



Department of Biodiversity,  
Conservation and Attractions



Biodiversity and  
Conservation Science

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# Swan Canning Estuary Water Quality Monitoring Project

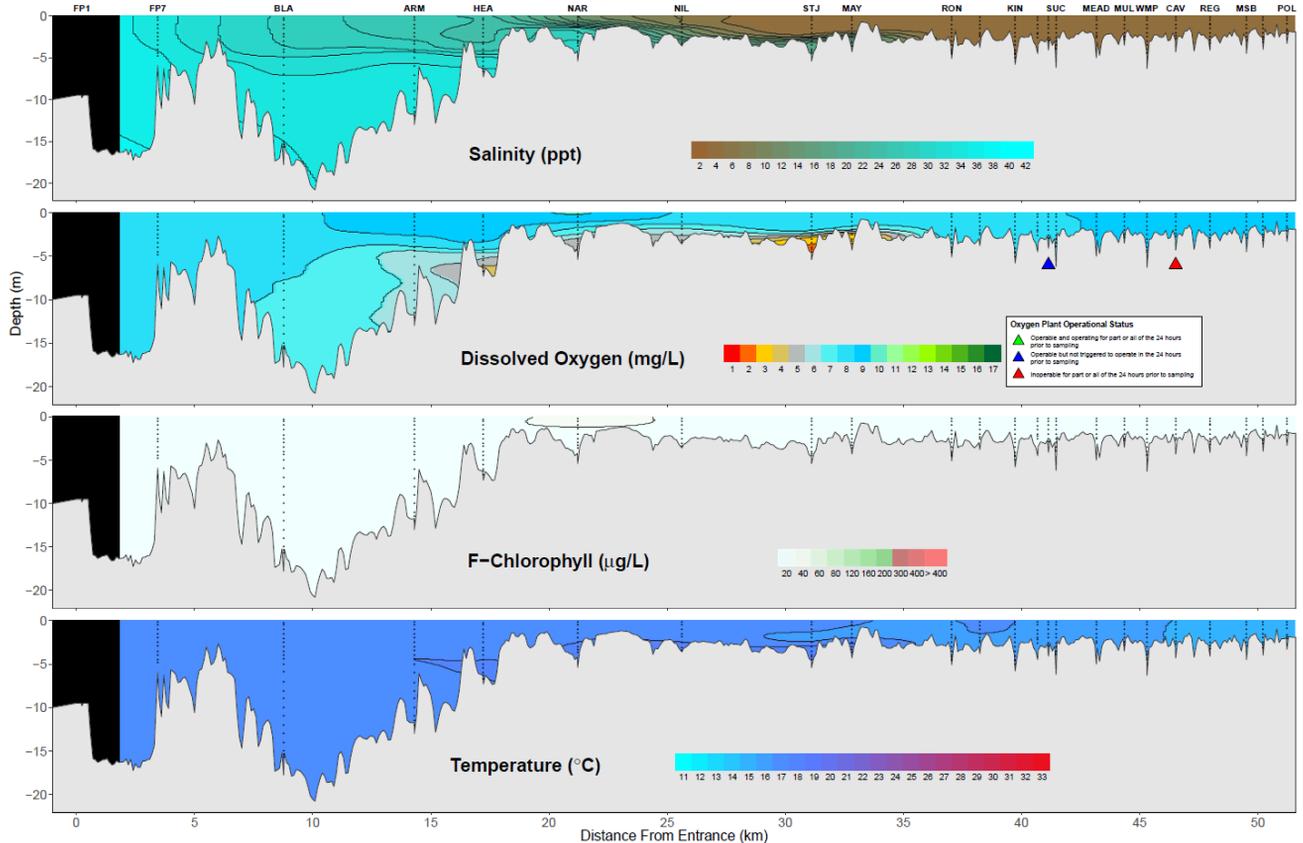
**Weekly Profile Report for the  
Lower to Upper Swan Estuary**

**2<sup>nd</sup> September 2019**

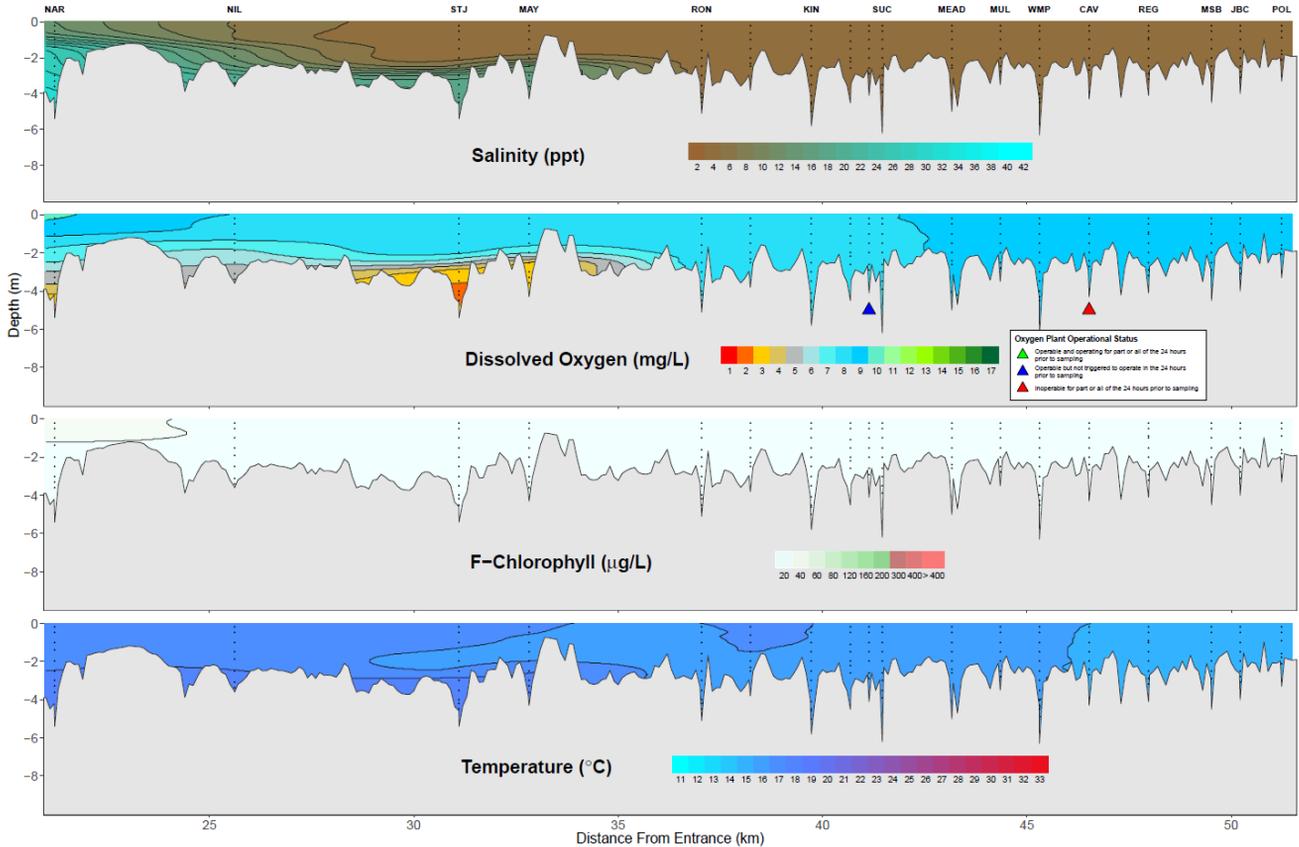
**Prepared by**

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### Swan River Estuary – Physical-Chemical Profile – 2nd Sep 2019



### Middle and Upper Swan River Estuary – Physical-Chemical Profile – 2nd Sep 2019



Date: 2 September 2019

Weather & tide conditions: Conditions were overcast with up to 95 % cloud cover and a predominantly north-westerly breeze of up to 12 knots. The predicted tides at Barrack St were 0.69 m (low tide) at 4:18 am and 0.89 m (high tide) at 12:32 pm, however a storm surge increased predicted water levels by up to 0.3 m. Perth Metro recorded 37.4 mm of rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford oxygenation plant was operational but not triggered to provide oxygen and the Caversham oxygenation plant was not operational the week prior to sampling.

Lower Swan-Canning Estuary (FP1 to NAR): FP1 was not sampled due to rough conditions. The Lower Swan-Canning Estuary was saline from FP7 to ARM and brackish over saline from HEA to NAR. The area was mostly well oxygenated apart from HEA and NAR where bottom waters were low in oxygen. Chlorophyll fluorescence was highest at NAR suggesting higher microalgal activity in surface waters in this area. Water temperature ranged from 16.0 to 17.2 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was fresh over brackish from NIL to MAY and fresh at RON. Surface waters were well oxygenated throughout with bottom waters being low in oxygen at MAY and hypoxic at STJ. Chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 14.5 to 17.2 °C.

Upper Swan Estuary (BWR10 to POL): The Upper Swan Estuary was fresh from BWR10 to POL. The waters were well oxygenated and chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 14.5 to 16.5 °C.

#### **Recommended reference**

Department of Biodiversity, Conservation and Attractions 2019. *Swan Canning estuary water quality monitoring weekly profile report, Lower to Upper Swan Estuary 2 September 2019*. Rivers and Estuaries Science Program (<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.