



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

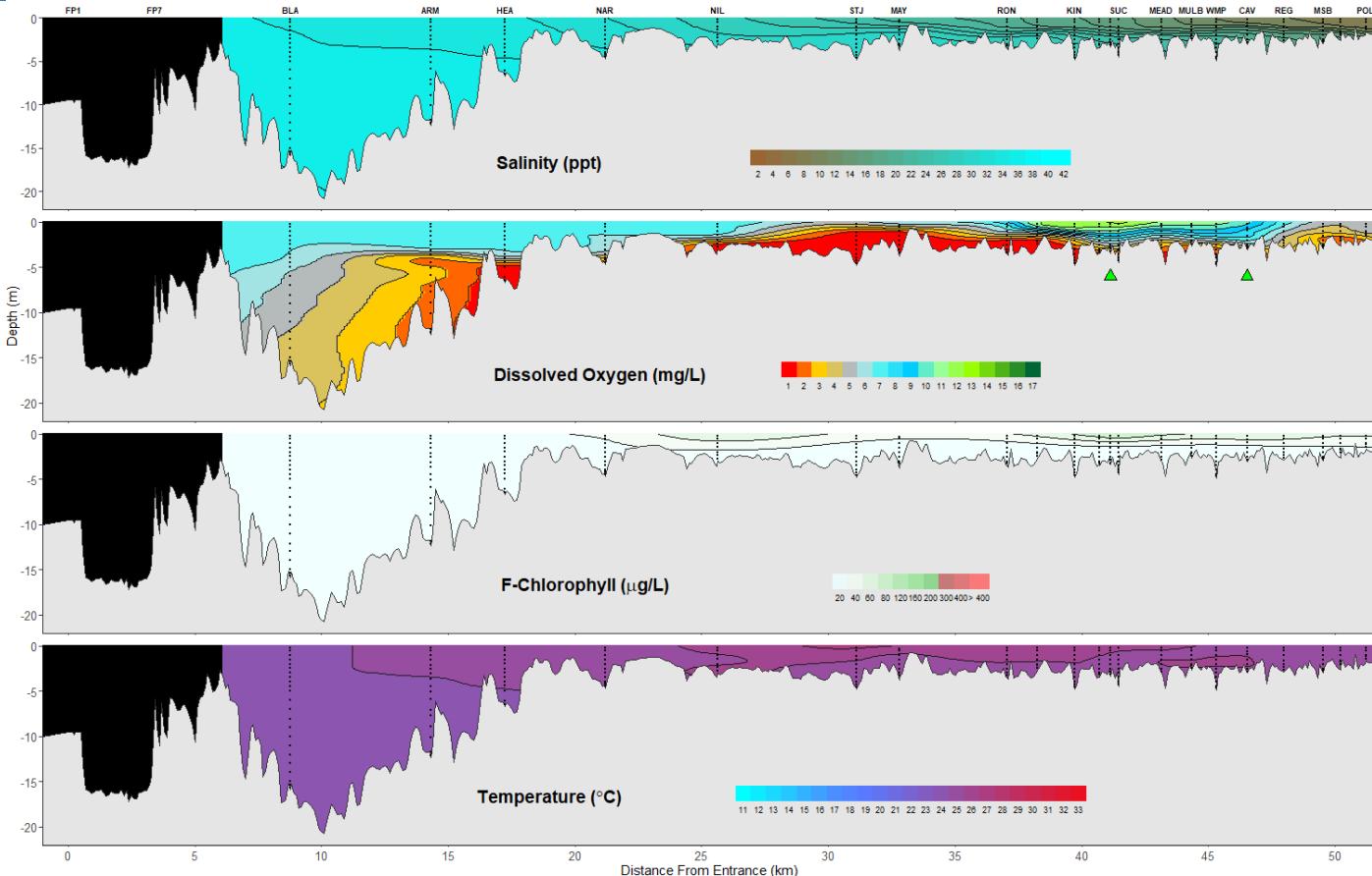
Lower Swan Canning Estuary to Upper Swan Estuary

22nd March 2021

Prepared by

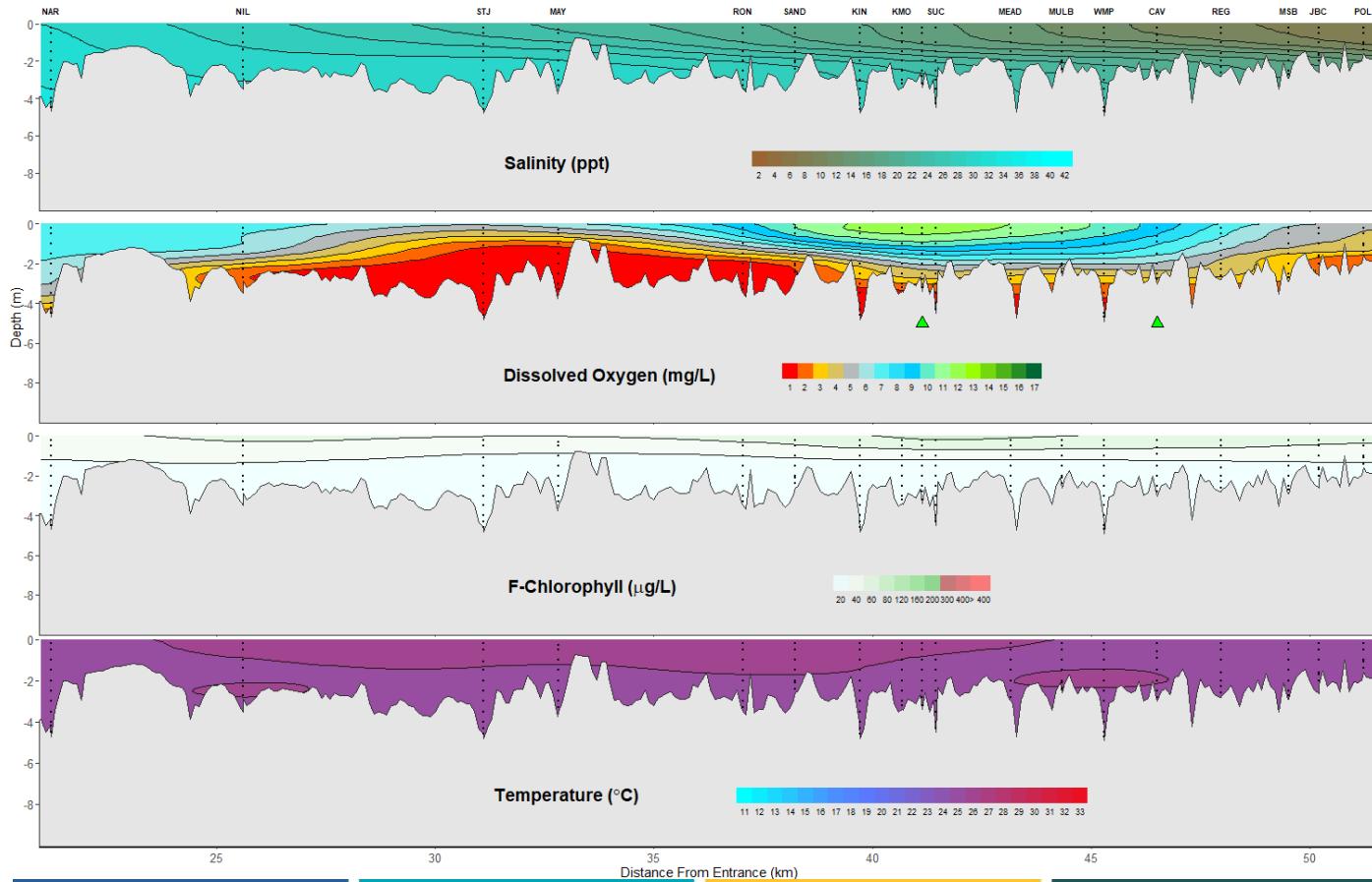
Rivers and Estuaries Science
Biodiversity and Conservation Science
Department of Biodiversity, Conservation and Attractions

Swan Canning Estuary- Water Quality Profiles- 22nd March 2021





Middle and Upper Swan Estuary- Water Quality Profiles- 22nd March 2021





Date: 22nd March 2021

Weather & tide conditions: Conditions were cloudy with a predominantly south westerly breeze of up to 10 knots. The predicted tides at Barrack St were 0.64 m at 4:42 am (low tide) and 1.11 m at 4:56 pm (high tide). Perth recorded no rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford and Caversham oxygenation plants were 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. Surface waters were well oxygenated and bottom waters were low in oxygen at BLA, hypoxic at ARM and NAR and anoxic at HEA. Chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 23.4 to 24.8°C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline at NIL and brackish over saline between STJ and RON. Surface waters were oxygenated or well oxygenated and bottom waters were anoxic from NIL to RON. Chlorophyll fluorescence was highest at NIL indicating higher microalgal activity in that area. Water temperature ranged from 24.3 to 26.0 °C.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish over saline from SAND to KIN and brackish from KMO to POL. Surface waters were oxygenated or well oxygenated. Bottom waters were hypoxic at KMO, MEAD, WMP and JBC and were anoxic between SAND and KMO and at SUC. Chlorophyll fluorescence was highest at SUC indicating higher microalgal activity in that area. Water temperature ranged from 24.0 to 25.6°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 >6mg/L, oxygenated >4-6mg/L, low oxygen >2-4mg/L, hypoxic 0.5-2mg/L, anoxic <0.5mg/L

Recommended reference: Department of Biodiversity, Conservation and Attractions 2021. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 22nd March 2021. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)