



Department of Biodiversity,
Conservation and Attractions



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Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

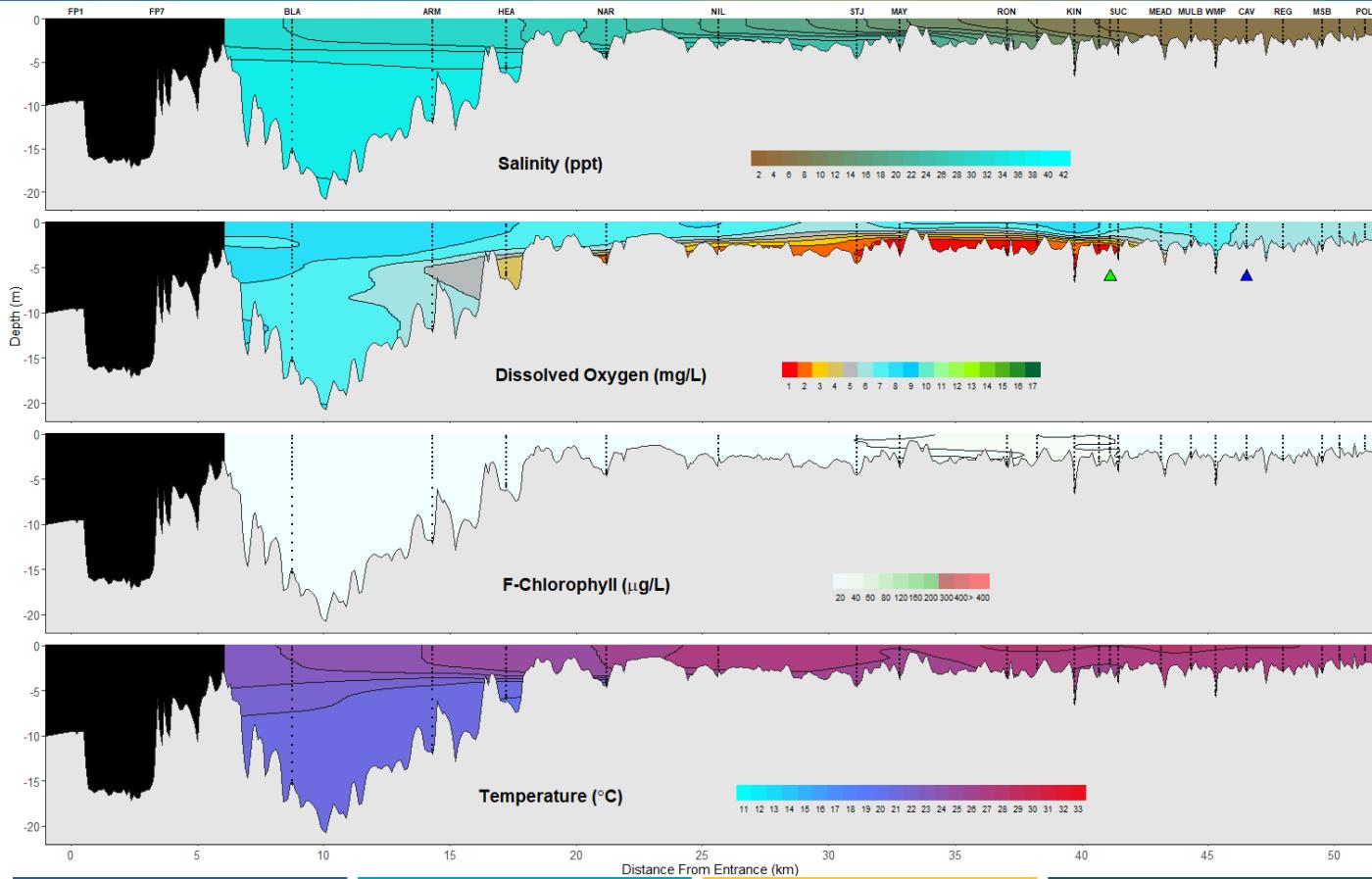
Lower Swan Canning Estuary to Upper Swan Estuary

29 November 2021

Prepared by

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

Swan Canning Estuary- Water Quality Profiles – 29 November 2021





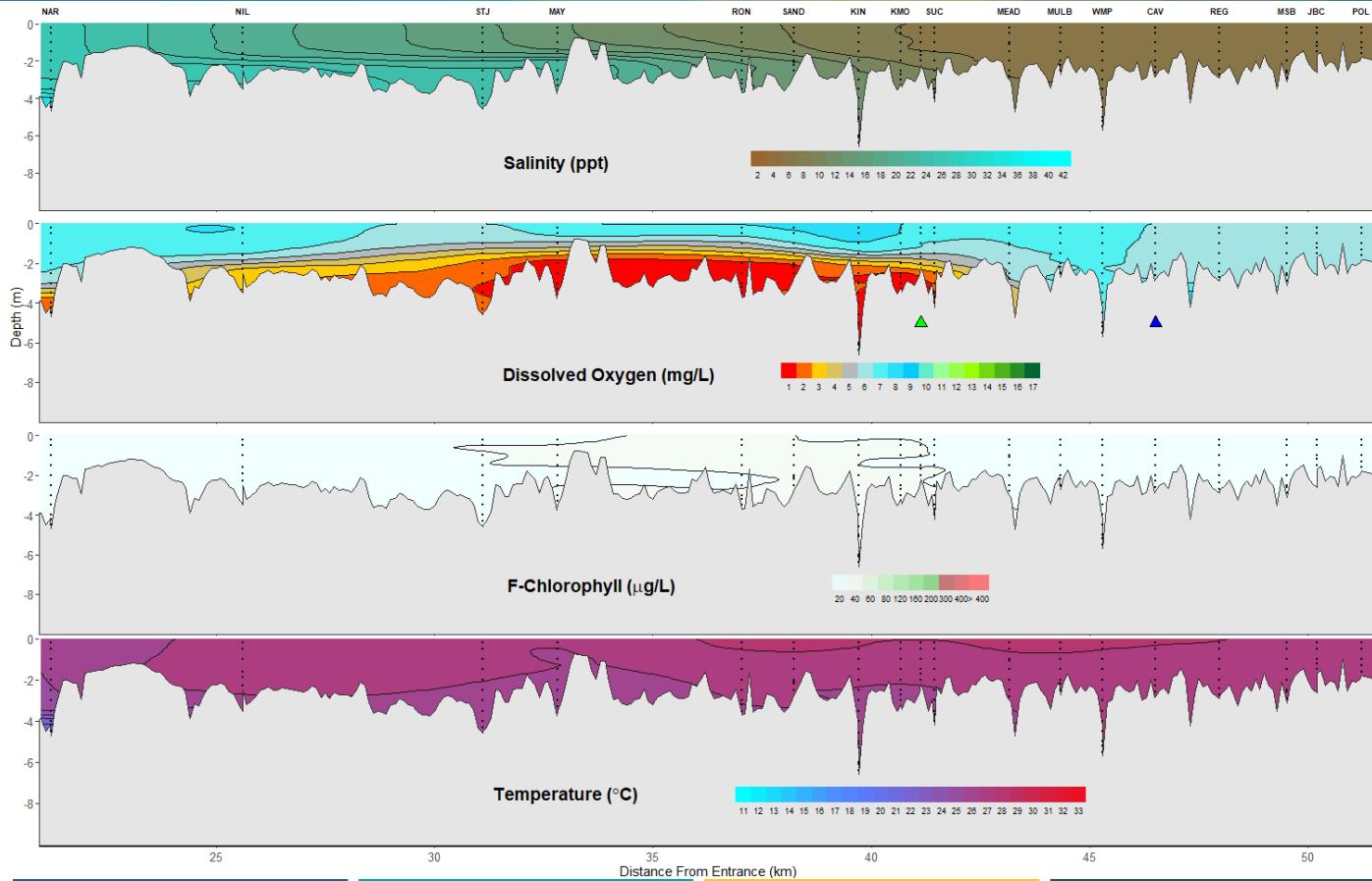
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Middle and Upper Swan Estuary- Water Quality Profiles – 29 November 2021





Date: 29 November 2021

Weather & tide conditions: Conditions were clear with a moderate westerly breeze of up to 13 knots. The predicted tides at Barrack St were 0.69 m at 1:07 pm (low tide) and 0.91 m at 9:08 pm (high tide). Perth recorded no rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford oxygenation plant was triggered to provide oxygen and the Caversham oxygenation plant was not 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 oxygenated or well oxygenated and bottom waters were low in oxygen at HEA and hypoxic at NAR. Chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 19.9 to 25.1 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was brackish. Surface waters were oxygenated or well oxygenated and bottom waters were low in oxygen at NIL, hypoxic at STJ and anoxic between MAY and RON. Chlorophyll fluorescence was highest at MAY indicating higher microalgal activity in this area. Water temperature ranged from 25.6 to 27.2 °C.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish except at KIN which was brackish over saline. Surface waters were oxygenated or well oxygenated and bottom waters were low in oxygen at VIT, hypoxic at SAND and SUC and anoxic from KIN to KMO. Chlorophyll fluorescence was highest at KIN indicating higher microalgal activity in this area. Water temperature ranged from 21.3 to 27.5 °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, oxygenated >4-6 mg/L, low oxygen >2-4 mg/L, hypoxic 0.5-2 mg/L, anoxic <0.5 mg/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 29 November 2021. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)