the locations are shown below. Refer to Appendix A for beach width and shoreline analysis for each of the beaches.

DURANBAH BEACH

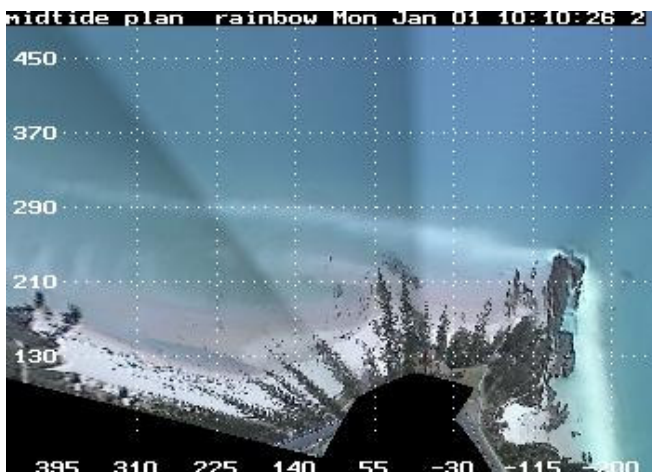


1 January 2007

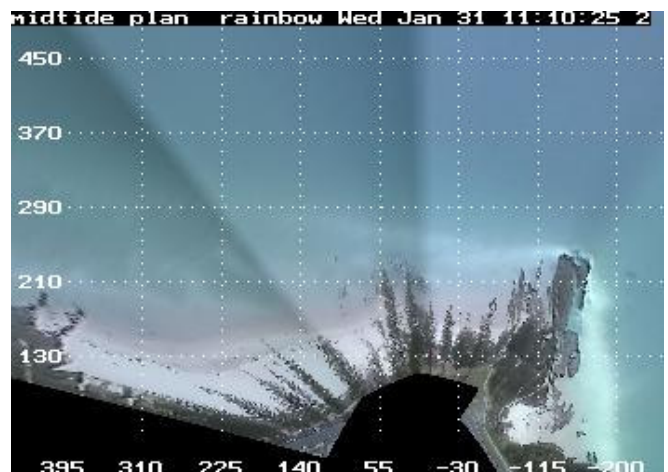


31 January 2007

RAINBOW BAY



1 January 2007

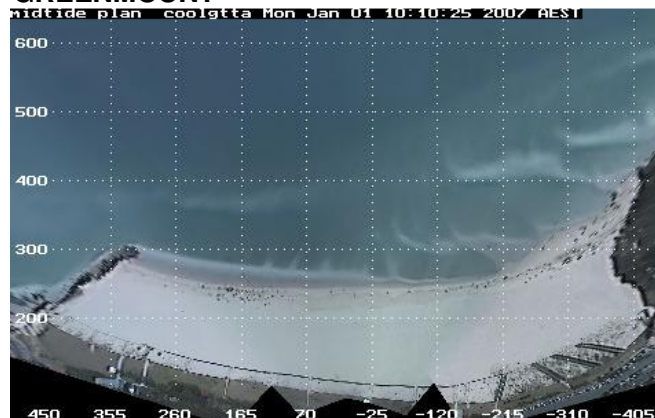


31 January 2007

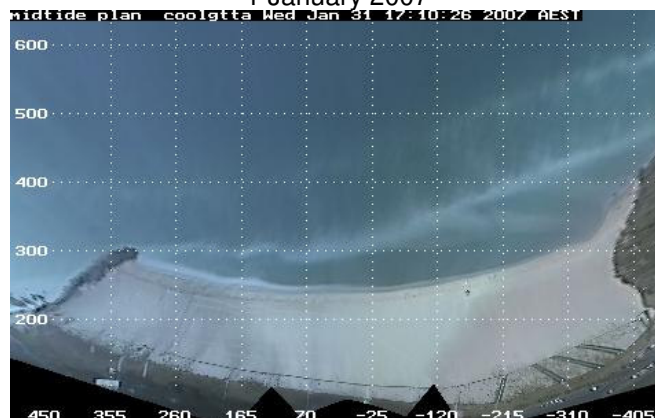
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ARGUS COASTAL IMAGING SYSTEM CONTINUED

COOLANGATTA - GREENMOUNT

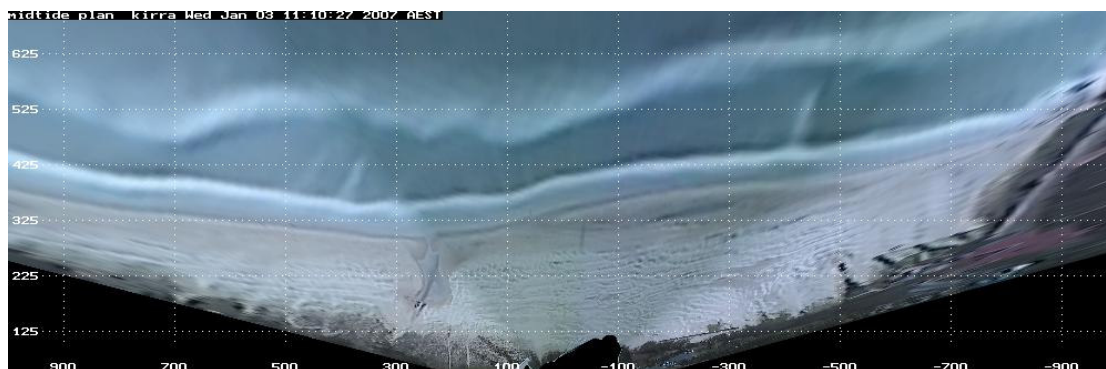


1 January 2007



31 January 2007

NORTH KIRRA - KIRRA



1 January 2007



31 January 2007

10. CONTACT DETAILS

This report was completed by Natalie Crawford.

For more information regarding the Tweed River Entrance Sand Bypassing Project please refer to the following web addresses:

www.tweedsandbypass.nsw.gov.au

www.epa.qld.gov.au/sandbypass/

www.wrl.unsw.edu.au/coastalimaging/public/tweed/index.html

For all enquires regarding this report, please contact Natalie at any of the addresses below:

Natalie Crawford

Environmental Engineer

Tweed River Entrance Sand Bypassing Project

NSW Department of Lands

Natalie.Crawford@lands.nsw.gov.au

Level 12, 10 Valentine Avenue

Parramatta NSW 2124

Ph: (02) 8836 – 5306

Fax: (02) 8836 – 5364