

# Fact Sheet

## Management of turf and salinity of soil on Council owned land



*View south west at Wellington Point Reserve looking towards King Island and the Port of Brisbane.*

Turf or grassed areas are strategically used in urban areas such as local parks, sporting fields, roadsides and foreshores, and make a valuable contribution to the livability, sustainability, health and visual appeal of our community. Council is committed to maintaining our naturally beautiful parks and foreshore areas through proactive turf management. Turf covers more than 11 million square metres across Redlands Coast.

While Council actively supports healthy grass growth wherever possible, certain areas – such as foreshores – face challenges due to prevailing winds, sea spray and changes in soil salinity. This is particularly noticeable in man-made foreshore areas, where in their formation, sodic marine muds were pumped out to form the canals and have been used as the material to construct the parklands.

### Frequently asked questions (FAQ)

#### **Why isn't the grass growing properly in the park and foreshore area?**

Often, after wet weather events, rainwater can seep into the ground of parks, foreshores and canal areas causing the groundwater to rise and dissolve the salts stored deep in the soil. As a result, salt crystals will dry and cake on the surface leading to scalding of the grass and root systems, causing the grass to die off.

#### **What is Council doing to support the healthy growth of turf in the park and foreshore areas where high salinity levels are identified?**

Council has conducted several trials in foreshore areas using various salt-resistant grasses including couch and seashore paspalum grass. Council also consults with scientists from the Queensland Government's Department of Primary Industries to determine the best way to manage turf. If an area is identified as having soil quality that is depleting, Council will undertake soil nutrient testing to determine the levels of sodium in the soil.

#### **What happens after soil testing has been undertaken?**

Testing will indicate if sodium levels are too high to support healthy turf growth. If turf growth is viable, then Council reviews the site and looks at turf patching the area with salt resistant turf. If turf growth is not viable in an area, the existing turf remains and may continue to exhibit patchy or dry grass areas. This may change once high soil salinity levels reduce or the grass patchiness may remain. Council will continue to monitor the turf to ensure the best outcome for the site.

## A Case Study – Raby Bay Foreshore

Raby Bay Foreshore has challenges with soil salinity and healthy turf growth. Over the past 15 years, Council has successfully carried out multiple turf patching efforts. However, in recent years – marked by record-breaking rainfall, turf areas have scalded and perished within a two-year period. This is due to water seeping into the ground after heavy rain, causing the groundwater and the salt stored deep in the soil to rise causing the grass and root systems to scald and die off.

Over time, tests showed that by comparison, the salinity of Raby Bay Foreshore Park,(which contains 202 Parts Per Million (PPM) of sodium) and other similar man-made foreshore parks, is between four and up to ten times higher than a naturally formed foreshore park such as Sel Outridge Park at Redland Bay (which contains 18 PPM of sodium).

Whilst all efforts were made during the turf patching stage to irrigate the site through temporary irrigation systems, ongoing irrigation is not an option due to water access and financial impacts on rate-payers. The old irrigation system that serviced the area had deteriorated beyond repair and was decommissioned when severe water restrictions were imposed in the early 2000's. The cost to reinstate the system is estimated to exceed \$300,000 and it's estimated the ongoing irrigation water costs would exceed \$100,000 p.a.

Despite vigilant monitoring initial irrigation and turf replanting, full turf coverage is not always achievable.



*Aerial view of Raby Bay Foreshore grass quality degradation over a two-year period.*