

OBJECTIVES

- Improve the water quality
- Retain the existing peaceful and relaxing amenity of the park
- Protect and enhance the natural habitat for the frogs and birdlife
- Protect the space for quiet leisure activities

PROJECT AND VOLUNTEER OPPORTUNITIES

Possible Embrace the Space program- Participate in water quality monitoring, Blue Crab program & revegetation.

INSPECT AND REPORT

- **Algal blooms** result from an excess of nutrients which can cause harm to aquatic species
- **Koi or Carp fish**- non native and can negatively impact the water quality
- **Rubbish/Dumping in the lake**

#	MANAGEMENT ACTIONS	TIMING	RESPONSIBILITY
#	Quarterly water quality monitoring. Ongoing.	Every quarter	Environmental Services/ Technical Services
1	Removal of half of the Typha (total cover approx 1780m2) reduce to approx 800m2. Removal to take place to stabilise population.	Early Winter	CityParks/Martins Environmental
2	Weed control of grasses in littoral zone to establish buffer around the lake.	Summer	CityParks
3	Construction of a path to connect existing path to establish a hard edge between littoral zone and grass. Connection from Nottage Green to Southmead Green.	Summer	Landscape Services/ CityWorks
4	Grass control under stand of Melaleucas .	Summer	CityParks
5	Revegetation of littoral zone and infill planting the following year.	Winter/ Spring	Environmental Services/ CityParks
6	Revegetation under Melaleucas of ground cover/wetland species.	Winter/ Spring	Environmental Services/ CityParks
7	Investigate stormwater inlets (once Typha is controlled). Potential Water Sensitive Urban Design Project to remove direct outlet to lake and discharge into a swale instead to be filtered.	-	Technical Services
8	Potential tree planting for shade/amenity/habitat.	Winter	Developer/ Landscape
#	Phoslock application every three years if needed (once Typha population has been controlled).	Autumn/ Winter or Spring	Environmental Services
#	Investigate installing an aerator/diffuser to increase dissolved oxygen and reduce thermal stratification in the water body.	-	Environmental Services
#	Typha maintenance to maintain total coverage of less than approx 800m2. Every two-three years. Removal to take place to stabilise population and not allow it to exceed 20% of the Lakes footprint.	Early Winter	CityParks



Approved

Date

REVEGETATION PLANT LIST

Planting locations will be either Single Plant (SP) to ensure lake views are not compromised, Flowering (F) to introduce small colourful species around the lake or Bird Habitat (BH) to provide thick protecting habitat for birds.

Emergent Zone species (3 plants per m2)	Terrestrial/Ephemeral zone species (1 plant per m2)
<i>Baumea articulata</i> (submergent plant) (BH)	<i>Grevillea preissii</i> (SP)
Bare Twigrush (<i>Baumea juncea</i>) (BH)	Honey Bush (<i>Hakea lissocarpha</i>) (SP)
Sea Rush (<i>Juncus kraussii</i>) (BH)	Stalked Guinea Flower (<i>Hibbertia racemosa</i>) (F)
Knotted club-rush (<i>Ficinia Nodosa</i>) (BH)	Blueberry lilly (<i>Dianella revoluta</i>) (F)
<i>Astartea fascicularis</i> (SP)	Scarlet Runner (<i>Kennedia prostrata</i>) (F)
White Myrtle (<i>Hypocalymma angustifolium</i>) (BH)	<i>Grevillea crithmifolia</i> (SP)
Purple Flag (<i>Patersonia occidentalis</i>) (F)	Star flower (<i>Calytrix species</i>) (F)
	Grey Cottonhead (<i>Conostylis candicans</i>) (F)

Southmead Green Lake Summer 2018 - 19					
Site Code	EK-SG-01	Sample Date	26/02/2019	No Samples	1
Parameters	Unit	WQ Objectives	EK-SG-01	Comment/s	
Temperature	°C	-	25.8	-	
pH	Units	6.5 – 9.0	8.5	Within the recommended range	
Electrical Conductivity (EC)	µS/cm	300 - 1500	2957.0	Exceeds the recommended range	
Dissolved Oxygen (DO)	mg/L	> 6.0	6.3	Within the recommended range	
TDS	mg/L	-	1891.5	-	
ORP	mV	-	161.9	-	
Turbidity (in-situ)	NTU	10 - 100	13.2	Within the recommended range	
Nitrite + Nitrate as N	µg/L	10	<10	Within the recommended range	
Total Nitrogen as N	µg/L	350	2100	Exceeds the recommended range	
Total Phosphorus as P	µg/L	10	80	Exceeds the recommended range	
Biochemical Oxygen Demand	mg/L	-	11	-	

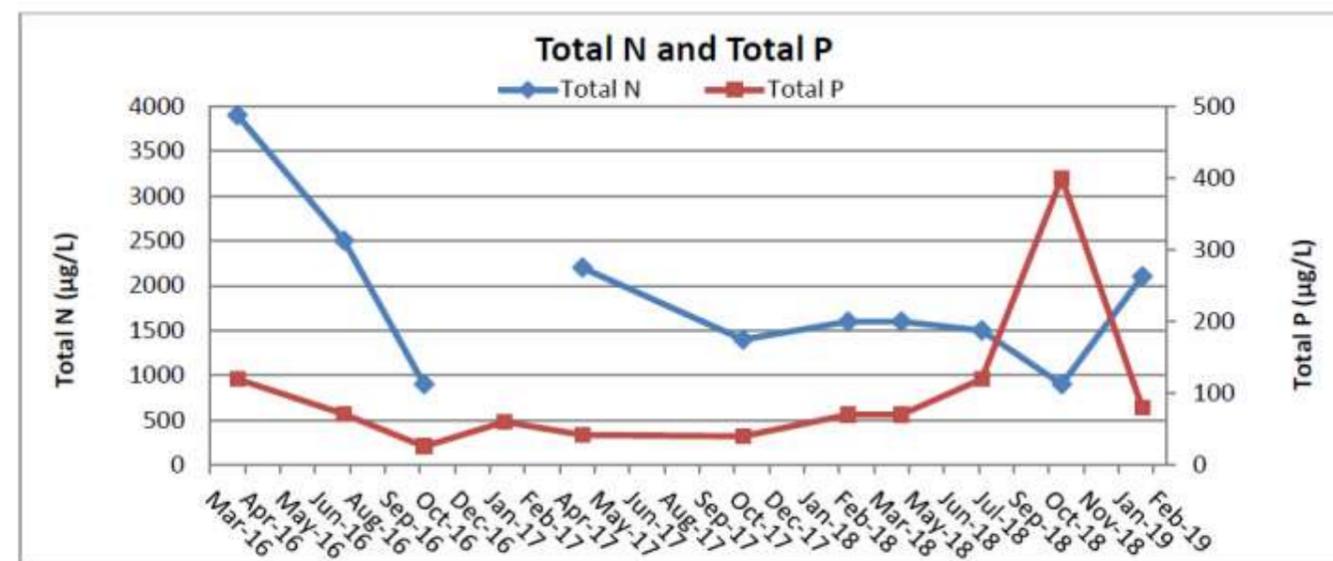


Potential future infrastructure

Park benches

Path connection completed from Nottage Green through to Southmead Green or through to Bridgewater north lake

Water Quality Results– 2018/2019 Summer



Graph 18: Southmead Green - Total N and Total P

Site Code	EK-SG-01
Site Location	GPS -32.553053, 115.707435 access from Southmead Green
Water body Area	5020m2 approx
Catchment Area	Established residential areas and new developments
Storm Water Inlets	2
Buffer Zone	Established grass and trees on Northern and Southern ends
Aeration System	No aerators
Mixing/Stagnation	No active mixing, stagnant
Ground Water Connection	No groundwater connections or bores feeding the lake
Algal Bloom	Algal scums observed at the banks seasonally
Odours from Lake Water	No emanation of odours
Colour and Clarity of Water	Brown and high in suspended matter
Contamination/Pollution	Water birds and pet droppings
Macrophytes Emergent	Overgrown with Typha. Some rushes and sedges along the bank
Macrophytes Submerged	Could not be observed due to the colour and turbidity in water
Aquatic species	Not observed
Water Birds	Ducks, Coots, and Swamphens
Sample Collection Points	2 proposed but collected 1 due safe access (see aerial image)