



Swan Canning Estuary Water Quality Monitoring Project

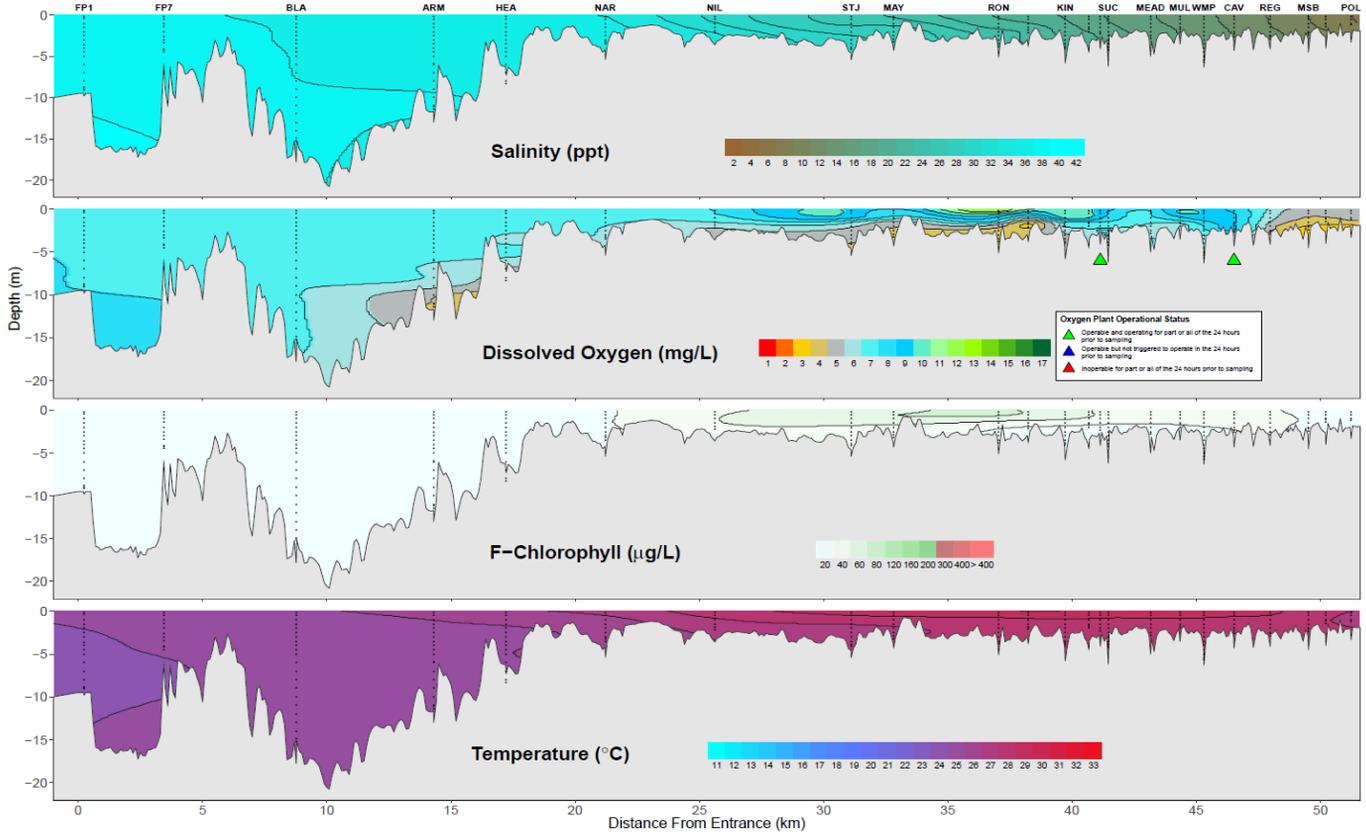
**Weekly Profile Report for the
Lower to Upper Swan Estuary**

23rd December 2019

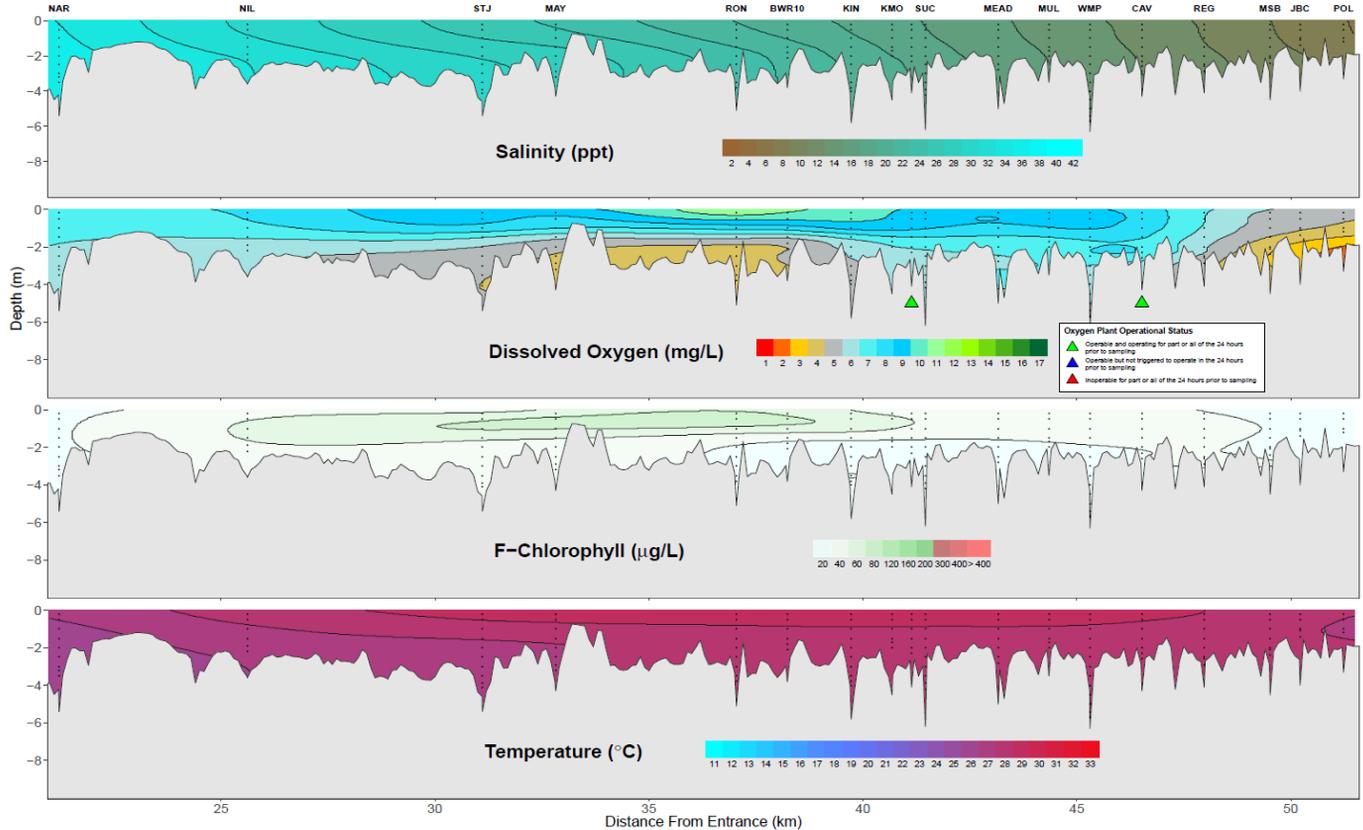
Prepared by

**Rivers and Estuaries Science
Biodiversity and Conservation Science
Department of Biodiversity, Conservation and Attractions**

Swan River Estuary – Physical-Chemical Profile – 23rd Dec 2019



Middle and Upper Swan River Estuary – Physical-Chemical Profile – 23rd Dec 2019



Date: 23rd December 2019

Weather & tide conditions: Conditions were clear with a variable breeze of up to 12.5 knots. The predicted tides at Barrack St were 0.53 m at 07:13 am (low tide) and 1.06 m at 9:13 pm (high tide). Perth recorded 1.8 mm of rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford and Caversham oxygenation plants were operational and triggered to provide oxygen in the 24 hours prior to sampling.

Lower Swan Canning Estuary (FP1 to NAR): The Lower Swan Canning Estuary was saline from FP1 to NAR. Surface and bottom waters were oxygenated or well oxygenated throughout this zone except at ARM where low oxygen concentrations were observed at depth. Chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 23.5 to 26.0 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline at NIL, brackish over saline from STJ to MAY and brackish at RON. Surface waters were well oxygenated throughout this zone. Bottom waters were oxygenated at NIL and low in oxygen between STJ and RON. Chlorophyll fluorescence was elevated between STJ and RON with the highest readings at MAY indicating higher microalgal activity in this area. Water temperature ranged from 26.4 to 29.0 °C.

Upper Swan Estuary (BWR10 to POL): The Upper Swan Estuary was brackish throughout. Surface waters were oxygenated or well oxygenated. Bottom waters were oxygenated or well oxygenated except at BWR10 and between REG and JBC where they were low in oxygen. Chlorophyll fluorescence was highest at KIN indicating higher microalgal activity in this area. Water temperature ranged from 26.6 to 29.7 °C.

NB: Profile plots are visual interpolations of measured parameters only. Detailed data are available at wir.water.wa.gov.au.

Recommended reference

Department of Biodiversity, Conservation and Attractions 2019. *Swan Canning Estuary water quality monitoring weekly profile report, Lower to Upper Swan Estuary 23rd December 2019*. Rivers and Estuaries Science (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)

Definitions:

Salinity – fresh <5, brackish 5-25, saline 25-35, hypersaline >35
Dissolved oxygen – well oxygenated >6mg/L, oxygenated >4-6mg/L, low oxygen >2-4mg/L, hypoxic 0.5-2mg/L, anoxic <0.5mg/L.