

Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

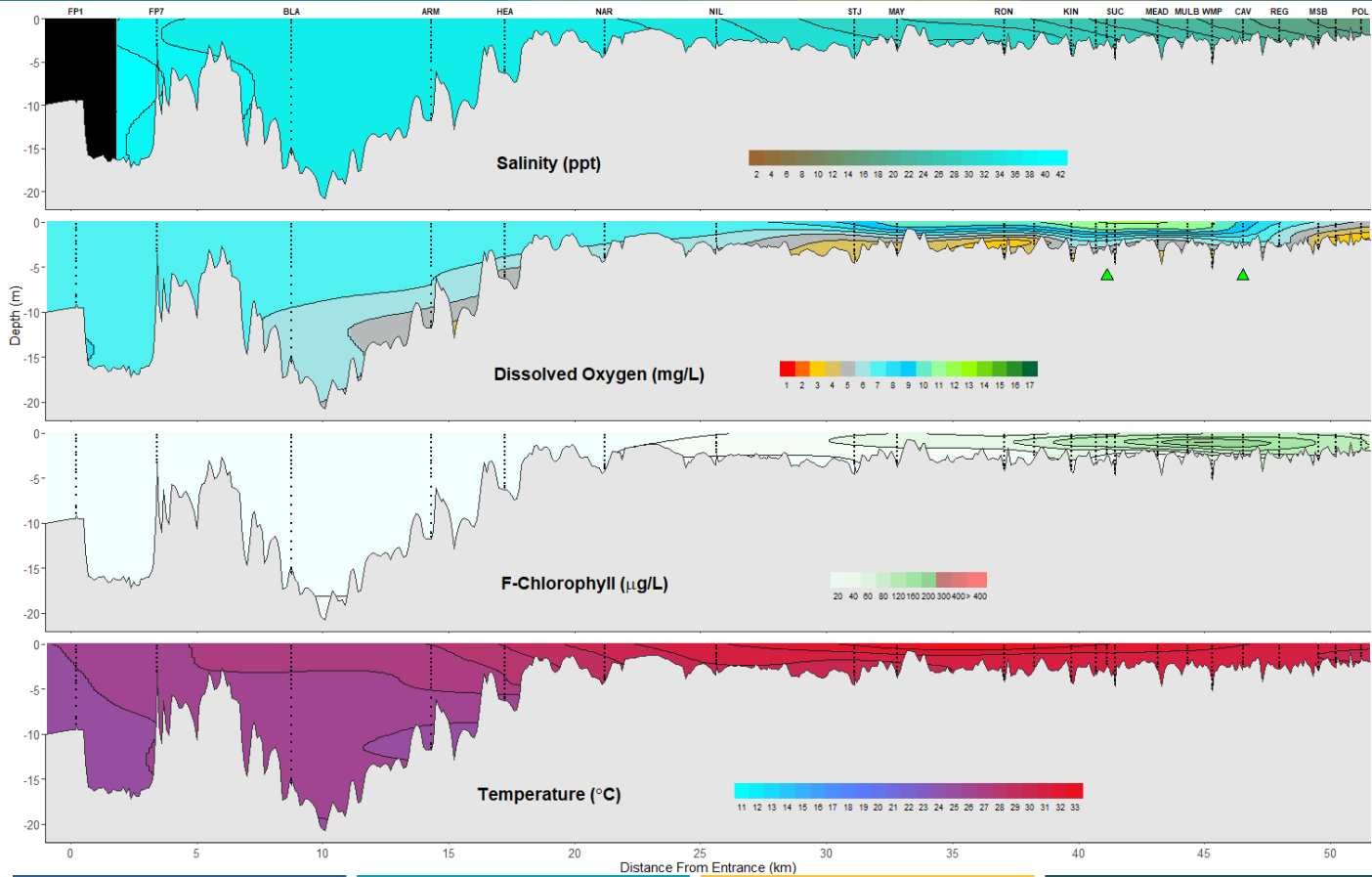
Lower Swan Canning Estuary to Upper Swan Estuary

15th January 2024

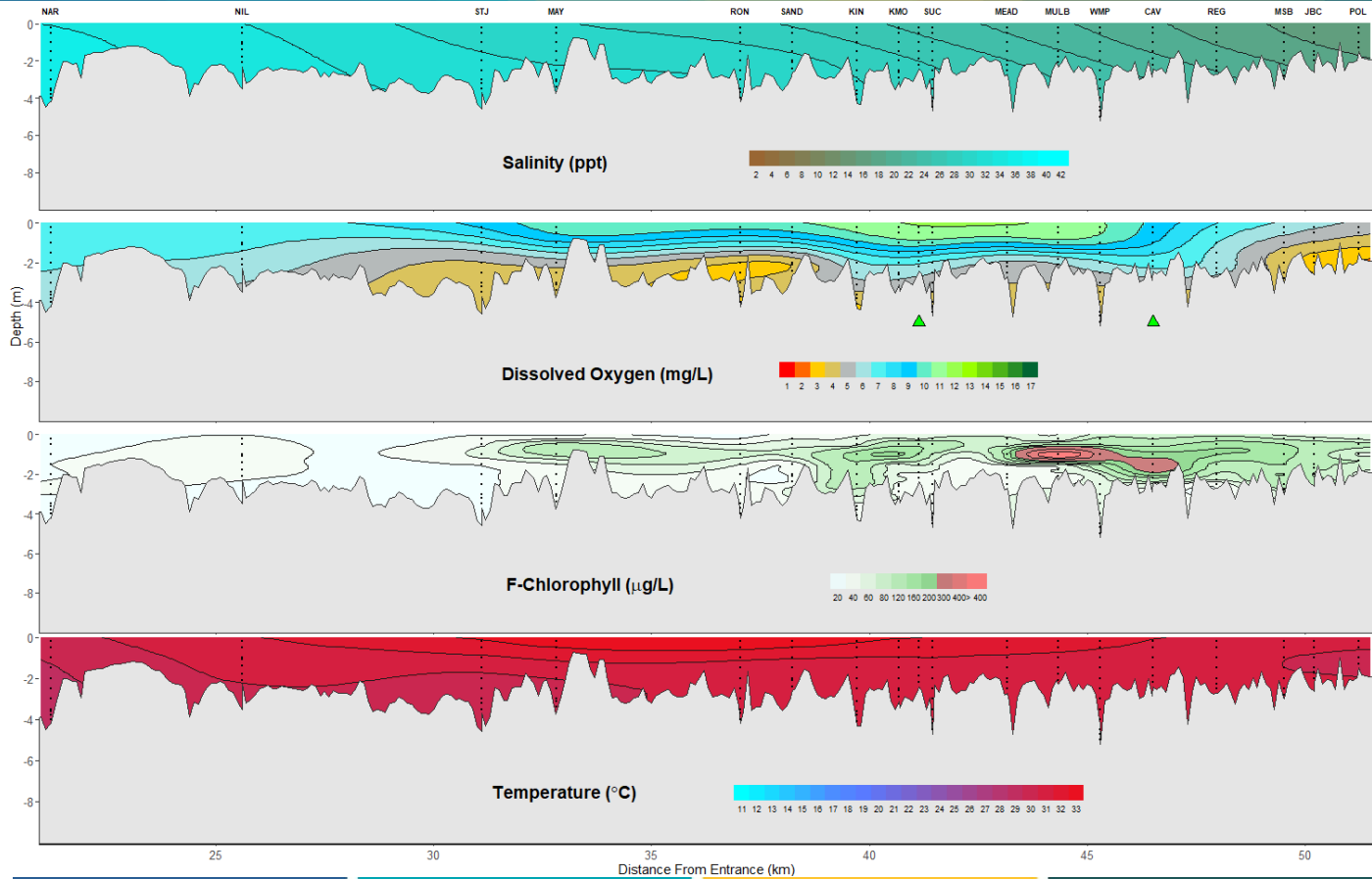
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Swan Canning Estuary - Water Quality Profiles – 15th January 2024



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Date: 15th January 2024

Weather & tide conditions: Conditions were sunny with a variable breeze of up to 11 knots. The predicted tides at Barrack St were 1.07 m at 12:54 am (high tide) and 0.59 m at 10:34 am (low tide). Perth recorded 1.8 mm of rainfall in the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford and Caversham oxygenation plants were triggered to provide oxygen in the 24 hours prior to sampling.

Lower Swan Canning Estuary (BLA to NAR): The Lower Swan Canning Estuary was saline and waters were oxygenated to well oxygenated, except for the bottom water at ARM which was low in oxygen. Chlorophyll fluorescence was low and water temperatures ranged from 24.4 to 29.6 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline. Waters were oxygenated to well oxygenated, except for bottom waters from STJ to RON which were low in oxygen. Chlorophyll fluorescence was moderate in surface waters of MAY and both surface and subsurface waters of STJ. Water temperatures ranged from 29.7 to 33.1 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was saline between SAND and KIN, brackish over saline from KMO to SUC and brackish from MEAD to POL. Waters were oxygenated to well oxygenated, except bottom waters at SAND which were hypoxic and at KIN, SUC and WMP and from MSB to POL which were low in oxygen. Chlorophyll fluorescence was moderate in surface, subsurface or bottom waters at each site in the upper estuary, high in subsurface waters at KMO, WMP and REG and both subsurface and bottom waters at CAV and extreme in subsurface waters at MULB. Water temperatures ranged from 29.8 to 32.3 °C.

NB: Profile plots are visual interpolations of measured parameters only. Detailed data are available at wir.water.wa.gov.au.

Salinity data was not collected at FP1 due to a technical issue.

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, 2024. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 15th January 2024*. Rivers and Estuaries Science (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)