



Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

Lower Swan Canning Estuary to Upper Swan Estuary

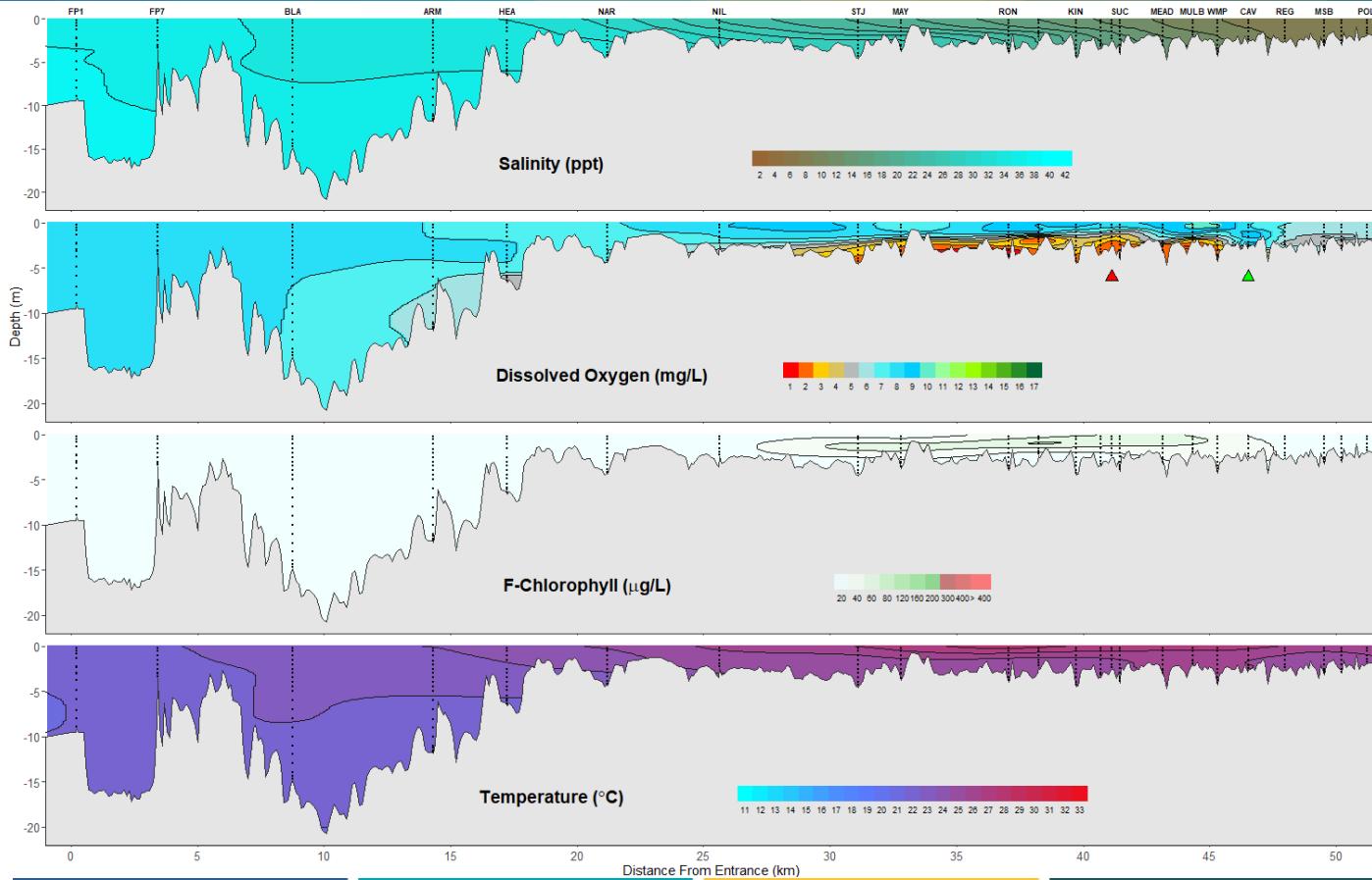
19th December 2022

Prepared by

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



Swan Canning Estuary - Water Quality Profiles - 19th December 2022





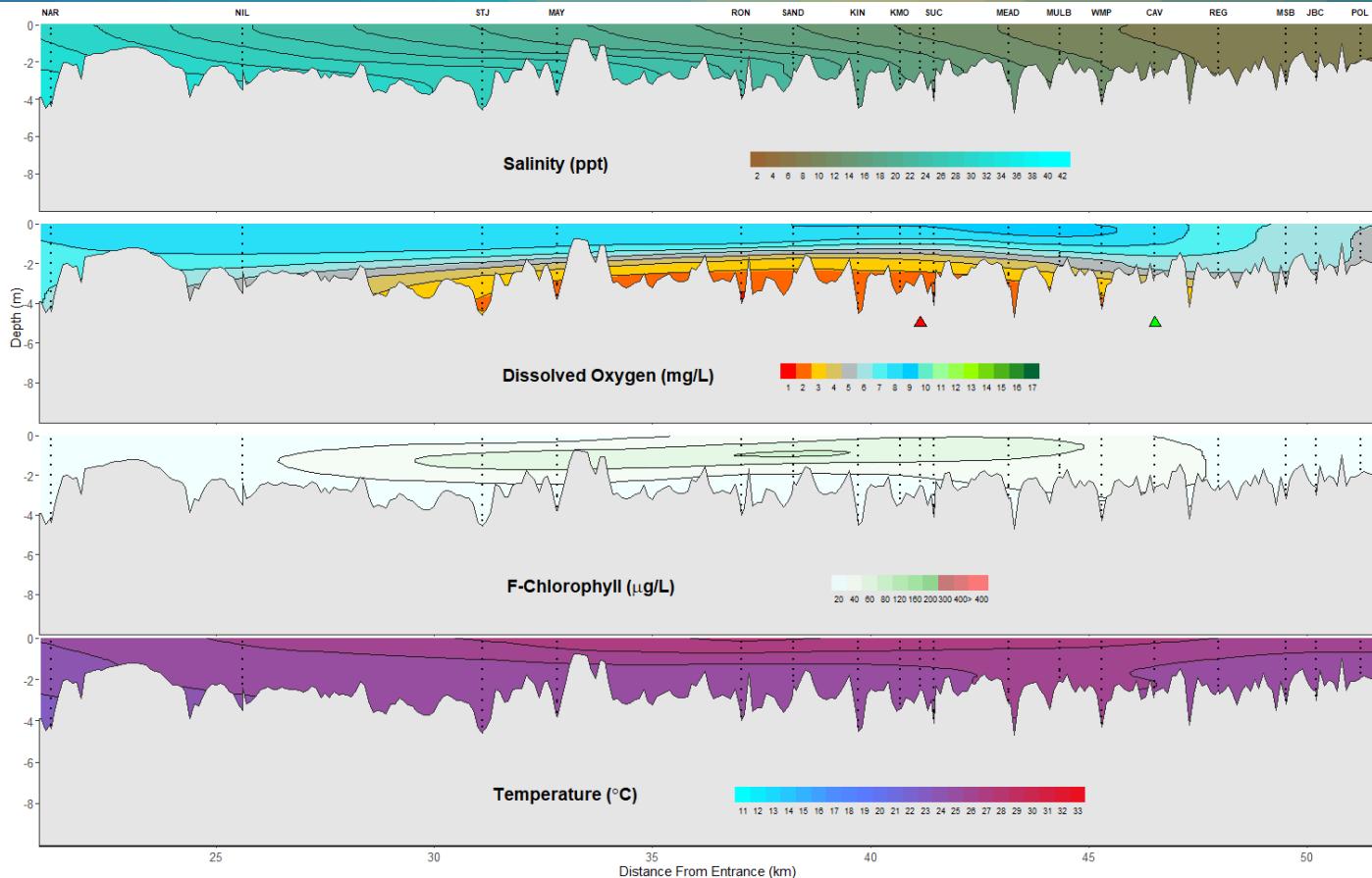
Department of Biodiversity,
Conservation and Attractions



Biodiversity and
Conservation Science

We're working for
Western Australia.

Middle and Upper Swan Estuary - Water Quality Profiles - 19th December 2022





Date: 19th December 2022

Weather & tide conditions: Conditions were sunny with a predominantly north easterly breeze of up to 9 knots. The predicted tides at Barrack St were 0.66 m at 7:18 am (low tide) and 1.06 m at 8:21 pm (high tide). Perth recorded 1 mm of rainfall in the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Caversham oxygenation plant was operable and provided oxygen in the 24 hours prior to sampling. The Guildford oxygenation plant was inoperable and did not provide oxygen in the 24 hours prior.

Lower Swan Canning Estuary (FP1 to NAR): The Lower Swan Canning Estuary was saline and waters were oxygenated or well oxygenated throughout. Chlorophyll fluorescence was low throughout and water temperature ranged from 21.1 to 23.9 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was brackish and waters were oxygenated or well oxygenated, except at the bottom waters of STJ and MAY, which were hypoxic, and bottom waters of RON which were anoxic. Chlorophyll fluorescence was low throughout and water temperature ranged from 24.4 to 27.3 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish throughout. Waters were oxygenated or well oxygenated at sites CAV - POL. Sites downstream of the Caversham oxygenation plant (WMP – SAND) all presented bottom waters which were hypoxic. Chlorophyll fluorescence was low throughout, except for within mid-column waters of SAND, KIN and MEAD, where it was moderate. Water temperature ranged from 24.3 to 27.2 °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 >35

Dissolved oxygen – 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 (mod/high flow): low < 60 µg L⁻¹, moderate 60-160 µg L⁻¹, high 160-400 µg L⁻¹, extreme > 400 µg L⁻¹