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Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

Lower Swan Canning Estuary to Upper Swan Estuary

24th May 2021

Prepared by

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Department of Biodiversity, Conservation and Attractions



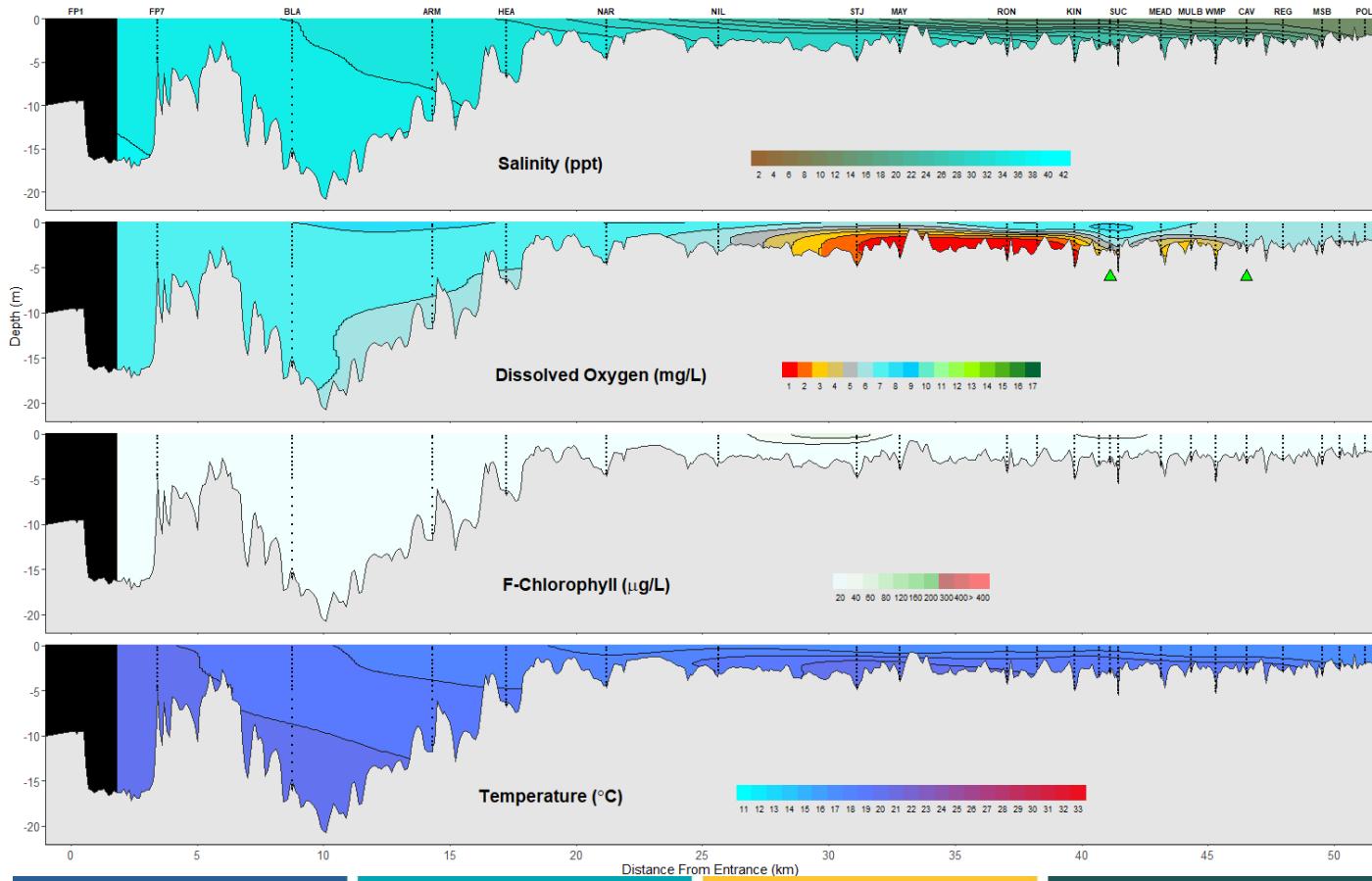
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Swan Canning Estuary- Water Quality Profiles- 24th May 2021





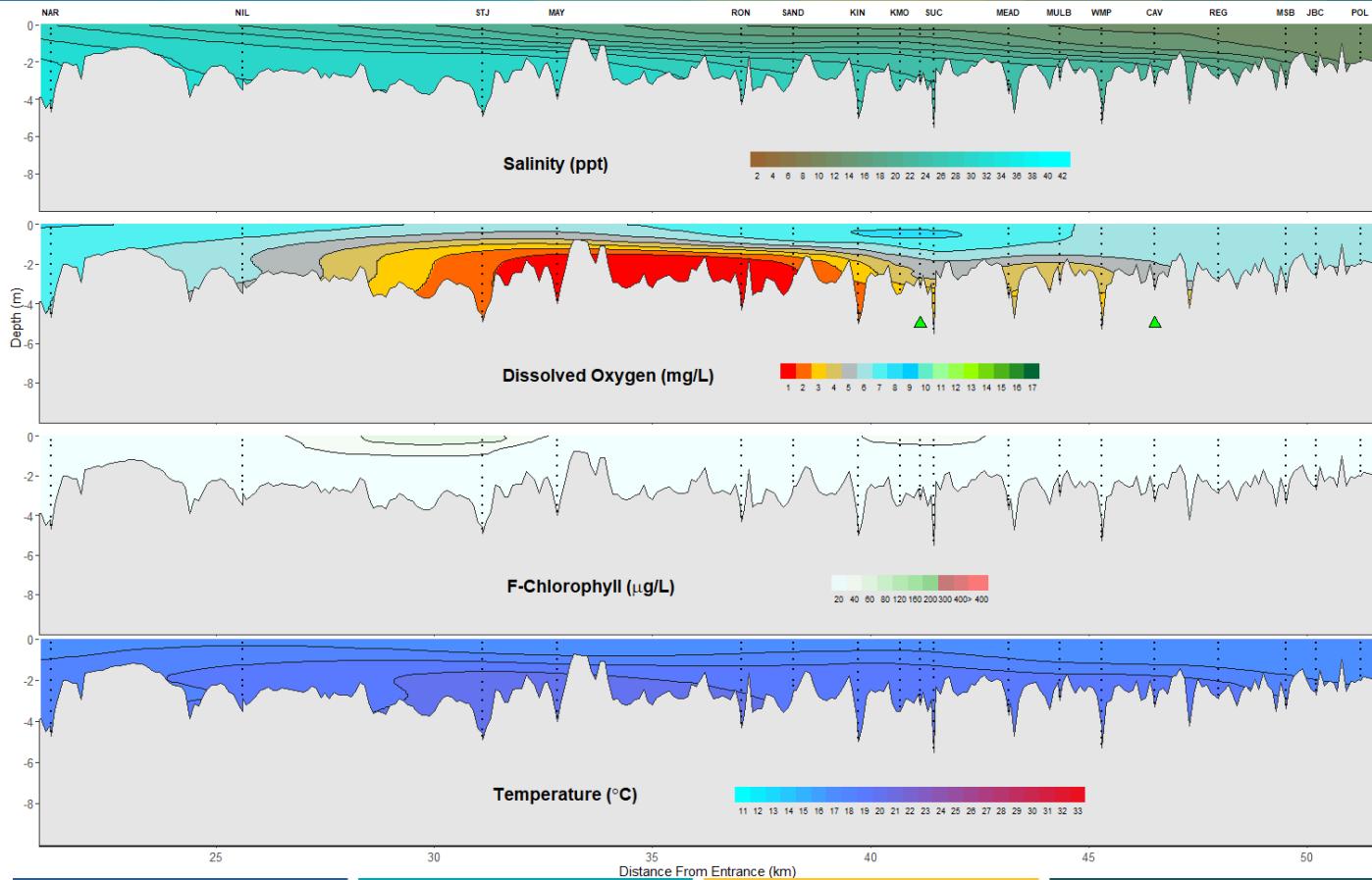
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Middle and Upper Swan Estuary- Water Quality Profiles- 24th May 2021





Date: 24th May 2021

Weather & tide conditions: Conditions were overcast with an northerly breeze of up to 5 knots. The predicted tides at Barrack St were 0.91 m at 2:35 am (low tide), 1.19 m at 10:00 am (high tide) and 0.82 m at 6:36 pm (second low tide). Perth recorded 21 mm of rainfall during the week prior to sampling (Bureau of Meteorology).

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

Lower Swan Canning Estuary (BLA 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 16.5 to 19.3 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline at NIL and brackish over saline between STJ and RON. Surface waters were oxygenated or well oxygenated and bottom waters were hypoxic from STJ to MAY and anoxic at RON. Chlorophyll fluorescence was highest at STJ indicating higher microalgal activity in that area. Water temperature ranged from 16.4 to 19.3 °C.

Upper Swan Estuary (SANDBR to POL): The Upper Swan Estuary was brackish over saline from SANDBR to KMO and brackish from KIN to POL. Surface waters were oxygenated or well oxygenated. Bottom waters were low in oxygen at MEAD, MULB and WMP, hypoxic at SANDBR and KMO and anoxic at KIN. Chlorophyll fluorescence was highest at SUC indicating higher microalgal activity in that area. Water temperature ranged from 16.3 to 19.0 °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 >6mg/L, oxygenated >4-6mg/L, low oxygen >2-4mg/L, hypoxic 0.5-2mg/L, anoxic <0.5mg/L

Recommended reference: Department of Biodiversity, Conservation and Attractions 2021. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 24th May 2021. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)