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Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

Lower Swan Canning Estuary to Upper Swan Estuary

24 May 2022

Prepared by

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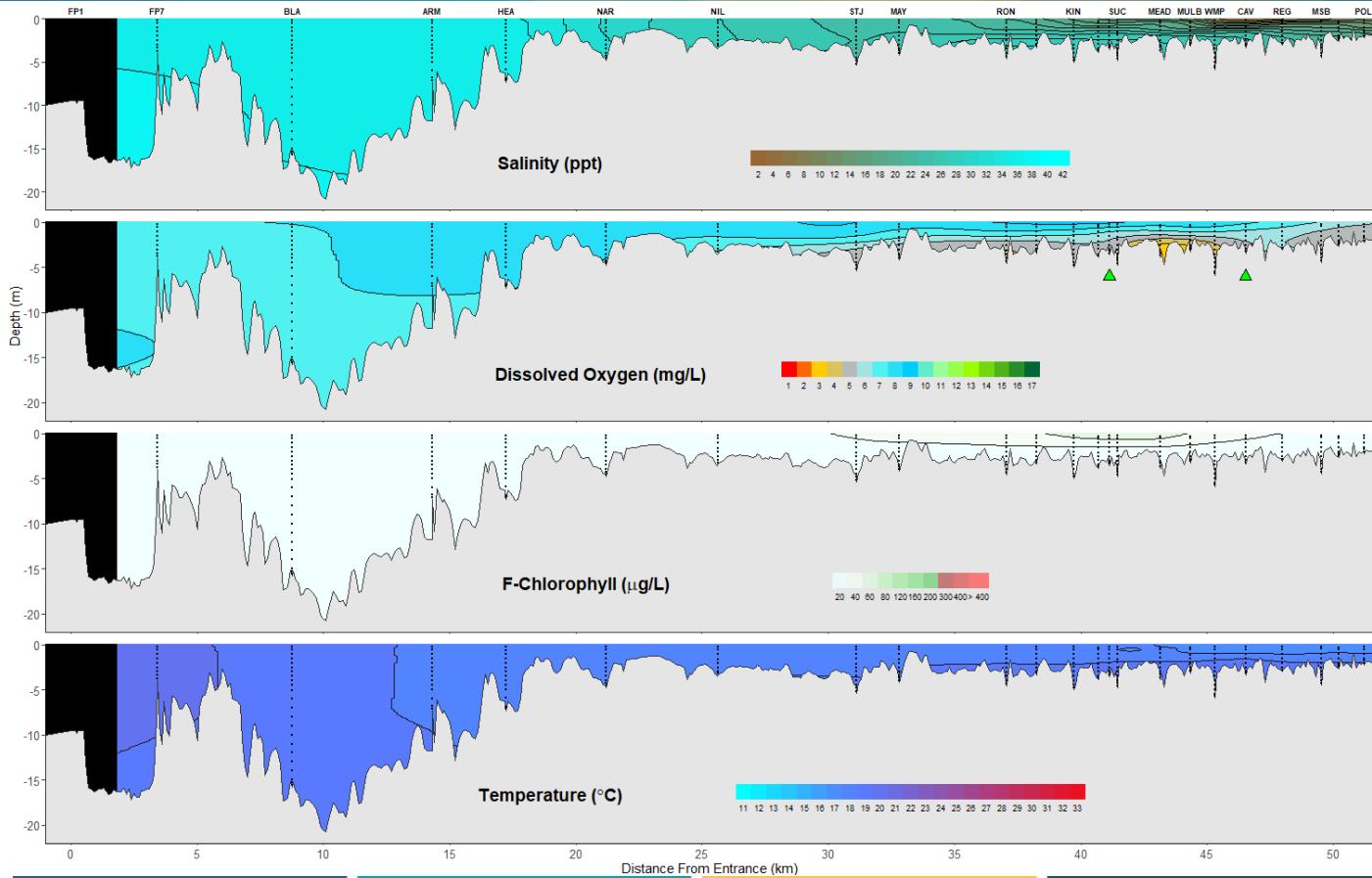
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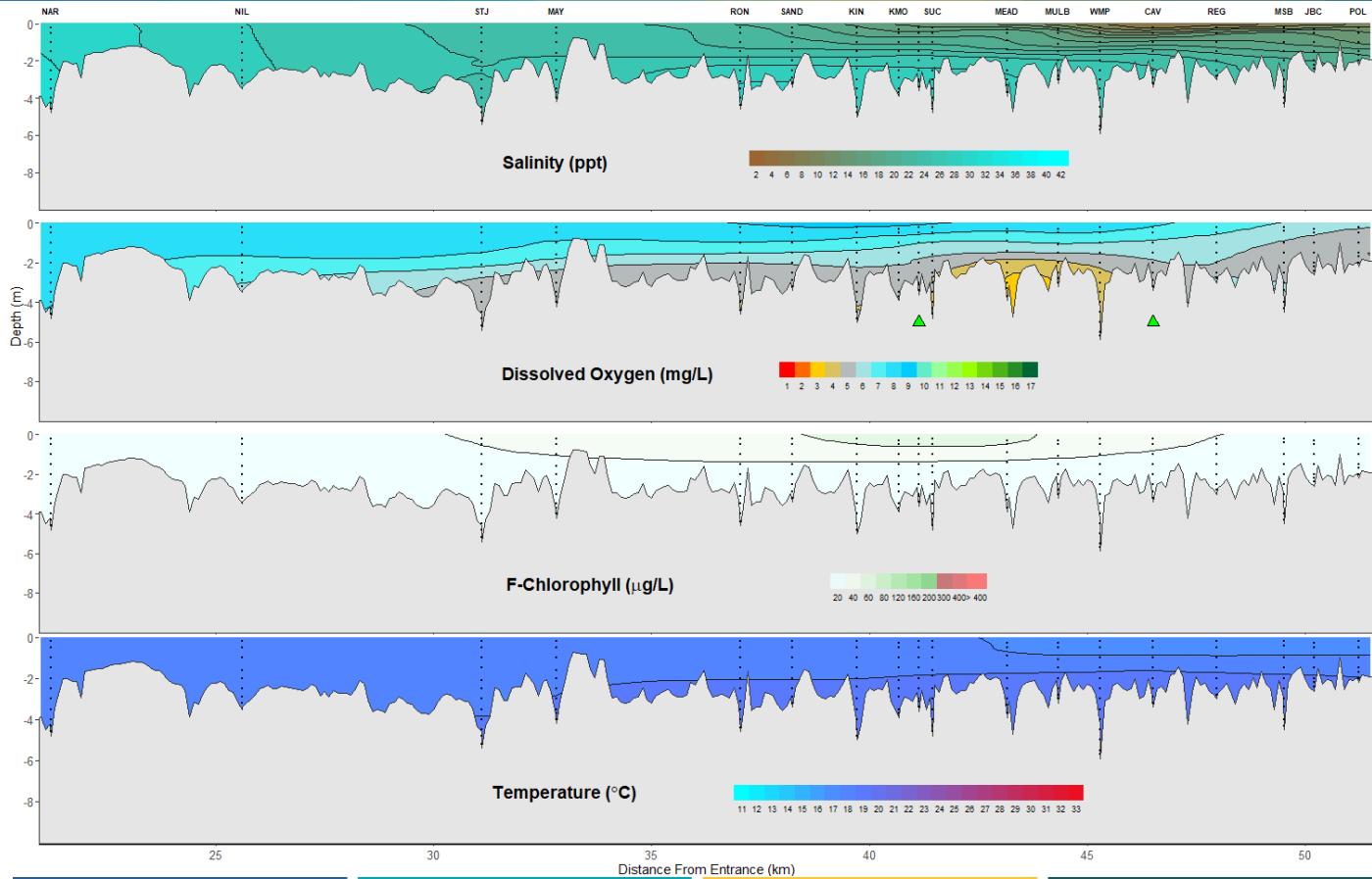
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Swan Canning Estuary- Water Quality Profiles – 24 May 2022





Middle and Upper Swan Estuary- Water Quality Profiles – 24 May 2022





Date: 24 May 2022

NB: Sampling delayed due to inclement weather on Monday (24 May 2022) and FP1 was unable to be sampled on the day of sampling (25 May 2022) due to very high swell.

Weather & tide conditions: Conditions were partly cloudy with a moderate westerly breeze of up to 17 knots. The predicted tides at Barrack St were 0.79 m at 2:57 am (low tide) and 1.05 m at 11:44 am (high tide). Perth recorded 63 mm of rainfall in the week prior to sampling (Bureau of Meteorology).

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

Lower Swan Canning Estuary (FP7 to NAR): The Lower Swan Canning Estuary was hypersaline from FP7 to ARM, saline over hypersaline at HEA and saline at NAR. Waters were well oxygenated throughout this zone. Water temperature ranged from 17.2 to 19.3 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline at NIL, brackish between STJ and MAY and brackish over saline at RON. Waters were oxygenated or well oxygenated throughout except for bottom waters at RON which were low in oxygen. Water temperature ranged from 17.4 to 18.6 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish over saline from SAND to WMP and brackish from CAV to POL. Waters were oxygenated or well oxygenated throughout except for bottom waters from SUC to WMP which were low in oxygen. Chlorophyll fluorescence was moderate in surface waters at KMO, MEAD and CAV indicating higher microalgal activity in that area. Water temperature ranged from 16.5 to 18.6 °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 (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, 2022. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 24 May 2022. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)