



Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

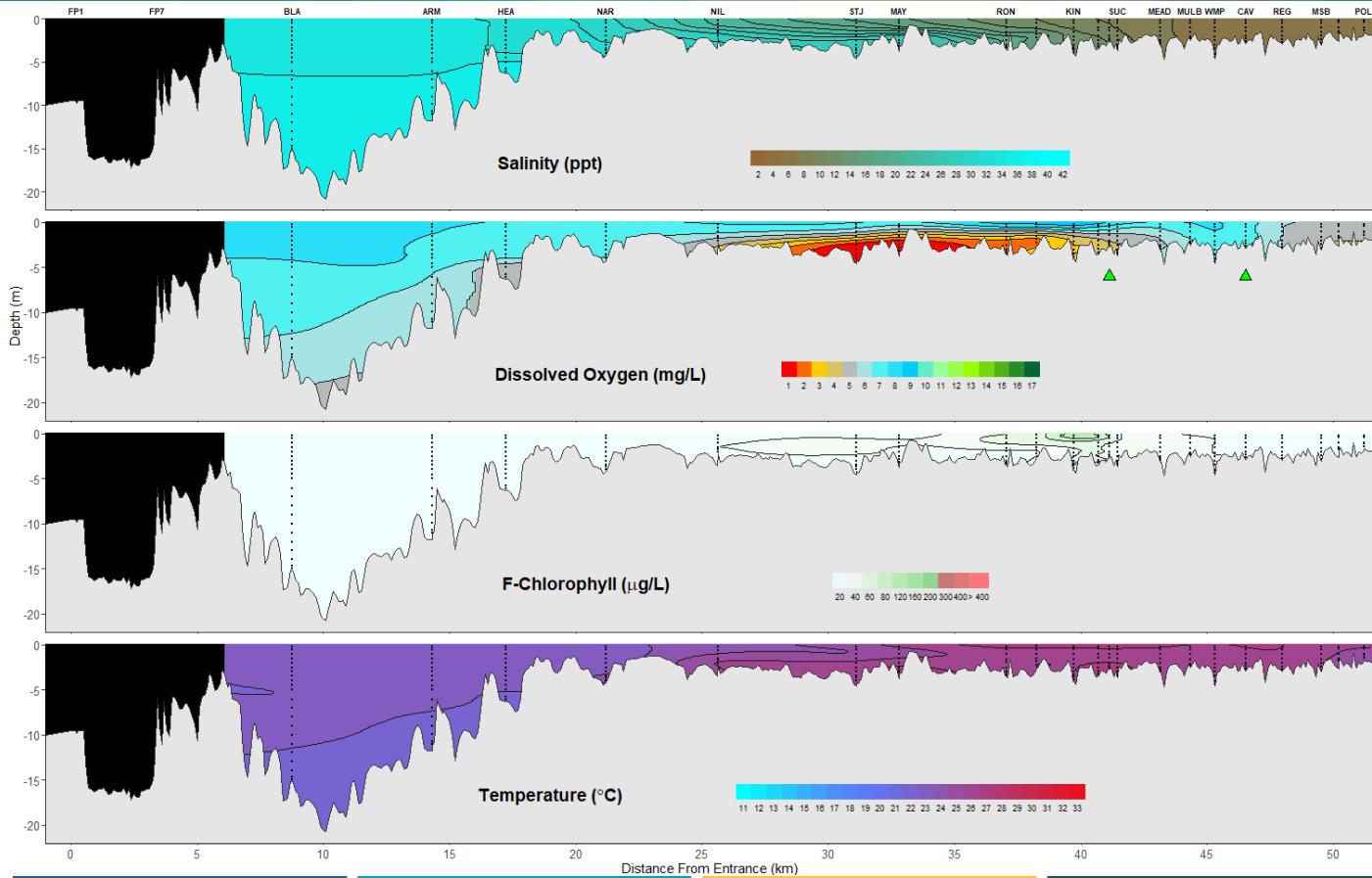
Lower Swan Canning Estuary to Upper Swan Estuary

13 December 2021

Prepared by

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

Swan Canning Estuary- Water Quality Profiles – 13 December 2021





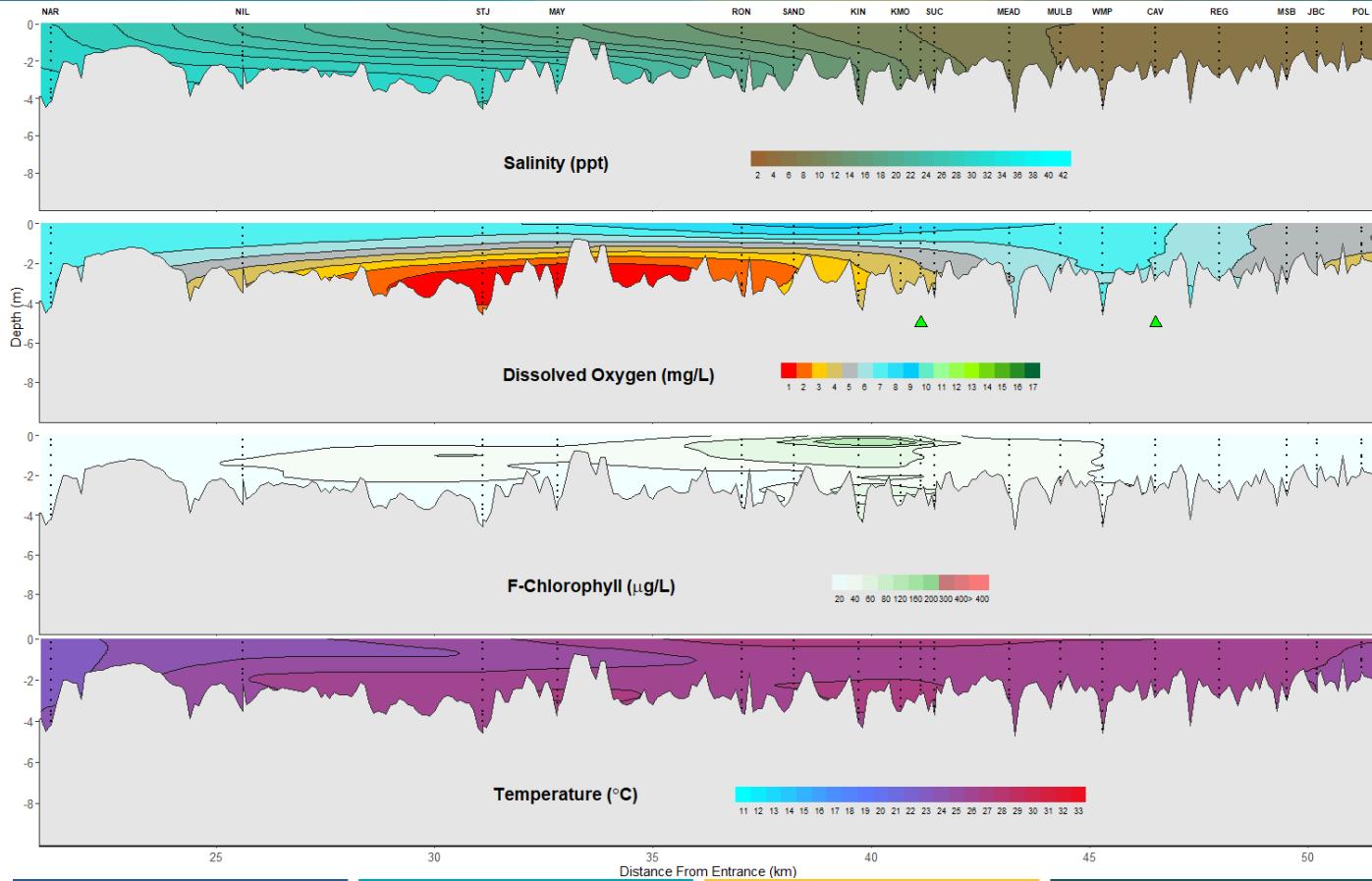
Department of Biodiversity,
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Biodiversity and
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Middle and Upper Swan Estuary- Water Quality Profiles – 13 December 2021





Date: 13 December 2021

Weather & tide conditions: Conditions were generally clear with some dispersed cloud cover and an easterly breeze of up to 14 knots. The predicted tides at Barrack St were 0.67 m at 9:08 am (low tide) and 0.98 m at 8:32 pm. Perth recorded no rainfall during the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford oxygenation plant and the Caversham oxygenation plant 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 saline, waters were oxygenated or well oxygenated and chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 21.6 to 23.1 °C.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was brackish over saline from NIL to MAY and brackish at RON. Surface waters were well oxygenated and bottom waters were low in oxygen at RON and anoxic between STJ and MAY. Chlorophyll fluorescence was low from NIL to MAY and moderate at RON. Water temperature ranged from 23.6 to 26.2 °C.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish. Surface waters were oxygenated or well oxygenated and bottom waters were low in oxygen from KIN to SUC and hypoxic at SAND. Chlorophyll fluorescence was low at SAND and from VIT to POL and moderate from KIN to KMO. Water temperature ranged from 24.8 to 26.5 °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⁻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

Recommended reference: Department of Biodiversity, Conservation and Attractions 2021. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary 13 December 2021. Rivers and Estuaries Science* (<https://www.dpaw.wa.gov.au/management/swan-canning-riverpark>)