



Department of Biodiversity,
Conservation and Attractions



Biodiversity and
Conservation Science

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Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

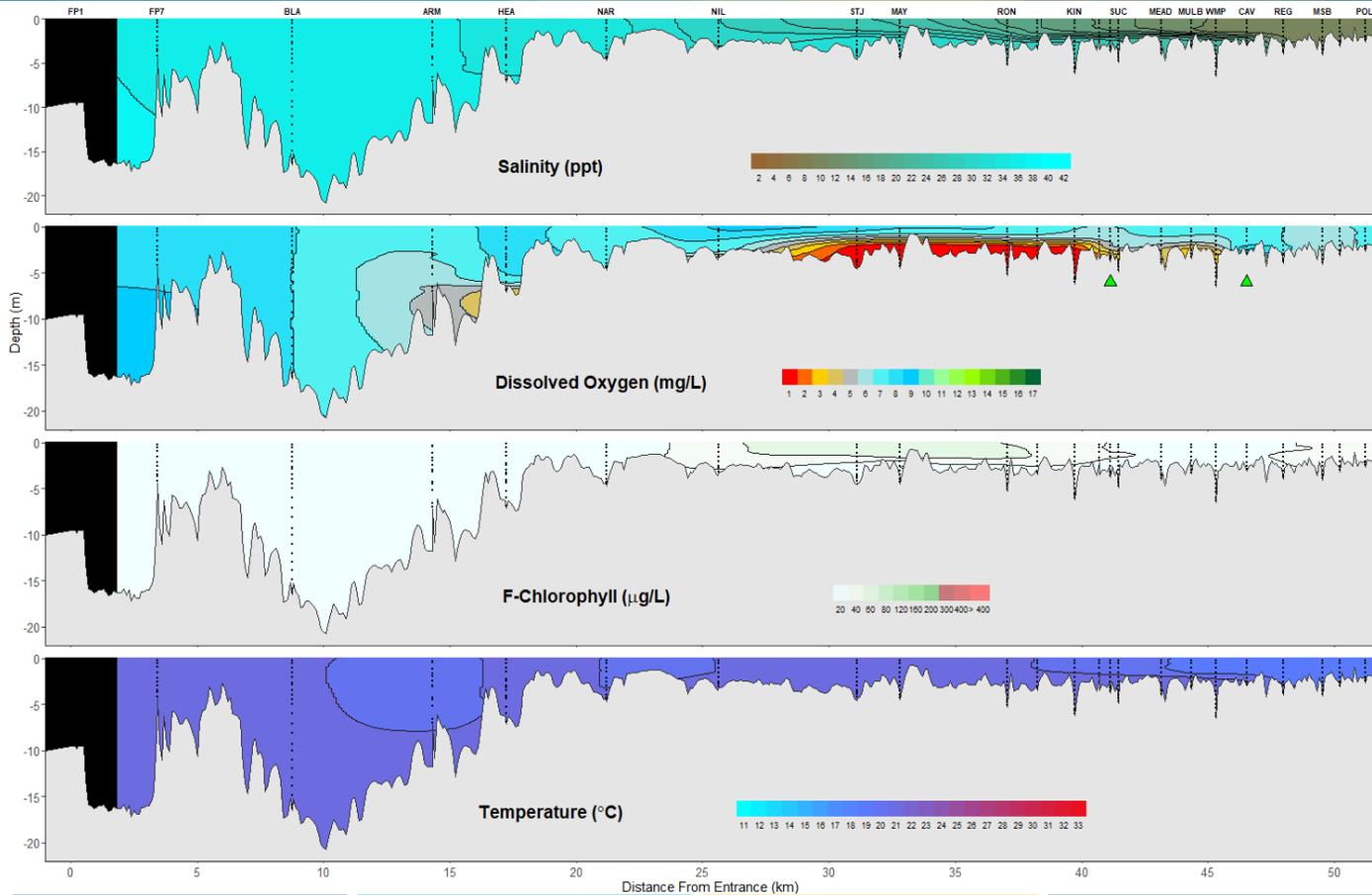
Lower Swan Canning Estuary to Upper Swan Estuary

24th April 2023

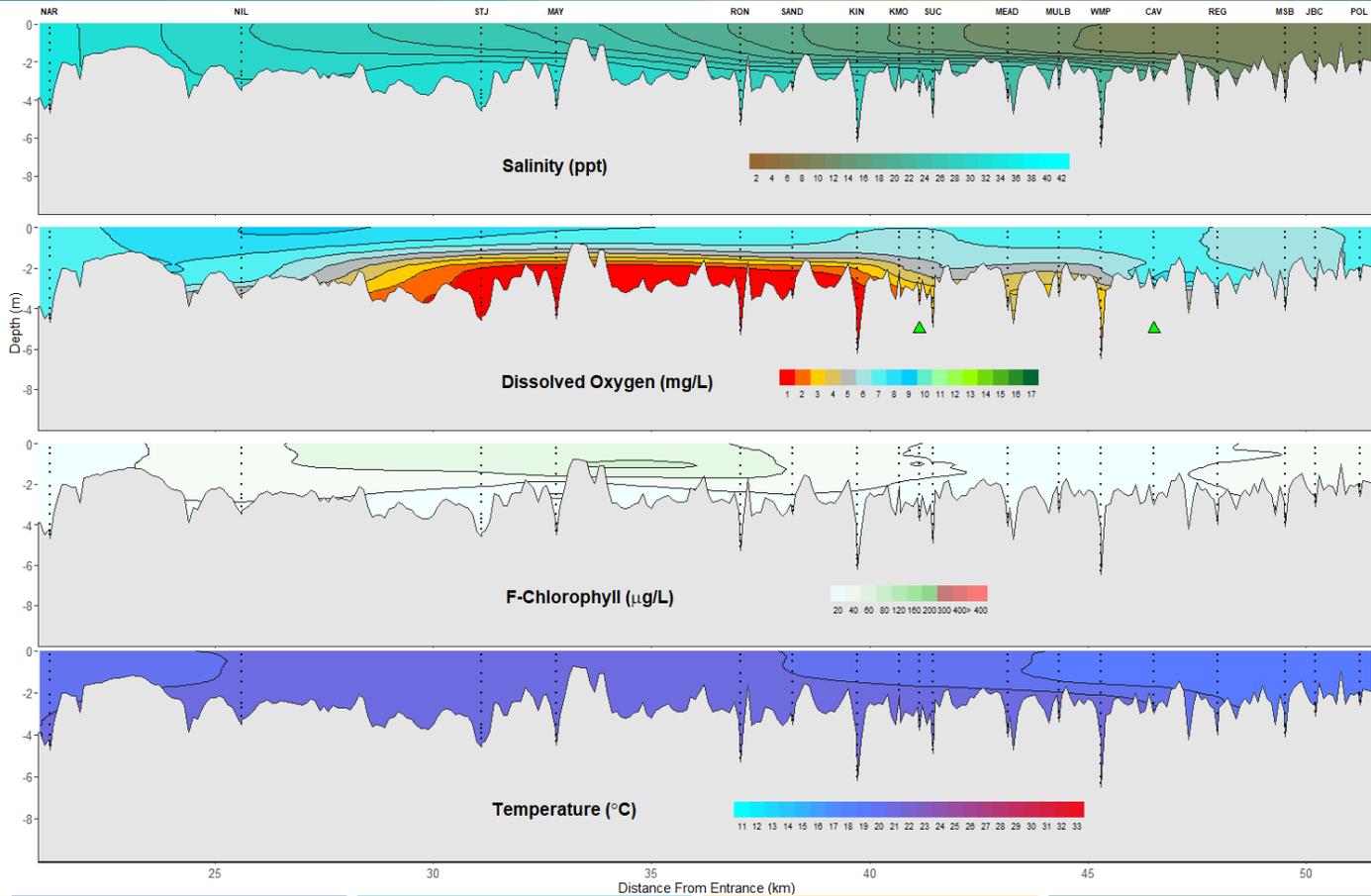
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Swan Canning Estuary - Water Quality Profiles – 24th April 2023



Swan Canning Estuary - Water Quality Profiles – 24th April 2023



Date: 24th April 2023

Weather & tide conditions: Conditions were overcast with a predominantly westerly breeze of up to 18 knots. The predicted tides at Barrack St were 0.7 m at 12:41 am (low tide) and 1.23 m at 1:11 pm (high tide). Perth recorded 3.0 mm of rainfall in the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford and Caversham oxygenation plants were both operable and providing oxygen in the 24 hours prior to sampling.

Lower Swan Canning Estuary (FP2.2 to NAR): The Lower Swan Canning Estuary was hypersaline at BLA and downstream, and saline from ARM to NAR. Waters in this zone were oxygenated to well oxygenated throughout except for bottom waters of HEA which were low in oxygen. Chlorophyll fluorescence low throughout and water temperatures ranged from 19.7 °C to 20.4 °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 to RON. Surface waters were oxygenated to well oxygenated whereas deeper waters were anoxic from STJ to RON. Chlorophyll fluorescence was moderate in the surface waters between STJ and RON. Water temperatures ranged from 20 °C to 20.7 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish over saline from SAND to SUC and brackish from MEAD to POL. Surface waters and sites upstream of CAV were oxygenated to well oxygenated, whereas bottom waters at sites downstream of CAV were low in oxygen (KMO, SUC and MEAD), hypoxic (WMP), and anoxic (SAND, KIN, VIT). Chlorophyll fluorescence was low and water temperatures ranged from 18.5 °C to 20.8 °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