



Healthy dune system with grasses and vines and Coastal She-oak at Tannum Sands Beach

Coastal Vegetation and Sand dunes

Our coastal environment

The coastal foreshores of the Gladstone region are one of our most valued natural features, with most of the coast being within the Great Barrier Reef World Heritage Area. However, many of our foreshores and beaches are under increasing pressures from development of public and recreational facilities, residential developments and the impacts of climate change. It is important that we strike the right balance between development and providing an adequate buffer zone to accommodate coastal erosion and protect the existing vegetation.

Shorelines are dynamic environments

Shorelines naturally fluctuate over time. Some areas are subject to gradual recession and others are impacted by major storm events such as cyclones, which can cause dramatic erosion. The foredunes or the area directly behind the beach is a critical part of the dune ecosystem. They provide a reservoir of sand to help replenish the beach following erosion events, and act as a barrier to protect the area from tidal surges, waves and saltwater intrusion. To maintain the health of our coastal foredunes it is vital that the community understands the importance of foredune vegetation.

The importance of dune vegetation

It is essential to keep the foredunes intact and well covered with vegetation to maintain beach stability and minimise coastal erosion. All dune plants, whether they are grasses, shrubs and trees growing in groups or by themselves have a role to play in dune stabilisation. Plants such as grasses and vines or obstructions such as fallen timber, trap windblown sand and help to build the foredunes. The aerial parts of trees, such as the Coastal She-oak obstruct the wind and absorb wind energy. The dunes become higher and wider as the sand continues to build up, triggering vegetation to grow faster.

Dune vegetation can:

- Prevent wind erosion by decreasing wind velocity
- Allow sand to build up and reduce the extent of beach erosion during weather events
- Reduce the incidence of erosion caused by over wash from waves during storms
- Tolerate high winds, salt spray, sandblasting, covering by sand and fresh water
- Adapt quickly to movements of the dunes
- Be a self-supporting ecosystem, where plants are naturally dependent on each other for protection and nutrient supply

Dune vegetation cannot tolerate:

- Erosion caused by waves during weather events
- Excessive damage caused by human interference
- Mismanagement and landscaping activities, such as mowing as this destroys regenerating plants
- Topsoiling, as it prevents free drainage and is unsuitable for the growth of natural dune species
- Excessive fertilisation can be toxic to some dune species and encourage the establishment of weeds
- Introduction of unsuitable plants species, such as turf grasses which disrupt and displace natural vegetation

The process of wind moving sand is called saltation, where individual sand grains are carried by the wind close to the surface in a series of short hops. Nearly all windblown sand is moved by saltation.

Protection of the dunes

To maintain the health of our coastal foredunes it is important that dunes are managed correctly and treated as an important and delicate ecosystem. The foredunes are not recreational areas or extension of residents backyards and are instead important natural areas that if managed correctly will help protect the built environment. Interfering with foredune vegetation is not beneficial for the long-term stability of the foredune.

All plants (living or non-living) that grow on, or, adjacent to tidal lands are protected and regulated by Council and the Queensland Government and in some instances the Australian Government. If you are caught clearing or interfering with plants on Council managed land, penalties may apply.

What you can do to protect our coastal foredunes;

- Do not establish turf within the foredunes, turf does not have the ability to trap wind-blown sand and cannot withstand burial or excessive salt spray. When stressed the turf will die, leaving bare sand, which is prone to wind erosion and blowouts
- Do not plant exotic garden plants within the foredunes. These plants compete with native dune vegetation and have the potential to spread as environmental weeds
- Do not light fires on the beach or collect deadwood for use as firewood. Fallen timber on the dunes plays a role in stabilising dunes and there is a risk that beach fires can escape and cause wildfires within the dunes
- Stick to the official beach access tracks and do not sand board on the dunes, dune vegetation is susceptible to trampling and soil disturbances
- Do not drive on the dunes, dune vegetation cannot tolerate damage by vehicles
- Dispose of garden waste correctly. Do not dump green waste in the foredunes as it may spread weeds.
- Do not cut or prune trees growing within the foredunes. If you believe a tree is dangerous contact Council and an arborist will inspect it.

Damaging foredune vegetation is environmental vandalism

Vandalism of dune vegetation does occur in our region, which impacts the important role it plays in coastal environments.

Types of vandalism includes:

- Cutting off trees at the base of the trunk
- Breaking or cutting branches off
- Breaking off the tops of young trees
- Pulling out newly planted trees
- Drilling and poisoning of old trees
- Clearing of trees and shrubs
- Illegal dumping and littering of green waste and rubbish

Council cares for our foreshores by working with natural resource management groups and the community to keep the foredune vegetation healthy by undertaking revegetation, weeding and erosion mitigation activities. The revegetation of dunes is not done to restrict views, but rather to protect the foredunes, please be respectful of our foredunes.

How can you contact us?



(07) 4970 0700

STD CALLS: 1300 733 343

For those residents who currently incur STD call rates when contacting their local customer service centre



(07) 4975 8500



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The destruction of trees to improve property views is counterproductive to the long-term stability of the foreshore

