DUNES

1. Dunes are important to protect the inland from being inundated or damaged during storms. Sand dunes absorb wave energy, but when eroded are usually repaired naturally during fine weather. Where dunes do not have the opportunity to be naturally repaired (such as along the Adelaide coast where 30km of dunes are now permanently trapped under infrastructure preventing natural movement and recycling), if they aren’t assisted manually, the built up areas become prone to storm damage.

Sand carried by wind and water is often eroded in winter but deposited in summer.

1. Dune development:

* During summer conditions, sand is deposited on the shore at the outer limit of the high tide level and begins to build up gradually.
* If undisturbed by foot or vehicular traffic, vegetation may take hold and stabilise the sand. This is the beginning of a dune developing.
* Once small grasses have established, they not only stabilise the sand preventing it being blown or washed away, but more sand is trapped by the vegetation causing the small dune and the larger one behind also to grow.
* On the pre-existing dune behind, larger vegetation may now take root including small bushes and shrubs.
* As sand continues to collect, newer dunes may start to form in front during subsequent seasons.
* Over a decade or more, an entire dune system may be built by the forces of deposition along the coast.
* Eventually large trees and entire ecosystems including plants and animals will become established providing habitat as well as protection for the inland areas from the sea.



* Although winter waves remove sand, summer waves replenish the system. A coastal dune system is very fragile and easily destroyed if foot traffic and vehicular traffic are permitted to access these areas.