



Department of Biodiversity,
Conservation and Attractions



Biodiversity and
Conservation Science

We're working for
Western Australia.

Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

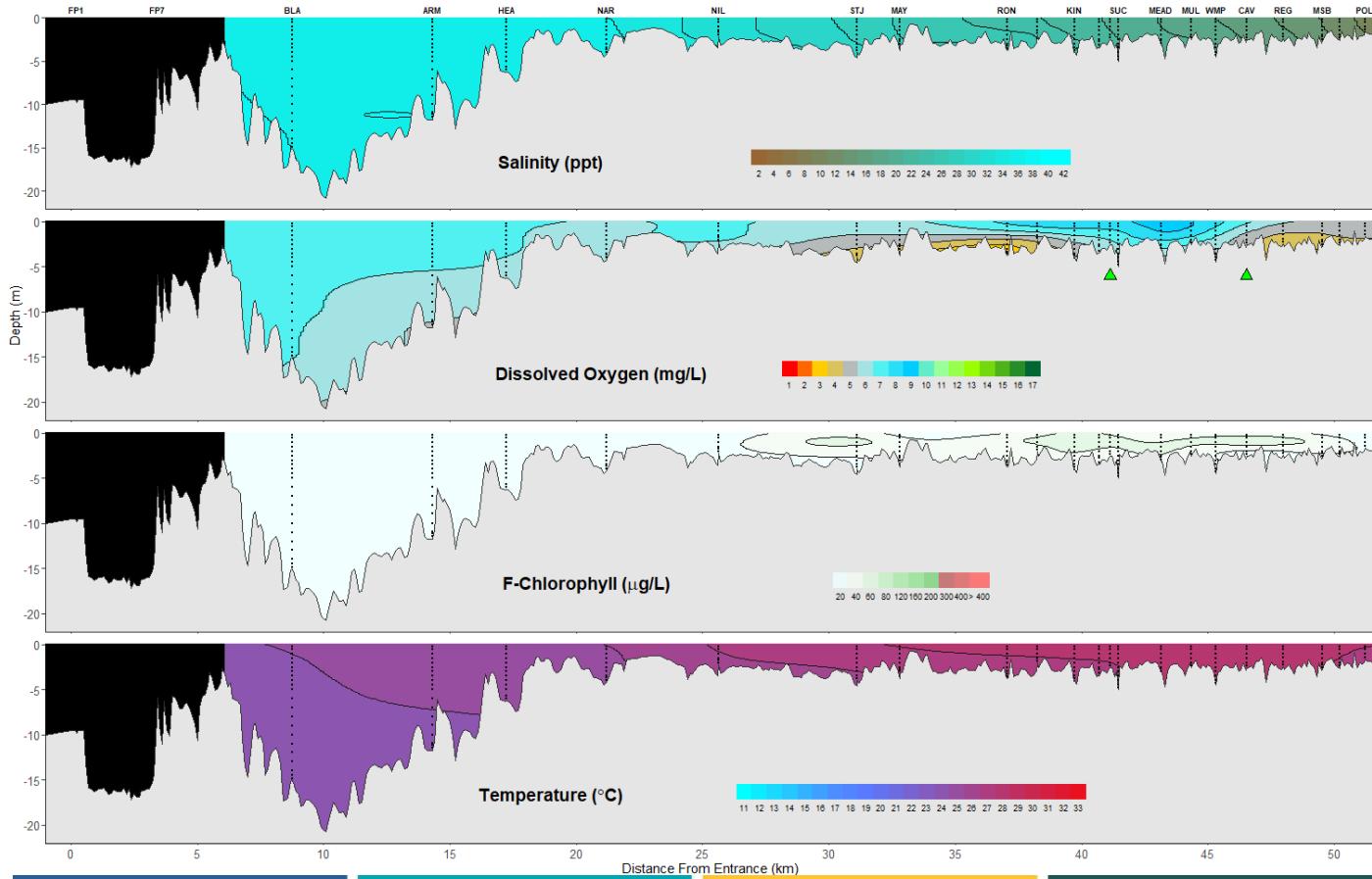
Lower Swan Canning Estuary to Upper Swan Estuary

11th January 2021

Prepared by

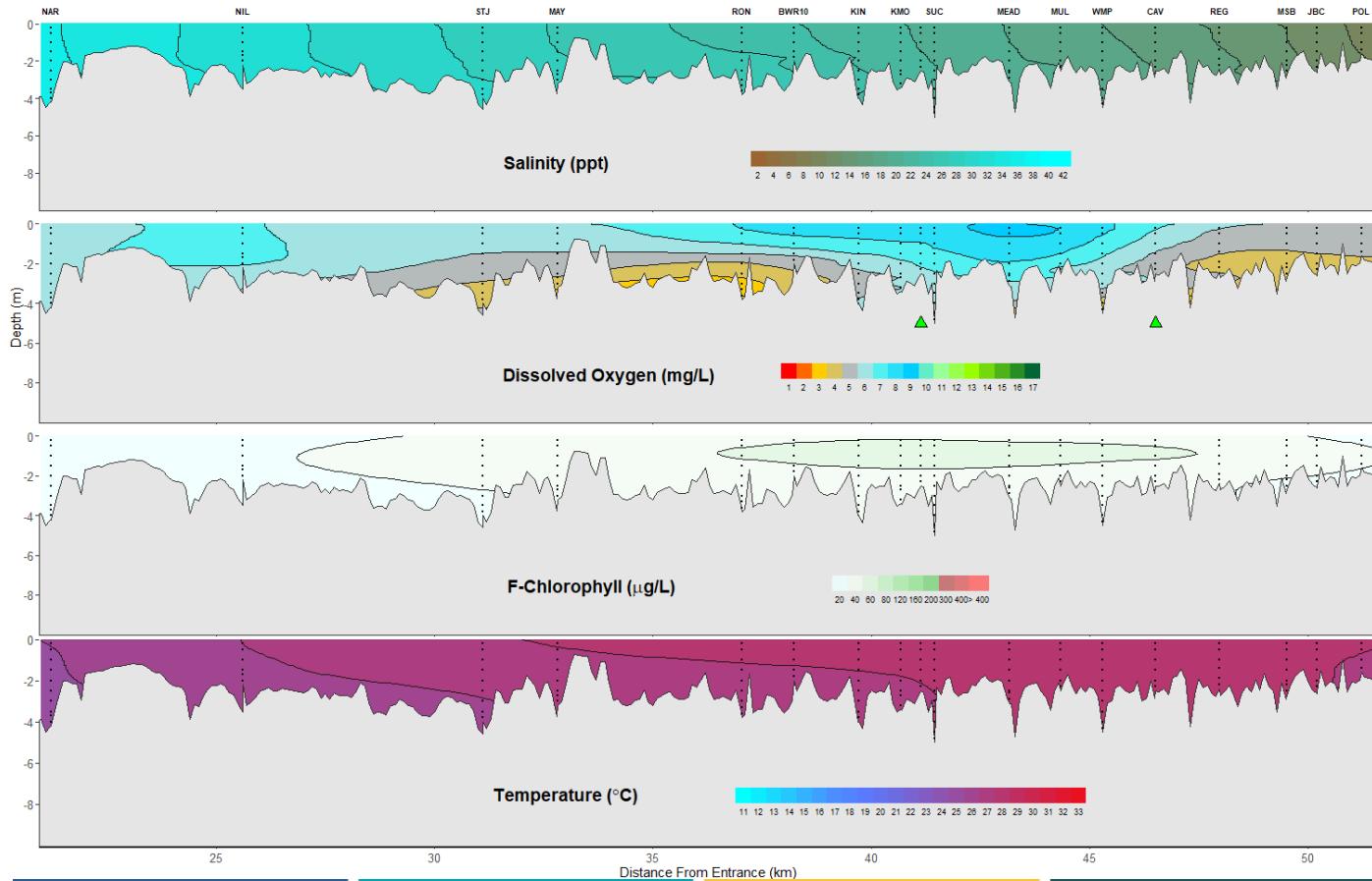
Rivers and Estuaries Science
Biodiversity and Conservation Science
Department of Biodiversity, Conservation and Attractions

Swan Canning Estuary- Water Quality Profiles- 11th January 2021





Middle and Upper Swan Estuary- Water Quality Profiles- 11th January 2021





Date: 11th January 2021

Weather & tide conditions: Conditions were clear with a predominantly easterly breeze of up to 10 knots. The predicted tides at Barrack St were 0.47 m at 8:01 am (low tide) and 1.18 m at 9:40 pm (high tide). Perth recorded no rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford and Caversham oxygenation plants were both operational and 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 well oxygenated and chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 23.5 to 24.8 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was saline between NIL and MAY and brackish over saline at RON. Surface waters were oxygenated or well oxygenated and bottom waters were low in oxygen from STJ to RON. Chlorophyll fluorescence was elevated between STJ and RON indicating higher microalgal activity in that area. Water temperature ranged from 25.8 to 27.9 °C.

Upper Swan Estuary (BWR10 to POL): The Upper Swan Estuary was brackish. Surface waters were oxygenated or well oxygenated. Bottom waters were low in oxygen at BWR10 and from REG to JBC and hypoxic at WMP. Chlorophyll fluorescence was elevated between BWR10 and CAV indicating higher microalgal activity in that area. Water temperature ranged from 26.5 to 28.2 °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 11th January 2021. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)