Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

Canning Estuary and Lower Canning River

7 December 2021

Prepared by

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Department of **Biodiversity, Conservation and Attractions**

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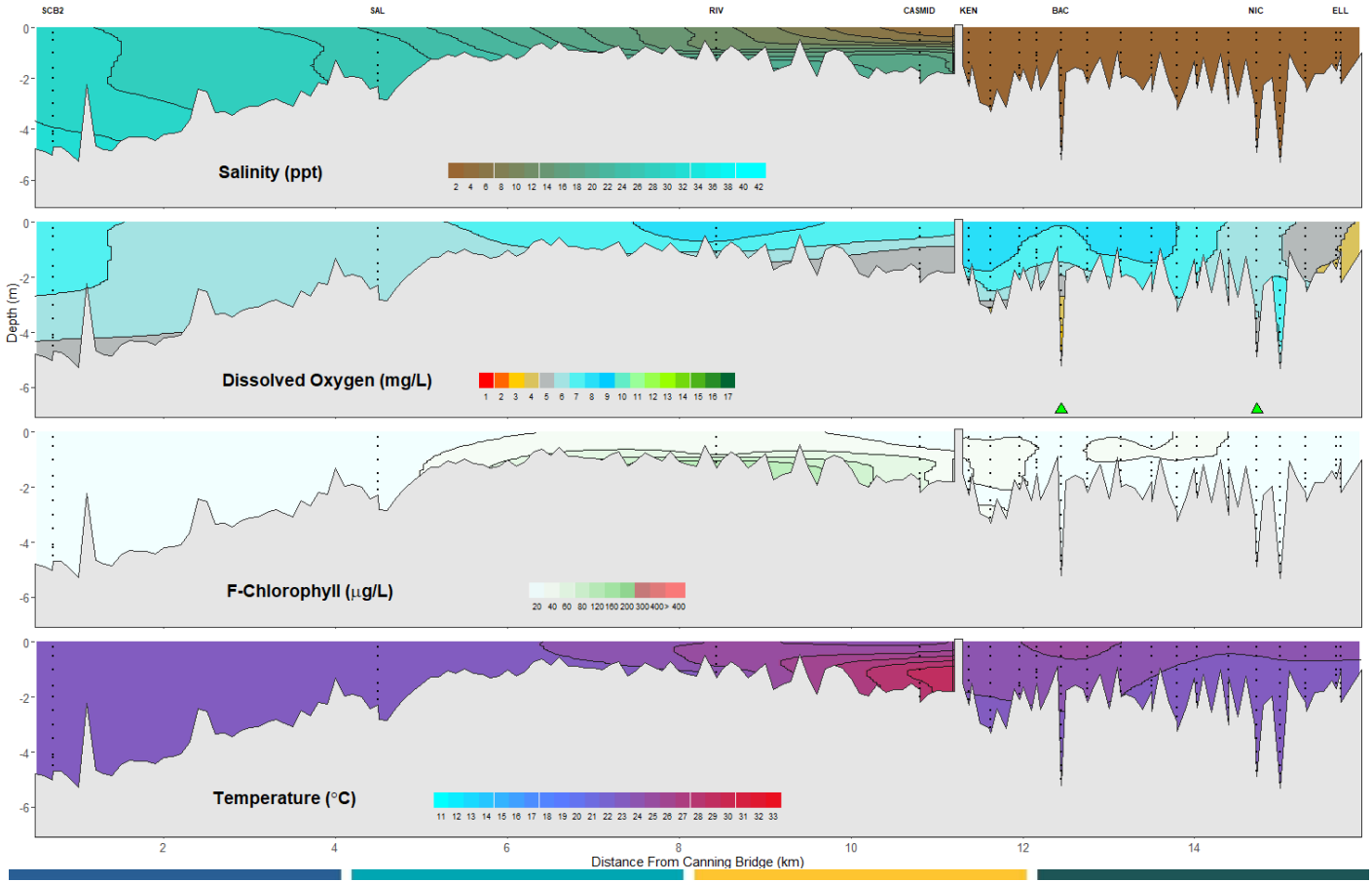
Canning Estuary and Lower Canning River - Water Quality Profiles – 7 December 2021



Date: 7 December 2021

Weather & tide conditions: Conditions were clear with an easterly breeze of up to 13 knots. The predicted tides at Barrack St were 1.16 m at 12:08 am (high tide) and 0.44 m at 11:18 am (low tide). Perth recorded no rainfall in the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Bacon St and Nicholson Rd oxygenation plants were both triggered to provide oxygen in the 24 hours prior to sampling.

Canning Estuary (SCB2 to CASMID): The Canning Estuary was saline at SCB2, brackish over saline at SAL, brackish at RIV and fresh over brackish at CASMID. Waters were oxygenated or well oxygenated. Chlorophyll fluorescence was low except at RIV which was moderate indicating higher microalgal activity in that area. Water temperature ranged from 22.3 to 28.2 °C.

Lower Canning River (KEN to ELL): The Lower Canning River was fresh. Surface waters were oxygenated or well oxygenated except at ELL which were low in oxygen. Bottom waters were low in oxygen at KENU300 and ELL and hypoxic at BAC. Chlorophyll fluorescence was low throughout this zone. Water temperature ranged from 22.1 to 24.4 °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, Canning Estuary and Lower Canning River 7 December 2021.* Rivers and Estuaries Science (https://www.dpaw.wa.gov.au/management/swan-canning-riverpark)