



Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

Lower Swan Canning Estuary to Upper Swan Estuary

24 October 2022

Prepared by

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



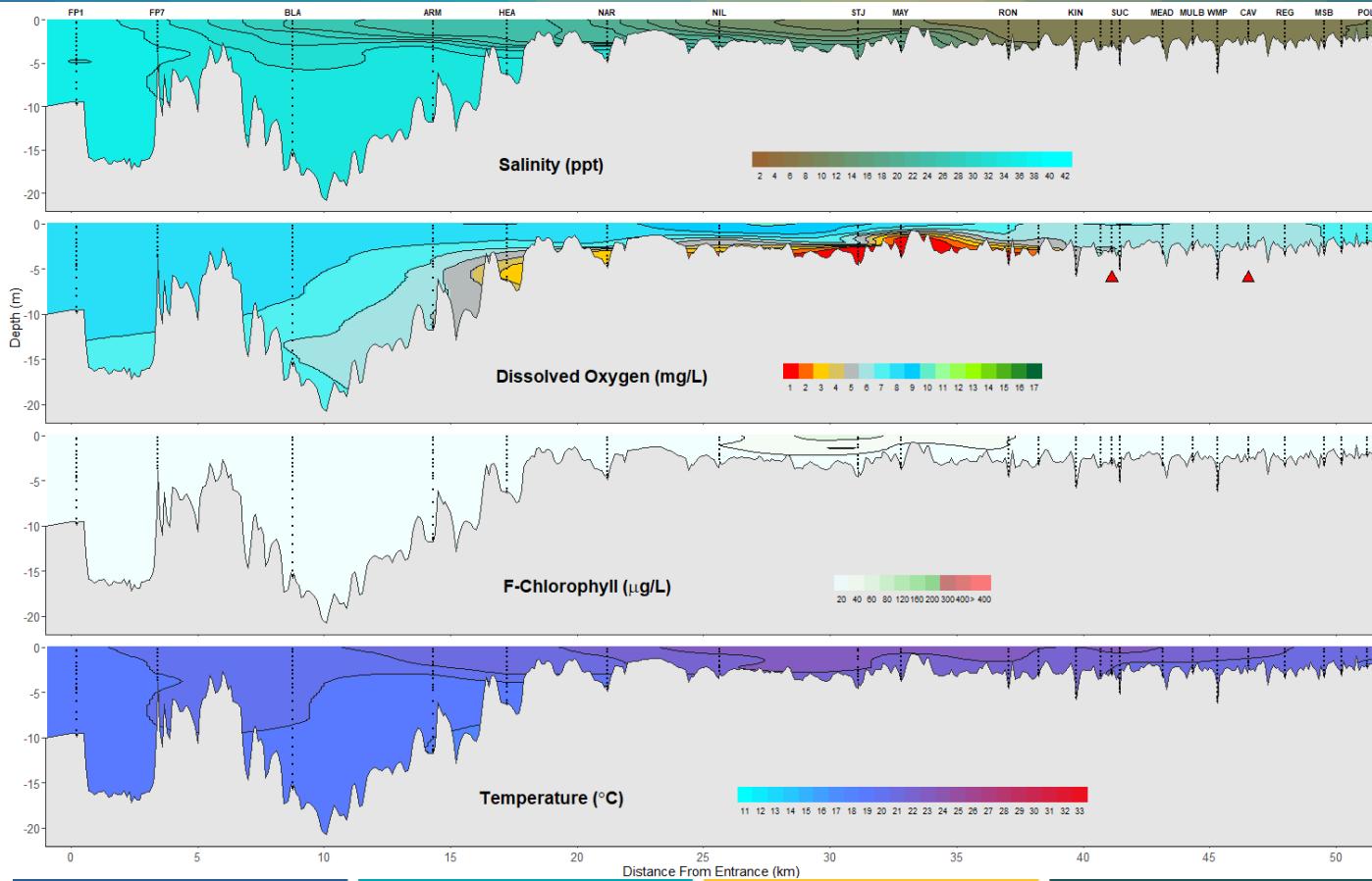
Department of Biodiversity,
Conservation and Attractions



Biodiversity and
Conservation Science

We're working for
Western Australia.

Swan Canning Estuary- Water Quality Profiles – 24 October 2022





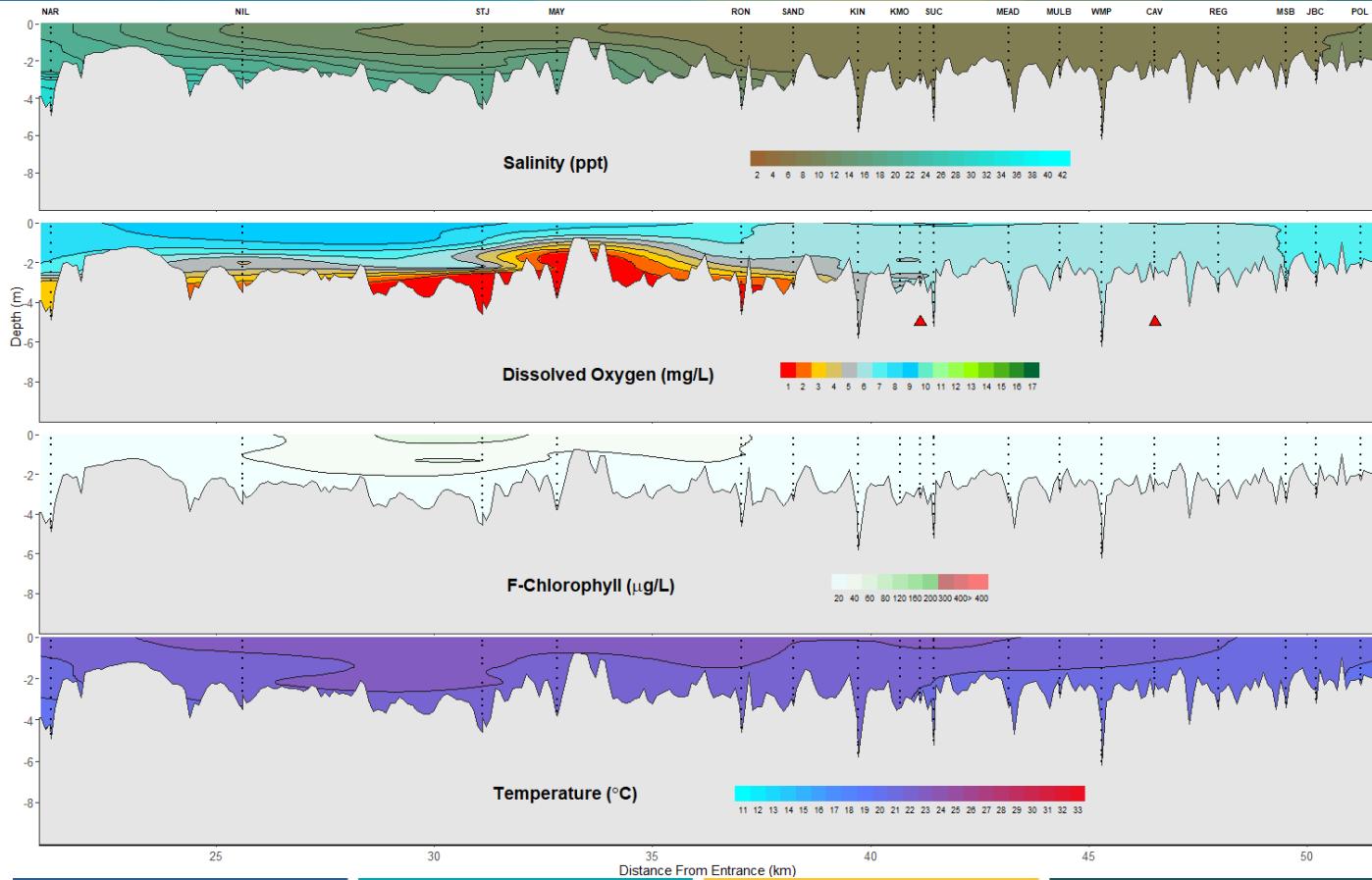
Department of Biodiversity,
Conservation and Attractions



Biodiversity and
Conservation Science

We're working for
Western Australia.

Middle and Upper Swan Estuary- Water Quality Profiles – 24 October 2022





Date: 24 October 2022

Weather & tide conditions: Conditions were overcast with a moderate south westerly breeze of up to 13 knots. The predicted tides at Barrack St were 0.67 m at 5:25 am (first low tide), 0.83 m at 11:19 am (high tide), and 0.74 at 3:53 pm (second low tide). Perth recorded 15.4 mm of rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford and Caversham oxygenation plants were both inoperable during the 24 hours prior to sampling.

Lower Swan Canning Estuary (FP1 to NAR): The Lower Swan Canning Estuary was saline over hypersaline at FP1, saline between FP7 and BLA, and brackish over saline from ARM to NAR. Waters were oxygenated or well oxygenated throughout except for bottom waters between HEA and NAR which were low in oxygen. Chlorophyll fluorescence was low throughout this zone and water temperature ranged from 18 to 21.3 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was brackish throughout. Waters were oxygenated or well oxygenated throughout, except for bottom waters at STJ and RON which were anoxic, and bottom waters at MAY which were hypoxic. Chlorophyll fluorescence was low throughout this zone and water temperature ranged from 21.2 to 22.6 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish and waters were oxygenated or well oxygenated throughout except for bottom waters at SAND which were low in oxygen. Chlorophyll fluorescence was low and temperature ranged from 20 to 23.1 °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

Recommended reference: Department of Biodiversity, Conservation and Attractions, 2022. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 24 October 2022. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)