

Sovereign Waters Lake – Management Overview

The Sovereign Waters Lake is a tidal secondary contact recreational lake which is fed from Moreton Bay. It also has a freshwater inlet fed from the upstream stormwater catchment. The lake was designed with a treatment system for this freshwater inlet which consists of two treatment wetlands north of Birkdale road. One treatment wetland is designed to remove sediment and the second wetland is designed to act as a bio retention pond. These wetlands are designed to ensure that reasonable quality water enters the lake. If too much freshwater enters the lake, council staff can flush the lake periodically to re-establish the correct salt levels. The freshwater input is not necessary for the normal operation of the lake.

The Sovereign Water Lake and Wetlands

Birkdale Road is the line – On the Northern side of Birkdale Road is the first wetland of the Sovereign Waters Lake system. From this point, maintenance is funded through the Sovereign Waters Lake reserve of which Council contributes 30%. The boundaries of the Lake system to the East and North are the GPTs adjacent to the lake and to the West it is the perimeter channel as shown in figures 1 and 2. Only assets that are directly linked to the effective operation of the lake are included in the reserve funded activities.

Stormwater passes under Birkdale Road into the Sovereign Waters Treatment System and any large pollutants are captured within the Sed-forebay and Trash Rack area. Water is then treated further by the two wetland areas before passing onto the lake system. Any water that runs off the surrounding road network around Sovereign waters is treated by the five Gross Pollutant Traps (GPTs) before entering the lake system as per Figure 2 below:

On the Western Side of the lake there are two flood gates one near the Northern end of the lake and one near the Southern end of the lake adjacent to the creek. The flood gate at the Southern end of the lake is the lake's outlet system. The Northern flood gate assists the Southern outlet during a heavy rainfall event. The lake is filled via a grated inlet pipe in the creek at the Northern inlet/outlet. Water into the lake is controlled by the tides via the creek at these two areas only.

An overview of the main hydrodynamic and GPT components is shown below:



Figure 1 – Sovereign Waters Main Hydrodynamic Components



Figure 2 – Sovereign Waters GPT Devices

Maintenance

Sovereign Waters has a Lake Management Plan of which RCC follows in regards to the lakes maintenance program. All maintenance is captured and recorded on a Redland City Council maintenance management system with all expenses captured and logged within this system. The Lake Management Plan is available on the Redland City Council website.

An overview of the typical maintenance and operational activities are provided below. These frequencies can change from time-to-time subject to inclement weather and other external factors.

MAINTENANCE DESCRIPTION	Frequency
SOVEREIGN WATERS GPT INSPECTIONS	4 monthly
SOVEREIGN WATERS GPT CLEANS	Annual
CLEAN WATER MARKERS	Monthly
SOVEREIGN WATERS TRASH RACK INSPECTION	Annual
SED FOREBAY CLEAN	6 monthly
CLEAN FLOOD GATES	Annual
INLET/OUTLET GRATE CLEAN	Monthly
CONCRETE SPILLWAY CLEAN	6 monthly
WINCH INSPECTION X 2	Annual
WETLAND MAINTENANCE	Monthly (vegetation around wetlands)
WETLAND ACCESS RAMP CLEAN	Annual
LAKE ACCESS RAMP CLEANS	Monthly

For further information regarding the Sovereign Waters Lake, please see the Redland City Council Website for the full Lake Management Plan.