Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

Lower Swan Canning Estuary to Upper Swan Estuary

15th July 2024

Prepared by

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

Department of **Biodiversity, Conservation and Attractions**

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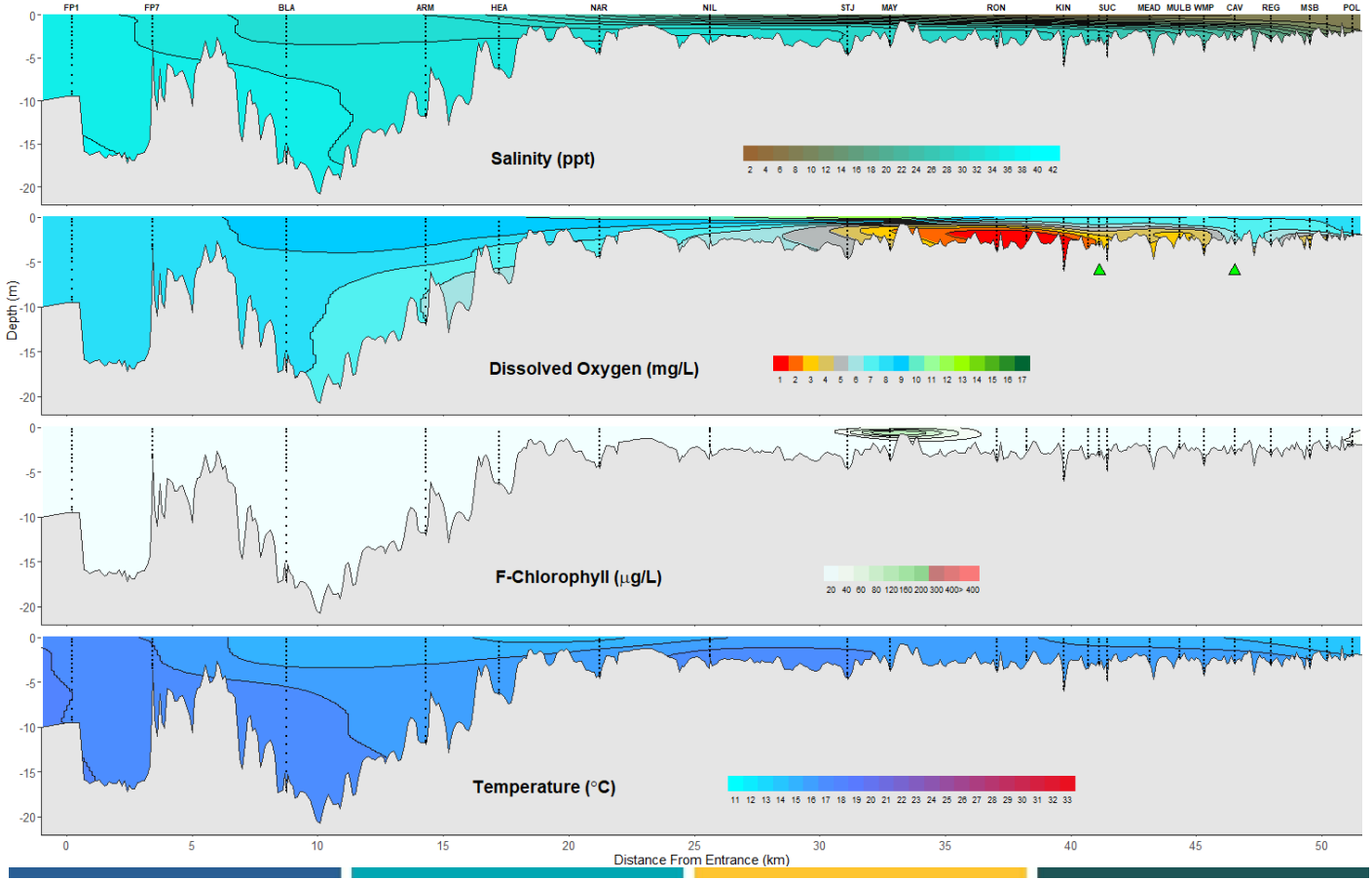
Swan Canning Estuary - Water Quality Profiles – 15th July 2024



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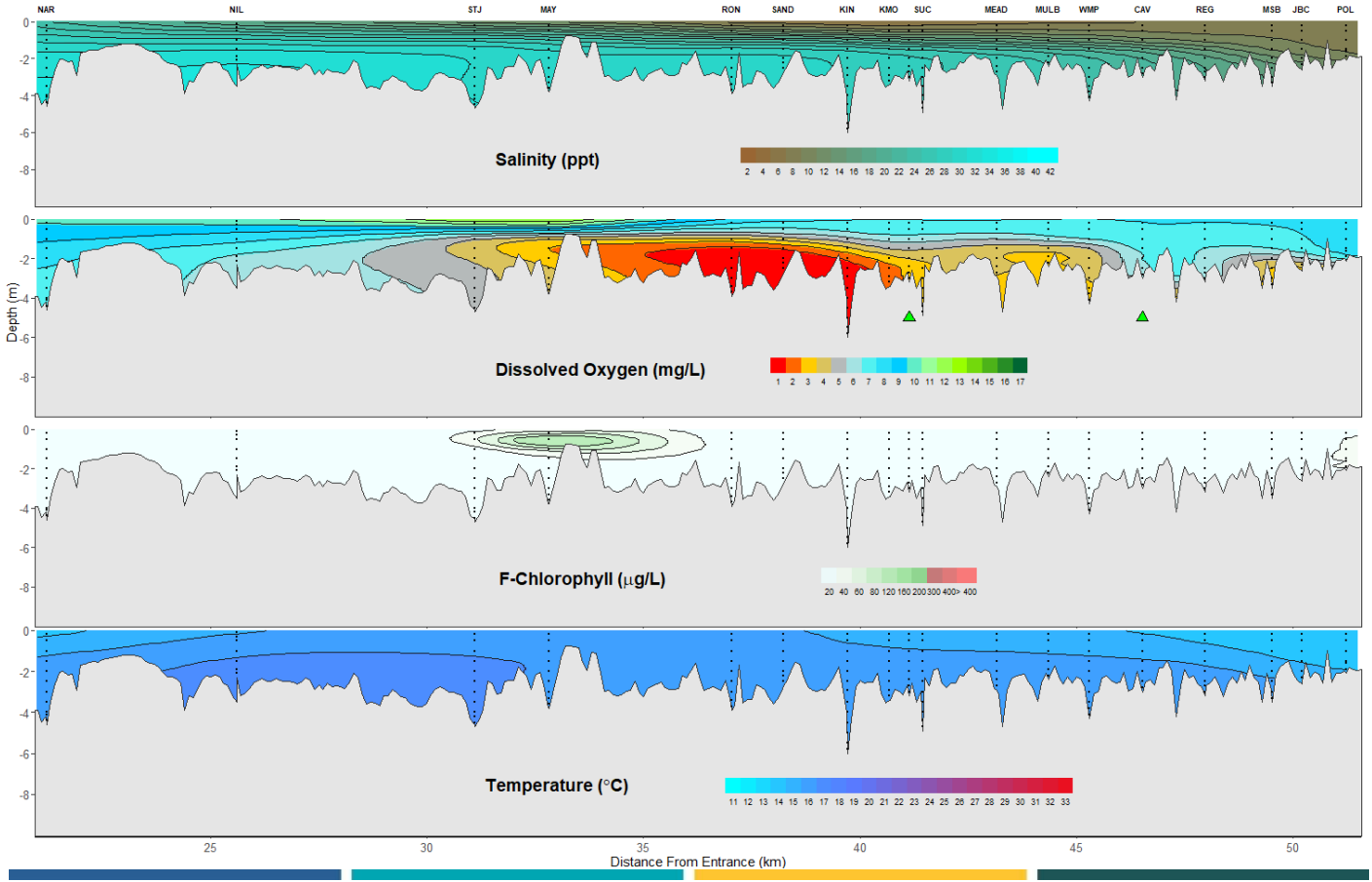

Date: 15th July 2024

Weather & tide conditions: Conditions were clear with a variable breeze of up to 11.2 knots. The predicted tides at Barrack St were 1.12 m at 6:21 am (high tide) and 0.8 m at 7:27 pm (low tide). Perth recorded 33.6 mm of rainfall in the week prior to sampling (Bureau of Meteorology).

Oxygenation: The Guildford and Caversham oxygenation plants were triggered to provide oxygen in the 24 hours prior to sampling.

Lower Swan Canning Estuary (FP1 to NAR): The Lower Swan Canning Estuary was saline over hypersaline at FP1, saline from FP7 to HEA and brackish over saline at NAR. Waters were oxygenated or well oxygenated and chlorophyll fluorescence was low. Water temperatures ranged from 13.3 to 17.0 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was brackish over saline. Subsurface waters were low in oxygen at STJ and MAY and subsurface and bottom waters were hypoxic at RON. Chlorophyll fluorescence was moderate in surface waters of MAY. Water temperatures ranged from 15.0 to 16.3 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was brackish over saline from SAND to SUC and brackish from MEAD to POL. Waters were oxygenated or well oxygenated, except for subsurface and bottom waters from SAND to KMO which were hypoxic, KIN which were anoxic and VIT to WMP and MSB to JBC which were low in oxygen. Chlorophyll fluorescence was low. Water temperatures ranged from 13.2 to 15.9 °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 (low flow): 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, 2024. *Swan Canning Estuary water quality profile report, Lower Swan Canning Estuary to Upper Swan Estuary July 15th 2024.* Rivers and Estuaries Science (https://www.dpaw.wa.gov.au/management/swan-canning-riverpark)