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Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

Lower Swan Canning Estuary to Upper Swan Estuary

28 February 2022

Prepared by

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



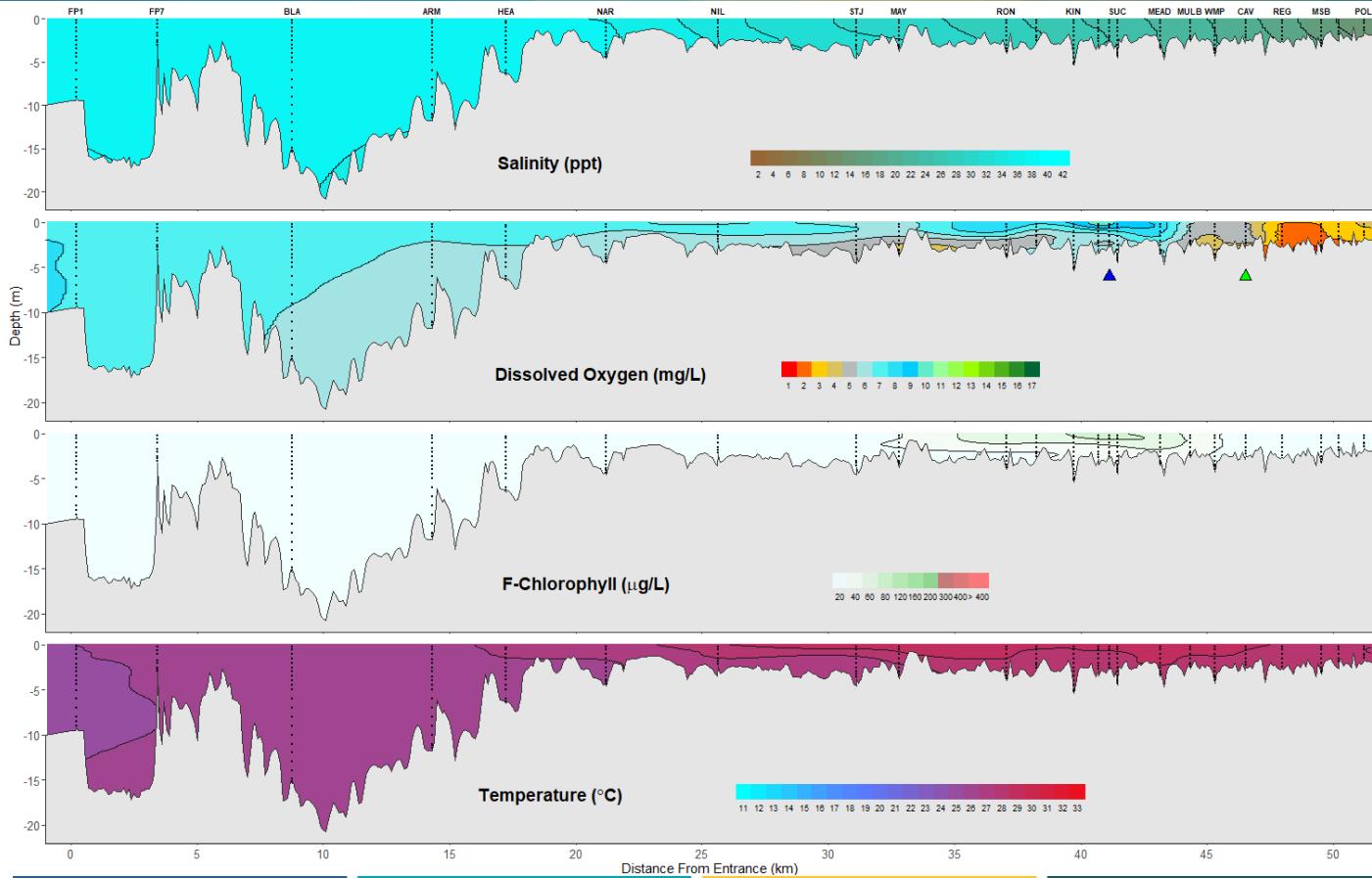
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Swan Canning Estuary- Water Quality Profiles – 28 February 2022





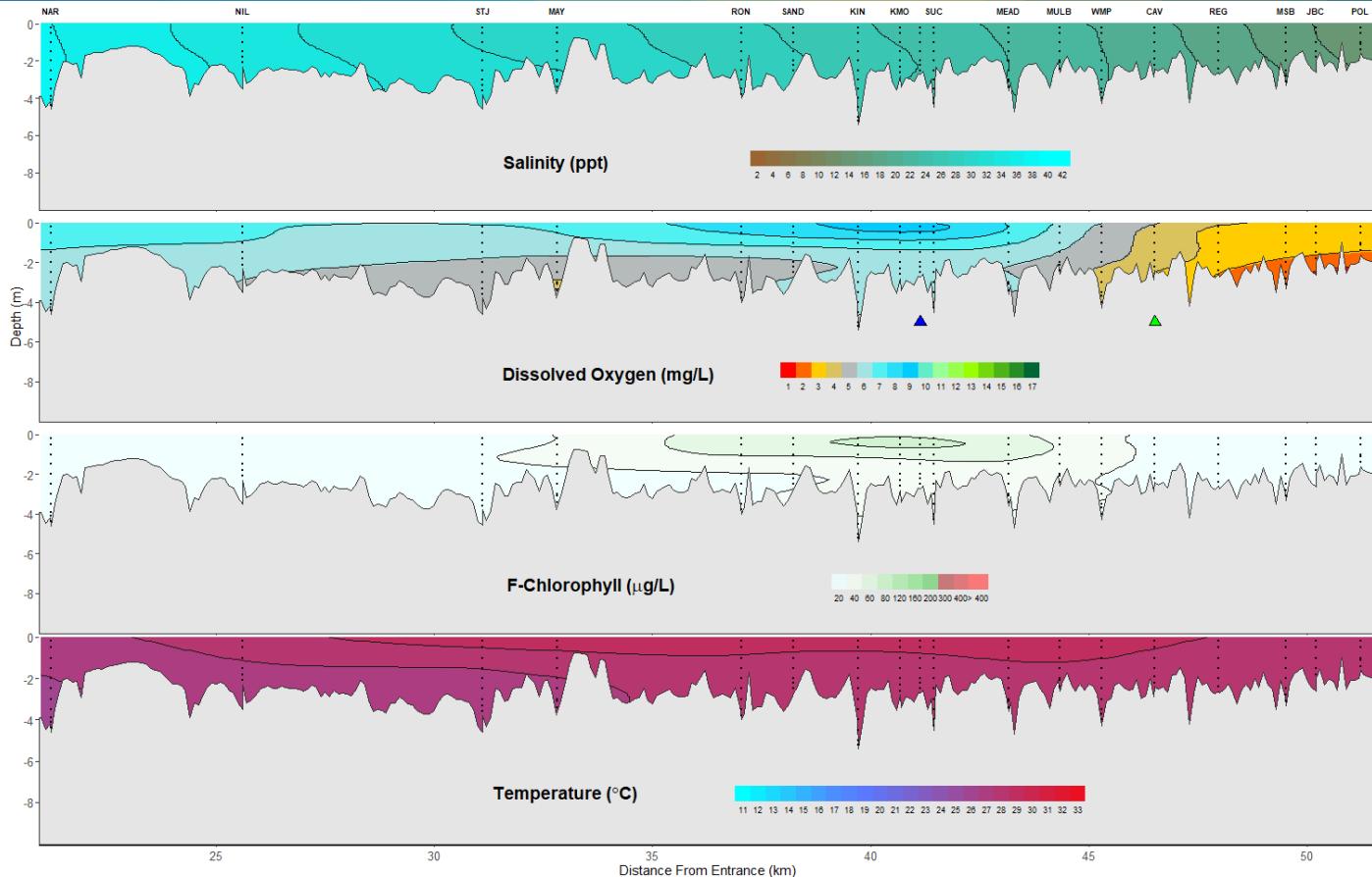
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Middle and Upper Swan Estuary- Water Quality Profiles – 28 February 2022





Date: 28 February 2022

Weather & tide conditions: Conditions were clear with an easterly breeze of up to 7 knots. The predicted tides at Barrack St were 0.51 m at 7:26 am (low tide) and 1.17 m at 9:45 pm (high tide). Perth recorded 0.8 mm of rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford oxygenation plant was not triggered and the Caversham oxygenation plant was triggered to provide oxygen during the 24 hours prior to sampling.

Lower Swan Canning Estuary (FP1 to NAR): The Lower Swan Canning Estuary was saline, waters were oxygenated or well oxygenated and chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 24.6 to 26.3 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline. Surface waters were well oxygenated and bottom waters were oxygenated at NIL, STJ and RON, and low in oxygen at MAY. Chlorophyll fluorescence was moderate at RON indicating higher microalgal activity in that area. Water temperature ranged from 26.5 to 28.6 °C.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was saline at SAND and brackish from KIN to POL. Surface waters were oxygenated or well oxygenated from SAND to CAV, hypoxic at REG and low in oxygen from MSB to POL. Bottom waters were low in oxygen from MULB to WMP, hypoxic at REG to MSB and low in oxygen from JBC to POL. Chlorophyll fluorescence was moderate from VIT to MEAD indicating higher microalgal activity in those areas. Water temperature ranged from 27.0 to 28.9 °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 (summer): 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 2021. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 28 February 2022. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)