

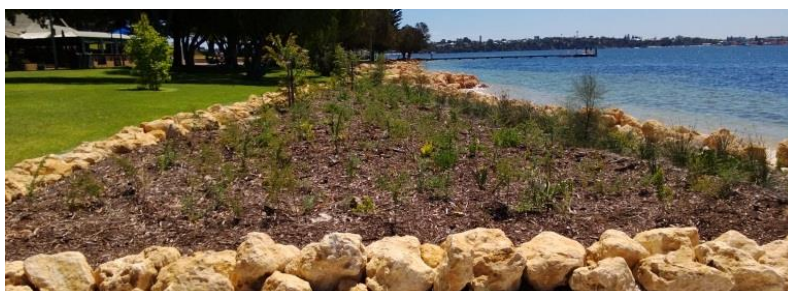
## Case Study: Point Walter Foreshore Restoration



Point Walter Reserve is an iconic recreational area located on the Swan River and is used for multiple purposes including kite-surfing, wind-surfing, fishing, passive recreation, swimming and picnicking. The foreshore area has been subject to substantial erosion over the last 10 years leading to considerable loss of beach and grassed areas as well as undercutting of tree roots.

Natural Area Management & Services (NAMS) was contracted by the City of Melville in February 2012 to undertake large scale foreshore restoration works at Point Walter Reserve. Initial works were completed in early 2013 with subsequent works being completed in early-2014. The broad objectives of the project were to re-claim the beach areas by implementing various erosion control techniques and to improve the overall amenity and aesthetics of the area.

Initial works commenced in March 2012 and included regrading, removal of some non-endemic trees and rock work. Gabion cages were installed to help prevent further loss of grassed areas and brush-matting was placed along some lengths of the foreshore. Several timber decks and seating elements were installed to provide access and amenity to the general public. New turf was installed and is watered by an extensive irrigation system. A gross pollutant trap was also installed to prevent pollutants entering the River from the car park areas.



NAMS worked with a consulting marine engineer to develop a plan to mitigate high levels of erosion in one of the restoration zones. The plan involved the installation of rock armour and Geosynthetic Sand Containers (GSC's) over three nodes as well as some clearing, trimming and filling to create a suitable gradient for the site.

Elcorock GSC's were filled on site and positioned using a 1.8 t excavator. Rock armour; being limestone rock boulders up to 0.5 tonnes each were also positioned using the 1.8 t excavator. NAMS supplied and installed all materials and equipment for the project including the excavator. The biggest issue at the site was depth to groundwater and working in waterlogged conditioned whilst trying to position geofabric, rock and GSC's.



As part of the works, a series of gabion cage walls were constructed to delineate the foreshore from the grassed area and to mitigate erosion on the beach. To aid with egress, five sets of steps were installed whereby users could traverse from the grassed area to the beach. The original design called for each set of steps to have three rungs each. Approximately 12 months after installation and due to continual washing out of sand from around the step's foundations it was evident that three rungs were insufficient in providing safe egress to the beach.

NAMS removed the existing steps and had an additional four rungs for each set of steps fabricated. These larger sets of steps were then reinstalled to allow better egress to the beach. The challenge on this aspect of the project was the depth to ground water and constant inundation of the work site which made it particularly difficult to install the footings for each set of steps





## Case Study: Point Walter Foreshore Restoration (cont...)



### Project outcomes:

- ▶ increased amenity
- ▶ reduced safety risks to the public
- ▶ increased biodiversity
- ▶ use of biodegradable and soft engineering
- ▶ mitigation of erosion
- ▶ increased stability to the foreshore area.

NAMS propagated 50,000 seedlings for planting in 2012 and 2013; this included tubestock and advanced trees for strategic revegetation. The majority of species were sedges and rushes for planting along the foreshore and these were salt hardened prior to planting to ensure adequate survival.

### Key components of the project:

- ▶ propagation of 50,000 tubestock
- ▶ large non-endemic tree removal
- ▶ re-grading and site levelling
- ▶ supply and installation of gabion cages
- ▶ supply and installation of timber decks
- ▶ supply and installation of footpaths
- ▶ brush-mattressing
- ▶ limestone rock revetments
- ▶ revegetation
- ▶ supply and installation of Elcorock GSC's
- ▶ supply and installation of rock armour
- ▶ supply and installation of geofabric
- ▶ supply and installation of turf.

