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# Swan Canning Estuary Water Quality Monitoring Project

## Weekly Water Quality Report

### Lower Swan Canning Estuary to Upper Swan Estuary

24 January 2022

Prepared by

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Department of Biodiversity, Conservation and Attractions



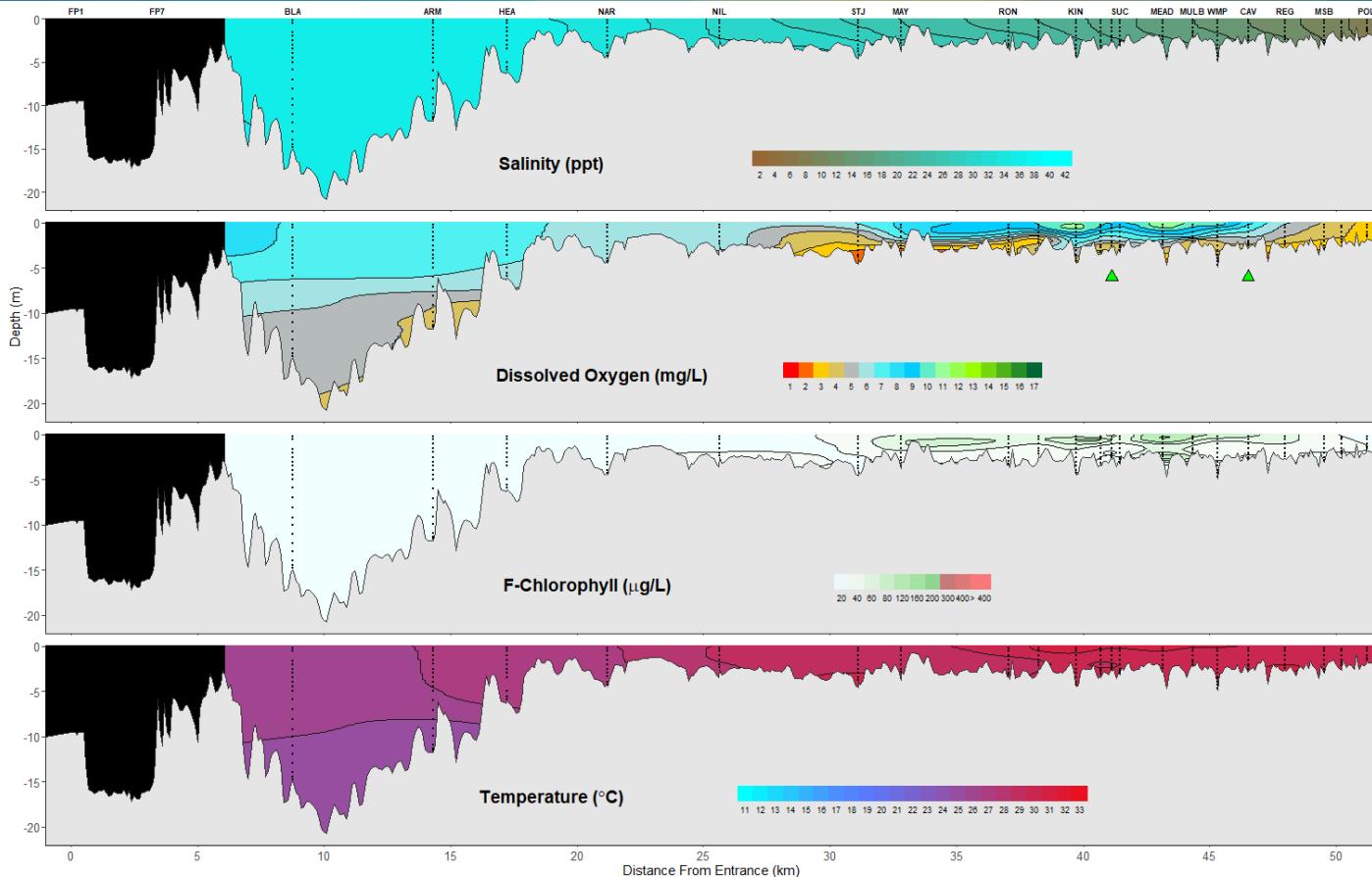
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## Swan Canning Estuary- Water Quality Profiles – 24 January 2022





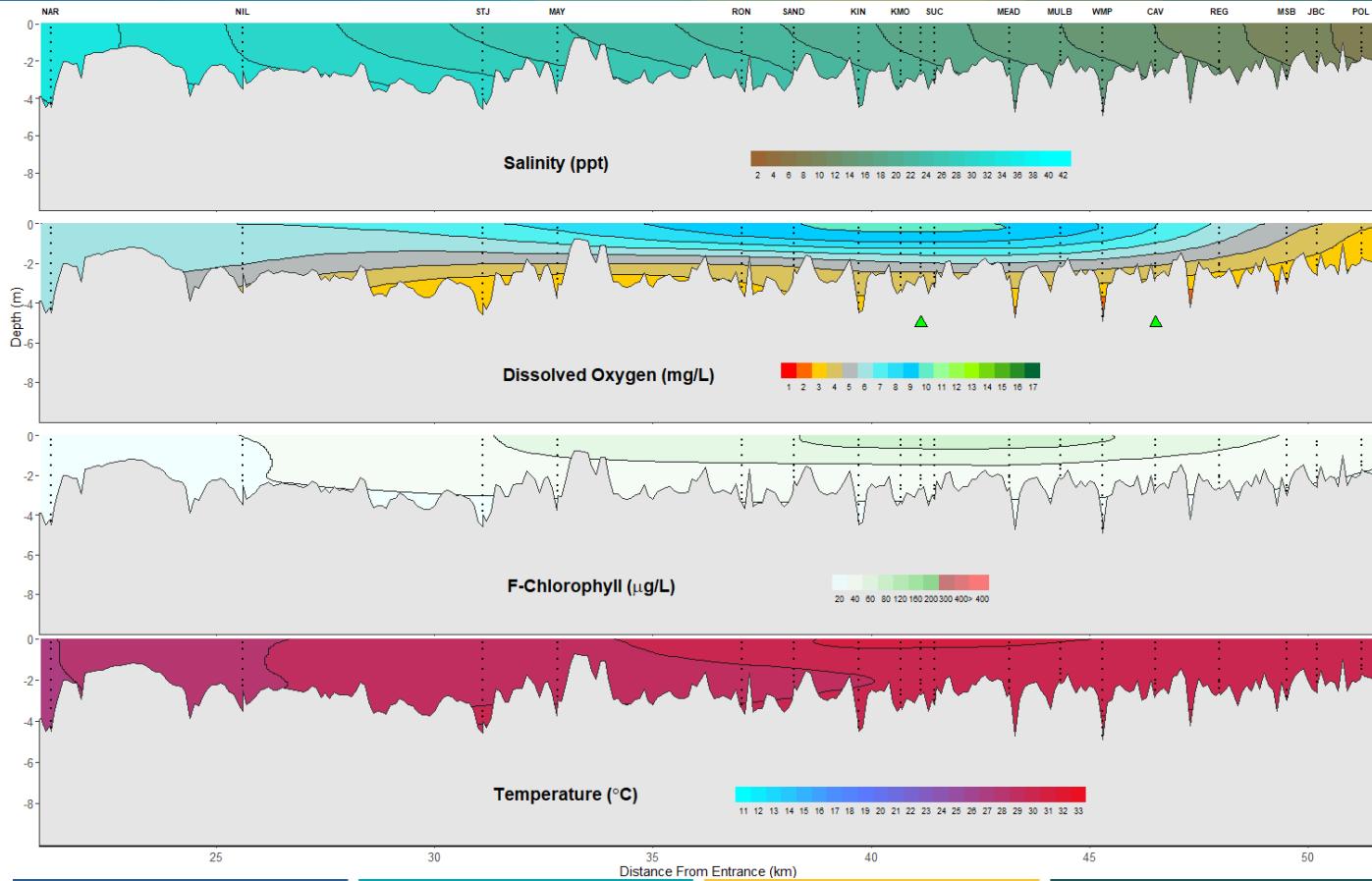
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## Middle and Upper Swan Estuary- Water Quality Profiles – 24 January 2022



Date: 24 January 2022

Weather & tide conditions: Conditions were clear with a variable breeze of up to 9 knots. The predicted tides at Barrack St were 0.89 m at 12:20 am (high tide), 0.65 m at 8:39 am (low tide) and 0.90 m at 5:29 pm (second high tide). Perth recorded no rainfall during 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 (BLA to NAR): The Lower Swan Canning Estuary was saline. Waters were oxygenated or well oxygenated except bottom waters at ARM which were low in oxygen. Chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 24.6 to 26.8 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline from NIL to STJ, brackish over saline at MAY and brackish at RON. Surface waters were oxygenated or well oxygenated and bottom waters were low in oxygen from MAY to RON and hypoxic at STJ. Chlorophyll fluorescence was moderate between MAY and RON indicating higher microalgal activity in that area. Water temperature ranged from 27.7 to 29.4 °C.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish. Surface waters were oxygenated or well oxygenated between SAND and REG and low in oxygen from MSB to POL. Bottom waters were low in oxygen from SAND to SUC, at MULB and from CAV to POL and were hypoxic at WMP. Chlorophyll fluorescence was moderate from SAND to KMO and from MEAD to CAV indicating higher microalgal activity in those areas. Water temperature ranged from 28.7 to 30.7 °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 24 January 2022. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)