




















- Marine Monitoring Sites
- Freshwater Monitoring Sites



Shoal Bay and Howard River freshwater and marine water quality

Indicator and units	Freshwater		Outer Marine		Estuary	
	Water quality objective	Compliance	Water quality objective	Compliance	Water quality objective	Compliance
 Electrical conductivity (µS/cm)	<200	37 ✓	NA		NA	
 Turbidity (NTU)	<20	9.45 ✓	NA		NA	
 pH	6.0–7.5	6.4-6.6 ✓	7.0–8.5	7.2-8 ✓	6–8.5	6.8-8.1 ✓
 Dissolved oxygen (%)	50–100	82-86.6 ✓	80–100	*	80–100	*
 Total suspended solids (mg/L)	<5	11 ✗	<10	*	<10	*
 Chlorophyll a (µg/L)	<2	0.5 ✓	<2	0.5 ✓	<4	3 ✓
 NOx (µg N/L)	<8	30 ✓	<20	4.5 ✓	<20	9.5 ✓
 Ammonia (µg N/L)	NA		<20	13 ✓	<20	12 ✓
 Total nitrogen (µg N/L)	<230	280 ✗	<270	160 ✓	<300	300 ✓
 Total phosphorus (µg P/L)	<10	32.5 ✗	<20	5 ✓	<30	32.5 ✗
 Filterable reactive phosphorus (µg P/L)	<5	0.5 ✓	<5	0.25 ✓	<10	3.5 ✓
Number of samples		4		7		12
2012 grade		C		A		B
2011 grade		B		A		C
2010 grade		B		A		C
2009 grade		C		A		C
Note: (NA). Not applicable, no WQO developed * WQO currently under revision.						

Buffalo Creek estuarine water quality

Indicator and units	Water quality objective	Compliance
 pH	6–8.5	7.3–8.0 ✓
 Chlorophyll <i>a</i> (µg/L)	<4	37.6 ✗
 NO _x (µg N/L)	<20	35.5 ✗
 Ammonia (µg N/L)	<20	71.5 ✗
 Total nitrogen (µg N/L)	<300	1630 ✗
 Total phosphorus (µg P/L)	<30	287 ✗
 Filterable reactive phosphorus (µg P/L)	<10	87.5 ✗
Number of samples		109
2012 grade		
2011 grade		E
2010 grade		E
2009 grade		E
<p>* WQO currently under revision. The Buffalo Creek monitoring site in the estuary is influenced by the treated wastewater discharged from the Leanyer-Sanderson sewage treatment plant outfall. The treatment plant is subject to a Waste Discharge Licence. The licensed mixing zone is yet to be fully determined. It is possible that the Buffalo Creek monitoring sites are located within the discharge mixing zone, and that the water quality objectives may not apply to this site. The Leanyer-Sanderson wastewater is treated by waste stabilisation lagoons utilising a combination of sunlight, micro-organisms and algae to break down the raw wastewater. The presence of elevated concentrations of chlorophyll in Buffalo Creek may be largely due to the algae present in the treated wastewater discharge.</p>		