



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

5<sup>th</sup> December 2022

Prepared by

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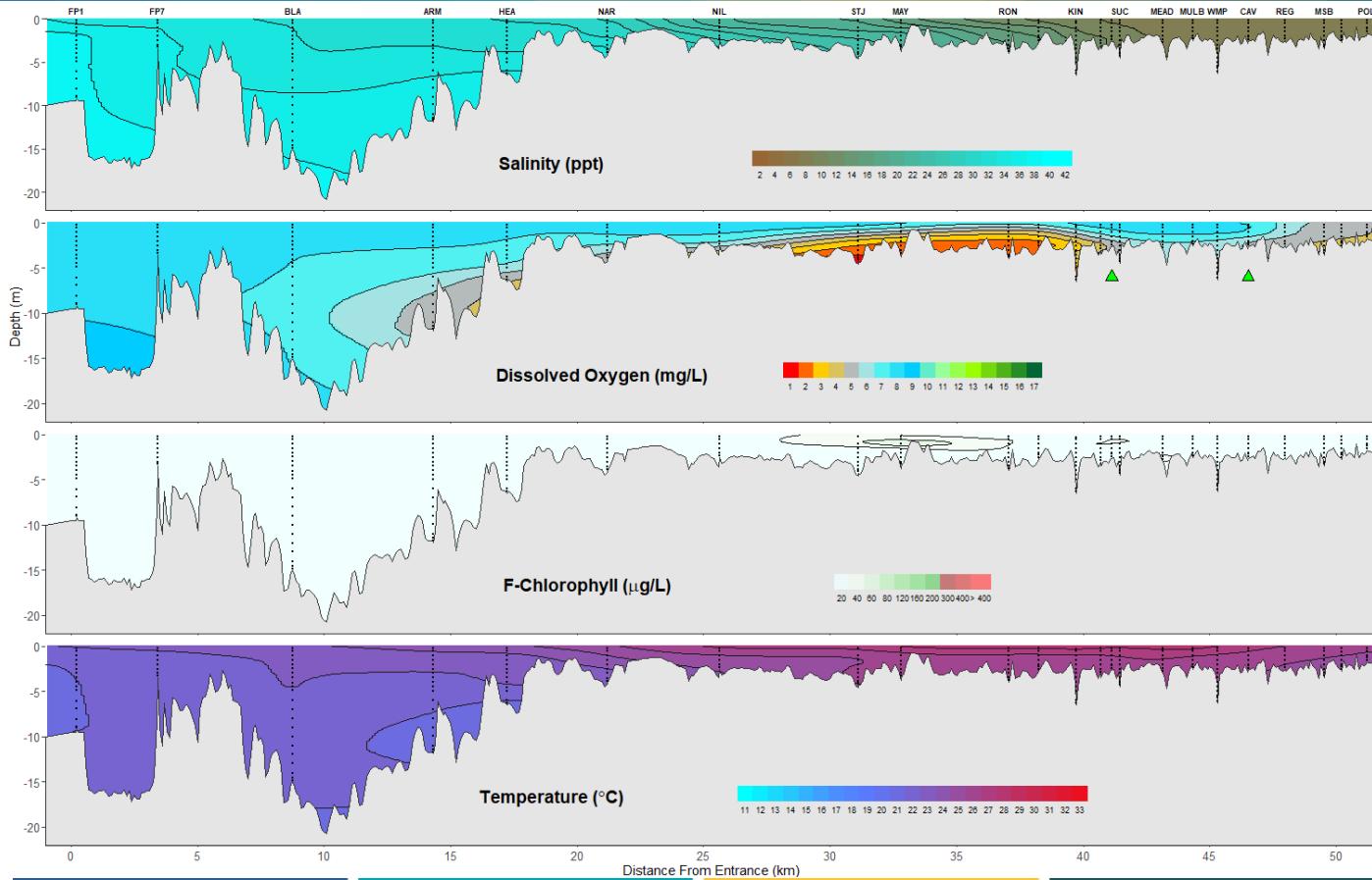
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## Swan Canning Estuary - Water Quality Profiles - 5<sup>th</sup> December 2022





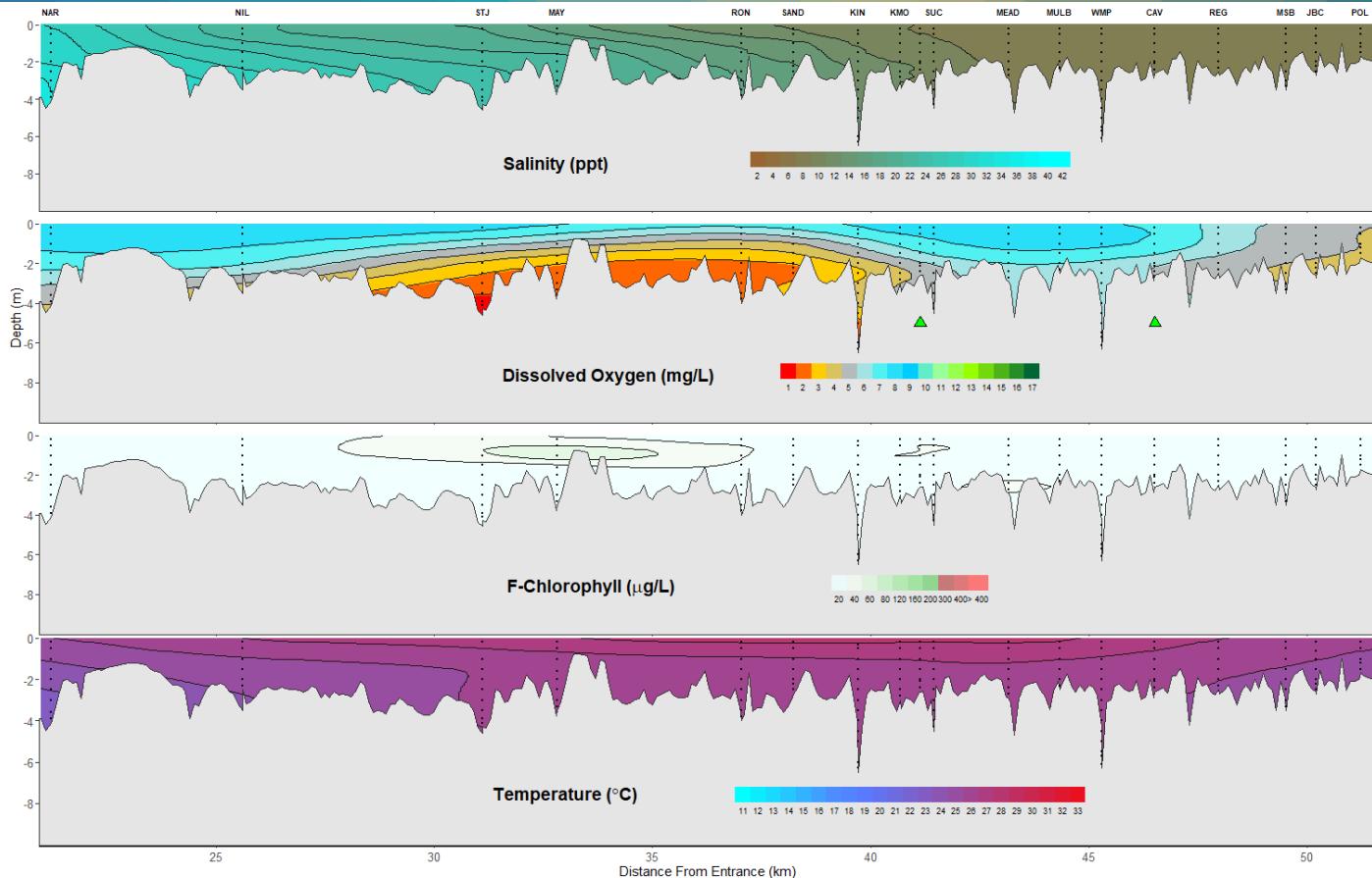
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## Middle and Upper Swan Estuary - Water Quality Profiles - 5<sup>th</sup> December 2022





Date: 5<sup>th</sup> December 2022

Weather & tide conditions: Conditions were sunny with a light, predominantly south westerly breeze of up to 6 knots. The predicted tides at Barrack St were 0.58 m at 7:23 am (low tide) and 1.09 m at 9:19 pm (high tide). Perth recorded no rainfall in the week prior to sampling (Bureau of Meteorology).

Oxygenation: Both the Guildford and Caversham oxygenation plants were operable and providing oxygen in the 24 hours prior to sampling.

Lower Swan Canning Estuary (FP1 to NAR): The Lower Swan Canning Estuary was saline and waters were oxygenated or well oxygenated throughout. Chlorophyll fluorescence was low and water temperatures ranged from 20.6 to 24.6 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was brackish throughout, apart from bottom waters at NIL which were saline. Waters were oxygenated or well oxygenated, except for bottom waters at MAY and RON, which were hypoxic, and those at STJ, which were anoxic. Chlorophyll fluorescence was low throughout and water temperatures ranged from 24.3 to 27.9 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish throughout. Anoxic bottom waters were detected at SAND and KIN, and KMO to VIT and MSB to JBC presented bottom waters low in oxygen. All surface waters, and those sites serviced by the oxygenation plants, were oxygenated or well oxygenated. Chlorophyll fluorescence was low and water temperatures ranged from 24.2 to 27.8 °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](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 (mod/high flow):** low < 60 µg L<sup>-1</sup>, moderate 60-160 µg L<sup>-1</sup>, high 160-400 µg L<sup>-1</sup>, extreme > 400 µg L<sup>-1</sup>

**Recommended reference:** Department of Biodiversity, Conservation and Attractions, 2022. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 5<sup>th</sup> December 2022. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)