

Delft Report: Key recommendations

An assessment of Gold Coast beaches was undertaken in 1970 after major erosion events in 1967. The Delft Report, as it was known, guided coastal management on the Gold Coast for over 30 years (see *Management that Shaped our Coastline* information sheet). The key recommendations from this report are summarised in this information sheet.

Recommendations

Following the cyclone damage of 1967, the Delft report recommended an extensive sand nourishment regime across all beaches in volumes large enough to withstand an event similar to that which had occurred. It was advised that use of this principle management tool be supplemented by engineered structures. A set of prioritised recommendations were provided, as it was recognised that undertaking the full scheme of works would not be financially viable at that time.

The report also highlighted the importance of forming high dunes through these nourishment works, and shielding them from wind erosion with native vegetation and sand-catching fences.



Dune fencing 1975 (above) and today (right) (Source: GCCM)



Beach nourishment: the placement of additional sand on the beach to increase the natural sand stores.

Figure 1 Location of key management areas



Key recommendations by location

The coastline was divided into sections based on natural features such as headlands, creeks and inlets (Figure 1). A set of recommendations was provided for each location.

The Spit to Burleigh

Improvement of the beaches between Burleigh Headland and the Spit (Southport), including the stabilisation of the Spit and engineering works for the Nerang River entrance.

For the long term improvement of these beaches, nourishment with 9,022,000m³ of sand was recommended across this 17.4km of coastline, including an initial 6,346,000m³ to establish high dunes and a further 2,676,000m³ to provide a 10 year sand reserve.

An increase in width of these beaches was seen as very important to protect the highly developed Surfers Paradise and Broadbeach areas.

The report provided a series of options for stabilising the Nerang River entrance to halt the continuous northward migration of the river entrance and to improve accessibility for small vessels into the Broadwater. This recommendation resulted in the construction of the Gold Coast Seaway and sand bypassing system in 1986 (see *Gold Coast Seaway* information sheet).

Coolangatta Creek to Point Danger

Beach improvement activities between Point Danger and Coolangatta Creek:

- ◆ Placement of approximately 344,000m³ of sand onto Greenmount and Coolangatta beaches
- ◆ Building the dunes to a width of at least 15m
- ◆ Installing sand catching fences and planting native dune vegetation

Sand-catching fences were also advised for Rainbow Bay and Kirra beach. It was also recognised that until the nourished sand drifted north to Kirra beach there would be some risk of erosion; therefore, minimising development seaward of the main road at Kirra was recommended.

Tallebudgera Creek to Currumbin Creek

The stabilisation of Currumbin Creek, the improvement of Palm Beach and a groyne at Tallebudgera Creek.

The Delft Hydraulics Laboratory observed that there were a number of processes interacting at Currumbin Creek. Consequently, the creek entrance was prone to silting and moving. The Delft Report recommended that a connection (such as a groyne) be constructed between Currumbin Rock and the mainland and a second wall built at the northern side of the entrance. This recommendation was undertaken in stages between 1973 and 1981 (see *Currumbin Creek Coastal Processes* information sheet).

It was foreseen that Palm Beach may experience higher rates of erosion during storm events as the northward movement of sand that supplies the beach would be reduced by stabilisation works at Currumbin Creek. Maintenance dredging at Currumbin Creek was recommended. Dredged materials—from both Currumbin Creek and offshore sites—could then be used to form high sand dunes at Palm Beach (creating an effective storm buffer zone). Additionally, construction of a groyne on the southern side of Tallebudgera Creek was advised, to allow sand accretion at the northern end of Palm Beach. These activities are still carried out today.

Flat Rock Creek to Coolangatta Creek

Improvement activities on Bilinga and Coolangatta beaches (from Coolangatta Creek to Flat Rock Creek).

This recommendation was considered of lower priority as the beaches within this section were deemed to be in acceptable condition. An initial volume of 388,000m³ of sand and a reserve volume of 388,000m³ was proposed across the 4.5km of beaches.

The Delft Report remains highly influential in the management of our city's coastline. Its recommendations ensured that the 'gold' was returned to the Gold Coast after the 1967 storm events and the community retained access to beautiful sandy beaches.