

Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

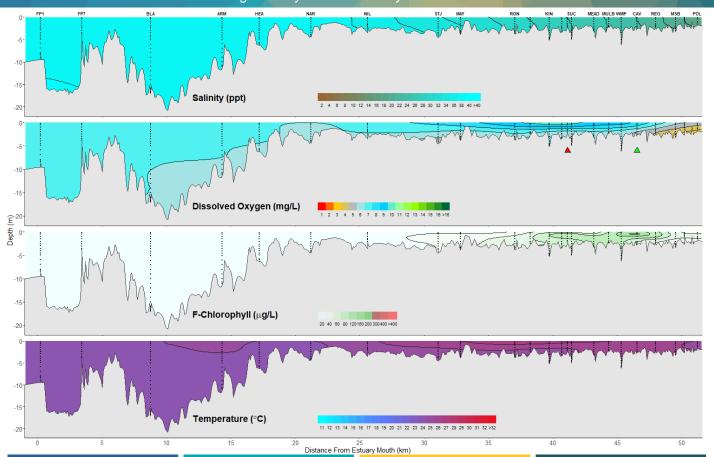
Lower Swan Canning Estuary to Upper Swan Estuary

10 March 2025

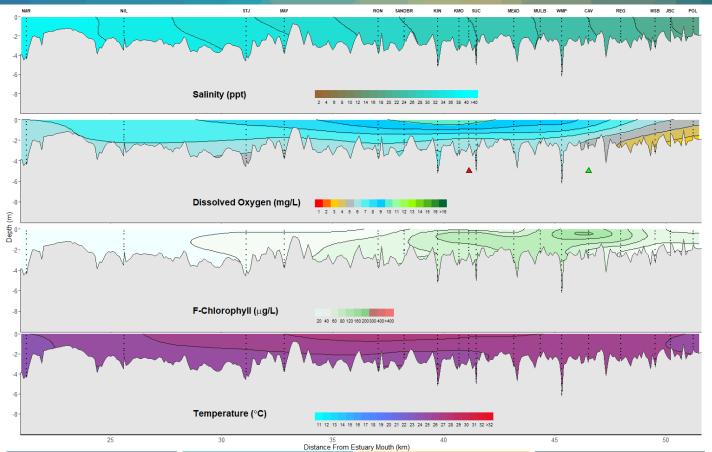
Prepared by

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

Swan Canning Estuary - Water Quality Profiles – 10 March 2025



Swan Canning Estuary - Water Quality Profiles – 10 March 2025



Date: 10 March 2025

<u>Weather & tide conditions</u>: Conditions were clear with a predominantly easterly breeze of up to 8.9 knots. The predicted tides at Barrack St were 0.58 m at 6:36 am (low tide) and 1.12 m at 8:49 pm (high tide). Perth recorded 2.2 mm of rainfall in the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guilford plant was offline and the Caversham oxygenation plant was triggered to provide oxygen in the 24 hours prior to sampling.

<u>Lower Swan Canning Estuary (BLA to NAR)</u>: The Lower Swan Canning Estuary was hypersaline, waters were oxygenated or well oxygenated and chlorophyll fluorescence was low. Water temperatures ranged from 23.2 to 24.1 °C at the time of sampling.

<u>Middle Swan Estuary (NIL to RON)</u>: The Middle Swan Estuary was saline and waters were oxygenated or well oxygenated. Chlorophyll fluorescence was moderate in subsurface and bottom waters at RON. Water temperatures ranged from 24.5 to 26.6 °C at the time of sampling.

<u>Upper Swan Estuary (SANDBR to POL)</u>: The Upper Swan Estuary was saline between SANDBR and SUC and brackish from MEAD to POL. Waters were oxygenated or well oxygenated, except for bottom waters at REG and POL and subsurface and bottom waters at MSB, which were low in oxygen. Chlorophyll fluorescence was moderate in subsurface and bottom waters at SANDBR, MEAD and POL, surface and bottom waters at KIN, KMO, SUC, MULB and REG and in subsurface waters at JBC. Chlorophyll fluorescence was high in surface waters and moderate in subsurface waters at CAV and high in surface waters and moderate in bottom waters at VIT and WMP. Water temperatures ranged from 24.5 to 26.7 °C at the time of sampling.

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

Oxygenation Plant Operational Status:

- Operating for part or all of the 24 hours prior to sampling
- △ Operable but not triggered to operate in the 24 hours prior to sampling
- Inoperable for part or all of the 24 hours prior to sampling

Definitions:

Salinity – fresh <5, brackish 5-25, saline 25-35, hypersaline >36

<u>Dissolved oxygen</u> – well oxygenated >6 mg L^{-1} , oxygenated >4-6 mg L^{-1} , low oxygen >2-4 mg L^{-1} , hypoxic 0.5-2 mg L^{-1} , anoxic <0.5 mg L^{-1}

Chlorophyll fluorescence (low flow): low < 50 μ g L⁻¹, moderate 50-150 μ g L⁻¹, high 150-400 μ g L⁻¹, extreme > 400 μ g L⁻¹

Recommended reference: Department of Biodiversity, Conservation and Attractions, 2025. Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 10 March 2025. Rivers and Estuaries Science (https://www.dpaw.wa.gov.au/management/swan-canning-riverpark)