



Department of Biodiversity,  
Conservation and Attractions



Biodiversity and  
Conservation Science

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# Swan Canning Estuary Water Quality Monitoring Project

## Weekly Water Quality Report

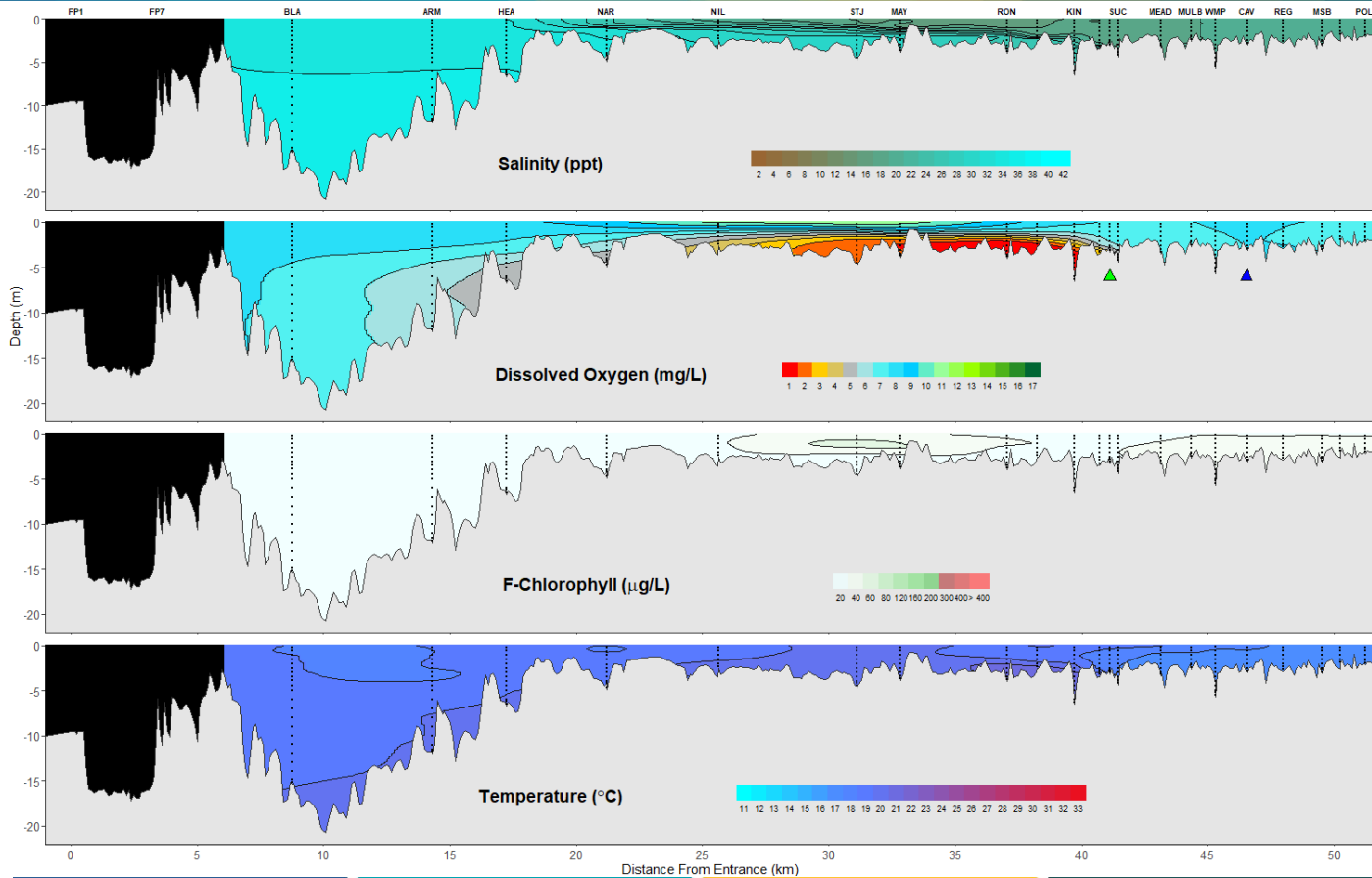
### Lower Swan Canning Estuary to Upper Swan Estuary

1st May 2023

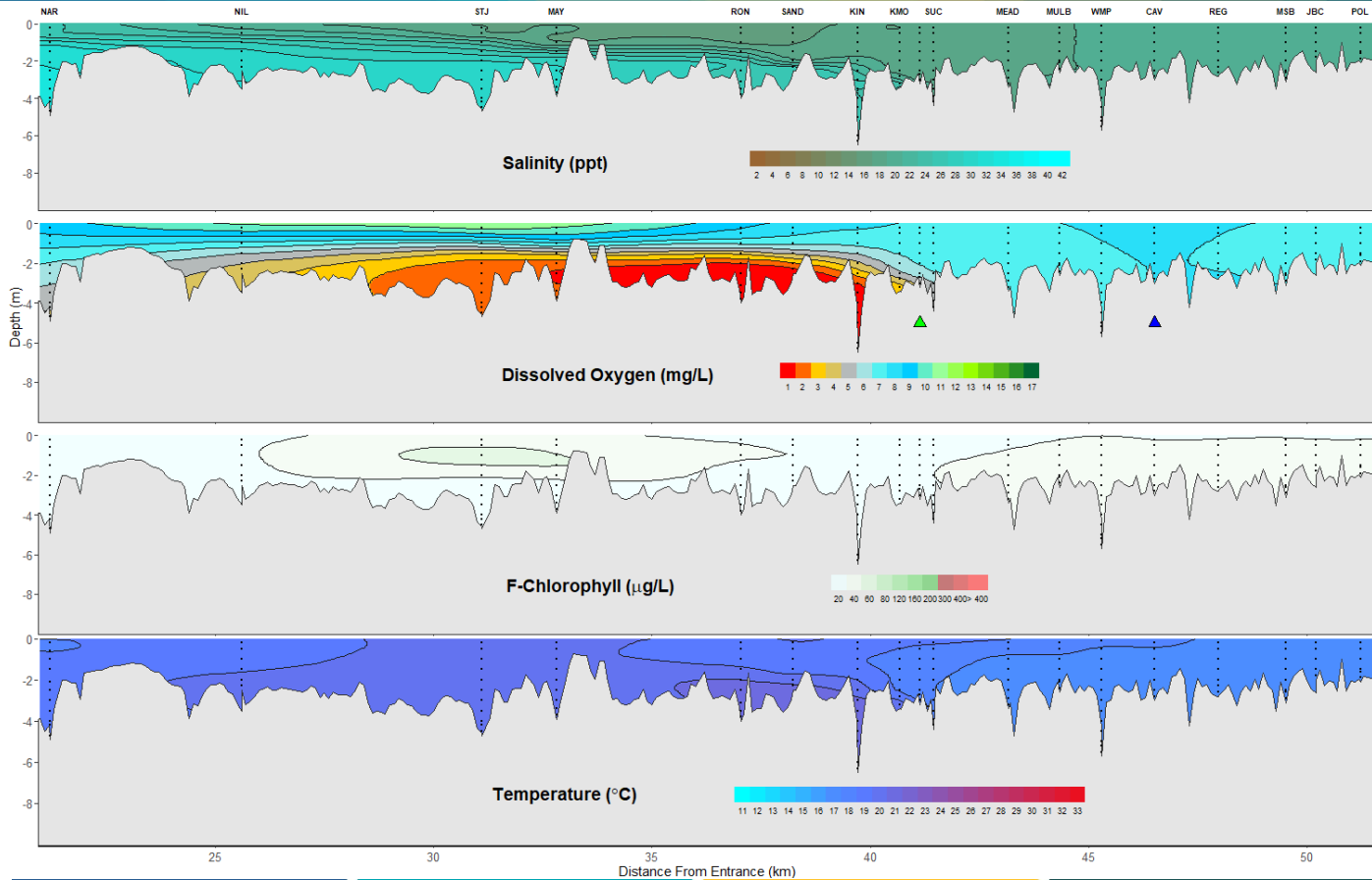
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## Swan Canning Estuary - Water Quality Profiles – 1st May 2023



## Swan Canning Estuary - Water Quality Profiles – 1st May 2023



Date: 1st May 2023

Weather & tide conditions: Conditions were sunny with an easterly breeze of up to 8 knots. The predicted tides at Barrack St were 0.79 m at 3:45 am (low tide), 1.01 m at 11:08 pm (high tide), and 0.97 at 3:37 pm (2<sup>nd</sup> low tide). Perth recorded 12.2 mm of rainfall in the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford oxygenation plant was operable and providing oxygen in the 24 hours prior to sampling, whereas the Caversham plant was not triggered to provide oxygen during this period.

Lower Swan Canning Estuary (BLA to NAR): The Lower Swan Canning Estuary was saline except at NAR, which was brackish over saline. Waters in this zone were oxygenated to well oxygenated throughout except for bottom waters of NAR which were low in oxygen. Chlorophyll fluorescence was low throughout and water temperatures ranged from 17.7 °C to 19.1 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was brackish over saline throughout. Surface waters were oxygenated to well oxygenated, whereas deeper waters showed progressive DO depletion upstream, being low in oxygen (NIL), hypoxic (STJ & MAY) and anoxic (RON). Chlorophyll fluorescence was moderate in the surface waters of STJ and MAY. Water temperatures ranged from 18.5 °C to 20.3 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish at all sites except the deep site KIN, which was brackish over saline. Surface waters and sites upstream of SUC were oxygenated to well oxygenated, whereas bottom waters at downstream sites KMO, KIN, and SAND were anoxic. Chlorophyll fluorescence was low and water temperatures ranged from 16.1 °C to 21.1 °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 (low flow): 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>