



Department of Biodiversity,
Conservation and Attractions



Biodiversity and
Conservation Science

*We're working for
Western Australia.*

Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

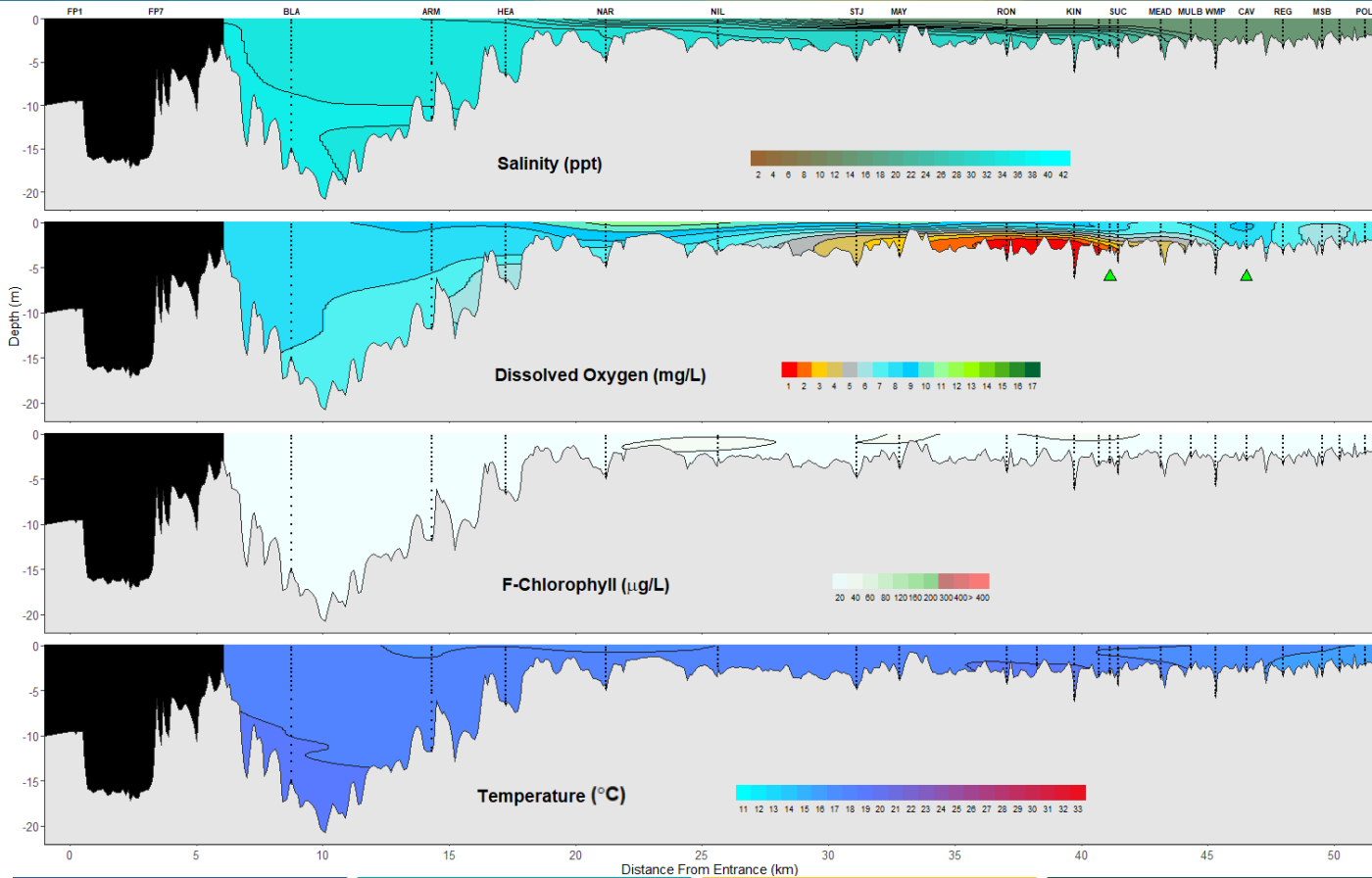
Lower Swan Canning Estuary to Upper Swan Estuary

15th May 2023

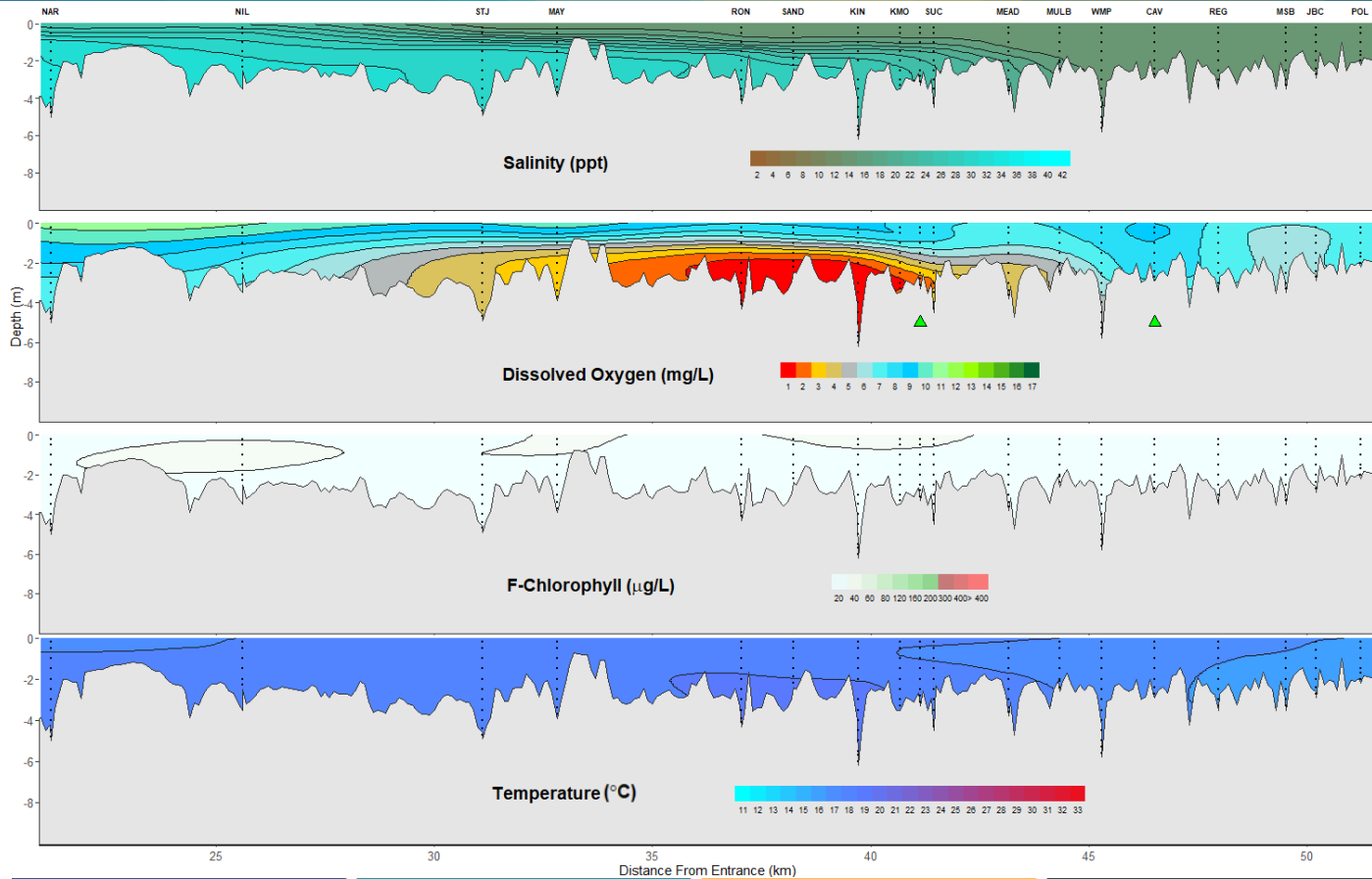
Prepared by

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

Swan Canning Estuary - Water Quality Profiles – 15th May 2023



Swan Canning Estuary - Water Quality Profiles – 15th May 2023



Date: 15th May 2023

Weather & tide conditions: Conditions were sunny with a variable northerly breeze of up to 4.4 knots. The predicted tides at Barrack St were 1.05 m at 10:26 am (high tide) and 0.95 at 4:24 pm (low tide). Perth recorded 13.4 mm of rainfall in the week prior to sampling (Bureau of Meteorology), with local runoff increasing stratification in all ecological management zones compared to last week.

Oxygenation: Both the Guildford and Caversham oxygenation plants were operable and provided oxygen in the 24 hours prior to sampling.

Lower Swan Canning Estuary (BLA to NAR): The Lower Swan Canning Estuary was saline between BLA and HEA, and brackish over saline at NAR. Waters were oxygenated to well oxygenated and chlorophyll fluorescence was low throughout. Water temperatures ranged from 16.4 °C to 18.2 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was brackish over saline throughout. Surface waters were oxygenated to well oxygenated throughout, while bottom to middle waters were hypoxic (STJ & MAY) to low in oxygen (RON). Chlorophyll fluorescence was low throughout and water temperatures ranged from 16 °C to 18.1 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish over saline between SAND and KIN, and brackish from KMO to POL. Surface waters and sites upstream of WMP were oxygenated to well oxygenated, while bottom waters were anoxic (SAND to KMO) to low in oxygen (SUC to MULB). Chlorophyll fluorescence was low except for the very surface waters of KMO, which showed moderate signals. Water temperatures ranged from 15.8 °C to 18.1 °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 (low flow): low < 50 µg L⁻¹, moderate 50-150 µg L⁻¹, high 150-400 µg L⁻¹, extreme > 400 µg L⁻¹