Training walls were constructed on the Gold Coast following the recommendations of a study into the erosion problems of Gold Coast beaches in the late 1960’s. The investigation by the Delft Hydraulics Laboratory (Netherlands) is commonly known as the Delft Report. Training walls have been constructed at the Tweed River entrance since the late 1880’s and were extended in the early 1960’s to aid navigation. The construction or extension of training walls interrupts the natural longshore transport of sand by waves, often resulting in rapid changes to adjacent shorelines.

What is a training wall?
Training walls are constructed to stabilise our creek entrances keeping them in one place to benefit development, navigation, flood management, erosion and water quality.

The construction of training walls results in the coastal inlet or river maintaining one position along the coastline. A trained river entrance improves navigation and safety for vessels.

Gold Coast training walls
♦ The Gold Coast Seaway - Constructed in 1986 (see The Gold Coast Seaway information sheet)
♦ Tallebudgera Creek - Built between 1976 and 1981 (see Tallebudgera Creek dredging information sheet)
♦ Currumbin Creek - Constructed in 1980 (see Currumbin Creek dredging information sheet)
♦ The Tweed River Entrance (NSW) - Initially built in 1880s and extended in 1964
**Why train creeks?**

Coastal inlets and estuaries are naturally subject to change. The location of the entrance often migrates along the coastline in response to changes in sediment transport rates and prevailing weather conditions. Sand moves along the Gold Coast in a northerly direction due to wave action by a process called longshore drift (see *Longshore drift: Coastal processes on the Gold Coast* information sheet). Sand moving along the coast can slowly infill an entrance and can occur to the point that the entrance is blocked from the ocean. In this case it would remain so until a large enough flood event flushed through the associated sand bars reopening the inlet.

A blocked waterway entrance can lead to:

- Periodic erosion to the north of the inlet with the trapped sand being unavailable for transport to the downdrift beach
- Localised flooding during heavy rainfall
- Possible water quality issues within the inlet due to limited tidal exchange with the ocean
- Dangerous conditions, such as regularly changing shallow sand bars, for vessel navigation

However, training walls can also contribute to coastal erosion due to the interruption of longshore drift. Sand tends to build up on the southern side of the walls with erosion occurring on the northern side of the walls. Ultimately, the sand will accumulate enough to be transported beyond the walls forming bars across the entrance. One solution to this problem is the installation of a sand bypass system to pump sand under and the training walls and entrance to mimic the natural transport.

**Why are they not left to move naturally?**

An untrained entrance will tend to move widely and forcefully to discharge floodwaters into the ocean, often impacting the surrounding land. With development on the Gold Coast built close to rivers and beach foreshores, training walls are seen as a necessary course of coastal management.

**Who built the training walls?**

One of the main reasons training walls were built was to benefit navigation by maintaining deep water entrances. The State Government is responsible for the management and maintenance of our major navigational channels. Therefore, the construction of the training walls both at the Seaway and the Tweed River were built and funded by the Queensland State Government and NSW Public Works Department, respectively. Currumbin and Tallebudgera Creek training walls, built to stabilise the entrances after the 1967 storm events, were constructed by Gold Coast City Council through a State Government subsidy scheme and are not recognised as navigable entrances by the Queensland State Government.

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Sand Bypassing

*Moving sand (either mechanically or hydraulically) from one area to another across a barrier to natural sand transport.*

The first sand bypassing system was constructed at the Gold Coast Seaway in 1986. The aim of the sand bypassing system was to maintain the natural movement of sand along the coastline. It consists of a 500 m long jetty located approximately 250 m south of the southern training wall. There are 10 jet pumps, 30 m apart, submerged 11 m below mean sea level. The system will pump around 760,500 m³ of sand each year, depending on weather conditions and movement of sand.