

Tweed River Entrance Sand Bypassing Project

Letitia Spit to Kirra



Monthly Environmental Monitoring Summary

FEBRUARY 2008

Department of Lands 




**Queensland
Government**
Environmental
Protection Agency

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	1
2. INTRODUCTION	2
3. PUMPING AND DREDGING ACTIVITIES	2
4. TWEED RIVER ENTRANCE CONDITIONS	3
5. SURF SUMMARY	7
6. BEACH CONDITIONS	9
7. MEDIA COVERAGE AND COMMUNITY FEEDBACK	10
8. TWEED RIVER LOWER ESTUARY TIDAL CONDITIONS.....	13
9. INDICATIVE LONGSHORE SAND TRANSPORT	14
10. ARGUS COASTAL IMAGING SYSTEM.....	15
11. CONTACT DETAILS	17

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 February 2008:

- The weather was particularly stormy, with severe wind and weather warnings issued by the Bureau of Meteorology and ongoing beach closures.
- The number of vessels that passed through the entrance was below the average number of crossings for the month of February.
- Surf quality in February was good to excellent, with reports of excellent surfing conditions for experienced surfers during the moderate to large swell events occurring throughout the month.
- A small flood occurred in the Tweed River on 4 February. Silt and debris were washed into the ocean.
- Tidal data for the months of January and February are currently being analysed and will be presented in the March 2008 Environmental Monitoring Summary.
- The estimated amount of sand moving north towards the Tweed River Entrance by natural processes was slightly more than the modelled February average.
- Recommencement of interrupted sand delivery to Duranbah was further delayed during February due to recurring high sea conditions.

**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT
LETITIA SPIT TO KIRRA
MONTHLY ENVIRONMENTAL MONITORING SUMMARY FEBRUARY 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
- www.bom.gov.au
- www.coastalwatch.com.au
- www.surfingaustralia.com.au
- www.swellnet.com.au
- www.tracksmag.com



3. PUMPING AND DREDGING ACTIVITIES

Sand Delivery for FEBRUARY 2008

	PUMPED	DREDGED	FEBRUARY 2008 TOTAL DELIVERY
Location	Snapper Rocks East		
Amount (m ³)	47,518	0	47,518

Total Sand Delivery This Year (January to February 2008)

	PUMPED	DREDGED	2007 TOTAL DELIVERY
Amount (m ³)	98,191	0	98,191

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

	PUMPED	DREDGED	TOTAL DELIVERY STAGE 2
Amount (m ³)	4,518,279	*1,862,793	*6,381,072

* Nb. Does not include 22,870 m³ 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 February 2008 were recorded by volunteer Mr Brian Mason:

Date	Observations
1 February Late Morning	Cloudy. Some waves breaking outside of the river entrance. Caution needed entering or leaving the entrance.
8 February Morning	Dangerous crossing conditions.
15 February Morning	Cloudy to overcast. Some rough water seawards of the entrance but navigable if approached from the north.

**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT
LETITIA SPIT TO KIRRA
MONTHLY ENVIRONMENTAL MONITORING SUMMARY FEBRUARY 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 February 2008 are presented below.

The navigation ratings from 1–5 are as follows:

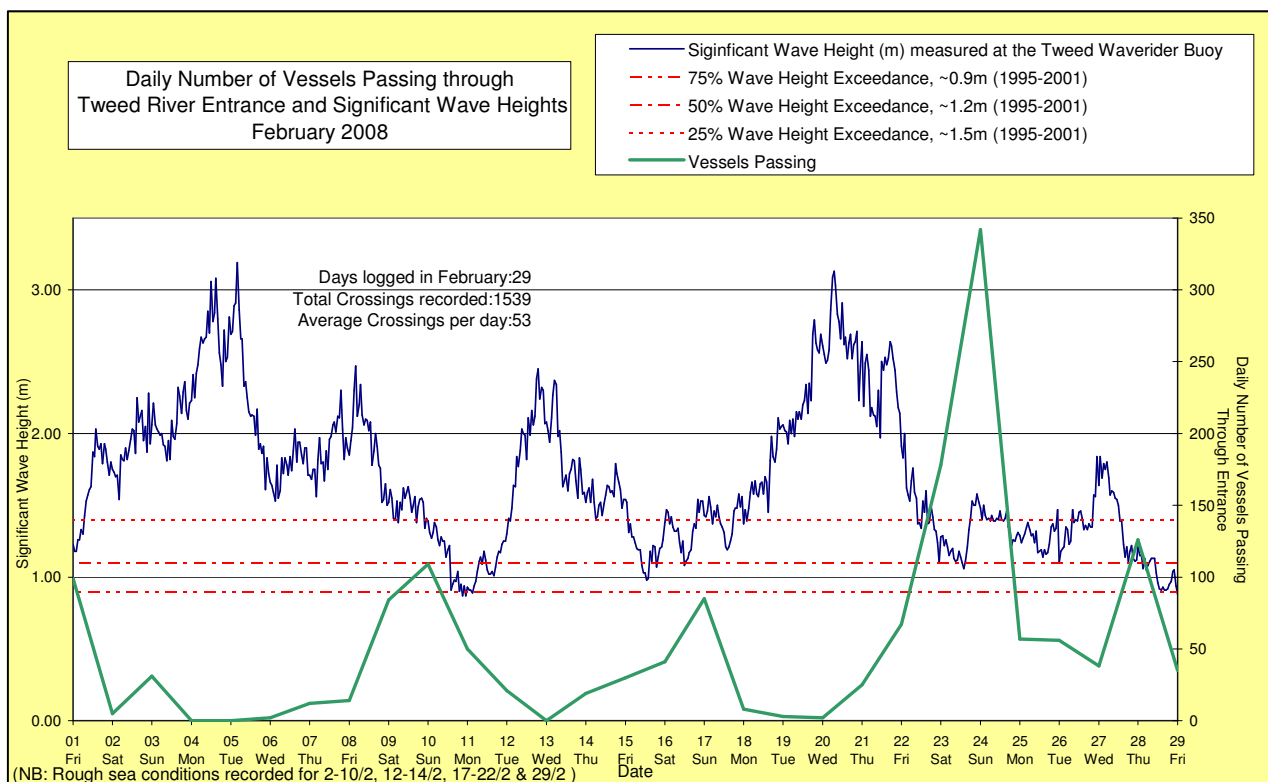
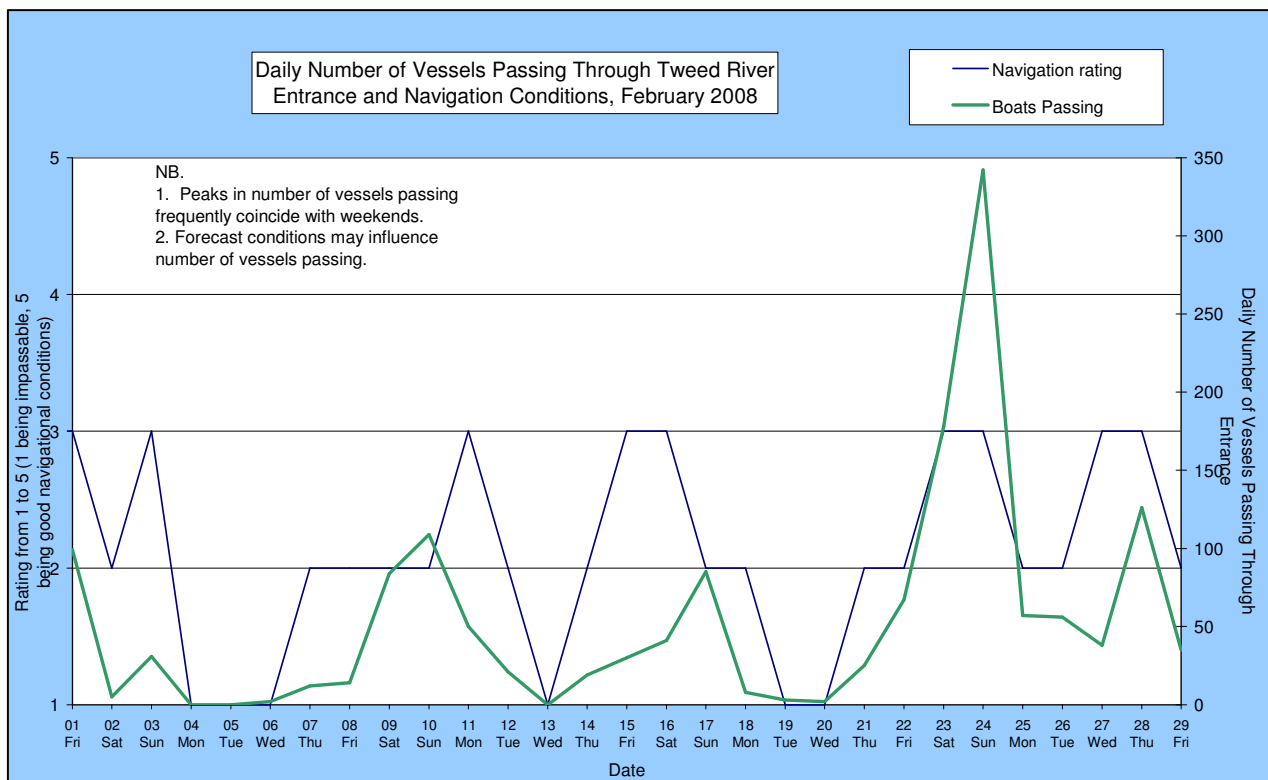
- 1 – Impassable 2 – Difficulty encountered 3 – Some difficulty encountered
4 – Relatively good crossing 5 – Good conditions

☐ – Weekends and public holidays

Date	Entrance Conditions	Navigation Rating Impassable-----Good					Number of Boats
		1	2	3	4	5	
1	Moderate						99
2	Rough						5
3	Rough						31
4	Rough						0
5	Rough						0
6	Rough						2
7	Rough						12
8	Rough						14
9	Rough						84
10	Rough						109
11	Moderate						50
12	Rough						21
13	Rough						0
14	Rough						19
15	Moderate						30
16	Moderate						41
17	Rough						85
18	Rough						8
19	Rough						3
20	Rough						2
21	Rough						25
22	Rough						67
23	Moderate						178
24	Moderate						342
25	Moderate						57
26	Moderate						56
27	Moderate						38
28	Moderate						126
29	Rough						35

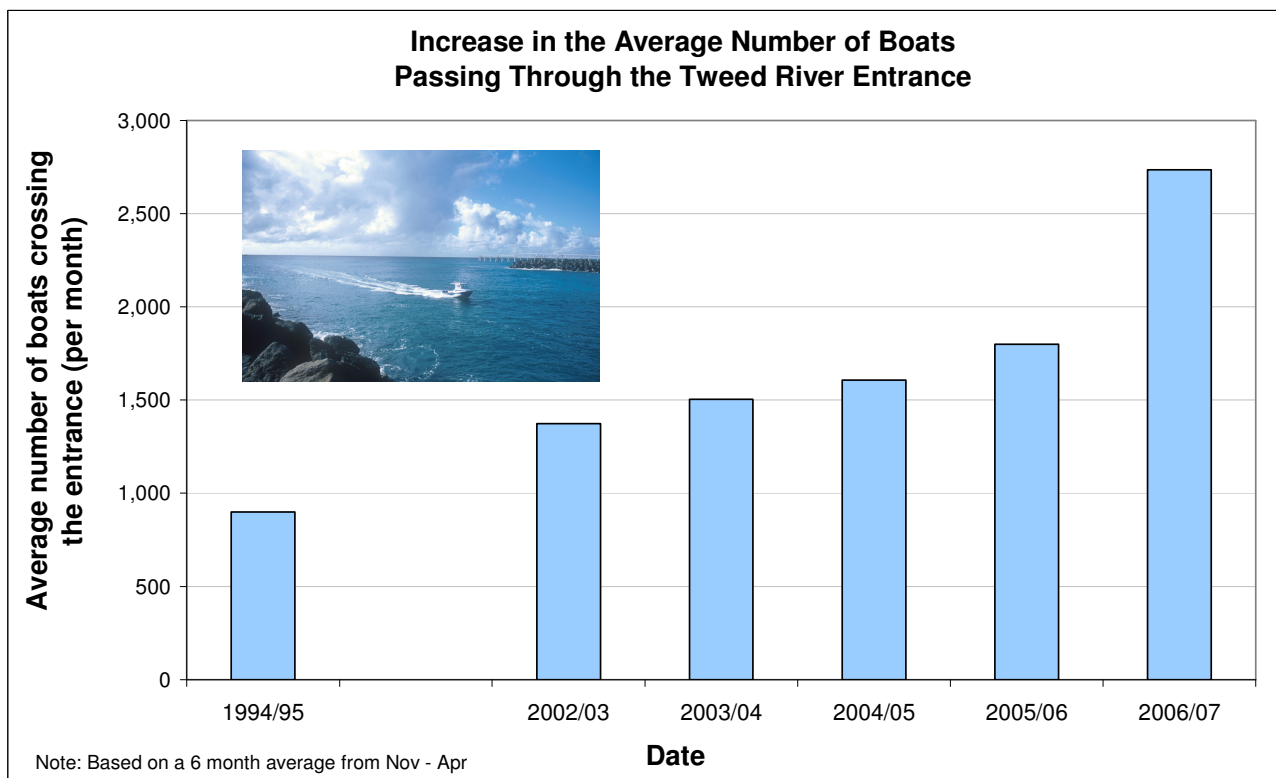
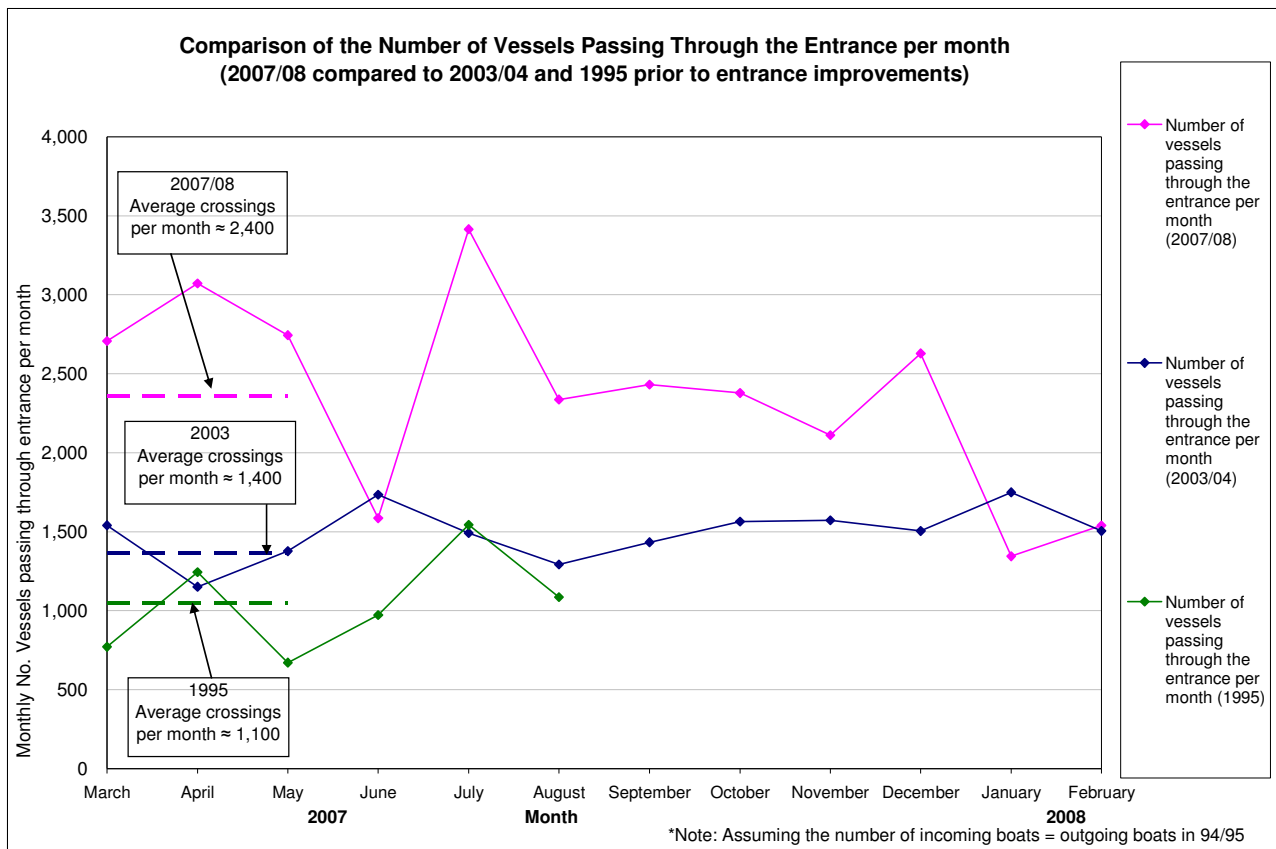
**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT
LETITIA SPIT TO KIRRA
MONTHLY ENVIRONMENTAL MONITORING SUMMARY FEBRUARY 2008**

TWEED RIVER ENTRANCE CONDITIONS CONTINUED



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

TWEED RIVER ENTRANCE CONDITIONS CONTINUED



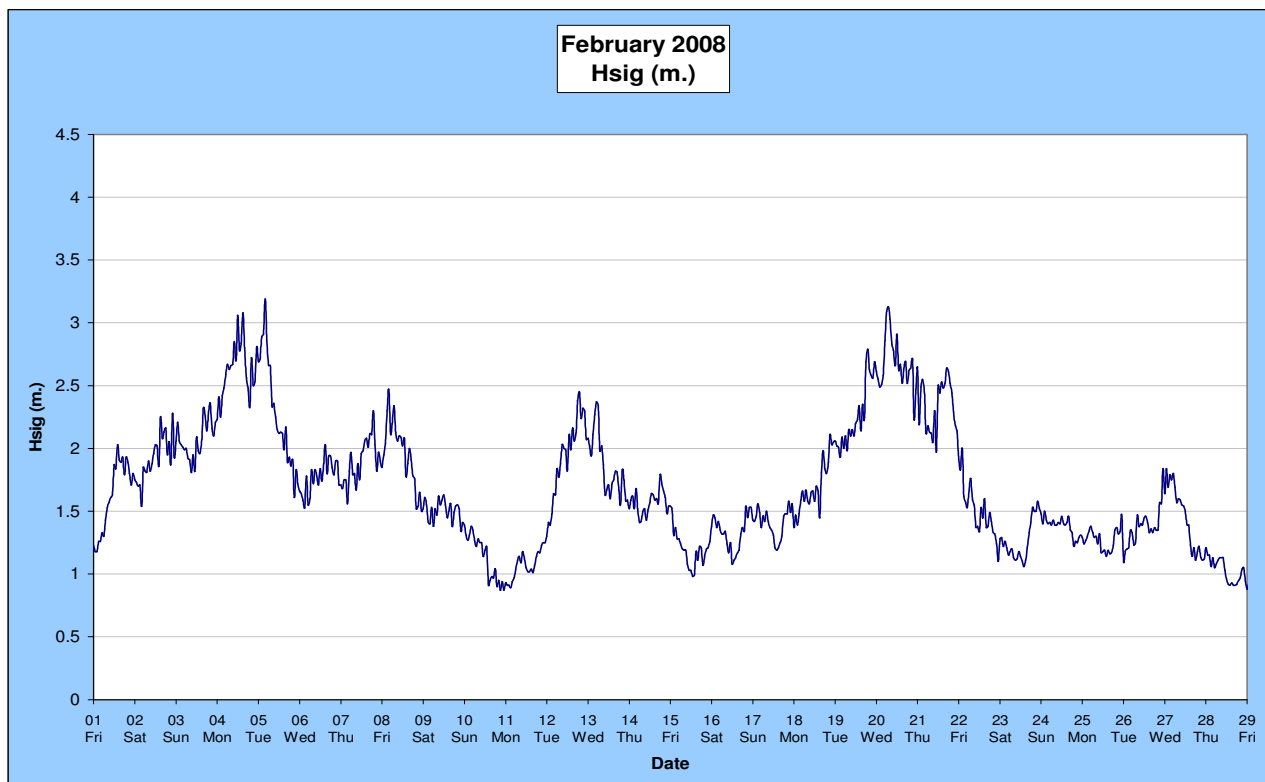
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LETITIA SPIT TO KIRRA
MONTHLY ENVIRONMENTAL MONITORING SUMMARY FEBRUARY 2008**

5. SURF SUMMARY

Waves of between 1.3 – 3.0 m (ie above average conditions) from the E dominated surf conditions on the Southern Gold Coast in February 2008. Winds varied over the month with the predominant wind condition being SW at 10-30 Knots.

Readings from the Tweed Waverider Buoy showed a minimum significant wave height of 0.82 m on 29 February and a maximum significant wave height of 3.19 m on 5 February. There were 4 recorded days when waves dropped below 1.0 m and 14 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/

SURF & SURF LIFE SAVING AND OTHER EVENTS

Events in February 2008

- 2 February – Rip Curl MP Classic (Kirra Beach)
- 22 February - 5 March – Quiksilver Pro (Duranbah Beach and Snapper Rocks)
- 22 February - 5 March – Roxy Women's Pro (Duranbah Beach and Snapper Rocks)
- 25 February – Annual charity touch football match (Rainbow Bay)
- 28 February - 2 March – Westpac Junior Surf Life Saving Championships (North Kirra)

Upcoming events in March 2008

- 22 February - 5 March – Quiksilver Pro (Duranbah Beach and Snapper Rocks)
- 22 February - 5 March – Roxy Women's Pro (Duranbah Beach and Snapper Rocks)
- 1 March – Quiksilver Pro Show Music Festival (Duranbah Beach)
- 7 - 9 March – Rip Curl Kirra Teams Challenge (Duranbah Beach)
- 29 - 30 March – Printpoint Queensland Masters Surfing Circuit – Event 1

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 FEBRUARY 2008**

SURF SUMMARY CONTINUED

VOLUNTEER SURF QUALITY OBSERVATIONS

The following observations for February 2008 were made by volunteer Mr Brian Mason on behalf of the TRESBP.

Date	Duranbah	Frog's Beach / Snapper Rocks	Kirra Point
1 February Late Morning	1.5 – 2m NE swell, plunging waves. 32 surfers present.	48 surfers present.	1 – 1.5m plunging and spilling waves. 9 surfers present. Very few people on the beach.
8 February Morning	2 – 2.5 m and >>2.5m NE swell, plunging waves. 2 surfers present. After several attempts a large trawler entered the river but would have had a few anxious moments.	62 surfers present.	1 – 1.5m plunging waves. 5 surfers present. Large areas of the beach have water ponding almost up to the new fencing. The beach width has been reduced especially on the Miles Street groyne area.
15 February Morning	1 – 1.5 m ESE swell, plunging waves. 98 surfers present. One tree has fallen onto the beach at the northern end. Large amount of debris at the north end.	28 surfers present.	< 1m waves. 10 surfers present. 28 people on the beach from the point to Coolangatta Creek.
22 February Morning	1.5 – 2m ENE swell, plunging waves. 106 surfers present. There has been a significant regression of the dune line with some rocks showing at the river training wall end of the break and one or two trees on the beach at the northern end.	8 surfers present.	1 – 1.5m spilling waves. 46 surfers present. A group arrived on the beach whilst I [Brian Mason] was filming made straight to the surf and account for the high numbers. Probably a school group. Have seen them there before. The result of a surf safe beach.

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: 22 February 2008, approx 1pm, mid tide

Source: NSW Department of Lands

7. MEDIA COVERAGE AND COMMUNITY FEEDBACK

MEDIA COVERAGE

4 February, 2008, Gold Coast Bulletin, "Clint claims MP Kirra crown"

"Palm Beach surfer Clint Kimmins is the new 'king of Kirra' after taking out the prestigious Rip Curl MP Classic at the famed Gold Coast point break yesterday. It was the first time the annual contest has been held at Kirra, regarded as its spiritual home, since its inception in 2002."

6 February, 2008, Gold Coast Bulletin, "Browned off as rain dishes dirt"

"Gold Coast waterways are now as brown as the Brisbane River. The recent deluge of rain has flushed silt from swollen canals through the Southport Seaway and Tweed Bar into the ocean."

6 February, 2008, Gold Coast Bulletin, "Rescues mount in powerful surf rips"

"Greenmount-based lifeguard Scott Wildin said..."Duranbah's really dangerous as there's really big tides washing up to the cliffs and the beach isn't patrolled. The waves were washing right onto the rocks. It was pretty hectic out there.""

6 February, 2008, Gold Coast Sun, "Stripped beach a timely warning"

"Dramatic sand scarps on local beaches have been labelled just a small taste of what a true cyclone could do to the Gold Coast... The pumping – to make the Tweed bar crossing safer for vessels to cross – has been criticised for its impact on the surf breaks at beaches such as Greenmount and Kirra. But Prof Tomlinson [Griffith University Coastal Management Centre's Professor Rodger Tomlinson] said pumping was the only option to protect beaches. "Pumping achieves in one year what it would take nature 20 or 30 years," he said."

7 February, 2008, Gold Coast Bulletin, "Killer storm strikes"

"For the third day in a row, the water off Rainbow Bay and Duranbah was stained brown, with plant and tree debris concealed in the murky outflow. Masses of sticks and tree branches were pushed to shore and piled in a tangled mass by the big surf at Duranbah."

8 February, 2008, Gold Coast Bulletin, "Bad break – Kirra business community misses the point"

"Kirra has a new voice following the formation of the Kirra Business Group... One of the main aims of the group will be to form relationships with local, state and federal statutory authorities in addition to local business operators, and work closely with the recently created Kirra Point Committee (KPC) to re-establish the world-renowned surfing amenity."

8 February, 2008, Gold Coast Bulletin, "Hole lot of woes in banking on barrel"

"Quiksilver Pro organisers are locked in a battle against mother nature to ensure Snapper Rocks lives up to its reputation as a world class wave when the international surfing contest hits the Gold Coast this month."

8 February, 2008, Gold Coast Bulletin, "Join the queue...surfers stake their claim in solid swell"

"The sun was out and conditions were looking brighter for surfers yesterday. As gentle south to southwesterly winds blew for much of the day, a solid 2.5m swell rolled across popular surfing beaches at the southern end of the Gold Coast... Silt could still be seen washing from the Tweed Seaway off Duranbah, but outflows were not as heavy as those witnesses on previous days."

9 February, 2008, Gold Coast Bulletin, "Get set for near-perfect swells"

"Former world surfing champ Mark 'Occy' Occhilupo was one of dozens spotted around Kirra groyne enjoying the long lines of sets rolling in. "I've been out twice around Kirra and Snapper Rocks and I hear that it's good farther south too..." Monster-wave veteran Cheyne Horan said he would be out enjoying the swell this weekend. "It's going off all the way from Snapper through to Kirra," he said."

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

13 February, 2008, Gold Coast Bulletin, "Get on board to save Kirra"

"The Surf to Save Kirra contest will be held on Saturday to increase awareness of the problems plaguing the once great point breaks and return it to its former glory."

14 February, 2008, Tweed Daily News, "Preparing for Kirra's comeback"

"The Kirra Business Group...wants to work with the new Kirra Point Committee and local, state and federal authorities to re-establish Kirra's waves."

19 February, 2008, ABC News, "Wild weather expected to hit SE Qld"

"The weather bureau says the monsoonal low that has ravaged Queensland's north coast, will generate high winds and big seas in the south-east later today. "Large tides with big waves make conditions dangerous, plus [there is] the big erosion effect too. There's a fair bit of erosion already, so there could be some severe erosion," [Forecaster Geoff Callaghan said]."

19 February, 2008, Gold Coast Bulletin, "Premier meets surfing royalty"

"With two local world champions in action, [Stephanie] Gilmore said she expected to see record crowds at this year's Roxy and Quiksilver Pro events. "The whole of Coolangatta and most of the Gold Coast will be down there, we're really lucky to have that support from everyone," she said. "It's kind of a surfing mecca here on the Coast, the event will definitely draw a crowd."

19 February, 2008, The Courier-Mail, "Queensland bracing for severe weather"

"Dangerous surf conditions are expected to hit exposed coastal areas and islands down to Fraser Island today, then move further south to the Queensland and NSW border tomorrow. Beaches on the Sunshine and Gold coasts are expected to be pounded by heavy surf, causing further erosion after a summer of big swells and heavy rain."

19 February, 2008, The Courier Mail, "Winds prompt beach warning"

"Many beaches are already closed and the Bureau of Meteorology and surf lifesavers have warned beachgoers along the southern coast to stay away from the water... The big seas are expected to worsen erosion problems on the Sunshine and Gold coast beaches already damaged by months of pounding waves."

19 February, 2008, Tweed Daily News, "Boyd's Bay set for marina makeover"

"A new Tweed Heads marina with up to 300 berths for recreational boats at Boyd's Bay Inlet has been proposed by the NSW government... "The Tweed River Sand Bypass has seen an increase in recreational and commercial boating due to improved navigational conditions. The result has been an increase in boat numbers using the (river) entrance, from 15,000 a year to around 30,000", [Lands Minister Tony Kelly said]."

20 February, 2008, Gold Coast Bulletin, "Severe weather expected to hit Coast hard"

"Huge waves, gale-force winds and more rain will hit the Gold Coast hard today, the aftermath of the weather system that lashed north Queensland... With strong winds and rain adding to the highest tides of the year, water levels are set to rise and cause damage on the beaches."

21 February, 2008, Gold Coast Bulletin, "Brollies away, a scorcher coming"

"Surf Life Saving Queensland Gold Coast spokesman Stuart Hogben said only some beaches at the southern end of the Gold Coast including Greenmount, were open to swimmers... As the mountainous surf pounded the coast, dunes were eroded further as the surging tide ate away at the sand, leaving cliffs of up to 3m at Duranbah."

21 February, 2008, Tweed Daily News, "Huge swells eroding beaches"

"Wild weather has clearly left its mark on beaches around the Tweed which have been ravaged by erosion. Huge seas on the high tide yesterday morning washed dangerously close to campers at the Kingscliff Caravan Park and a metre-plus sand wall was gouged by raging surf at Duranbah Beach, forcing Tweed Shire staff to remove a fence left exposed by the erosion."

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

21 February, 2008, Tweed Sun, "Time to put break back on the map"

"The newly-formed Kirra Business Group is aiming to work with the Kirra Point Committee to secure the unique character of what was once one of the world's most famous surfing breaks... Mr Rankin [Group spokesman John Rankin] said the group would work closely with the committee, of which he was the business representative, to rejuvenate surfing."

22 February, 2008, Gold Coast Bulletin, "Westerly winds fuel hot change"

"Gold Coast beaches were hit hard with another high tide yesterday, forcing the closure of several hotspots that have suffered the brunt of the erosion... Chief lifeguard Warren Young said the beach erosion had worsened, but was not as bad as previous years. "The beaches were in good condition when the erosion started so when the swell dissipates it should recover fairly quickly but it depends on the weather patterns," he said. Gold Coast City Council engineering services director Warren Day agreed that past erosion of dunes had been worse."

22 February, 2008, The Courier Mail, "Heat is on as big waves wipeout beaches"

"Big crowds are expected at beaches on the Gold and Sunshine coasts where lifesavers have warned swimmers to beware of rough seas, which have stripped beaches of sand and exposed rocks... On the Gold and Sunshine coasts lifeguards re-opened most beaches yesterday as wild seas began to abate. The Quiksilver Pro world championship surfing tournament is expected to start today at Snapper Rocks on the Gold Coast with good waves expected."

22 February, 2008, Tweed Daily News, "World title lifts weight"

"Sitting before a large contingent of the world's surfing media at the Rainbow Bay Surf Life Saving Club yesterday for the launch of the ASP Tour opener Mick Fanning and Stephanie Gilmore both admitted to feeling relaxed about starting their title defences... "We are just lucky that we get to surf here [Snapper Rocks] every day."

22 February, 2008, Tweed Daily News, "Estuary funding"

"Tweed Shire Council will be funded a total of \$200,000 from state government for the continued implementation of its Estuary Management Plan on the Tweed River. Minister for climate change, environment and water, Phil Koperberg said the program aims to protect the well-being of the State's estuaries by ensuring the sustainable use of estuaries, coastal lakes and associated tidal wetlands."

23 February, 2008, Gold Coast Bulletin, "Not so swell as contests set for shift"

"The Quiksilver and Roxy Pro contests appear set to shift from their spiritual home at Snapper Rocks to neighbouring Duranbah from today with swell expected to fade significantly overnight. In marked contrast to the booming surf that has pounded the Gold Coast over the past few weeks, contest forecaster Ben Macartney said there was no significant swell expected over the next few days."

25 February, 2008, Gold Coast Bulletin, "Scorcher brief as bikinis on beach"

"Acting northern NSW lifeguard co-ordinator Mark young said weeks of rough weather had eroded the coast and beachgoers should watch for deep holes and unsteady dunes... One of the worst eroded beaches was Duranbah, but that did not worry organisers of the Quiksilver Pro at the weekend. The competition was moved to Duranbah from Snapper Rocks so surfers could take on the 1 m swell."

27 February, 2008, Gold Coast Bulletin, "Weather wipeout before surf's up"

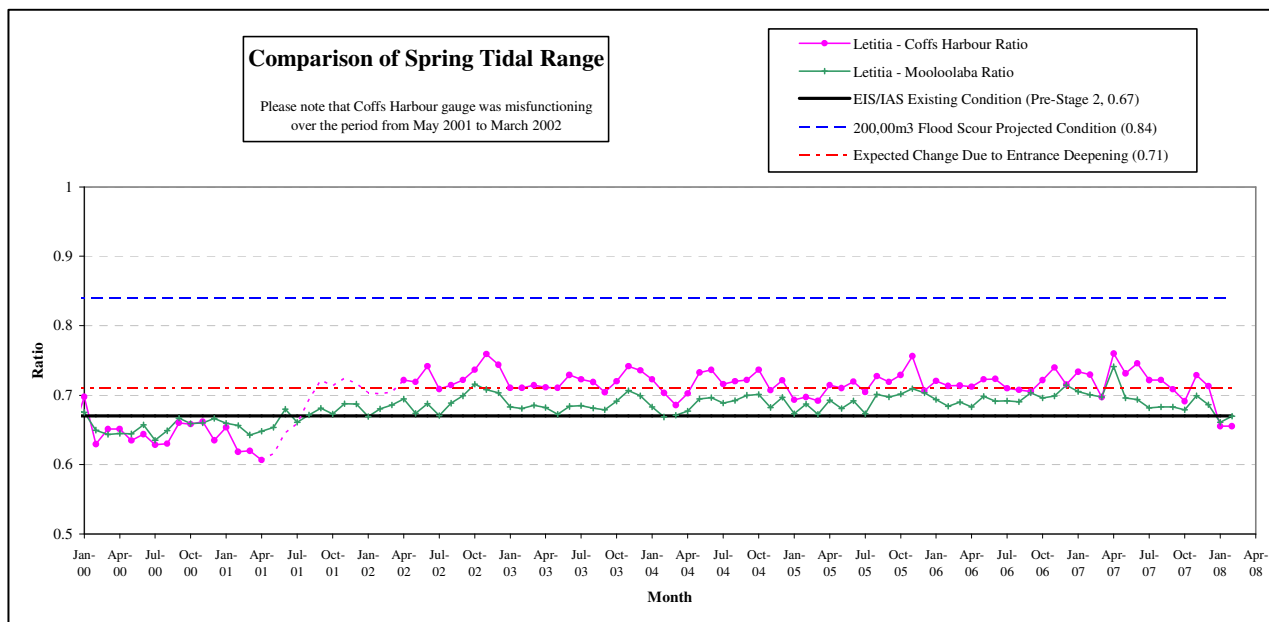
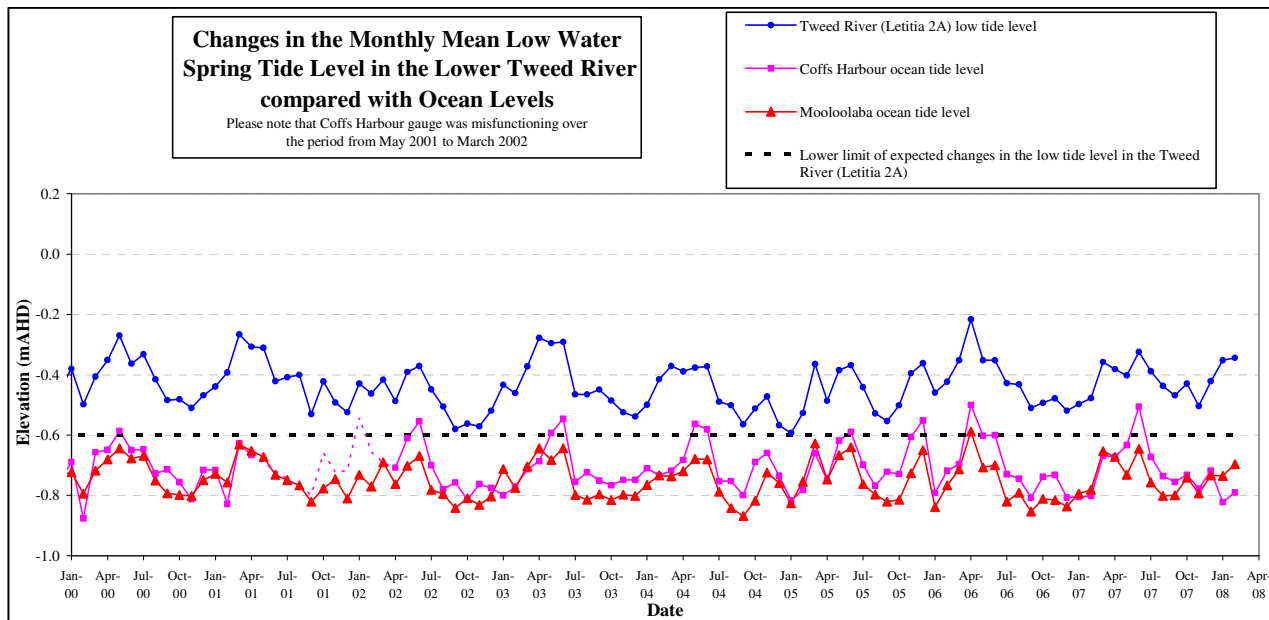
"The Gold Coast's weather woes brought little joy for competitors and spectators at the Quiksilver and Roxy Pro surf contests yesterday. Despite a weekend reprieve from gloomy conditions, which have characterised much of 2008, ominous clouds were back on Monday and yesterday, bringing showers to the Gold Coast."

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

8. TWEED RIVER LOWER ESTUARY TIDAL CONDITIONS

The Mean Low Water Spring (MLWS) tide level in the lower Tweed River was -0.352 m AHD in January 2008 and -0.344 m AHD in February 2008.

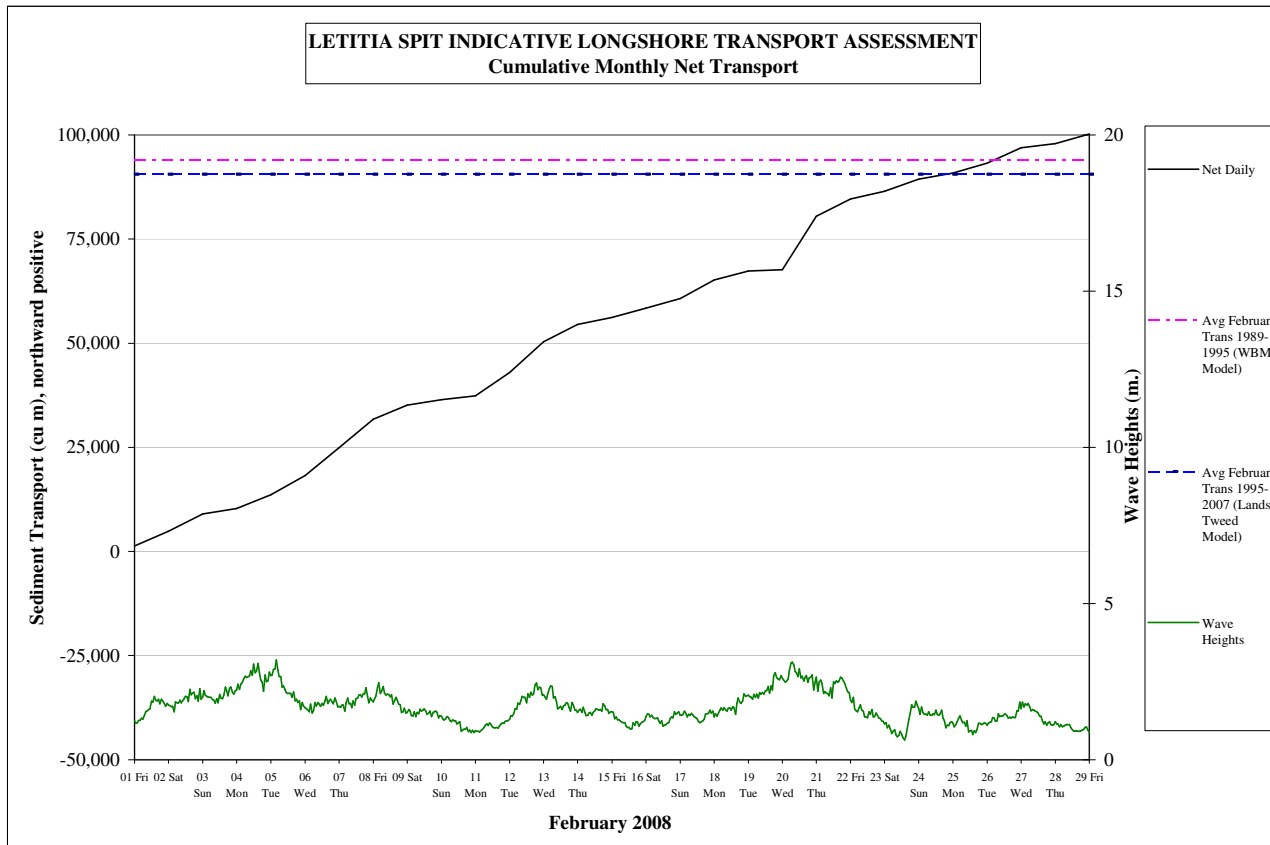
The Letitia 2A tidal data for January and February 2008 mirrored the Mooloolaba ocean tidal trends indicating that the TRESBP has not had a significant impact on Lower Tweed River tidal range.



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 February 2008, 100,000 m³ of sand was moved north towards the Tweed River entrance by natural processes. This is approximately slightly more than the modelled average sand transport quantity for the month of February.



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>

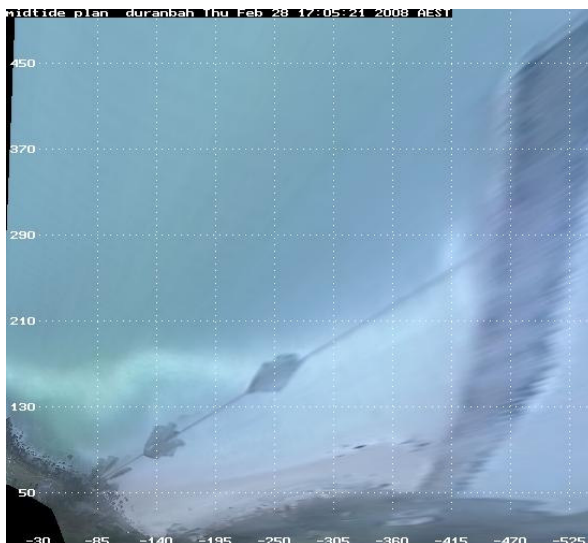
These images are updated hourly and all past photos can be accessed in the archives.

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

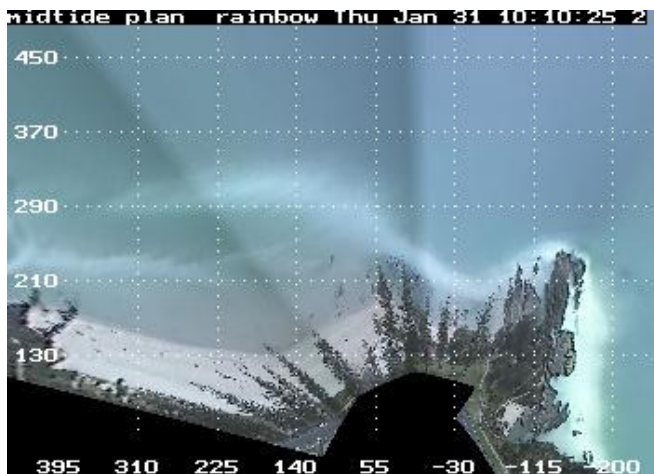


31 January 2008

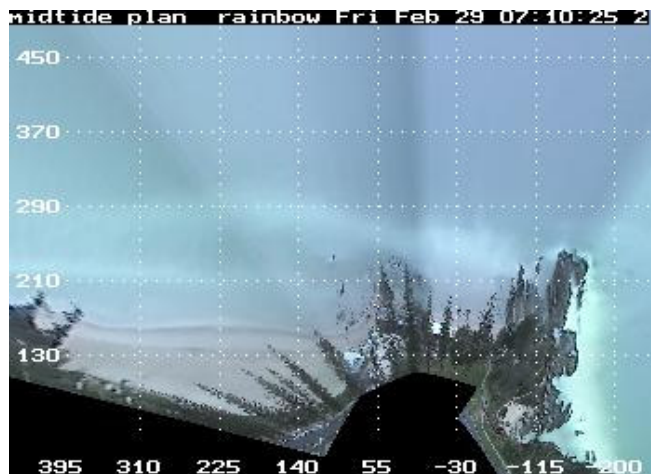


28 February 2008

RAINBOW BAY



31 January 2008

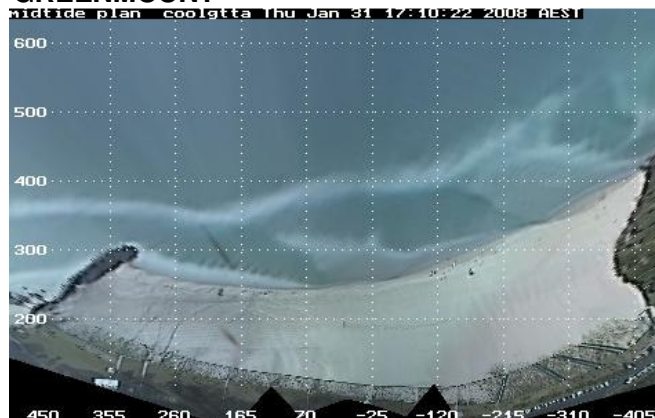


29 February 2008

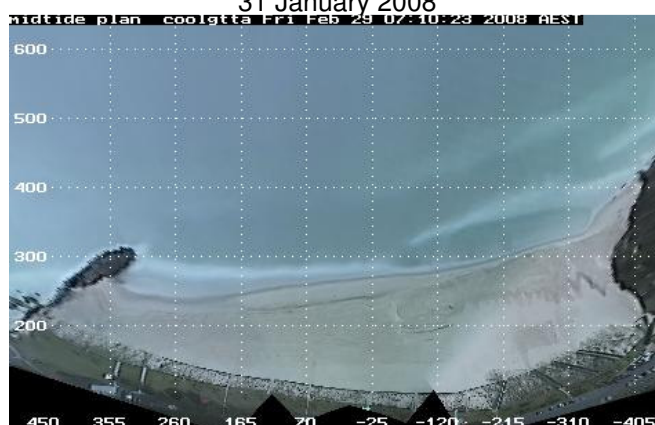
**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT
LETITIA SPIT TO KIRRA
MONTHLY ENVIRONMENTAL MONITORING SUMMARY FEBRUARY 2008**

ARGUS COASTAL IMAGING SYSTEM CONTINUED

COOLANGATTA - GREENMOUNT

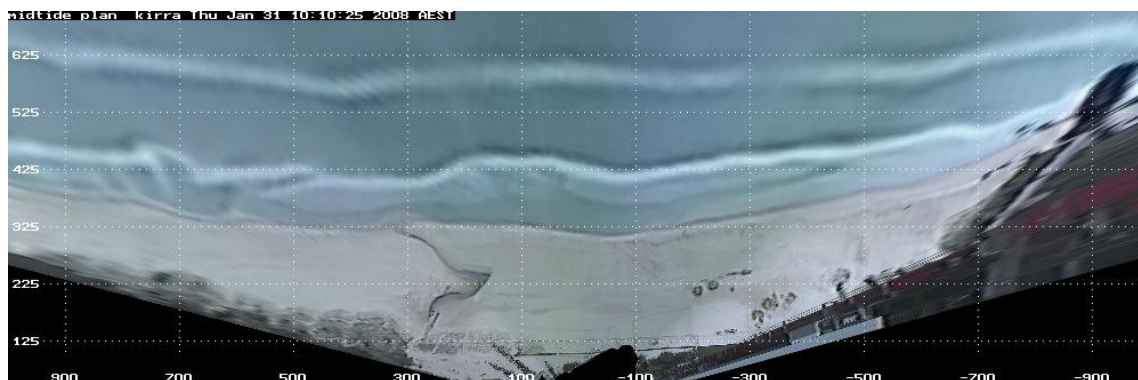


31 January 2008



29 February 2008

NORTH KIRRA - KIRRA



31 January 2008



29 February 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

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

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

PO Box 624, Ballina, NSW 2478

Ph: (02) 6620 – 5501

Fax: (02) 6681 – 6944