

# **Tweed River Entrance Sand Bypassing Project**

## **Letitia Spit to Kirra**



## **Monthly Environmental Monitoring Summary**

**MAY 2008**

Department of Lands 



  
**Queensland  
Government**  
Environmental  
Protection Agency

<b>TABLE OF CONTENTS</b>
--------------------------

<b>1. EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>2. INTRODUCTION .....</b>	<b>2</b>
<b>3. PUMPING AND DREDGING ACTIVITIES .....</b>	<b>2</b>
<b>4. TWEED RIVER ENTRANCE CONDITIONS .....</b>	<b>3</b>
<b>5. SURF SUMMARY .....</b>	<b>7</b>
<b>6. BEACH CONDITIONS .....</b>	<b>9</b>
<b>7. MEDIA COVERAGE AND COMMUNITY FEEDBACK .....</b>	<b>10</b>
<b>8. TWEED RIVER LOWER ESTUARY TIDAL CONDITIONS.....</b>	<b>12</b>
<b>9. INDICATIVE LONGSHORE SAND TRANSPORT .....</b>	<b>12</b>
<b>10. ARGUS COASTAL IMAGING SYSTEM.....</b>	<b>13</b>
<b>11. CONTACT DETAILS .....</b>	<b>15</b>

## **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 May 2008:

- The number of vessels that passed through the entrance was above the average number of crossings for the month of May.
- Surf quality in May was moderate to good, with generally small waves. A large swell event with waves reaching 3.1 m occurred at the very end of the month.
- Tide data for the month of May is currently being analysed and will be presented in the June 2008 Environmental Monitoring Summary.
- The amount of sand moving north towards the Tweed River Entrance by natural processes was slightly less than the May average.
- Dredging of the Tweed River Entrance commenced on 17<sup>th</sup> May. About 20,000 m<sup>3</sup> of sand was delivered to Duranbah up to the end of May. Dredging is scheduled to continue until mid September 2008.

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

## 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.surfingaustralia.com.au](http://www.surfingaustralia.com.au)
- [www.swellnet.com.au](http://www.swellnet.com.au)
- [www.tracksmag.com](http://www.tracksmag.com)



## 3. PUMPING AND DREDGING ACTIVITIES

### Sand Delivery for MAY 2008

	<b>PUMPED</b>	<b>DREDGED</b>	<b>MAY 2008 TOTAL DELIVERY</b>
<b>Location</b>	Snapper Rocks East		
<b>Amount (m<sup>3</sup>)</b>	62,086 m <sup>3</sup>	19,790 m <sup>3</sup>	81,876 m <sup>3</sup>

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

	<b>PUMPED</b>	<b>DREDGED</b>	<b>2008 TOTAL DELIVERY</b>
<b>Amount (m<sup>3</sup>)</b>	283,644 m <sup>3</sup>	19,790 m <sup>3</sup>	303,434 m <sup>3</sup>

### Total Sand Delivery Last Year (January to December 2007)

	<b>PUMPED</b>	<b>DREDGED</b>	<b>2007 TOTAL DELIVERY</b>
<b>Amount (m<sup>3</sup>)</b>	562,247 m <sup>3</sup>	0 m <sup>3</sup>	562,247 m <sup>3</sup>

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

	<b>PUMPED</b>	<b>DREDGED</b>	<b>TOTAL DELIVERY STAGE 2</b>
<b>Amount (m<sup>3</sup>)</b>	4,703,732 m <sup>3</sup>	*1,882,583 m <sup>3</sup>	*6,586,315 m <sup>3</sup>

\* 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 May 2008 were recorded by volunteer Mr Brian Mason:

<b>Date</b>	<b>Observations</b>
2 May Late Morning	Fine weather. Very good crossing conditions. No wave breaks. Small boat entered at cruise speed.
9 May Morning	Good. Tinny went out without problems.
16 May Morning	Fair. Ripple effect on the water seaward of the entrance defines the area of sand build-up. Volunteer Marine Rescue Pt Danger have advised that the Port Frederick (dredge) is due next Wednesday. Small vessels leaving and entering avoid the rougher area by leaving or approaching from the north and close inshore.
23 May Morning	Rainy. Waves breaking seawards of the entrance. Dangerous crossing conditions.

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

**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 May 2008 are presented below.

The navigation ratings from 1–5 are as follows:

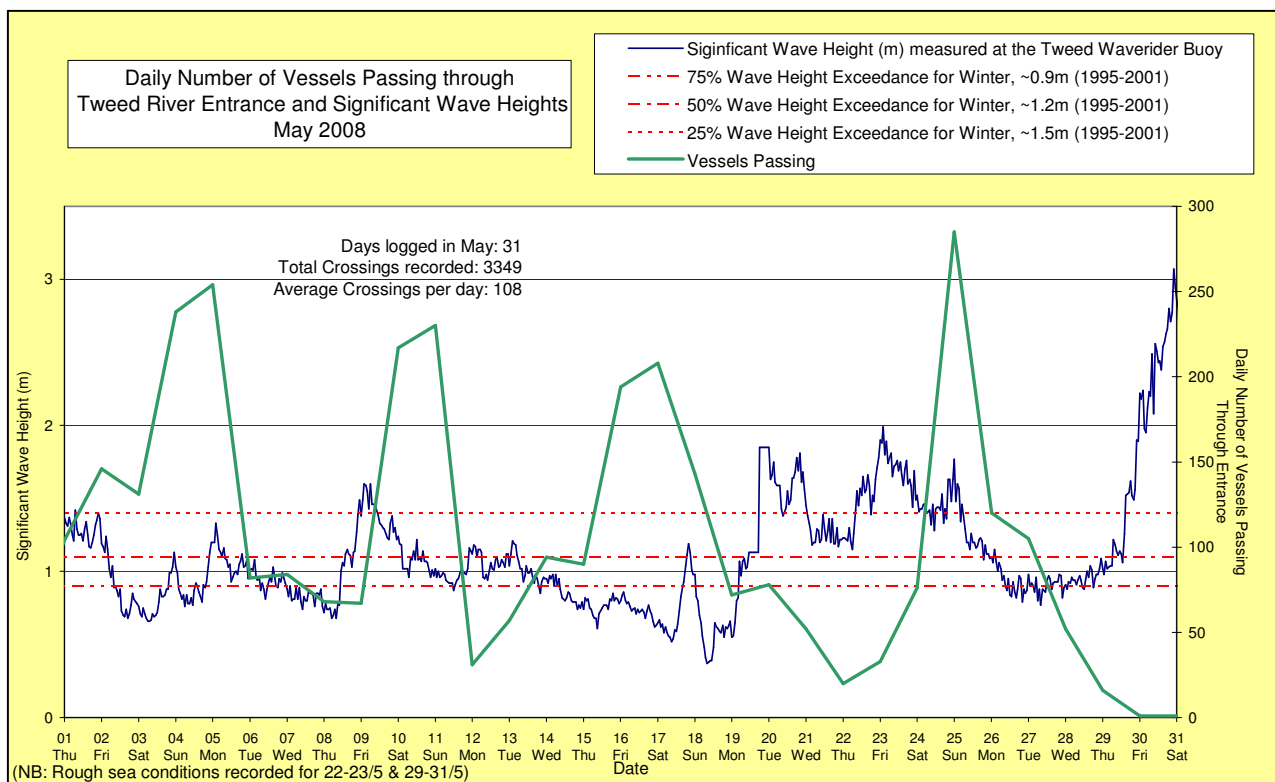
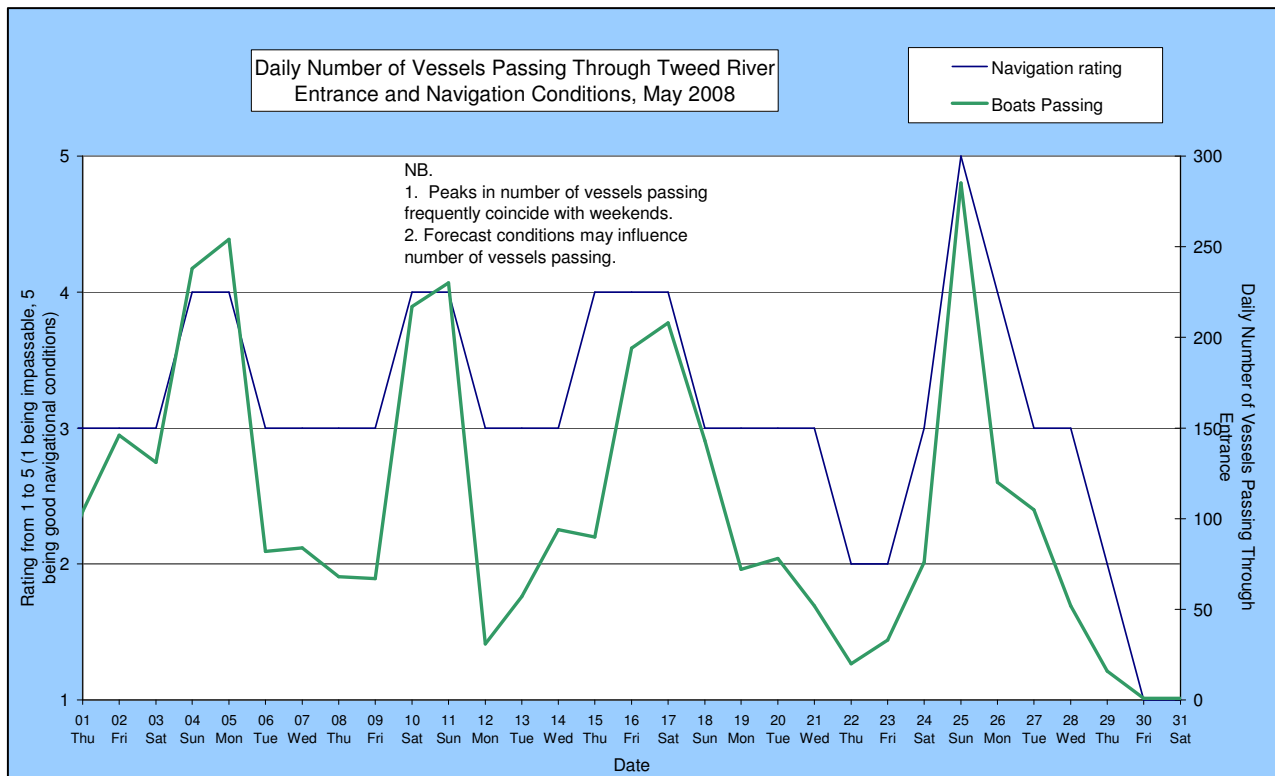
- 1 – Impassable                      2 – Difficulty encountered                      3 – Some difficulty encountered  
4 – Relatively good crossing      5 – Good conditions

☐ – Weekends and public holidays

Date	Entrance Conditions	Navigation Rating Impassable-----Good					Number of Boats
		1	2	3	4	5	
1	Moderate						104
2	Moderate						146
3	Moderate						131
4	Moderate						238
5	Moderate						254
6	Moderate						82
7	Moderate						84
8	Moderate						68
9	Moderate						67
10	Moderate						217
11	Moderate						230
12	Moderate						31
13	Moderate						57
14	Moderate						94
15	Moderate						90
16	Moderate						194
17	Moderate						208
18	Moderate						143
19	Moderate						72
20	Moderate						78
21	Moderate						52
22	Moderate/ Rough						20
23	Rough						33
24	Moderate						76
25	Moderate						285
26	Moderate						120
27	Moderate						105
28	Moderate						52
29	Rough						16
30	Extremely Rough						1
31	Extremely Rough						1

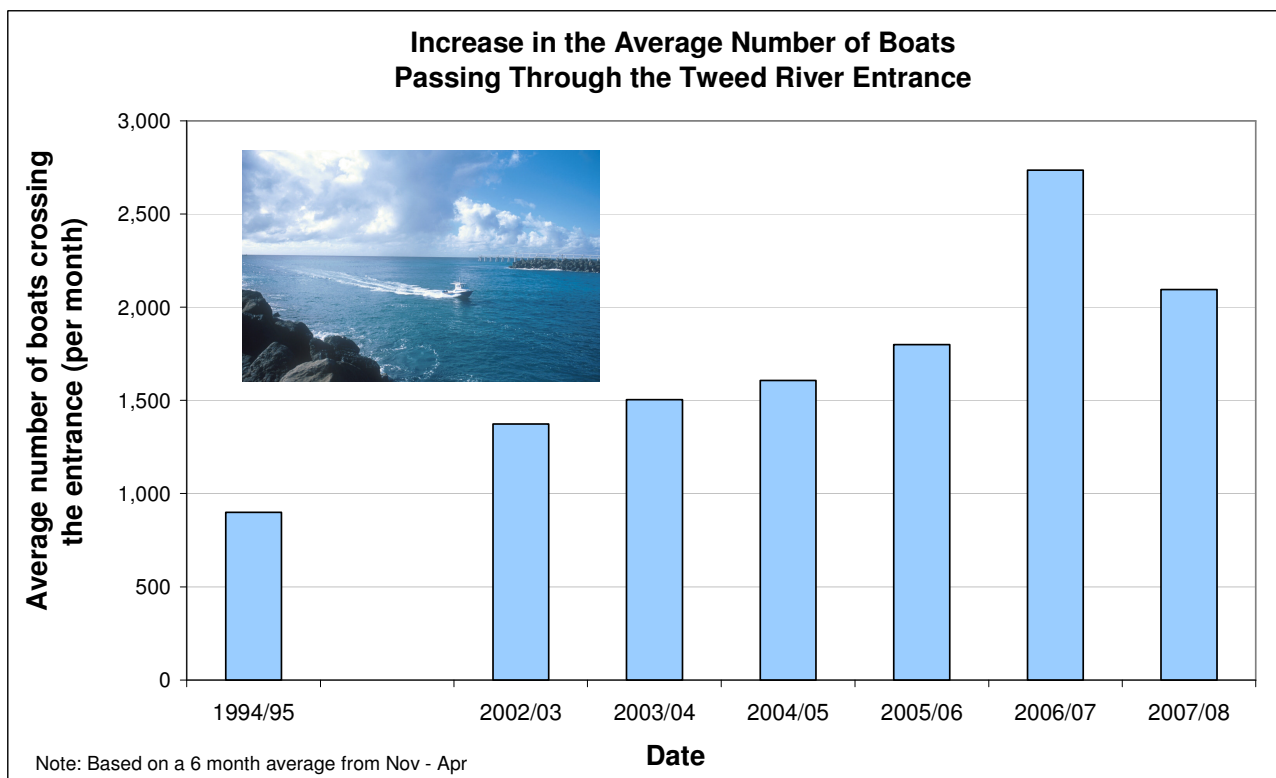
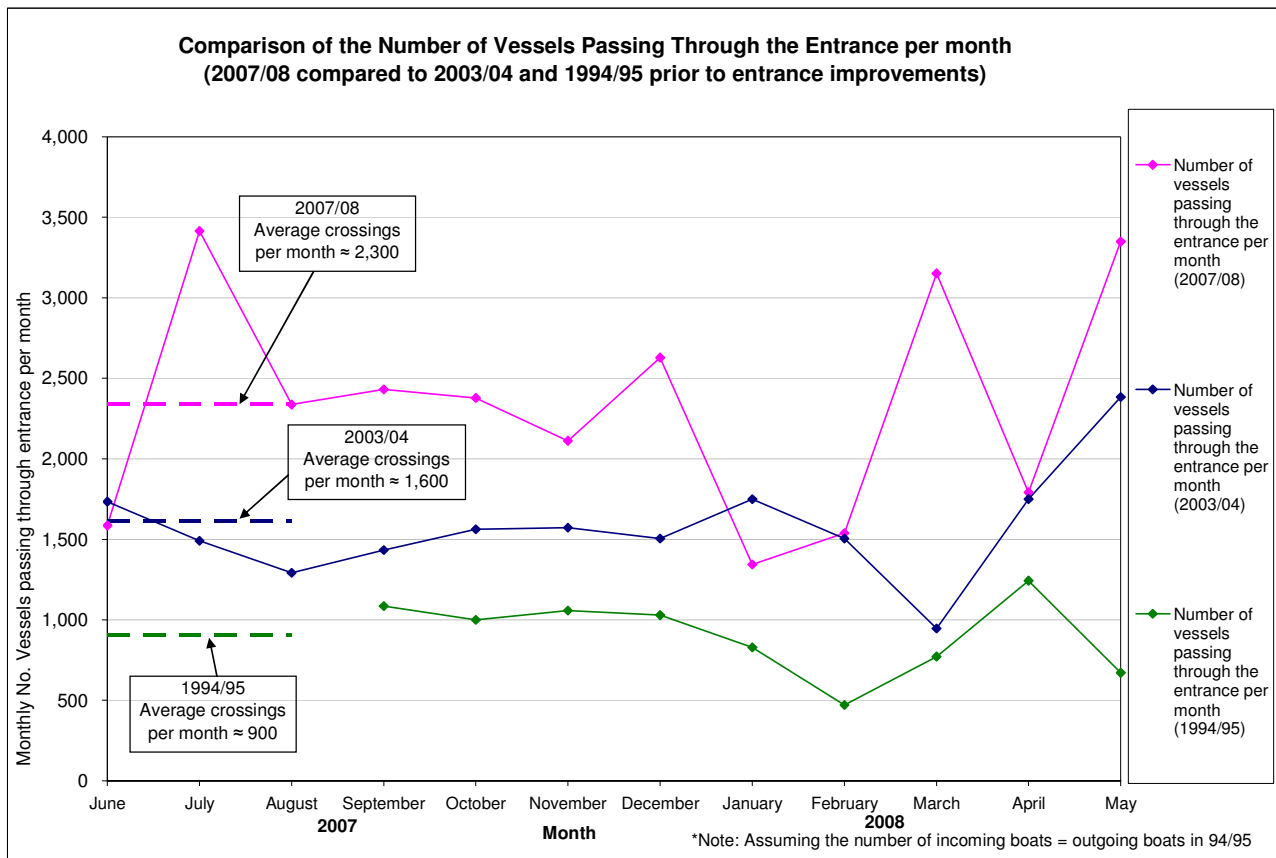
**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT  
LETITIA SPIT TO KIRRA  
MONTHLY ENVIRONMENTAL MONITORING SUMMARY MAY 2008**

**TWEED RIVER ENTRANCE CONDITIONS CONTINUED**



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

**TWEED RIVER ENTRANCE CONDITIONS CONTINUED**





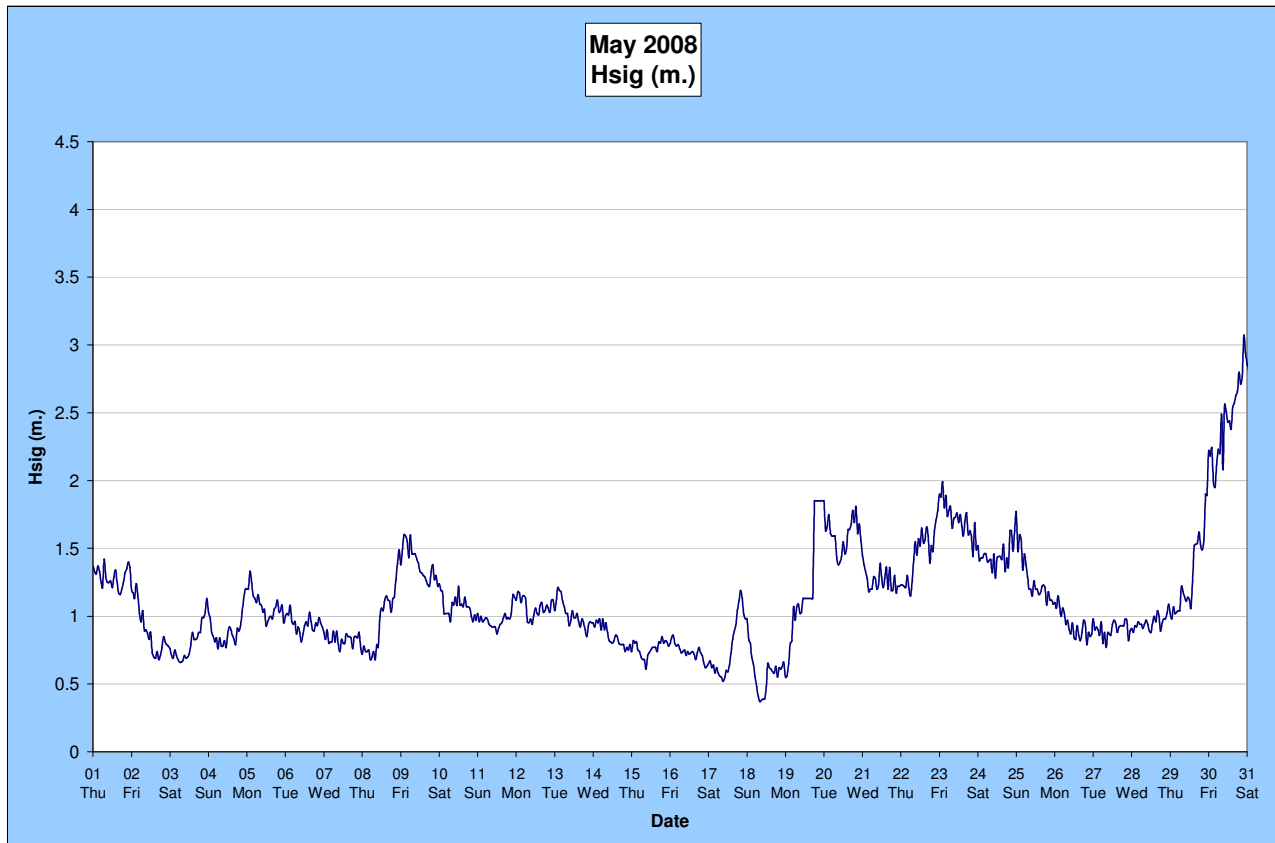
**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT  
LETITIA SPIT TO KIRRA  
MONTHLY ENVIRONMENTAL MONITORING SUMMARY MAY 2008**

## **5. SURF SUMMARY**

Waves of between 0.5 – 1.5 m (ie small conditions) from the SE dominated surf conditions on the Southern Gold Coast in May 2008. Winds varied over the month with the predominant wind condition being SW at 10-25 Knots.

Readings from the Tweed Waverider Buoy showed a minimum significant wave height of 0.37 m on 18 May and a maximum significant wave height of 3.07 m on 30 May. There were 21 recorded days when waves dropped below 1.0 m and 2 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 May 2008

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

31 May – Honolua Ocean Paddleboard Race (Snapper Rocks to Currumbin)

### Upcoming events in June 2008

1 June - FCS Queensland Manufacturers Cup (Duranbah Beach)

7 June - Quiksilver Queensland State Junior Titles - Event 1 (mobile on Gold Coast)

13 June - Bradnams Queensland Longboard Titles (Gold Coast)

20 June – International Surfing Day (various)

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

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

**SURF SUMMARY CONTINUED**

**VOLUNTEER SURF QUALITY OBSERVATIONS**

The following observations for May 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>
2 May Late Morning	1.0-1.5 m plunging waves. 43 surfers present.	10 surfers present.	<1.0 m spilling waves. The offshore bar is now well established and has upset the wave action. Small sea does not help.
9 May Morning	1.0-1.5 m plunging waves. 61 surfers present.	74 surfers present.	Plunging and spilling waves. 24 surfers present.
16 May Morning	1.0-1.5 m plunging and spilling waves. 22 surfers present.	25 surfers present.	<1.0 m spilling waves. 7 surfers present. Offshore bar now well established from Kirra Pt north to at least Coolangatta Creek outlet.
23 May Morning	1.5-2.0 m waves. 40 surfers present. Showers from south east.	80 surfers present.	1.0 – 1.5 m plunging waves. 4 surfers present. Offshore bar seems to have decreased since last observation especially near the groyne and north to about opposite the street traffic lights. Very obvious from there north to Currumbin headland.

## 6. BEACH CONDITIONS

### PHOTOGRAPHS OF BEACH CONDITIONS

#### DURANBAH



View from Pt Danger

#### RAINBOW BAY



View from Greenmount

#### COOLANGATTA



View from Greenmount



View from Kirra Hill

#### KIRRA



View from Kirra Hill



View from Kirra Hill

Photos taken: 27 May 2008, approx 2-3pm, high tide

Source: NSW Department of Lands

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

### **MEDIA COVERAGE**

May 2008 issue, Surfing Life Magazine, "Taking it to the break"

*"You don't forget your first encounter with perfect surf...But if your first encounter with perfection happened in Australia in the last few years, there's every chance that it was at the Superbank...It's hard to overstate the impact of the Superbank."*

5 May, 2008, Gold Coast Bulletin, "Wilson snares his first win in dying seconds of thriller"

*"Sunshine Coast rising [surf] star Julian Wilson broke through for his first win of 2008 at the Brothers Neilsen Pro Junior at Duranbah yesterday...the 18-year-old was in hot form from his opening ride in small but perfect right-hand waves."*

6 May, 2008, Tweed Daily News, "Green strip ends hot sand shuffle at Kirra"

*"Kirra now boasts a turf playing surface larger than the Gabba...The turf was laid following the Tweed River Sand Bypassing Project which left beaches on the southern Gold Coast wider than usual."*

6 May, 2008, Gold Coast Bulletin, "No more hotfooting it for Kirra cricket"

*"The Kirra desert has been transformed into the Gold Coast's biggest cricket field...Cr Crichlow said 'The sand pumping around the bay has seen a big sand build-up on the beaches and this is the best outcome'...Cr Robbins said the added green space would help accommodate the influx of new residents to the southern Gold Coast."*

7 May, 2008, Tweed Daily News, "Come off the grass: Arnott"

*"Coastal Alliance chief Phil Arnott has described Gold Coast City Council's project to re-turf the Kirra foreshore as avoiding the real issues."*

8 May, 2008, Courier Mail, "Multimillion-dollar project extends Gold Coast beach play zone"

*"At Kirra, a new grassy area has been developed that is bigger than the Gabba – perfect for the traditional holiday game of footy or beach cricket and beach barbecue...Area councillor Chris Robbins acknowledged there was problem with sand build-up on the southern Gold Coast but said it would pass with time. 'At the moment it is a bit like a python that has swallowed a chicken,' she said. 'All this sand is sort of stuck here at the moment, but it will continue to slowly move up the coast over time.'"*

9 May, 2008 Gold Coast Bulletin, "Fishermen angling to catch the mullet run"

*"Freelance fisherman Ben Markwell said the mullet run was later this year because of the warmer weather...Mr Markwell's family has been fishing the Gold Coast and Tweed area since the 1920s...I'd say there's about 2000 fishermen working for the mullet run, [he said]."*

9 May 2008, Gold Coast Bulletin, "Mick and Steph share sports award"

*"[World Champion Surfer Stephanie Gilmore said] 'The southern end of the Gold Coast is quite a surfing mecca so to get recognised for an award like this really makes you feel that you are doing something good for the sport and for where you live'."*



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

17 May, 2008, QLD Maritime Safety/NSW Maritime Advertised Notice to Mariners, "Tweed River Dredging"

*"Commencing Midnight AEST Monday 12th May 2008 with duration of up to three months, maintenance dredging works will be conducted at the entrance of the Tweed River."*

22 May, 2008, Tweed Sun, "Return of renowned Kirra barrels may wipe out superbank lineup"

*"Kirra Point's perfect barrels are poised to slowly return but at the expense of the Snapper Rocks superbank... After several years of catch-up pumping, Tweed river Entrance Sand Bypassing Project manager Ian Taylor said pumping levels would be down on average from the early years by as much as 300,000cu metres each year over the long term... "The beaches will generally be similar to the condition that existed pre-1960s before the entrance walls were extended (at the Tweed River opening), except for slightly wider beach areas near Kirra Point and Kirra Beach groynes, that were built in the 1970s to protect the beaches," said Mr Taylor."*

25 May, 2008, The Sunday Mail, "Doubts on \$50m marina"

*"Plans for a \$50 million, 200-berth marina at Tweed Heads could be jeopardised by rising fuel prices and a dangerous river bar, experiences boaties claim... The Government's expression of interest document said the Tweed River Entrance Sand Bypassing project had improved bar conditions and the 30,000 boats which use it each year needed mooring facilities."*

29 May, 2008, Tweed Daily News, "Marina plans scuttled"

*"The NSW Lands Department has called for expressions of interest from developers for the super marina to cater for at least 200 boats south of the Boyd's Bay Bridge. It has told developers that 'it is proposed' the current height limit would be 'significantly increased' under changes to council planning rules... But yesterday Tweed Shire Council announced the review of the planning rules would be deferred until after the council elections in September."*

30 May, 2008, Tweed Daily News, "Light at end of tunnel for Fingal Headland repairs"

*"The Fingal Headland lighthouse will soon have desperately needed repairs carried out by the NSW Department of Lands. The lighthouse, built in 1872, is the oldest public building in the Tweed Shire."*

30 May, 2008, Sunshine Coast Daily, "Southern Qld to be hit by harsh weather"

*"Forecasters are warning of a weekend of wild weather for southern Queensland including damaging winds, heavy rainfall and flash flooding... Gale force winds are also expected to cause problems in coastal areas and the bureau has warned of dangerous surf conditions throughout the weekend."*

30 May, 2008, Gold Coast Bulletin, "Wild weather set to bring in swell surf"

*"The Bureau of Meteorology issued a severe weather warning southeast Queensland yesterday and has predicted damaging winds, heavy rain and dangerous surf as a low-pressure system heads our way... Swellnet surf forecaster Ben Matson said 'The size of the swell will certainly push the best waves to the points. It looks like everyone will be heading to places like Snapper, Currumbin and Burleigh Heads.'"*

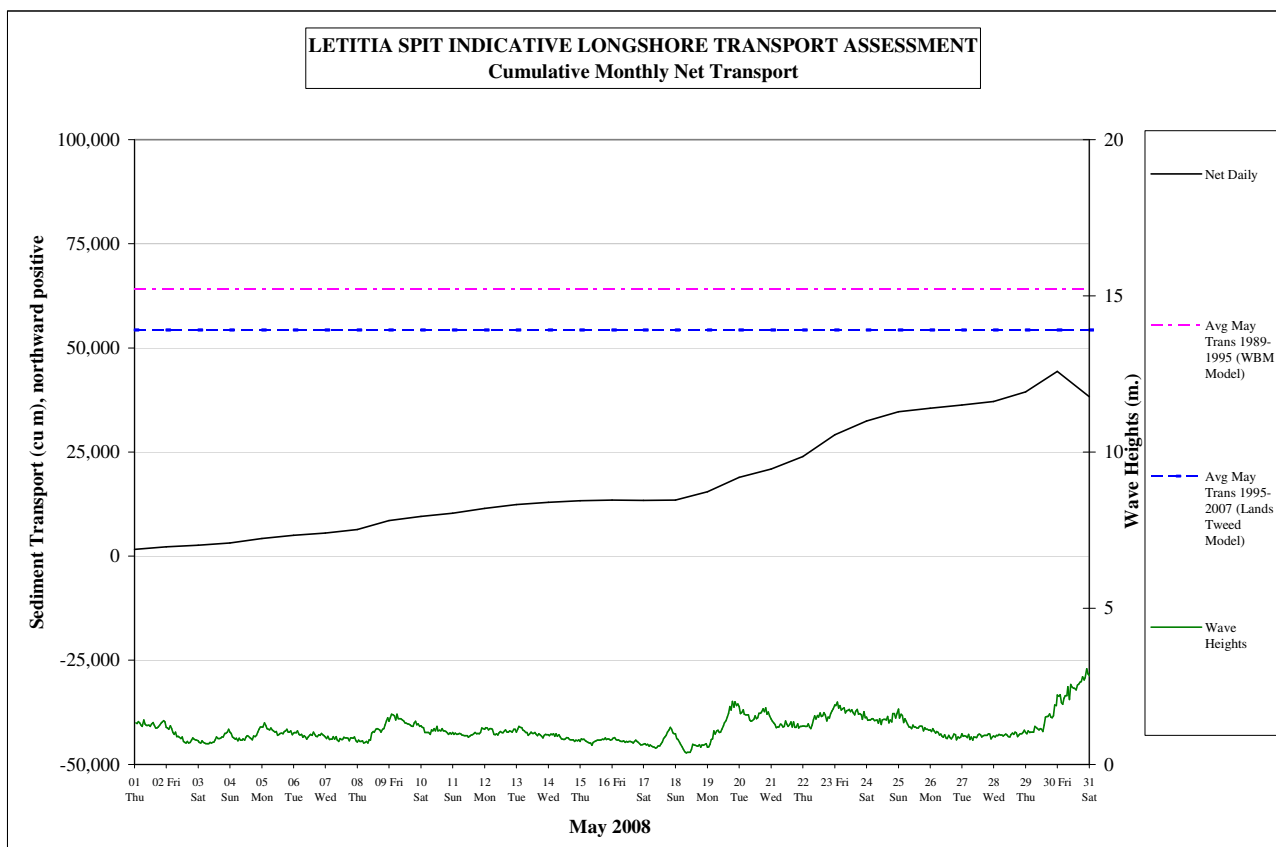
## 8. TWEED RIVER LOWER ESTUARY TIDAL CONDITIONS

Tidal data from the Tweed River tide gauge for May 2008 has not yet been analysed. Results will be presented in the TRESBP Monthly Environmental Monitoring Summary for June 2008.

## 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 May 2008, 38,000 m<sup>3</sup> 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 May.



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

## **10. ARGUS COASTAL IMAGING SYSTEM**

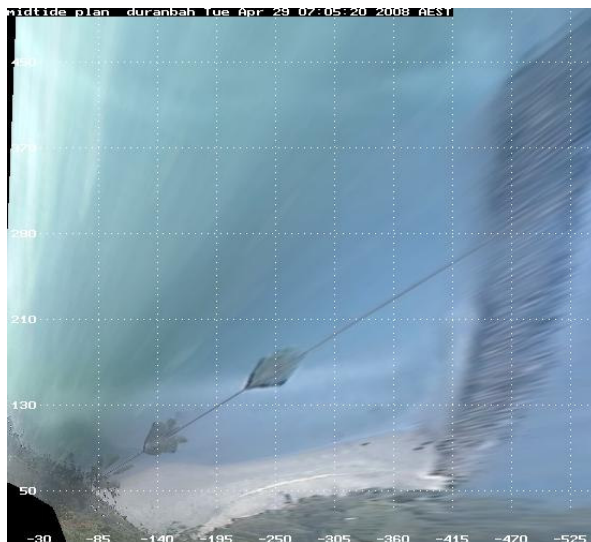
The University of New South Wales is monitoring Duranbah Beach to North Kirra Beach for the project using an ARGUS coastal imaging system. Images are available on the internet at the following address:

<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**

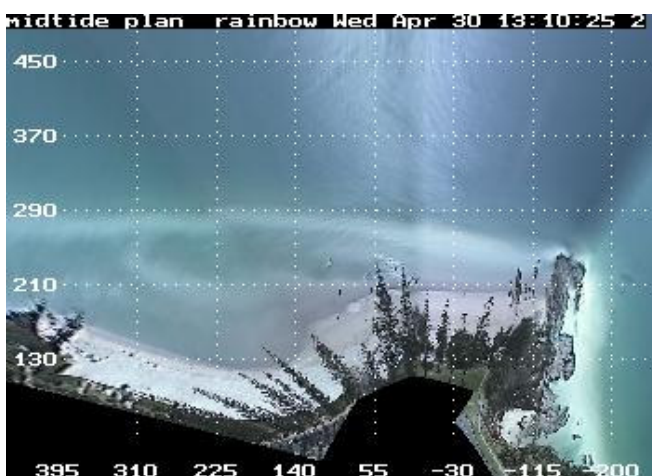


29 April 2008

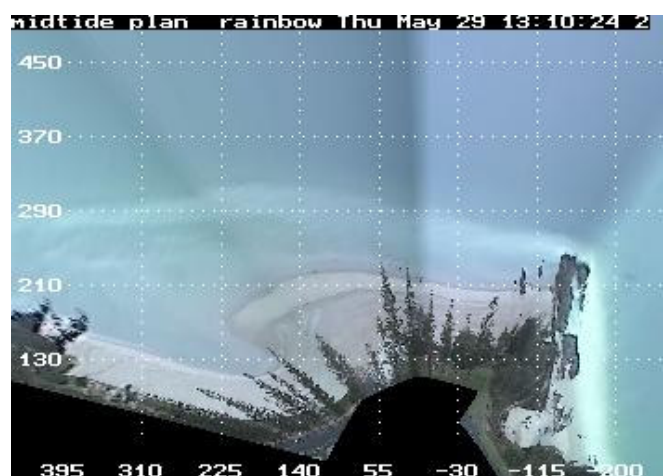


29 May 2008

### **RAINBOW BAY**



30 April 2008

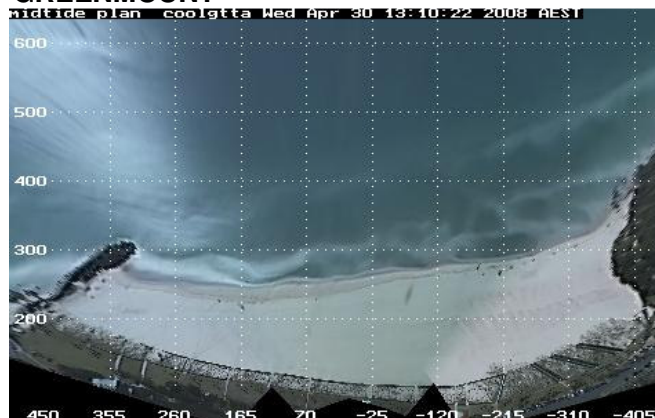


29 May 2008

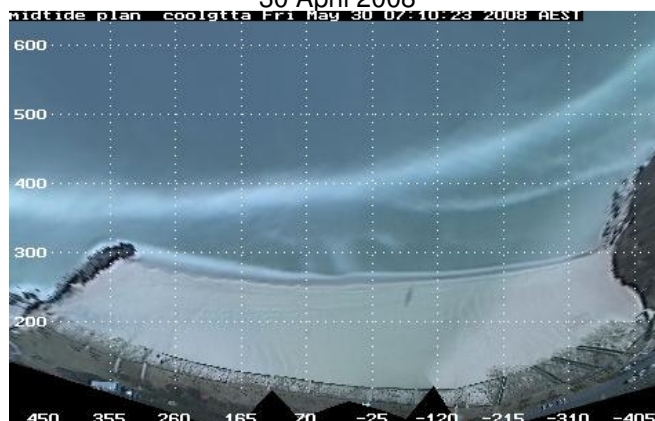
**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT  
LETITIA SPIT TO KIRRA  
MONTHLY ENVIRONMENTAL MONITORING SUMMARY MAY 2008**

**ARGUS COASTAL IMAGING SYSTEM CONTINUED**

**COOLANGATTA - GREENMOUNT**

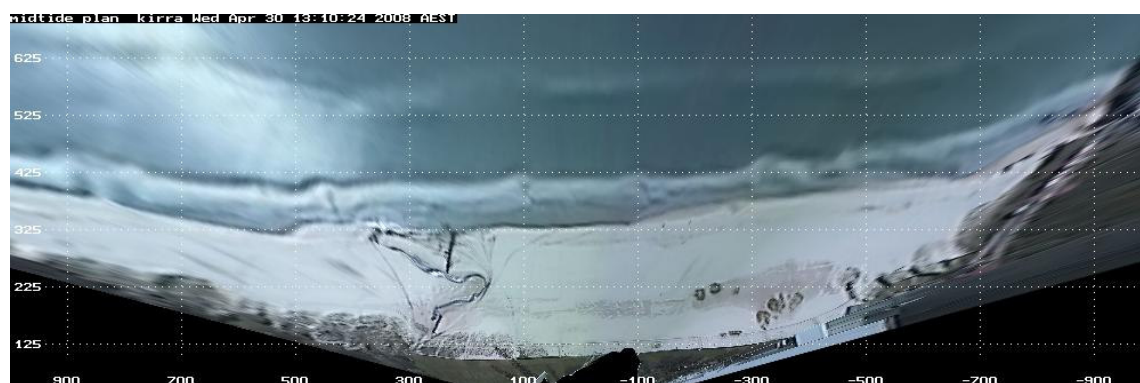


30 April 2008

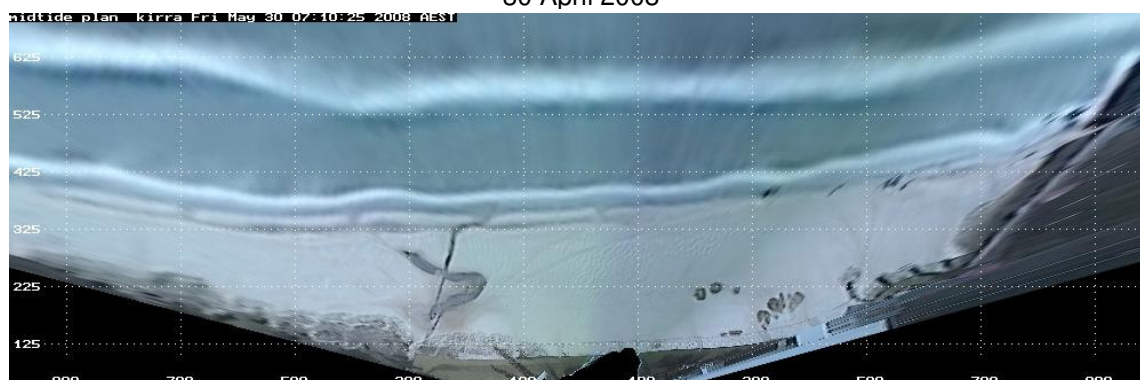


30 May 2008

**NORTH KIRRA - KIRRA**



30 April 2008



30 May 2008



## 11. 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

Tweed River Entrance Sand Bypassing Project

NSW Department of Lands

[Ian.Taylor@lands.nsw.gov.au](mailto:Ian.Taylor@lands.nsw.gov.au)

PO Box 624, Ballina, NSW 2478

Ph: (02) 6620 – 5501

Fax: (02) 6681 – 6944