TWEED RIVER ENTRANCE SAND BYPASSING PROJECT NEWSLETTER 13

A Cooperative Project between the Governments of NSW and Queensland

This newsletter provides and update on activities of the project.

1 THE PROJECT

On average, about 500,000 cubic metres of sand are swept northwards along the coast each year by the dominant south easterly waves. The extension of the breakwaters at the Tweed River Entrance in the early 1960's interrupted this movement of sand. As a result, the beach to the south of the entrance widened significantly, while beaches to the north, from Greenmount to Bilinga, suffered erosion.

The Tweed River Entrance Sand Bypassing Project is a joint undertaking of the New South Wales and Queensland State Governments that was created to achieve the following objectives:

- Establish and maintain a safe, navigable entrance to the Tweed River;
- Restore and maintain the amenity of the southern beaches of the Gold Coast.

2 CURRENT STATUS

DREDGING

The first stage of the project involved dredging large quantities of sand from the river entrance bar and using this material to nourish the southern beaches of the Gold Coast. Since the project commenced in 1995, a total of 4.5 million cubic metres of dredged sand has been delivered to the southern Gold Coast beaches by dredge.

A good navigation channel has been maintained since the sand bypass system was commissioned in May 2001, and conditions are now much safer for boats crossing the bar of the Tweed River. A quantity of 170,000 cubic metres of sand was dredged between July and September 2004 to ensure the navigation channel remains clear. The bulk of this dredged sand was placed to the East of Snapper Rocks.

PUMPING

A further 2.5 million cubic metres of sand has been pumped by the sand bypass system since it began operating in 2001. During the first 3 years of operations, the sand bypass system removed a large amount of the sand that had built up over many years on Letitia Spit, immediately south of the Tweed River mouth. This was in addition to pumping the natural quantities of sand that moved along the coast. The sand bypass system now aims to pump only the natural flow of sand that moves northwards along the coast to the pumping jetty. This pumping occurs almost every night.

3 RAINBOW BAY AND SNAPPER ROCKS

The additional sand quantities pumped during the initial stages of the sand bypass project saw wide fluctuations in the width of the beach at Rainbow Bay. Now that the level of sand pumping has reduced, the beach at Rainbow Bay is becoming more stable and smaller than it was during the first 3 years of operations.

Rainbow Bay - 5 August 2004

NEWSLETTER 13

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4 DURANBAH BEACH

The artificial sand bypassing of sand from the jetty on Letitia Spit to Frogs Beach has the potential to change the configuration and alignment of Duranbah Beach. While the width of Duranbah Beach will vary, it will normally be smaller than it was before the start of the sand bypass project.

These changes are necessary to maintain the improved entrance. However, the project supplies sand to the beach whenever necessary to ensure there is a useable beach and surfing shoals.

5 GREENMOUNT, COOLANGATTA & KIRRA BEACHES

During the cyclones and wild seas of the late 1960's and early 1970s, and through to the severe storms of the 1980's, these popular beaches had little sand. Long-time locals remember people fishing from the balcony of the Coolangatta Surf Club, and long periods when there was very little sand in front of the rock walls, which were exposed all the way through to Bilinga.

These beaches are now wide, providing recreational amenity to areas of Kirra to a level that has not been seen in 30 years. While the widths of these beaches are expected to reduce during the next few years, the supply of sand from the sand bypass system will prevent the recurrence of long term beach recession.

6 HOW THE SAND BYPASS SYSTEM WORKS

The fixed sand bypassing system has been designed to intercept the natural northward movement of sand before it reaches the Tweed River. Sand is caught by cone shaped depressions in the sea bed formed by submersible pumps positioned along a 450m long jetty that is located to the south of the river entrance. The sand is pumped through a pipeline under the Tweed River to outlets on the northern side of the river.

7 WANT TO KNOW MORE

Project websites contain a more detailed description of the project. The sites provide information such as seabed maps of the Tweed River Entrance, sand delivery quantities, technical details, newsletters, photographs of the river entrance and the beaches, and links to other weather, tide and wave recording websites. The addresses are:

www.tweedsandbypass.nsw.gov.au
www.epa.qld.gov.au/sandbypass
www.wrl.unsw.edu.au/coastalimaging/tweed

Additionally, if you have any queries please contact:
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Greenmount/Coolangatta Beach – 2 November 2004