



Department of Biodiversity,
Conservation and Attractions



OFFICIAL
Biodiversity and
Conservation Science

We're working for
Western Australia.

Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

Lower Swan Canning Estuary to Upper Swan Estuary

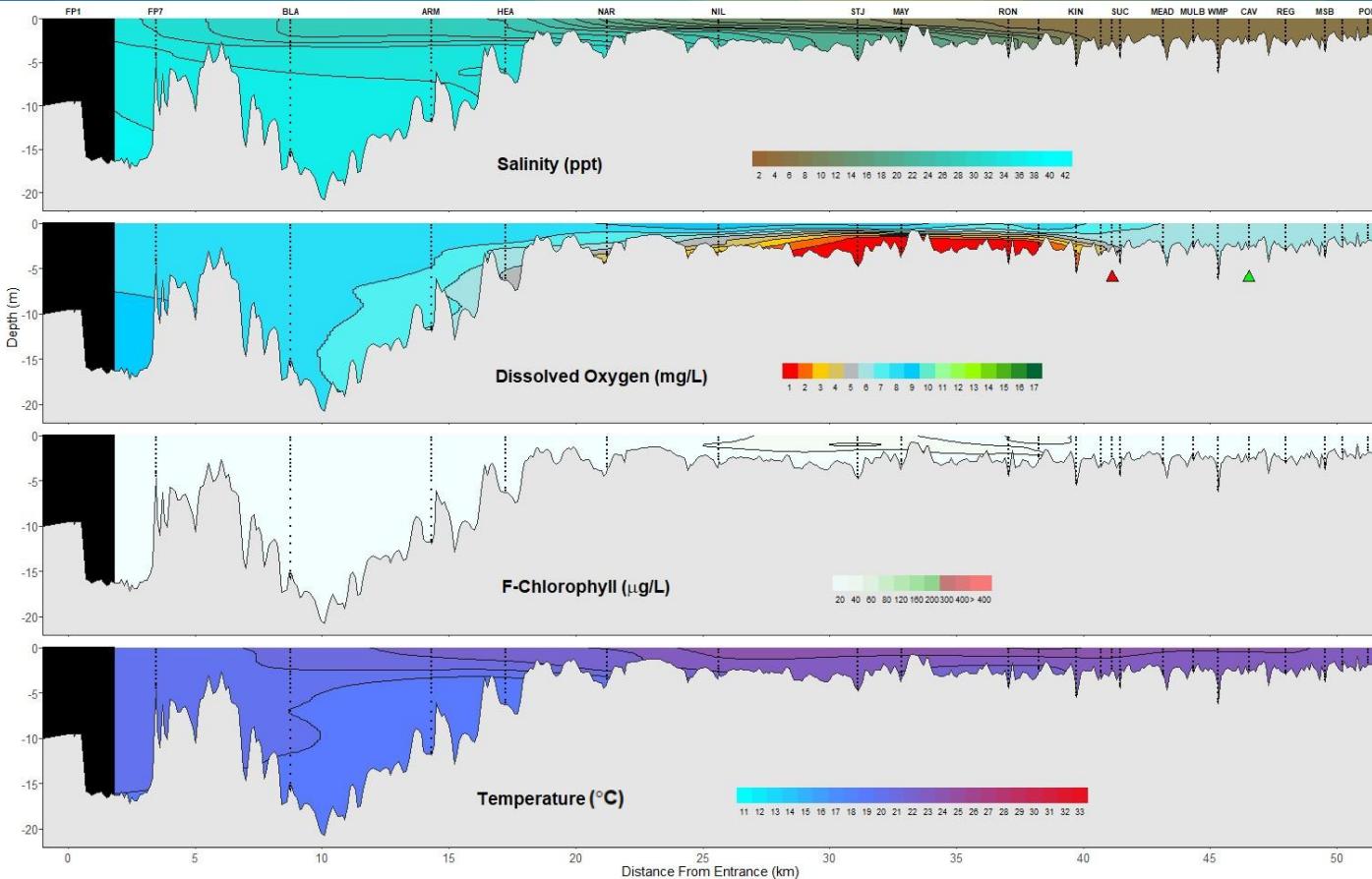
9th October 2023

Prepared by

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



Swan Canning Estuary - Water Quality Profiles – 9th October 2023





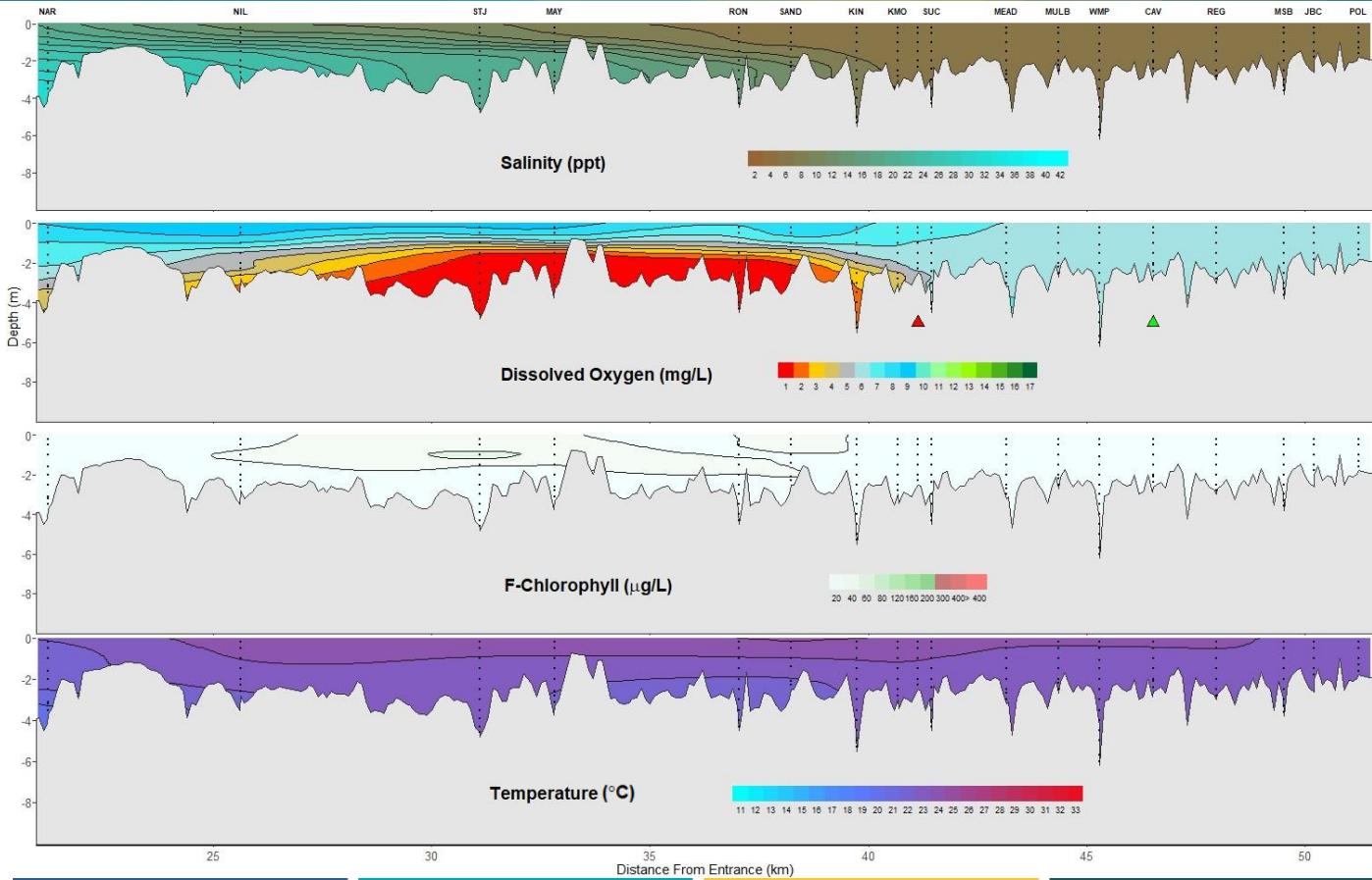
Department of Biodiversity,
Conservation and Attractions



OFFICIAL
Biodiversity and
Conservation Science

We're working for
Western Australia.

Swan Canning Estuary - Water Quality Profiles – 9th October 2023





Date: 9th October 2023

Weather & tide conditions: Conditions were clear with predominantly easterly breezes of up to 8.3 knots. The predicted tides at Barrack St were 0.91 m at 6:15 am (high tide) and 0.62 m at 4:34 pm (high tide). Perth recorded 1.8 mm of rainfall in the week prior to sampling (Bureau of Meteorology).

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

Lower Swan Canning Estuary (FP1 and NAR): The Lower Swan Canning Estuary was saline between FP7 and HEA and brackish over saline at NAR. Waters were oxygenated or well oxygenated, except for bottom waters at NAR which were low in oxygen. Chlorophyll fluorescence was low and water temperatures ranged from 18.4 °C to 22.0 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was brackish. Surface waters were oxygenated or well oxygenated and bottom waters between STJ and RON were low in oxygen to anoxic. Chlorophyll fluorescence was low and water temperatures ranged from 21.4 °C to 24.0 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish, except for SUC and JBC which were fresh over brackish. Waters were oxygenated or well oxygenated and bottom waters between SAND and KMO were low in oxygen or hypoxic. Chlorophyll fluorescence was low and water temperatures ranged from 21.3 °C to 24.5 °C.

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 < 50 µg L⁻¹, moderate 50-150 µg L⁻¹, high 150-400 µg L⁻¹, extreme > 400 µg L⁻¹

Recommended reference: Department of Biodiversity, Conservation and Attractions, 2023. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 9th September 2023. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)