



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

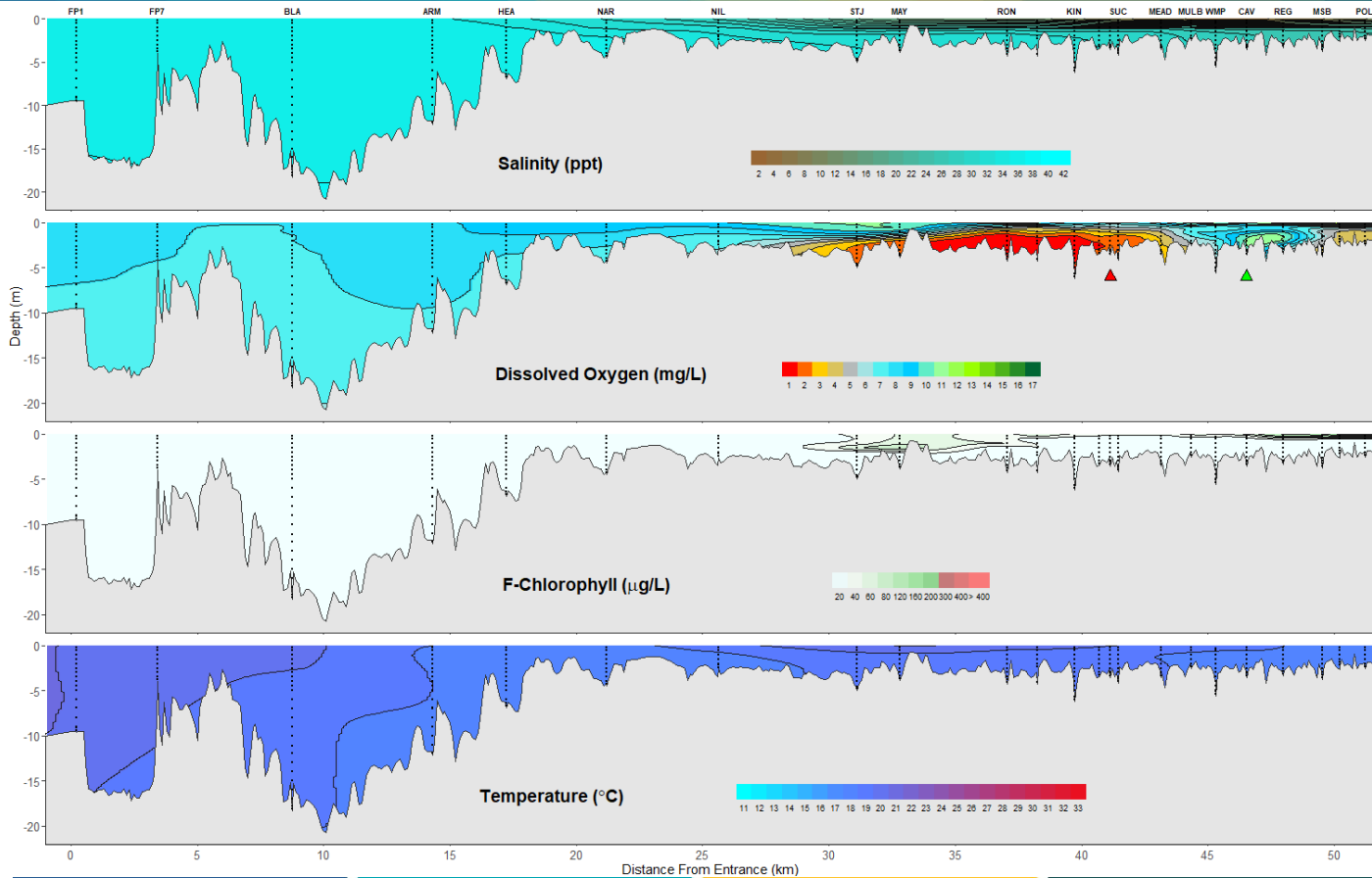
Lower Swan Canning Estuary to Upper Swan Estuary

4th June 2024

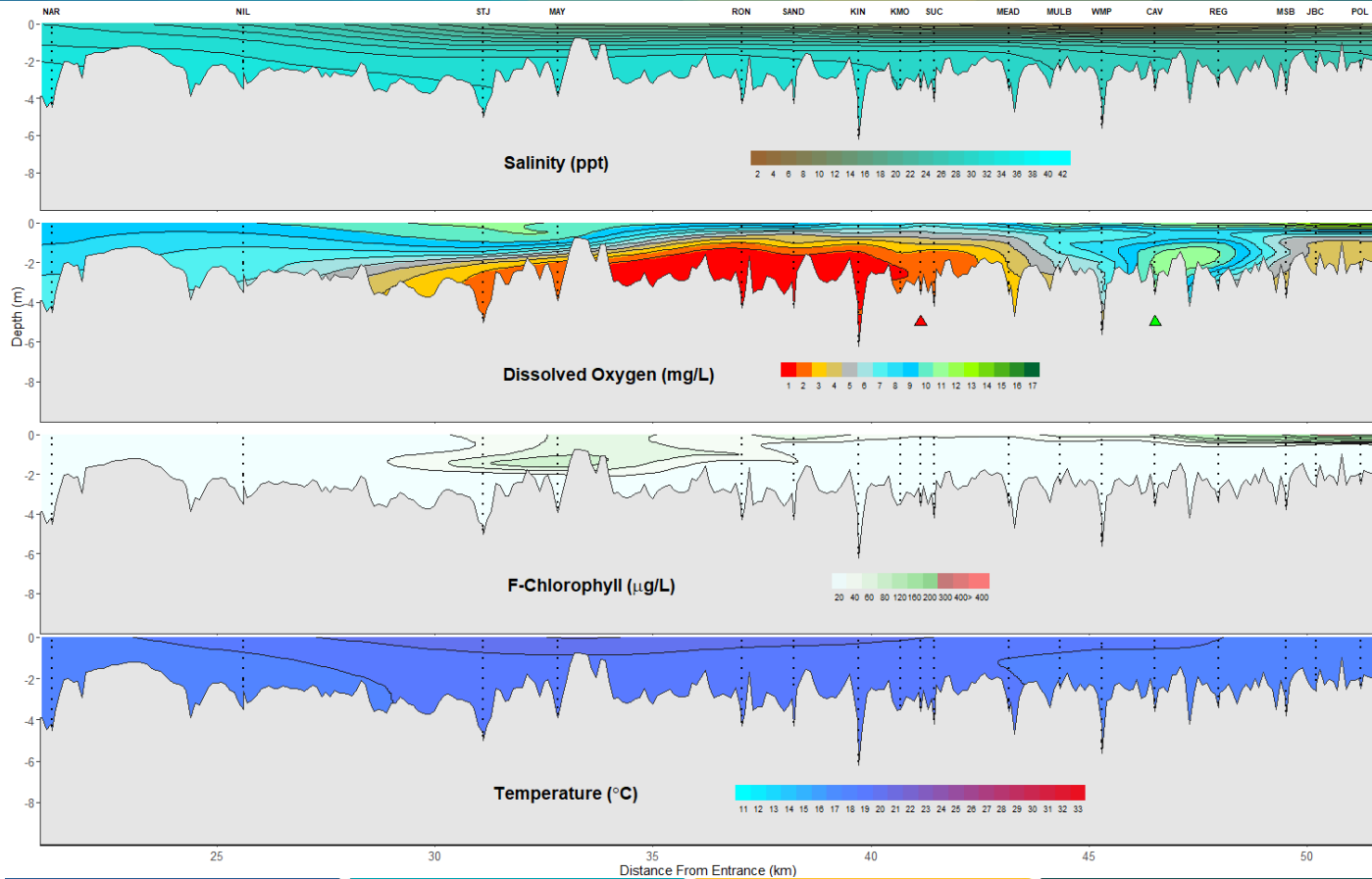
Prepared by

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

Swan Canning Estuary - Water Quality Profiles – 4th June 2024



Swan Canning Estuary - Water Quality Profiles – 4th June 2024



Date: 4th June 2024

Weather & tide conditions: Conditions were partly cloudy to overcast at times with a light north-northeasterly breeze of up to 6.8 knots. The predicted tides at Barrack St were 1.28 m at 9:28 am (high tide) and 0.75 m at 7:57 pm (low tide). Perth recorded 95 mm of rainfall in the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Caversham oxygenation plant was triggered to provide oxygen in the 24 hours prior to sampling, while the Guildford plant was offline and not operable during this window.

Lower Swan Canning Estuary (FPI to NAR): The Lower Swan Canning Estuary at FP1 was hypersaline over saline, FP7 and BLA were hypersaline, ARM and HEA were saline over hypersaline, while NAR was saline. Waters were oxygenated or well oxygenated and chlorophyll fluorescence was low. Water temperatures ranged from 17.6 to 19.9 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline at NIL, and brackish over saline from STJ - RON. Subsurface/bottom waters at STJ - MAY recorded low/hypoxic oxygen levels while much of the water column at RON was anoxic. chlorophyll fluorescence was overall low, except for moderate levels in the subsurface at STJ and MAY. Water temperatures ranged from 17.7 to 19.8 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish over saline except for WMP which was fresh over saline, and POL which was brackish throughout. Surface waters were well oxygenated to oxygenated throughout. Subsurface/bottom waters experienced hypoxia from SAND - SUC and low oxygen levels at MEAD, WMP, MSB and all sites upstream. Chlorophyll fluorescence was low from SAND - CAV, and moderate in the surface from REG - POL. Water temperatures ranged from 17.2 to 19.5 °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 (low flow): low < 50 µg L⁻¹, moderate 50-150 µg L⁻¹, high 150-400 µg L⁻¹, extreme > 400 µg L⁻¹