

Tweed River Entrance Sand Bypassing Project

Letitia Spit to Kirra



Monthly Environmental Monitoring Summary

NOVEMBER 2007

Department of Lands 




**Queensland
Government**
Environmental
Protection Agency

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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.

In November 2007:

- The number of vessels that passed through the entrance was higher than on average.
- Surf quality was moderate, with reports of calm surfing conditions across most of the month.
- 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 approximately the November average.
- Pumping of sand onto Duranbah Beach commenced on 30th November.

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

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.tracksmag.com



3. PUMPING AND DREDGING ACTIVITIES

Sand Delivery for NOVEMBER 2007

	PUMPED		DREDGED	NOVEMBER 2007 TOTAL DELIVERY
Location	Snapper Rocks East	Duranbah		
Amount (m ³)	18,635	2,274	0	20,909

Total Sand Delivery This Year (January to November 2007)

	PUMPED	DREDGED	2007 TOTAL DELIVERY
Amount (m ³)	517,424	0	517,424

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

	PUMPED	DREDGED	TOTAL DELIVERY STAGE 2
Amount (m ³)	4,375,265	1,862,793	6,238,058

4. TWEED RIVER ENTRANCE CONDITIONS

VOLUNTEER VIDEO MONITORING LOG

The following Entrance Condition observations for November 2007 were recorded by volunteer Mr Brian Mason:

Date	Observations
2 November Late morning	Cloudy.
9 November Morning	Cloudy. Fair crossing conditions. Some waves break seaward of the entrance.
20 November Morning	Cloudy. Good crossing conditions.
23 November Morning	Cloudy to Overcast. Calm crossing conditions. No breaks.
30 November Morning	Fine to cloudy. Good crossing conditions. No break outside of 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 November 2007 are presented below.

The navigation ratings from 1–5 are as follows:

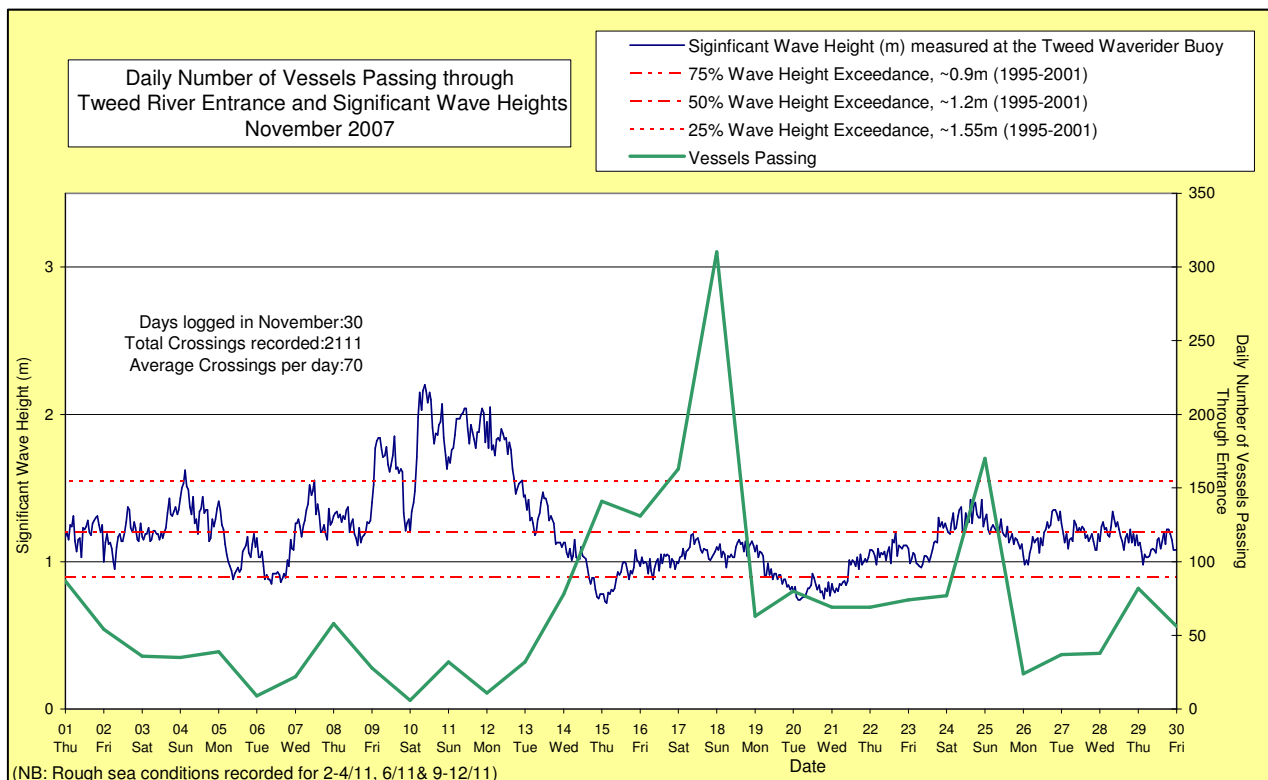
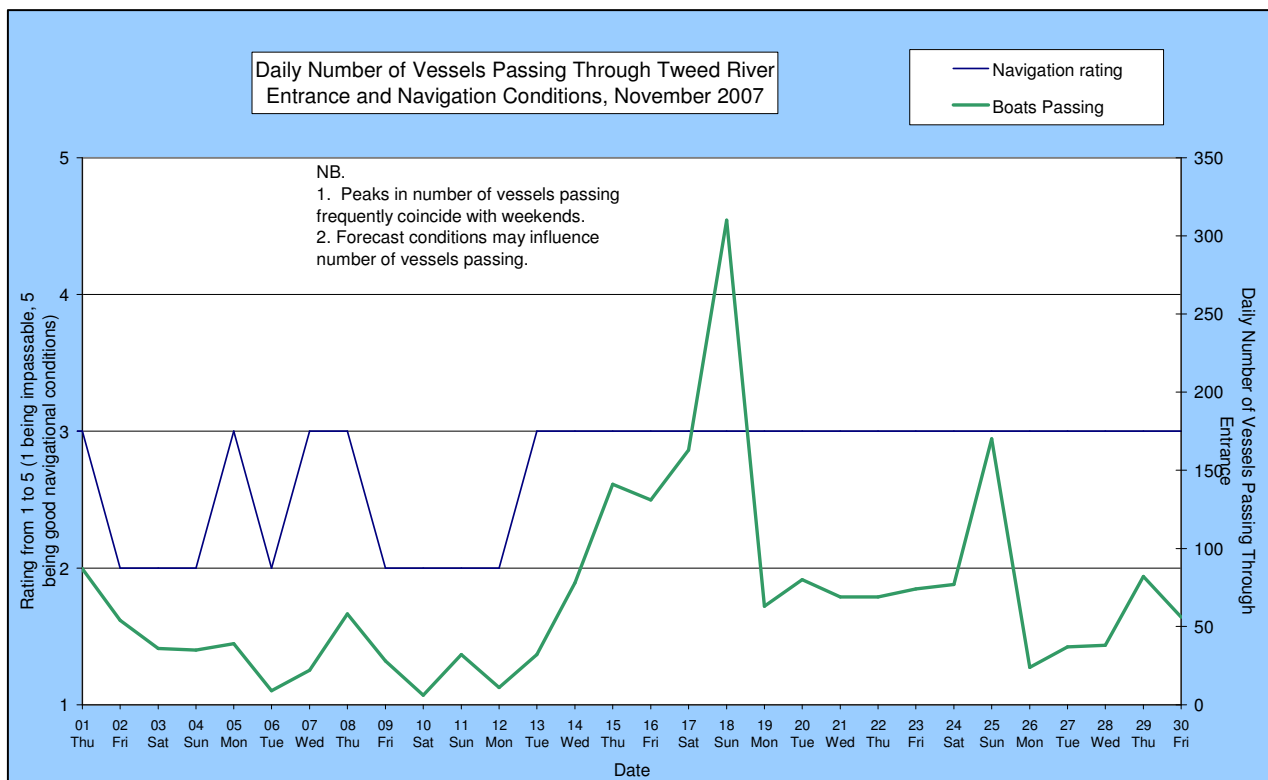
- 1 – Impassable 2 – Difficulty encountered 3 – Some difficulty encountered
4 – Relatively good crossing 5 – Good conditions

☐ – Weekends and public holidays

Date	Entrance Conditions	Navigation Rating Impassable-----Good					Number of Boats
		1	2	3	4	5	
1	Moderate						87
2	Rough						54
3	Rough						36
4	Rough						35
5	Moderate						39
6	Rough						9
7	Moderate						22
8	Moderate						58
9	Rough						28
10	Rough						6
11	Rough						32
12	Rough						11
13	Moderate						32
14	Moderate						78
15	Moderate						141
16	Moderate						131
17	Moderate						163
18	Moderate						310
19	Moderate						63
20	Moderate						80
21	Moderate						69
22	Moderate						69
23	Moderate						74
24	Moderate						77
25	Moderate						170
26	Moderate						24
27	Moderate						37
28	Moderate						38
29	Moderate						82
30	Moderate						56

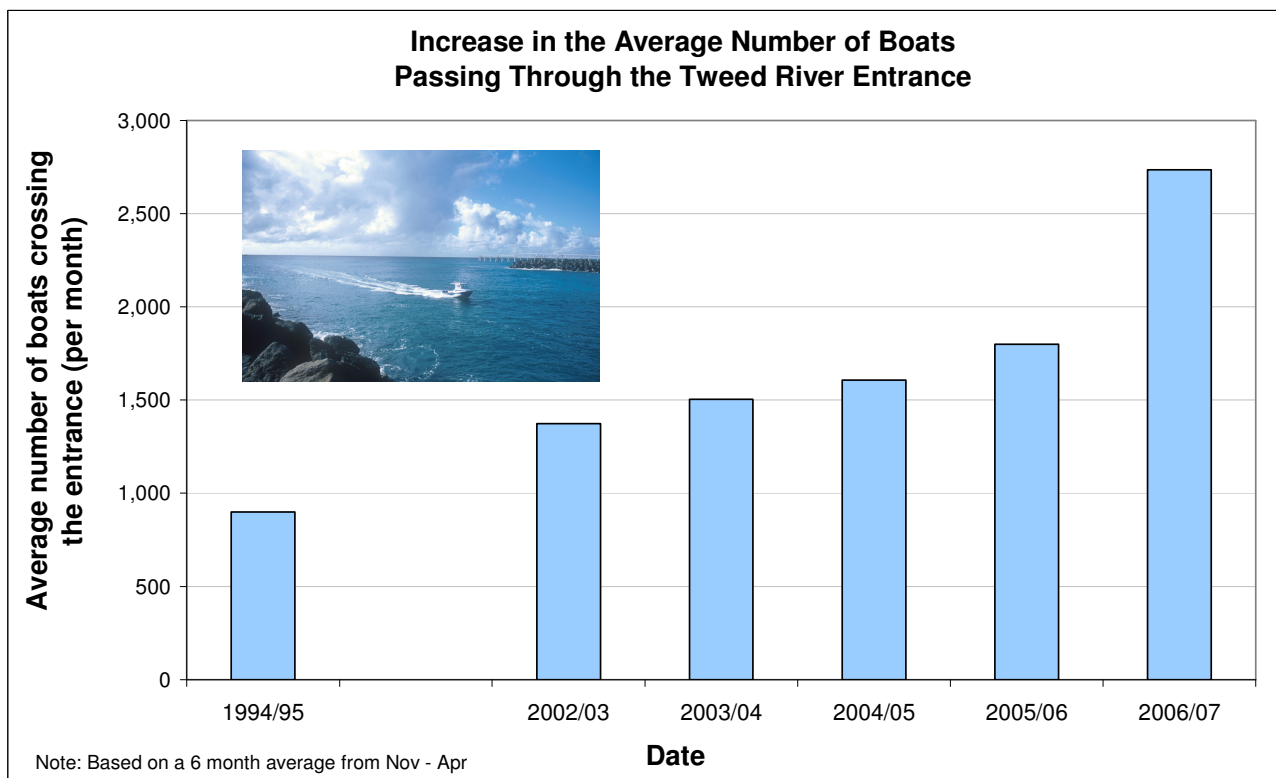
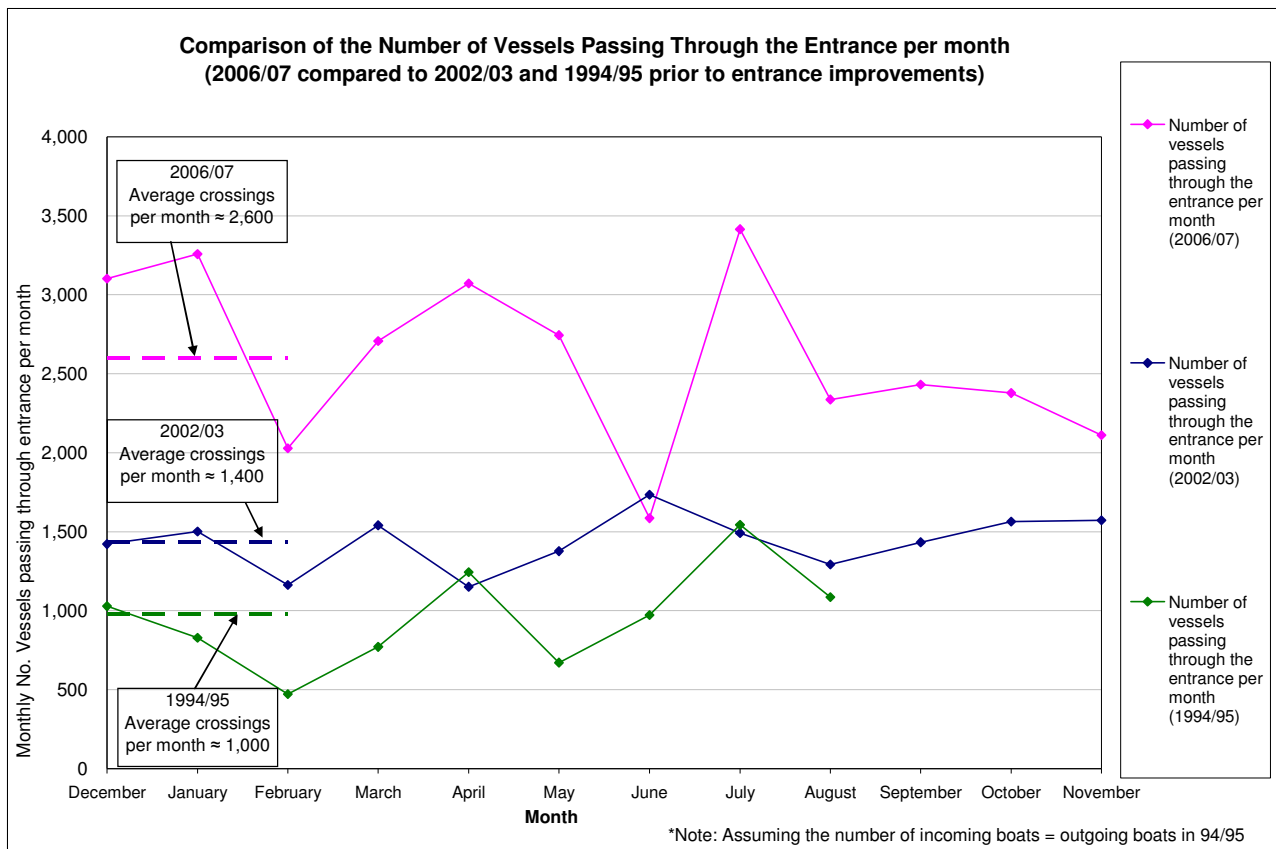
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TWEED RIVER ENTRANCE CONDITIONS CONTINUED



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TWEED RIVER ENTRANCE CONDITIONS CONTINUED

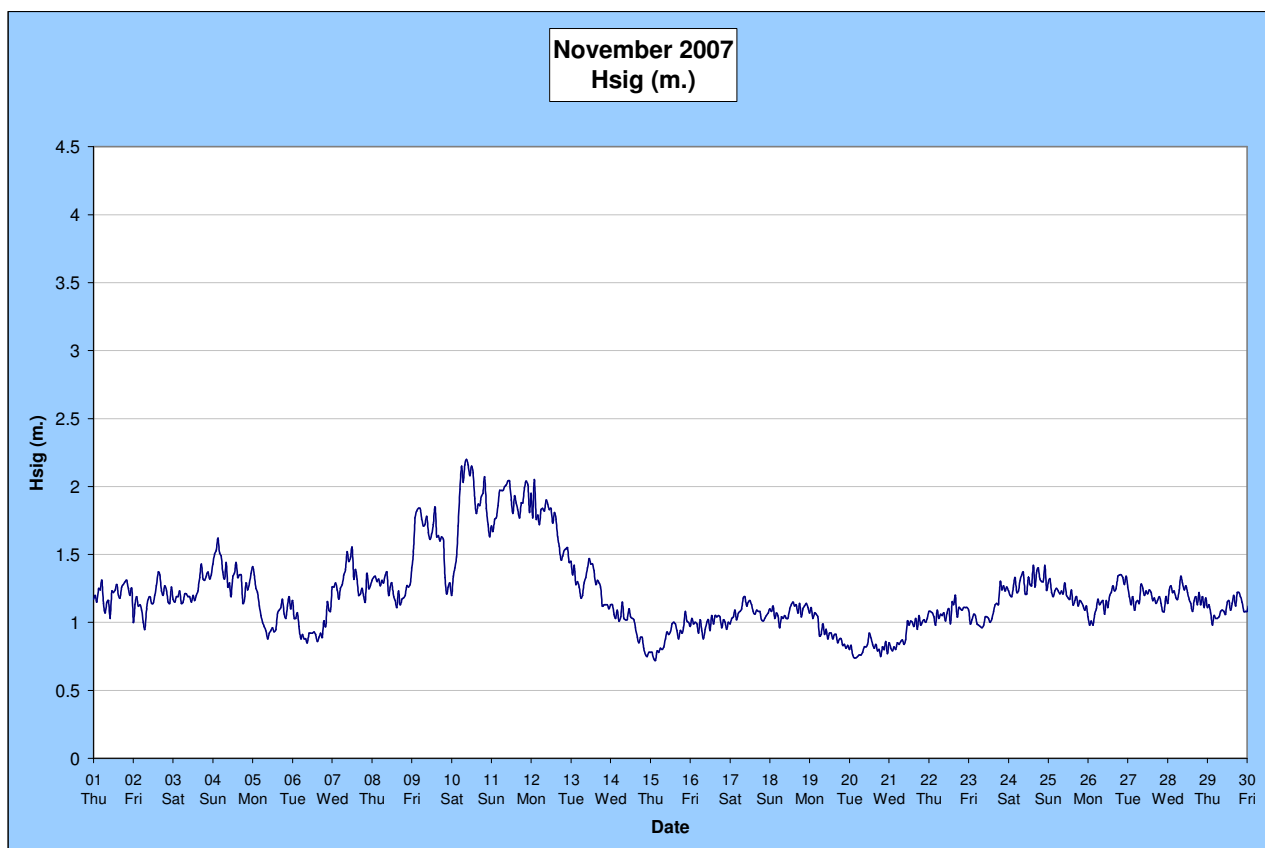


5. SURF SUMMARY

Waves of between 0.75 – 1.5 m from the SE dominated surf conditions on the Southern Gold Coast in November 2007. Winds varied over the month, predominant winds were from the NE at 10-30 Knots.

Readings from the Tweed Waverider Buoy showed a minimum significant wave height of 0.72m on 15 November and a maximum significant wave height of 2.2m on 10 November. There were 17 recorded days when waves dropped below 1.0m and 4 day when waves were above 2.0m.

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 November 2007

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Upcoming events in December 2007

15 December – Quiksilver Trials For Trials

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 November 2007 were made by volunteer Mr Brian Mason on behalf of the TRESBP.

Date	Duranbah	Frog's Beach / Snapper Rocks	Kirra Point
2 November Late morning	1.5 – 2m plunging swell. 18 surfers present. Lot of sand being shifted up on the beach but does not appear to be moving north.	18 surfers present. Small longshore transport occurring. No offshore bar apparent.	1 – 1.5m spilling waves. 2 surfers present. No longshore transport occurring. No offshore bar apparent. Very windy conditions.
9 November Morning	1.5 – 2m plunging swell. 71 surfers present. Surf conditions are board riders' dream.	20 surfers present. Large northward longshore transport occurring. No offshore bar apparent.	Flat spilling waves. 4 surfers present. No longshore transport occurring. No offshore bar apparent. Very flat surf.
20 November Morning	1 – 1.5m plunging swell. 29 surfers present. Mild surf conditions, no break at the entrance.	33 surfers present. Small longshore transport occurring.	Flat to <1m spilling waves. 8 surfers present. No longshore transport occurring. Offshore bar present. Offshore bar reforming.
23 November Morning	1.5 – 2m swell. 41 surfers present.	25 surfers present. Average longshore transport occurring. No offshore bar apparent.	Flat to 1 – 1.5m spilling waves. 7 surfers present. No longshore transport occurring. Offshore bar apparent. Large shallow area onshore. Wave action seems to be seen moving sand onshore.
30 November Morning	1 – 1.5m plunging swell. 29 surfers present. Sand pumping in progress to nourish Duranbah beach.	32 surfers present. Small longshore transport occurring. No offshore bar apparent.	1 – 1.5m spilling waves. 2 surfers present. No longshore transport occurring. Offshore bar apparent.

SURF SUMMARY CONTINUED

PHOTOGRAPHS OF SURF CONDITIONS



2 November 2007, Snapper Rocks

Source: Swellnet



4 November 2007, Letitia Spit

Source: Burleighcam



10 November 2007, Duranbah

Source: Burleighcam



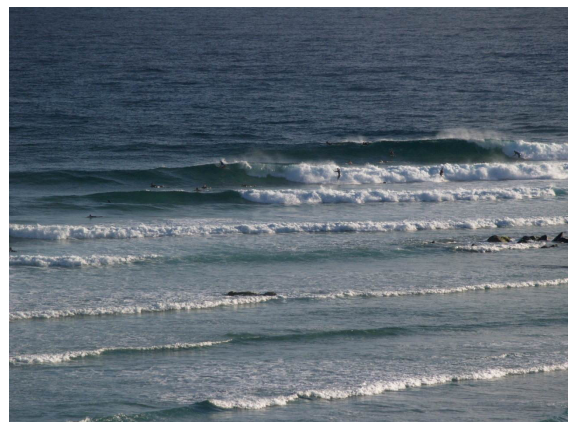
14 November 2007, Duranbah

Source: Swellnet



26 November 2007, Duranbah

Source: Burleighcam



27 November 2007, Snapper Rocks

Source: Swellnet

6. BEACH CONDITIONS

PHOTOGRAPHS OF BEACH CONDITIONS

DURANBAH



View from Pt Danger, 19 November 2007

RAINBOW BAY



View from Greenmount, 19 November 2007

COOLANGATTA



View from Greenmount , 19 November 2007



View from Kirra Hill, 19 November 2007

KIRRA



View from Kirra Hill, 19 November 2007



View from Kirra Hill, 19 November 2007

Photos taken: 19 November 2007, approx 3pm, high tide

Source: NSW Department of Lands

7. MEDIA COVERAGE AND COMMUNITY FEEDBACK

MEDIA COVERAGE

1 November, Tweed Border Mail, "Former MP pushes for point break fix"

"The avid board rider and former MP for McPherson believes restoration of the waves off Kirra is a top priority. 'The surf industry is second only to tourism on the Coast,' he said."

14 November, Daily News, "Surf groups flex to restore Kirra swells"

"Mr Wayne Bartholomew said surfer numbers were increasing and surfing-related tourism was a significant driver of the regional economy, so it was vital to ensure Kirra's waves were regained."

14 November, TRACKS Magazine, "Task force to restore Kirra's glory"

"We're dealing with a sensitive piece of coastline and all the right community groups that utilise the beach will need to be included in this important initiative to achieve and restore a great stable beach with world renowned surf conditions."

15 November, Tweed Border Mail, "Bradford Kirra keg meeting"

"Gold Coast Mayoral candidate John Bradford will organise a meeting of all stakeholders in a bid to establish a new sand- pumping outlet at Kirra if elected to the top job."

22 November, Gold Coast Bulletin, "Don't shuffle the sand, Mr Bradford"

"Compared with the beachscape of today, there are distinct similarities demonstrating that the quantity and placement of sand is as it was in the 'good old days'."

26 November, Gold Coast Bulletin, "MP held to Kirra promise"

"The newly formed Kirra Point committee believes the re-election of Liberal incumbent Margaret May in McPherson will lead to quicker outcomes over issues facing the world-class surfing destination."

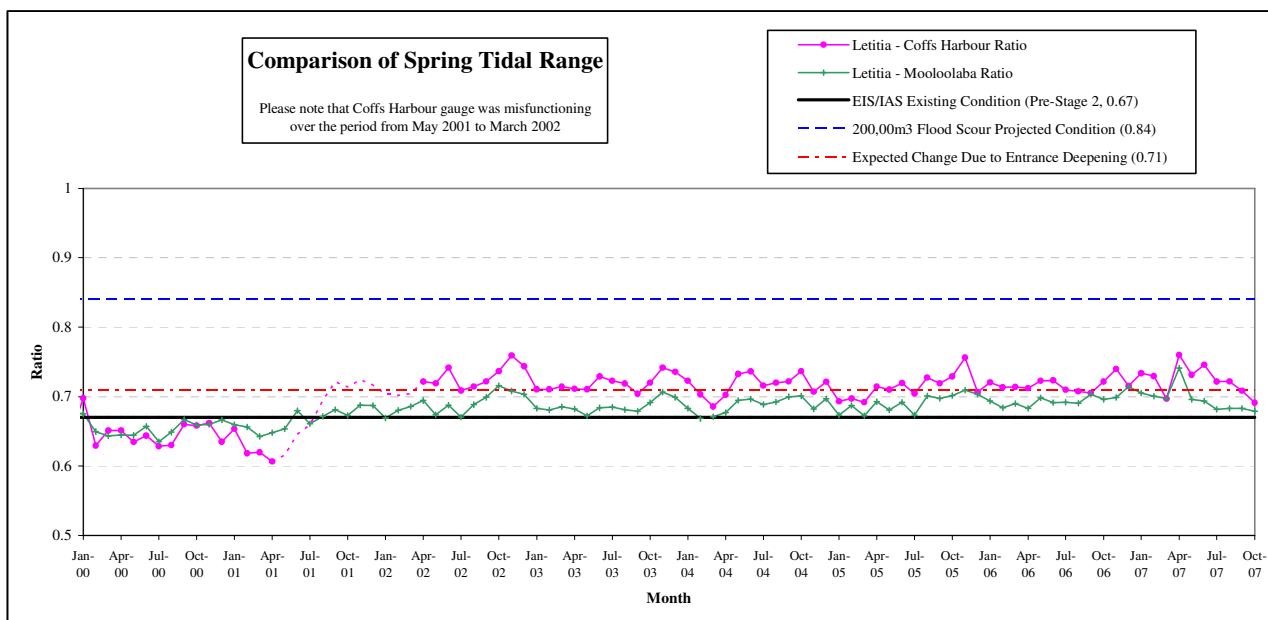
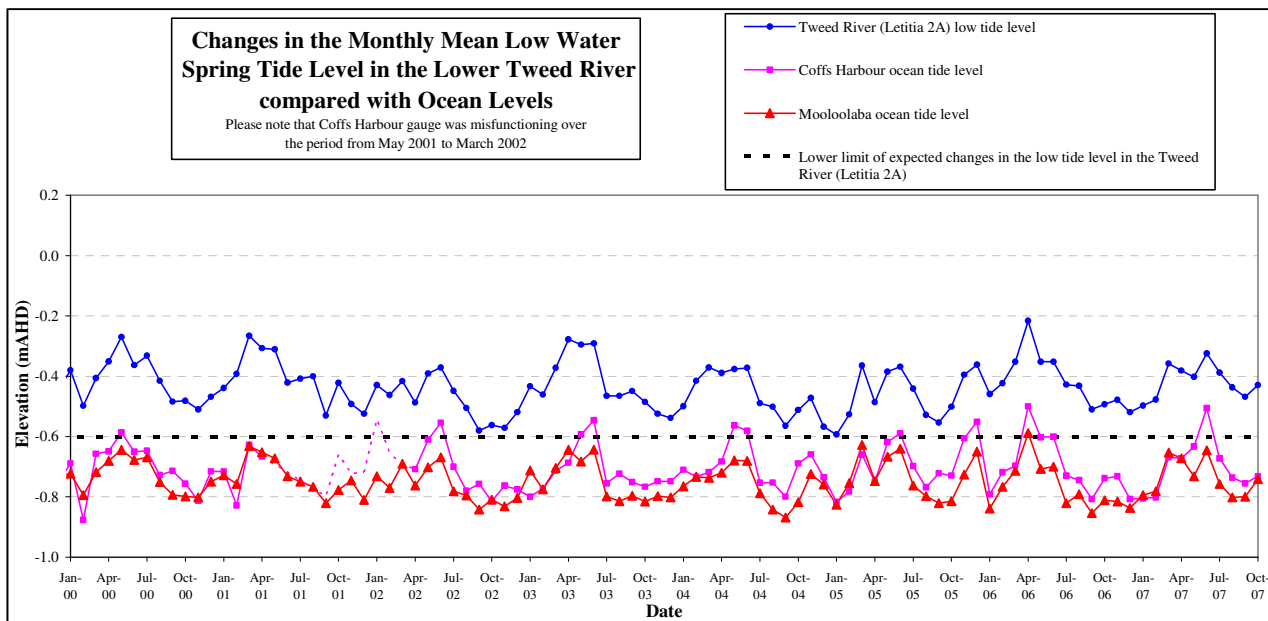
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8. TWEED RIVER LOWER ESTUARY TIDAL CONDITIONS

Tweed River tide data for the month of November 2007 is currently being analysed. Tidal monitoring results for November 2007 will be reported in next month's monitoring summary (December 2007).

In October 2007, the Mean Low Water Spring (MLWS) tide level in the lower Tweed River was -0.429 m AHD.

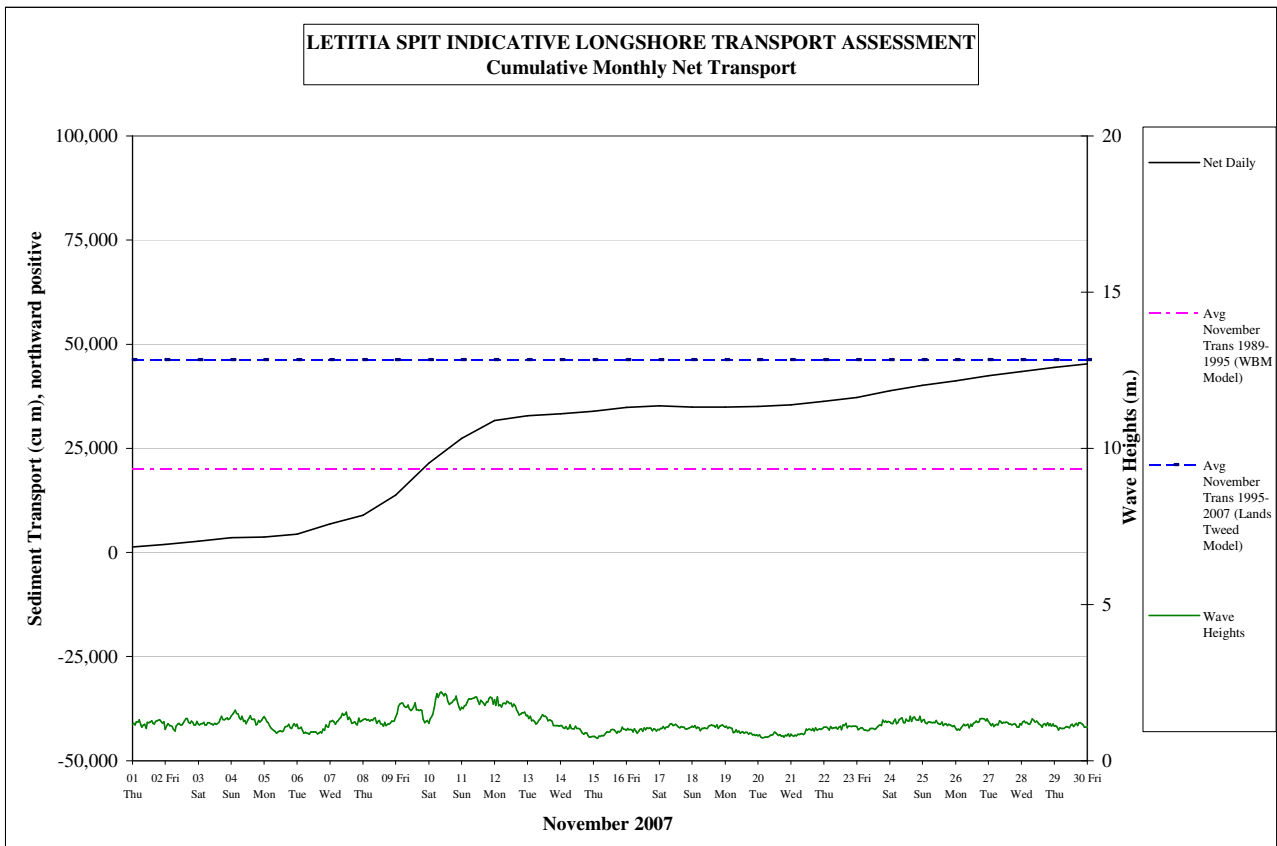
The Letitia 2A tidal data for October mirrored the Mooloolaba ocean tidal trends indicating that the TRESBP has not had a significant impact on Lower Tweed River tidal range.



9. 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 November 2007, 46,000m³ of sand was moved north towards the Tweed River entrance by natural processes. This is approximately the modelled average sand transport quantity for the month of November.



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10. ARGUS COASTAL IMAGING SYSTEM

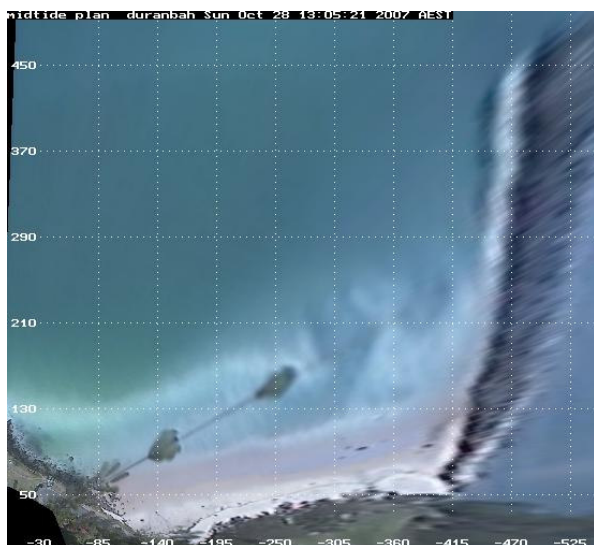
The University of New South Wales is monitoring Duranbah Beach to North Kirra Beach for the project using an ARGUS coastal imaging system. Images are available on the internet at the following address:

<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

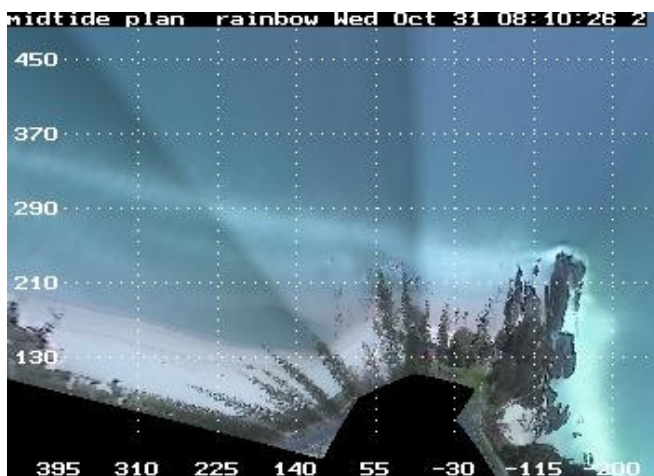


28 October 2007

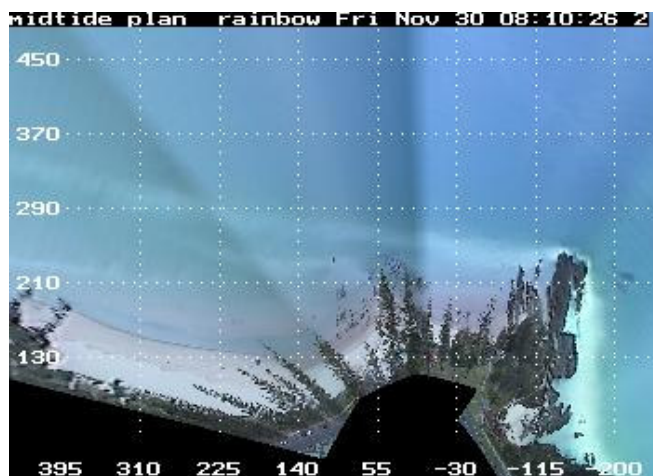


28 November 2007

RAINBOW BAY



31 October 2007

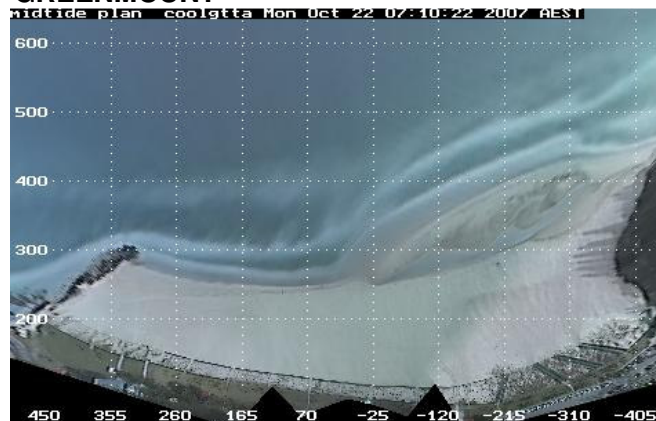


30 November 2007

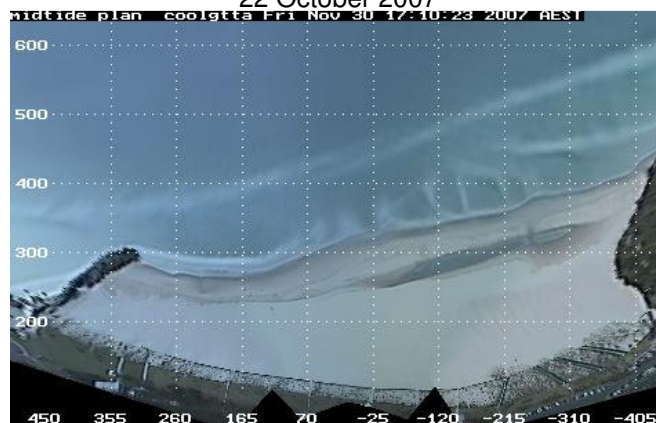
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ARGUS COASTAL IMAGING SYSTEM CONTINUED

COOLANGATTA - GREENMOUNT

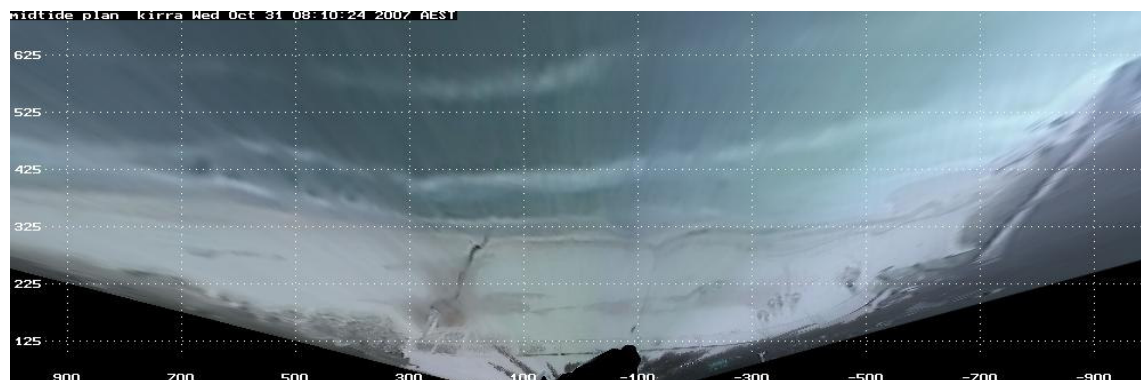


22 October 2007

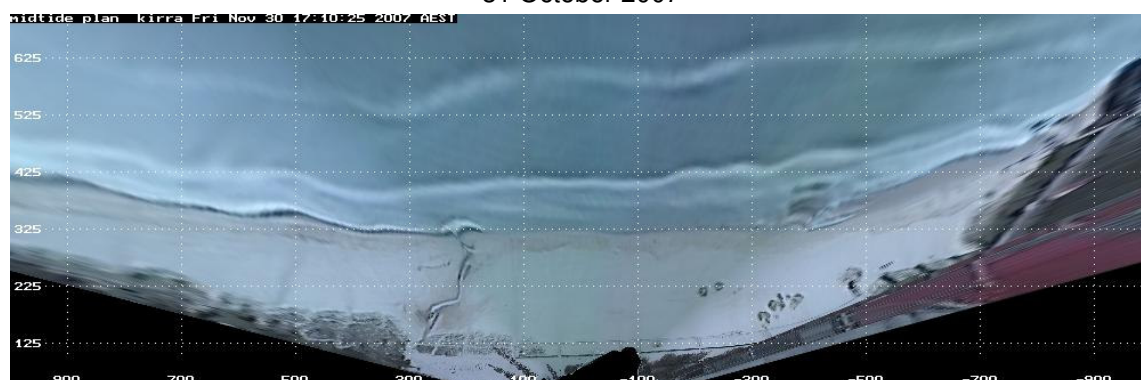


30 November 2007

NORTH KIRRA - KIRRA



31 October 2007



30 November 2007

11. CONTACT DETAILS

This report was completed by Becky Wong.

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 Becky at any of the addresses below:

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