

Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

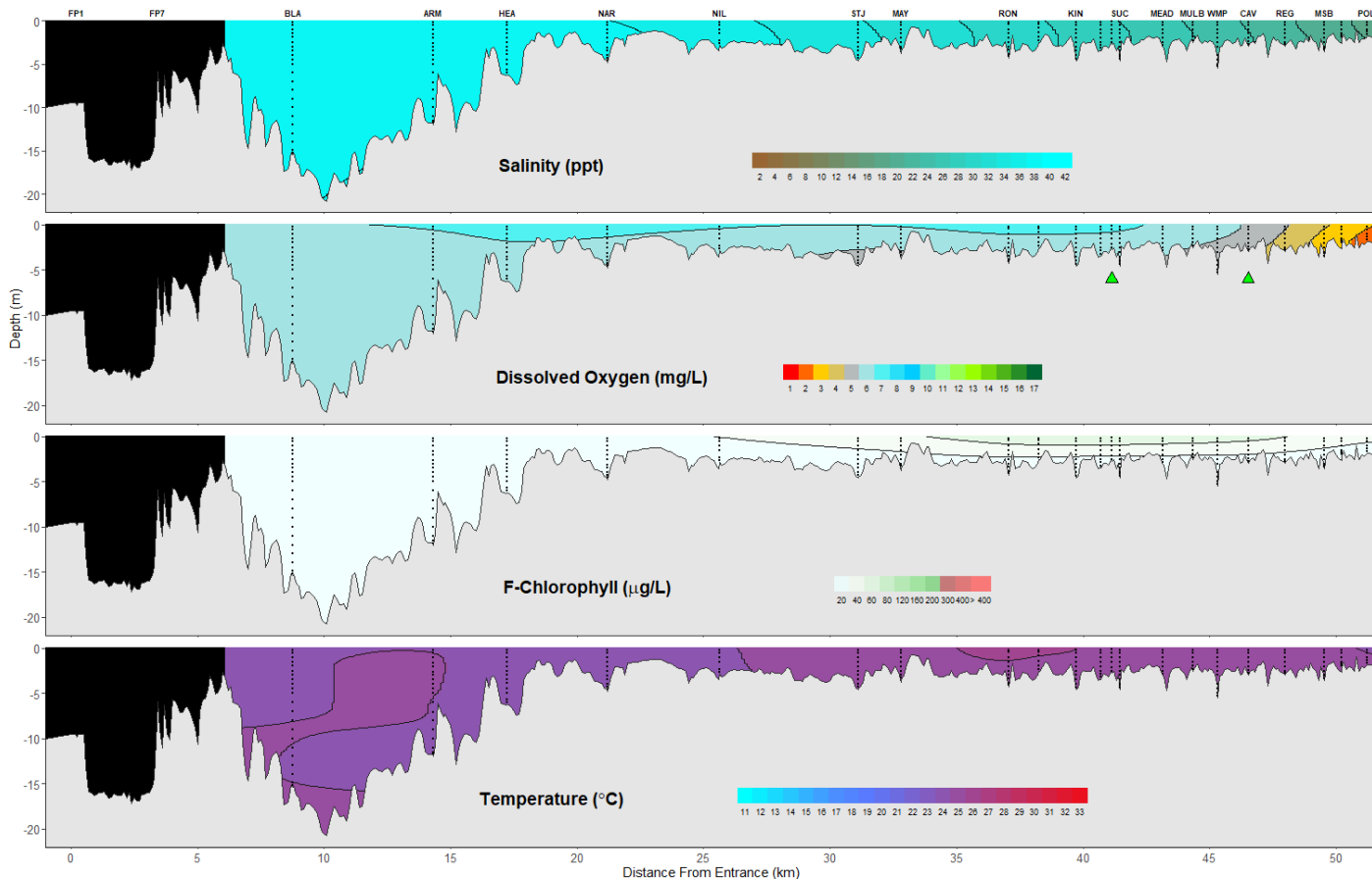
Lower Swan Canning Estuary to Upper Swan Estuary

21 March 2022

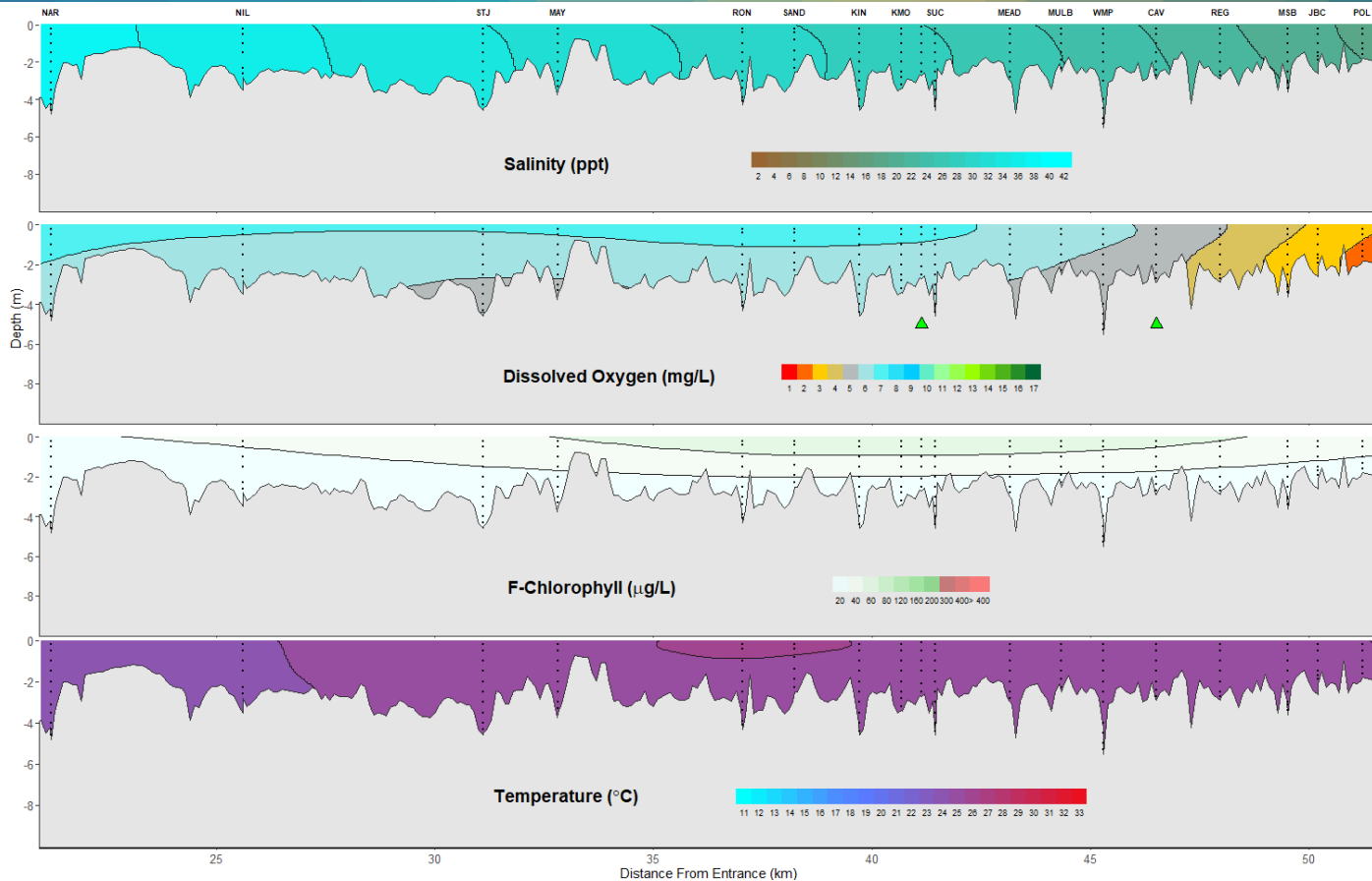
Prepared by

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

Swan Canning Estuary- Water Quality Profiles – 21 March 2022



Middle and Upper Swan Estuary- Water Quality Profiles – 21 March 2022



Date: 21 March 2022

Weather & tide conditions: Conditions were overcast with a variable breeze of up to 8 knots. The predicted tides at Barrack St were 0.71 m at 6:00 am (low tide) and 1.05 m at 1:35 pm (high tide). Perth recorded 0.2 mm of rain 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 hypersaline, waters were oxygenated or well oxygenated and chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 23.4 to 24.0 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline and waters were oxygenated or well oxygenated. Chlorophyll fluorescence was moderate at RON indicating higher microalgal activity in that area. Water temperature ranged from 23.8 to 25.6 °C.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was saline between SAND and SUC and brackish from MEAD to POL. Surface waters were oxygenated or well oxygenated from SAND to REG, low in oxygen at MSB and hypoxic from JBC to POL. Bottom waters were low in oxygen at REG and hypoxic between MSB and POL. Chlorophyll fluorescence was high at KMO and moderate from MULB to REG indicating higher microalgal activity in those areas. Water temperature ranged from 24.0 to 25.3 °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 >6 mg L⁻¹, oxygenated >4-6 mg L⁻¹, low oxygen >2-4 mg L⁻¹, hypoxic 0.5-2 mg L⁻¹, anoxic <0.5 mg L⁻¹
Chlorophyll fluorescence (summer): low < 50 µg L⁻¹, moderate 50-150 µg L⁻¹, high 150-400 µg L⁻¹, extreme > 400 µg L⁻¹