

# TNPA, eThekweni Municipality's sand pumping initiative nourishes Durban beaches

A sand pumping initiative, proposed and launched by eThekweni Municipality and Transnet National Ports Authority (TNPA) has seen sand reinstated along eroded sections of Durban's Golden Mile. As a means to tackle beach erosion exacerbated by climate change and inclement weather, the project, initially conducted as a trial in October of 2017, could offer similar benefits for beaches extending further northwards.

The special beach nourishment programme involves deploying one of TNPA's dredging vessels, the Ilembe, out at sea.



Ilembe Direct Feed

Sand collected by the dredger during TNPA's usual harbour dredging operations from the 'sand trap' (an area just around the outside of the southern breakwater) is then discharged directly onto the beach via a floating under-sea pipeline. Private contractors appointed by the municipality, Subtech and Katlantic, are responsible for managing the positioning of the pipeline, as well as the shore side managing of the sand under the guidance of an expert from Royal IHC, the Netherlands company which built the Ilembe vessel.

This method of sand replenishment – in use globally but not to date on South African beaches – has provided direct nourishment to affected areas of the Durban beachfront in a fast, productive and cost-effective manner.

Portions of North Beach, Dairy Beach, Country Club and Battery Beach were closed to the public from 20 April 2018 to allow the sand pumping operations to take place over approximately four weeks. To date, North Beach has been completed with approximately 74,000m<sup>3</sup> of sand replenished in this area. As at mid-May, a total of 194,000m<sup>3</sup> of sand was dredged across the initial beaches – and locals have already noticed the difference.



Durban is slowly becoming a seaside city without any sand

16 Mar 2018



## Ensuring safety for navigation

Dairy Beach commenced on 10 May and is expected to be completed by 17 May 2018. Thereafter, sand will be provided to the Suncoast area.

Executive manager for dredging services at TNPA, Carl Gabriel said: "Durban and Richards Bay are the only cities in which TNPA has an agreement with the municipalities to replenish sand onto the beaches. Our top priority as the port authority is to ensure that the entrance channels, basins and berths at our commercial ports are safe for navigation. This is achieved through regular maintenance dredging in which our dredging fleet is shared across our ports according to a national dredger deployment plan that ensures our equipment does not sit idle."

Gabriel added: "Our beach nourishment agreement with the eThekweni Municipality requires us to provide a minimum of 250,000m<sup>3</sup> of sand a year to reinstate the city's beaches situated north of the channel mouth, due to the natural migration of sand along the coast. A maximum of 500,000m<sup>3</sup> can be supplied, subject to the availability of the upper limit from the sand trap, a deep hole in the sea on the south side of the South Pier that is used to trap sand that naturally moves northwards due to winds and currents."

Gabriel further said: "This current project is of high importance to us as it proves that the dredger is able to nourish the beaches from the sea-side. This opens the possibility of providing the same service to nourish beaches even further North such as Umhlanga and Umdloti. These projects would provide an excellent means of TNPA dredging services utilising our spare trailing suction hopper dredger capacity for the benefit of our port cities."

While TNPA has exceeded 500,000m<sup>3</sup> of sand annually supplied to the city over the last 10 years, climate change and delays in commissioning TNPA's sand hopper station have necessitated this extra project. TNPA's dredging services division continues to collaborate closely with the municipality under the guidance of Godfrey Vella, manager of coastal

engineering, stormwater and catchment management, at eThekweni Municipality.



Image via [Wikimedia](#) - Skyline of Durban.

TNPA's temporary solution for sand pumping also includes a direct discharge line (DDL) to replenish large volumes of sand from the channel back onto the Durban beaches as quickly as possible. However, the permanent solution will be the commissioning of the TNPA sand hopper station by the end of May, once final performance testing has been completed at the facility. The new sand hopper will deliver sand directly into the municipality's sand pumping booster station for sand to be distributed to the beaches north of the port's entrance channel.

The TNPA sand hopper was built to replace the municipal sand hopper which had to be demolished to accommodate the harbour entrance widening project in 2007.

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