



Department of Biodiversity,  
Conservation and Attractions



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# Swan Canning Estuary Water Quality Monitoring Project

## Weekly Water Quality Report

### Lower Swan Canning Estuary to Upper Swan Estuary

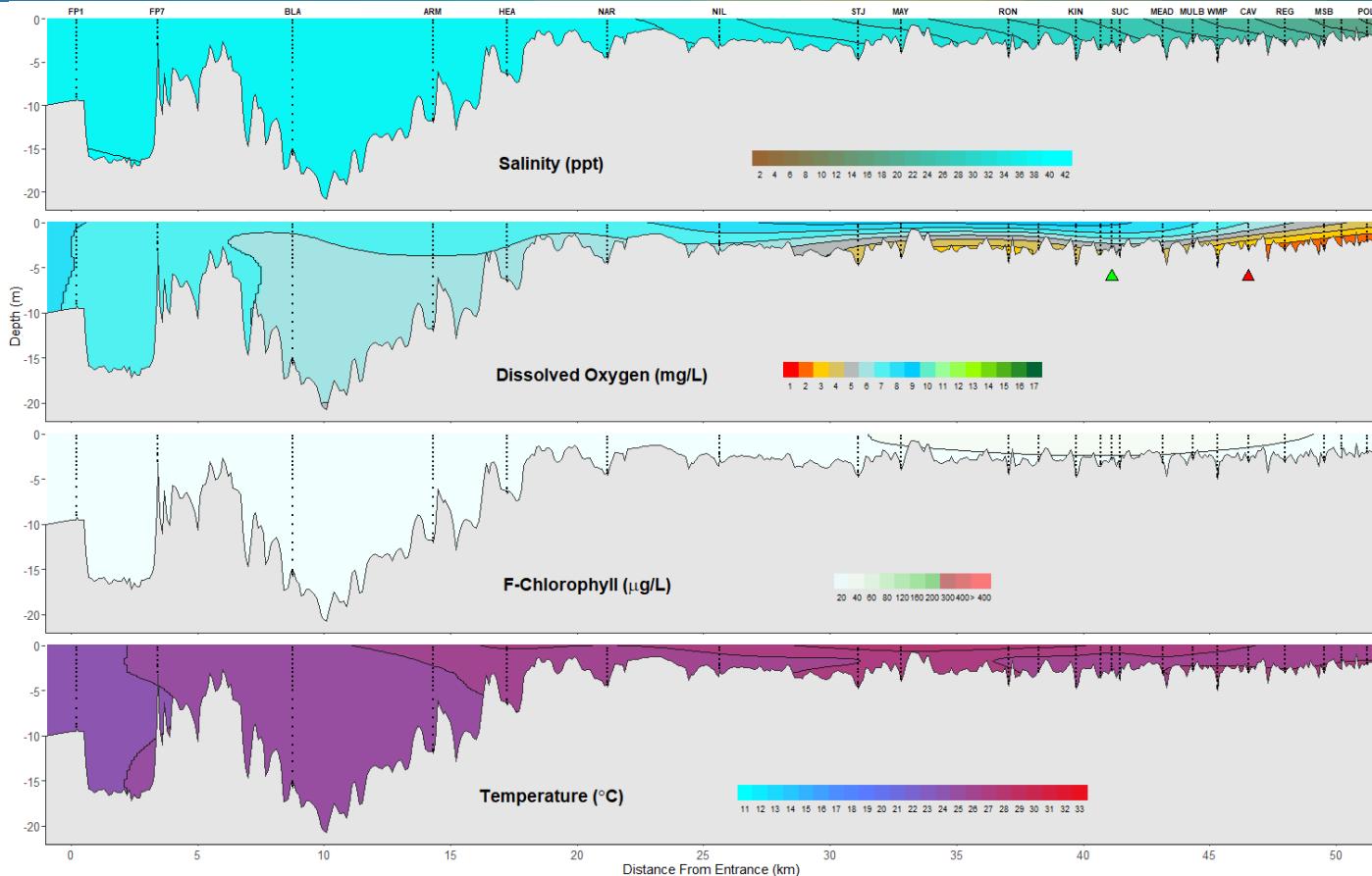
14 March 2022

Prepared by

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



## Swan Canning Estuary- Water Quality Profiles – 14 March 2022





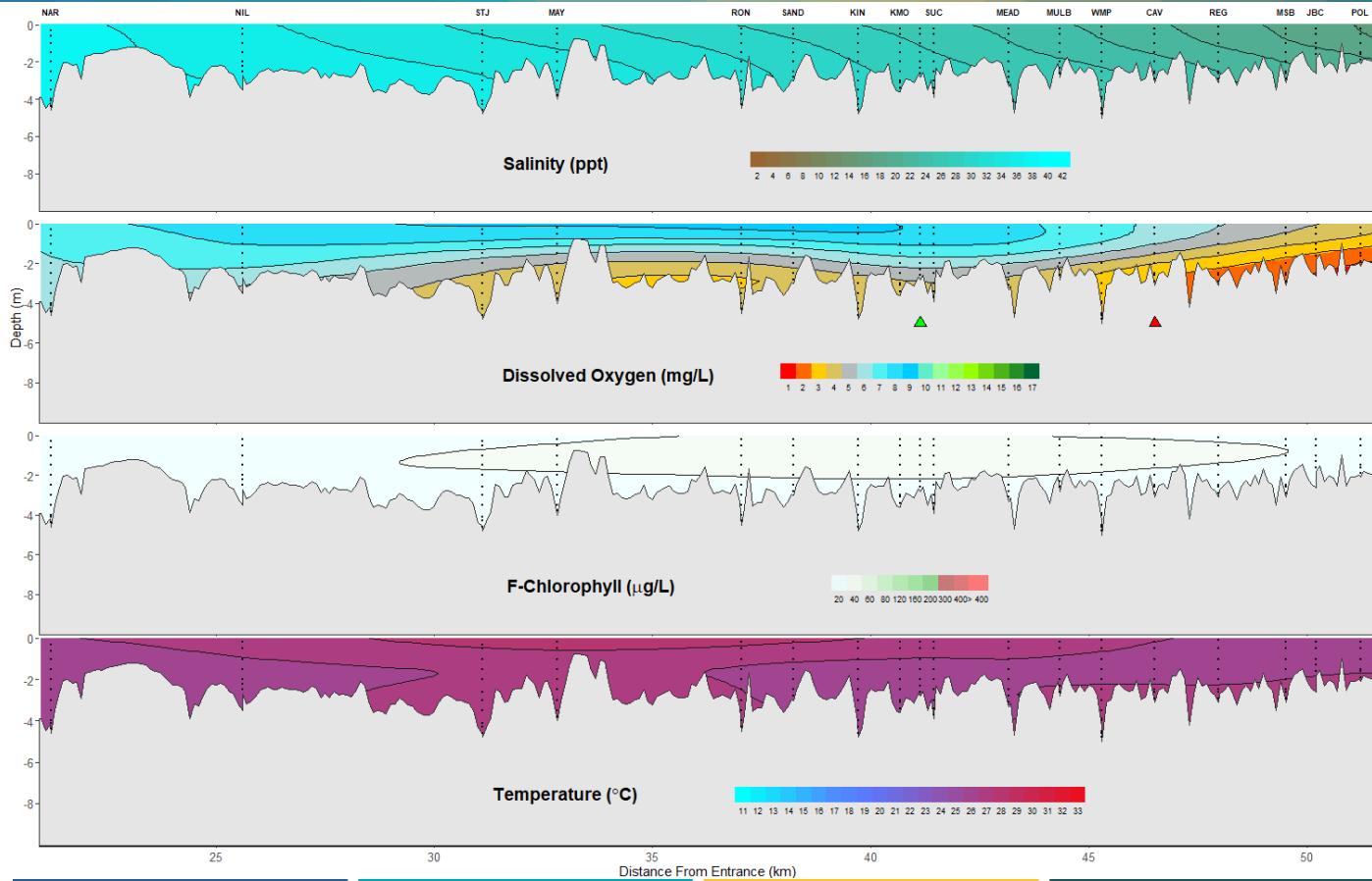
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## Middle and Upper Swan Estuary- Water Quality Profiles – 14 March 2022





Date: 14 March 2022

Weather & tide conditions: Conditions were clear with variable breeze of up to 7 knots. The predicted tides at Barrack St were 0.61 m at 6:16 am (low tide) and 1.11 m at 8:44 pm (high tide). Perth recorded no rain during the week prior to sampling (Bureau of Meteorology).

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

Lower Swan Canning Estuary (FP1 to NAR): The Lower Swan Canning Estuary was hypersaline, surface and bottom waters were oxygenated or well oxygenated and chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 23.7 to 26.2 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline. Surface waters were oxygenated or well oxygenated, and bottom waters were low in oxygen from STJ to RON. Chlorophyll fluorescence was low throughout this zone and water temperature ranged from 25.7 to 27.5 °C.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was saline between SAND and SUC, brackish over saline between MEAD and MULB, and brackish from WMP to POL. Surface waters were oxygenated or well oxygenated from SAND to REG and low in oxygen between MSB and JBC. Bottom waters were low in oxygen between KIN and KMO, MULB and WMP and at REG, and hypoxic at SAND, CAV and from MSB to POL. Chlorophyll fluorescence was moderate between KIN and KMO, and from SUC to MULB indicating higher microalgal activity in those areas. Water temperature ranged from 25.2 to 27.1 °C.

**NB:** Profile plots are visual interpolations of measured parameters only. Detailed data are available at [wir.water.wa.gov.au](http://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<sup>-1</sup>, oxygenated >4-6 mg L<sup>-1</sup>, low oxygen >2-4 mg L<sup>-1</sup>, hypoxic 0.5-2 mg L<sup>-1</sup>, anoxic <0.5 mg L<sup>-1</sup>

**Chlorophyll fluorescence (summer):** low < 50 µg L<sup>-1</sup>, moderate 50-150 µg L<sup>-1</sup>, high 150-400 µg L<sup>-1</sup>, extreme > 400 µg L<sup>-1</sup>

**Recommended reference:** Department of Biodiversity, Conservation and Attractions 2021. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 14 March 2022. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)