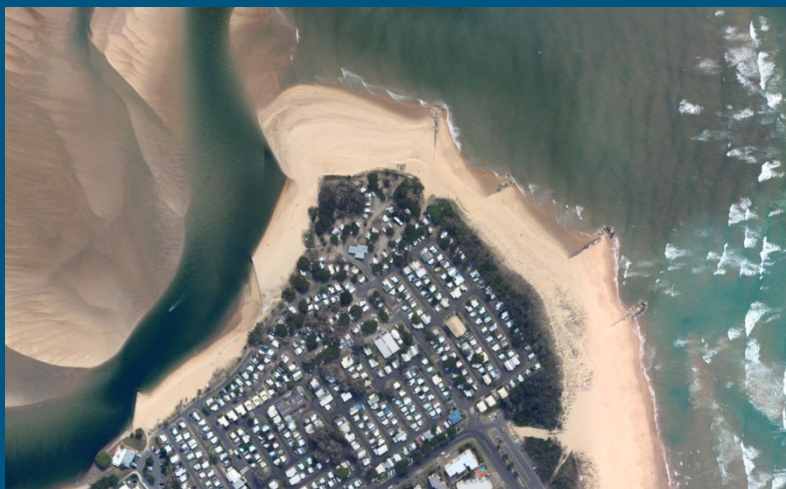


Cotton Tree Shoreline Protection

The entrance to the Maroochy River is highly dynamic and subject to change under the influences of the prevailing coastal and estuarine processes. Following the northern breakthrough of the river entrance in 1974 (following a major flood), the main ocean entrance channel slowly and incessantly migrated southwards and the southern river channel became more dominant. A breakthrough to the ocean south of Pincushion Island occurred in 1999 and property and infrastructure at a popular Cotton Tree caravan park was threatened.

BMT WBM carried out several studies between 1996 and 2003 involving initial assessments of the possibility of breakthrough, last line of defence options and numerical/physical modelling of hydrodynamic and water quality impacts of proposed protection works. An understanding of local coastal and estuary sand transport mechanisms and erosion mitigation measures was developed during these studies.

BMT WBM provided a recommended design for protection works to defend the shoreline at Cotton Tree. The strategy was approved by the EPA (now DERM) and adopted by Council. Construction of the recommended geo-textile groyne field was completed in 2003. The aerial photo below shows the recommended groyne configuration providing the desired shoreline protection.



Client

Maroochy Shire Council (now Sunshine Coast Regional Council)

Date

1996 - 2003

Services & Expertise Provided

Identification of the coastal zone mechanisms which influence natural channel movements in the lower estuary;

Determination of the optimum configuration for a dredged entrance to the north to reduce the threat of a southern breakthrough;

Development of infrastructure defense options, while maintaining tourist amenity; and

Develop Shoreline Management Strategy to provide an approved action plan to manage beach erosion.