Swan Canning Estuary Water Quality Monitoring Project

Weekly Water Quality Report

Lower Swan Canning Estuary to Upper Swan Estuary

14 October 2024

Prepared by

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

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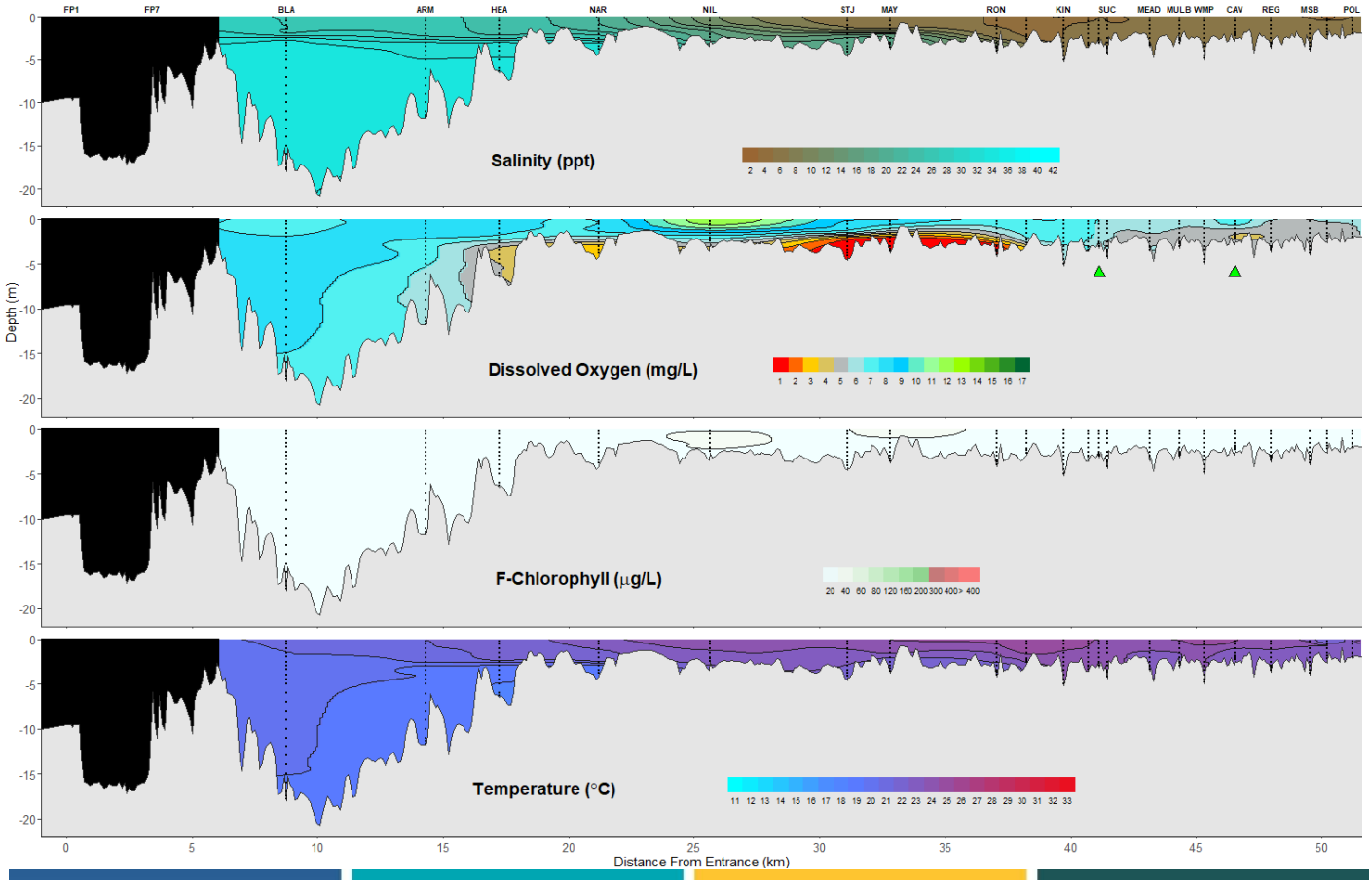
Swan Canning Estuary - Water Quality Profiles – 14 October 2024



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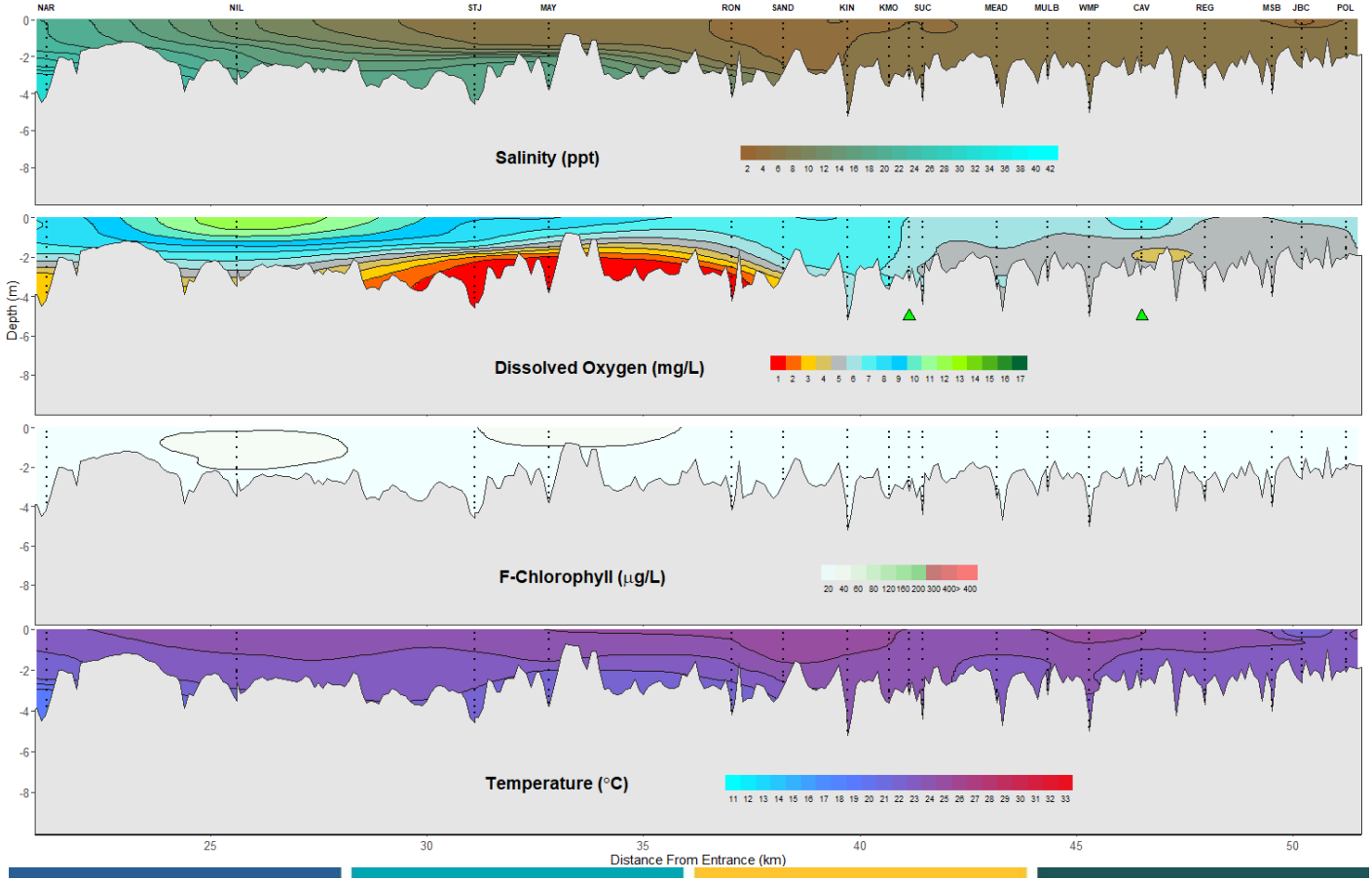

Date: 14 October 2024

Weather & tide conditions: Conditions were partly cloudy with a predominantly westerly breeze of up to 9.6 knots. The predicted tides at Barrack St were 0.97 m at 8:40 am (high tide) and 0.64 m at 4:45 pm (low tide). Perth recorded 0.6 mm of rainfall in the week prior to sampling (Bureau of Meteorology).

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

Lower Swan Canning Estuary (BLA to NAR): The Lower Swan Canning Estuary was saline at BLA and brackish over saline from ARM to NAR. Waters were oxygenated or well oxygenated, except subsurface waters at HEA which were low in oxygen and bottom waters at NAR which were hypoxic. Chlorophyll fluorescence was low and water temperatures ranged from 18.0 to 22.6 °C at the time of sampling.

Middle Swan Estuary (NIL to RON): The Middle Swan Estuary was brackish from NIL to MAY and fresh over brackish at RON. Waters were oxygenated or well oxygenated, except bottom waters from STJ to RON which were anoxic. Chlorophyll fluorescence was low and water temperatures ranged from 21.2 to 24.2 °C at the time of sampling.

Upper Swan Estuary (SAND to POL): The Upper Swan Estuary was fresh from SAND to CAV, brackish at REG, fresh over brackish from MSB to JBC and brackish at POL. Waters were oxygenated or well oxygenated, except bottom waters at CAV and subsurface waters at MSB which were low in oxygen. Chlorophyll fluorescence was low and water temperatures ranged from 21 to 24.7 °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 (mod/high flow): low < 60 µg L^{-1}, moderate 60-160 µg L^{-1}, high 160-400 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 14 October 2024.* Rivers and Estuaries Science (https://www.dpaw.wa.gov.au/management/swan-canning-riverpark)