

# **Tweed River Entrance Sand Bypassing Project**

## **Letitia Spit to Kirra**



## **Monthly Environmental Monitoring Summary**

**APRIL 2008**

Department of Lands 



  
**Queensland  
Government**  
Environmental  
Protection Agency

**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT  
LETITIA SPIT TO KIRRA  
MONTHLY ENVIRONMENTAL MONITORING SUMMARY APRIL 2008**

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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 and the Tweed River Entrance.

In April 2008:

- The number of vessels that passed through the entrance was below the average number of crossings for the month of April.
- Surf quality in April was moderate to good.
- Tide data from March and April 2008 is consistent with ocean tide levels and shows no significant impacts.
- The amount of sand moving north towards the Tweed River Entrance by natural processes was more than the April average.
- Pumping of sand onto Duranbah Beach continued and was completed on 9<sup>th</sup> April, with sand pumping directed to the main Snapper Rocks East outlet for the last part of April.

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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 and the Tweed River Entrance 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](http://www.burleighcam.com.au)
- [www.bom.gov.au](http://www.bom.gov.au)
- [www.coastalwatch.com.au](http://www.coastalwatch.com.au)
- [www.surfgaustalia.com.au](http://www.surfgaustalia.com.au)
- [www.swellnet.com.au](http://www.swellnet.com.au)
- [www.tracksamag.com](http://www.tracksamag.com)



## 3. PUMPING AND DREDGING ACTIVITIES

### Sand Delivery for APRIL 2008

	PUMPED		DREDGED	APRIL 2008 TOTAL DELIVERY
Location	Snapper Rocks East	Duranbah		
Amount (m <sup>3</sup> )	63,642	8,750	0	72,392

### Total Sand Delivery This Year (January to April 2008)

	PUMPED	DREDGED	2008 TOTAL DELIVERY
Amount (m <sup>3</sup> )	221,558	0	221,558

### Total Sand Delivery to Date by the Stage 2 Permanent Sand Bypassing System (May 2000 to April 2008)

	PUMPED	DREDGED	TOTAL DELIVERY STAGE 2
Amount (m <sup>3</sup> )	4,641,646	*1,862,795	*6,504,440

\* Nb. Does not include 22,870 m<sup>3</sup> of dredged sand delivered to Palm Beach from June to September 2005.

**4. TWEED RIVER ENTRANCE CONDITIONS**

**VOLUNTEER VIDEO MONITORING LOG**

The following Entrance Condition observations for April 2008 were recorded by volunteer Mr Brian Mason:

<b>Date</b>	<b>Observations</b>
14 April Morning	Fine weather. Fair crossing conditions. Several vessels entered during the period.
21 April Morning	Fine weather. Dangerous crossing conditions. Lot of wave break in front of entrance.
28 April Morning	Fine weather. Calm crossing conditions.

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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 April 2008 are presented below.

The navigation ratings from 1–5 are as follows:

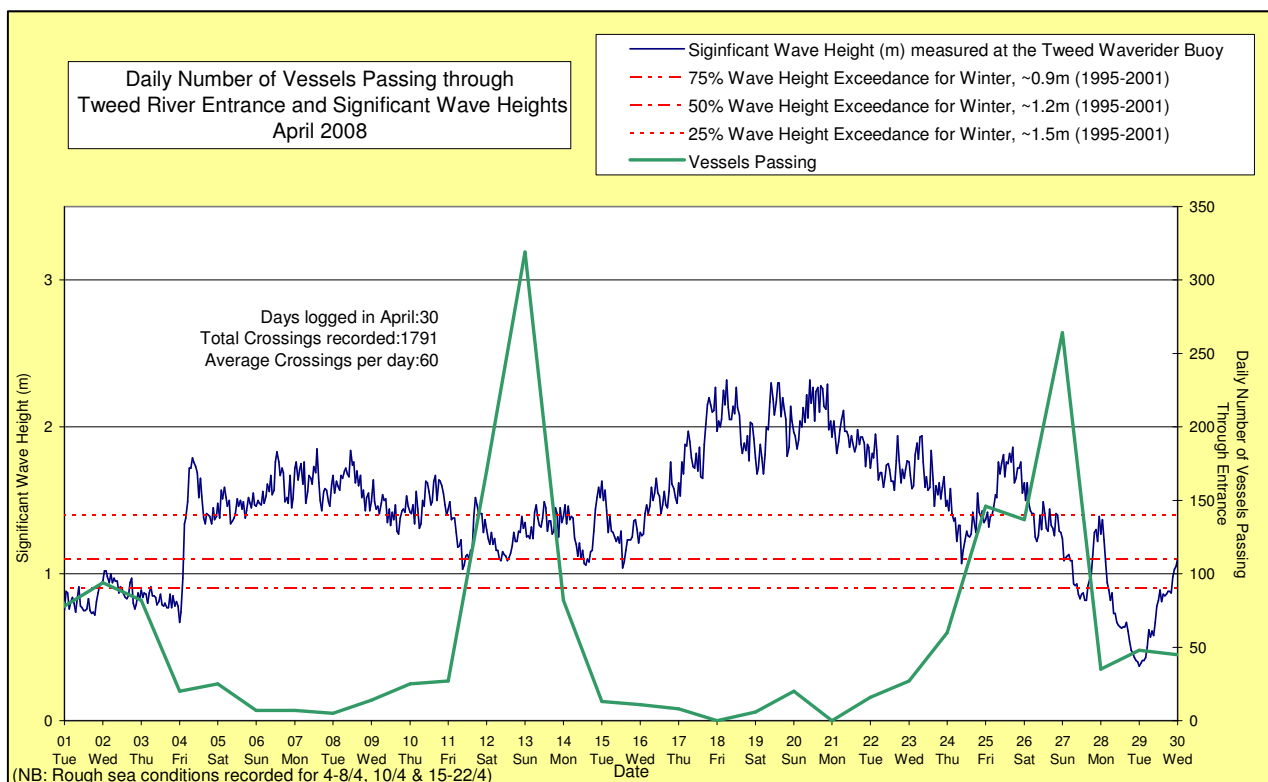
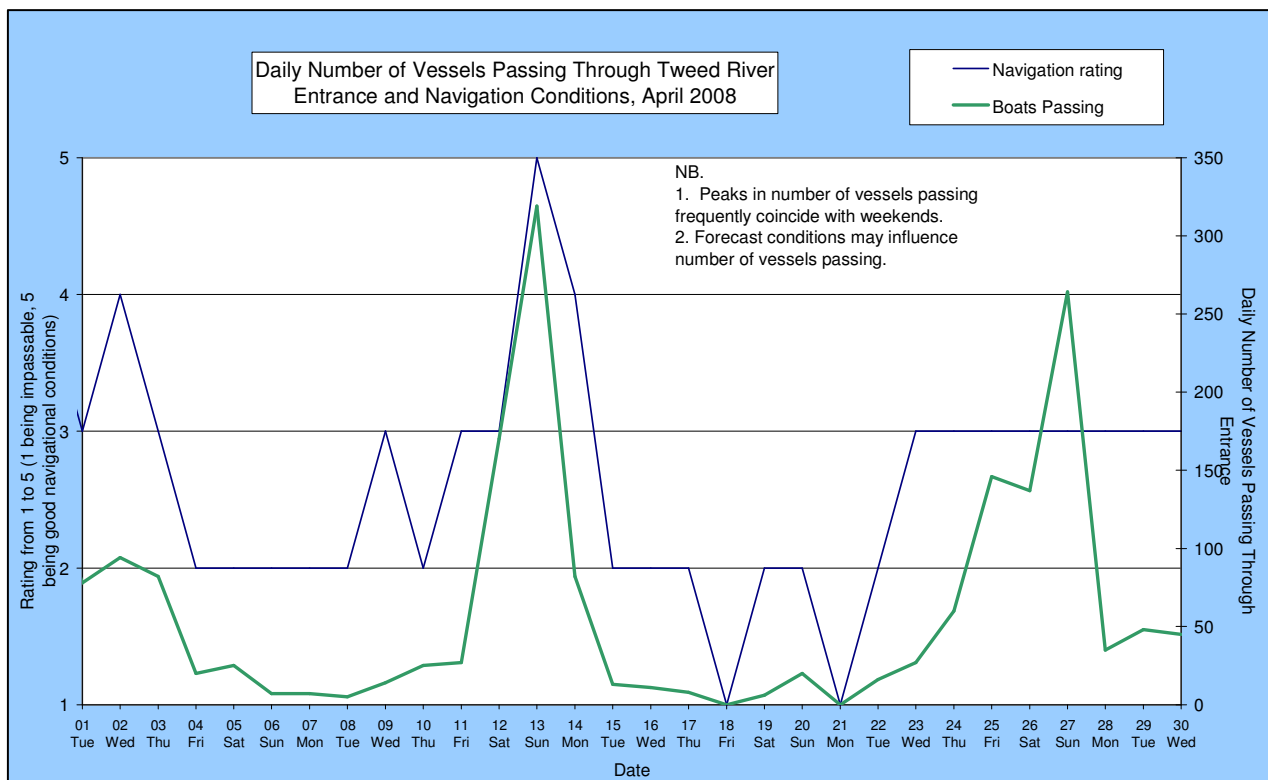
- 1 – Impassable                      2 – Difficulty encountered                      3 – Some difficulty encountered  
4 – Relatively good crossing      5 – Good conditions

☐ – Weekends and public holidays

Date	Entrance Conditions	Navigation Rating Impassable-----Good					Number of Boats
		1	2	3	4	5	
1	Moderate						78
2	Moderate						94
3	Moderate						82
4	Rough						20
5	Rough						25
6	Rough						7
7	Rough						7
8	Rough						5
9	Moderate						14
10	Rough						25
11	Moderate						27
12	Moderate						170
13	Moderate						319
14	Moderate						82
15	Rough						13
16	Rough						11
17	Rough						8
18	Rough						0
19	Rough						6
20	Rough						20
21	Rough						0
22	Rough						16
23	Moderate						27
24	Moderate						60
25	Moderate						146
26	Moderate						137
27	Moderate						264
28	Moderate						35
29	Moderate						48
30	Moderate						45

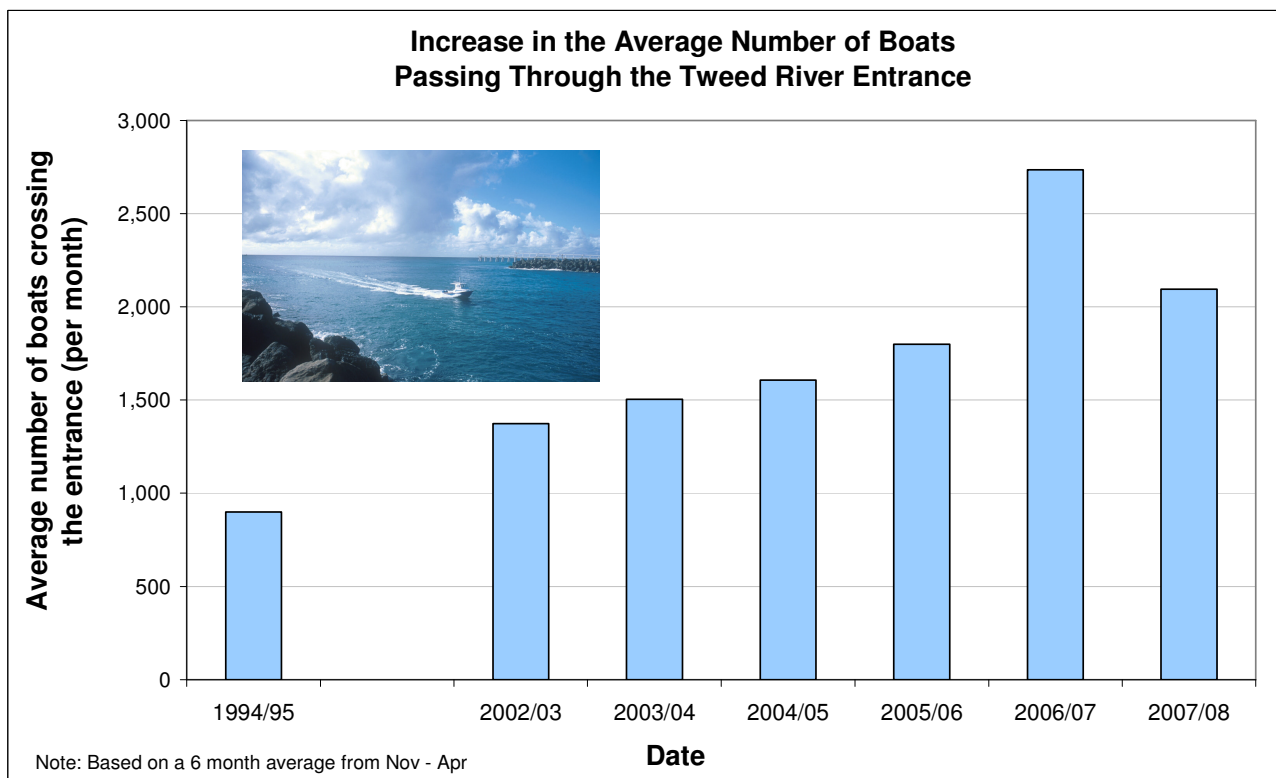
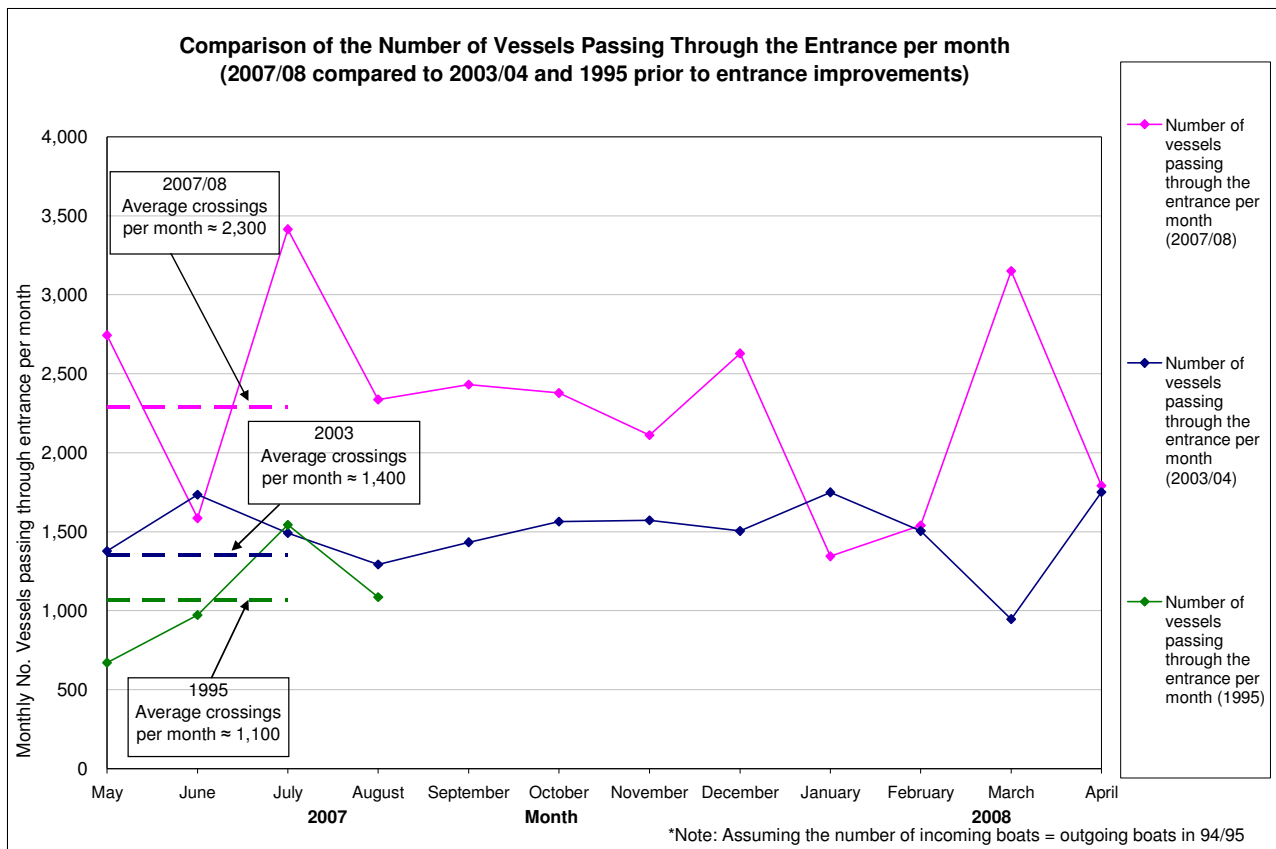
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**TWEED RIVER ENTRANCE CONDITIONS CONTINUED**



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**TWEED RIVER ENTRANCE CONDITIONS CONTINUED**





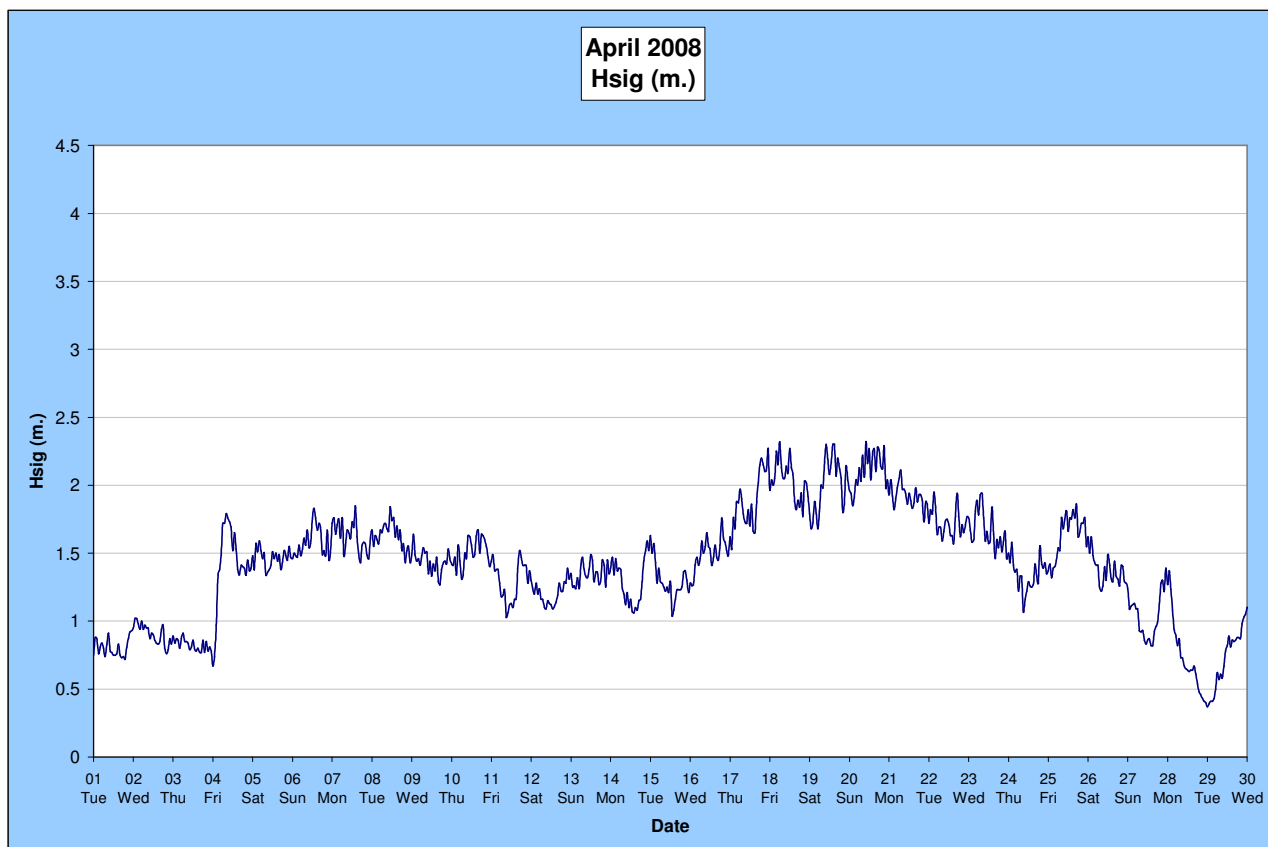
**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT  
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## **5. SURF SUMMARY**

Waves of between 1.0 – 2.0 m (ie average conditions) from the E dominated surf conditions on the Southern Gold Coast in April 2008. Winds varied over the month with the predominant wind condition being SSW at 10-30 Knots.

Readings from the Tweed Waverider Buoy showed a minimum significant wave height of 0.37 m on 29 April and a maximum significant wave height of 2.32 m on 18 & 20 April. There were 7 recorded days when waves dropped below 1.0 m and 5 days when waves were above 2.0 m.

Source: Tweed and Brisbane Waverider Buoy and BoM.



A link to data recorded continuously at the Tweed Waverider Buoy is available at: [www.epa.qld.gov.au/sandbypass/](http://www.epa.qld.gov.au/sandbypass/)

## **SURF & SURF LIFE SAVING AND OTHER EVENTS**

### Events in April 2008

28 April - 4 May – Brothers Neilsen Pro Junior (Duranbah Beach)

### Upcoming events in May 2008

28 April - 4 May – Brothers Neilsen Pro Junior (Duranbah Beach)

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 April 2008 were made by volunteer Mr Brian Mason on behalf of the TRESBP.

<b>Date</b>	<b>Duranbah</b>	<b>Frog's Beach / Snapper Rocks</b>	<b>Kirra Point</b>
14 April Morning	2 – 2.5 m plunging waves. 93 surfers present.	79 surfers present.	1.5 – 2 m plunging and spilling waves. 13 surfers present.
21 April Morning	2 – 2.5 m plunging waves. 11 surfers present.	126 surfers present.	1 – 1.5 m plunging waves. 5 surfers present. Water ponding along back of beach close to new fencing as far north as Coolangatta Creek, entrance to beach.
28 April Morning	30 surfers present. Small gutter running along beach. Water level about waist high.	7 surfers present.	<1 m spilling waves. 6 surfers present.

## **6. MEDIA COVERAGE AND COMMUNITY FEEDBACK**

### **MEDIA COVERAGE**

3 April, 2008, Gold Coast Bulletin, "Health check for local reefs"

*"Coral reefs on Queensland's Gold and Sunshine coasts will be given regular health checks, as part of the United Nations' global reef monitoring program... More than 25 reefs on the Gold and Sunshine coasts and in Moreton Bay will be kept under observation to monitor the impacts of climate change, pollution and urbanisation."*

4 April, 2008, ABC News, "Uni program monitoring SE Qld coral reefs"

*"Scientists are taking a closer look at coral reefs in south-east Queensland. A special monitoring program has been launched on the Gold Coast, and the data will be used to assess over-fishing..." So the idea is to keep it ongoing down here and to make people aware that there are reefs here and they're an important ecological component of south-east Queensland," [Marine biologist Jonathon Werry from Griffith University said]."*

7 April, 2008, Gold Coast Bulletin, "Rainbow named Australia's sexiest sands"

*"Rainbow was ranked No. 1 on the Forbes Traveller website by Dr Andrew Short, a professor at the University of Sydney's School of Geosciences. Dr Short rated Rainbow's 'superbank', one of the world's best surfing waves, the surfers and their beautiful girlfriends as the best features of the 'pocket beach'."*

21 April, 2008, Gold Coast Bulletin, "Bleak, rainy but boarders see sunny side"

*"Rain and large swells have hammered Gold Coast beaches, forming dangerous sandcliffs. The combination of a high tide and rain left Burleigh Heads almost beachless with hazardous walls while Duranbah was one of the worst affected by erosion yesterday. The popular surf beach continues to show erosion after months of storms and wild seas. While the erosion cleared the beach of sunbathers, dozens of bodyboarders were enjoying the roughhouse conditions."*

23 April, 2008, Courier Mail, "Surf rage washed longboard festival over border"

*"Surf rage has forced one of Queensland's biggest international surfing events to move to NSW. The Malfunxion longboard tournament has been held on the southern Gold Coast since 1984, pumping about \$2 million into the economy each year. But rising crowds and "aggro" from shortboarders at Snapper Rocks, north of Coolangatta, will see the 25<sup>th</sup> annual festival open across the border at Kingscliff today for the first time."*

25 April, 2008, Gold Coast Bulletin, "Wave-riding etiquette goes by the board"

*"Snapper's world-famous break has been in action this week..." "It's got to be one of the most crowded breaks in the world," [local surfer Ben Matson said]. Mr Matson said Snapper was always crowded because it was a reliable spot for decent surf. "the best waves have been at Snapper," he said."*

28 April, 2008, Gold Coast Bulletin, "Smart eye on Tweed bar"

*"Point Danger Volunteer Marine Rescue has been given some hi-tech help [Maritime NSW trial web-camera] in its ongoing quest to keep our waterways safe..." "Before, we could only see two parts of (Duranbah) beach and the wall, now we have a better view. We can see out past Fingal, which we couldn't do before," [Radio operator Shirley Williams said]."*

28 April, 2008, Gold Coast Bulletin, "Life's a beach at Rainbow"

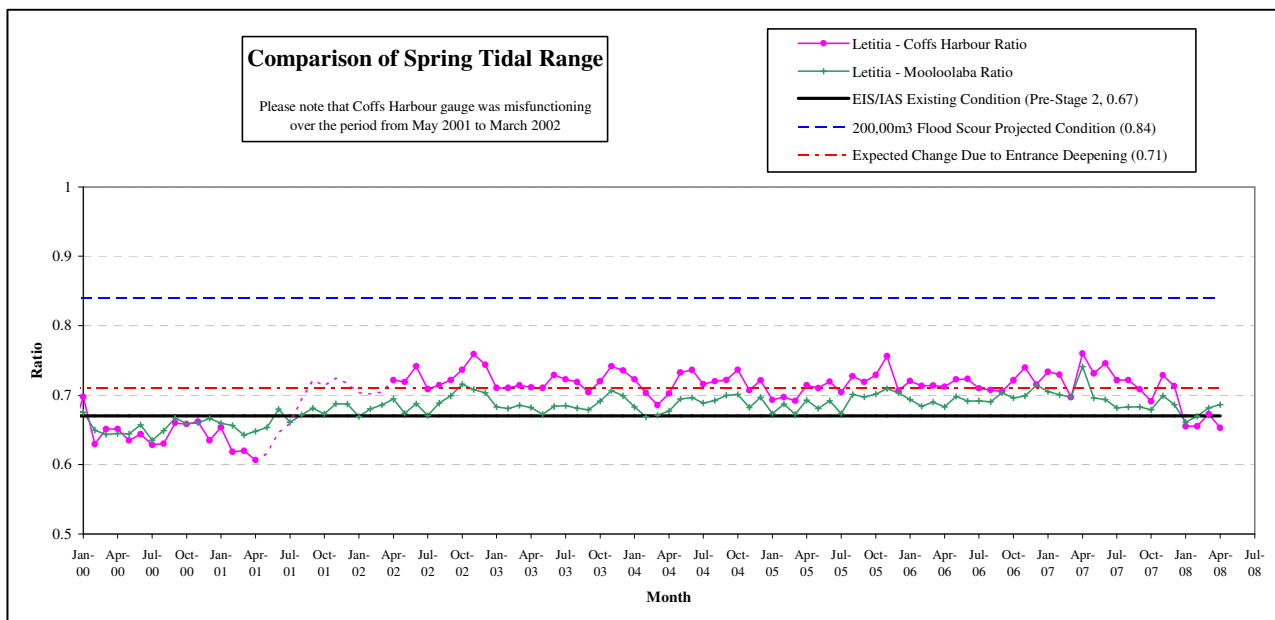
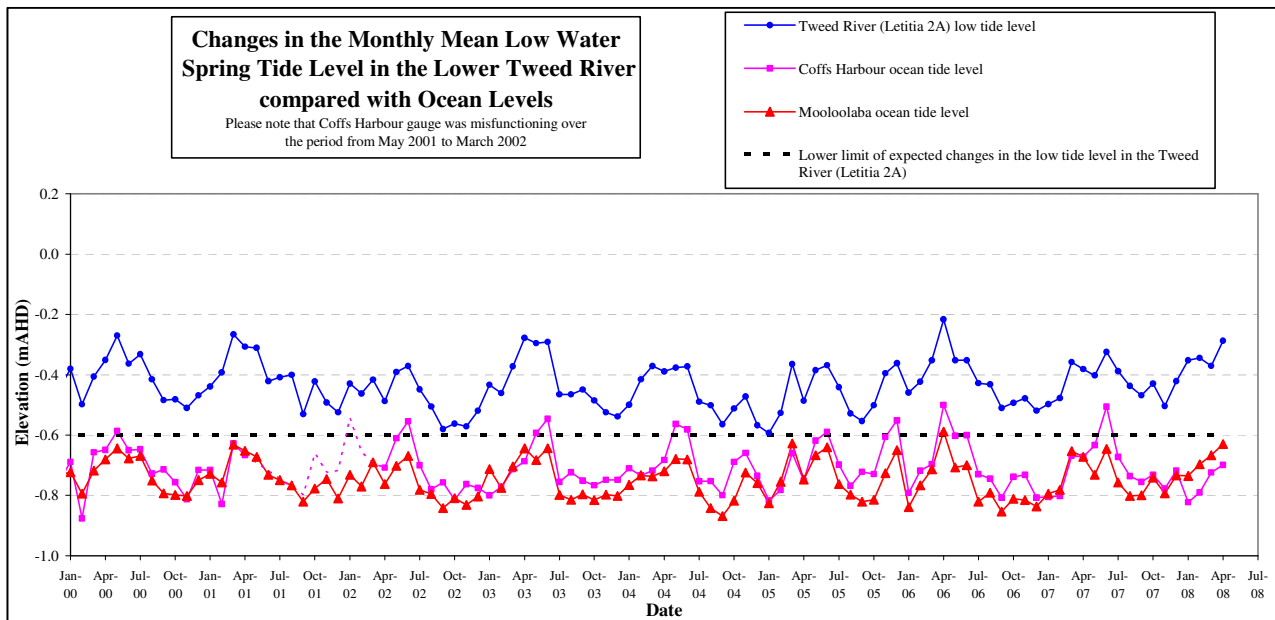
*"Plenty of surf, sun and family fun can be had on a day out at Rainbow Bay... Neighbouring beach Snapper Rocks is a hot spot for surfers... The 20-year-old Terranora resident says he has been surfing for about eight years and Snapper Rocks is definitely a favourite spot."*

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**7. TWEED RIVER LOWER ESTUARY TIDAL CONDITIONS**

The Mean Low Water Spring (MLWS) tide level in the lower Tweed River was -0.37 m AHD in March 2008 and -0.29 m AHD in April 2008.

The Letitia 2A tidal data for March and April 2008 mirrored the Mooloolaba ocean tidal trends indicating that the TRESBP has not had a significant impact on Lower Tweed River tidal range.

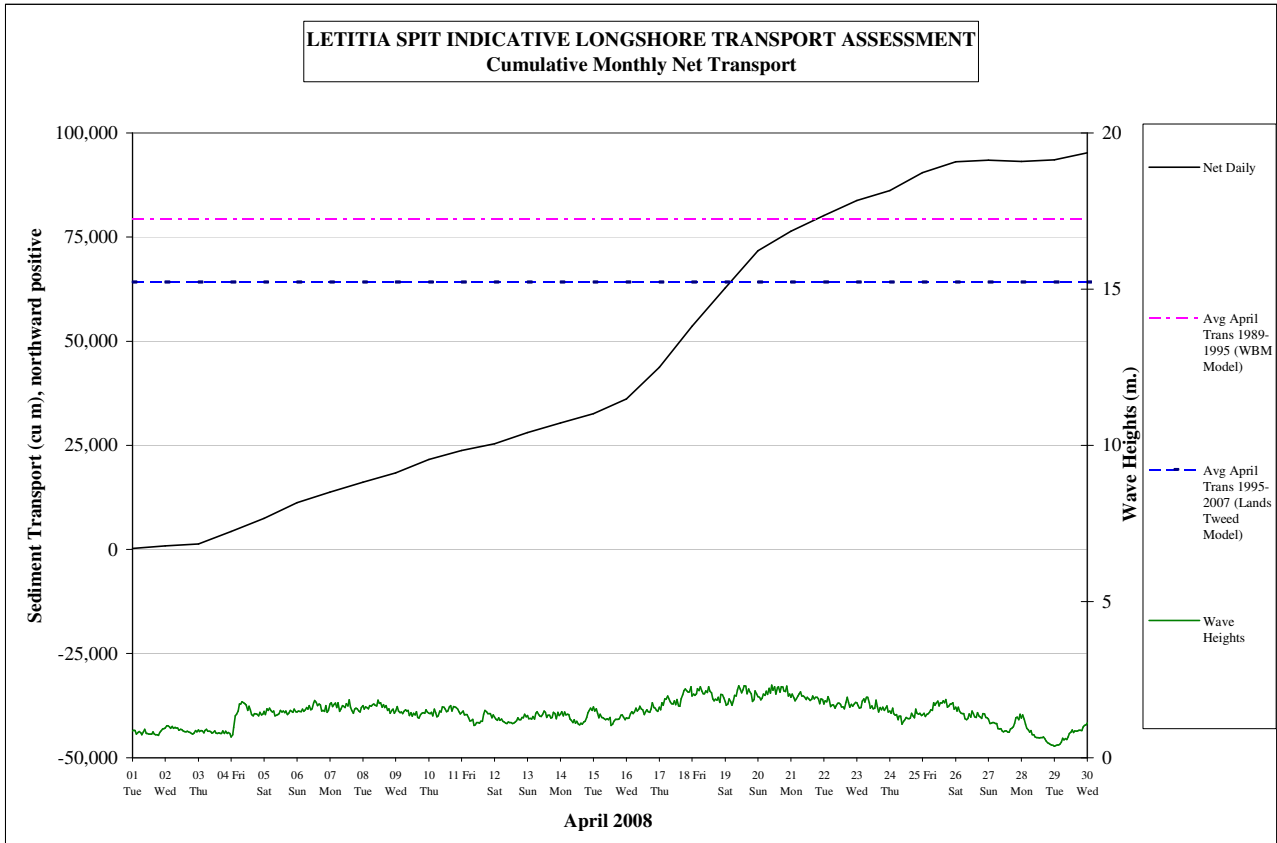


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**8. INDICATIVE LONGSHORE SAND TRANSPORT**

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 April 2008, 95,000 m<sup>3</sup> of sand was moved north towards the Tweed River entrance by natural processes. This is more than the modelled average sand transport quantity for the month of April.



## **9. ARGUS COASTAL IMAGING SYSTEM**

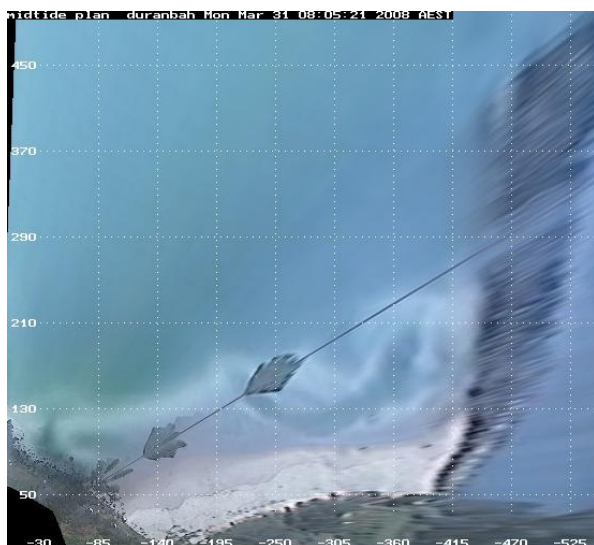
The University of New South Wales is monitoring Duranbah Beach to North Kirra Beach for the project using an ARGUS coastal imaging system. Images are available on the internet at the following address:

<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**

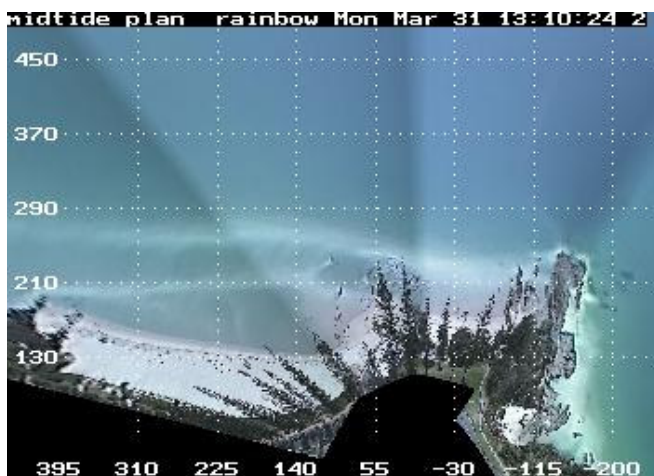


31 March 2008

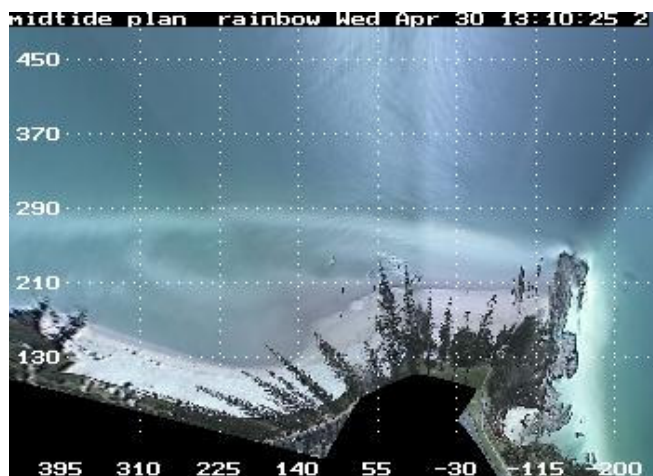


29 April 2008

### **RAINBOW BAY**



31 March 2008



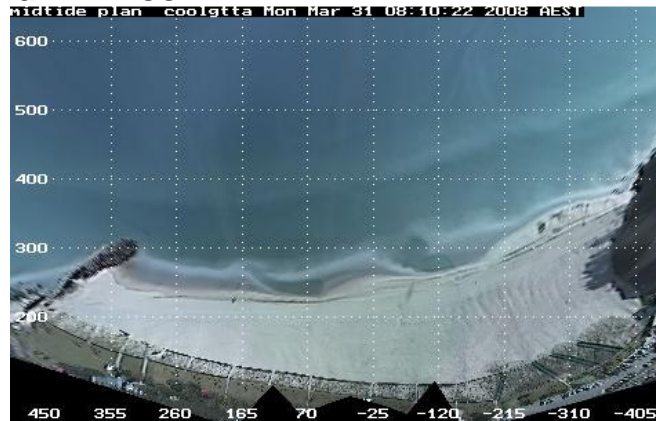
30 April 2008



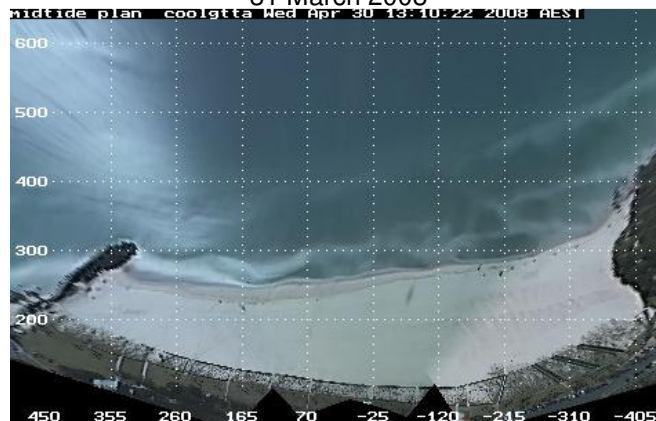
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ARGUS COASTAL IMAGING SYSTEM CONTINUED

COOLANGATTA - GREENMOUNT

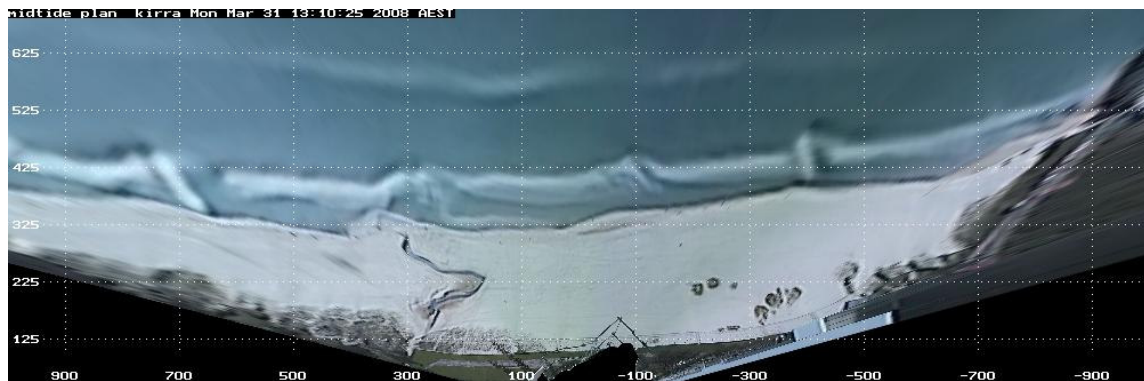


31 March 2008



30 April 2008

NORTH KIRRA - KIRRA



31 March 2008



30 April 2008

## 10. CONTACT DETAILS

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

[www.tweedsandbypass.nsw.gov.au](http://www.tweedsandbypass.nsw.gov.au)

[www.epa.qld.gov.au/sandbypass/](http://www.epa.qld.gov.au/sandbypass/)

[www.wrl.unsw.edu.au/coastalimaging/public/tweed/index.html](http://www.wrl.unsw.edu.au/coastalimaging/public/tweed/index.html)

For all enquires regarding this report, please contact the Project Manager for the Governments:

Ian Taylor

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