Fact Sheet

Thorneside Wetlands Regeneration

Wetlands Regeneration

Redland City Council is moving forward to manage an ecologically significant area in Thorneside to protect its internationally recognised community and environmental values.

The below information highlights the significance of the area.

It you seek more information on what Council is doing in this space or what you can do to protect and enhance Redlands Coast's environment, please visit Council's website.

Key reasons why Council will not be excavating drainage channels in the Thorneside regeneration area:

- Excavation would provide no benefit to water levels in drains
- Large machinery necessary for their removal would cause considerable damage to the fragile location
- Ecologically valuable mangroves would be destroyed

Natural regeneration and conservation area

The area borders Ferry Road, Esplanade, Railway Parade and Queens Esplanade and partly falls within Moreton Bay Marine Park.

Thorneside regeneration and conservation area

History of the area

Much of this area was historically considered tidal estuarine wetland, transitioning from salt marsh, mangrove and intertidal mudflats to seagrass ecosystems offshore.

The origins of the name 'Thorneside' came from an early European settler, William Thorne who was an early British migrant from Shebbear, Devon in the United Kingdom and began buying land on Mooroondu Point in 1880. He would go on to live in Mooroondu House near what is now the corner of Nora Street and Mooroondu Road.

The suburb became known as Thorneside when an early train line from Brisbane was extended to Cleveland in 1889 and included Thorne's siding. After stopping at Lota in 1960, the line was rebuilt to Thorneside in 1982.

It followed "a novel scheme" proposed to a then Redland Shire in the mid-1960's to convert land at Thorneside into "a little Venice". The proposal involved the introduction of canals and allotments with water frontage, linked to a series of waterways and waterside allotments. Redland Shire – which gained city status and was renamed to Redland City Council in 2008 - did not support the venture.

Environmental significance of the area

High value tidal wetland, transitioning from salt marsh to mangrove ecosystems, feature within the rehabilitation area and adjoining land.

The site's ecological value is further elevated for adjoining Moreton Bay Marine Park, which is internationally recognized as a Ramsar wetland prized for its biodiversity and ecological significance.

Wetlands are highly productive and valuable ecosystems that provide many services to the community, which include:

- Functioning as biodiversity hotspots
- Helping to maintain or enhance water quality - for example, cycling nutrients and treating pollutants, such as trapping sediment
- Reducing climate variability by playing a vital role in storing carbon dioxide and moderating temperature
- Providing a nursery for various animal species, including commercially important fish and crustaceans
- Protecting against flooding, storm surges and coastal erosion
- Encouraging general wellbeing by providing cultural, spiritual, aesthetic and recreational amenity.

Due to increasing pressures placed on them subtropical coastal salt marsh communities are listed as ecologically vulnerable under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999.

They support a wide range of fauna, such as fish, molluscs, crabs, prawns, worms and birds by providing nursery habitat.

The area between Railway Parade and Ferry Road is such a salt marsh ecosystem, dominated by marine couch.

Vegetation in salt marshes tolerates high salinity and temporary water inundation from tides, or occasionally from fresh water. Marine couch (also known as salt couch) is a marine vegetation protected under the Fisheries Act.

It grows to 40 cm in height and forms dense carpets. The leaves are greyish-green, short and narrow in appearance. The couch has tiny black seeds and a high tolerance for waterlogging. Marine couch and other native vegetation at Thorneside help improve the quality of water entering the bay and support wildlife.

Marine couch between Ferry Road and Railway Parade.

Salt marshes in this region are typically devoid of, or only support low numbers of large trees and tall shrubs. The area has a number of blue gums present, a species of tree commonly associated with marine couch and also known as a koala food tree. Some have died, likely through natural processes. When wetland blue gums reach 8-10 metres in height, such die-off is common. This can also be seen in nearby locations that include the Thorneside foreshore and Geoff Skinner Wetlands Reserve at Wellington Point. Dead trees nonetheless provide valuable habitat to wildlife and are an important part of the ecosystem.

The wetland area supports a range of wildlife including protected shorebirds. The greater region is known to provide support to at least 43 species of shorebirds, of which 28 are migratory that regularly travel from their breeding grounds in the northern hemisphere. They can be spotted in the area during summer months. These shorebirds need space, food and protection, which they find in wetlands. The areas allow the birds to restore their energy reserves for their long flights back to their northern breeding grounds. Many travel up to 25,000 km every year.

Unfortunately, populations of migratory shorebirds are in decline and their wetland habitats are under increasing pressure, both in Australia and in their native breeding grounds. For these reasons, they are recognised as threatened under the EPBC Act, and include the critically endangered Eastern Curlew, Curlew Sandpiper and Great Knot.

At Thorneside, the mangroves support a large array of animals and provide habitat for fish, shellfish and migratory birds. They are also essential to maintaining water quality. With their dense network of roots and surrounding vegetation, they stabilise shorelines, filter and trap sediment, nutrients, heavy metals, and other pollutants. Their ability to prevent sediment from flowing upstream further minimises contamination of downstream waterways and protects sensitive habitat, such as marine couch.

Both salt marsh and mangroves improve our resilience to climate change. These ecosystems absorb large quantities of carbon dioxide from the atmosphere and store it at a rate of two to four times greater than mature terrestrial forests. Unfortunately, salt marsh and mangrove are themselves vulnerable to climate change as sea level rise pushes ecosystems inland, with little land available in many locations.

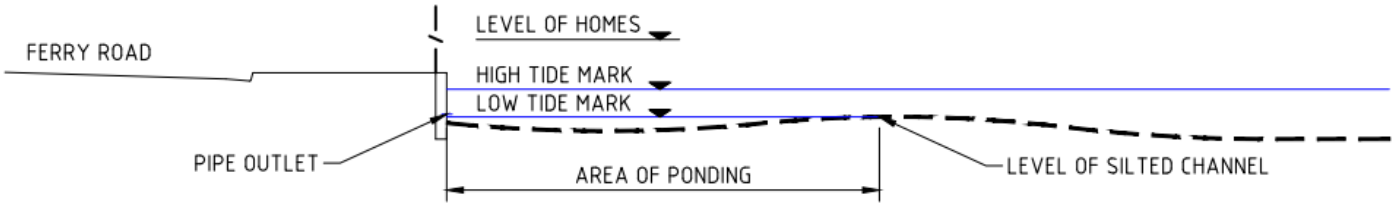
Salt marsh hydrology (Flood and ponding of water)

Salt marsh ecosystems exist through a pattern of flooding and draining of saltwater, driven by tides. Catchment rainwater runoff can also contribute to water flow or ponding within salt marsh areas. The plants serve a vital function by acting like a sponge for runoff, including urban runoff.

The early installation of canals (channels) through the location's salt marsh (to drain water that flows to Tingalpa Creek), has changed this natural process and altered the flow of tidal and freshwater across it.

Sediment has subsequently built up over time within the artificial channels. The build-up luckily allows for more naturalised water flow patterns across the salt marsh, mimicking the pre-disturbed state of tidal and freshwater flows. In this manner, the sediment build-up supports the rehabilitation of the salt marsh ecosystem.

This process can be observed by viewing water retained in roadside swales at Ferry and Railway parades. A swale is an open vegetated channel that has a buffering and calming effect. They slow down and spread water which allows it to soak into the ground, recharging ground water and improving drought resistance. This in turn improves water quality by treating runoff coming from roads and other hard surfaces. Roadside swales at Ferry and Railway parades also have limited slope, which allows water to be retained in correlation with the rise and fall of tide levels in Tingalpa Creek, whereas the downstream channel has built up with excessive sediment.



LONGITUDINAL SECTION OF CHANNELS
NOT TO SCALE

Open roadside vegetated swale at Railway Parade filters and calms water.

An assessment has been undertaken by a qualified and experienced engineer, regarding the risk to surrounding properties of the current management approach. The proposed management approach is not considered to have adverse implication on the surrounding residential houses/properties, relative to the level of their homes. Accordingly, Council does not intend to remove any sediment at this time and will continue to monitor and manage this area.

Drainage channels crossing Ferry and Thorneside roads.

What is Council doing to protect and enhance the value of this area?

The rehabilitation and conservation area will be managed to retain and enhance natural processes to restore its ecological state.

Council's management aligns with Regional and Council strategies.

Examples of Council strategies and plans that have direct influence on our coastal environment and waterways include:

- Redland Coast Bay and Creek Plan 2021 and associated action plan
- Coastal Adaption Strategy 2016
- Coastal Hazard Adaption Strategy 2021
- Redland City Council Wildlife Connections Plan 2018
- Redlands Coast Biosecurity Plan 2018
- Redland City Council Conservation Land Management Strategy 2010.

The Redlands Coast Bay and Creeks Plan 2021 outlines several goals, such as restoring degraded systems and protecting creeks and bay assets.

To allow this area to return to its native state and function as a coastal wetland, Council's City Operations area does not mow at the location and is focused on removing restricted weeds near the public use area on Ferry Road.

This includes removing weeds that include:

- Succulents – mother-of-millions
- Shrubs – groundsel bush, pepper tree
- Vines – mile-a-minute

Future weeds to be targeted include pasture grasses and cocos palms along drains.

Simple ways you can help

The Redlands Coast community can make a difference by helping to protect and enhance this area and others like it by performing simple tasks that include Avoid disturbing shorebirds

- Do not drive vehicles in wetlands
- Keep your dog on a lead at all times, unless in an off-leash area
- Keep your cat indoors at night and confined to your property at all times
- Desex your cat
- Keep exposed soil covered at private properties
- Avoid washing chemicals down the drain
- Wash your car on your lawn
- Pick up rubbish around wetlands
- Ensure aquarium fish and plants do not enter the bay and creeks
- Use an appropriate amount of fertilizer or pesticide, or consider natural alternatives
- Participate in Council initiatives, such as the Community Bushcare Program or the Waterways Extension Program

For more information refer to Council's website via - Help protect our bay and creeks.